Executive Summary

Sprouting from the soil of community gardens, the LEED Silver North Annex at Waters Elementary School nurtures a growing student body with a vibrant, integrated curriculum of fine arts, environmental studies, and technology. An equally vibrant design reflects their forward-thinking curriculum.

Inside, nature inspired colors illuminate the floors and walls. As prairie grasses dance in the student gardens, the first floor's golden yellows energize the atmosphere in the multi-purpose area where students gather for meals and assembly. Mirroring the trees' foliage, lush greens dapple the second floor, home of both a sunny and acoustically-private music classroom and an art lab giving students a multitude of paths to discover their creativity. Reflecting the sky, vibrant blues of the third floor calm classrooms and the media lab where students study and experiment with technology.

Outside, angled metal panels frame the art, music, and media center windows, echoing the existing school's detailing while drawing attention to the classrooms most essential to their unique curriculum. Snakes of corbeled brick, textured like a turtle, wind through smooth masonry to reflect a school-favorite fable about the Chicago River which once flowed through the grounds where the annex and nature-play areas now stand.

The North Annex, along with renovations to the existing school building, bring new life to an old campus through design elements reflecting the school's history, values, and vivacity.

Scope of Work & Budget

The initial scope of work included the design of a new, approximately 30,000 sf, three-story, LEED Silver annex to an exiting three-story K-8 school, intended to alleviate overcrowding. The client sought:

- 6 standard classrooms
- 1 special needs classrooms for three age groups
- 1 computer classroom
- 1 music classroom with storage
- 1 art classroom with storage and kiln
- 2 administrative offices
- 1 conference room with administrative reception
- new library / media center
- new student dining / multi-purpose room
- hybrid kitchen & kitchen server
- kitchen office with 2 staff toilet/locker rooms
- building storage
- student toilets
- utility rooms
- an accessible elevator.

In addition to the design and construction of the new annex, the scope of the project also included site improvements such as additional parking, a loading area, stormwater management infrastructure, landscaping, and a new outdoor play area. Interior renovations of the existing school involved storage, administration, and toilet areas, transforming the existing one-story annex into two typical classrooms, as well as implementing new finishes, a roof replacement, and masonry restoration.

The original budget allocated for this project was set at $15,659,525 for the annex and improvements.

School & Community Research & Engagement

COMMUNITY

Waters is a community school that is recognized for its fine and performing arts, ecology, and technology programs. The school is a gem in an urban district, the Ravenswood Gardens neighborhood of Chicago, that promotes environmental awareness and healthy living throughout its rigorous academic curriculum. Waters offers extensive before- and after-school programs to promote educational success.

The largest demographic at Waters is White, comprising 58.5% of the student population. The second greatest demographic is Hispanic at 25.6%. The remaining 16% of the population identify as Asian, Black, or Other. Of the 621 students enrolled, 22.4% are Low-Income Students. 10.8% are Diverse Learners. and 9.8% are Limited English Learners. Respecting the school's diversity, by both ethnicity and learning methodology, is important to the school's students, faculty, staff, and parents.

These values are reflected in the greater Ravenswood Gardens neighborhoods. This community takes pride in their historic homes and luscious green streets. The school's original building and community gardens reflect the values of the neighborhood.

STAKEHOLDERS

The stakeholders for the Waters Elementary School were plentiful. The project was managed by the Public Building Commission of Chicago. The owner was Chicago Public Schools, with additional consideration to the Principal and Administration at Waters Elementary School. As a City of Chicago project, all appropriate City Departments, such as the Mayor's Office for People with Disabilities (MOPD), Chicago Department of Transportation (CDOT), Chicago Fire Prevention Bureau, etc. were consulted throughout the design process as well as the Alderman.

CHALLENGES

Building a Strong Foundation

Being situated on the former location of the Chicago River, the Waters School embraced a story about a snake and turtle celebrating this unique school history. However, due to the fact that the river once flowed where the school now stands, the soil below was unsuitable for conventional vertical construction.

Providing Room To Grow

Just as the plants in their community gardens continue to grow and thrive, so do the students of Thomas J. Waters Elementary School. After experiencing an 86% increase in enrollment over the previous ten years, the magnet school required additional space and specialized classrooms to provide its students with a strong foundation in their curriculum.

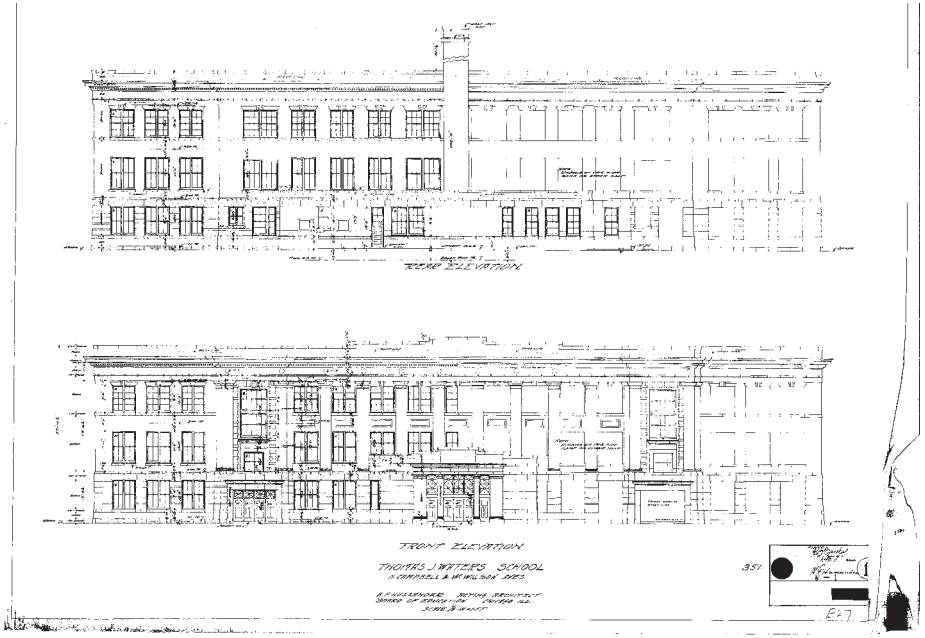
Fostering Justice, Equity, Diversity, & Inclusion

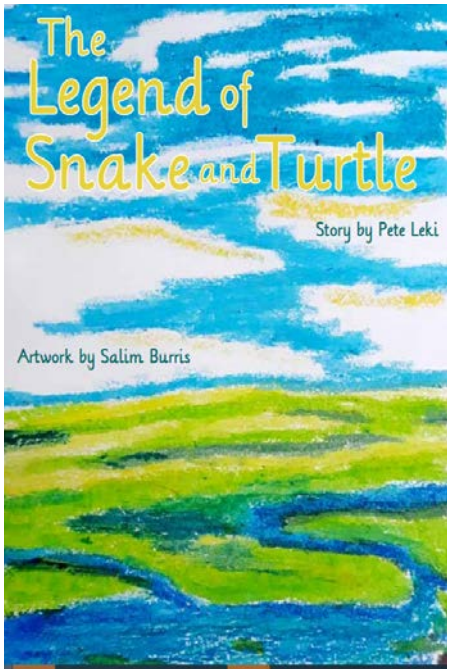
Justice, equity, diversity and inclusion is a two-fold challenge in the project. First, as a Chicago Public School project the design must ensure equity amongst the city's 638 schools. The design must adhere strictly to the Chicago Public School's material and financial standards, essentially confirming this addition could be built in any of Chicago's 77 neighborhoods. Secondly, along with additional classroom space for a growing student body, the North Annex also brings much-needed ADA accessibility to the adjoining existing building to ensure students of all abilities can take part in its unique curriculum.

AVAILABLE ASSETS

As an addition to a well-established school, the design team had access to the following assets:

- The original 1911 school designed by A.F. Hussander, Acting Architect of Chicago's Board of Education. The classically-designed school incorporated healthy-design philosophies such as providing windows in every classroom, raising the grade levels of basements to provide healthier spaces, and improving ventilation.
- An urban campus encompassing the City block from Wilson to Sunnyside (North-South) and Maplewood to Campbell (East-West), the site is easily accessible by public transit and features desirable natural elements like a 300 year-old Burr Oak tree
- The school's cherished story of "The Legend of Snake and Turtle," a play that is acted out by 1st-graders and performed by Kindergarten, 1st-grade, and 8th-grade students, tells the story of the school's place in history on the Chicago River. It introduces the school's ecology program and encourages younger students to protect the Waters Garden and the natural world around them.
- The Waters Garden is a core feature of the school's ecology program and a beloved community asset, boasting more than 150 species of native plants and dozens of vegetable beds that are tended by students and community members. It is used as a research site by local scientists and conservationists, as well as a natural playground for the students, offering a hands-on and immersive learning experience. Additionally, it serves as a community gathering space for potlucks, drum circles, campfires, and events, providing opportunities for shared experiences in nature.





VALUE OF PROCESS & PROJECT

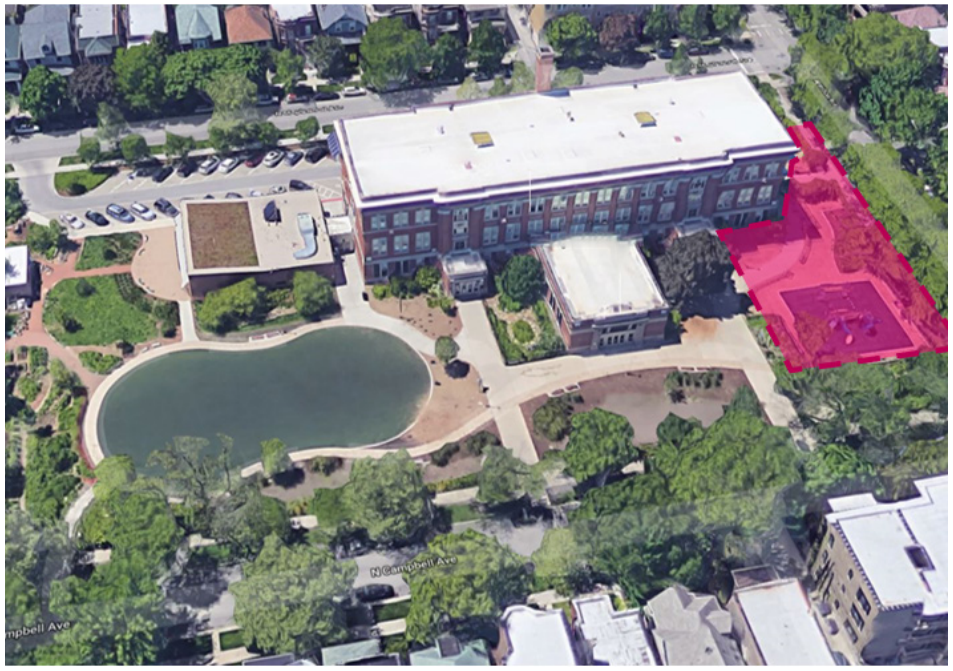
The community of students, faculty, staff, parents, and Ravenswood Gardens community members actively participated in the design process, providing valuable feedback on everything from landscape plantings to interior space planning. Several community outreach meetings helped to locate the building within the north side of the campus to preserve the community garden area.

In addition, working with all of the stakeholders revealed the school's unique identity, allowing our team to design inspiring learning spaces customized

for their needs, vision, and goals. For the North Annex to be successful, our design team needed to:

- Create connections between the existing and old building, between the school and the community, between the built and natural environment, and between the student and the educational experience
- Find exterior and interior design inspiration within the school's curriculum, existing facilities, and external community
- Create both indoor and outdoor learning environments for K-8 students
- Incorporate health and well-being design principles to care for the mental and physical health of students, faculty, and staff.

The building itself will provide much-needed space for the growing student population while supporting the school's innovative curriculum. Specialty classrooms for media, music, and the arts, as well as a multi-purpose space for dining and activities, not only allow these programs to exist at Waters Elementary but thrive. The addition of ADA compliant entrances and elevators will rectify long-standing issues within the historic main campus building, ensuring all students feel comfortable to learn, grow, and play within the school.



Left: Aerial view of Thomas J. Waters Elementary before the construction of the North Annex.

Right: Pink area indicates the space to be used in the construction of the North Annex, avoiding much of the school's Gardens and historic Burr Oaks

Educational Environment Design

EDUCATIONAL VISION AND GOALS OF THE SCHOOL

Waters' mission is to prepare their students for lifelong success, by providing an inclusive and caring learning environment that emphasizes cultural, artistic, and ecological connectivity. The educators believe in best practice through an integrated curriculum; including fine arts, technology, and environmental studies, experiential learning, and differentiated learning based on student needs.

SUPPORTING CURRICULUM THROUGH DESIGN

As though sprouting from the soil of community gardens, the Annex at this existing school nurtures a growing student body with a vibrant curriculum of fine arts, environmental studies, and technology. An equally vibrant design reflects their forward-thinking curriculum.

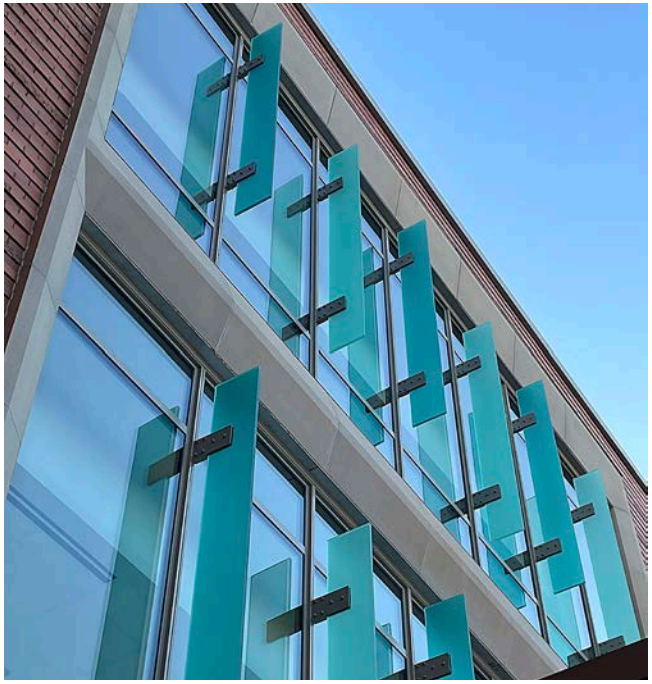
Building a Strong Foundation

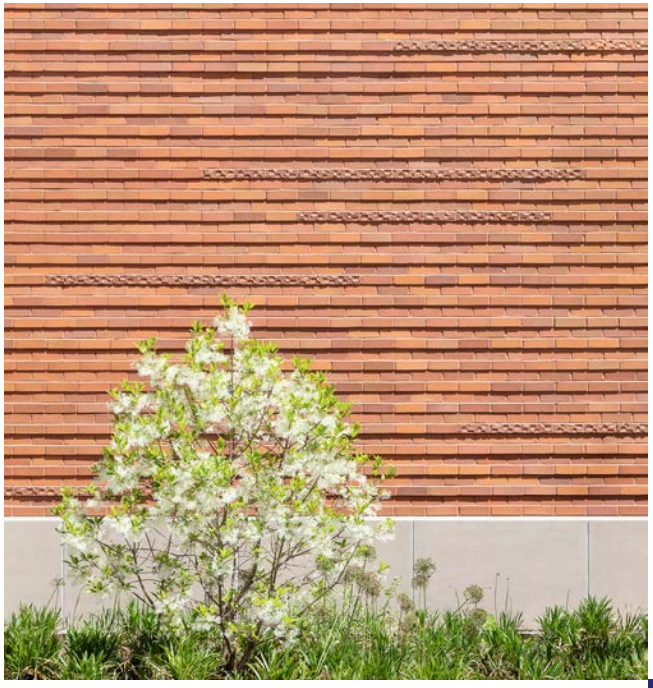
Being built on the former location of the Chicago River, the Waters School embraced a story about a snake and turtle, celebrating this unique school history. However, since the river once flowed where the school now stands, the soil below was unsuitable for typical vertical construction.

To maximize classroom space while minimizing disruption to the community gardens central to the school's identity, the annex was built as far north on the property as possible, leaving little room for error or a unique footprint. Concrete caissons take root 70 feet below the surface and the concrete raft foundation is as thick as 24 inches. MEP engineers became heavily in the in every aspect of the foundations design to ensure functionality and efficiency.

Creating connection between the historic building and the new construction, the angled metal panels reminiscent of existing stone detailing frame the windows of the art, music, and media center windows while calling attention to those "indoor" pursuits most vital to the school's unique curriculum. Red brick, matching the original building, ties the new annex not only into the school's original design, but also the Ravenswood Gardens neighborhood, providing a traditional yet contemporary look. To express the creativity taking place inside the school – new art studios, private music rooms, welcoming science labs – the design team added elements of ecological whimsy on the facades. Snakes of corbeled brick wind in and out of smooth masonry, its turtle-like texture paying homage to the school fable about the Chicago River which once flowed through the property. At the new, secure north entrance, blue acrylic panel "waves" welcome students into the building.

The senses are a gateway to our minds and learning. The detailed, expressive, and tactile textures mimic the learning within the building by increasing wonder and delight. Shade and shadow dance and play on the brick while still being durable and timeless in feel. The blue resin fins are a highlight above the new north entrance to bring another layer of detail, texture, color, and shadow





as they dance along above the canopy. These unexpected glowing fins bring a moment of pause and mindfulness to reflect in the moment. A design for the senses, the building provides a tactile experience for the neighborhood to touch as they walk by.

Visibility is at the crux of the new security improvements at this annex. Unlike the existing building alone, this new project brought along more visible exits. The new annex looks inward with large glass facing into the building site towards the gardens and smaller openings towards the streets. This allows the classrooms to fill with ample light without jeopardizing student safety. In the existing building, open exit stairs have been enclosed.

Together, these details breathe new life into an old campus by reflecting the school's history, values, and vivacity.

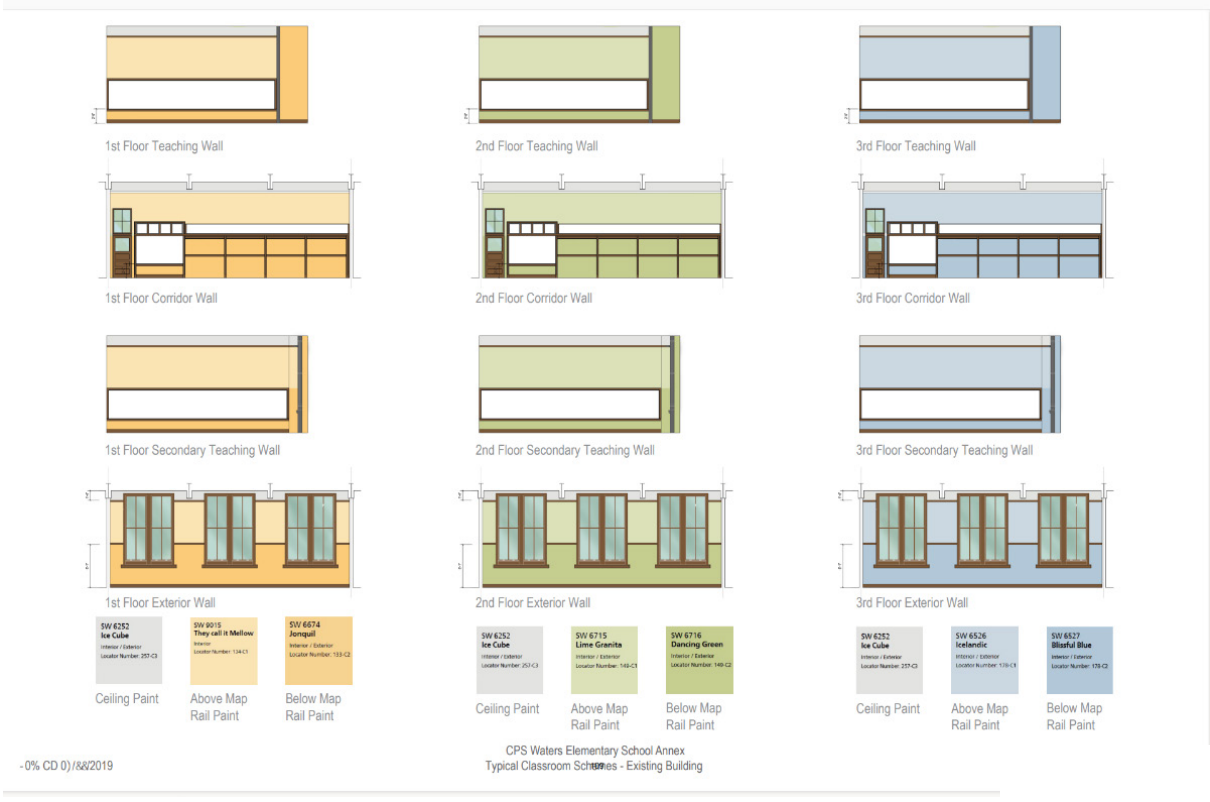
Every entrance of the new annex is clearly visible and accessible by individuals of all abilities.

Providing Room To Grow

Inside, nature-inspired colors reflecting the school's ecology program illuminate the floors and walls. Like dancing prairie grasses outside, golden yellows energize the atmosphere in the multi-purpose area where students gather for meals and assembly. Lush, leafy greens dapple the second floor, home of sunny music and art classrooms where students can explore their creativity. Vibrant sky blues create a calming environment on third floor classrooms and media labs where students study and experiment with technology.

Each specialty classroom offers students the optimal environment in which to nurture their passions. Unlike other schools, which tuck music classrooms in far-off corners so they are sonically isolated, the Waters music room is located centrally on the second floor with large, sunny windows and acoustic dampeners to muffle any escaping sound. Across the hall, the art classroom also is well-lit with large windows, allowing students to appreciate the true colors of their creations. Large work stations, sinks and kilns allow the young learners to experiment with a multitude of media. Above in the media center, students can relax with a book in the chairs and tables overlooking the student gardens below or work in groups as they experiment with technology at a large table.

Originally described by the school as a "Gymnatorium," the new multi-purpose space provides exceptional functionality to the school in less square footage. Unlike the previous South Annex, the new North Annex provides a full commercial kitchen, a requirement for the school's increasing student population. The versatile and functional space caters to a range of school programming and needs including dining, assembly, performances, physical education, community gatherings, and after-school programs. The design allows for easy reconfiguration of furniture and equipment to adapt to different uses and capacities and will allow the school to foster a sense of community while providing opportunities for diverse learning experiences.




EXIT
EXIT

Play areas and learning environments on the ground surrounding the annex offer unique opportunities to explore the natural world or take lessons outside. An outdoor chalkboard with nearby natural seating offers a traditional lesson space with easy access to the gardens. A willow cave gives students a place to break into groups or recharge individually within eyesight of supervisors. A multi-tiered playscape gives students room to play and explore, offering informal learning opportunities and space to release energy.

Fostering Justice, Equity, Diversity, & Inclusion

Chicago Public Schools (CPS) has specific design requirements for special needs classrooms to ensure an inclusive and supportive environment for students with diverse learning needs. These spaces must adapt depending on the specific disabilities and individual needs of the students, In addition to complying with accessibility standards to accommodate students with mobility impairments, the classroom provides a sensory-friendly environment, minimizing noise, utilizing soft and/or natural lighting, and incorporating a soft-color palette. Within the classroom are personalized learning spaces incorporating quiet areas for students who require a low-stimulation environment, designated zones for therapy or one-on-one instruction, and sensory integration spaces that offer various sensory experiences and tools.

Beyond the additional classroom space for a growing student body, the North Annex also brings much-needed ADA accessibility to ensure students of all abilities can take part in its unique curriculum. Elevators connect the new space with the old, allowing students access not only to the classrooms on each floor of the annex but also throughout the entire building. The existing building's limited use limited access elevator was reused to create accessibility to the stage in the school theater.

Ramps outside ensure students can navigate to every entrance without needing to separate from their classmates. The integration of a ramp, bench, and planter make the entry welcoming for everyone, beckoning people of all abilities to linger and enjoy the space.

All-gender restrooms provide a safe and inclusive space for students, faculty, and staff of all gender identities and expressions. These bathrooms promote equality, respect, and dignity, ensuring that everyone has equal access to essential facilities without fear of discrimination or harassment.

With a full, industrial kitchen adjacent to the multi-purpose area, the school can provide fresh, healthy meals for low-income students both during the school day and for those facing food insecurity when school is not in session.

The new North Annex provides an equitable, accessible space for students of all abilities from across the city to explore the natural world and their creativity in a safe environment.

SUPPORTING LEARNING & TEACHING STYLES THROUGH DESIGN

Flexible and adaptable classroom designs allow teachers the ability to employ different teaching methods and accommodate students' personal needs with ease. Modern technology integration facilitates student learning, providing for both group and individual educational opportunities. The classroom design supports group discussions, project-based learning, and individual study.

The special needs classroom incorporates technology and communication aids, like augmentative and alternative communication (AAC) devices and adaptive computer equipment to support students with speech or language impairments. The incorporation of personalized learning spaces also fosters collaboration and support, as these areas can be used for meetings with parents, therapy sessions, or consultations with specialized services providers like occupational therapists, speech therapists, or behavioral analysts.

The new outdoor classroom, natural playspace, and playground provide numerous opportunities for student learning and discovery. Located in a "niche" between the existing building and the new annex, the outdoor classroom offers an educational space connecting students with nature. In addition, the location of the classroom provides visibility for the students to see out to the neighborhood, but limited visibility for the neighborhood to see in, offering a safe place for the children to learn and grow. Outdoor learning and play provides a holistic approach to a child's growth, contributing to their cognitive, physical, social, and emotional development. Studies have shown that outdoor learning can improve academic performance, attention span, and overall health. According to a report by Natural England, 90% of teachers believe that outdoor learning improves pupils' engagement with learning, while 80% believe it improves their personal, social, and emotional development.

Outdoor play promotes physical fitness; building strong muscles, coordination, and overall motor skills. It also stimulates creativity, problem-solving, and imaginative thinking through unstructured play. Children's social skills are enhanced through interaction, negotiation, and collaboration with their peers, helping to develop important communication and teamwork skills.

Overall, by incorporating outdoor play into the school's design, the North Annex provides a holistic approach to a child's growth, contributing to their physical, cognitive, social, and emotional development.

ADAPTABLE & FLEXIBLE ENVIRONMENT

Just as ecological interplay encourages plants, animals, climate, and habitats to adapt and change, the North Annex design incorporates flexibility into the design.

The classrooms follow CPS guidelines to be flexible and adaptable to accommodate different teaching styles and learning activities. The design requirements encourage collaborative and interactive learning experiences. Therefore, the classrooms include movable furniture, modular layouts, and versatile spaces that can be easily reconfigured based on the needs of the lesson or project to facilitate group discussions, foster teamwork, and increase student involvement. The classroom design also prioritize wheelchair accessibility, adjustable furniture, and specialized equipment to ensure equal participation and engagement for all students.

Digital literacy extends from the Media Library to every classroom equipped with digital whiteboards, each classroom which can easily connect to the internet, stream class sessions, and provide unique interactive experiences. Lightweight, easy-to-move furniture ensures classrooms can swiftly shift from individual study to hands-on group activities.

The large, flexible multi-purpose area on the main floor can quickly transform depending on need. Foldable tables with seating create a cafeteria during lunch and can quickly & easily be put away to make room for other activities throughout the day, whether it be for assembly, student testing, or large activities.


8:20 PM

Results of the Process & Project

EDUCATIONAL GOALS & OBJECTIVES

"Waters mission is to prepare our students for lifelong success, by providing an inclusive and caring learning environment that emphasizes cultural, artistic, and ecological connectedness."

The new North Annex at Waters Elementary School not only addresses the need for additional classroom space for a growing student body, but also provides dedicated spaces for the cornerstones of their unique curriculum. The current enrollment of 621 students can expand to 870 students with the addition of the North Annex.

In addition to academics, the school stresses the importance of Arts education. The North Annex now provides dedicated space for fine arts, music, and media. In addition, the new multi-purpose space provides space for artistic performances, cultural events, and student led clubs and activities.

The North Annex also remedies current school issues around safety and accessibility guaranteeing all students feel welcome, secure, and comfortable to explore the possibilities presented to them at Waters.

SCHOOL DISTRICT GOALS

As a Magnet Cluster school within the Chicago Public Schools district, Waters Elementary School primarily serves children in the Ravenswood Gardens neighborhoods on Chicago's Northwest side, but enrollment is open to students throughout the city. As such, it was important that the building design adhered to the district's financial and material standards.

Through the Magnet School program, Chicago Public Schools supports the specialized curriculum at Waters Elementary School. The design followed Chicago Public Schools standards and referenced precedents set across the City to create a customized design reflective of the school, the neighborhood, and their shared values.

COMMUNITY GOALS

The community of Ravenswood Gardens has had access to the Waters Elementary School gardens for over 30 years. Neighbors are active in the care and maintenance of the gardens on school grounds and appreciate the original building's historic aesthetic complements other historic neighborhood buildings. As the three main architects on the project lived within the neighborhood during the design, great care was taken to design a harmonious building for the area. The final design and appearance of the new annex reflects the architecture of the neighborhood while maintaining as much of the shared community garden space as possible.

UNINTENDED RESULTS AND ACHIEVEMENTS

The additional space provided by the North Annex, and in particular the first floor multi-purpose space, resulted in the unintended ability for the school to utilize the South Annex in new, diverse ways.

The proximity of the South Annex to the community gardens has resulted in an unofficial name change to the "Garden Annex." The first floor cafeteria and multi-purpose space in the Garden Annex is now hosting more student- and community-focused events, like a Book Fair and a Makers Fair. The second cafeteria and multi-purpose room in the North Annex makes these events less disruptive to the typical school day schedule, while allowing the school to showcase their arts programs and the talents of the students.

The large windows facing the Waters Garden have been used for art and to instill school pride.

VALUE AND GOOD STEWARDSHIP OF FINANCIAL RESOURCES

The original budget for the project was $15,659,525. The design team estimate was $15,547,512, an achieved target with one small change order of $17,917.

In addition to sticking to the construction budget, the design team had an eye towards future economic value. The design team followed Chicago Public School standards for material selection, providing durable, environmentally-friendly options within budget. Durable materials selection hold up to the wear and tear of children requiring less maintenance and prolonging their use. By incorporating environmental stewardship principles into our LEED Silver design, we have reduced energy and water usage providing overall operational cost savings to the school moving forward.

By using common building materials with added detail in uncommon ways, we were able to add value and character to the school building while staying within the project's predetermined budget.

Physical Environment Design

SITE PLAN

Existing Site Conditions

The existing school sits on an entire city block bounded by Wilson Avenue to the north, Campbell Avenue to the east, Sunnyside Avenue to the south, and Maplewood Avenue to the west. The property is approximately 3.42 acres. The site contains a three-story school building with a southern one-story addition, two playgrounds, an artificial turf play area, vegetated gardens, out-lot buildings and existing stormwater management features. The stormwater management features include two bioswales, permeable pavers, and the artificial turf play area. These elements were designed in 2008 and constructed in 2008 and 2009 pursuant to the City of Chicago's Stormwater Ordinance. The permeable pavers create a 24 stall parking lot located along Maplewood Avenue.

Site Improvements

The project consisted of a new annex addition for the school that will be situated in the northeast corner of the property. The annex connects to the existing building's northern entrance, and provides two doors on Wilson, one on Campbell and two on the south face of the annex facing the site. Due to grade changes between the existing finished floor that is being matched by the annex and the public sidewalk, ramps will be provided externally at two of the doors and one internal elevation change. The existing school site was elevated to meet the proposed door locations.

Aside from the annex itself, the project replaced one of the existing bioswales with a rain garden and underground detention. The northwest playground was replaced and new play areas were included south of the annex. New sidewalks were installed with a boardwalk that spans the new rain garden. An outdoor classroom is located near the southwestern corner of the annex. The existing parking lot remained, but was restriped to gain more parking stalls while still adhering to the City of Chicago Standards.

A new water service connection into Wilson serves both the annex and the existing buildings on site. The Annex sanitary service connects to the existing site outfall near the northwest corner of the existing building. The stormwater exits the annex south to be collected by new sewers and routed through the new raingarden and to the new stormwater vault, ultimately discharging to an existing catch basin on site and routing through the restrictor structure designed during the 2008 project.

Part of the existing detention system was removed as part of the proposed design. Even with that change, much of the detention requirements were maintained in the existing southern bioswale and the stone underneath the artificial turf play area. The remainder was made up in an underground storage vault and the raingarden.

PHYSICAL ATTRIBUTES OF THE ENVIRONMENT

Plantings on the Northeast side of the site, slated for removal by the North Annex site, were transplanted Working with the school's ecology director, our team moved perennials, shrubs, and effigy mounds. Root pruning was undertaken to save trees rather than chop them down and replace them. New landscaping outside of sodded areas includes native or adaptive shrubs, ornamental grasses, perennials, and groundcover.

The new nature play area replaced the existing swale to the south of the Annex. The nature play area incorporates several learning areas to stimulate children's curiosity. It includes:

- An outdoor classroom with chalkboard and stump and log seating
- Council ring with sawn top log seating and log stump seating
- Willow hut
- Log stump and log balance beam obstacle course
- Upside down trees
- Rain garden
- Boardwalk overlook and walkway over the rain garden
- Outcropping stone accents and seating
- Flagstone steppers
- Engineered wood fiber and stabilized decomposed granite areas and pathways
- Log stump and other natural log or stone seating

A fully accessible playground meeting ADA and MOPD guidelines and requirements replaced the existing playground disturbed by the Annex. The equipment selected reflects the school's ecological passion, resembling the school's Chicago River location and utilizing a green, blue, and brown color scheme. Green climbing sprouts call attention to the school's lush gardens on the other side of the site. Protective rubber play surfacing was installed within all play equipment fall-zones, protecting children in their more vigorous and physical play.

CONTEXT

The Ravenswood Gardens neighborhood features a mix of traditional Chicago bungalows, two- and three-flats, and multi-family apartment buildings with new construction, modern townhouses, and contemporary architectural designs that add variety and a fresh perspective to the area. Brick is a common building material used for both single-family houses and multi-unit residential buildings in the neighborhood. Some homes in Ravenswood Garden retain vintage architectural details from the early 20th century like stained glass windows, ornate woodwork, intricate tile work, and leaded glass doors, adding character and historical significance to the neighborhood.

The neighborhood is characterized by beautiful, tree-lined streets that provide shade and contribute to the overall charm of Ravenswood Garden. These mature trees add a sense of tranquility and natural beauty to the area. Appreciation for nature extends to homeowners yards and gardens, which incorporate flowers, shrubs, and trees to enhance the aesthetics of the neighborhood.

The Annex design reflects the balance of Ravenswood Gardens between historic with modern and urban with natural. The selected brick matches the historic school and many of the surrounding residences. The scale of the Annex is appropriate to the existing school and the apartment buildings located across the street. The design replicated similar window sizing and spacing of the original building. The detailing is reminiscent of the neighborhood's decorative elements.

The selection of the textured brick and water-like decorative fins serve as a nod to the school and the neighborhood's passion for the environment. By moving the Annex to the uppermost Northeast corner of the site, more of the site could remain dedicated to nature, saving the entirety of the Waters Garden and preserving the school's 300 year-old oak tree.

INSPIRATION AND MOTIVATION

Thomas J. Waters Elementary School exemplifies a strong commitment to ecology and nature, fostering a deep appreciation for the environment within its students, faculty, and staff. Recognizing the importance of environmental stewardship, the school has implemented various initiatives and programs to instill a sense of responsibility and connection to the natural world.

The Waters Garden is a unique and amazing resource that provides one-of-a-kind experiences for the students, families, and community surrounding the school. Each year the "Legend of the Snake and Turtle" is performed which tells the story of how the two animals have lived through the changes on the site from the river being re-routed, to the block being covered in asphalt, to today's lush gardens. The effigies in the landscape of the gardens are a reminder to the students of this history. These things are interwoven into the fabric of the school.

By nurturing an understanding of the interconnectedness between humans and the natural world, Thomas J. Waters Elementary School cultivates environmentally conscious citizens who are empowered to make a positive impact on their surroundings and future generations.

For these reasons, the inspiration and motivation for the design stems directly from nature. The design inspiration is translated throughout the design in the following ways:

- Interconnectivity of the indoors and outdoors through large windows
- Material and color selection to reflect the earth, trees, and sky, while also providing intuitive wayfinding within the building
- Incorporation of an outdoor classroom, natural playspace, and nature-inspired playground
- Exterior design elements like the textured brick and blue resin fins provide references to snake skin, wind-swept sand, and water.

Sustainability & Wellness

ENERGY EFFICIENCY

With a curriculum focused on the natural world, the annex's LEED Silver design gives special consideration to its impact on the environment and student health. By making room for an annex rather than an all-new school, Waters Elementary can continue to benefit from Chicago Public Transit already in place. Construction Activity Pollution Prevention and an Environmental Site Assessment ensured the open space around the new annex could thrive. Roofing materials were selected to reduce heat island effect so common in a city setting. Low-flow plumbing fixtures minimize indoor water use. Thanks to the early involvement of MEP engineers, the building's systems provide an energy-cost savings of 30.2%. Large windows in all of the learning spaces provide plentiful daylight to improve student performance and happiness.

DURABLE & GREEN MATERIALS

All materials and equipment selected for the North Annex are required to abide by Chicago Public Schools standards. These materials require parity across schools and follow strict budget guidelines. Whenever possible, the design team provided multiple options for materials adhering to the principles of the International Living Future Institute's Living Building Challenge (LBC) with the goal to make the world a better place through the design and construction of our work.

- Low-emitting materials, including paint and fabric choices
- Strong and sustainable rubber and cork flooring
- Solid surface wall-coverings in the multi-purpose room for durability
- High-performance wall assemblies
- Strategic placement and use of daylighting through high-performing thermally-glazed windows with added shading elements to minimize heating, cooling, and energy costs
- LED light fixtures, including controls to dim and program lighting
- Low-flow plumbing fixtures
- Reduction of heat island effect through choice of reflective roofing materials and native plantings on the site
- Efficient HVAC systems to optimize energy performance and usage
- Enhanced refrigeration management

The greatest opportunity for sustainability is through our thoughtful planning to provide a small physical footprint that reduces demolition of existing land and more space for nature. The use of tried and true sustainable materials, like brick masonry, windows instead of curtain wall, and modified bituminous roofing, are durable, proven materials that provide a long-lasting envelope.

HEALTHY ENVIRONMENT

Each standard classroom and specialty classroom offers students the optimal environment to nurture their education and passions. Unlike other schools which tuck their music classrooms in far-off corners so they are sonically isolated, the Waters music room is located centrally on the second floor with large, sunny windows and acoustic dampeners to muffle any escaping sound. Across the hall, the art classroom is also well-lit with large

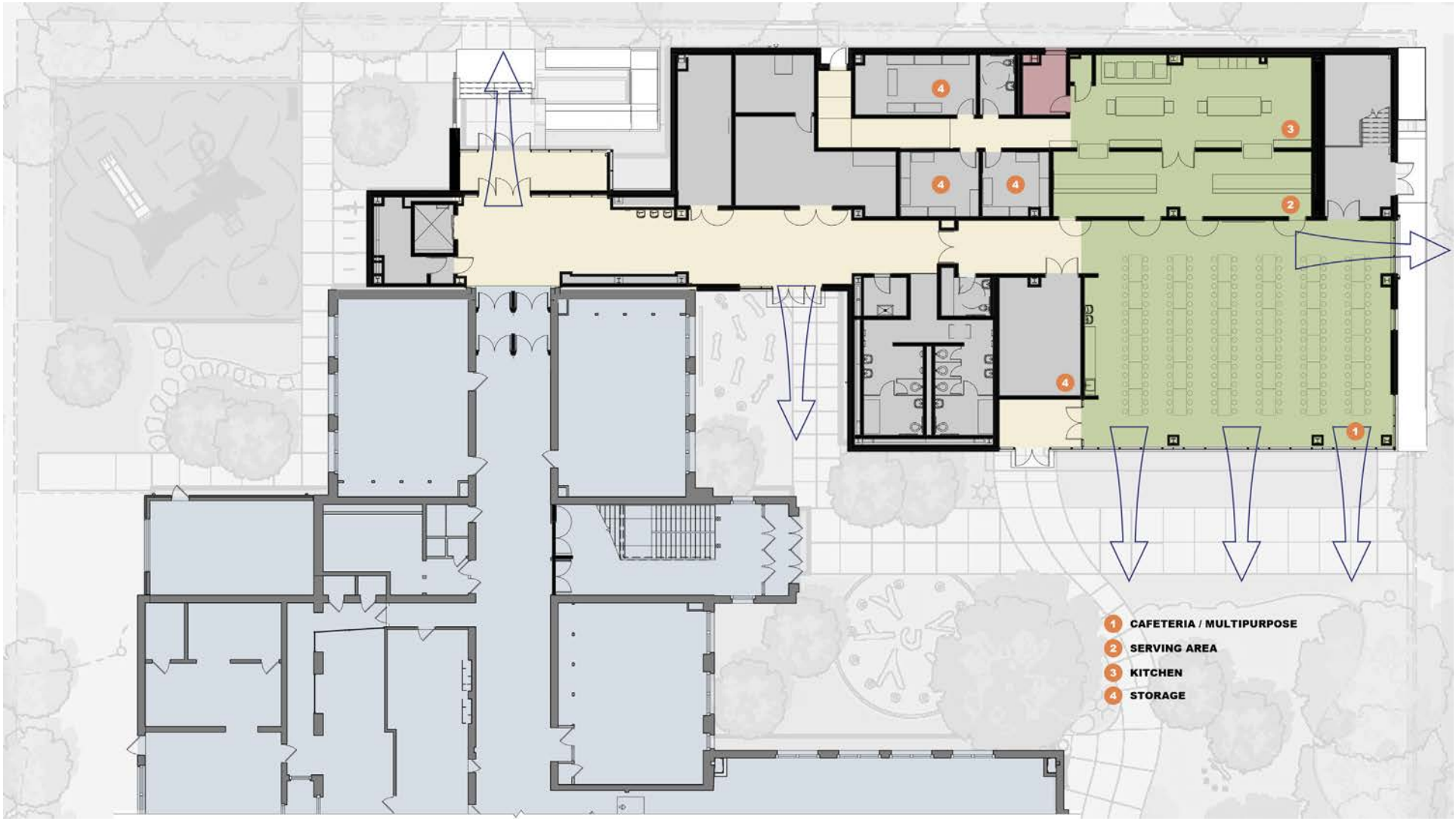
windows, allowing students to appreciate the true colors of their creations. Large work stations, sinks, and kilns allow the young learners to experiment with a multitude of media. Above in the media center, students can relax with a book in the chairs and tables overlooking the student gardens below or work in groups as they experiment with technology at a large table.

Play areas and learning environments on the grounds surrounding the new annex offer a unique opportunity to explore the natural world or take lessons outside. An outdoor chalkboard with nearby natural seating offers a traditional lesson space with easy access to the gardens. A willow cave gives students a place to break into groups or recharge individually within eyesight of supervisors. And a multi-tiered playscape gives students room to play and explore, offering informal learning opportunities and space to release energy.

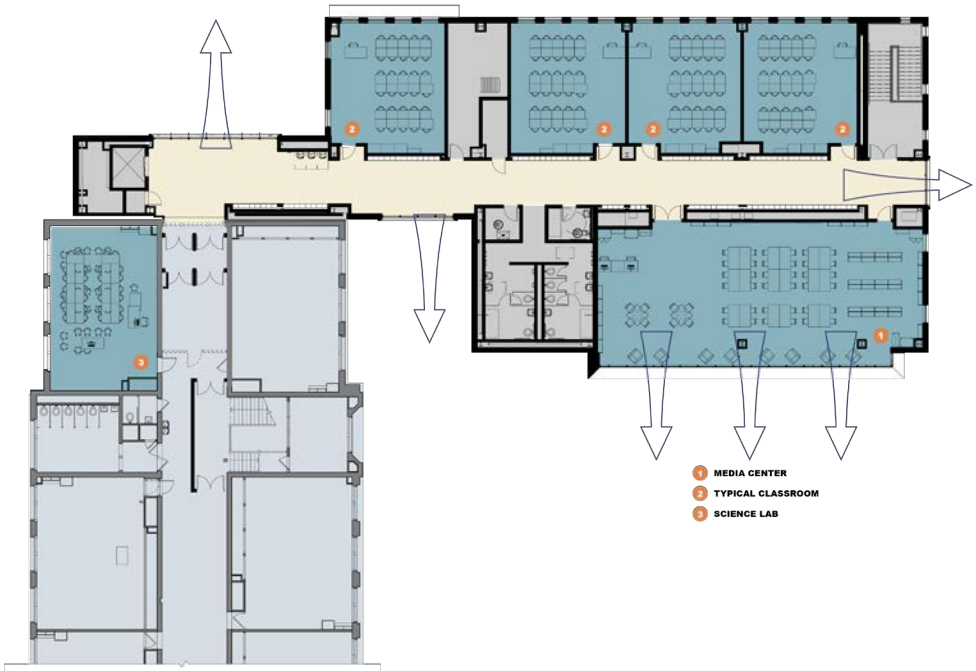
Left: The sunny art classroom brings out the color in student creations.

Right: The flexible music classroom gives students the space the experiment with sound as a class or in small breakout groups. Acoustic dampeners ensure neighboring classrooms are not disturbed.


Magic Squares


1 CAFETERIA / MULTIPURPOSE
2 SERVING AREA
3 KITCHEN
4 STORAGE

The annex's second floor is home to the art and music classroom as well as administration areas and standard classrooms. Large arrows identify views to the neighborhood and gardens.



On the third floor, the media library is opened up to the school's gardens by large windows. Large arrows identify views to the neighborhood and gardens.