

Go Outside!



Halits Elem, Bainbridge Is SD, Mahlum Architects

Introductions



Julia Hawkinson
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Los Angeles Unified School District



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Architect, ALEP, LEED AP
Edmonds School District



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PLA, FASLA
Osborn Consulting



Richard Berliner
AIA, ALEP, LEED AP, NCARB
Berliner Architects

Why Outdoor Learning Ed Specs / Standards / Framework?



What is Outdoor Learning?

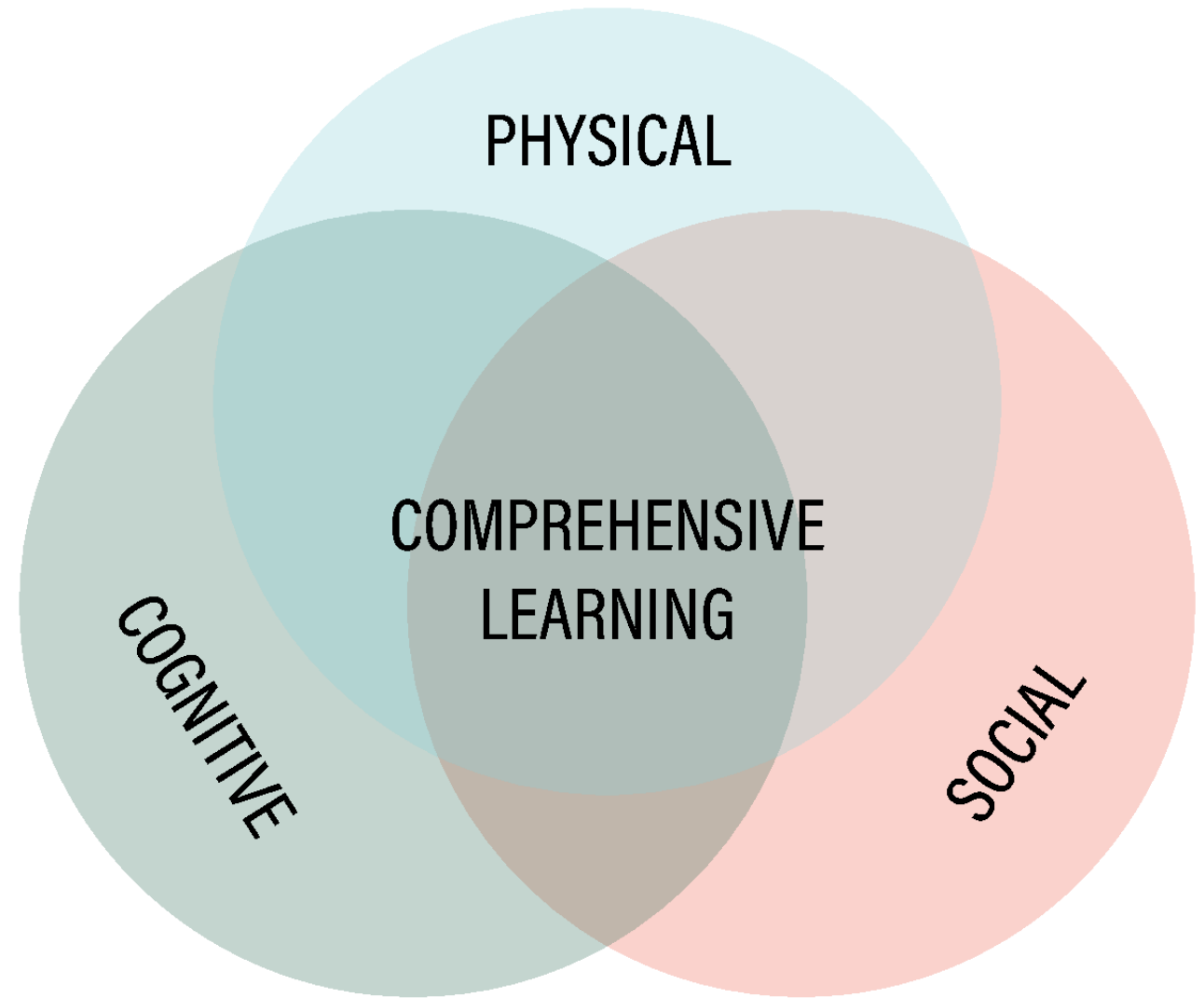
Nature: Play and self-directed exploration, Plants, insects, habitats, social-emotional health

Academics:
Math in nature, journaling, drawing, reading

Academics:
Science, measuring, observation, recording, testing, experimentation

Conservation Studies:
sustainability, climate, water conservation,

Defining What is Learning



Outdoor learning spaces engage overlapping learning modalities.



Welcoming for All – Universal Design

Who are the Participants?

District

Principal

Students

Design Team

Educators

Community

Food
Culture

Volunteers

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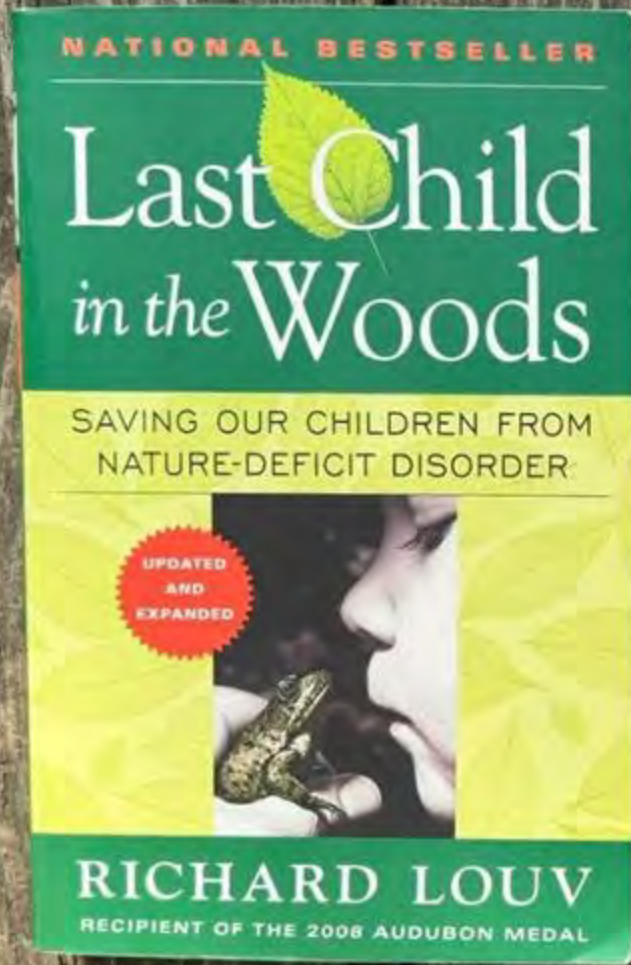
Educators

Community

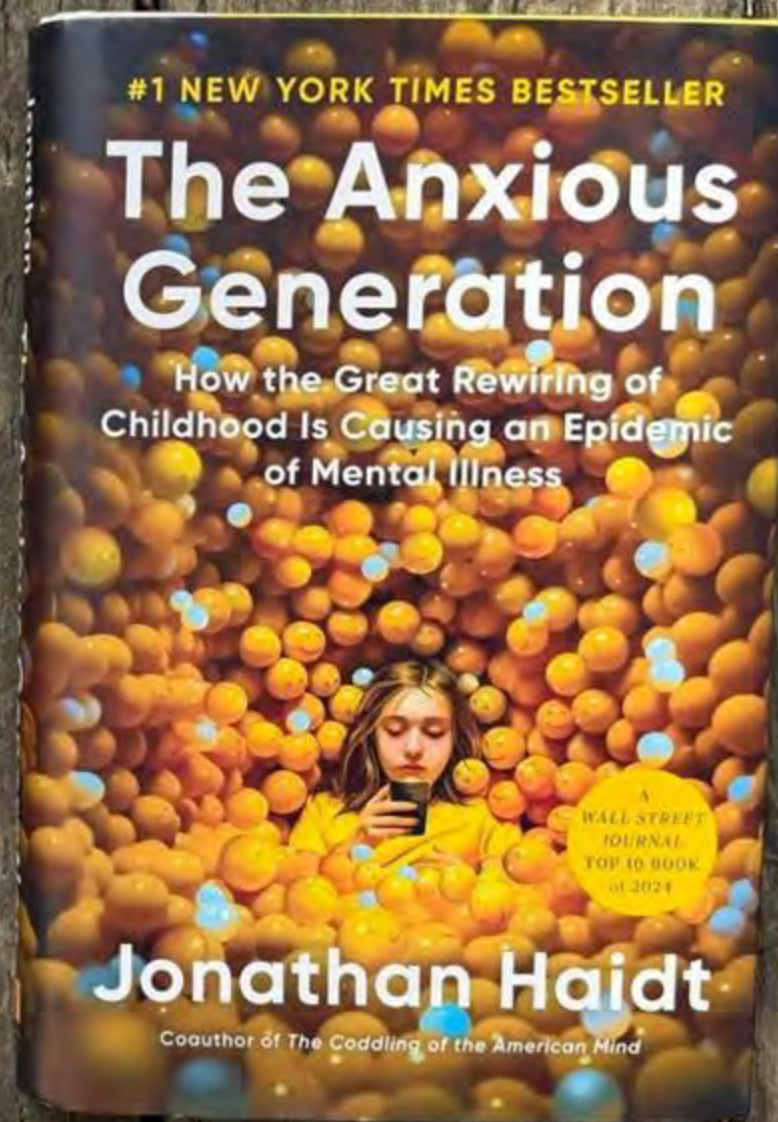
Food
Culture

Volunteers

EVERYONE



2005: Time in nature is not leisure time; it's an essential investment in our children's health (and also, by the way, in our own).



2024: Birth of phone-based childhood marked definitive end of the play-based childhood

Learning Everywhere in Edmonds School District

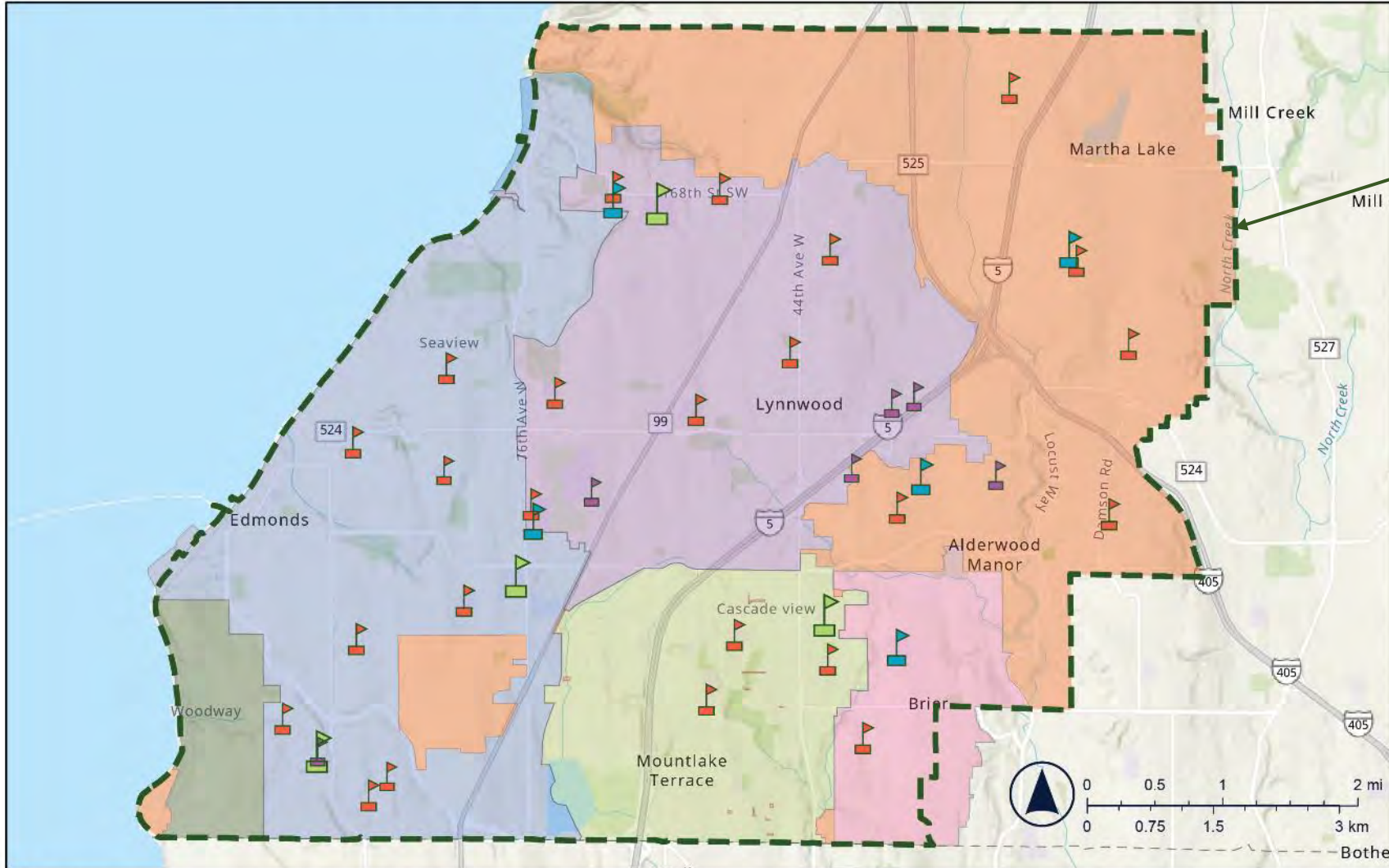
We are Edmonds School District

- Twelfth-largest school district in WA
- **Serve over 20,000 PK-12 students**
- 36 square miles
- Includes 5 municipalities and unincorporated Snohomish County
- **35 schools (by 2028)**
- 19.7% English Learners,
- 134 languages spoken
- Over 3,500 employees
- **Bonds and Levies passed – 6**

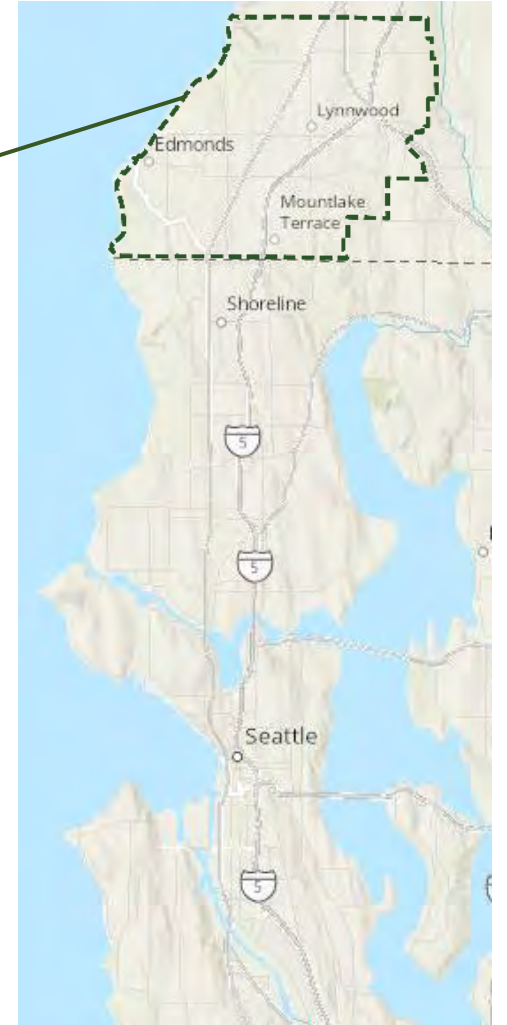


MorisMoreno_Bassetti_Site Workshop Spruce Elementary School

Edmonds School District



- | | | | |
|------------------------|-----------------------|---------|---------------------------------|
| High School (5) | Other School/Building | Edmonds | Mountlake Terrace |
| Middle School (5) | District Boundary | Woodway | Lynnwood |
| Elementary School (24) | | Brier | Unincorporated Snohomish County |



Edmonds Story

Learn everywhere! Every step taken outside is a learning opportunity

The need for equity and standardization

Teachers need classroom control - they need to “own” a space

Create “Outdoor Flex” spaces

Define spatial hierarchies of private/semi-private/semi-public/public.

Safety and Security



Outdoor Learning Developmental Goals

Cognitive

Physical
development:
PE and Athletics

Physical
development:
Vestibular &
Proprioceptor

Agentic – Self
Directed

Social/emotional

Community

Activities, affordances and adjacencies

Activities

- Reading
- Writing
- Dancing
- Drawing
- Listening
- Observing
- Recording
- Measuring
- Fishing
- Walking
- Exploring
- Making

Affordances

- Benches
- Work-tables
- Water
- Cover
- Utilities
- Views & Access to Classrooms
- Access to nature
- 6th graders play
- Fields/open space
- Secure perimeter

Adjacencies

- Classrooms
- Athletics
- Nature
- Play areas
- Accessibility – interior and to community (visual and physical)

COGNITIVE

Classroom Extensions

patio

porch

cte shop & art patio

Outdoor Learning Classrooms

remote outdoor classroom

garden

Specialty & Therapeutic Spaces

nature path & stations

OT/PT patio

SOCIAL

Community Welcoming

main entry

outdoor circulation

Multi-use Space

outdoor commons

Staff Community

staff lounge extension

PHYSICAL

Active & Passive Play

play equipment

run & walking paths

turf field

all weather open space

natural play areas

Athletics

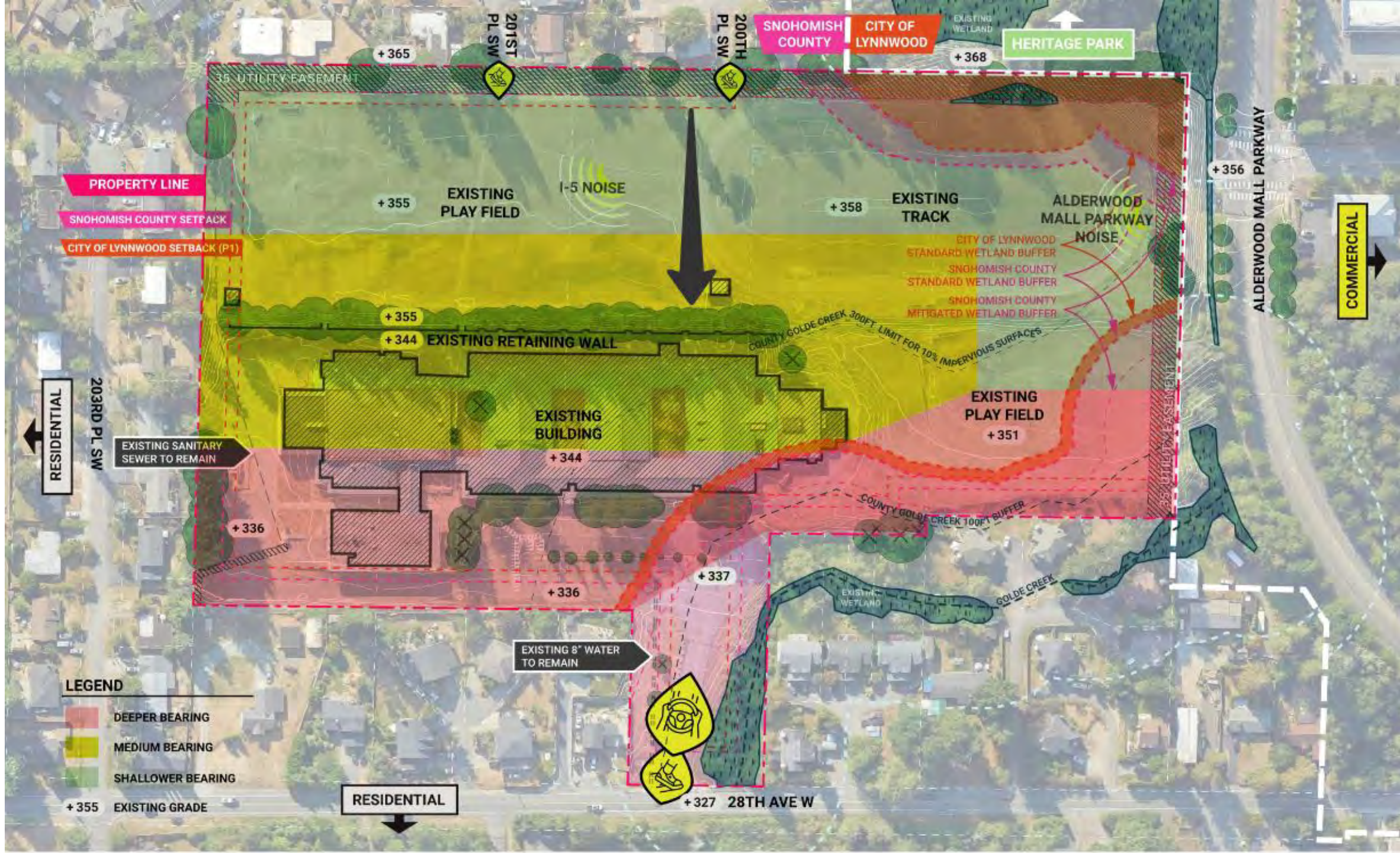
basketball

football

pickleball

soccer

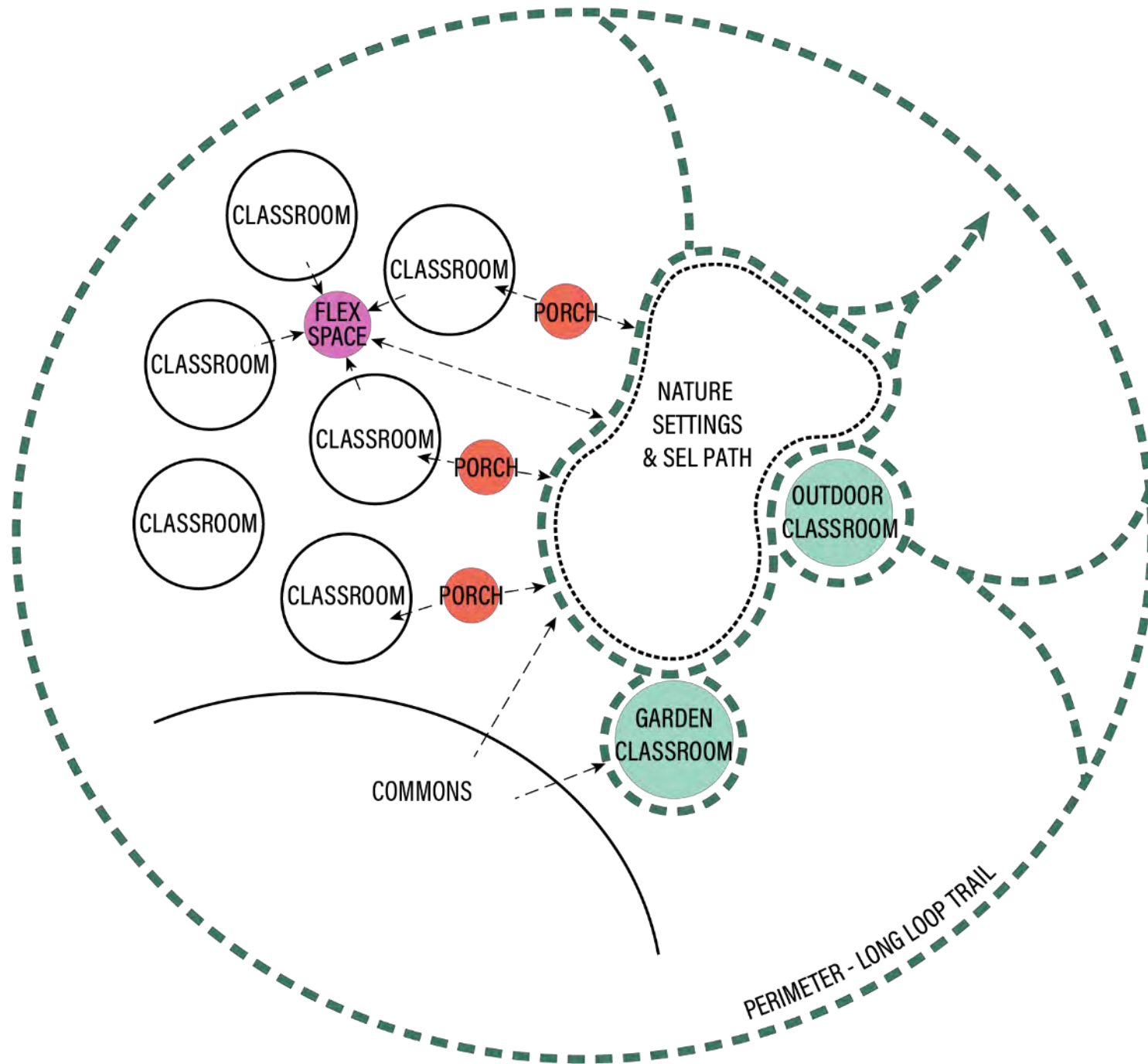
softball





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Outdoor Learning Spaces

Classroom Extensions

porch

patio

cte shop & art patio

Outdoor Classrooms

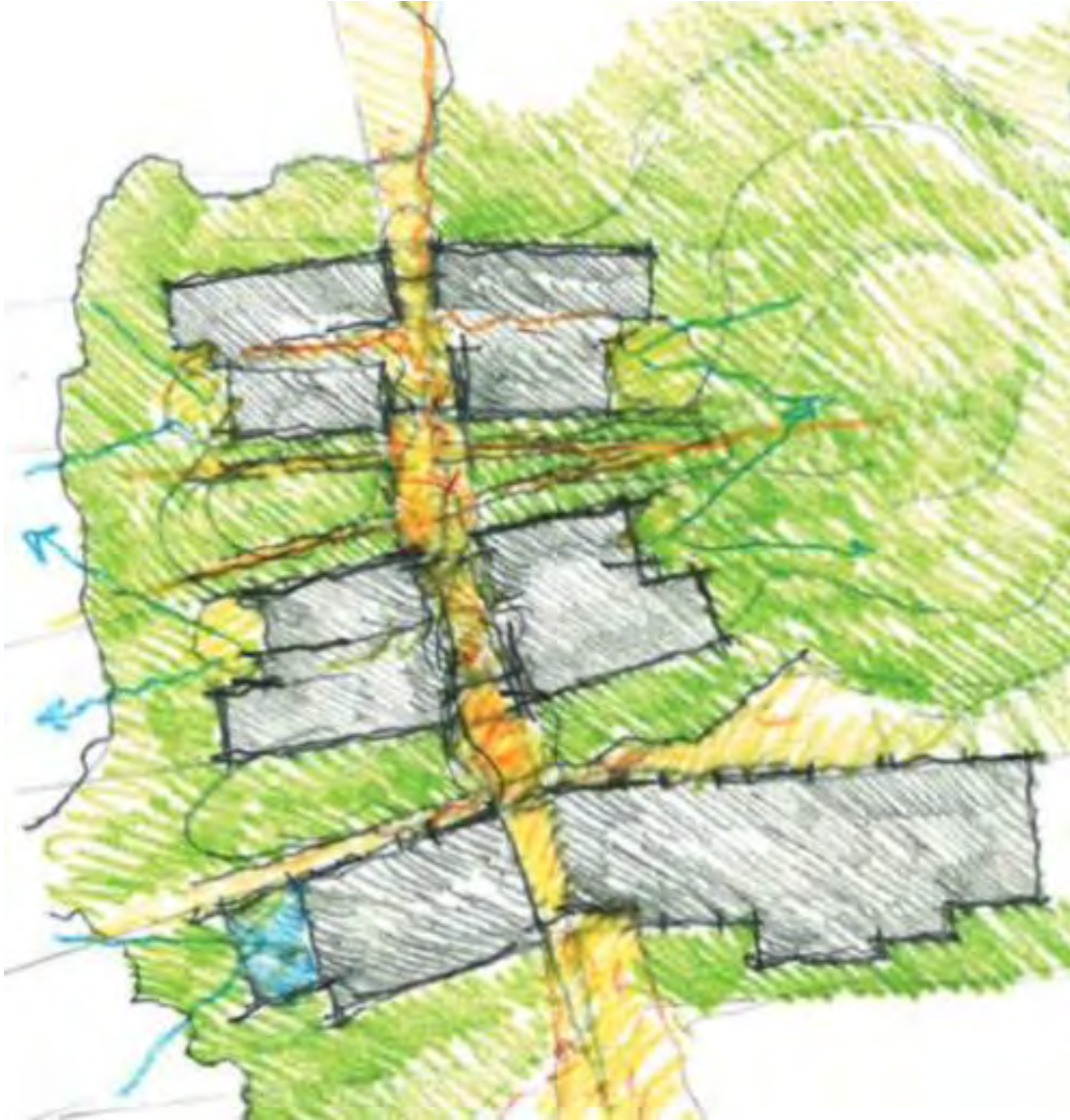
remote outdoor
classroom

garden

Specialty & Therapeutic Spaces

OT/PT Patio

nature path & stations





Oak Heights, Edmonds SD, Integrus Architects



Northwood Elem, Mercer Island SD, Mahlum Architects



Salish Elementary, Port Townsend, Integrus Architects

PATIO			
USE	A flexible-use space shared by a learning pod or grouping of classrooms that have quick, direct access for daily uses. Activities include group direct-instruction, project-based learning, student work time, and break time.		
USERS	General education	SIZE	Small: 300-400 SF
	Science Labs Special Service Classrooms		
SITE ADJACENCIES & ACCESS	Access through exterior door connected to shared indoor flex space or hallway, and within 1 flight of stairs. Total travel time is less than three (3) minutes from users’ classroom. May be on the ground level, upper floor or a rooftop.	QUANTITY	Number based on classroom clusters of 4-6 to share a single patio. (Example: A school with 10 general education classrooms, two science labs, and two special service classrooms would include two (2) patios for general education/labs and one (1) for special education.)
SECURITY	Within secure perimeter	OCCUPANCY	32 students (One single classroom and teacher)
OVERHEAD COVER	Encouraged, budget dependent	STORAGE	None required
PLANTING	Provide low-maintenance plantings with trees, shrubs, perennials, and groundcovers with seasonal interest, preferably native species, to shade and screen adjacent areas or classrooms from view. Avoid high-allergy plants.		
FURNISHINGS	Seating for occupancy 2-4 accessible tables or standing tables combination 1 Teaching Wall 2 Removable Poles for hanging art, creating stages and sets, and customization of the space 2-4 Student-use accessible planter beds required for special education patio Water spigot if planter beds are provided Wifi, power source, and intercom clock preferred		
SPATIAL CHARACTER	Hardscaped and accessible movement areas. Permanent seat walls can be used to define the edges of the shared patio area. Communal personalization identity can be developed by the shared learning pods. Collective responsibility to care for the space is shared by classrooms that “own” it. Space is an opportunity to allow customization and identity formation by users over time through		

PATIO

USE

- A flexible-use space shared by a learning pod or grouping of classrooms that have quick, direct access for daily uses.
- Activities include group direct-instruction, project-based learning, student work time, and break time.

SPATIAL CHARACTER

- Hardscaped and accessible movement areas.
- Permanent seat walls can be used to define the edges of the shared patio area.
- Communal personalization identity can be developed by the shared learning pods. Collective responsibility to care for the space is shared by classrooms that “own” it. Space is an opportunity to allow customization and identity formation by users over time through murals, artwork, or student planting beds.



Madrona K-8, Edmonds SD, Mahlum Architects



Madrona K-8, Edmonds SD, Mahlum Architects

Porch			
Use	A flexible-use extension of a classroom with direct access for daily use. The porch is used for individual study, small-group work, and meetings. It provides positive mental health benefits by connecting the classroom to nature, the sun, and sky.		
Users	General education Special Service Classrooms	Size	Extra-small 40-60 SF
Site Adjacencies & Access	Direct access through exterior door connected to classroom. Adjacent to other porches. May connect to outdoor circulation.	Quantity	Porches are an optional opportunity and not required. Classrooms with porches can be removed from the count for quantity of patio spaces. 1 per ground-level classroom and equally provided.
Security	Within secure perimeter	Occupancy	<10
Overhead Cover	Awning-like cover connected to building preferred, not required.	Storage	None required
Planting	Provide appropriately-scaled low-maintenance planting areas with trees, shrubs, perennials, and groundcovers with seasonal interest, preferably native species, to shade and screen adjacent areas or classrooms from view. Avoid high-allergy plants.		
Furnishings	Seating for occupancy – combination of permanent and flexible 1-2 accessible tables or work surfaces Wifi and power source preferred		
Spatial Character	Each class is encouraged to personalize and ‘own’ the space. Teachers are to be encouraged to add their own pots, plantings, or decorations as they see fit each year for their class. It is very visible from inside the classroom, a teacher can easily manage the indoor and outdoor space at once. Hardscaped and accessible areas. Permanent seat walls can be used to define the edges of porches.		

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Oak Heights, Edmond's SD, Integrus Architects



Nature Path and Stations			
USE	The nature path and stations are informal gathering areas adjacent to unique site natural features and learning opportunities such as groves and streams. They are used for nature observation, socialization, emotional regulation, and play. The pathways create connections and allow the school community to use the site more broadly. The path may be part of a longer cross-country route or stand-alone depending on site conditions.		
USERS	Students at Lunch Time Special Services Student Support Services	SIZE	Stations: Extra small, 40-60 SF per station Short walking path: 6’-0” width, 200-400 meters Long perimeter path: minimum 3’-0” width, length varies per site
SITE ADJACENCIES & ACCESS	Adjacent to outdoor commons and play areas, OT/PT patio, special services classrooms nearby Paths can connect longer cross-country trails outside site perimeter with gate access Locate near interesting natural site features such as landscape planting areas, existing mature trees, views, topography, or water Locate near learning opportunities such as rain gardens and bioretention	QUANTITY	Minimum 3 stations per site 1 short walking path 1 longer site perimeter path (could connect to a longer cross-country loop)
SECURITY	Within site perimeter fencing	OCCUPANCY	<10 per station, more on path
OVERHEAD COVER	None	STORAGE	None required
PLANTING	Path and stations should be located near new and/or existing planting areas. New plantings should prioritize native plants and local ecological plant communities as an educational resource. Plants should include selections for seasonal interest, beneficial pollinator species, and support habitats for birds. Provide a variety of shaded and sunny stations.		
FURNISHINGS	Seating for groups (2-5) and individuals at each station, preferred natural materials such as log benches and stump and boulder seating Educational signage at stations for nature interpretation or suggestions for physical activity Optional weatherproof systems for showcasing student artwork around pathway		
SPATIAL CHARACTER	Width and materials of the path and stations may vary. The short loop shall be asphalt and accessible, and site stations should be accessible to the fullest extent possible. Other pathway and cross-country loop materials may include asphalt, crushed stone surfacing, wood chips, or other nature trail materials. See cross-country trail in athletics below.		

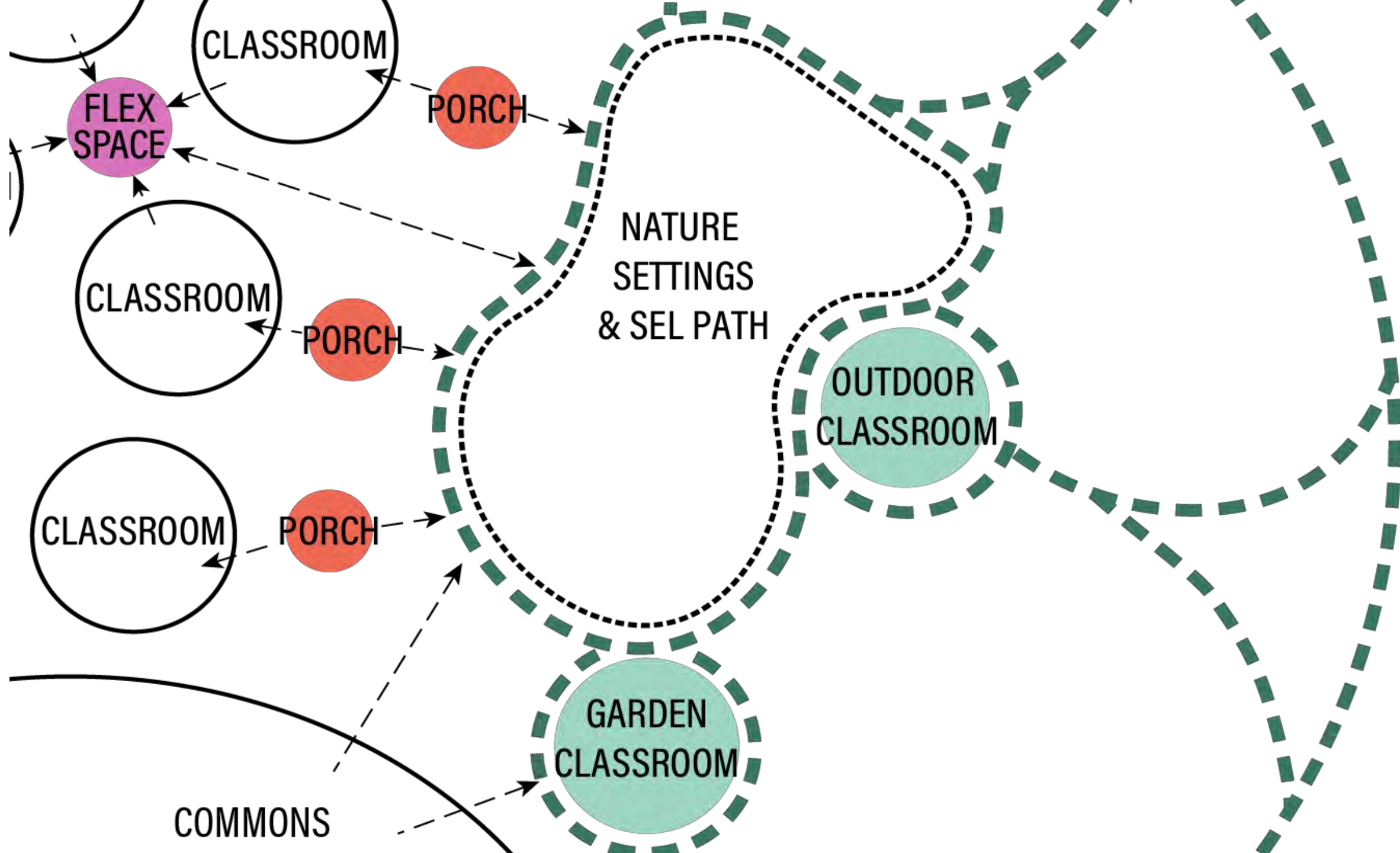
NATURE PATH AND STATIONS

USE

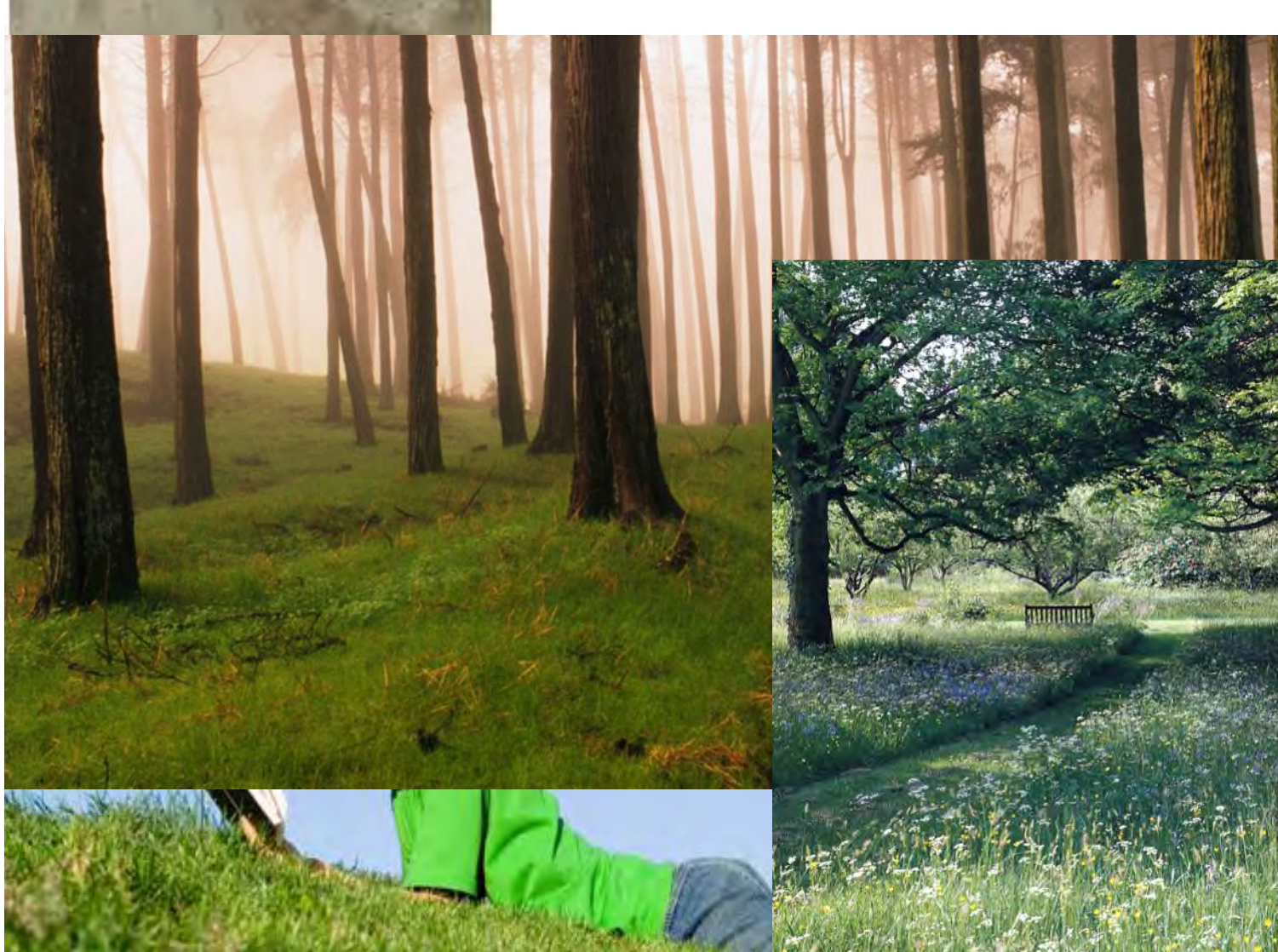
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Nature Setting: SEL PATH - The PT story



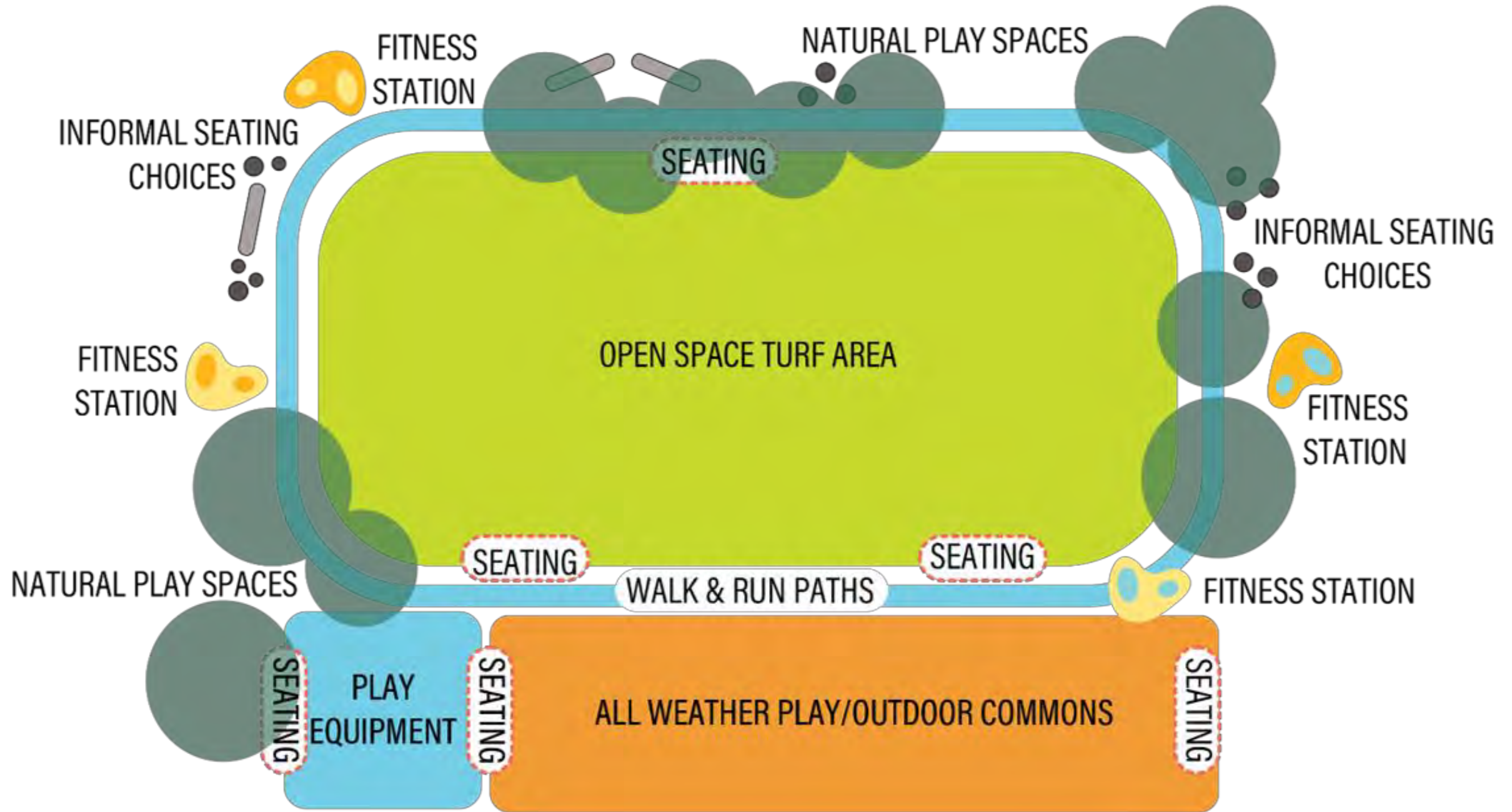


Table Workshop Pt 1:

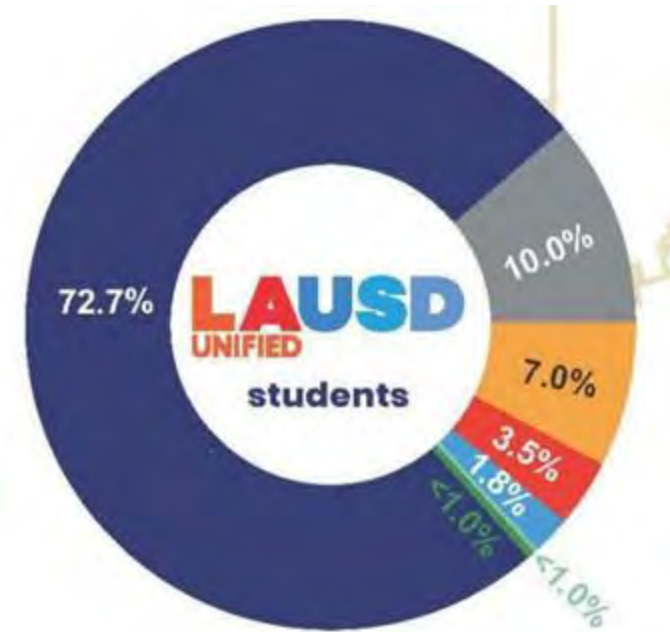
What are the actions (verbs) needed at your school?

Nature-based Learning in the Schoolyards of Los Angeles



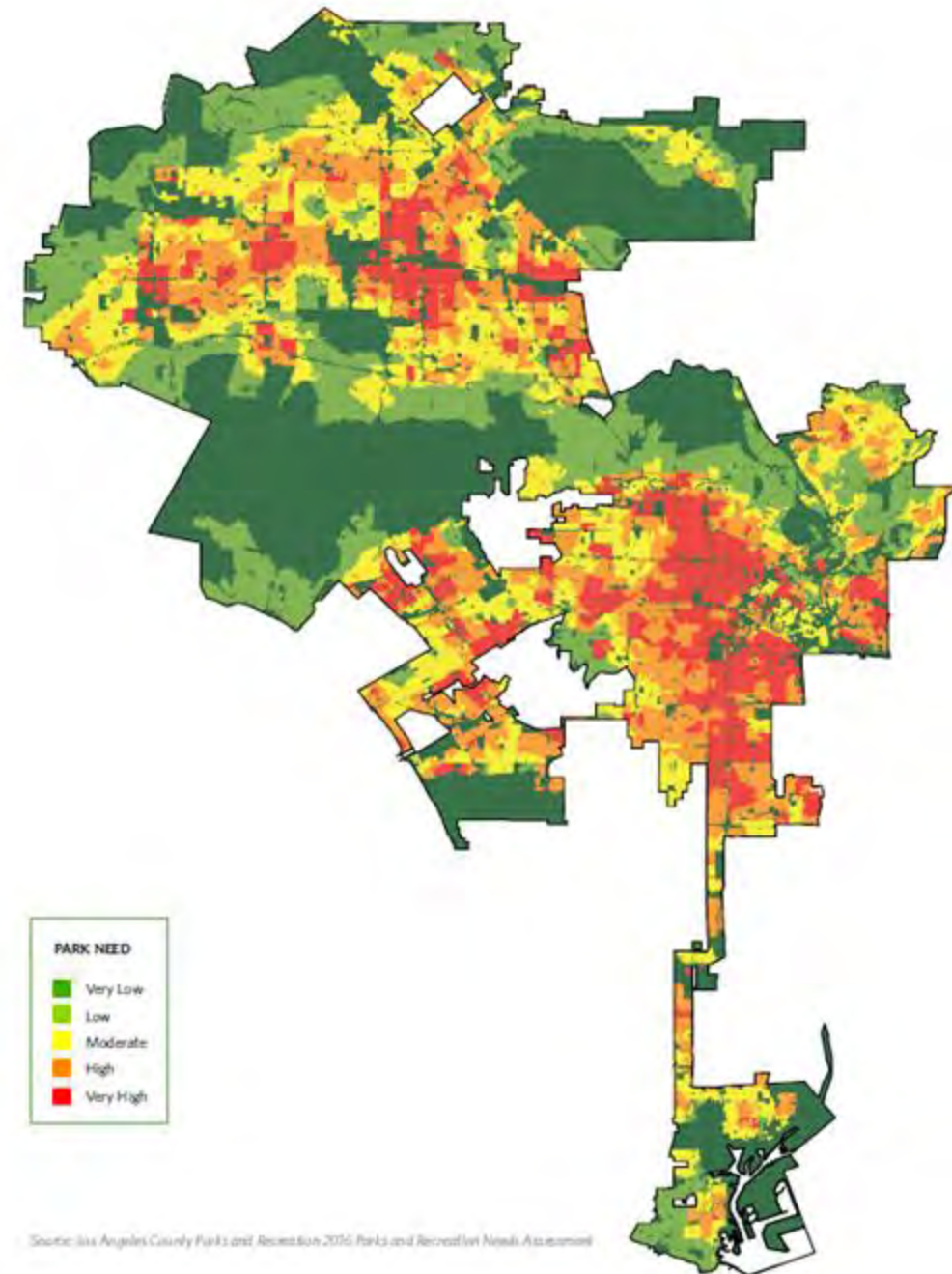
We are Los Angeles Unified

- Second-largest school district in the US
- Serve over 380,000 TK-12 students
- 710 square miles
- Includes the City of LA and part of 25 other cities and areas in LA County
- Over 1,300 schools and centers
- Over 62,000 students are learning to speak English proficiently
- Students speak English and 159 languages
- Over 83,000 employees



We are Los Angeles

- Roughly 4 out of 10 Angelenos do not live within walking distance of a park or open space.
- Residents in low-income communities generally have less access to open space in Los Angeles and suffer from poorer health outcomes.
- In the United States today, more than 1 in 3 children are overweight or obese.
- In LA County (2023), over 85% of children 6-17 years old do not obtain the recommended guidelines for daily aerobic physical activity.



Green Schoolyards For All

September 2022

Green Schools for All Resolution

Adopts the standard of 30% green/natural space for all District schools.

- Over 600 District schools do not meet the Resolution's goal ~ 80% of all schools.
- Approx. 15 Million sq. ft. (350 acres) of paved schoolyard areas need to be upgraded to green/natural space.

April 2024

Green Schoolyards for All Plan

Focus on elementary schools with less than 10% green/natural schoolyards.

- 216 elementary schools ~ 27% of all District Schools.
- Include goal of 20% shading of schoolyard from trees.



Outdoor Learning Environments

Measure RR 2020

“Safe and Welcoming Outdoor Learning Spaces”

- Remove relocatable buildings
- Create ~2,000 square foot outdoor learning spaces
 - Landscape (trees & pavers)
 - Shaded seating areas
 - Internet connectivity
 - Water/sink
 - Accessibility improvements

Investment: +/- \$50M anticipated

- 18 projects (3 completed)

Prioritization:

- Amount of play area and green space
- Underutilized relocatable classrooms
- Limited accessibility to a public park



Developing OLE Guidelines

Best Practices for Success of Greening Projects

- Align with Curriculum
- Design for minimal maintenance
- Access for all Students – location and ADA upgrades
- Locate trees carefully

Site Development Considerations

- Overall layout of schoolyard and campus
- Allow for contiguous PE area
- Ensure visibility
- Infrastructure – water, WiFi

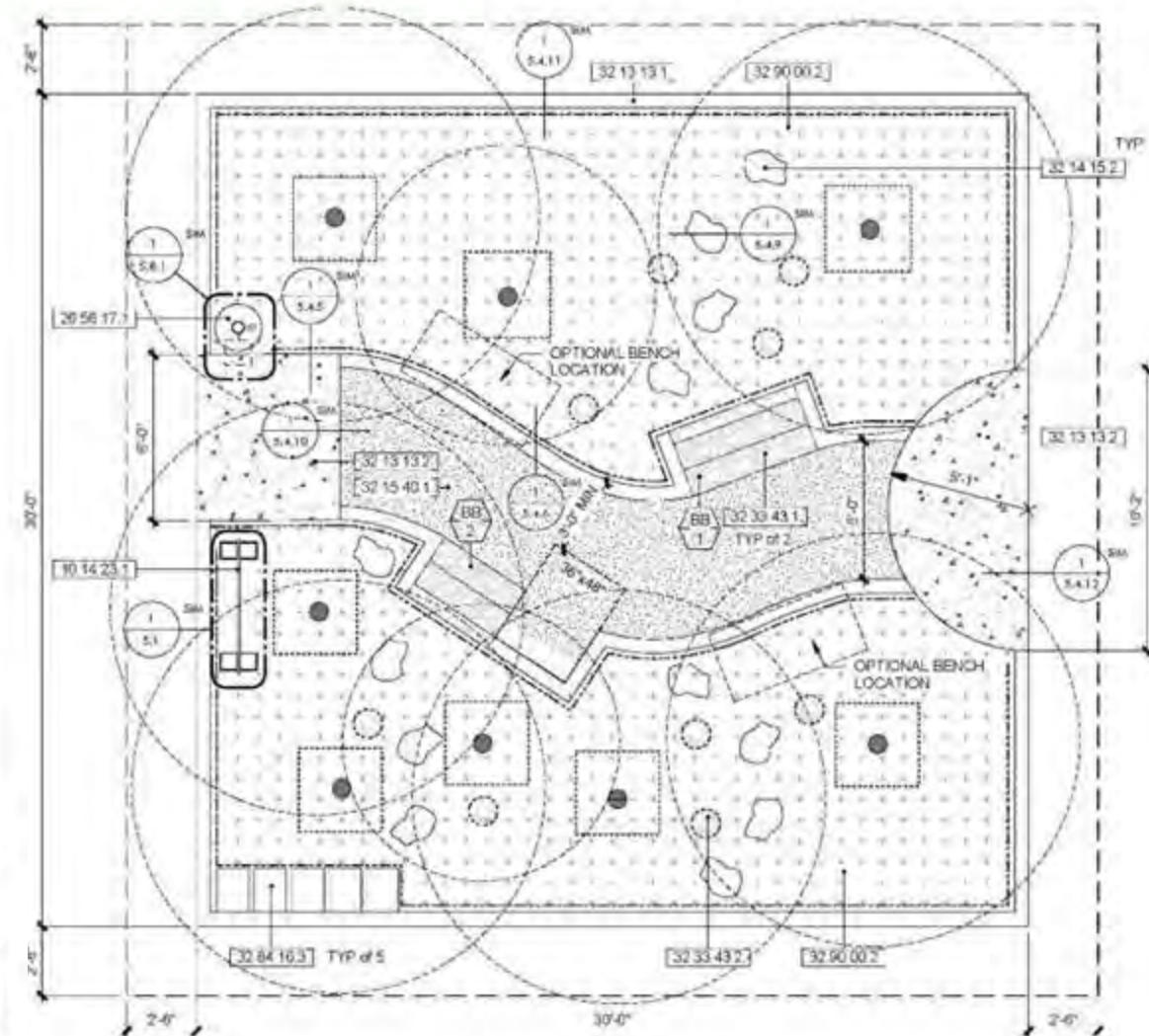
Crenshaw HS – NAC/SALT
ISLC – GGA/Rabben/Herman



Update District Guidelines and Standards

- ## Develop Templates for Implementation

-
- LOG STUMP SEATING.**
 STAND SEAT TOPS AND BOTTOMS.
 WIRE BRUSH SIDES TO REMOVE
 SPLINTERS.
 SEAL ALL SIDES.
 DO NOT BURY.
 DESIGNED TO BE MOVABLE.
- PLAN VIEW**
- 2' 1'-6" 1'
- SECTION/ELEVATION**
- 1'-0" 1'-3" 1' 1'-4"
- LOG BENCH. PLANE TOPS AND
 BOTTOMS.**
 STAND SEAT TOPS AND BOTTOMS.
 WIRE BRUSH SIDES TO REMOVE
 SPLINTERS.
 SEAL ALL SIDES AND BURY 4"
 DEEP.
 LENGTH MAY VARY BY PROJECT.
- SET STUMPS FOR TYPE "E" MICRO
 FOREST (ONLY) INTO SOIL FOR
 STABILITY**



The Lesson of the Mulberry Tree

- Historically in California, elementary schools have a mulberry tree on their sites in support of a silkworm project
- Current LAUSD Design Standard
- Standard science focused unit:
 - silkworms' dependence on mulberry trees
 - how they create silk
 - their life cycle
 - may also integrate math, history, etc.



Aligning with Instruction

Input from all Disciplines, including:

Science, STEAM, Outdoor Education, Physical Education, Social & Emotional Learning, Library Services, Arts, Special Education, Food Services, CTE/Linked Learning

Green schoolyards provide:

- Nature-based learning experiences
- Movement and physical education
- Relaxation and mindfulness
- Making and creating
- Cooperation and collaboration
- Presentation and performances
- Career skills - gardening and farming
- Environmental stewardship



ISLC - GGA/Rabben/Herman



Malabar ES



SEEDS Project at Canterbury ES



ISLC - GGA/Rabben/Herman



Glenfeliz E

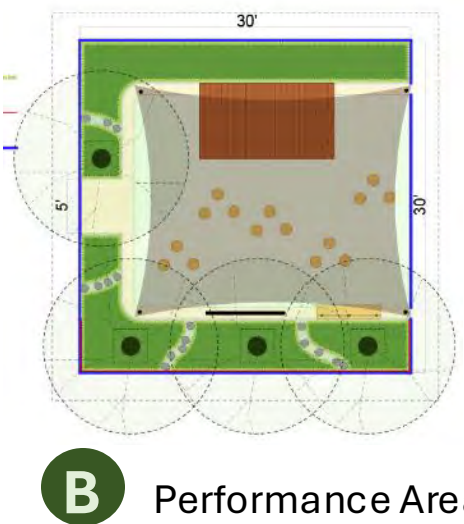
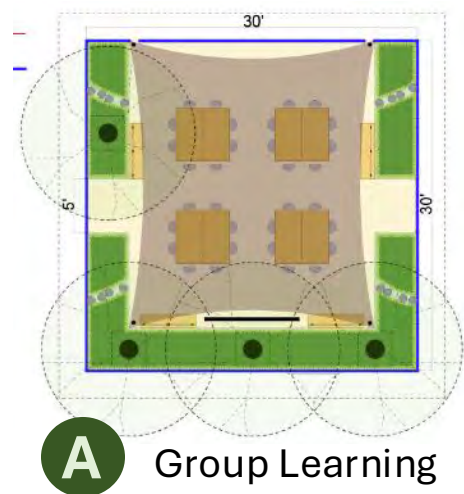


SEEDS Project at El Dorado ES

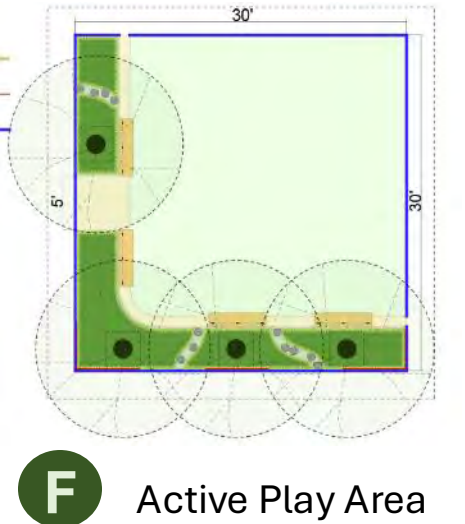
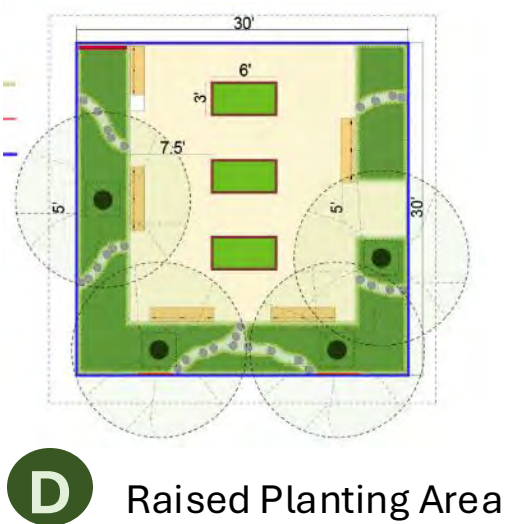


OLE Design Templates

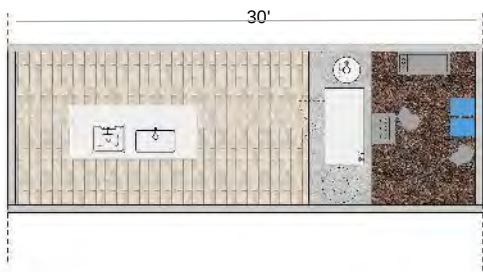
Outdoor Classrooms



Learning Labs



Service Connector



Alternate OLE Shapes



OLE Design Templates

Type A - Outdoor Classroom

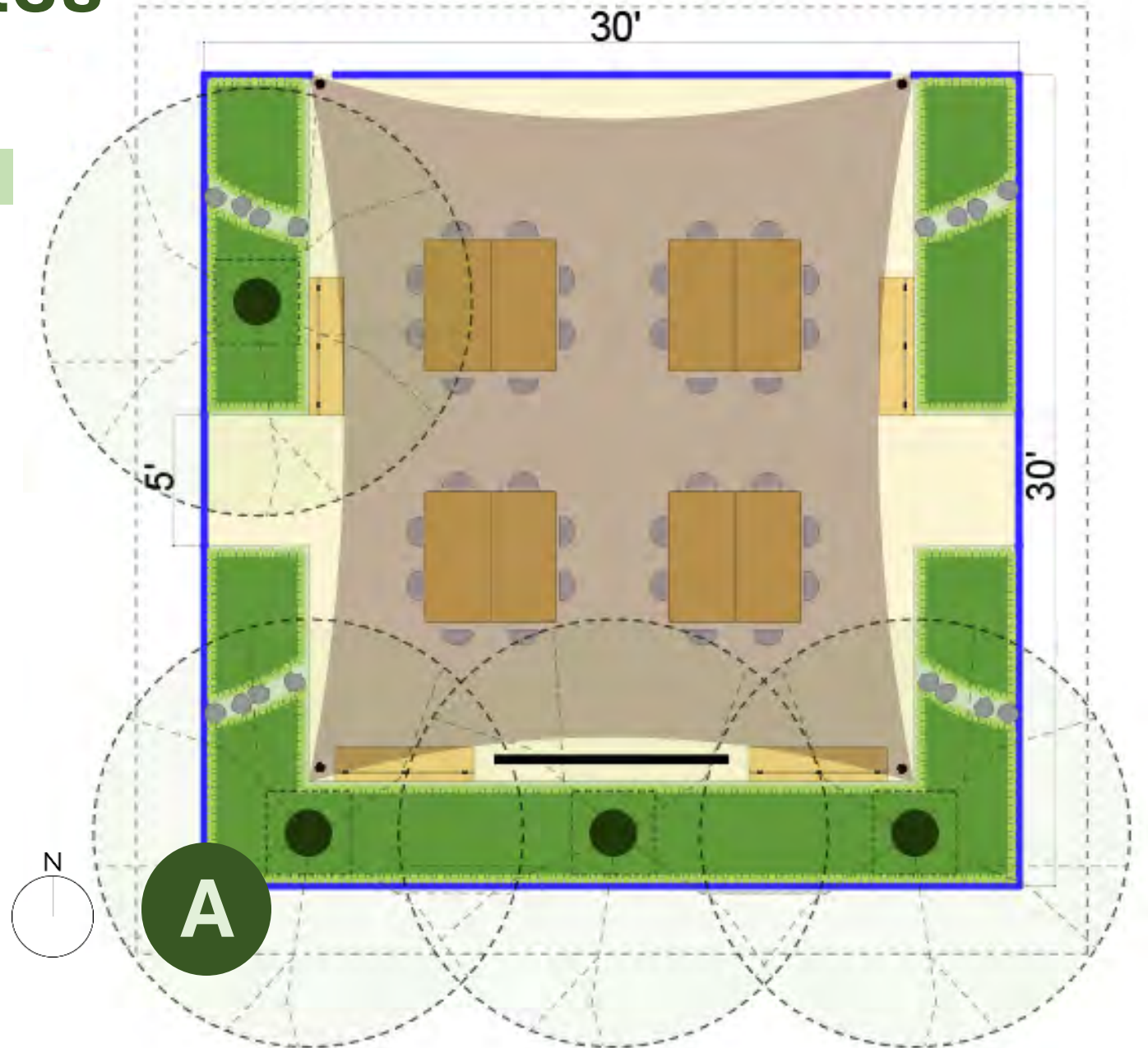
Group Learning Area

ACTIVITIES

Group Learning Area is an outdoor learning environment where students can collectively gather and learn as a class or collaborate in smaller groups surrounded by a natural, planted environment.

AFFORDANCES

- Permeable pavers
- Shade canopy
- Surrounded by native shade tree and shrubs.
- Accommodates up to 32 students
- Flexible outdoor seating to allow for different configurations
- Blackboard and informational signage



OLE Design Templates

Type B – Outdoor Classroom

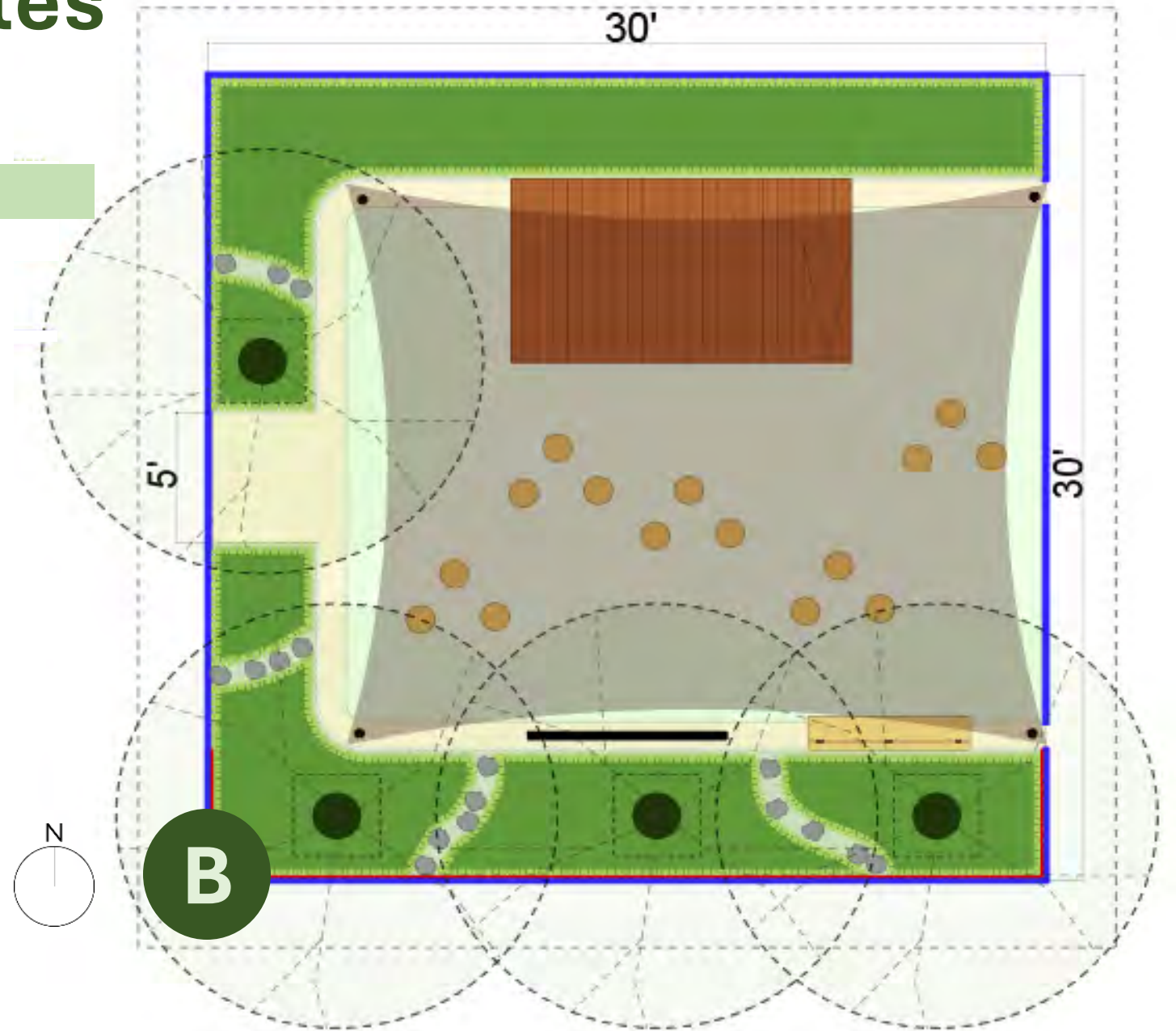
Performance Area

ACTIVITIES

Performance Area offers an outdoor learning environment for student performances and presentations within a natural setting.

AFFORDANCES

- Permeable pavers
- Natural log stumps and benches
- Shade canopy
- ADA accessible raised platform
- Blackboard and informational signage
- Accommodates up to 32 students
- Surrounded by shade trees and shrubs



OLE Design Templates

Type C - Learning Lab

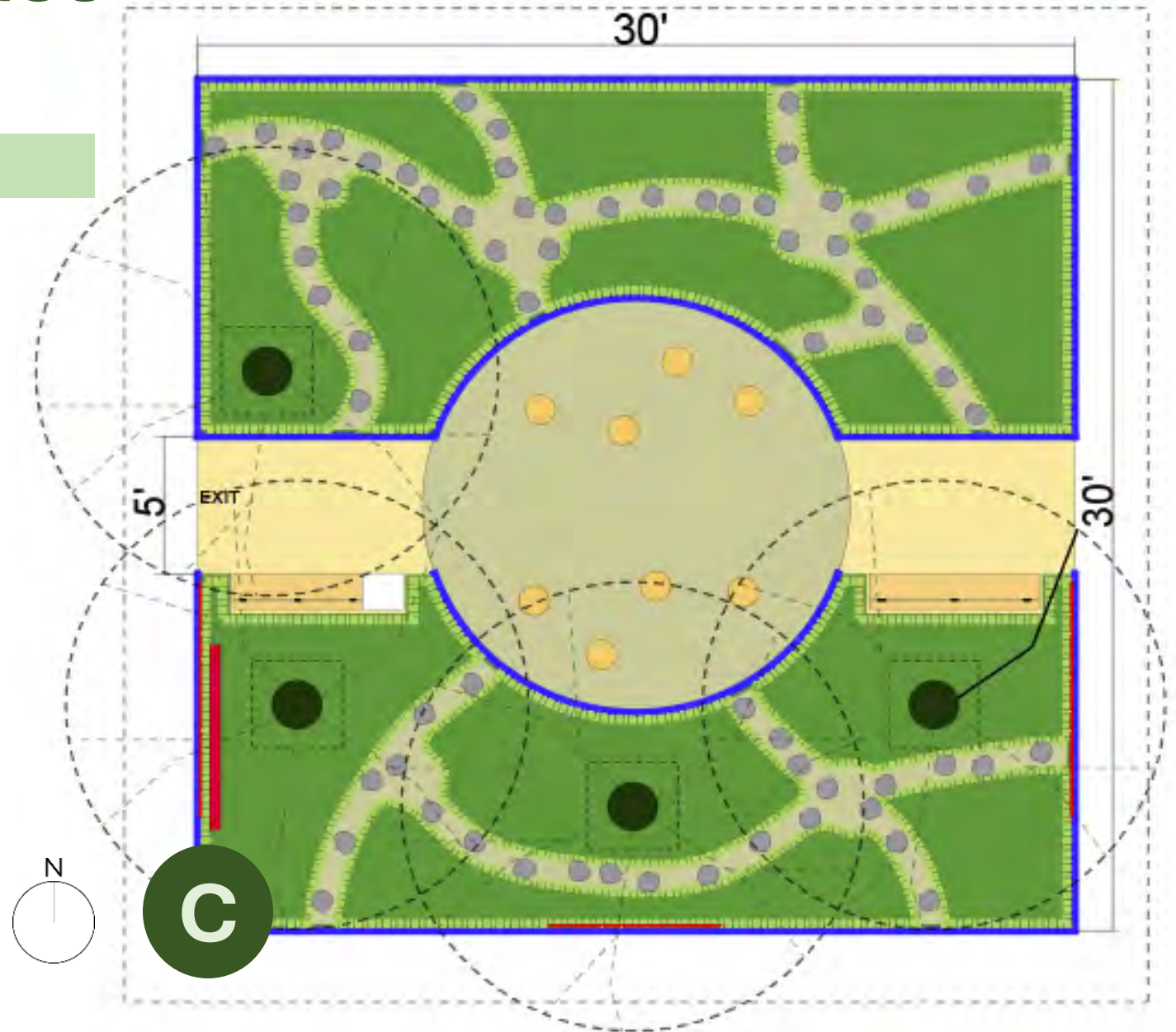
Habitat Planting Area

ACTIVITIES

Habitat Planting Area offers a hands-on learning lab experience where students can explore and observe plants, animals, and insects within a representative habitat type. This green educational space provides an environment that supports a variety of habitats, such as native and pollinators. Central area can be used for alternative PE activities such as yoga and dance.

AFFORDANCES

- Permeable pavers
- Natural log stumps and benches
- Blackboard and informational signage
- Accommodates up to 32 students
- Surrounded by native shade trees and shrubs



OLE Design Templates

Type D - Learning Lab

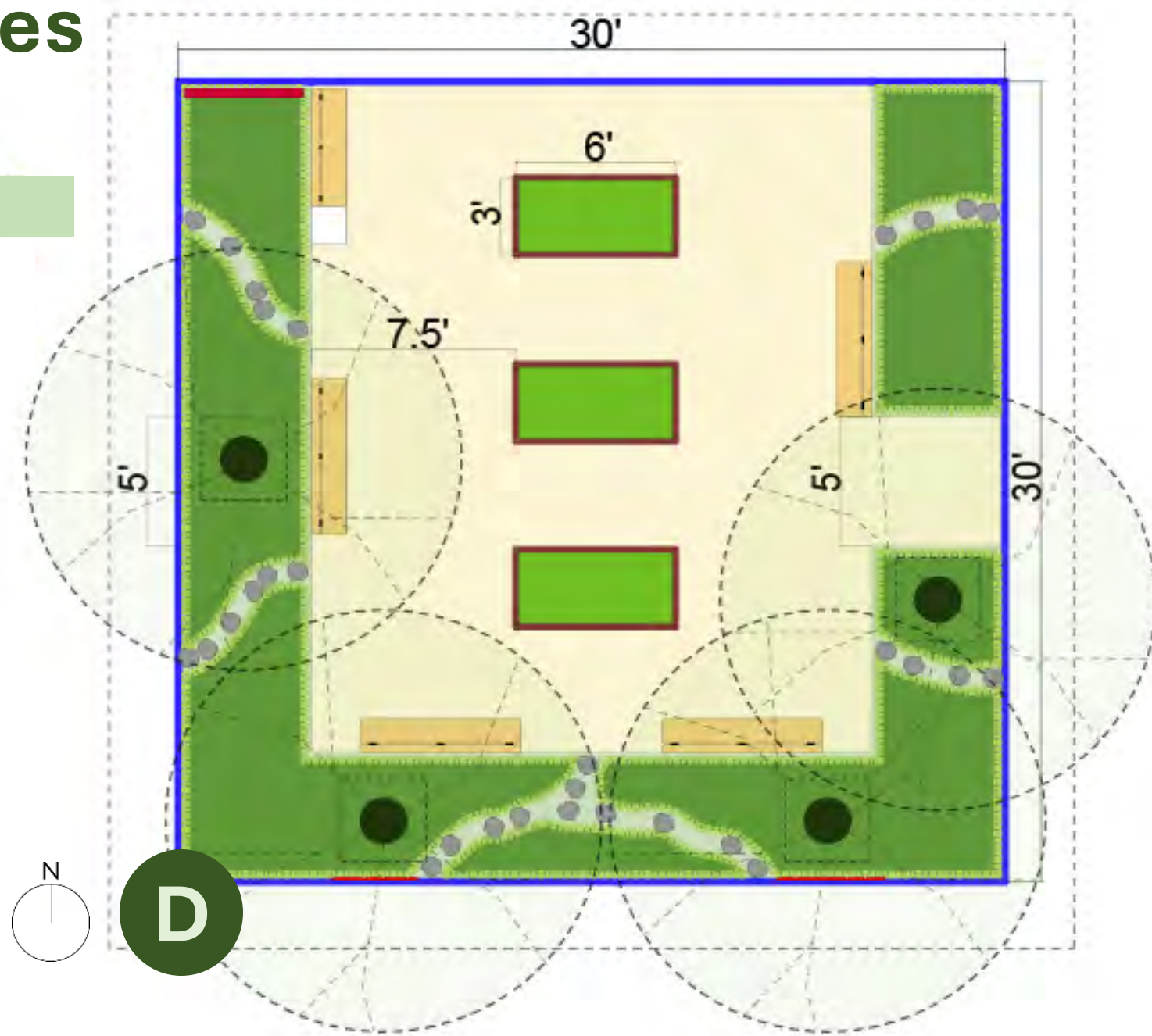
Raised Planter Area

ACTIVITIES

Raised Planter Area offers a hands-on learning lab experience where students can explore and tend to curriculum-selected plants. The raised planter area is surrounded by an in-ground habitat planting area that provides an additional learning environment.

AFFORDANCES

- Permeable pavers
- 3 raised planters
- Natural log stumps and benches
- Blackboard and informational signage
- Accommodates up to 32 students
- Surrounded by native shade trees and shrubs



OLE Design Templates

Type E - Learning Lab

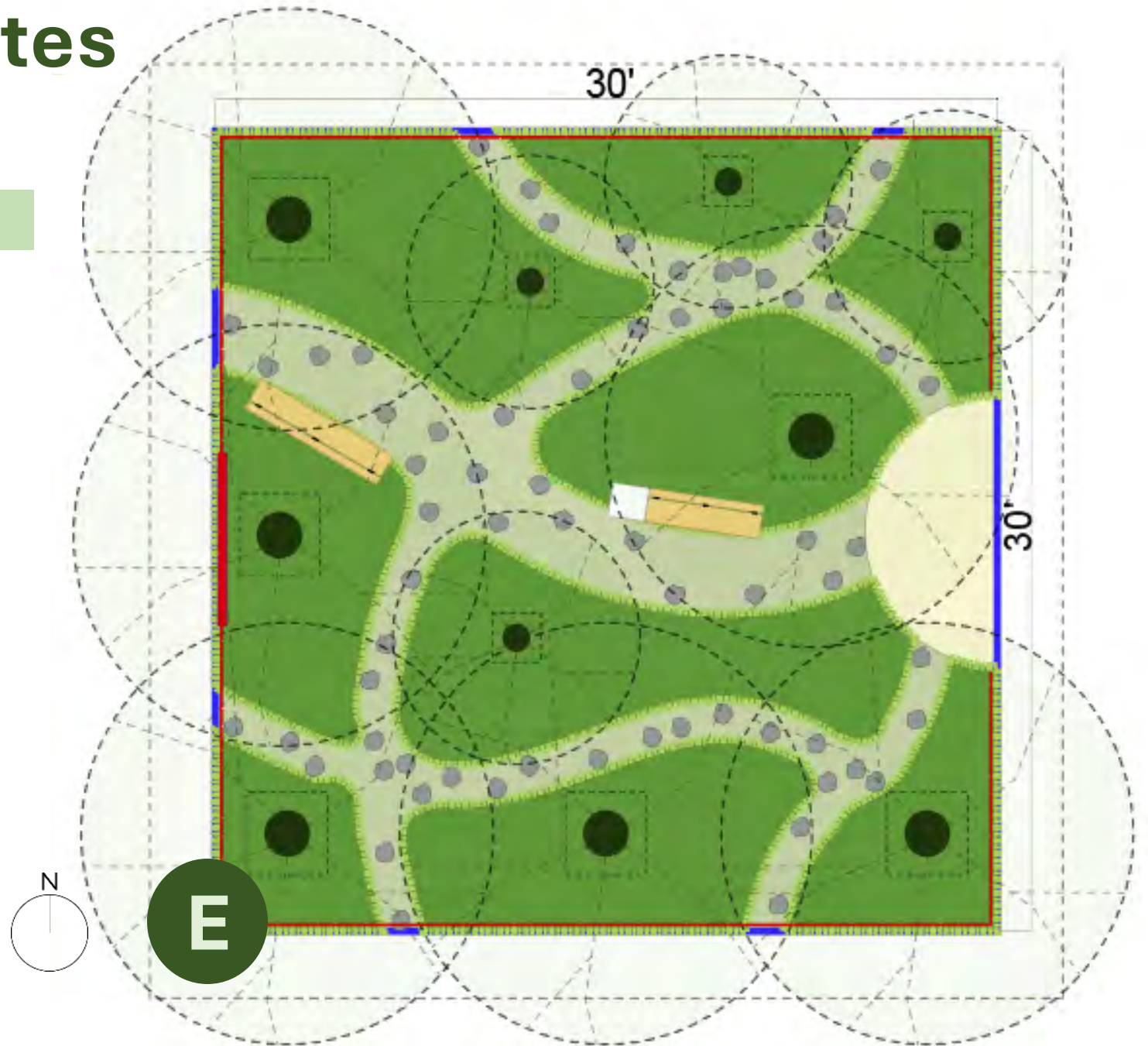
Micro Forest

ACTIVITIES

Micro Forest is an outdoor learning environment that encourages habitat exploration within an area that is densely planted with a variety of trees and plants. Creates a space for quiet study and reading.

AFFORDANCES

- Specification of trees and shrubs is critical to create a Micro Forest suited to the local climate
- Natural log stumps and benches within the forest and along pathways
- Main circulation permeable pavers and DG pathways through forest
- Accommodates up to 32 students
- Surrounded by native shade trees and shrubs



OLE Design Templates

Type F - Learning Lab

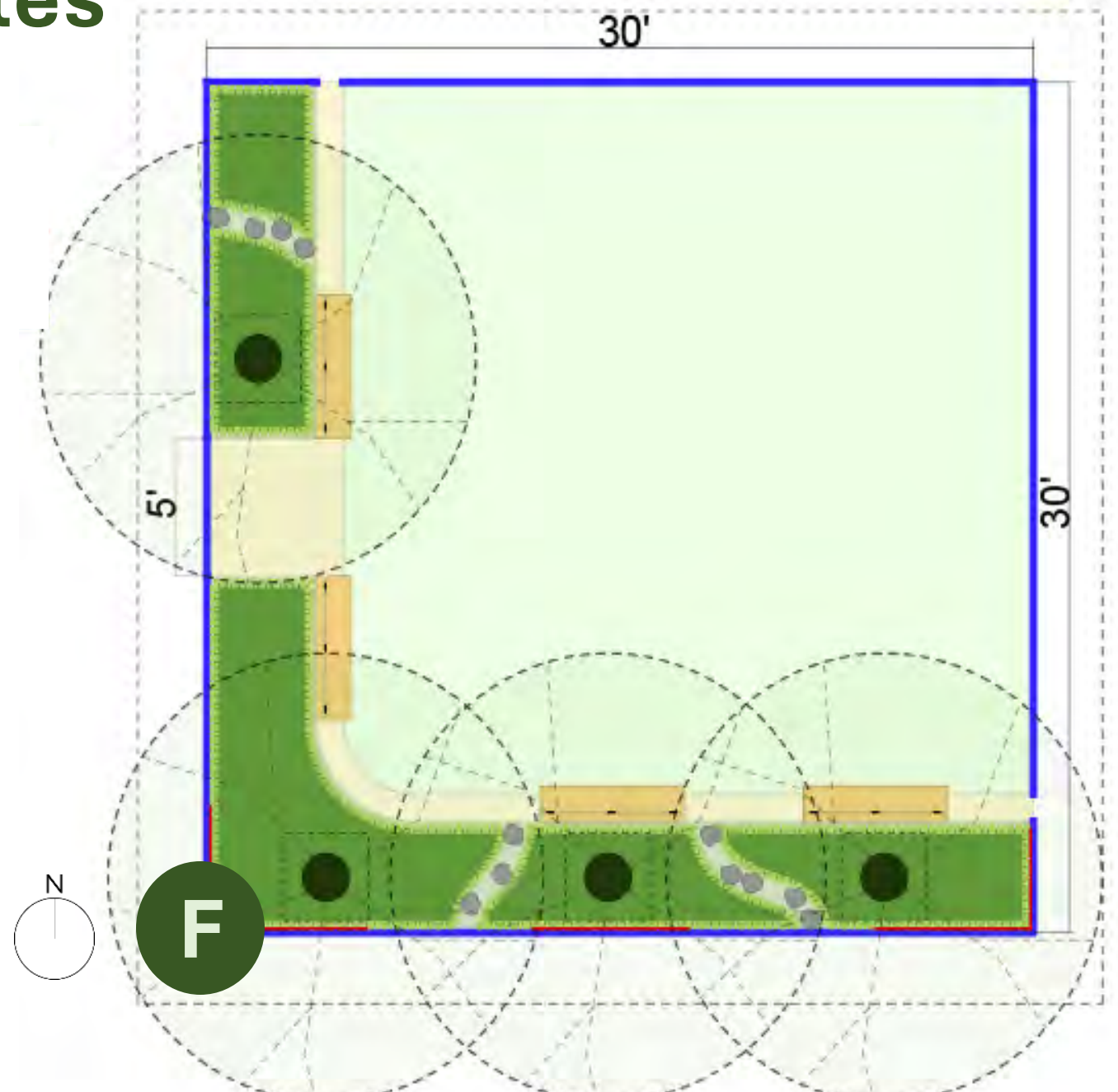
Active Play Area

ACTIVITIES

Active Play Area offers an outdoor learning environment where students can actively engage with the natural environment through physical play and exploration. This green space encourages student movement, as well as informal, small group gatherings within a natural setting.

AFFORDANCES

- Utilizing existing topography and trees is ideal
- Natural log stumps and benches at perimeter of play areas
- Main circulation permeable pavers
- Surrounded by native shade trees and shrubs



OLE Design Templates

Service Connector

ACTIVITIES

The Service Connector acts as the connecting element between two or more of the outdoor learning environments. It provides a shared work bench with sinks for individual and group use.

AFFORDANCES

- Centralized Infrastructure and utilities serve the adjacent learning environment
- Potable water, irrigation, sewer, WIFI, and power
- Storage shed supports adjacent learning environments
- Worktable with two sinks



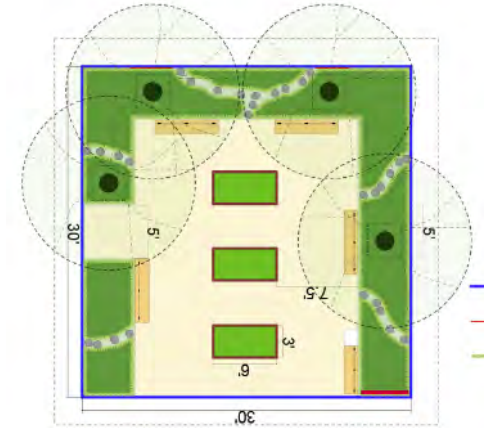
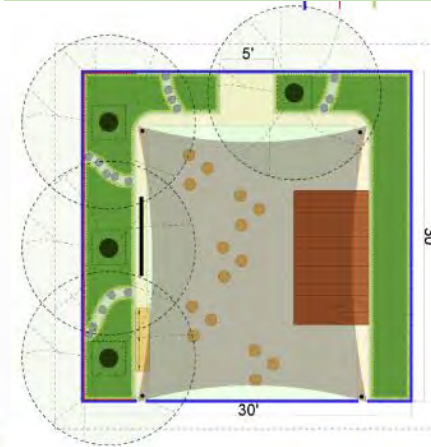
OLE Examples



Performance
Area

+ Connector +

Raised
Planter
Area



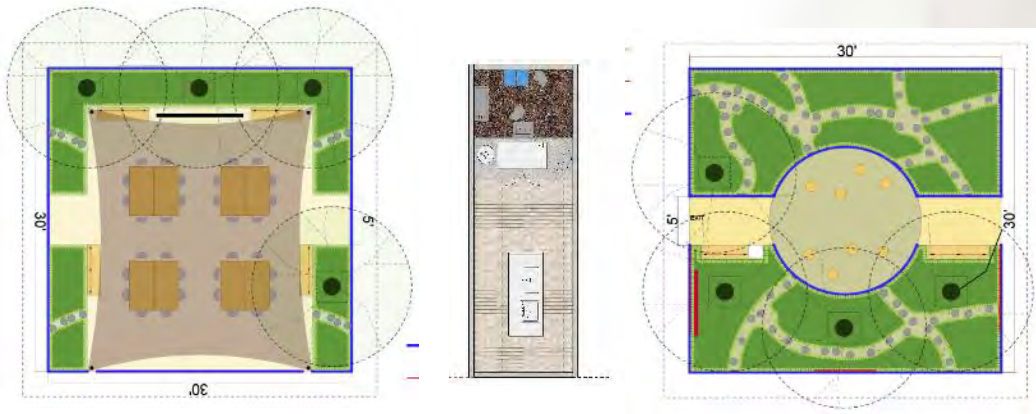
OLE Examples



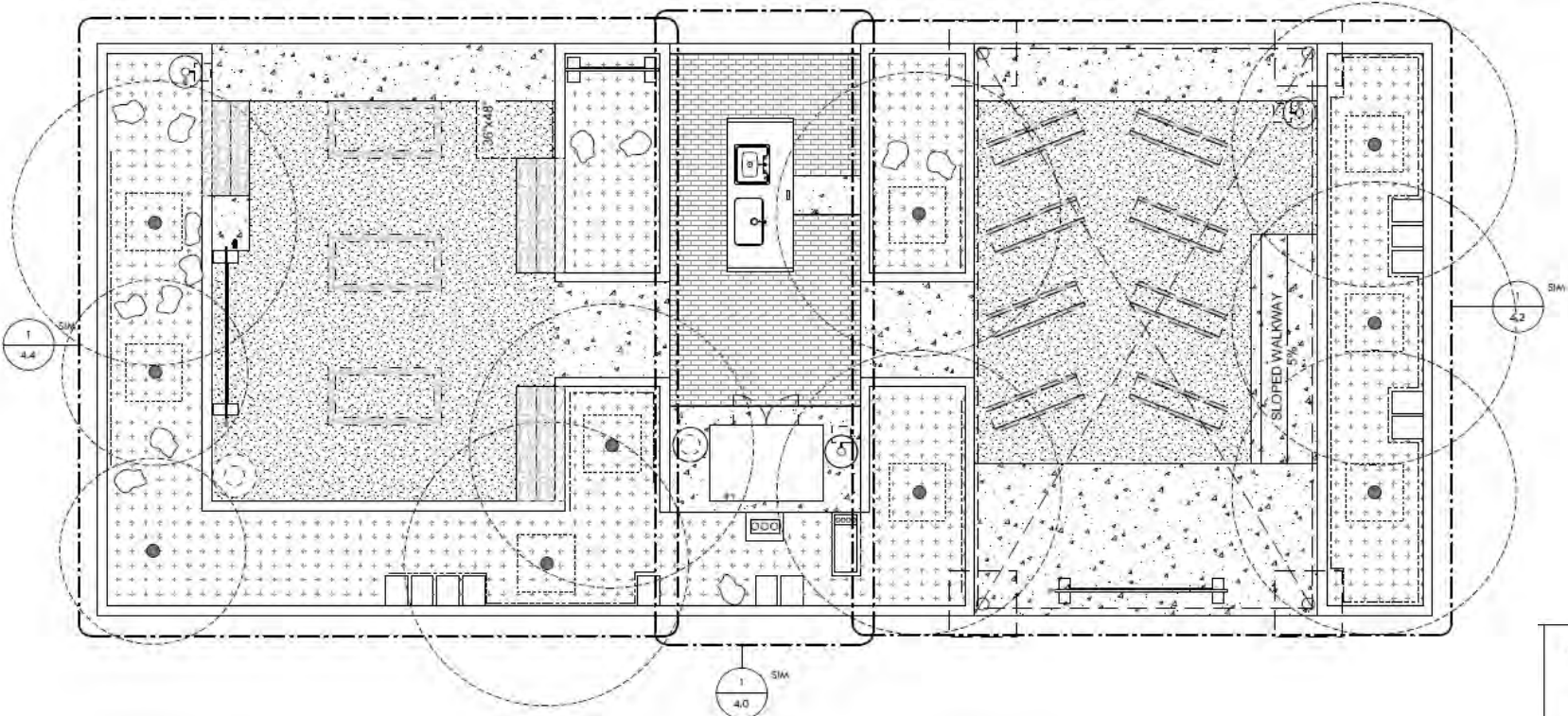
Group
Learning
Area

+ Connector +

Habitat
Planting
Area

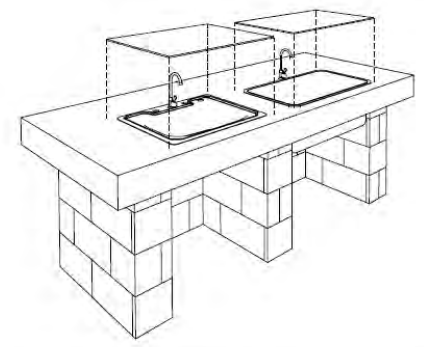
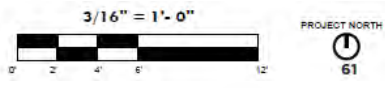


OLE Templates

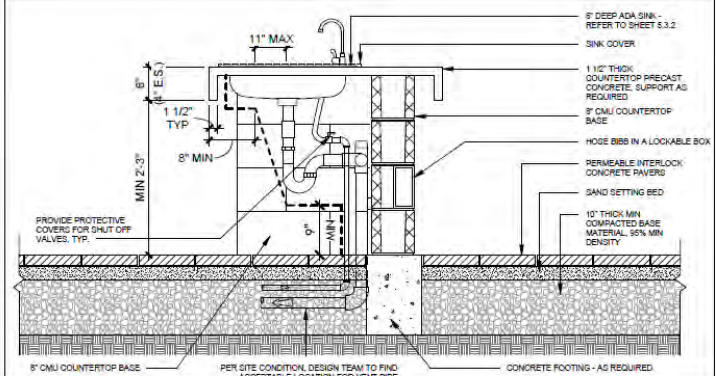


LEGEND

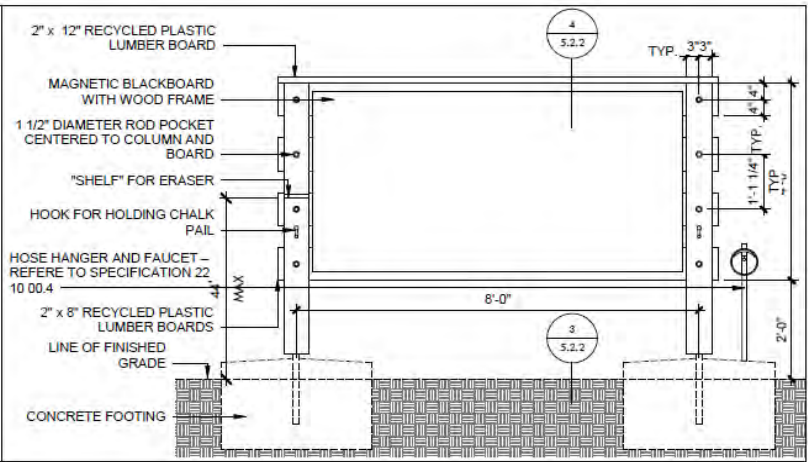
- | | | | | | | | |
|--|-------------------------------|--|---|--|-------------------------------------|--|---|
| | ROOT BARRIER | | SHADE TREE | | ENLARGED PLANT CALLOUT | | PEDESTAL IRRIGATION CONTROLLER WITH CONCRETE SLAB |
| | COMPANION SEAT AREA 36" x 48" | | PERMEABLE UNIT PAVER | | LIGHT POLE WITH DFCI OUTLET AT BASE | | VALVE BOX |
| | DFCI OUTLET | | PERMEABLE STEPPING STONES | | 6" WIDE CONCRETE CURB | | DECOMPOSED GRANITE WITH STABILIZER |
| | SINGLE DATA OUTLET | | BACKFLOW DEVICE ON CONCRETE SUB SLAB WITH ENCLOSURE | | TRASH BIN, DFCI | | DIP CONCRETE PAVING |
| | MULCH, SEE LANDSCAPE | | | | | | |



3D View 3 4



SINK - SECTION 3 SCALE: 3/4" = 1'-0"



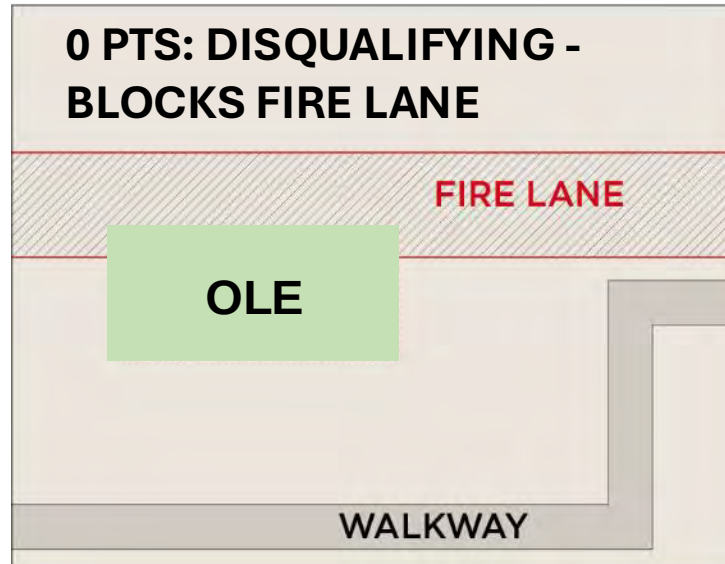
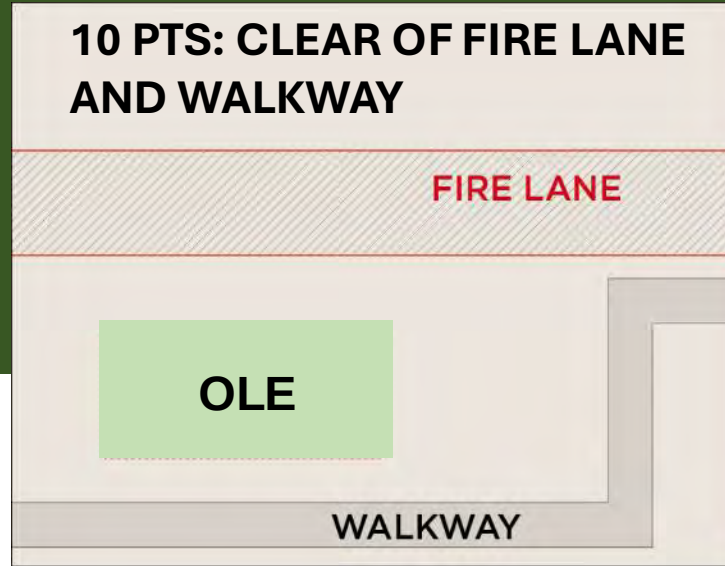
WRITING SURFACE - FRONT ELEVATION 2 SCALE: 1/2" = 1'-0"

Site Planning Matrix

CRITERIA		School A	School B	Total Possible
1	Fire Lanes/Circulation Disruption	10	8	10
2	Path of Travel/Restroom Access	5	5	10
3	Adjacency to Buildings/Classrooms	3	8	10
4	Visibility to OLE	5	0	10
5	Existing Shade	4	8	10
6	Acoustics/Adjacency to Noise	8	0	10
7	Utilities/Power/Data/Water/Irrigation	5	8	10
8	Soils Analysis/Permeability	10	5	10
TOTAL		50	42	80

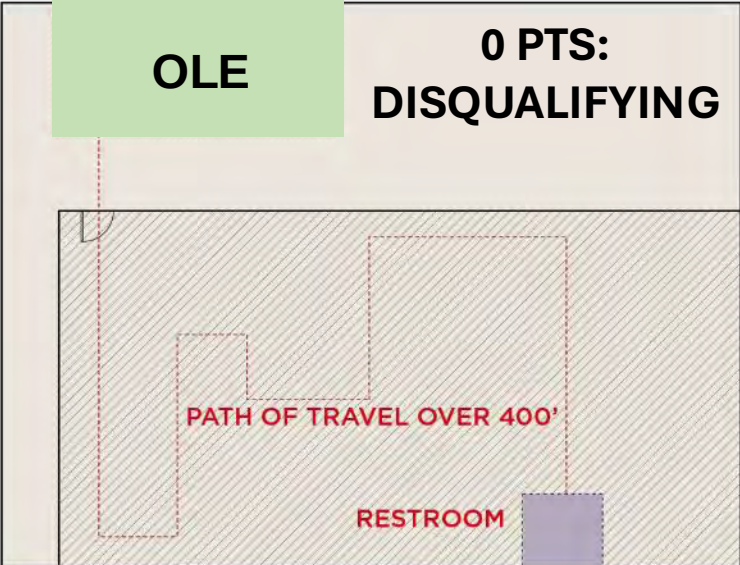
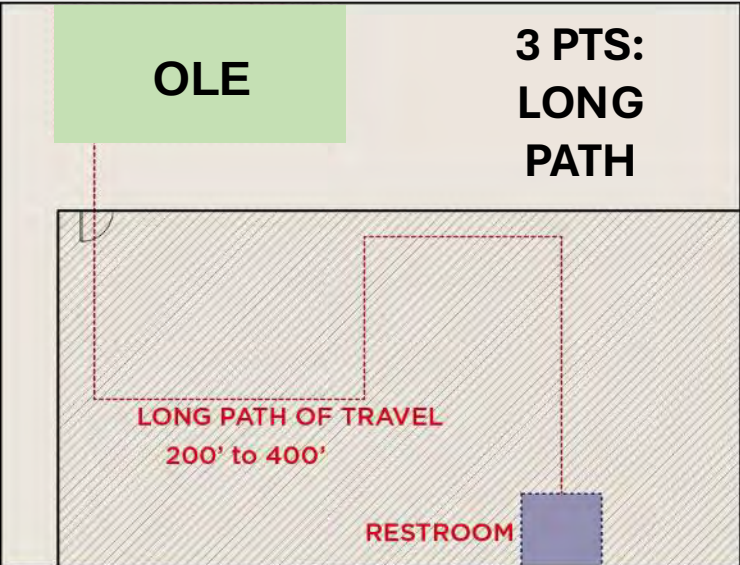
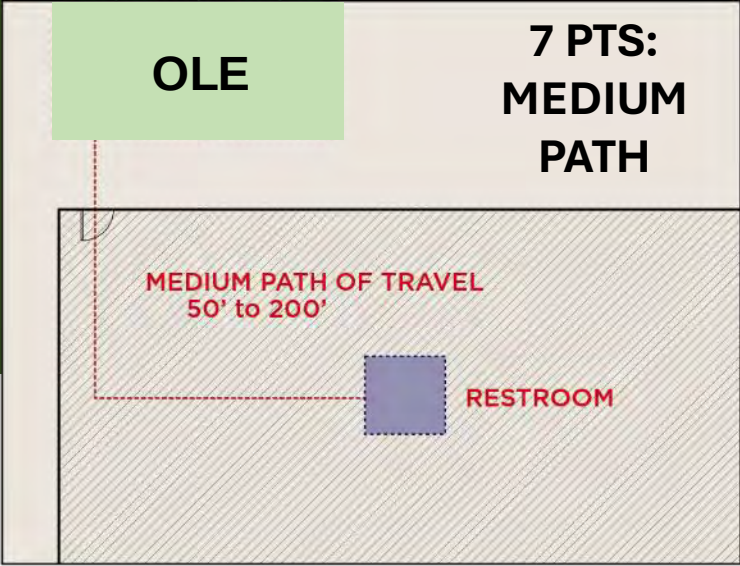
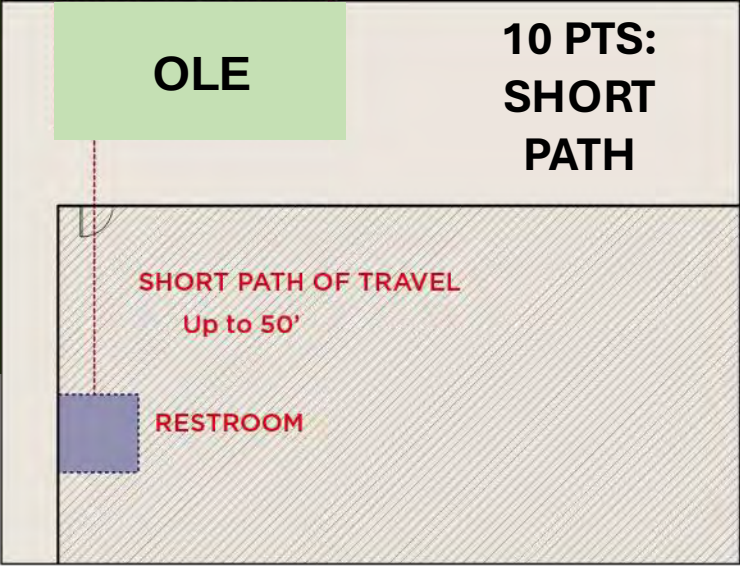
Site Planning Matrix

CRITERIA 1: Fire Lanes/Circulation Disruption



Site Planning Matrix

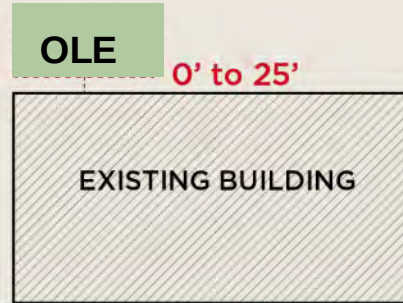
CRITERIA 2: Path of Travel/Restroom Access



Site Planning Matrix

CRITERIA 3: Adjacency to Buildings/Classrooms

10 PTS: CLOSE DISTANCE



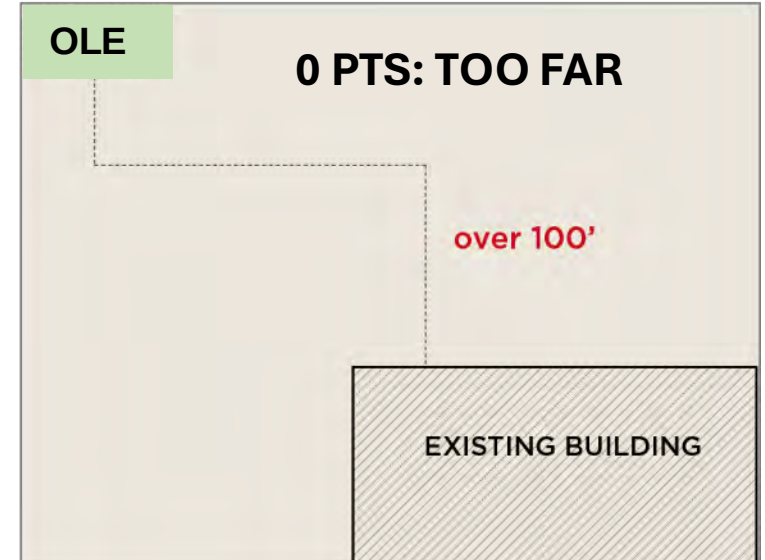
7 PTS: FAIR DISTANCE



3 PTS: LONG DISTANCE

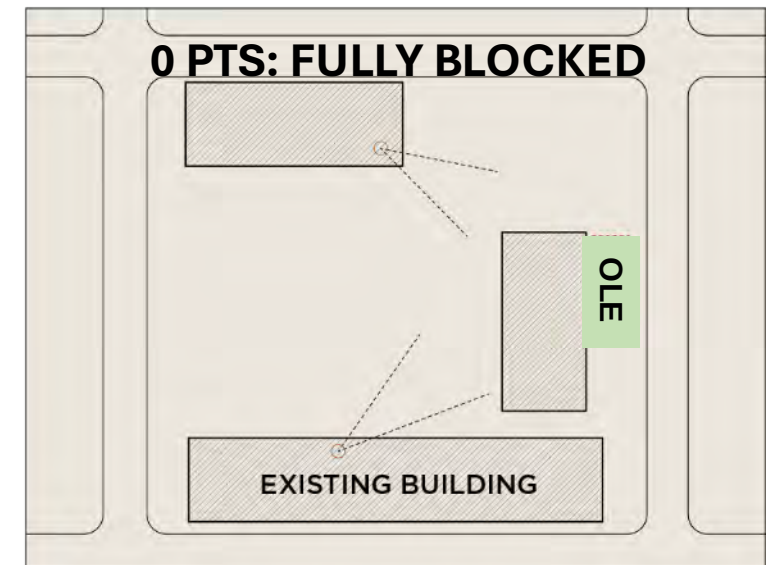
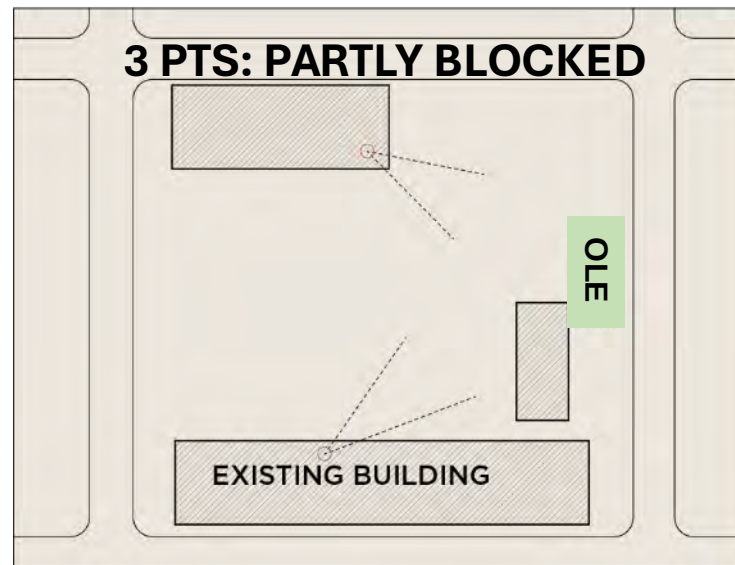
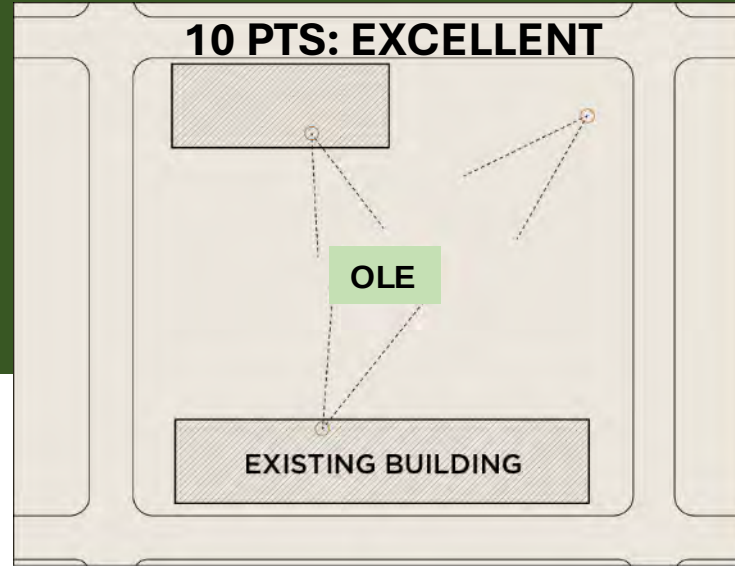


0 PTS: TOO FAR



Site Planning Matrix

CRITERIA 4: Visibility to OLE



Site Planning Matrix

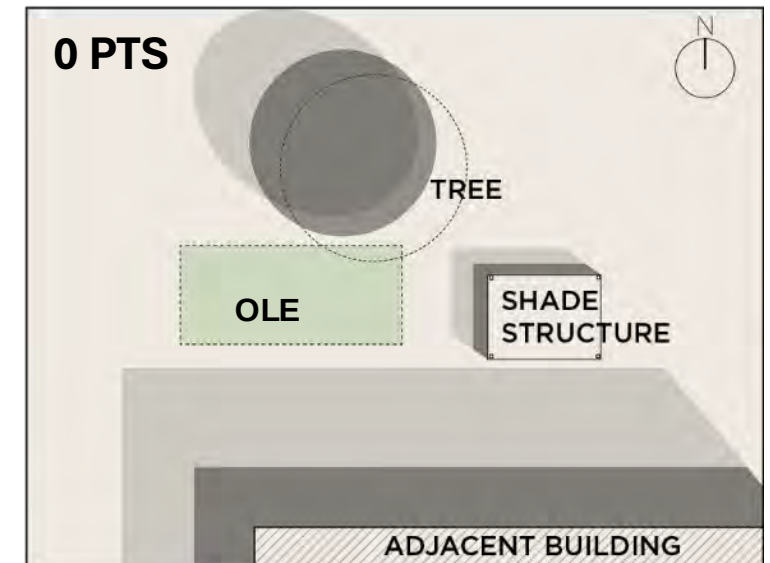
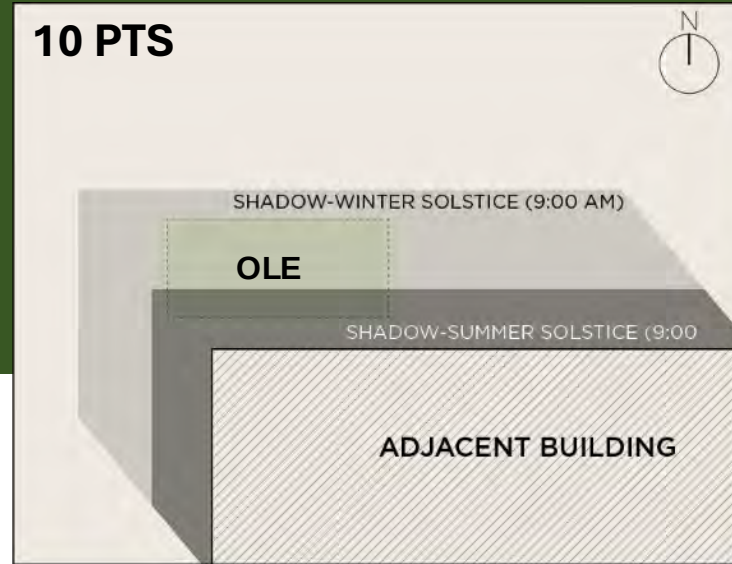
CRITERIA 5: Existing Shade

10 PTS: UTILIZE BUILDING SHADOW

7 PTS: UTILIZE TREE SHADOW

3 PTS: UTILIZE SHADE STRUCTURE

0 PTS: UTILIZE NO SHADOW



Site Planning Matrix

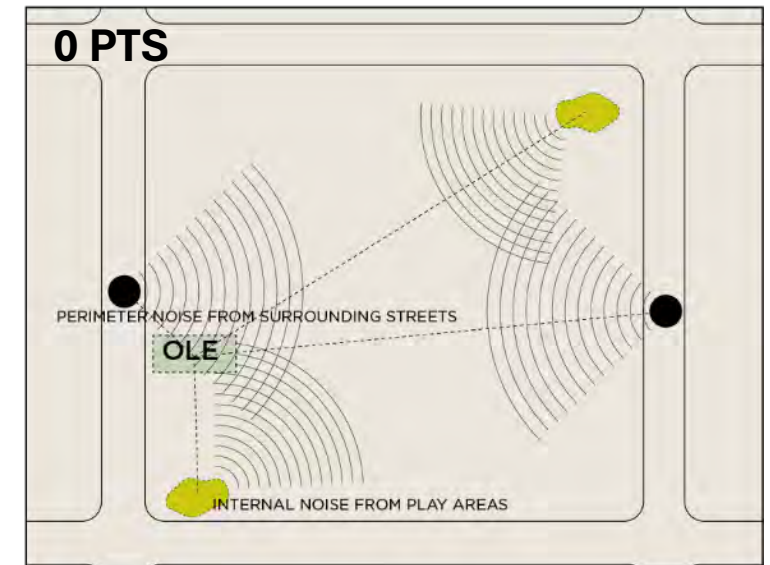
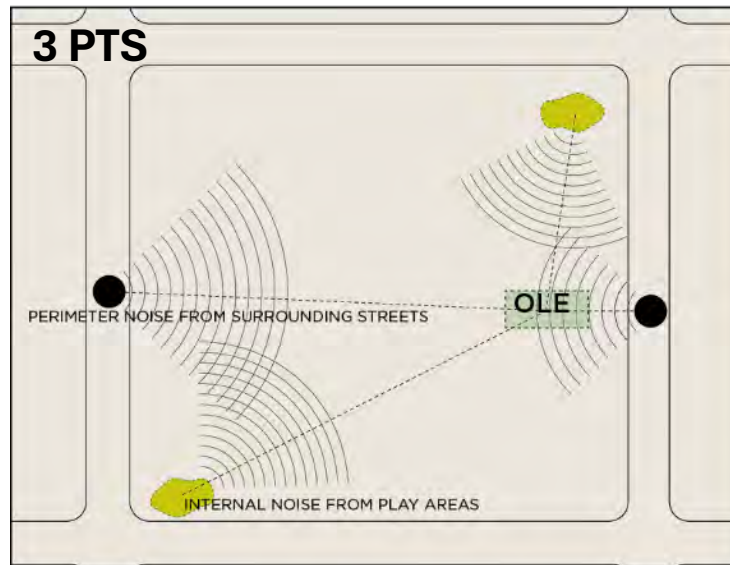
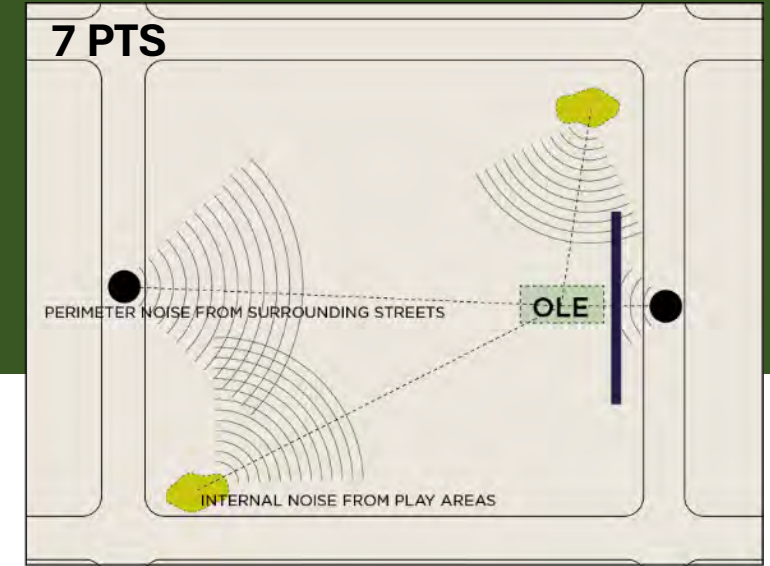
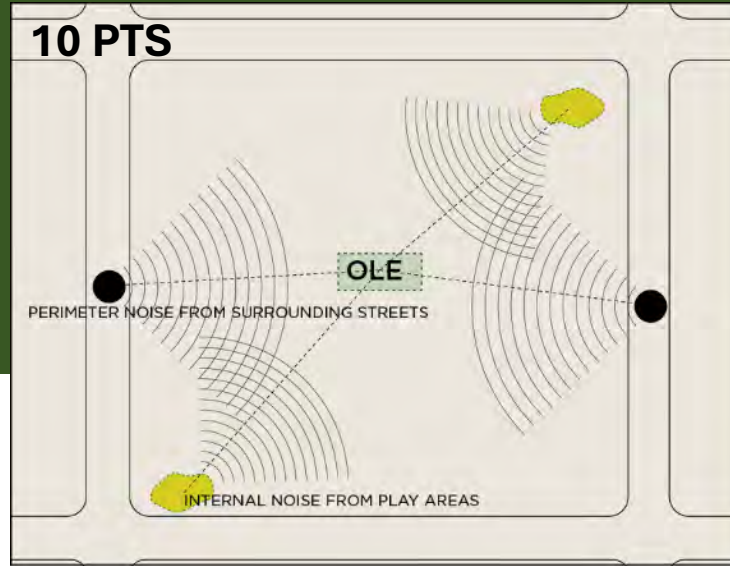
CRITERIA 6: Acoustics/Adjacency to Noise

10 PTS: FAR FROM NOISE

7 PTS: CLOSE WITH BARRIER

3 PTS: CLOSE NO BARRIER

0 PTS: VERY CLOSE



Site Planning Matrix

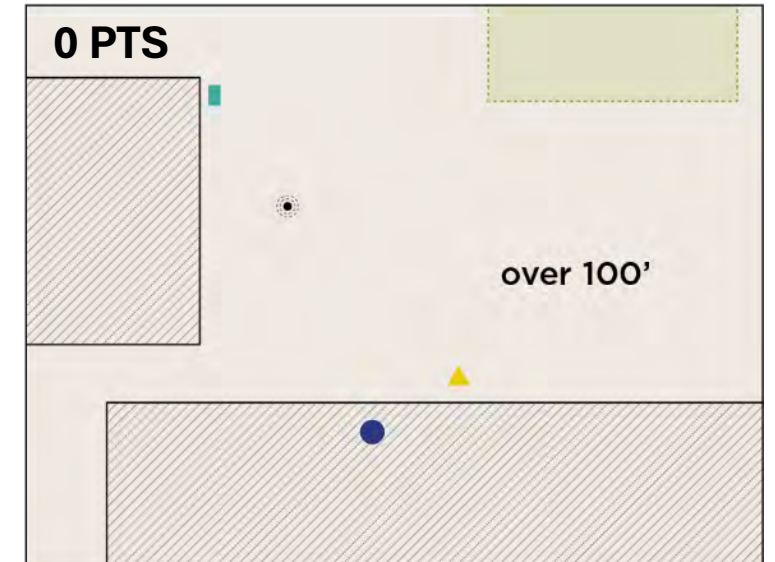
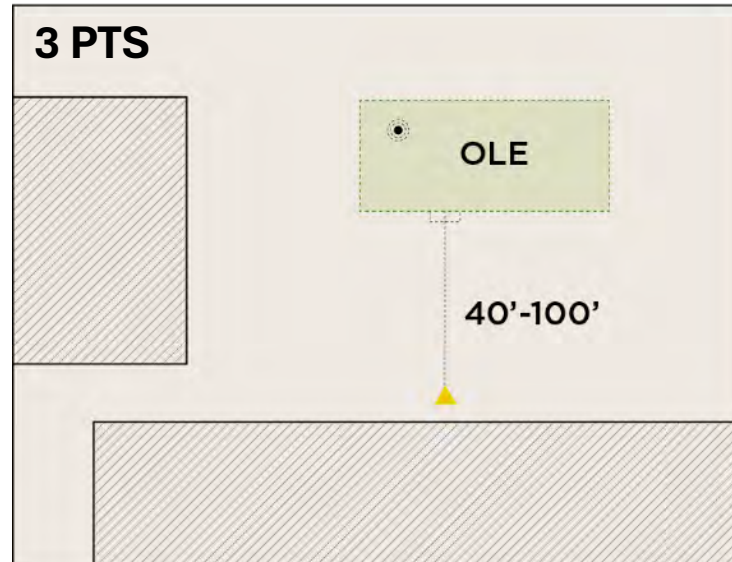
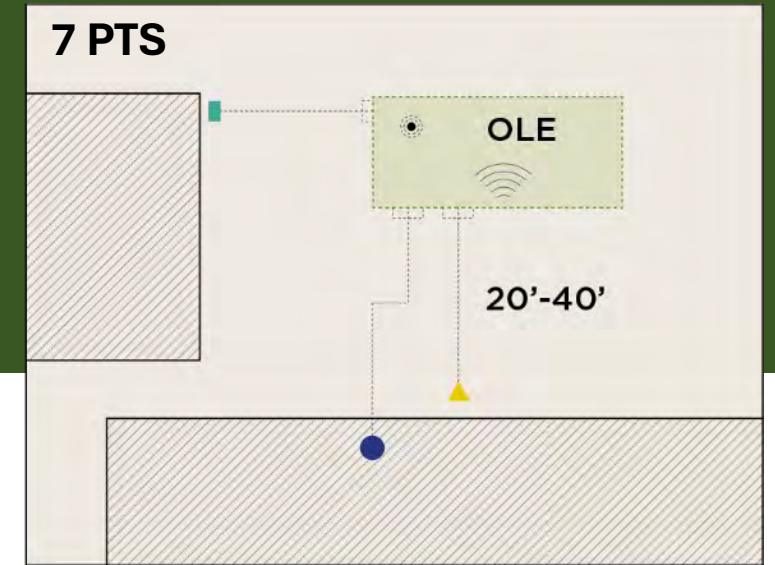
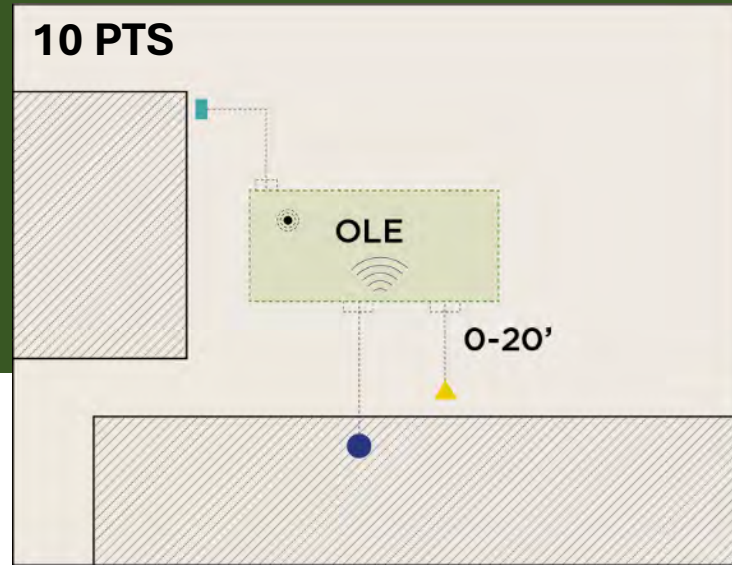
CRITERIA 7: Utilities/Power/Data/ Water/Irrigation

10 PTS: CLOSE ACCESS TO ALL

7 PTS: FAR ACCESS TO ALL

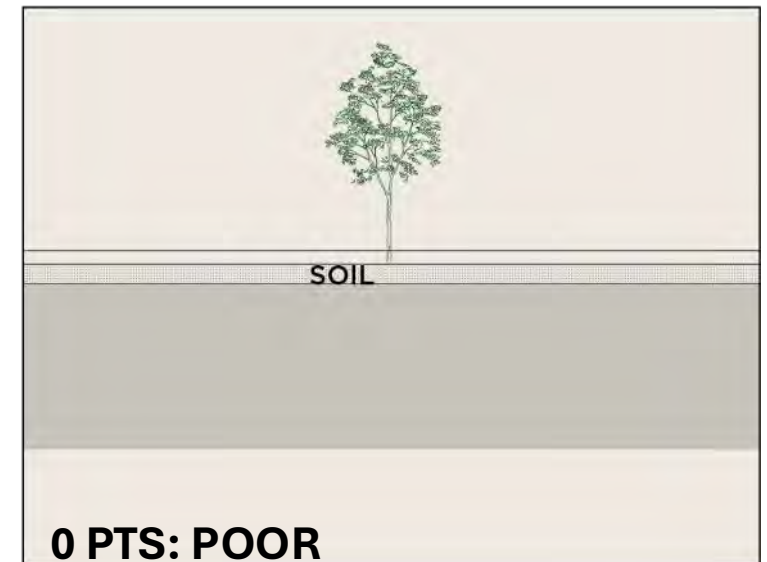
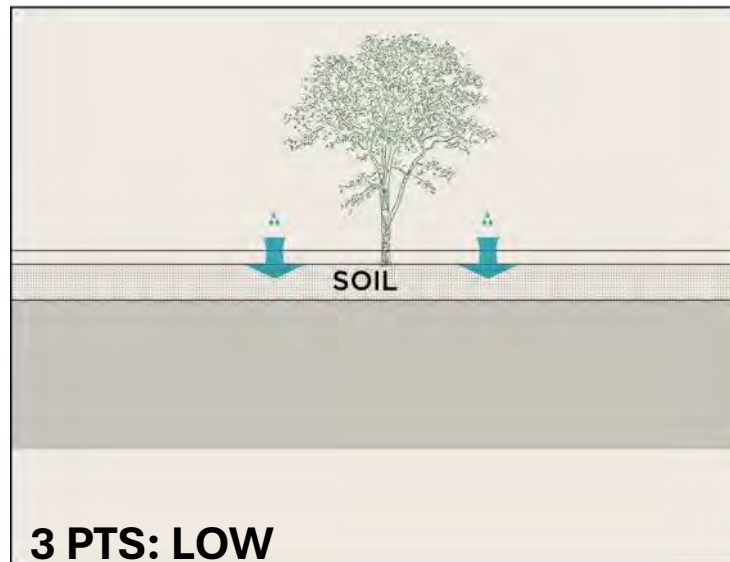
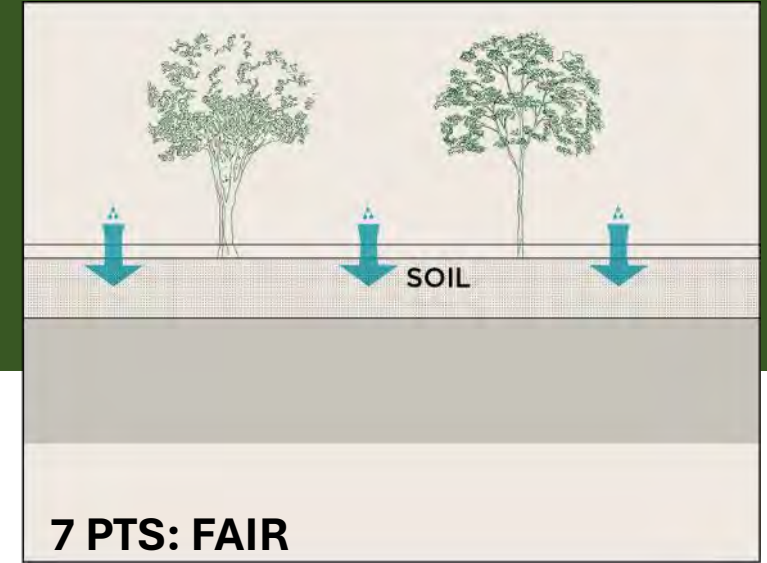
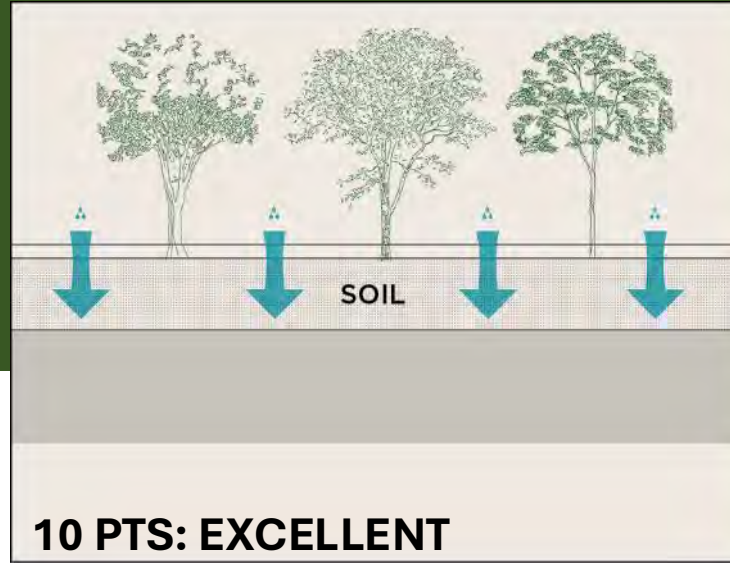
3 PTS: PARTIAL ACCESS

0 PTS: TOO FAR FROM ACCESS



Site Planning Matrix

CRITERIA 8: Soils Analysis/ Permeability



Other Factors in Planning for Outdoor Learning

PE Stations

- CDE requirements
- District Guidelines
- Standard PE stations
- Alternative PE stations
- Use of OLE for PE

Stormwater Management

- Green Building Code
- PUC incentives
- Planting the bioswale
- Permeable surfaces that are useable for PE and OLE spaces
- Permeable synthetic turf and water quality

Birdielee Bright Elementary School



Architect – dsk

Landscape Architect – Cornerstone

Birdielee Bright Elementary School



52nd Street Elementary School



Architect – dsk
Landscape Architect – Cornerstone

Humphreys Elementary School



Architect – dsk

Landscape Architect – Cornerstone

Humphreys Elementary School



Humphreys Elementary School



Green Schoolyard Progress

- Measure US \$9B Bond (2024)
 - \$1.25 B for upgrades to outdoor areas
- Over 60 major projects underway
 - 53 GSY Upgrades & PACEUP
 - 25 Projects with GSY improvements
- Over 80 more projects in planning
- Our progress
 - 323 projects underway
 - Increasing permeable schoolyard by over 53 acres
 - Adding over 5,000 trees, increasing our tree inventory by 10%, and adding 80 acres of shade canopy

Belvedere MS
NAC/SALT



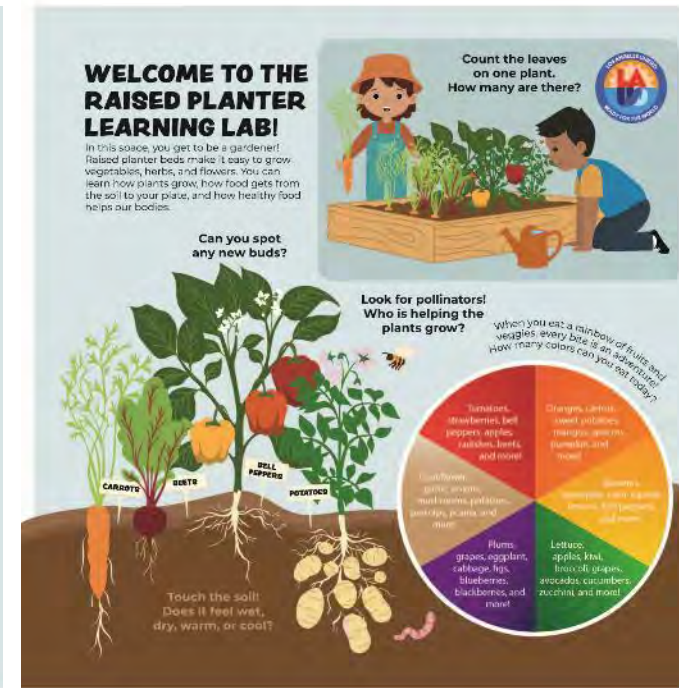
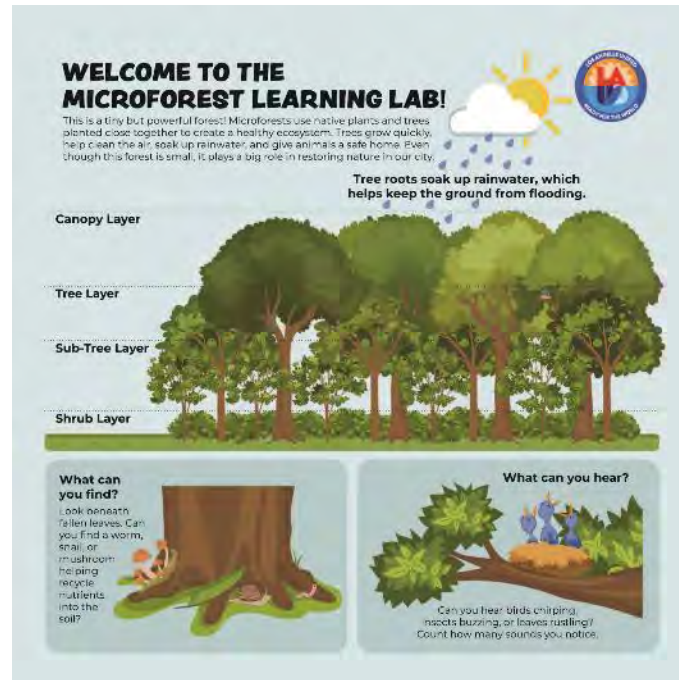
Table Workshop Pt 2:

**What are the affordances that support your list of
Top 5 action verbs?**

The Future of Outdoor Learning Environments:

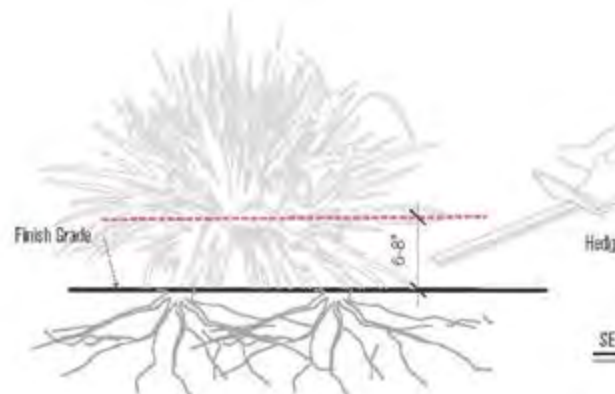
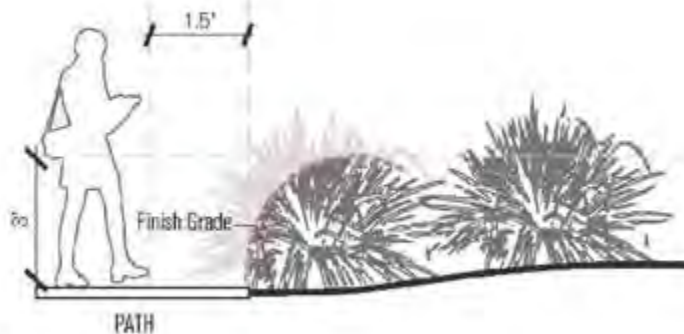
Caring for a living schoolyard

Signage



Landscape Manual

- The problem of Maintenance
 - Not enough funding
- Training
 - Learning about native plants
 - What is a weed?
 - How to prune?
 - When to water?



Landscape Habit



Foliage



Flower

wild radish / *Raphanus sativus*

PREVENTION

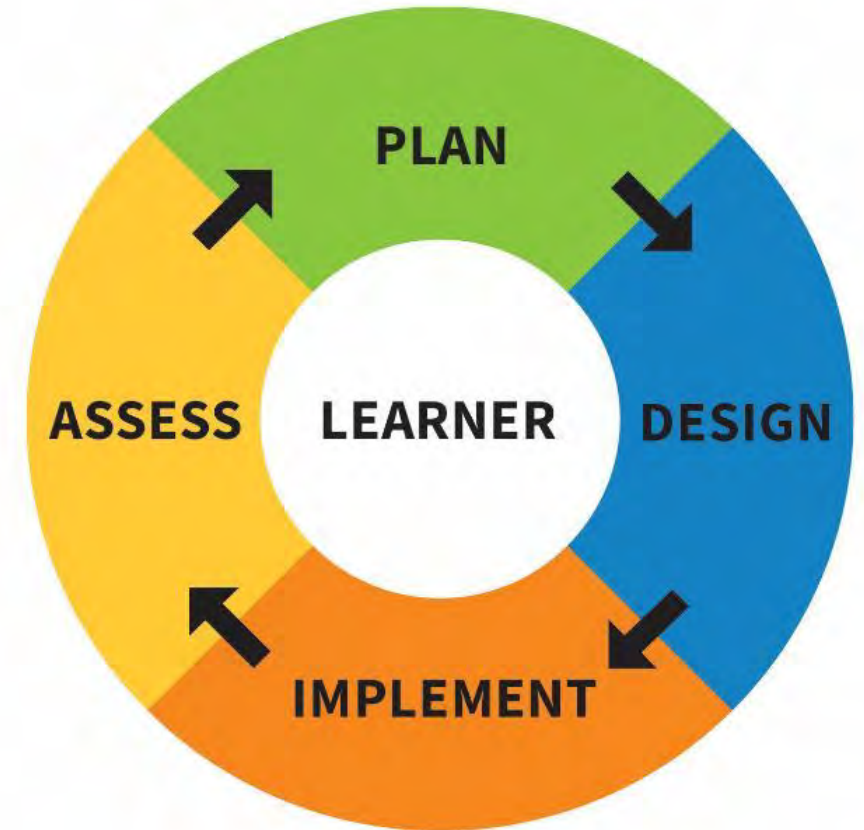
- Cal-IPC Rating: Limited.
- Remove weeds from site before flower and seed dispersal.
- Regular applications of mulch with a depth of 1-3" will discourage weeds.

TREATMENT SEQUENCE

1. Seedlings: Hand Pull or Trowel Tillage.
2. Mature Plant: Weed wack/ remove prior to flowers setting seeds.
3. Post-Emergent shall be applied by a licensed pest applicator only in areas with high density weed conditions, and only as directed by a park supervisor.

Caring for a Living Schoolyard

- Post-occupancy site visits
 - Feedback on how space is used
 - Sharing ideas with other schools
- Professional development – Users Guide
- Maintenance



“Until you dig a hole, you plant a tree, you water it and make it survive, you haven’t done a thing. You are just talking.”

–Wangaari Maathi, Kenya – 2004 Nobel Peace Prize