



learning through play.



New Early Childhood Education at Maddox
SMALL PROJECT CATEGORY

A4LE LEsolutions Awards 2021

EXECUTIVE SUMMARY

THE DISTRICT

Englewood Schools is a small school district situated within the Denver, CO metropolitan area. The District serves 2,700 students in nine school facilities, from early childhood through grade 12. The District’s mission is to create partnerships with families to accommodate each child’s gifts and needs. Englewood’s school communities are close and caring, like families. As of 2020, every one of Englewood’s facilities is newly constructed and technologically advanced, including 1-to-1 devices and state-of-the-art STEAM labs accessible to every pre-kindergarten through 12th grade student. Roughly two thirds of Englewood’s students receive free or reduced lunch.

THE EARLY CHILDHOOD EXPERIENCE

As part of the District’s offerings, Englewood provides early childhood education district-wide in a single building: Maddox Early Childhood Facility. The new 37,000-square-foot building replaces an existing building while inspiring children and families. The design meets the myriad of State restrictions and guidelines for early childhood centers and also creates an inspiring and nurturing hub for children and families. Maddox is a unique early childhood experience that serves as a magnet to draw in students from outside the district.

FOUNDATIONAL PRINCIPLES

Two major principles were foundational to Maddox’s design:

PLAY



The school curriculum is rooted in tenets of Learning through Play and the building interior and exterior embrace this theme.

FAMILY SUPPORT



Maddox serves as a significant family resource for its parents and families, with the building providing amenities and accommodating programming that supports this purpose.



Existing Maddox Facility



SCOPE OF WORK & BUDGET

Owner: Englewood Schools

Size: 37,000 SF Replacement School

Site Size: 5.6 Acres

Capacity: 256 Students

Completion Date: June 2020

Construction Cost: \$15.4 Million



Indoor Play Area

SCHOOL & COMMUNITY RESEARCH/ENGAGEMENT

LEADERSHIP

With a passionate Director committed to serving students and their families, Maddox fosters community connections and provides resources beyond childcare and preschool that support the whole family. In response to this goal, outreach is a large portion of Maddox's philosophy. The school hosts creative family support programs on a variety of topics, such as how to make healthy meals. The environment at Maddox is welcoming and provides families a safe space to ask questions and seek out resources they may need. Also included is a community room for adult education that can be accessed after hours.

STAKEHOLDERS

The primary stakeholder group during planning and design included an executive committee made of the Director, several teachers, superintendent, administration, and head of curriculum. Various department heads, administrators, and specialists (like the school nurse) were part of user groups specifically engaged at various points in the process to provide input and review progress.

COMMUNITY CONNECTION

There has been a neighborhood school on this site since the 1960s. Many neighbors are long-term residents of the community and are deeply connected to the educational experience on this site. Additionally, over 60% of Englewood's children qualify for free and reduced lunch. At the end of construction, overjoyed with the new building, the Director relayed that this building is the first time many of her students will have ever received anything 'new' in their entire lives—and she couldn't wait to share it with them.

Because Englewood is a small district, it was important that each community member feel engaged in the process. The design team took numerous steps to engage with the community:

- Attended the community's Health Fair to connect with community members early in the project.
- Holes were cut into the construction fence so the kids could watch the building being built.
- Being preschool teachers, they used the tools at hand—yarn, rulers, and even their own bodies—to confirm the building was as big as promised!

All of these tactics of community engagement were critical in 'crafting' this building.

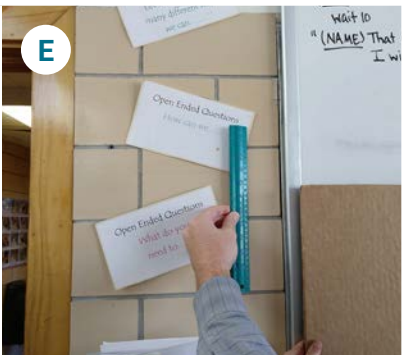
CHALLENGES

The primary challenges of the project included balancing security with a sense of welcoming, as well as designing within parameters of Colorado's childcare facility regulations. Logistically, constructing the building on an active, fully occupied site presented additional challenges.

MADDOX AS A FAMILY RESOURCE

Because children who attend preschool in the District are more likely to stay within the District for subsequent years, the ECE at Maddox program is a gateway for families to the District. Maddox, more than any other school within the District's boundaries, provides a unique opportunity to serve as a comprehensive family resource to families within the area as it is the first exposure to the District for most families. This principle inspired many design decisions.

A & B: Virtual Reality being used in a DAG meeting. C & E: Measuring with the DAG to ensure proper TV placement. D: Tours with the DAG of other ECE Facilities. F & G: Teachers use tape measures and their bodies to measure the rooms during construction.



EDUCATIONAL ENVIRONMENT DESIGN

Upon meeting the director, her staff, and hearing from the kids themselves, the design team knew this had to be a building surrounded by play. The Maddox curriculum centers on play as a means of growing physically, mentally, and socially. Furthermore, it's impossible to actually separate the learning environment from the physical environment. Be it splashing water, rolling down a hill, or stacking blocks, the preschooler is continuously immersed in the learning experience.

BUILDING FORM

The building is surrounded by a field of play, with multiple outdoor play areas accessible from any location in the building. Each playground is different, and supports different types of engagement, from raised garden beds, imaginative play, to traditional swings and slides.

The building's creative form mimics a dragonfly. The spine is administrative, while the wings open up to spaces designed specifically for kids.

The classrooms center around interior playgrounds that are the hub of activity and catalyst for connecting families. The building itself encompasses a scale that is immediately identifiable as a school for young children and is respectful to its surrounding neighborhood.



PROGRAMMATIC ORGANIZATION

The ECE environment accommodates children ages 3-5; children are organized into cohorts of sixteen or fewer students. Each cohort contains a mix of children of all ages and cognitive levels rather than children being grouped by age or ability. Each cohort meets daily on one of three schedules—full-day every day, part-day mornings every day, or part-day afternoons every day. While some multi-cohort activities occur, each child typically spends the bulk of his time with his cohort and each cohort spends the bulk of their time in a single core learning space.

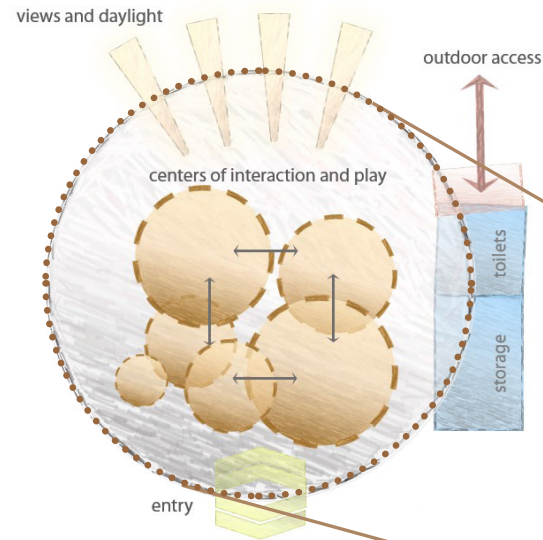
While in a typical elementary school setting the bulk of learning takes place within a classroom and classes then move around for special activities (lunch, art, music, PE), the ECE environment is organized differently. The design team began to organize Maddox like a village:

- Classrooms function like rooms,
- Rooms can be grouped to form smaller houses,
- Houses can be arranged collectively, to form a village.

This arrangement creates a scale that is understandable to a child, instilling a sense of belonging and community. Most learning is done in the 'home', but then one branches out into the village. The home provides a backdrop for daily instruction, eating, resting, and play, while the larger school provides additional resources like STEM, cooking, and places for parents to gather. An emphasis is placed on feelings of safety and security.

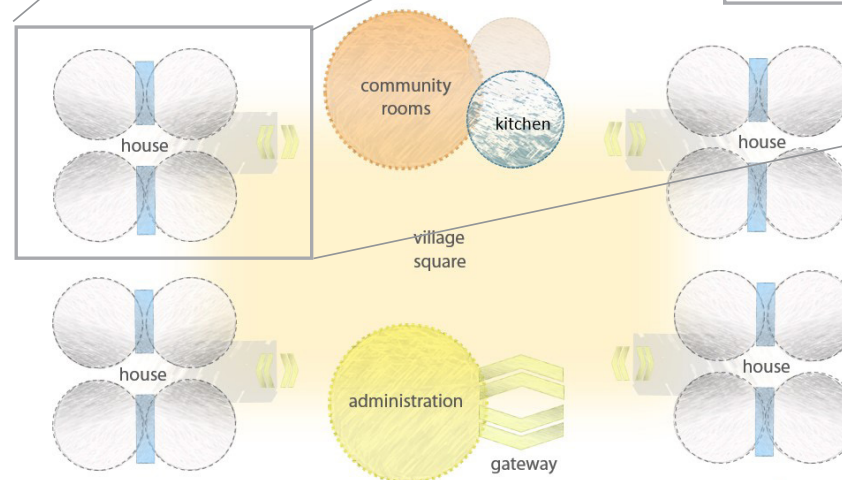
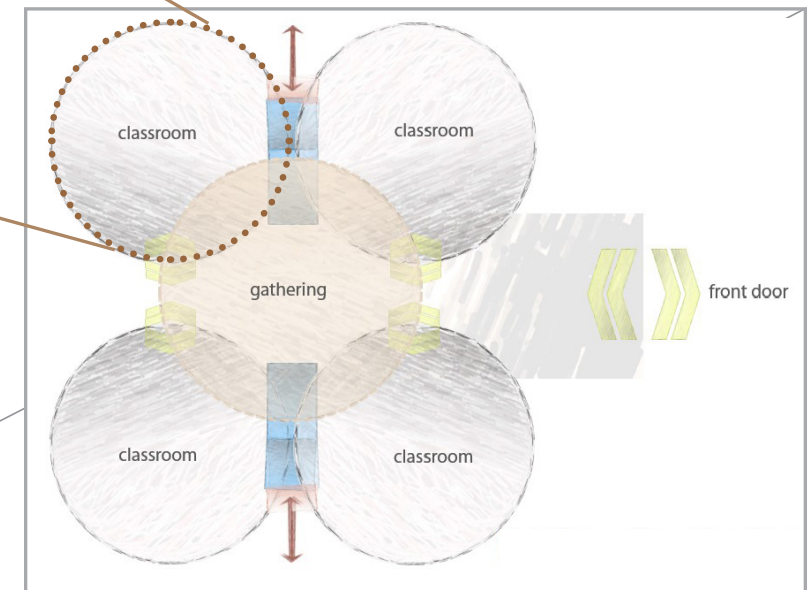
Since the kids spend so much time in the classroom, the design team focused on the organization of the classroom as a building block for the school. Each classroom encompasses the key aspects of health space—a range of organizational opportunities for different types of learning, a clear and secure entry point, acoustical tuning for student and teacher focus, views and daylight, clean temperate air, and access to the outside.

These building blocks are then arranged in groups that create a physical community. The relationships between classrooms are critical to foster positive connections between teachers, interstitial spaces for students to move and play, and gathering places for parents and neighbors.



Envisioning the 'Room'
Classroom Diagram

Envisioning the 'House'
Wing Diagram



Envisioning the 'Village'
Whole Building Diagram

INTEGRATING LEARNING THROUGH PLAY

Maddox currently incorporates a Learning Through Play model. Opportunities for exploration and discovery are offered to children in all settings to support their inquisitive and creative nature.

The building is tactile from the moment students walk in. The tile on the walls is a variety of textures, inviting students to touch it. Next, student enter their wing of the building, and are welcomed by a playground and room to run. As parents chat and catch up with each other, students are immediately engaged in play. Within the classrooms, natural daylight and high ceilings provide a comfortable, sheltering backdrop to the day's activities. A shared student kitchen area and central STEM lab provide additional locations for learning.



Indoor Play Area

Exterior View Through Gardens and Playground



VARIOUS SCALES OF SPACES

Various scales of spaces support different activities and types of learning, from tiny nooks for a quiet moment to high ceilings in spaces that encourage children to run and move. The design of the building acknowledges that different children experience the world in different ways throughout the day, and need a variety of scales to feel safe and understood. This support for a variety of learning styles—active, quiet, focused, shared—allows the teaching staff to meet each student where they are and tailor activities to each child’s individual needs.

ACOUSTICS

The design team spent a lot of time and effort minimizing mechanical noises that might upset or disturb sensitive kids. Consideration was also given in mitigating the potential noise created from the large number of kids running around playing. The design is thoughtful of the acoustics of spaces, using materials and design aesthetics that minimize noise and disruption to other students. Furthermore, the preschool years are a time of language development and classroom acoustics were tuned to maximize comprehension of the spoken word to better facilitate learning.

ADAPTABILITY & FLEXIBILITY

Connections are designed between rooms so that teachers are supported by adjacent staff and have the ability to move through various rooms throughout the day. The STEM room is easily accessed by the indoor open space, through to classrooms, and from the covered porches to the exterior open spaces.



Indoor Play Space

View of Gathering, Maker Space, and Professional Development



Various Scales of Space in the Classrooms



PHYSICAL ENVIRONMENT DESIGN

OVERALL ORGANIZATION: THE DRAGONFLY

Shaped like a dragonfly in plan, Maddox has a central core ('spine') supported by two individual learning communities ('wings'). Administration and shared functions are located along the center spine and classroom spaces in the wings.



SHARED SPACES ('SPINE')

Located centrally, one enters the

Administration suite before moving into the central circulation area, with access to the maker space, kitchen, professional development spaces, the feature indoor play space, as well as the classroom wings.

The **multi-purpose activity room** supports indoor gross motor play and core learning environment break-out activities. It is accessed directly from the core learning environments and has direct access to exterior playground(s).

The **maker space** is a break-out space supporting hands-on activities like art and music. It is sized to accommodate two cohorts simultaneously for collaborative activities.

Children may be evaluated through one-on-one interaction with/ observation by a specially-trained adult to determine their eligibility for special services in the **child find** space. Children receive Speech Therapy, Physical Therapy, and Occupational Therapy services in the **therapy space**.

Each classroom has direct access to **outdoor playgrounds** and each playground has its own theme. Outdoor play at Maddox is all about nature play and utilizing natural materials – logs, stepping pathways, and exploratory learning through mud, sticks, and water. Roof drainage is integrated into the playground spaces through rain chains. The covered porch was a key concept of the design; it provides sheltered outdoor space where children can be outside, but still protected, and has storage for outdoor toys.

The **kitchen/coffee bar** is located at the intersection of the interior of the building, front and center, its positioning another outcome of understanding the importance of reaching out and supporting the community as they were coming through the building. Large steps allow little feet to hop up for a better view into the **maker space**—they cook here, with the kids, too. This single space shared with whole school was funded through a District-wide grant and includes glass walls, offering transparency both into the space and out.

Further enhancing community connections, the District's new **school board meeting room** facility was also put into this building. Setup as a board room, it can be divided up into smaller training/professional development rooms for use by the District. A **community classroom** is

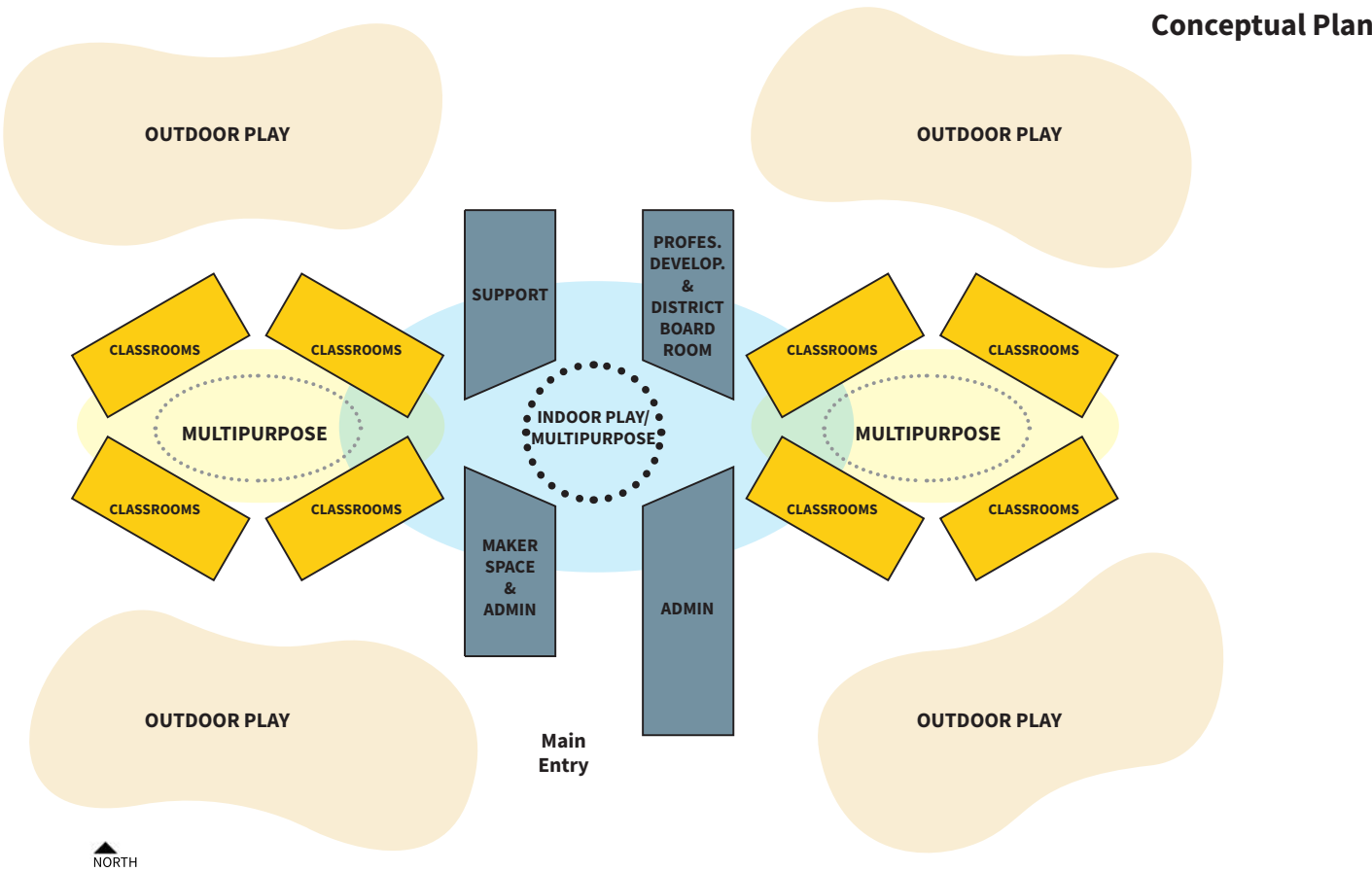
also located along the building's spine at the entry, where adult classes are offered for obtaining GEDs, engaging in ESL, and various other needs. These spaces all speak to the ECE's role as the heart of the Englewood community – a space that every student and family engages with throughout their experience with the Englewood district.

CORE ACADEMIC SPACES ('WINGS')

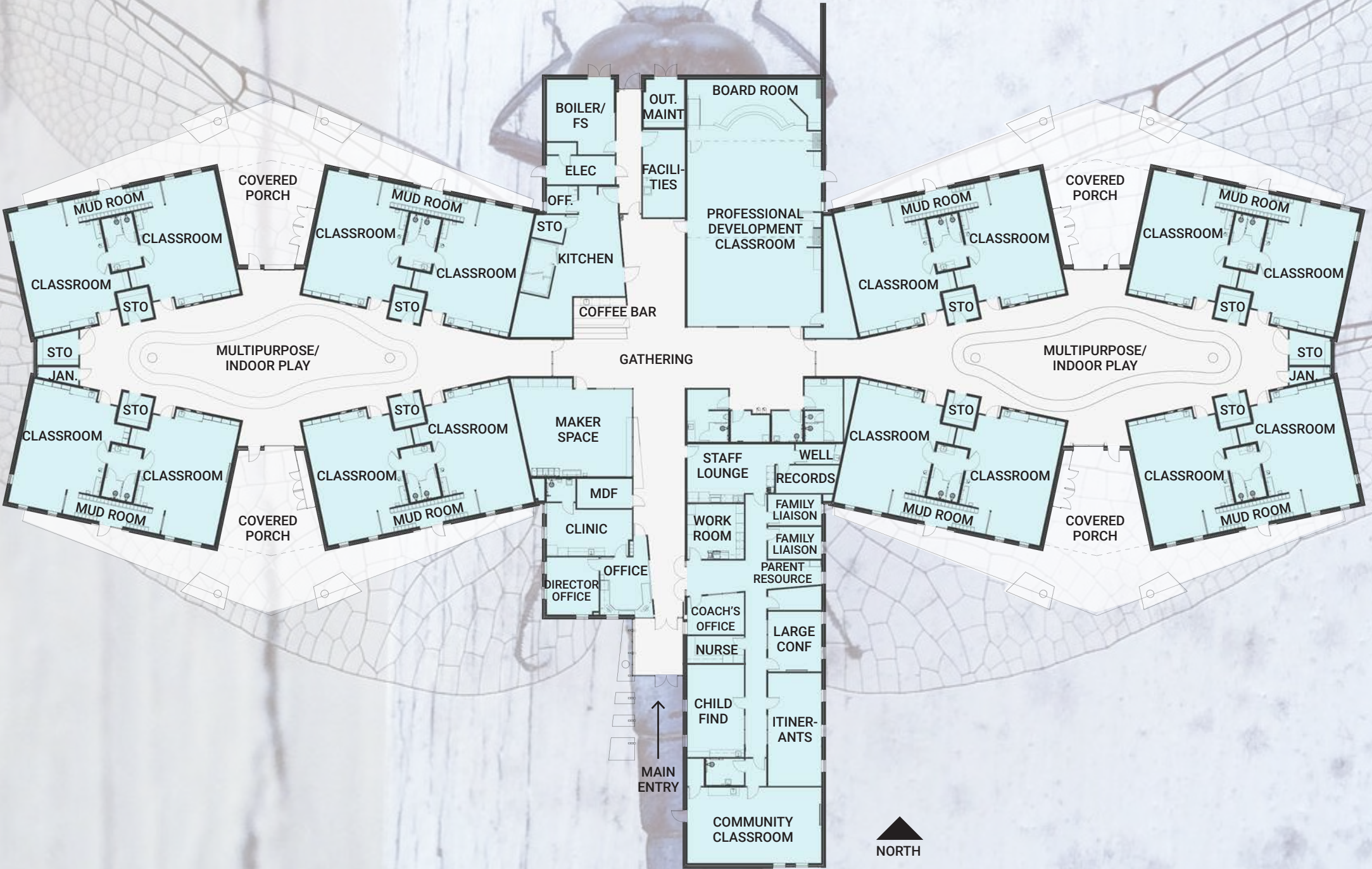
The **indoor multipurpose rooms** function as the heart of the building and truly makes this school unique. These spaces replace a space (like a gym) that would traditionally have it's own area, and instead transform the circulation spaces into indoor play areas allowing for more vibrant activity. These areas include a tricycle track, climbing and playground equipment, high ceilings with clerestory windows and large doors to the outside. Classrooms open directly into the multipurpose spaces, and are arranged in pairs to allow shared storage, support space, and collaboration between teachers. The location of the play spaces engages parents as they are entering and exiting the building—a goal of the Design Advisory Group. Because of the numerous half-day programs at Maddox, the indoor play areas become a hub for parents and their children to gather, socialize, make connections, build community, and gain resources.

With each **classroom** functioning as an independent 'house', and supporting the 'Learning through Play' concept, the arrangement of furnishings throughout classrooms are flexible for various uses throughout the day, supporting quiet and focused activities as well as noisy, messy, and energetic activities. Activities that occur throughout the day, such as group gatherings for listening, discussion, eating, sleeping, and independent play, all take place within each learning house. Each classroom has direct access to its own playground. Areas for group and individual learning are accessible, including a maker space and tiered demonstration area for larger groups.

Classrooms are oriented with windows to the north or south to promote even, well-controlled daylight for each space. Each pair of classrooms has direct access to a playground outside. The dragonfly shape of the building inherently divides the site into four quadrants, creating four contained outdoor playground spaces that each have their own unique character and support different types of creative play.



Floor Plan



RESULTS OF THE PROCESS & PROJECT

Facilitating strong community connections and serving as a family resource for its families, the ECE at Maddox excels in fostering positive growth in the community by providing a supportive, family-centric environment. The previous facility was segmented and limited educational opportunities. It had poor acoustics, and it was difficult to secure and manage visitors to the building. The New facility provides a range of learning opportunities and spaces, encourages students to learn

as they engage in play, and provides a secure campus while welcoming families. Teacher satisfaction, higher student success, and visible joy on the faces of children are all results supported by this new facility.

DISTRICT-WIDE ATTENDANCE

Children from throughout the District attend Maddox making this school a potential resource for every family in the District.

SUPPORTING DISTRICT TRANSITIONS

The Maddox site/existing building served as a home to another school community (Bishop Elementary) during the transitional time while its building was being replaced.



Outdoor Play and View of Covered Porch

SHARED SPACES TO SUPPORT THE COMMUNITY

Because Maddox is so community-centric, several spaces are dedicated to supporting the surrounding community. The community classroom is a multi-purpose gathering space supporting a variety of activity settings. It has direct access to the exterior to support after-hours use by non-District personnel as well as presentation capabilities for whole-group meetings.

The parent resource room is located near the main building entrance for families to access public resources and programs. The parent resource room is configured and furnished to accommodate small private meetings between facility staff and parents.

After the new building was constructed and the original facility demolished, a new playground was added onsite because the community missed the old playground.



Professional Development Room



Secure Entry





SUSTAINABILITY & WELLNESS

ENERGY EFFICIENCY AND MATERIALS

Energy efficient building systems and durable/sustainable materials were utilized throughout the design. Classroom orientations maximize daylighting while a high efficiency building envelope was used. Rain Chains engage the students in the landscape. During design, a commissioning agent was used for both mechanical systems and building envelope design. Enhanced air exchange contributes to excellent indoor air quality. In-floor radiant heat enhances student comfort. The selected rubber tile roof is a 50-year, low maintenance roof.

HEALTHY ENVIRONMENT

Low and no VOC products were selected, as well as low maintenance, durable materials. Natural daylight floods the building from clerestory windows, providing balanced lighting and a connection with the outdoors. Raised garden beds and the fully functional kitchen teach healthy lifestyles to children, and engage them in learning around food growth and preparation. Physical movement is promoted throughout the building, and many students get to school by walking or biking from nearby neighborhoods. The community park was added onsite once the existing building was removed.



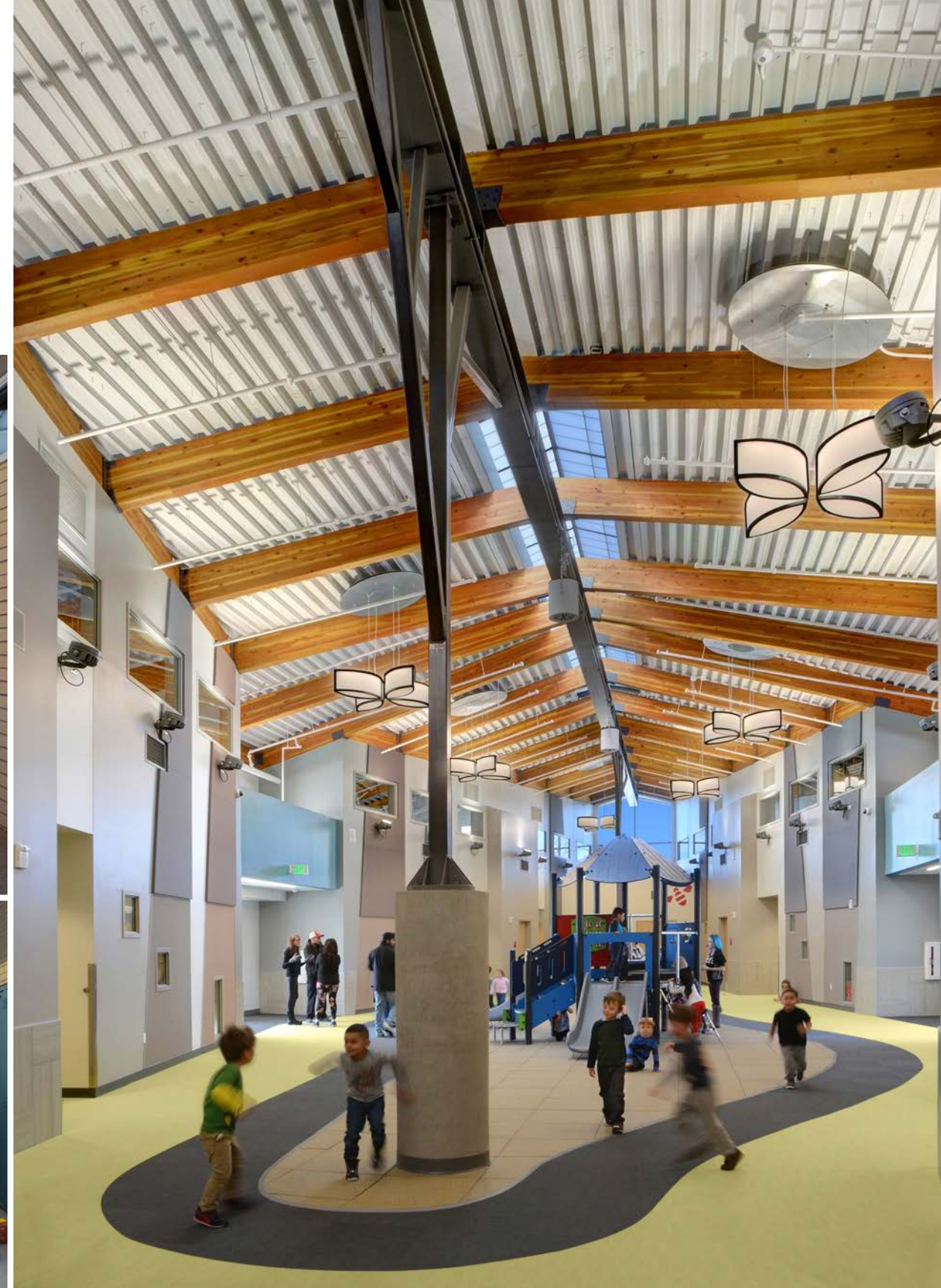
Outdoor Play Areas Offer a Variety of Opportunities



BEAUTY, DELIGHT, AND BIOPHILIC DESIGN

Access to views and the outdoors are available around every turn at Maddox. Inside the building, custom interior design features represent elements in the natural world and further reinforce the building dragonfly shape. Custom light fixtures represent dragonfly wings, warm wood glulams are visible in the multipurpose space, and subtle tree patterns are visible through the columns and acoustical panels.

On the exterior, a key component of the building's design was to provide sheltered, outdoor space for respite from the sun and rain. The covered porches between each classroom pair offer diffuse light through translucent roof panels and house custom-designed storage units for play equipment. The porches connect the outdoor and indoor play areas.





Covered Porch



