

LAKERIDGE MIDDLE SCHOOL
LAKE OSWEGO SCHOOL DISTRICT
LAKE OSWEGO, OREGON



EXECUTIVE SUMMARY

With its welcoming, biophilic environment, Lakeridge Middle School is designed to support the unique needs of the middle school learner.

BIOPHILIC SURROUNDINGS In alignment with research confirming the positive, emotional impact that natural materials, patterns, and features can have on students, the design team used elements of biophilia throughout the school. Featuring natural light and ventilation, views, wood beams and White Oak tree trunks, the design evokes the feeling of being in nature to reduce stress, anxiety, and aggressive behavior.

LEARNER-CENTRIC ENVIRONMENT Wrapped around an exterior courtyard, the classrooms have been reimagined as a series of tech-savvy, paired Learning Studios. Each space features multiple teaching walls, mobile technology, and flexible furniture. Connected via a sliding glass door, the rooms share access to a maker space outfitted with hanging power grids, shop-style sinks, and mobile tool closets for project work.

PROMOTING EQUITY The cafeteria/commons is designed for students who thrive in more active areas as well as those who need calm. The space is broken into several zones, each offering a range of seating options and scales. The wood ceiling brings warmth and acoustical comfort to the space and a wall of glass creates visual and physical connection to a covered porch and courtyard. Every person in the building has access to private, single-occupant restrooms, which allow safe accommodation for all.

HIGHLY SUSTAINABLE BUILDING Dedicated to sustainability, Lakeridge Middle School represents a 71% reduction in energy use compared to a baseline middle school and is registered with the Energy Trust of Oregon’s “Path to Net Zero” program. Its structure and systems are designed to support occupants and reduce damage after a major seismic or storm event.

LAKERIDGE MIDDLE SCHOOL



SCOPE OF
WORK AND
BUDGET



OWNER
Lake Oswego
School District

SITE
AREA
28 acres

BUILDING
AREA
141,000 SF

GRADES
HOUSED
6-8

STUDENT
CAPACITY
1,100

SQUARE FEET
PER PUPIL
128 SF

OCCUPANCY
DATE
March 2021

CONSTRUCTION
COST
\$70M

CONSTRUCTION
COST PER
SQUARE FOOT
\$496/SF

ADVOCATING FOR FUTURE STUDENTS

The first of two area middle schools to be rebuilt, the Lakeridge design process included the entire community to develop a district educational specification in addition to the building design.

Tasked with the challenge of supporting learning for the next 100 years, the process included an Ed Spec Team, a Design Advisory Team, and broad community engagement. The process established goals for future learning, sustainability, and regional resilience.

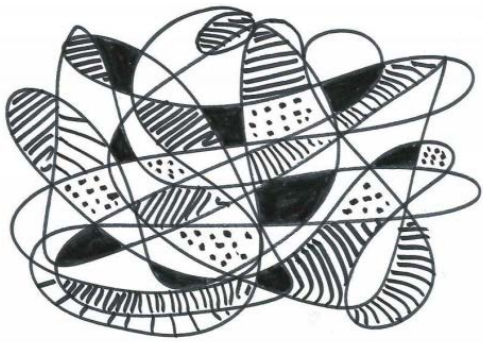
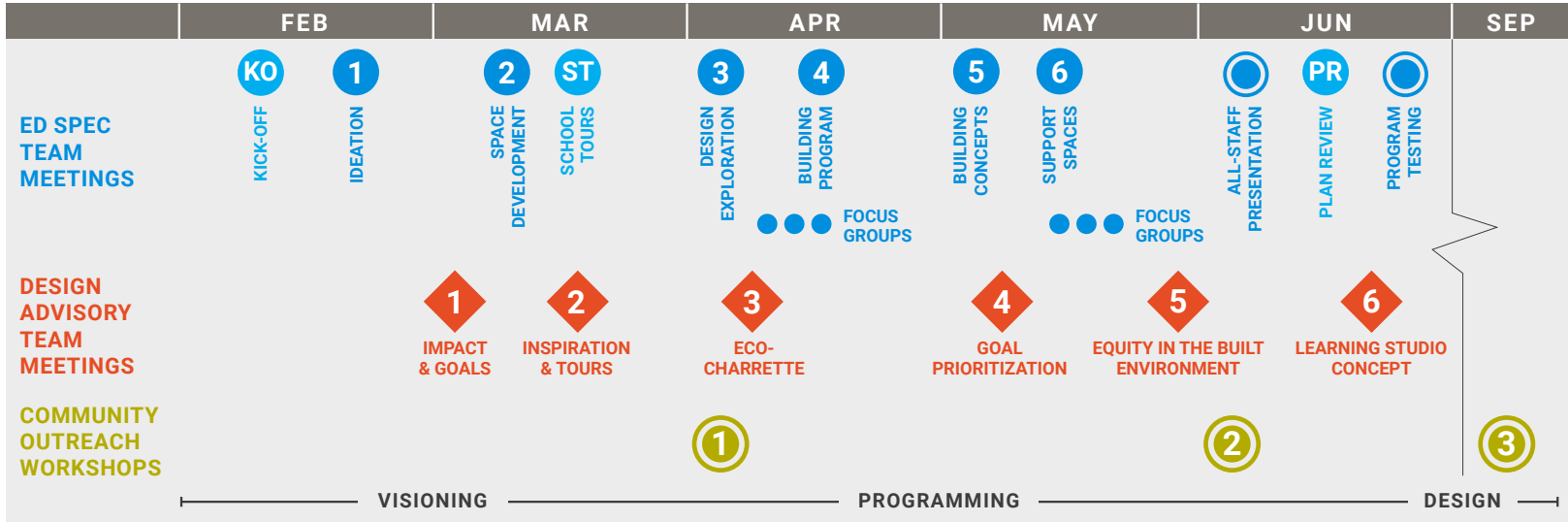
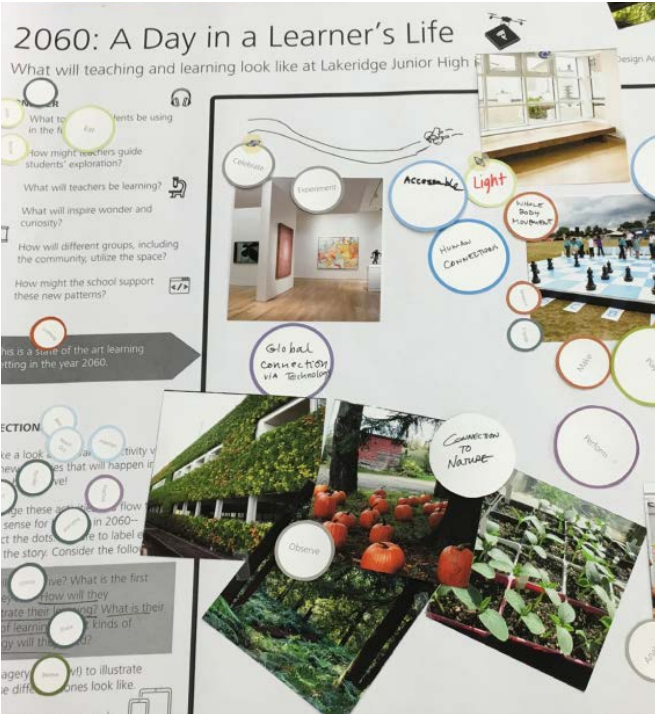
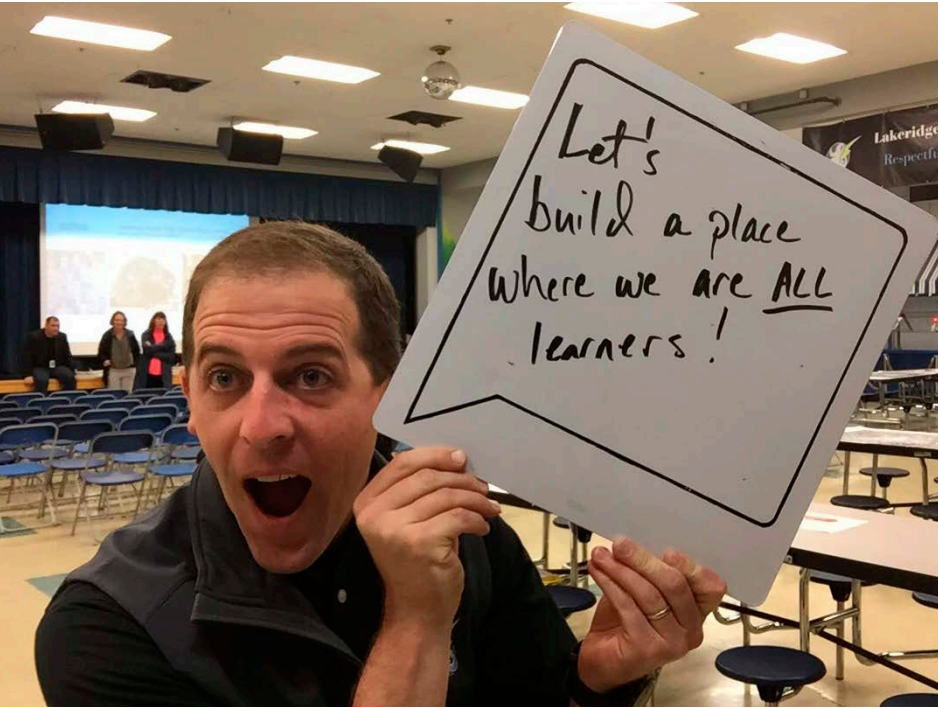
ED SPEC TEAM (EST) Tasked with establishing spatial criteria, this 11-person committee was comprised of District leaders, Teachers on Special Assignment, and middle school staff. This group met six times and toured six area schools, providing feedback and creating goals to shape how the allotted area should be used to best serve the needs of the future students of Lake Oswego.

DESIGN ADVISORY TEAM (DAT) Tasked with analyzing and synthesizing goals set by the EST, this 25-person committee was comprised of EST members, Lake Oswego School District personnel, Lakeridge faculty, parents, and students, and community stakeholders. They met six times and served a critical role in sharing the design decision-making with the community.

COMMUNITY PARTICIPANTS Over three weekends, the community at large was invited to participatory workshops to ask questions, provide feedback, review project goals, discuss construction phasing, and share their hopes for the new school.

DISTRICT & MIDDLE SCHOOL FOCUS GROUPS These groups were comprised of representatives from students, athletics, community school, facilities, food services, equity, library, special services, technology, transportation, administration, counseling, general classrooms, arts, science/ stem, physical education/health, and special services. They were brought in at key junctures to collaborate, enhance, and/or challenge design solutions, or to validate the direction established by the EST and DAT.

BELOW: The EST and DAT met multiple times to ideate and set goals for the project. Community outreach and working with the students were also important to the success of the project.



We are committed to being connected and inclusive: students, staff, parents, everyone!

GOAL-SETTING AND
PRIORITIZATION

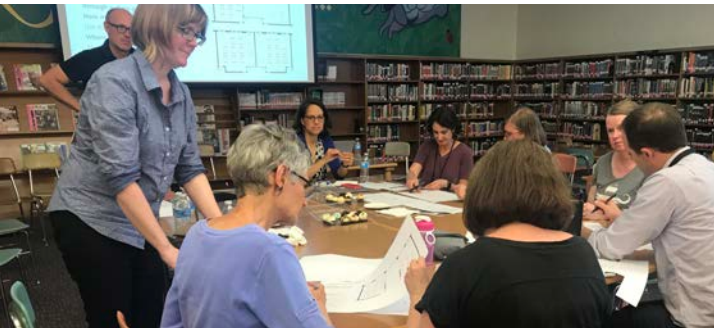
The community outlined ten goals for the District’s new middle schools. The DAT then worked with the District, staff, faculty, students, and parents to prioritize the top three goals specific to Lakeridge Middle School:

- 1. LEARNER-CENTRIC ENVIRONMENT** Building provides tools students need to learn, including technology; allows deep exploration; learning objectives fit each student’s needs; flexible spaces.
- 2. PROMOTE EQUITY** All users are emotionally comfortable and physically secure; recognition that students learn in different ways; diversity is embraced.
- 3. HIGHLY SUSTAINABLE BUILDING** School is a beacon for green building practices; learning opportunities; save long-term utility and maintenance costs.

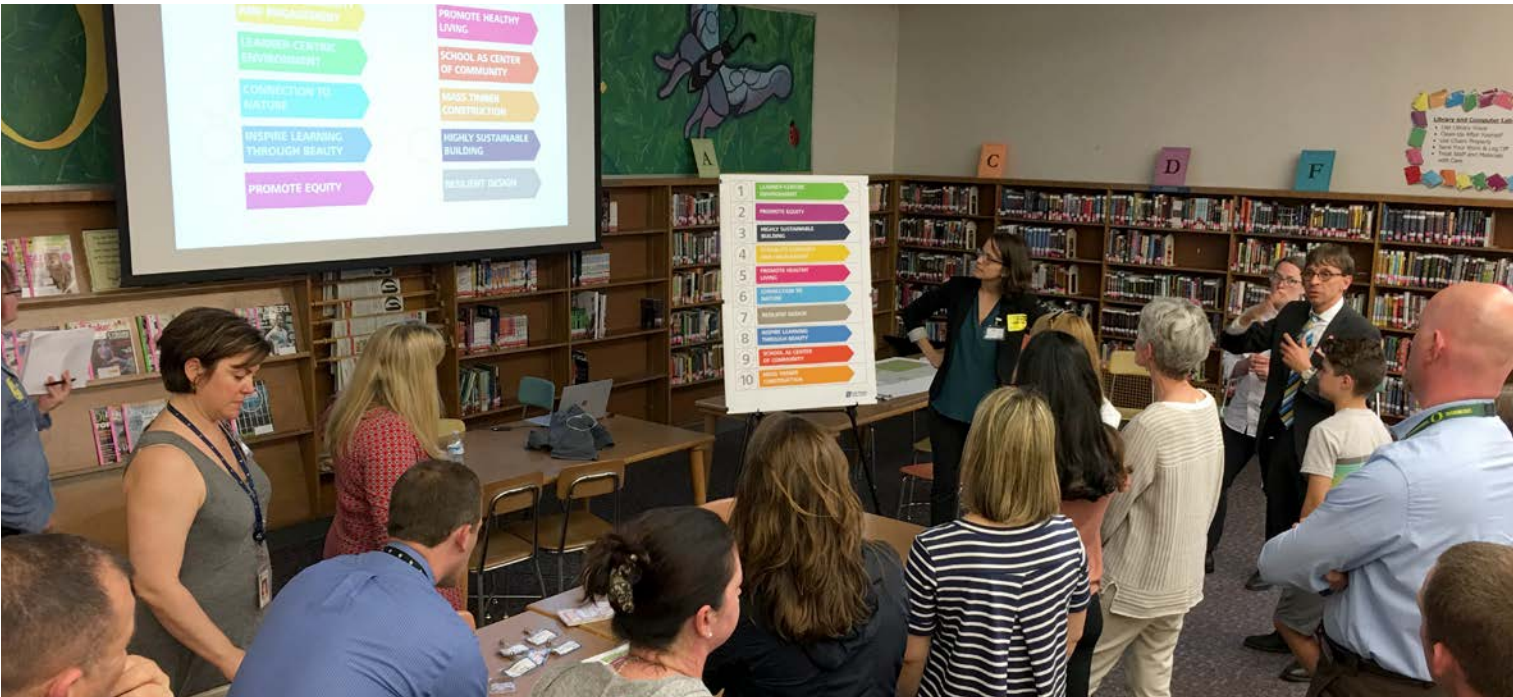
The remaining seven goals also influenced the school design:

- STIMULATE CURIOSITY & ENGAGEMENT** Opportunities for hands-on learning; learners have choices; sense of excitement; kids don’t want to go home!
- PROMOTE HEALTHY LIVING** Encourage physical activity; Encourage positive mental environment, less stress; connect nutrition and food production.
- CONNECTION TO NATURE** People in and around the school feel connected to the natural environment; daylight and views; opportunities to learn outdoors; site as a learning tool.
- RESILIENT DESIGN** Building systems can withstand a major seismic event; building can be a community resource after a disaster; school can resume normal operations quickly.
- INSPIRE LEARNING THROUGH BEAUTY** Community pride in the school; moments of inspiration through architecture.
- SCHOOL AS CENTER OF COMMUNITY** Provokes learning for everyone – students, parents, teachers; part of the culture of Lake Oswego; places to host events and gather.
- MASS TIMBER CONSTRUCTION** Utilize locally-available, highly renewable wood products in construction; beauty of wood brings warmth to space.

BELOW: The DAT looks more specifically at the design solution for the Lakeridge site, providing comments on site diagrams and indicating their preference on a variety of topics.



| | |
|----|------------------------------------|
| 1 | LEARNER-CENTRIC ENVIRONMENT |
| 2 | PROMOTE EQUITY |
| 3 | HIGHLY SUSTAINABLE BUILDING |
| 4 | STIMULATE CURIOSITY AND ENGAGEMENT |
| 5 | PROMOTE HEALTHY LIVING |
| 6 | CONNECTION TO NATURE |
| 7 | RESILIENT DESIGN |
| 8 | INSPIRE LEARNING THROUGH BEAUTY |
| 9 | SCHOOL AS CENTER OF COMMUNITY |
| 10 | MASS TIMBER CONSTRUCTION |



SUPPORTING THE NEEDS OF TEENAGE LEARNERS

Based on input from the stakeholder groups, the Design Team identified key building program elements that would allow the middle schools to meet their vision and goals, but also tailor the spaces for the unique needs of the Lakeridge Middle School student.

CLASSROOMS AS LEARNING STUDIOS Support all aspects of learning: self-directed, teacher-coached, individual, small-group, large group, experiential, multi-disciplinary, etc.

CAFETERIA AS SEMI-DISTRIBUTED COMMONS Accommodate a wide variety of students, including those who prefer quieter areas and those who thrive in larger open areas.

LIBRARY AS READING ROOM As technology changes the way resources are delivered, the library will be a more-intimate space to celebrate reading the printed word.

GYMS AS LARGE, FLEXIBLE TEACHING STATIONS Gyms can be divided into two teaching stations or used at its full size for competition. The larger gym is also equipped to be an assembly space and large-ensemble performance space.

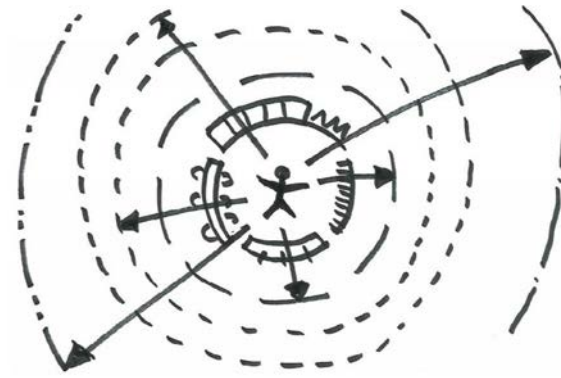
SPECIAL EDUCATION AS A RESOURCE FOR STUDENTS A suite of rooms can be organized to serve any of the District's special services. This will allow schools to meet current programming and ability to be flexible for future program changes.

NATURE AS A TANGIBLE ASSET The natural environment will be easily accessible via views, direct connections between curricular areas and the commons, and nature play elements.

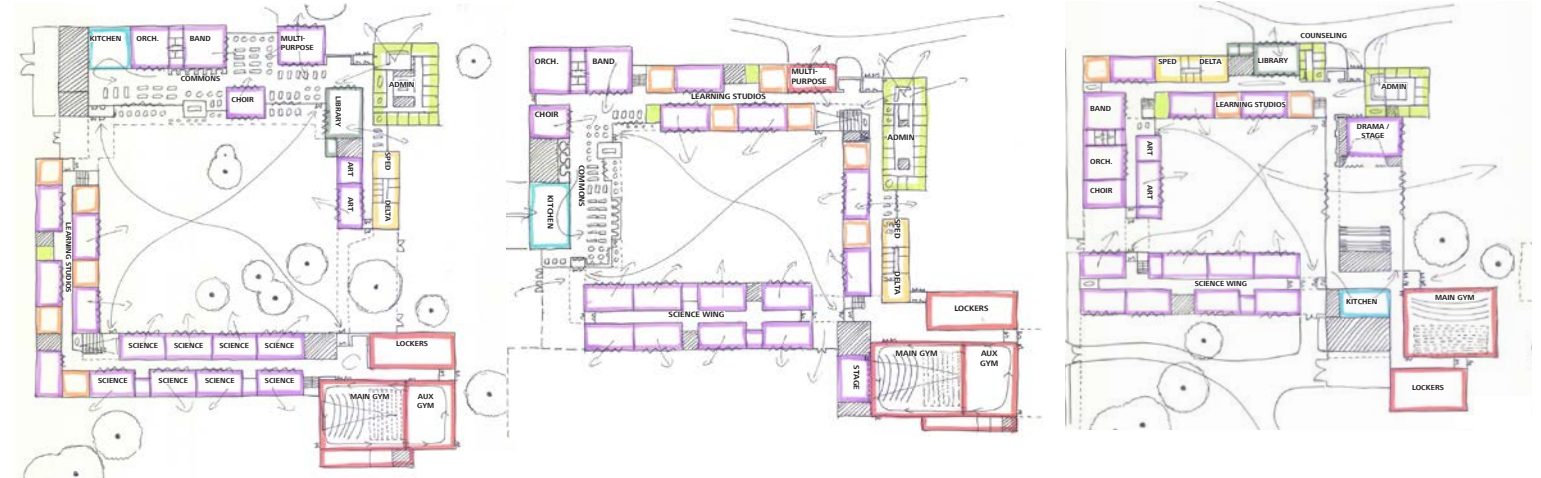
BUILDING ORGANIZED AS A LOOP Expose students to a variety of learning opportunities with a continual loop organization that has no dead ends.

FLEXIBILITY IN THE FACE OF THE UNKNOWN Designed before the global pandemic, the flexible features of the building allowed easy adaptation: 100% outside air, large classrooms, covered play as cafeteria, and a secure outdoor courtyard contributed to a safe, comfortable return to in-person learning.

LAKERIDGE MIDDLE SCHOOL



"Every space is a space to learn, students have access to tools they might need in every setting."



EXPOSING TEENAGE LEARNERS TO ARCHITECTURE

In 2018, the Design Team hosted the local SchoolsNEXT team at a Lakeridge DAT meeting, offering insights into the students' work and in turn, invited the students to share thoughts on the design of their new school.

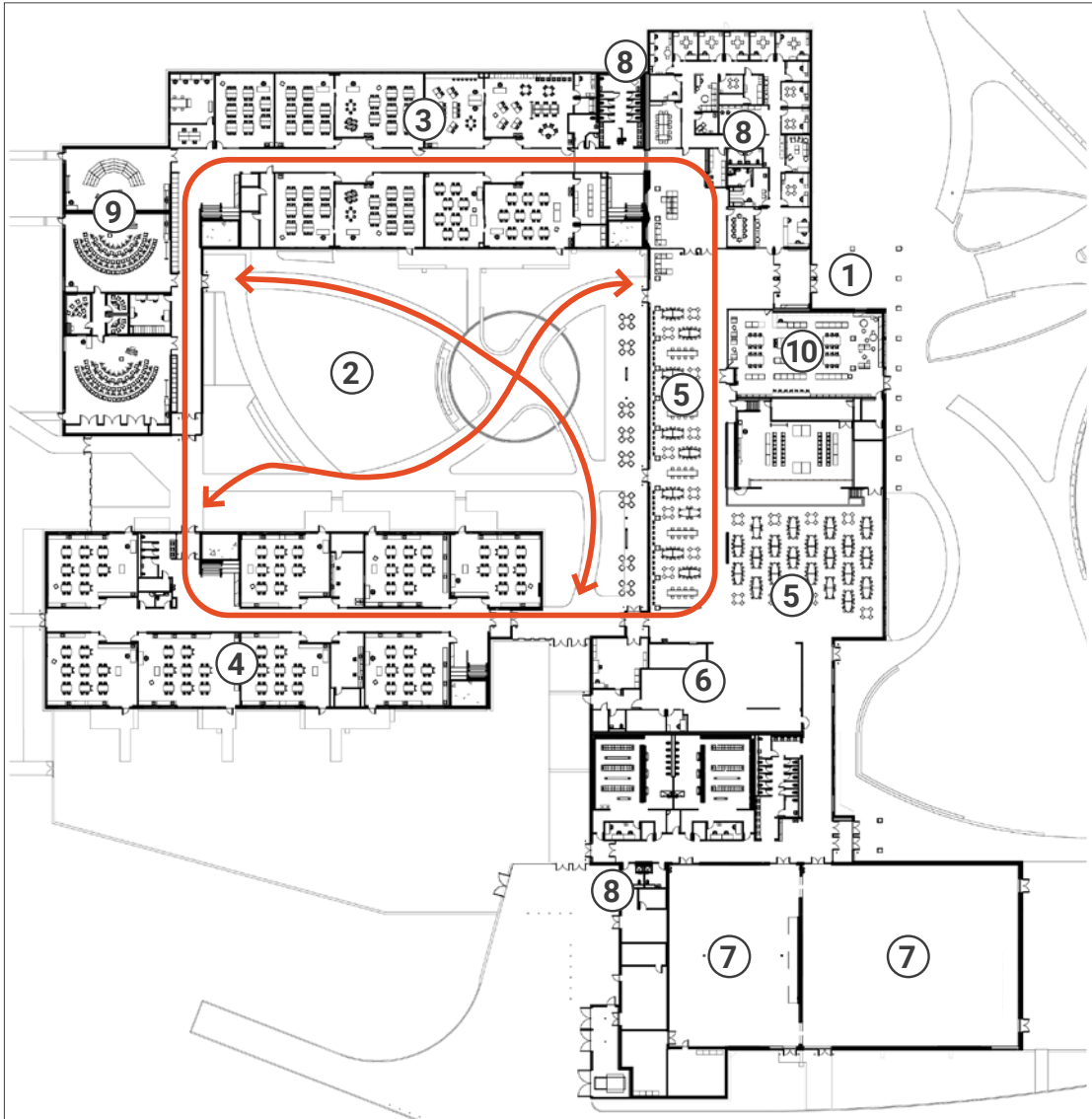
More recently, the Design Team provided materials and volunteered their time to assist a "new to architecture" teacher plan a model building class and helped the students translate their ideas into three dimensions. It was gratifying to see many of Lakeridge's design features, such as the courtyard and connections to nature, had been translated into the class's design ideas.

EDUCATIONAL ENVIRONMENT DESIGN

AN ENGAGING AND ACTIVE ENVIRONMENT

To create an environment tailored to the academic, social, and emotional needs of the teenage learner, the building is organized as a “loop,” which eliminates dead ends, diversifies circulation pathways, exposes students to a variety of learning, and reduces travel distances by encouraging short-cuts through a secure outdoor courtyard.

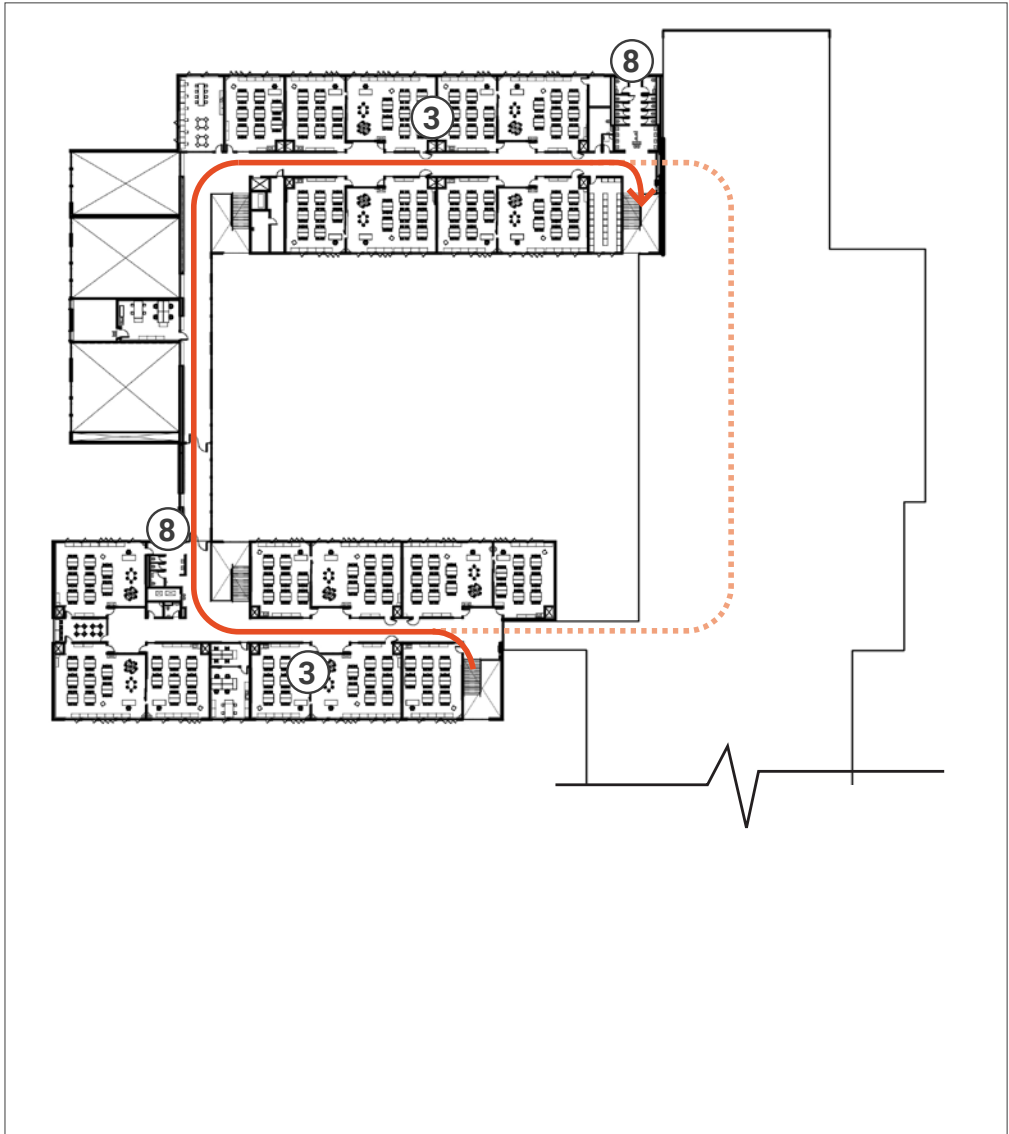
The biophilic elements, natural material palette, and building performance continually re-enforce a connection to nature which has shown to create improved learning outcomes.



FIRST LEVEL FLOOR PLAN

FLOOR PLAN LEGEND

- | | | |
|----------------------|------------------------------|---------------|
| 1. Main Entry | 5. Distributed Commons | 9. Music Wing |
| 2. Outdoor Courtyard | 6. Kitchen and Served | 10. Library |
| 3. Learning Studios | 7. Gymnasium | — The “Loop” |
| 4. Science Rooms | 8. Single-occupant Restrooms | |



SECOND LEVEL FLOOR PLAN



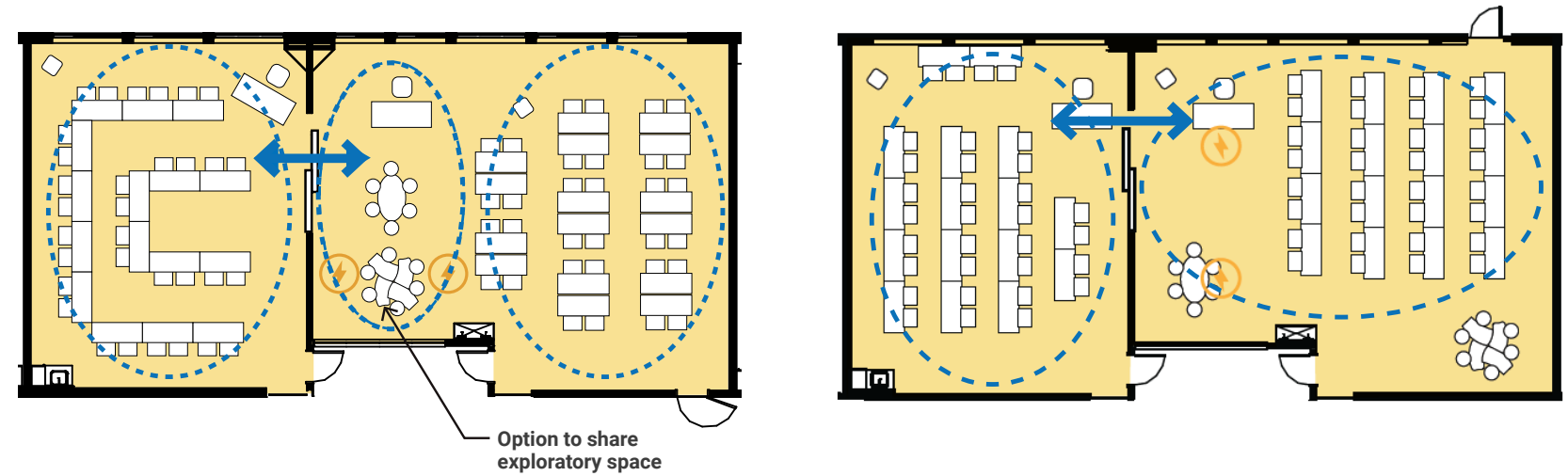
EDUCATIONAL ENVIRONMENT DESIGN

LEARNING IS INTERACTIVE AND ADAPTABLE

The design team and faculty tested full-sized mock-ups for a year, landing on pairs of 950 SF “general” classrooms and 1,150 SF “makers labs” that are physically and visually connected. Dubbed “Learning Studios,” the spaces offer flexibility with multiple teaching walls, flexible furniture, and mobile technology.

The makers lab can seat a class at tables with an open work area or spread out into small groups. The labs contain hanging power, industrial sinks, and mobile tool closets. Exposed concrete floors throughout the Learning Studios allow STEAM activities to take place anywhere. Teachers and students collaborate to plan how the spaces will be shared and utilized each day.

BELOW: During the mock-up stage, the design team created a magnetic tool to sample configurations within the two full-sized test rooms.



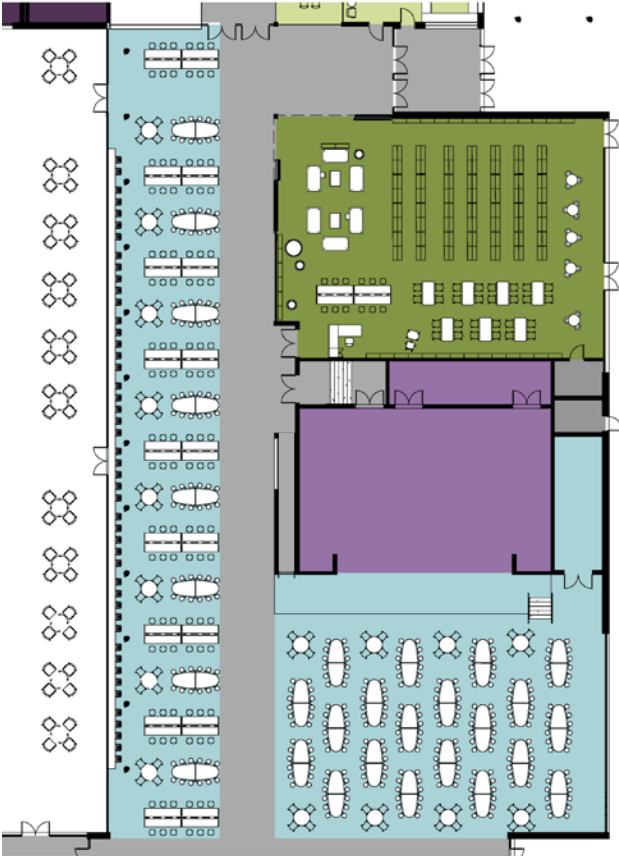


EDUCATIONAL ENVIRONMENT DESIGN

PROMOTING EQUITY: FINDING YOUR PLACE

To support student well-being, the traditional middle school cafeteria was reinterpreted into a distributed commons, catering to students who thrive in more active areas as well as students who prefer calmer, quieter spaces.

The commons is broken into several zones, each offering a range of seating options and scales. A covered porch offers additional seating in the outdoor learning courtyard. The adjacent library opens to the quieter eating area, providing additional space for students to read, play games, or work on puzzles.



- LEGEND
- Distributed Commons
 - Outdoor Seating
 - Circulation
 - Library
 - Stage/Music Room

LAKERIDGE MIDDLE SCHOOL





EDUCATIONAL ENVIRONMENT DESIGN

TWO GYMS IN ONE

Two gymnasiums are connected by two roll-up, garage-style doors and can be cordoned off or opened up, depending on usage. The larger of the two gyms is equipped to be an assembly space and large-ensemble performance space, and both gyms are equipped to serve as community shelter in case of emergency.

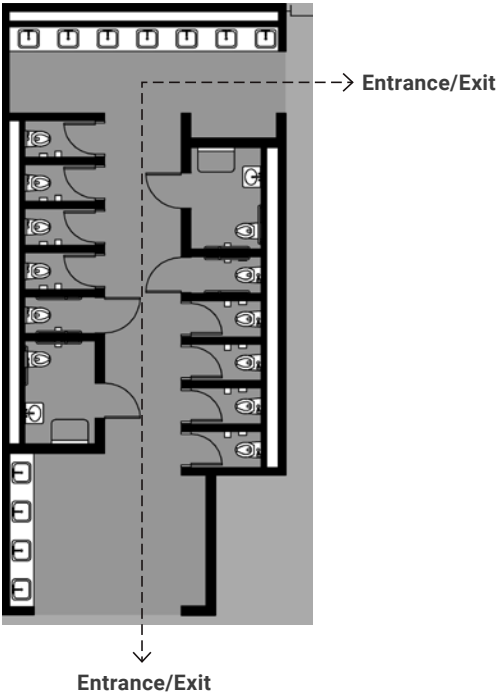
DESIGN INNOVATION

Material choice plays a vital role in designing to meet Seismic Risk Category IV demands. Concrete, steel, and composite materials are commonly used to achieve the highest seismic risk level. In order to reduce embodied carbon, the team used plywood shear walls to develop an all-wood approach for the two gymnasiums.



EDUCATIONAL ENVIRONMENT DESIGN

PROMOTING EQUITY: STUDENT WELL-BEING
The restrooms throughout the building allow for personal privacy and safety for all students regardless of abilities or gender identity. Rows of individual, non-gendered toilet rooms provide acoustic and visual privacy with full-height doors that open to a hallway with shared sinks for handwashing, allowing staff supervision to prevent unsupervised congregation and bullying.



POST-OCCUPANCY FEEDBACK
The district has reported they are happy with the single-occupant approach to restrooms. While some students wish they could return to the group social aspect of traditional gendered restrooms, the administration has found that single stalls are easier to monitor.

Lakeridge’s new restroom model has shown a measurable improvement in behavior: last year, only 2% of behavior incidents occurred in the restrooms, while the other middle school in the district reported over 12% of incidents occurred in their traditional gendered restrooms.

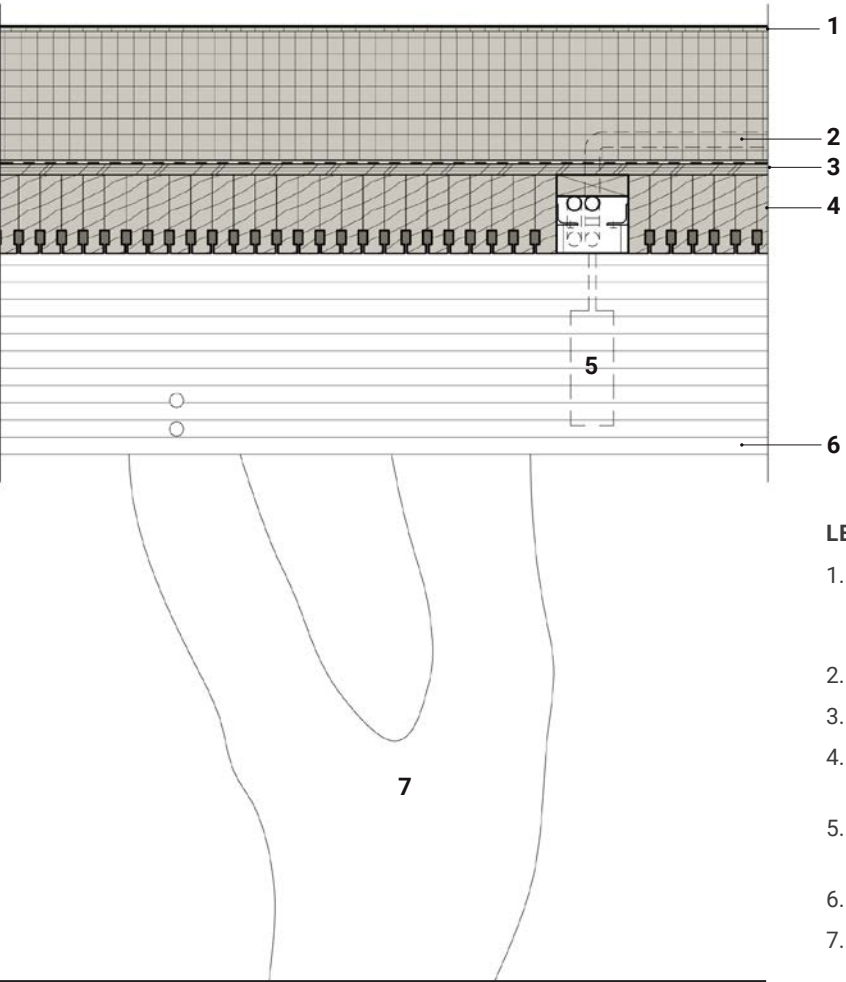


EDUCATIONAL ENVIRONMENT DESIGN

HIGHLY SUSTAINABLE BUILDING: LOCAL MATERIALS

Locally-sourced dowel-laminated-timber (DLT) ceilings create an intimate scale across the public areas of the school. This single material serves as a structural element, providing acoustic absorption and forming a final finish that ties into biophilic and low-carbon goals.

The library (shown at right) benefits from the warmth of the wood to achieve the District’s goal to “create a more intimate space to celebrate reading the printed word.”



LEGEND

- 1. Roofing and Coverboard over R-50 Rigid Foam Insulation
- 2. Conduit Path
- 3. Plywood and Vapor Barrier
- 4. Acoustic Dowel Laminated Timber (DLT) Roof Deck
- 5. Light Fixtures or Ceiling Fan (where occurs)
- 6. Glulam Beam (beyond)
- 7. Tree Column (beyond)

STRUCTURAL AND SYSTEM INTEGRATION DETAIL



EDUCATIONAL ENVIRONMENT DESIGN

HIGHLY SUSTAINABLE BUILDING: GETTING MORE BY USING LESS

Polished concrete floors perform as a structural element as well as provides thermal mass that offsets temperature gain throughout the day.

Structural walls and ceilings are left exposed to minimize materials and save on costs.

Wood screens and benches add a natural element to the space and encourage students to linger.

POST-OCCUPANCY FEEDBACK

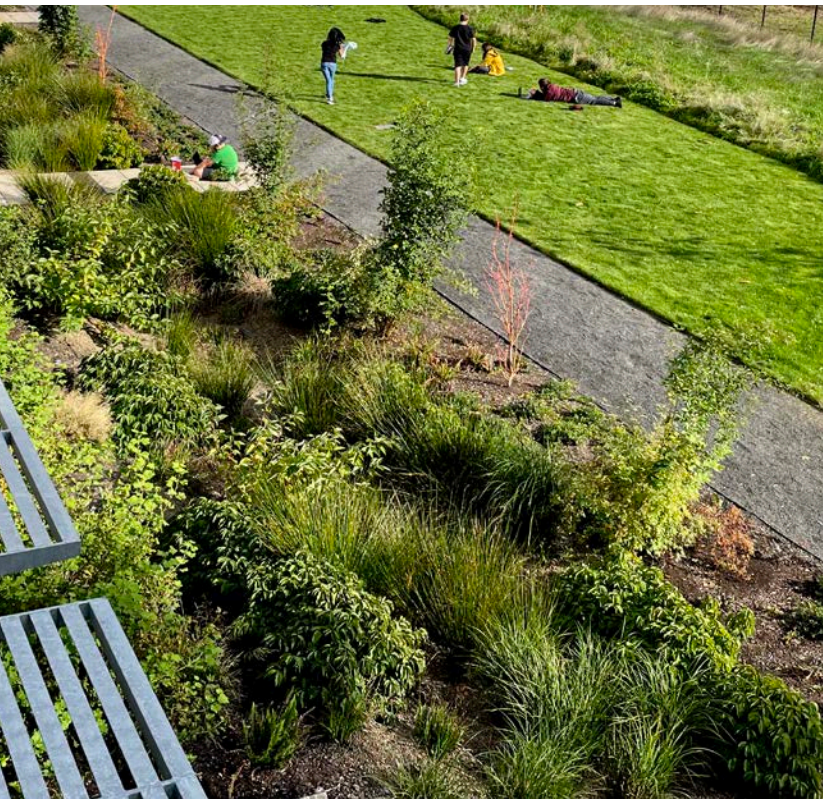
Selected for sustainability, beauty, and economy, the interior materials have proved to be very durable in the first three years of occupancy.



A SITE RICH IN HISTORY AND INSPIRATION

The design team researched the history of the site, the geology, the trees, and the surrounding areas which led to inspiration for the landscape forms as well as the palette of natural materials and colors used throughout the project.

A CHALLENGE BECOMES AN OPPORTUNITY
A site with a high water table and heavy clay is not conducive to infiltration. To solve for this, stormwater is managed through vegetated biofiltration planters, utilizing native plants and underground detention chambers. The planters also aid in removing pollutants such as pesticides, oils and grease, sediment, phosphorus, and metals.



- SITE PLAN LEGEND**
- 1. Vehicle Access
 - 2. Bus Drop-off
 - 3. Parent Drop-off Lane
 - 4. Main Entry Plaza
 - 5. Visitor/Staff Parking
 - 6. Secure Courtyard
 - 7. Science Yard/Garden
 - 8. Existing Wetland
 - 9. Existing Athletic Fields
 - 10. Pedestrian Connections
- Landscape Area
 - Enhanced Landscape Area
 - Stormwater Planters
 - Native Meadow/Planting Area
 - Mulch
 - Existing Trees to Save

PHYSICAL ENVIRONMENT DESIGN

HIGHLY SUSTAINABLE BUILDING: IN CASE OF EMERGENCY

Designed as a Seismic Risk Category IV structure, the building is a community shelter in the case of a seismic event, large-scale power outage, or other disruptive incident. Hybrid passive cooling, a robust building envelope, and operable windows allow the school to be habitable without power.

The gymnasiums, commons, kitchen, and locker rooms have extra features that will support temporary shelter. Water connection for pumper trucks can supply water to these areas, while select kitchen equipment and emergency outlets (colored red) receive power from a generator.

The resilient features of the school were championed by a local advocacy group, the Lake Oswego Sustainability Network. Members have continued to work with local officials to develop action plans should these spaces be needed.

STRUCTURAL CAPACITY
Entire building structure designed to Seismic Risk Category IV with enhanced Lateral Bracing

PASSIVE SURVIVABILITY
Robust building envelope, daylighting, and high performance operable windows allow school to be habitable without utility power

COMMUNITY RECOVERY SHELTER
Gyms, Commons, Kitchen, Locker Rooms:

Back-up generator can support limited electrical loads in the above spaces

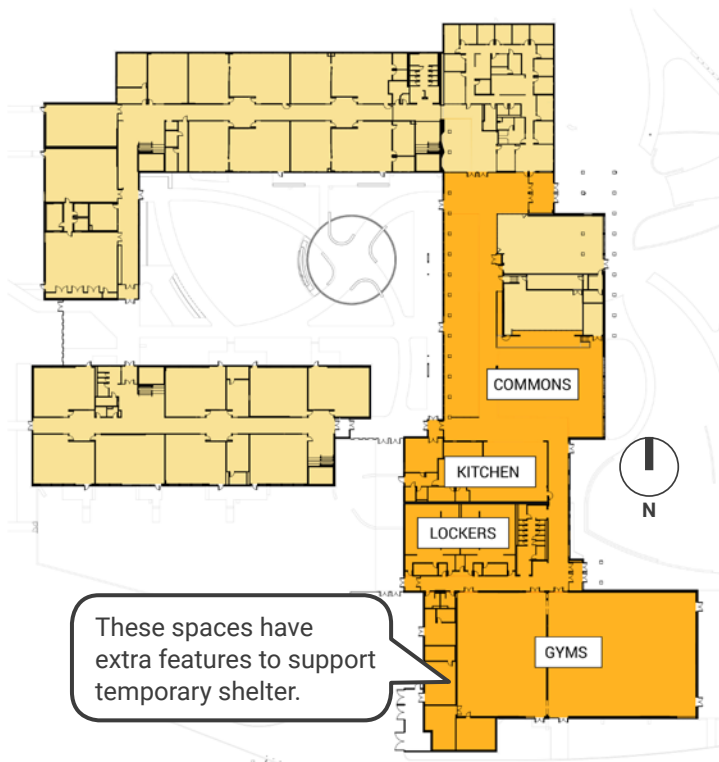
Back-up ventilation exhaust at gyms

Passive ventilation at commons and Learning Studios

Exterior water connection for pumper trucks serve kitchen, locker rooms, and restrooms

Kitchen is all electric and select cooking equipment can run off generator or future battery storage system

RESILIENT STRATEGIES: COMMUNITY RESOURCE



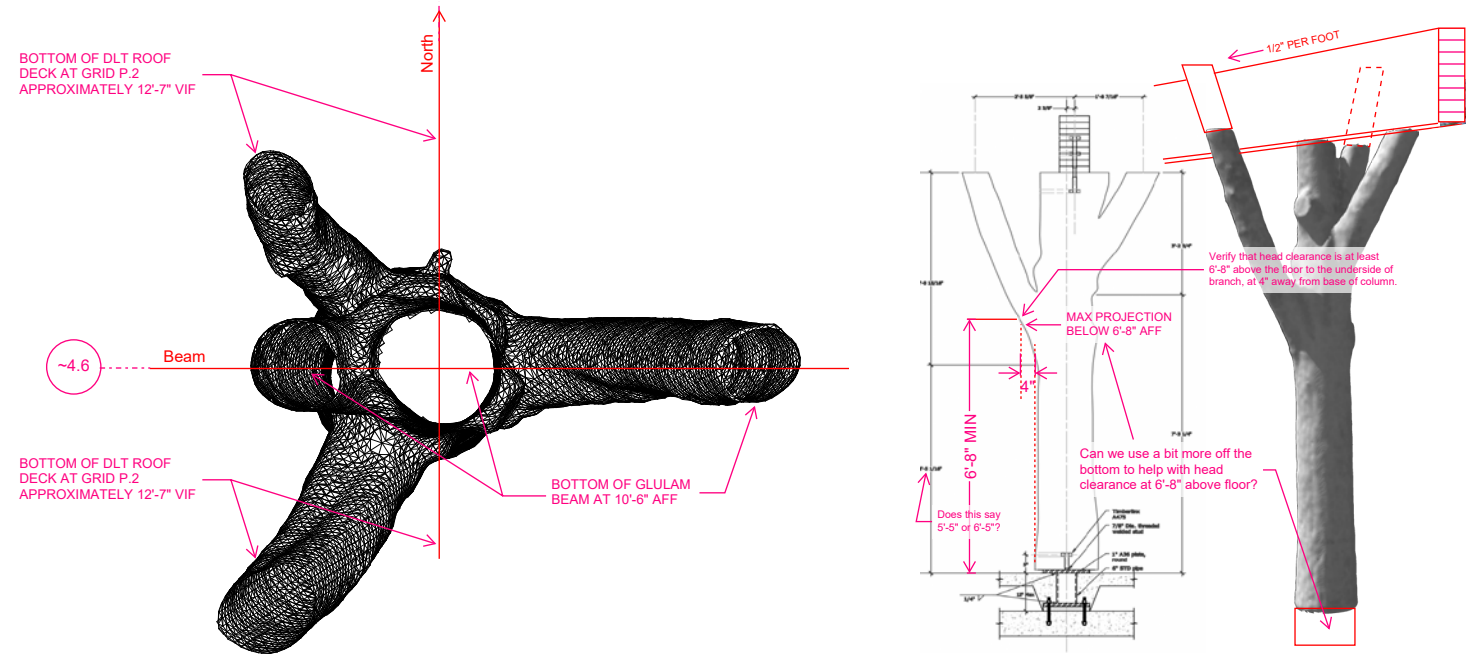
PHYSICAL ENVIRONMENT DESIGN

NATURE AS AN ASSET: REPURPOSED TREES

The design team partnered with tree construction experts who identified 29 trees from the site that could be harvested and converted into structural columns for the new school. On average, each column stores approximately 1,000 pounds of CO2e and replaces the gravity load of an HSS steel column.



“I looked at the trees they used like columns and I thought wow... that’s really cool.”
Lakeridge Student



PHYSICAL ENVIRONMENT DESIGN

NATURE AS AN ASSET: SALVAGED BOULDERS

The team salvaged dozens of large boulders – remnants of the Missoula Floods that occurred approximately 13,000 to 18,000 years ago – to tell the story of the site's geology and provide informal seating.

Integrating the boulders into the design also proved economical, as it saved additional costs of hauling and disposal.



While excavating the site, the contractor unearthed a unique 2,000 pound boulder.

Identified as a 15,000-year-old rhyolite, it is only the second rhyolite to be found on the western side of the Cascade Mountains. Geologists believe it was brought to the Willamette Valley by the Missoula Floods, likely by an iceberg from eastern Oregon or Canada.

After its discovery and identification, the District donated the boulder to the Tualatin Heritage Center, where it is now available for public viewing and educational purposes.

LAKERIDGE MIDDLE SCHOOL

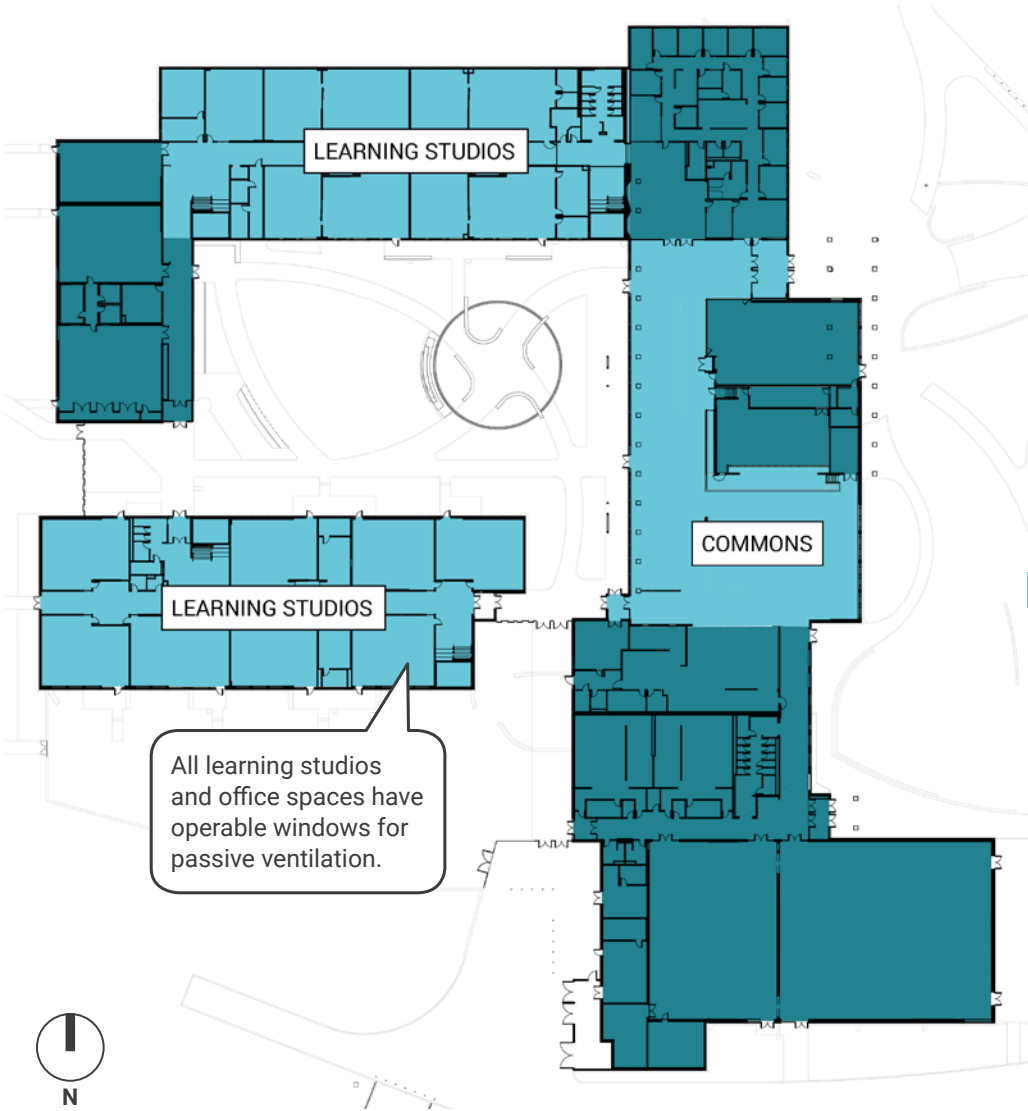


EXCEEDING EXPECTATIONS

One of the community’s top goals for Lakeridge was to design a highly sustainable building.

HIGHLY SUSTAINABLE BUILDING: ENERGY-EFFICIENT

The design team established the 2030 Challenge as the metric for targeting **70% energy efficiency savings** from a baseline middle school. For the first fully occupied year, the building was achieving this established goal, even while operating in a post-Covid “enhanced ventilation mode” with classroom windows open through winter and ventilation fans running at higher speeds. The team is in the process of analyzing the current energy use, including the addition of a 190kW solar panel array.



HYBRID PASSIVE COOLING: ZONED APPROACH

CONVENTIONAL HVAC

Conventional HVAC systems with central heating and air conditioning from Variable Air Volume (VAV) package rooftop units are provided in areas with:

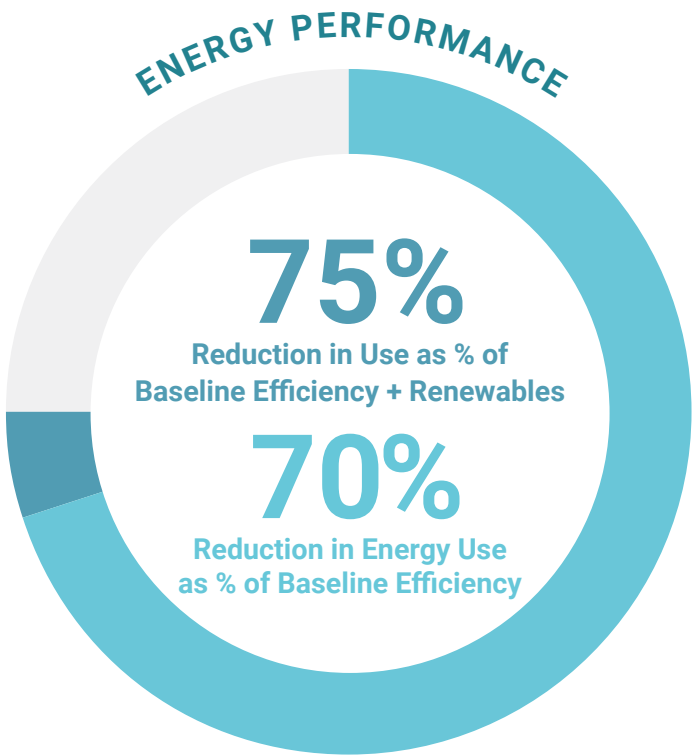
- Small interior spaces without operable windows
- Performing arts spaces with acoustic sensitivity
- Active metabolic rates for gyms, music, and drama
- Large group assembly gathering

HYBRID PASSIVE COOLING

Central Dedicated Outside Air (DOAS) Ventilation with partial heating and cooling, supplemented by night flush across exposed concrete floors and passive cooling

Occupant engaged with interior comfort by “trimming the sails”:

- Open and close windows when outdoor conditions are ideal
- Open stack exhaust roof vent dampers per indicator sign
- Turn on ceiling fans to assist cooling
- Close and lock operable windows when indicated



| | | | |
|---------------|--------|-------------------|------------|
| Climate Zone: | 4c | Building Area: | 141,000 SF |
| Window %: | 28% | R-Slab: | 5 |
| U-Factor: | 0.15 | R-Wall: | 30 |
| SHGC: | 0.25 | R-Roof: | 50 |
| PV Array: | 190 KW | Air Leakage Rate: | .20 cfm/SF |

ACTUAL ENERGY USE INTENSITY (KBTU/SF/YR):

EUI: 22.1
NET pEUI: ~19.1

(BASELINE EUI: 73 | TARGET EUI: 22)

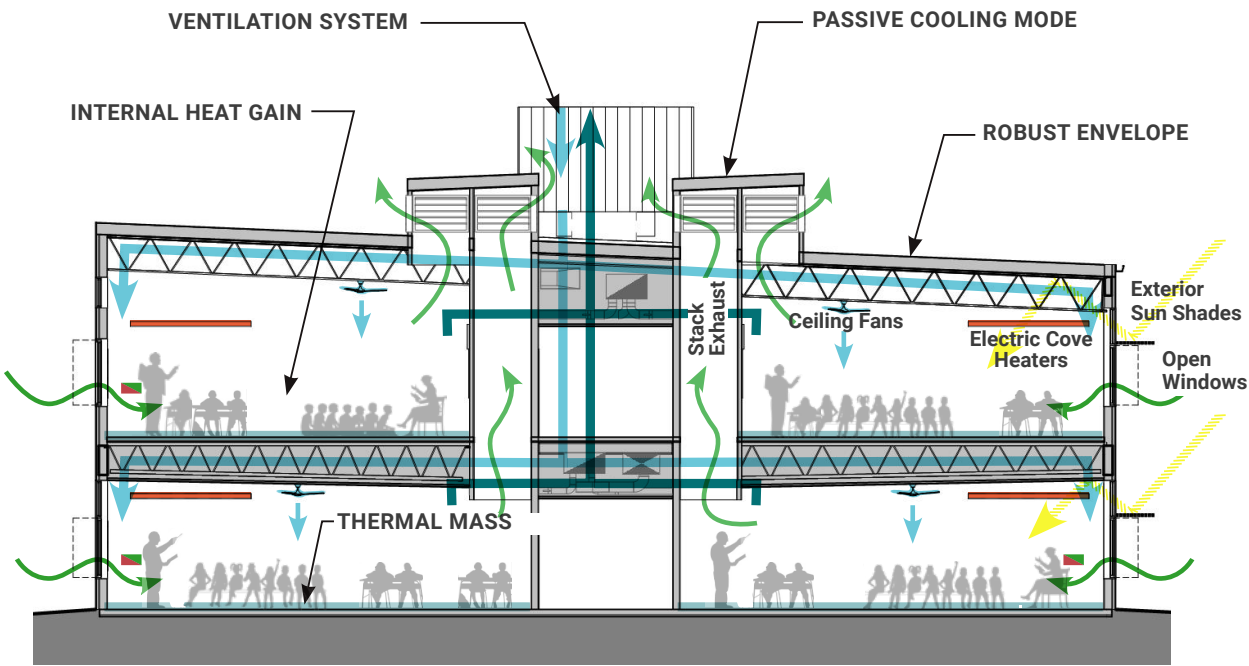
The above is based on actual energy use from Sept 2021 through Aug 2022.
Annual onsite solar PV production is estimated to offset 3 EUI.

SUSTAINABILITY AND WELLNESS

HIGHLY SUSTAINABLE BUILDING: PASSIVE COOLING

Hybrid passive cooling and a robust exterior envelope were two strategies that helped this project meet the 2030 Challenge.

Lakeridge is also registered with the Energy Trust of Oregon’s Path to Net Zero Energy program, which provided financial incentives to support early design analysis and installation costs for high-performance features.



RIGHT: Teachers and students are able to maintain comfort in the Learning Studios by activating the stack exhaust roof vents and opening the windows.

By simplifying mechanical equipment and leveraging occupant engagement, the hybrid passive system saved approximately \$400,000 in construction costs, while operating more efficiently and resiliently.

LAKERIDGE MIDDLE SCHOOL

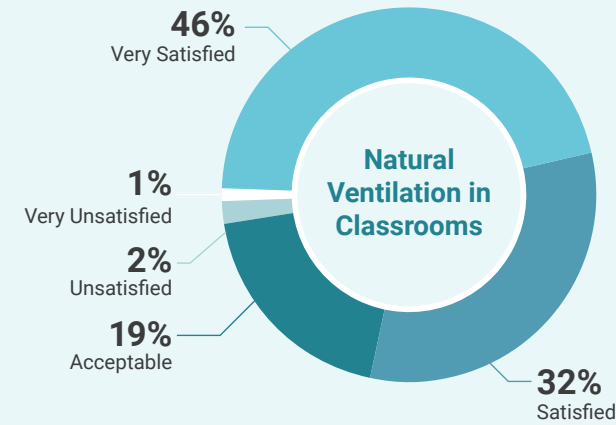
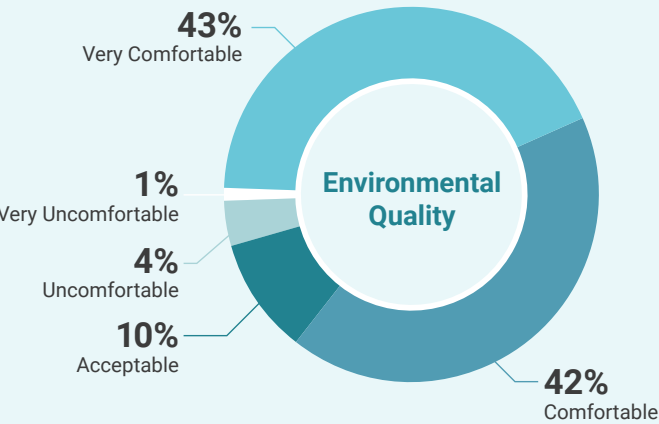
POST-OCCUPANCY FEEDBACK

When surveyed in Spring 2024, Lakeridge Middle School staff feedback on comfort levels inside the building were overwhelmingly positive:

95% of staff said the environmental quality of the building was acceptable, comfortable, or very comfortable

97% of staff indicated they were neutral, satisfied, or very satisfied with the natural ventilation

The data also indicates that indoor temperatures are often too low, with 23% of staff reporting they were usually or always too cold. Drafts were not reported to be an issue, so the design team is currently working with the District to identify the cause of the low temperatures.



RETURN TO LEARN

In Spring 2024, the design team conducted a **post-occupancy evaluation** to find out if the building was living up to the top three project goals that had been prioritized by the school community for the design of the new Lakeridge Middle School.

The team used a mix of observation, quantitative analysis, and qualitative surveys and interviews.

Quantitative data was collected via a survey of 80 faculty members, conducted by a University of Oregon PhD in Architecture candidate.

Qualitative data was collected by members of the design team via one-on-one meetings with staff, a focus group with students, an interview with the building engineer, and a visual survey of all learning spaces.

Additional metrics were provided by the school district via their building automation system.

LEARNER-CENTRIC ENVIRONMENT

GOAL #1: LEARNER-CENTRIC ENVIRONMENT
How do the Learning Studios support innovation and variety?

FEEDBACK FROM STAFF
The Learning Studios are an intriguing, but hard to realize, option at Lakeridge. The flexible tools are used frequently, but the goal of combining classes has been challenged by new schedules that started post-COVID. The principal is planning to take on the challenge of reactivating the studios.

The flexible features are being used to customize the learning experience:

- > Tables and chairs move out of the way quickly to support weekly community circles.
- > Flip-top white board tables become student-drawn backdrops for a puppet show.
- > Overhead power cords are used daily by students to keep Chromebooks charged.

The connection between the two rooms has inspired:

- > Language teachers create small group conversations, mixing skill levels between the shared rooms.
- > A gallery walk of final project work.
- > A murder mystery event!
- > Extra support and camaraderie between teachers on prep periods.

PROMOTE EQUITY

GOAL #2: PROMOTE EQUITY
Do the variety of spaces provided for students support comfort and choice?

FEEDBACK FROM STUDENTS
Students have found joy and belonging all over the campus, as evidenced by their favorite spaces:

No. 1: The Courtyard

“Nice place you can go outside, especially with friends.”

“I eat lunch out there when it is sunny. For choir, [we] use the stage and hill for singing.”

“Unique and different – it’s nice to go outside.”

“Because I like to walk around there.”

“Sit in a giant circle with my friends, we can all have a conversation.”

“Outdoor stage area – lot of room, really pretty.”

No. 2: The Lower-Ceiling Area of the Commons

“Near the library, [there is] not as many people there... where my friends eat.”

“I like to eat at the lower ceiling at the one round table.”

No. 3: The Library

“I like the giant chairs in the library.”

“[I] Love, love, love the library . . . love the little corners, options to sit.”

“Anyplace – library or counselor’s office – that feels cozy and welcoming.”

HIGHLY SUSTAINABLE BUILDING

GOAL #3: HIGHLY SUSTAINABLE BUILDING
Have the hybrid passive cooling strategies produced a thermally comfortable environment?

FEEDBACK FROM TEACHERS
Staff appreciate the operable windows and natural ventilation:

“I open windows pretty regularly, whenever we notice [the indicator light] – especially spring and fall”

“Always” - A teacher who put his desk by the operable window controls so he can activate it whenever appropriate.

“Daily... [I can] hear the birds.”

Staff are reporting good thermal comfort:

“Never higher than the mid-70s” is the metric offered by several staff members in separate interviews.

“Only 4 to 5 days per year are slightly uncomfortable.”

“Never too hot nor too cold.”

“Pretty comfortable most of the time”



LAKERIDGE MIDDLE SCHOOL