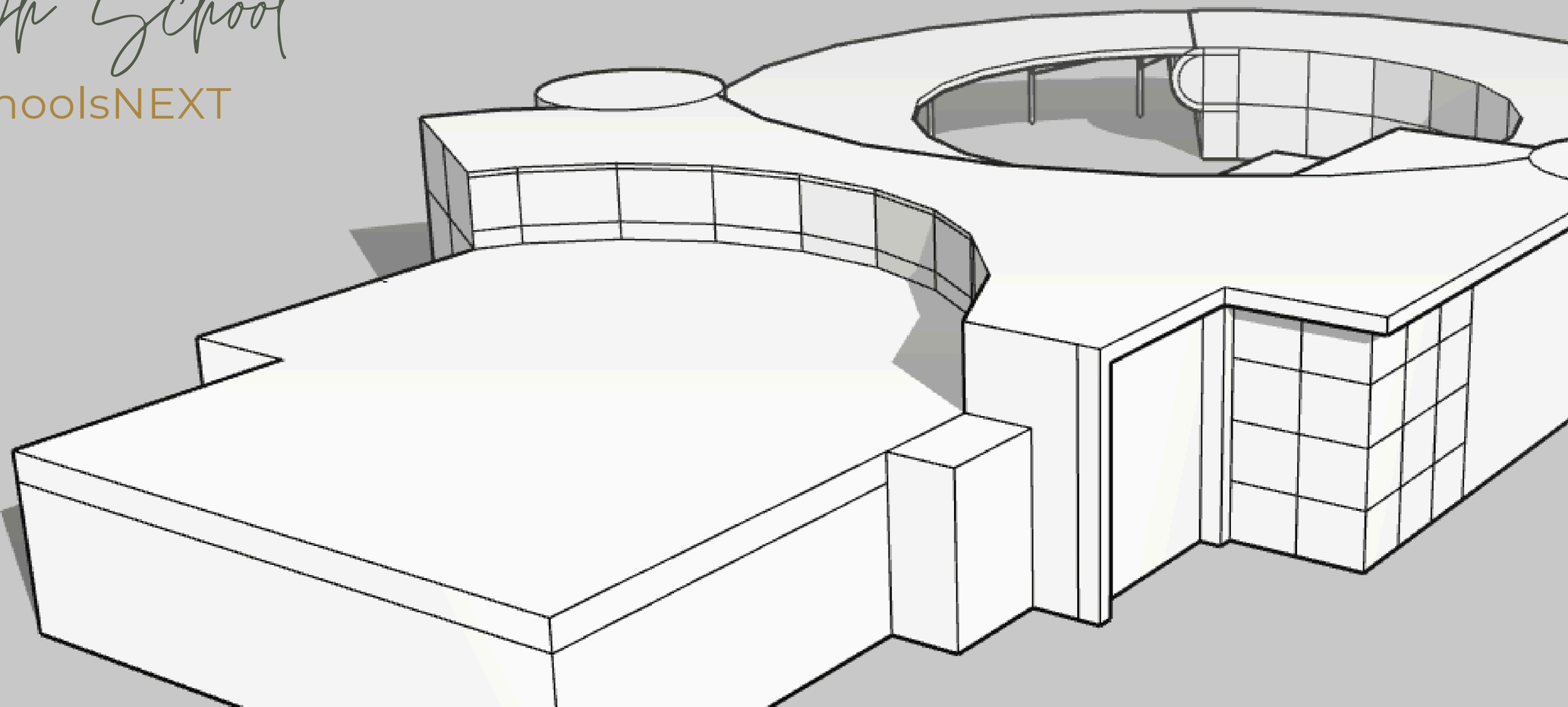
ECO

High School

SchoolsNEXT



E.C.O. HIGH

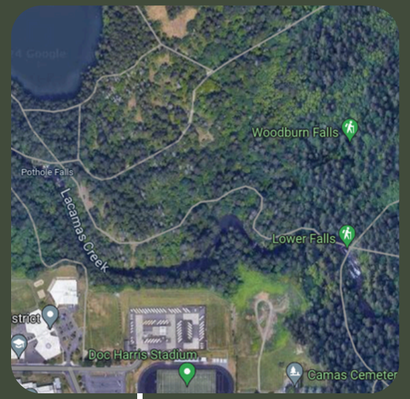
ENVIRONMENT, COMMUNITY, OPPORTUNITY

Our Team

We are a team from Discovery High School located in Camas, WA. Our team is made up of two seniors, a junior, a sophomore, and a freshman. Every individual contributes a different viewpoint and set of abilities.

Aubrey, Sophie, Beau, Zac, & Jasmine

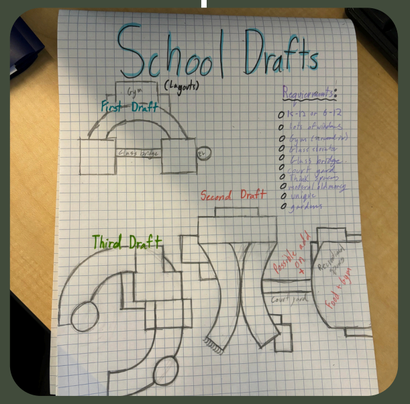
Process



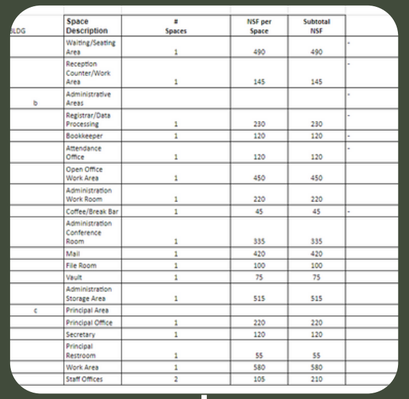
Phase 1: Choosing Site Location

Phase 2: Inspiration

Phase 3: Bubble Diagram



Phase 4: Building Drafts



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	Mail	1	420	420	
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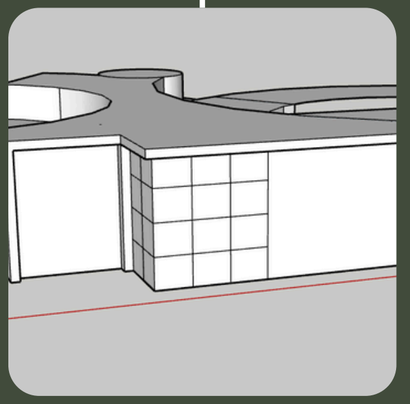
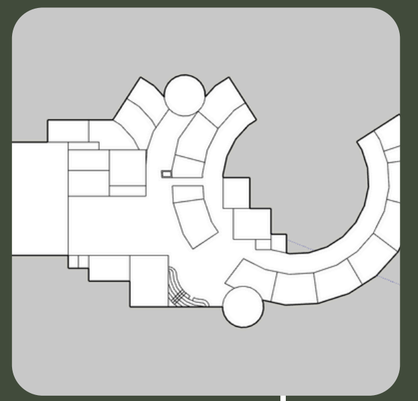
Phase 5: Program List

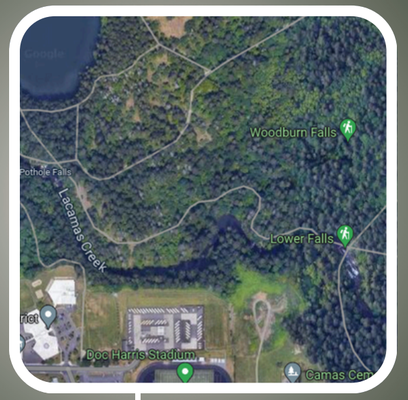


Phase 6: 3D Model



Phase 7: Floor Plan

Phase 1



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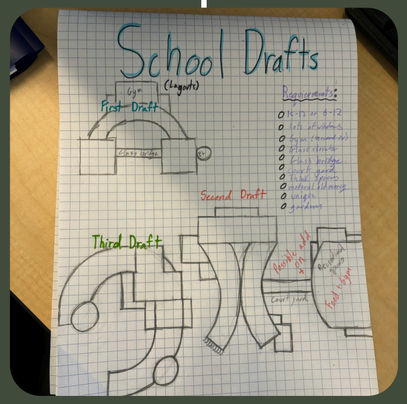

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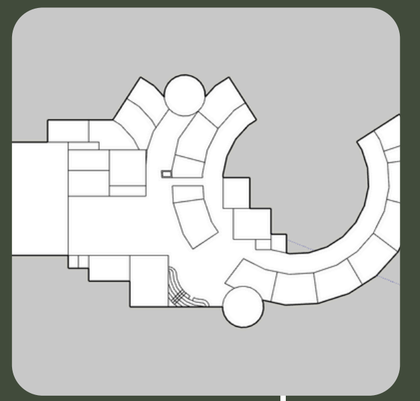

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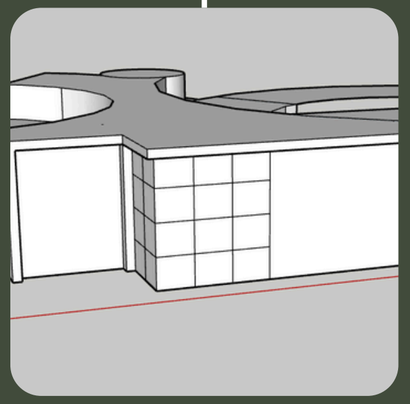

Phase 7: Floor Plan

Victoria
Omak
COLVILLE RESERVATION
Olympic National Park
Olympic National Forest
Spokane
Post Falls
Coeur d'A
500
90
Mill Plain
Fern Prairie
INGTON
COEUR D'AL RESERVAT
Moses Lake
Lacamas Park
FISHER'S LANDING EAST
Pullman
Mosco
Government Island
Lewiston
82
Richland
Kennewick
Walla Walla
Interlachen
Hermiston
84
Pendleton
Portland
Beaver
La Grande
Mount Hood
Wallowa-Whitman
N
W
E
S
50 mi

500
500
Mill Plain
FISHER'S
LANDING EAST
Lacamas
Government
Island
205
BYP
30B
14
Camas Lily Fields
Woodburn Falls
Pothole Falls
Lacamas Creek
Lower Falls
N
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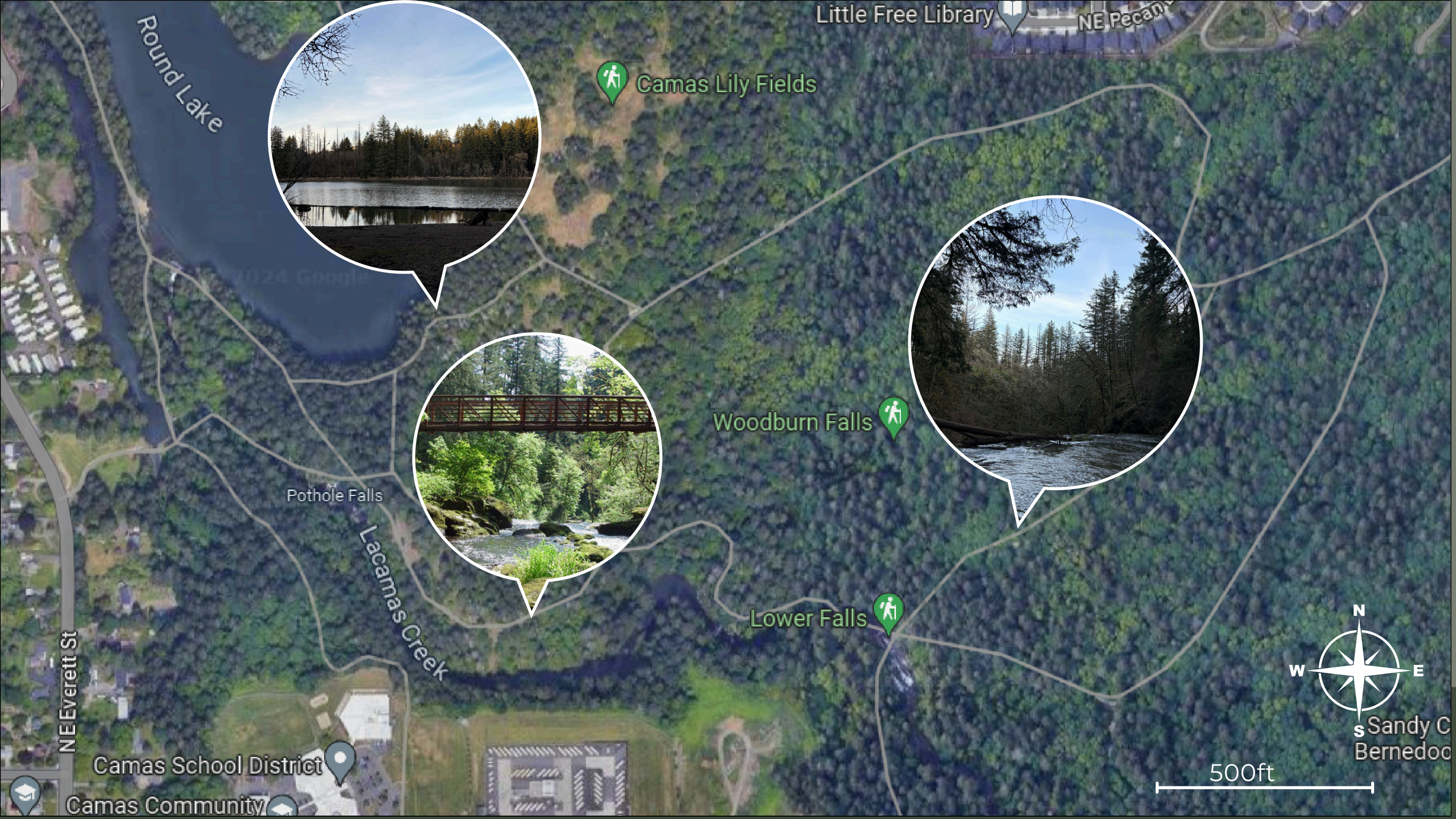

Round Lake
Little Free Library
NE Pecan
Camas Lily Fields
Woodburn Falls
Pothole Falls
Lacamas Creek
Lower Falls
NE Everett St
Camas School District
Camas Community
Sandy C
Bernedoo
N
W
E
S
500ft

ECO High
Woodburn Falls
Pothole Falls
Lacamas Creek
Lower Falls
NE Everett St
Camas School District
N
W
E
S
200ft

TRAFFIC ROUTES

SITE & LOCATION

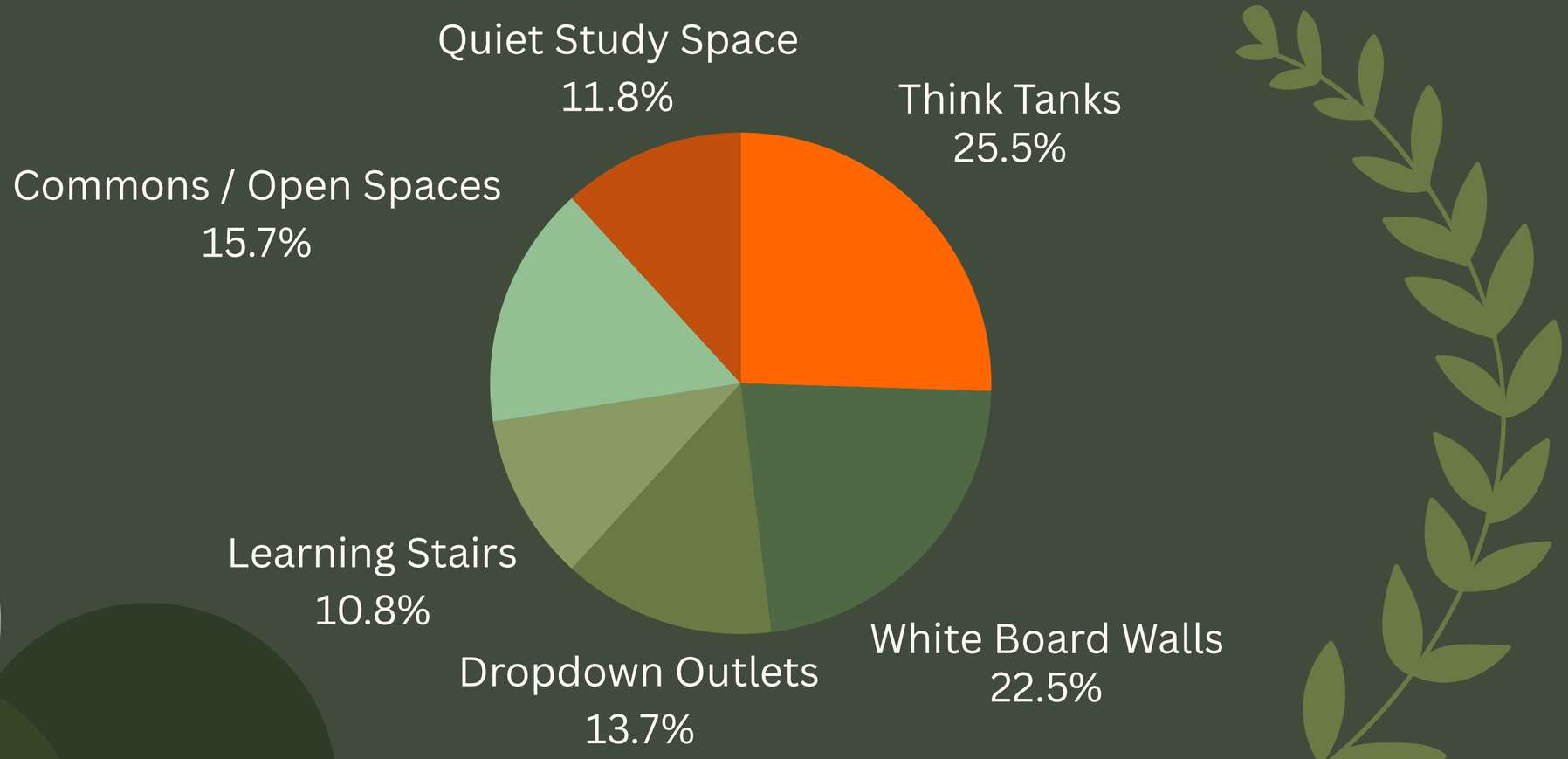
Our site is right next to Round Lake and in the heart of our community. near Liberty Middle School. When deciding on location we wanted to incorporate environment, community, and opportunity into our decision. Our site may take up some of the trail space, but provides many opportunities for students and the community that other locations would not. This site allows for a lot of unique project opportunities within the environment. The site is close to other schools and the community downtown area, allowing our building to be used for different events both collaboratively with other schools and as well as outside of school hours.

LAKE BENEFITS

One of the focal points of our school is the lake that sits beside our school. Round Lake was one of the main reasons we chose our site location. The lake is accessible to the students which allows for many unique STEAM-based science projects. Multiple studies from The Great Lake Stewardship Initiative prove that being outdoors benefits students greatly. The study showed increased awareness, creativity, and innovativeness. This would give us an advantage over other schools, as a projects-based STEAM school.

SURVEY DATA

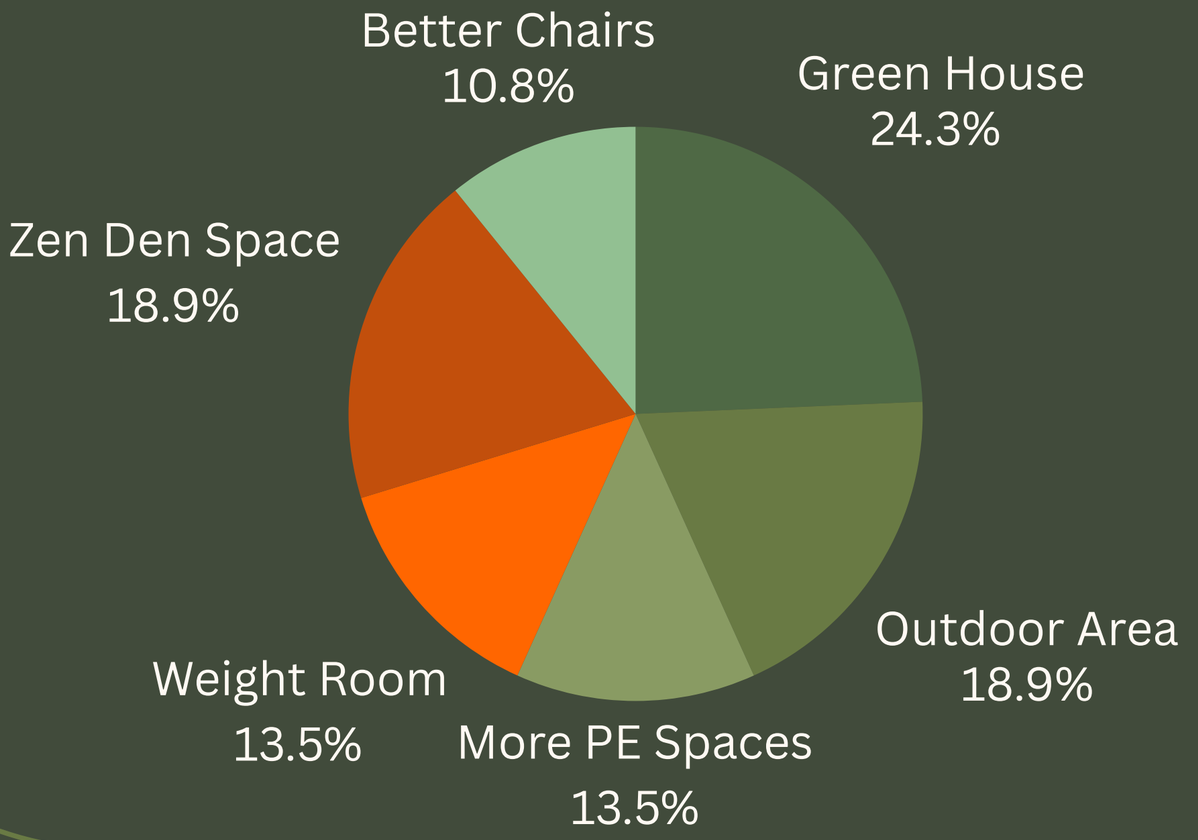
We sent out a survey to all the students and staff at Discovery High School, we got 50+ responses. Here are a few answers that helped influence our design!



SURVEY DATA

If you could add any features to this school what would it be? Why?

There was an overwhelming amount of responses requesting more outdoor space/activities and more exercise elements



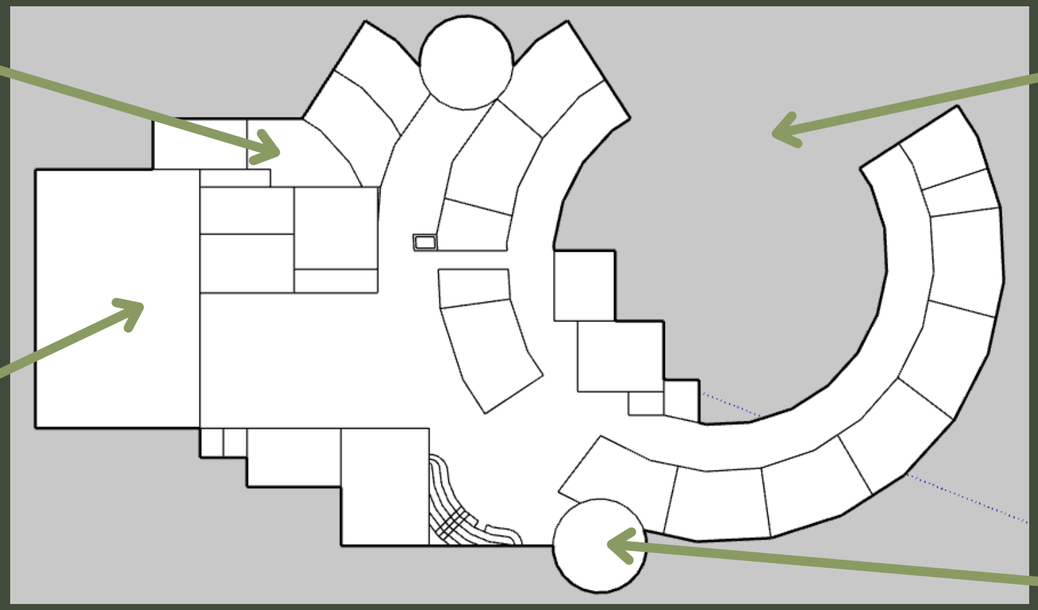
Community benefits

Because of our school's previously mentioned unique location, we knew we wanted to give back to our community. Our school also functions as a public space after hours. This will help in building longevity in helping community members who don’t have students going to schools feel like they are getting benefits from their money. Various community organizations like the Rotary Club, the downtown association, and the Community Chest have mentioned how beneficial access to our spaces would be.

The Amenities

Weight room

Amphitheater

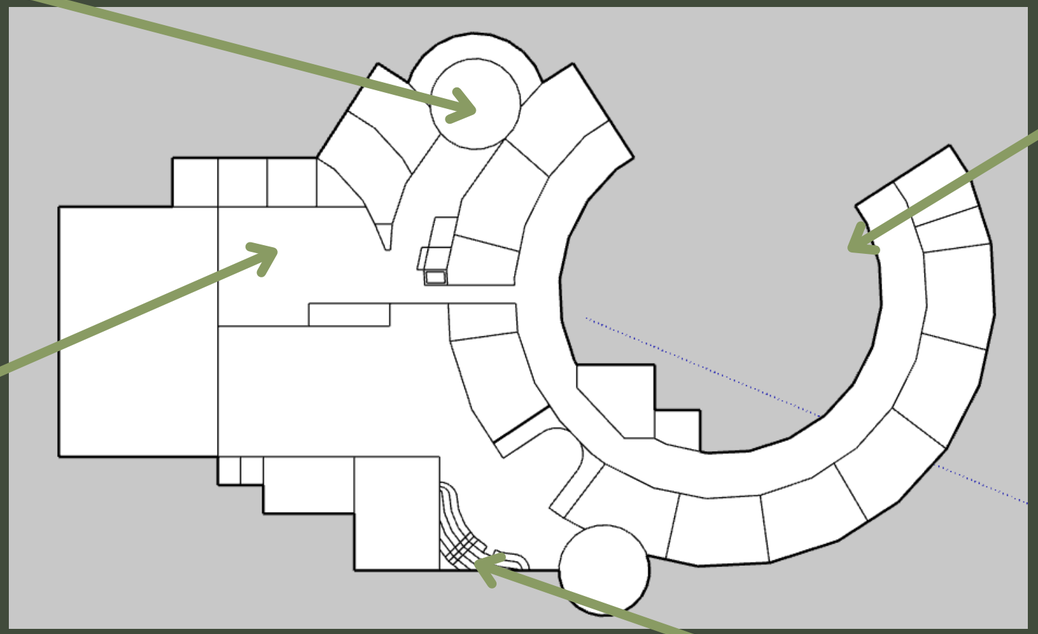


Full gymnasium

Greenhouse

The Amenities

Greenhouse



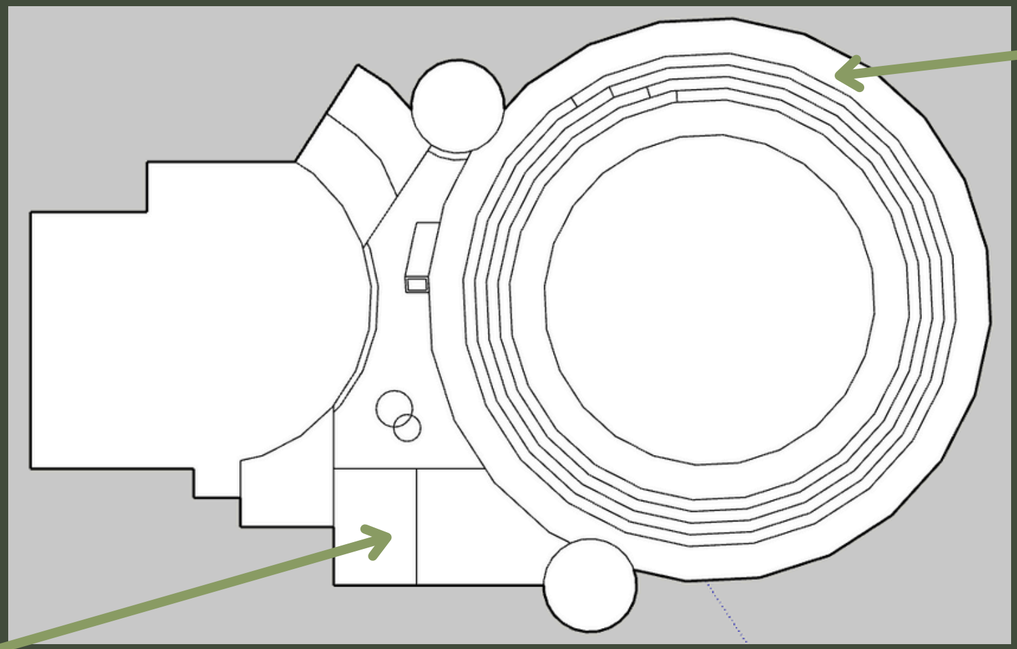
Amphitheater

Student store

Learning stairs

The Amenities

Library

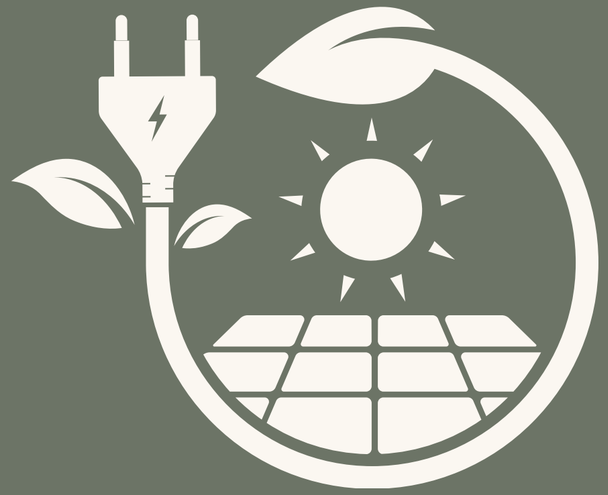


Rooftop Track

Environmental Contribution

A majority of the structure of our school will be made out of Cross-laminated timber. Cross-laminated timber is better for the environment because it removes all the carbon that goes into making steel. We will also be taking advantage of solar panels on parts of the roof of the building. This will reduce energy costs, reduce pollution, and it will showcase the use of solar panels to the community. Every dollar counts, especially when it comes to schools, and the savings from solar panels will allow us to put more money each year into our students and our community.

Sustainability



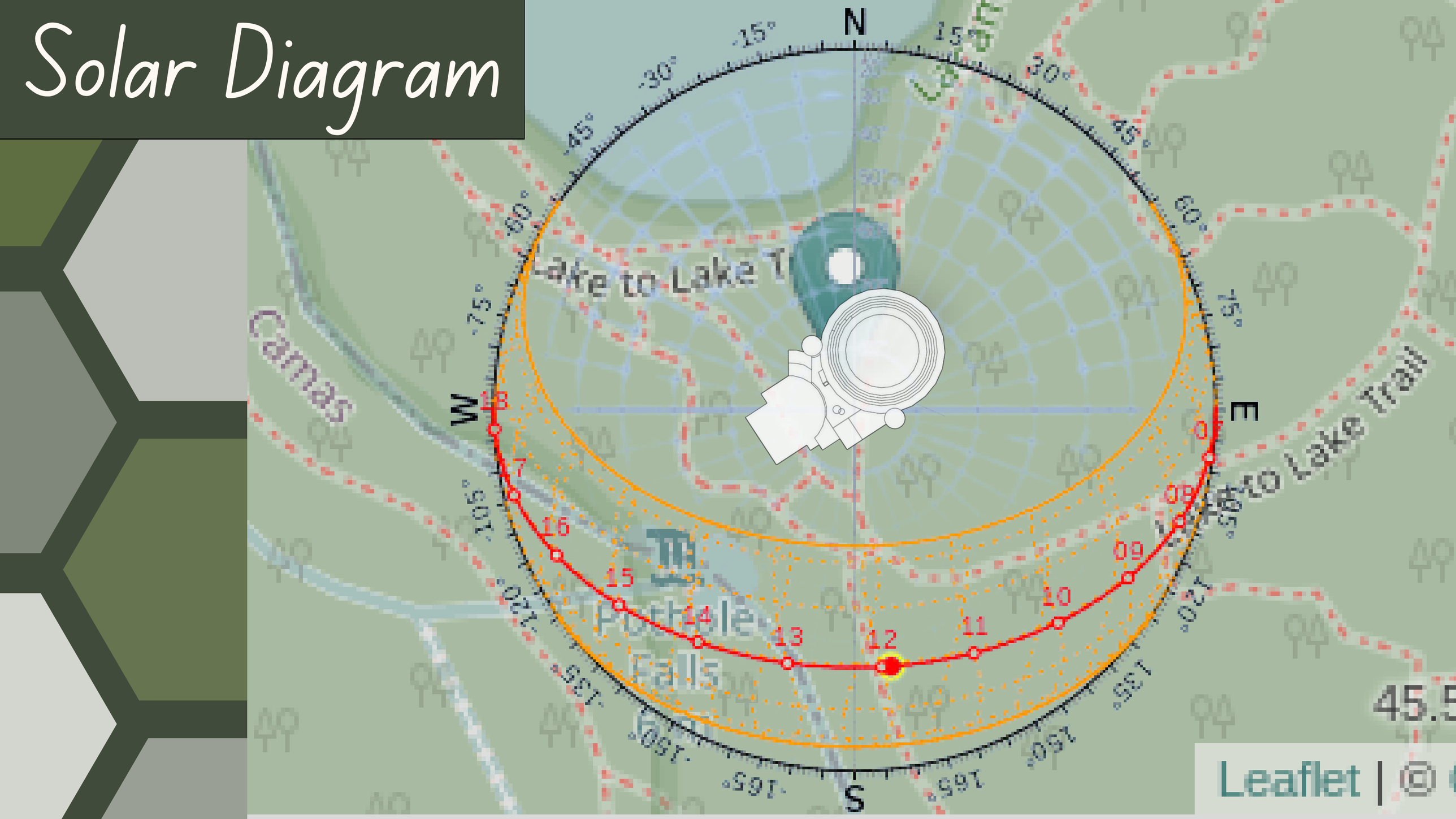
Solar Energy

Energy-Efficient Design

Water Use Reduction

Green Space Integration

Solar Diagram



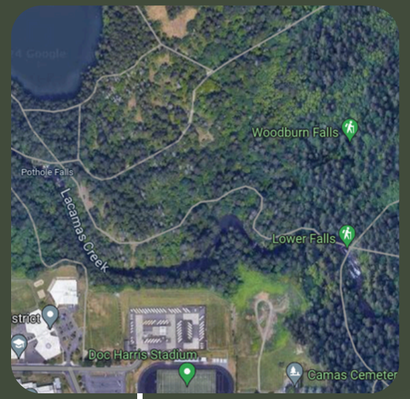
Green House

School greenhouses equip students with conservation, ecological knowledge, and values they will use long after they graduate. This will help continue to connect our students to nature even when it's raining. It’s also a great hands-on learning project as well as will help teach students about responsibility.

Transportation

We will be relocating the former bus barn to a new property. Students will continue to use the same buses as other Camas schools, with some students driving for themselves or their parents. The former bus barn will also feature a parking lot, reducing paving and ecological damage. A unique feature will be introduced: a gondola, which will travel through the forest and serve as a means of transportation for some students to ECO High. A gondola puts out zero emissions versus cars that emit a large amount of pollution. As the gondolas are only in motion when guests are there to be transported, unnecessary energy-consuming empty trips can be avoided. This move will provide an exciting and unique learning experience for students in Camas.

Phase 2



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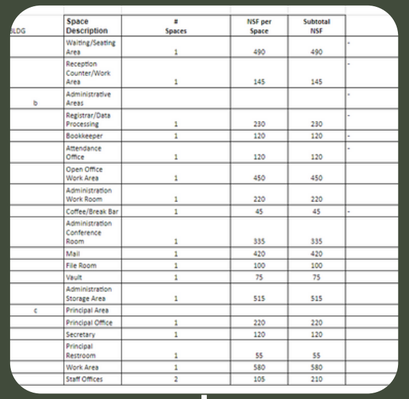

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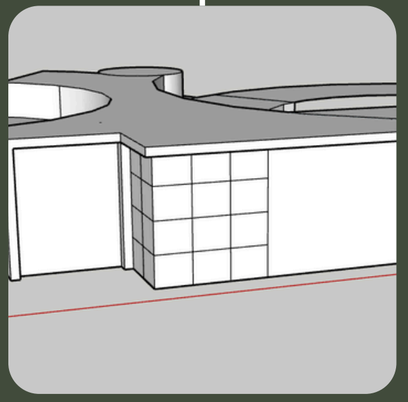

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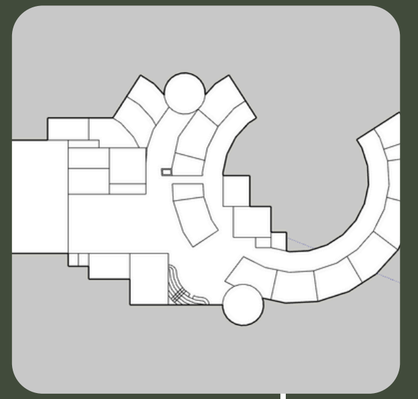


Phase 7: Floor Plan

Inspiration Pictures

Upon seeing these two designs, we wanted to implement their ideas into our design. The first image takes advantage of open space and natural light to create a beautiful warm and welcoming workspace. The second has the same use of open space and natural light but this one is scattered with plants that can help connect a bit more with nature in an indoor environment.

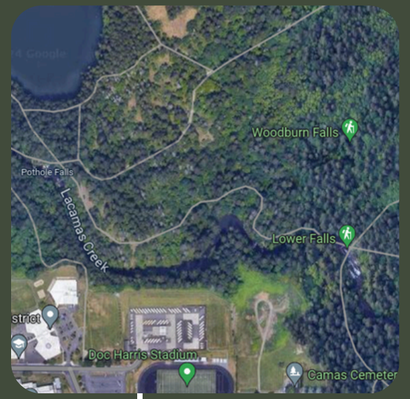
Inspiration Pictures

BE A MONARCH

Color Scheme

Our school mascot is a monarch butterfly, they are commonly found here in Washington forests. The monarch butterfly stands for transformation, resilience, unity, and connection. It also demonstrates the student's ability to fly above expectations. Our color scheme which you can see included the token orange of the monarch butterfly.

Phase 3-4



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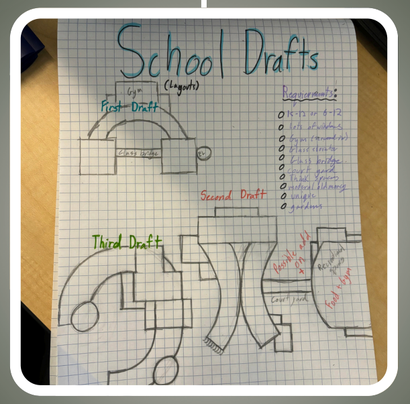

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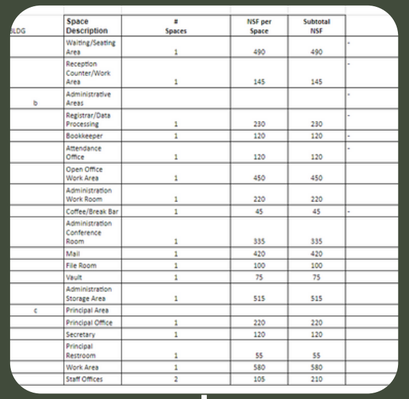

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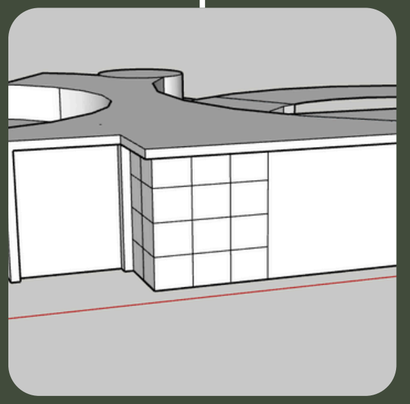

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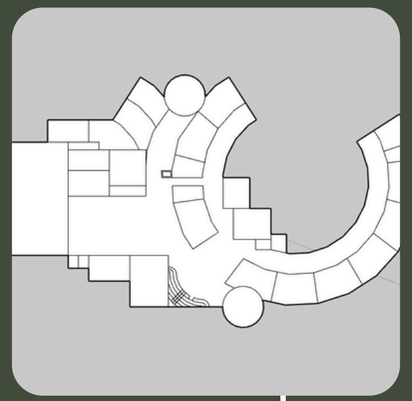

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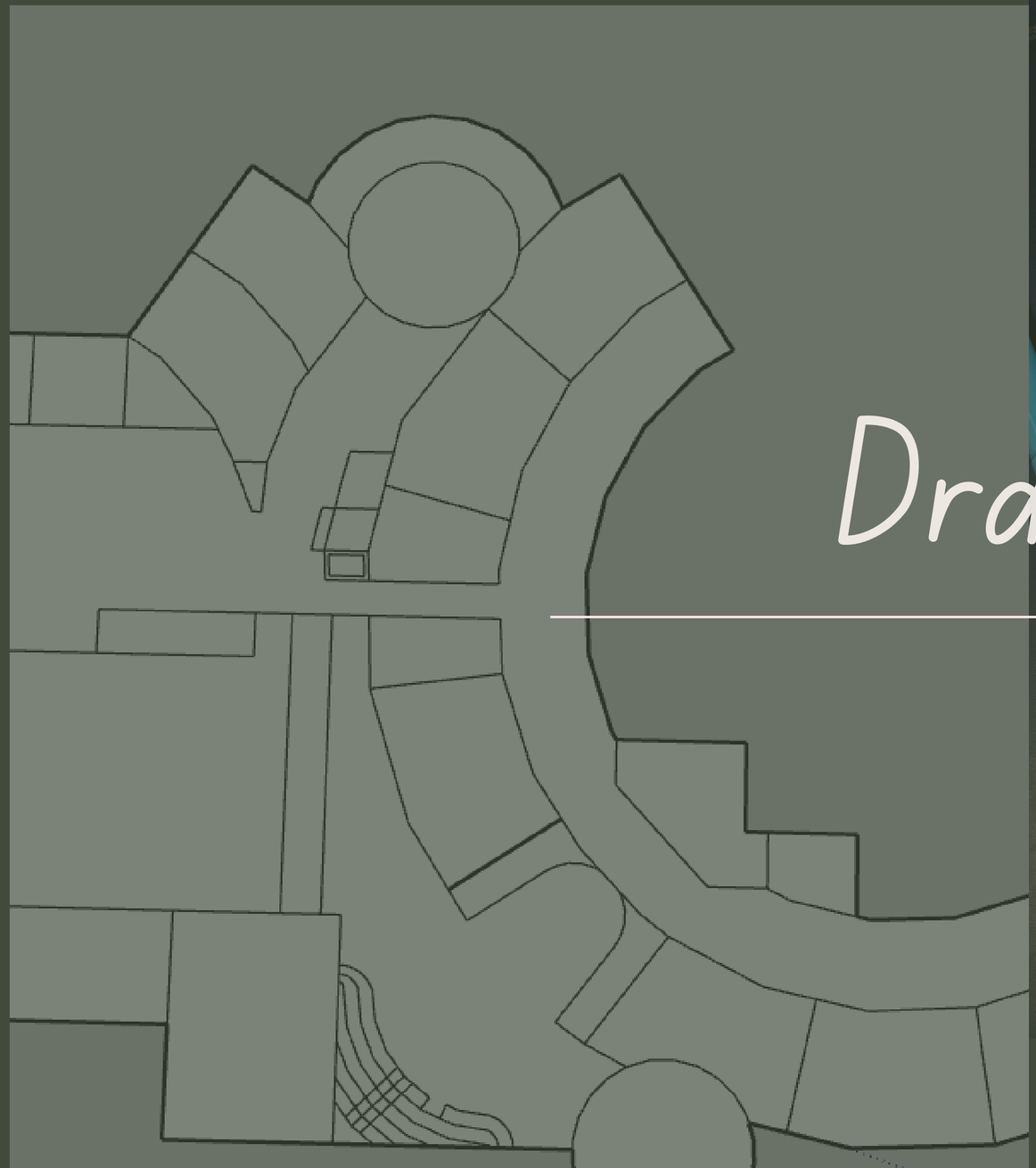
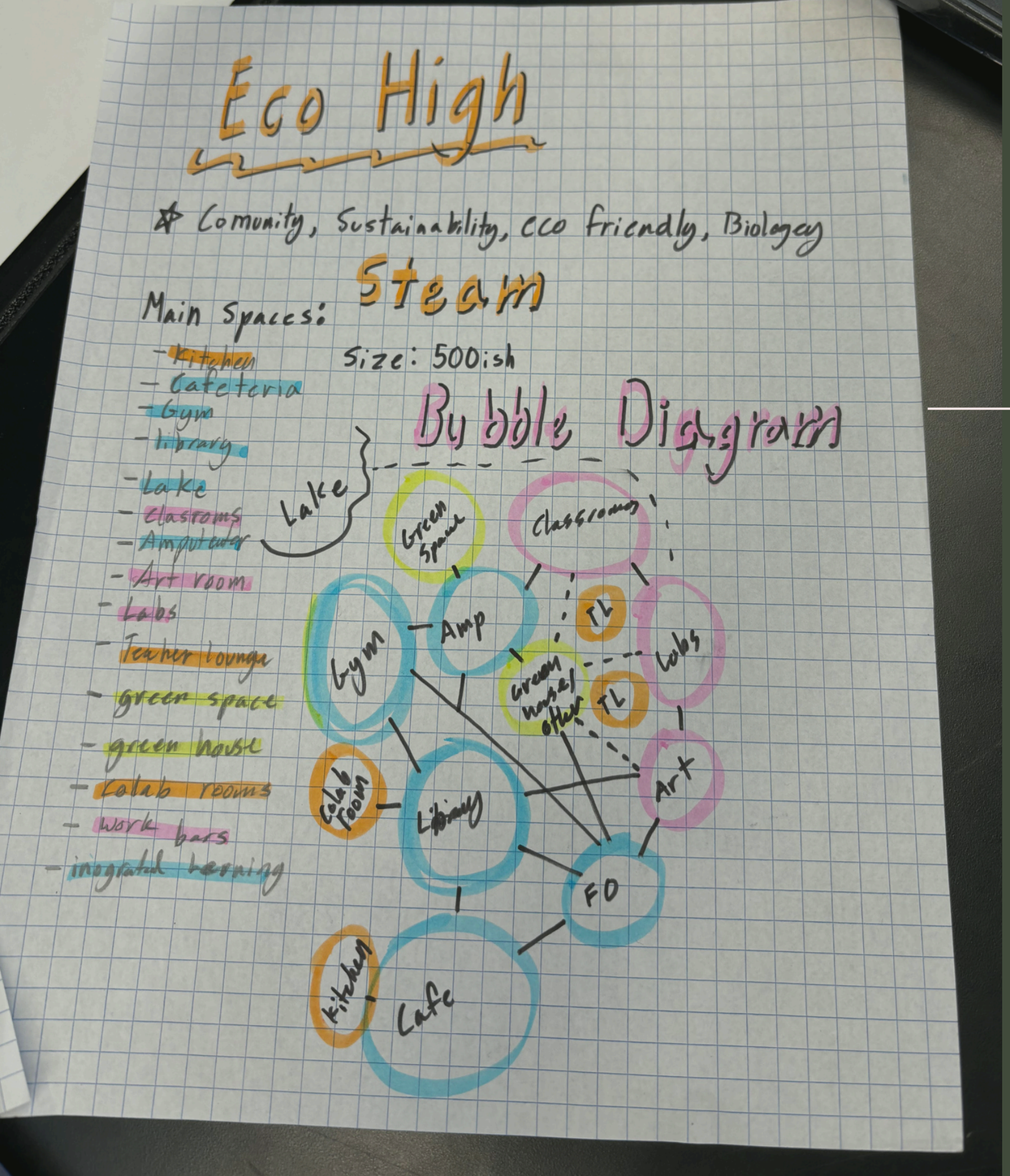
Drafts



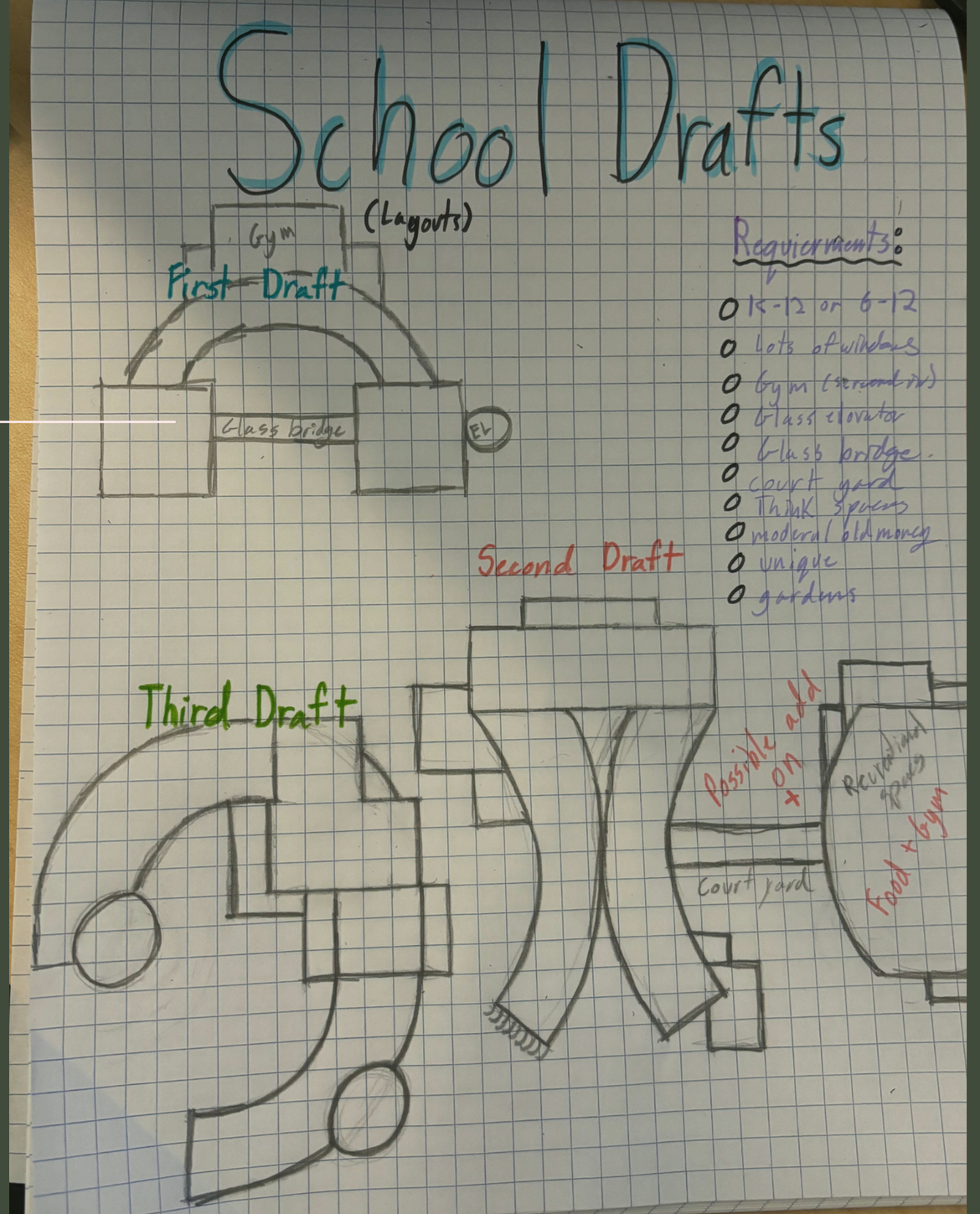


Bubble Diagram

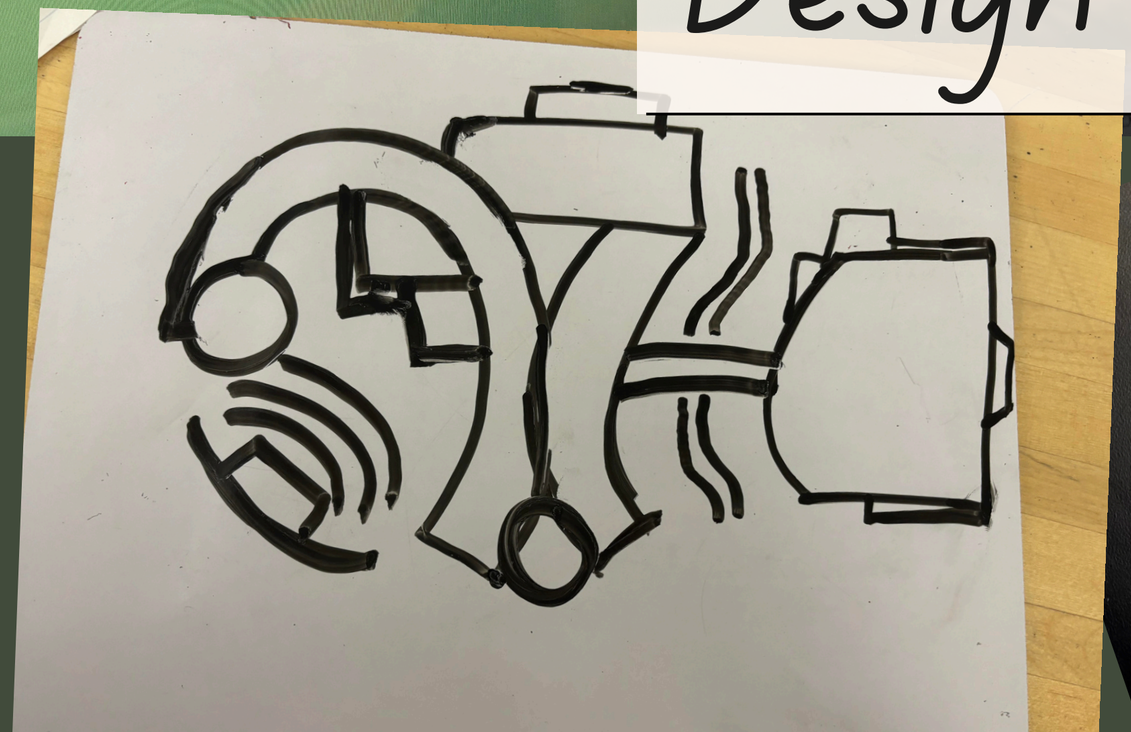
- Classrooms
- Library
- Gym
- Cafateria
- Office

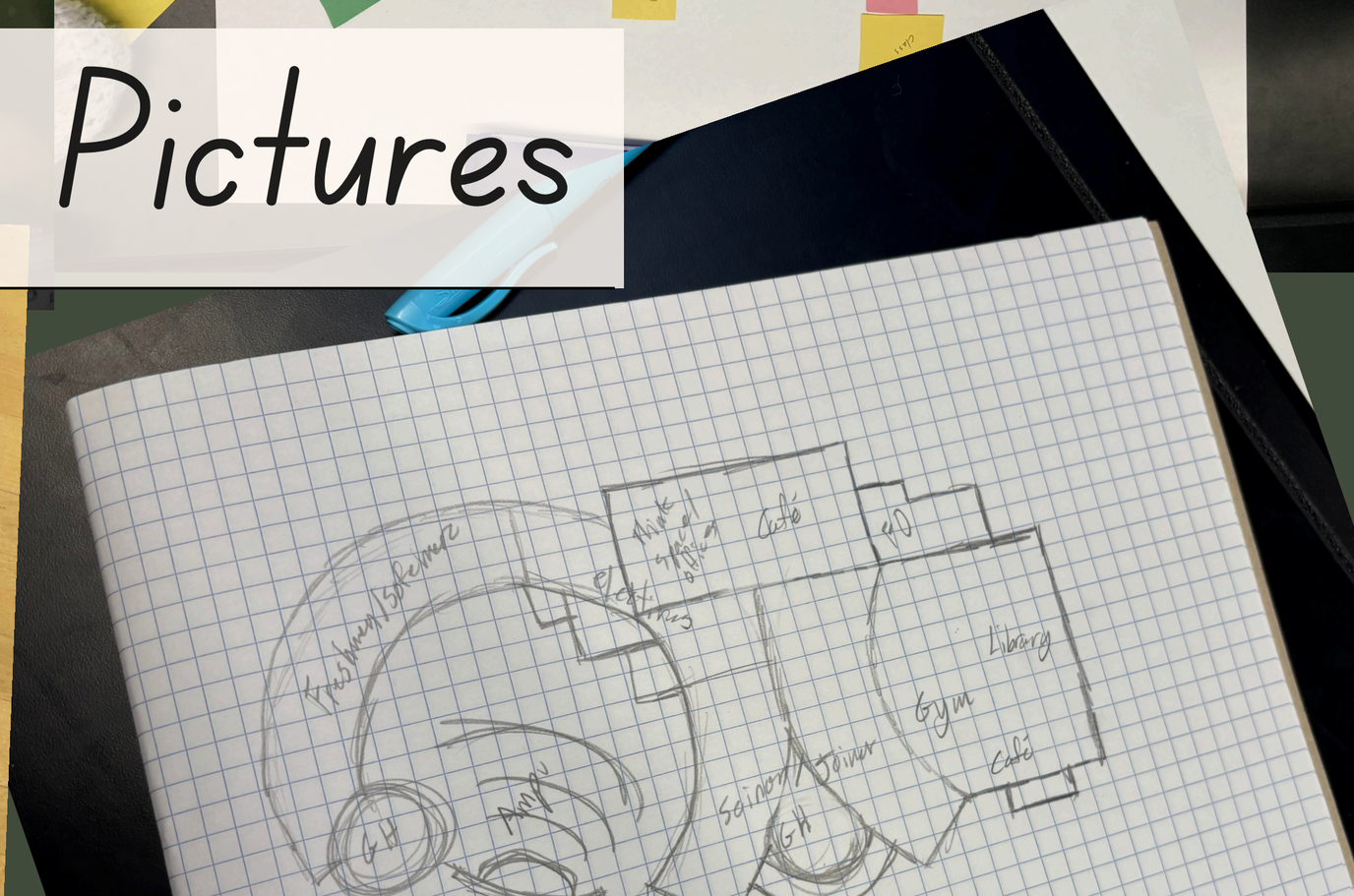
Building Drafts

- Glass Bridge
- Circle shape
- Green house(s)
- Outdoor Space
- Collaboration Space
- Connections to Nature



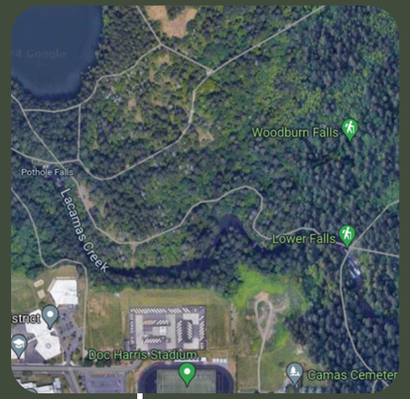
Design Pictures





Design Pictures

Phase 5



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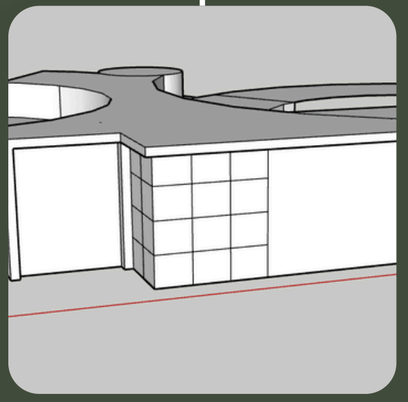
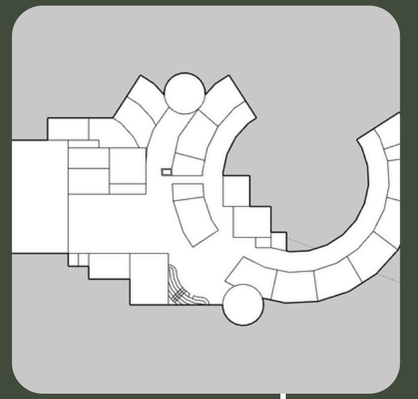


Phase 6: 3D Model



Phase 7: Floor Plan

Program List

BLDG	Space Description	# Spaces	NSF per Space	Subtotal NSF	
	Waiting/Seating Area	1	490	490	-
	Reception Counter/Work Area	1	145	145	-
b	Administrative Areas				-
	Registrar/Data Processing	1	230	230	-
	Bookkeeper	1	120	120	-
	Attendance Office	1	120	120	-
	Open Office Work Area	1	450	450	
	Administration Work Room	1	220	220	
	Coffee/Break Bar	1	45	45	-
	Administration Conference Room	1	335	335	
	Mail	1	420	420	
	File Room	1	100	100	
	Vault	1	75	75	
	Administration Storage Area	1	515	515	
c	Principal Area				
	Principal Office	1	220	220	
	Secretary	1	120	120	
	Principal Restroom	1	55	55	
	Work Area	1	580	580	
	Staff Offices	2	105	210	
	Break Area	1	170	170	
	Storage	1	50	50	-
	Restroom	1	65	65	-
e	Career Exploration Center	1	320	320	*May be subdivided into meeting and office spaces.*
g	Security Areas				
	Office	1	220	220	
	APD	1	120	120	
	Delinquent Hold Room	0			
	CCTV Monitoring Room	1	120	120	
	CCTV Equipment Room	1	90	90	
a	Circulation Desk	1	290	290	*Includes 2 to 3 workstations and countertop layout area*
	Circulation Storage	1	55	55	
b	Main Area				
	Stacks / Reference Collection	1	1,780	1,780	*For about 18,000 volumes*
	Classroom Area/Study Tables	1	1,370	1,370	*36 Seats, minimum*
	Computer Stations	1	450	450	*16 Stations, minimum*
	Reading Alcoves	1	530	530	
	Student Copiers	1	75	75	*1 or 2 copiers*
	Search Computer	1	75	75	*1 Dedicated computer*
c	Librarian's Office	1	170	170	
d	Workroom	1	275	275	*Includes kitchenette*
e	Conference/Seminar Classroom	1	840	840	*Can be subdivided in 2 smaller spaces*
f	General Storage	1	745	745	*Includes IT/AV storage*
g	Graphic Production Classroom	1	475	475	
	Graphic Production Lab	1	250	250	
	Graphic Production Storage	1	110	110	*For shelved items and carts. Provide power and data.*
h	Computer Lab	2	1,305	2,610	
i	Professional Room	1	440	440	
j	Book Room	1	1,830	1,830	*Can be located in Central Administration*
k	Public Toilets	2	230	460	*Also provide convenient access to student toilets from the library.*
a	Entrance / Pre-Function				
	Concessions				
	Public Toilets (multi-stall)	2	300	600	
	Public Toilets (individual)	2	65	130	
b	Theater (outside)	1			

Program List

	Seating	1	5,160	5,160	*450 Seats (including mezzanine)*
	Stage, including Backstage	1	2,900	2,900	*Include proscenium arch with apron.*
	Control and AV Rooms	1	620	620	*Distribute area as required*
f	Dressing Room Toilet		80	160	*Consider 2 more toilet rooms for adults*
g	Make-Up Room		200	400	
o	Telcom	1	185	185	
c	Equipment Storage	1	225	225	*For storage of portable risers, chairs, cart for transporting the risers, and other equipment.*
a	Lobby / Pre-Function	1	3,000	3,000	*Assume 400 occupants at 7.5 SF per occupant.*
	Tickets	1	100	100	
c	Snack Bar	1	340	340	
	Service	1	120	120	*3 compartment sink and mop sink.*
	Dry Storage	1	120	120	
d	Public Toilets (Women/Men)	2	230	460	
e	Public Toilets (Women/Men)	2	325	650	
f	Public Toilet (Family)	1	60	60	
g	Student Toilets	2	325	650	
h	Ice and Laundry Room	1	150	150	
i	Athletic Director's Office	1	150	150	
	Athletic Director Storage	1	75	75	
j	Conference Room	1	230	230	
k	Open Office Area	1	900	900	*For athletic coaches. Assume 60 SF per workstation; verify number of required workstations during programming phase.*
	Huddle Room	1	120	120	*More than 1 huddle room may be recommended based on number of open workstations.*
	Restrooms for Open Office	2	65	130	
l	Private Offices	2	120	240	*For PE instructors.*
	Private Office Storage	2	100	200	
	Private Office Restrooms	2	75	150	
m	Main Gym	1	12,210	12,210	
	Main Gym Storage	2	315	630	*1 Storage area is for competition wrestling mats, and the other storage area is for tables, chairs, and equipment.*
	Main Gym AV Room	1	75	75	
	Coach's Shower Room	1	85	85	
	Student Shower Rooms	2	85	170	
	Multi-purpose Mezzanine		2790	2790	
	MP Mezzanine Storage	1	300	300	*For ping-pong tables and other MP equipment.*
	Mezzanine General Storage	1	245	245	
s	JROTC	1	2,600	2,600	*Could be located in Business + Leodership Academy. Includes air rifle firing range.*
	Classroom	2	600	1200	*Can be combined for one classroom space*
	Offices	2	120	240	
	Drill Storage	1	175	175	*Includes laundry area.*
	Uniform Storage	1	250	250	
	Train Aids Storage	1	200	200	
	Restrooms (girls/boys)	2	60	120	

Program List

	Main Gym Storage	2	315	630	*1 Storage area is for competition wrestling mats, and the other storage area is for tables, chairs, and equipment.*
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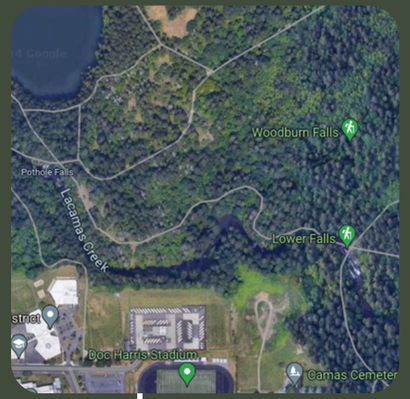
	Restrooms (girls/boys)	2	60	120	

	Restroom (staff)	1	60	60	
t	PE Locker Rooms (girls/boys)	2	2,945	5,890	
	PE Storage (Interior)	1	300	300	
	PE Storage (Exterior)	1	150	150	
	Dressing Rooms	2	75	150	
	Storage	1	150	150	
z	MP Room #2 (Club Room)	1	3,500	3,500	
	Office	1	140	140	
	Storage	1	190	190	
aa	Janitor Closet	2	100	200	
bb	Telecom/IT	2	165	330	
b	Activitives Room	1	840	840	
a	Lobby/Waiting	1	540	540	*6-10 seats*
b	Health Assistant	1	65	65	*Open workstation at reception counter*
c	Cot and Triage Area	1	330	330	
d	ISP Cot and Triage Area	1	225	225	
e	Nurse's Office	1	120	120	
h	File Room	1	105	105	
i	Storage	1	360	360	
j	Special Needs Changing Room	1	95	95	*Include washer, dryer, and changing table*
k	Toilet	2	60	120	*With shower?*

Special Guests

During our design process, we had the opportunity to meet with several professionals. First, we met with a civil engineer who discussed rainwater and site requirements. Then we also met with an HVAC and electrical engineer. We took all the info we learned and applied it to our site-building. It was so interesting to work with a civil engineer to learn about the bioswales and rainwater collection on our site as we are right next to a lake. We also had the chance to work with a professional architect throughout our whole design process.

Phase 6



Phase 1: Choosing Site Location

Phase 2: Inspiration

Phase 3: Bubble Diagram

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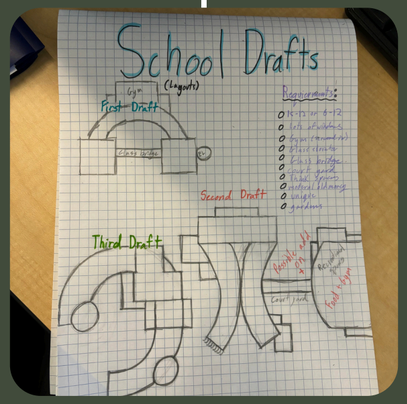
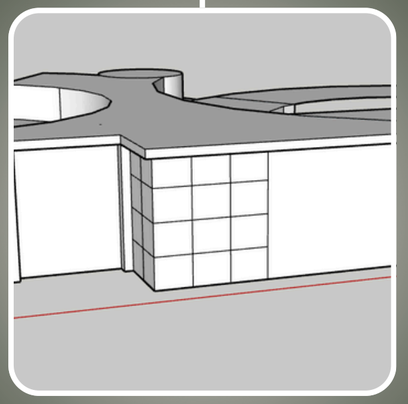
	Administration Conference Room	1	335	335	
	Mail	1	420	420	
	File Room	1	100	100	
	Vault	1	75	75	
	Administration Storage Area	1	515	515	
c	Principal Area				
	Principal Office	1	220	220	
	Secretary	1	120	120	
	Principal Restroom	1	55	55	
	Work Area	1	580	580	
	Staff Offices	2	105	210	

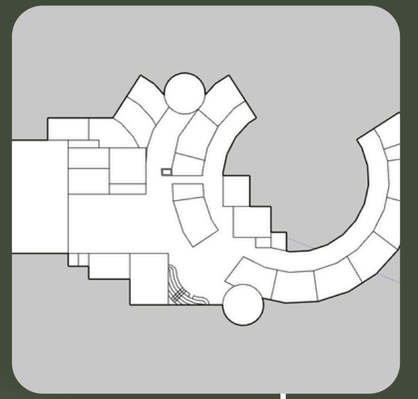
Phase 4: Building Drafts



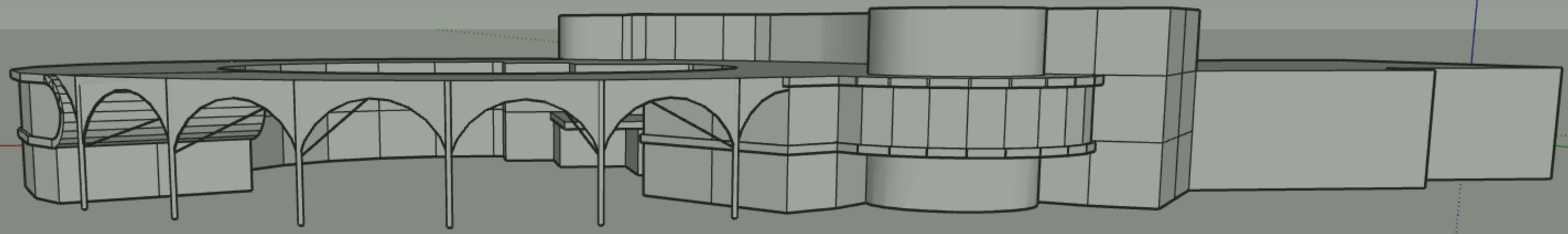
Phase 5: Program List



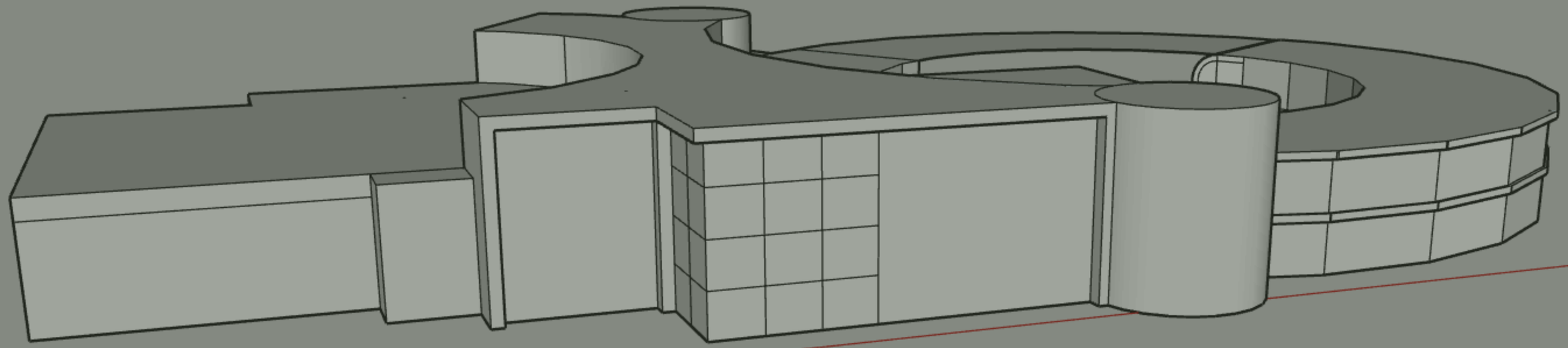
Phase 6: 3D Model



Phase 7: Floor Plan



SKETCH UP MODEL



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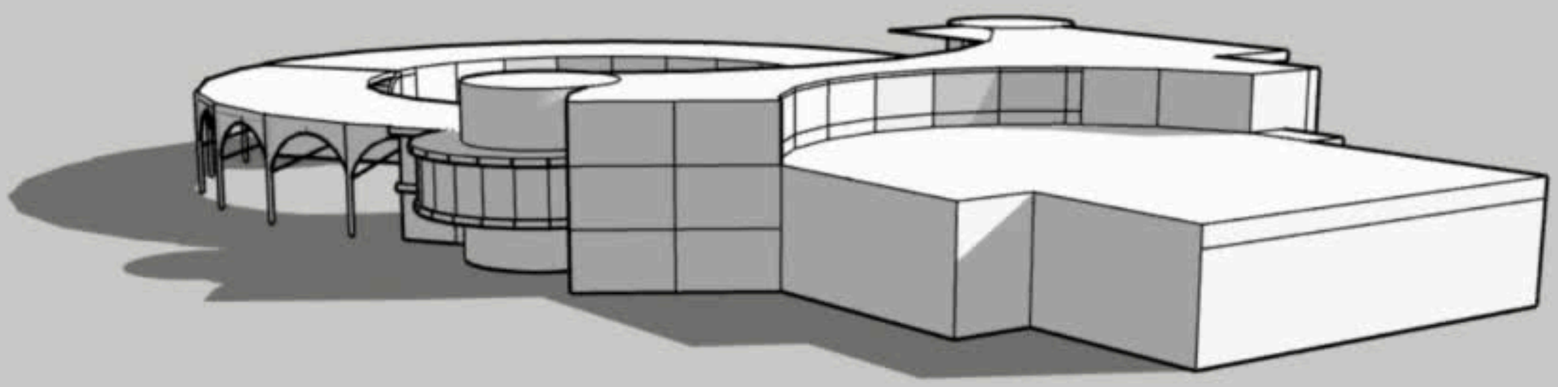
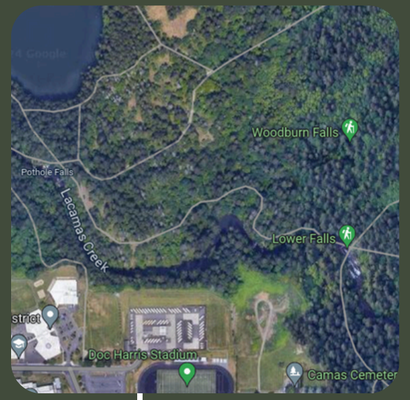


Phase 7



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	Staff Offices	2	105	210	

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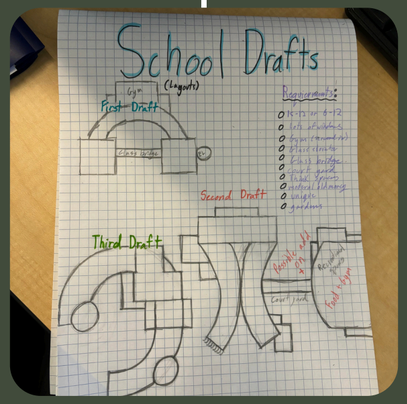
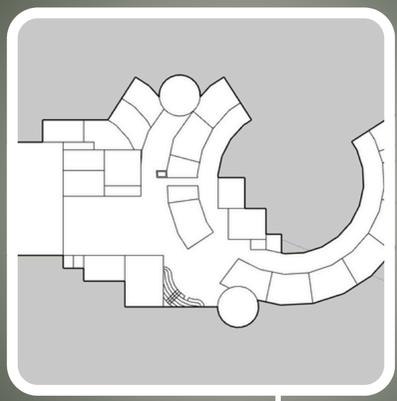
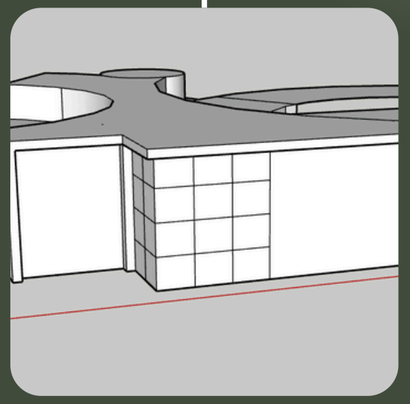


Phase 5: Program List



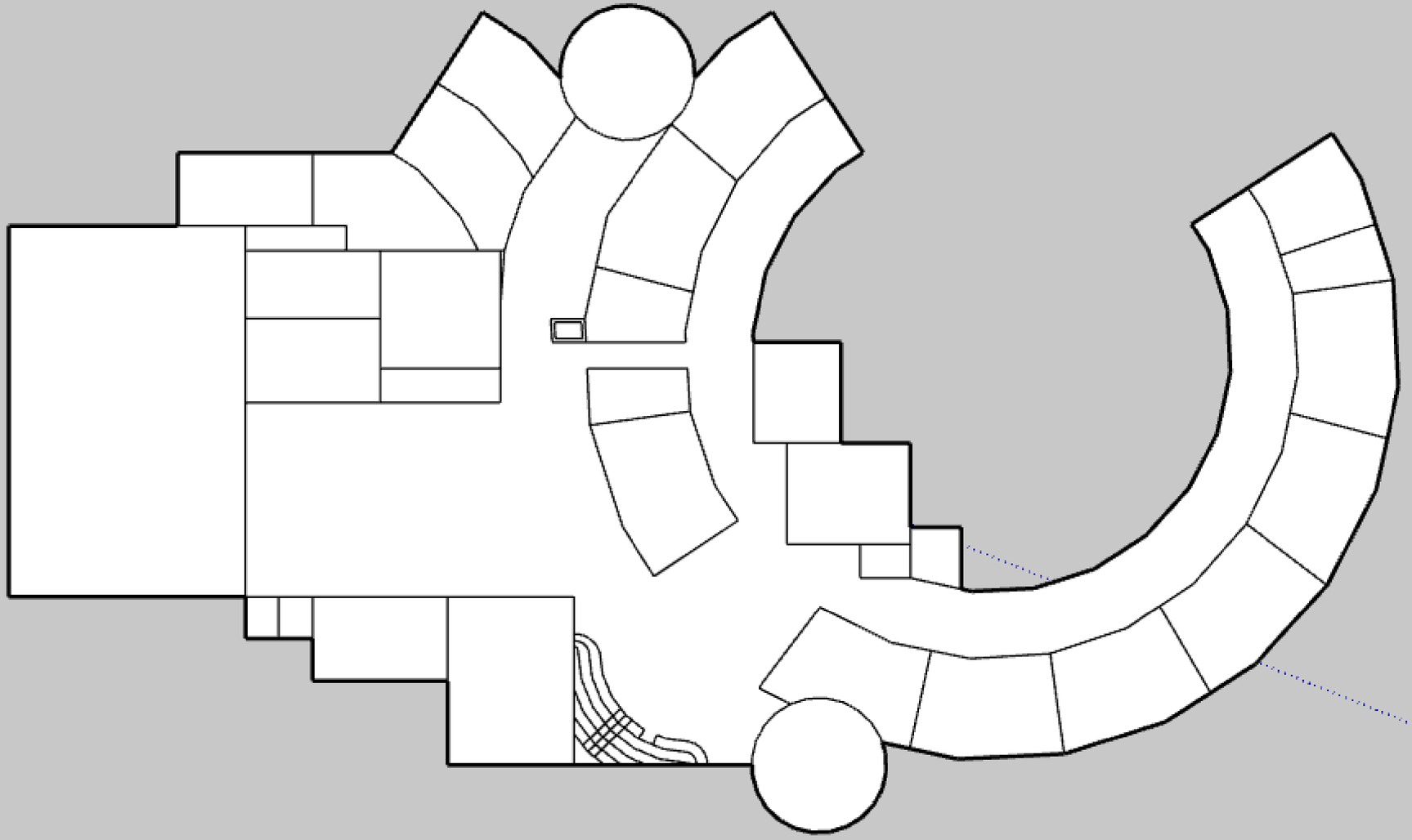
Phase 6: 3D Model



Phase 7: Floor Plan

FLOOR PLANS

FLOOR 1



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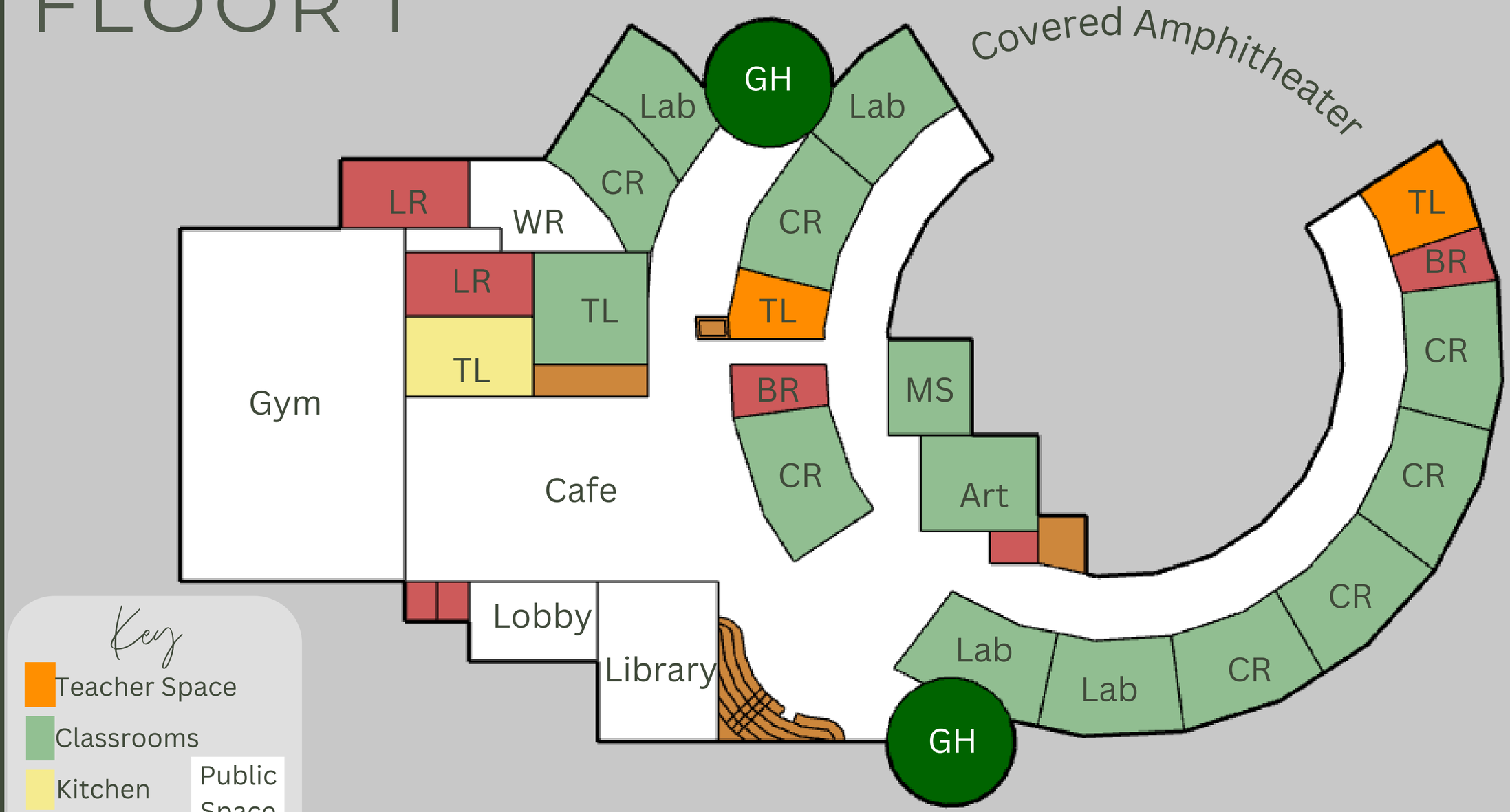
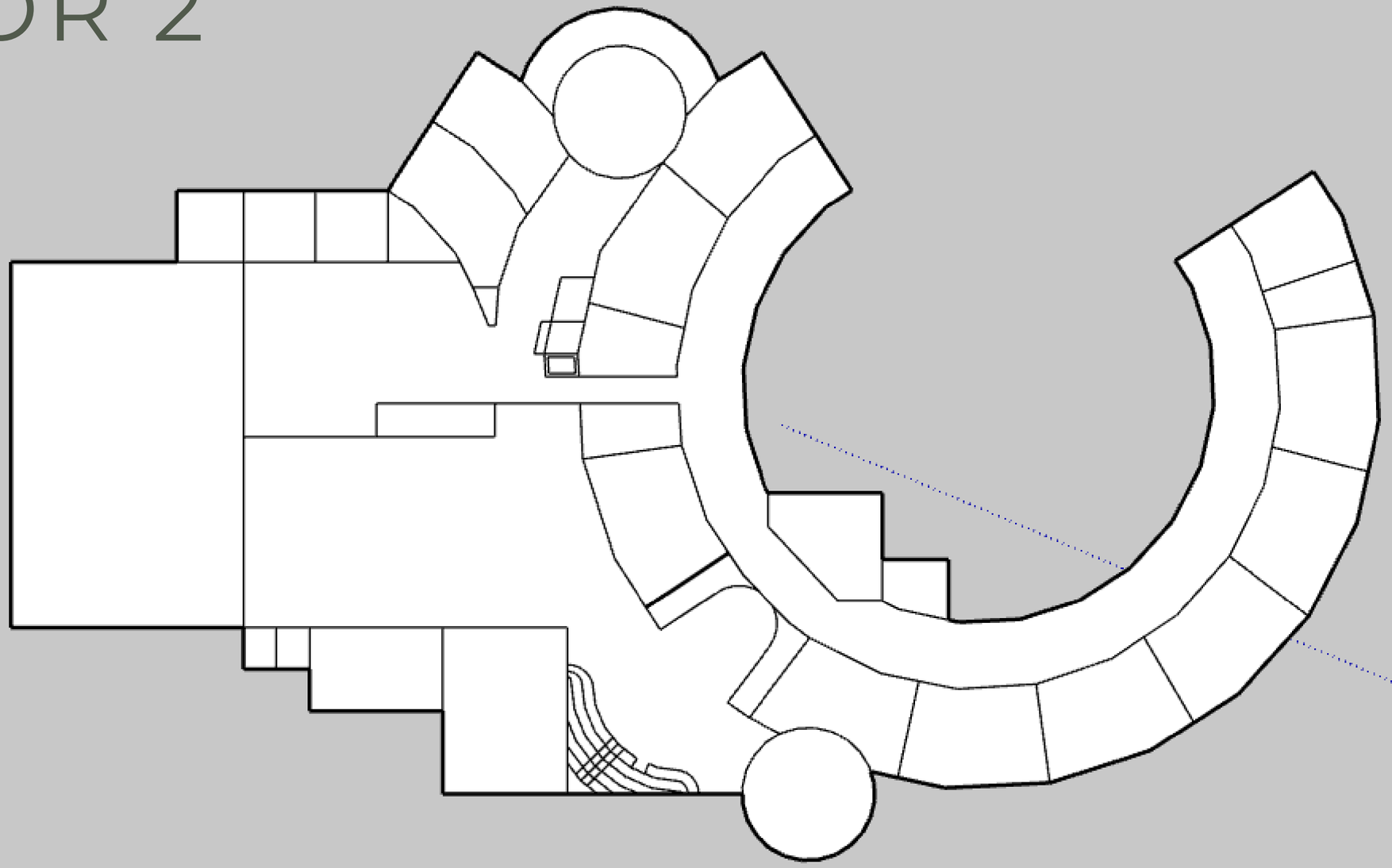

Covered Amphitheater
GH
Lab
Lab
CR
CR
LR
WR
LR
TL
TL
TL
Gym
BR
CR
MS
Art
Cafe
TL
BR
CR
CR
CR
CR
Lab
Lab
CR
Lobby
Library
GH
Key
Teacher Space
Classrooms
Kitchen
Bathrooms
Public Space

FLOOR 2



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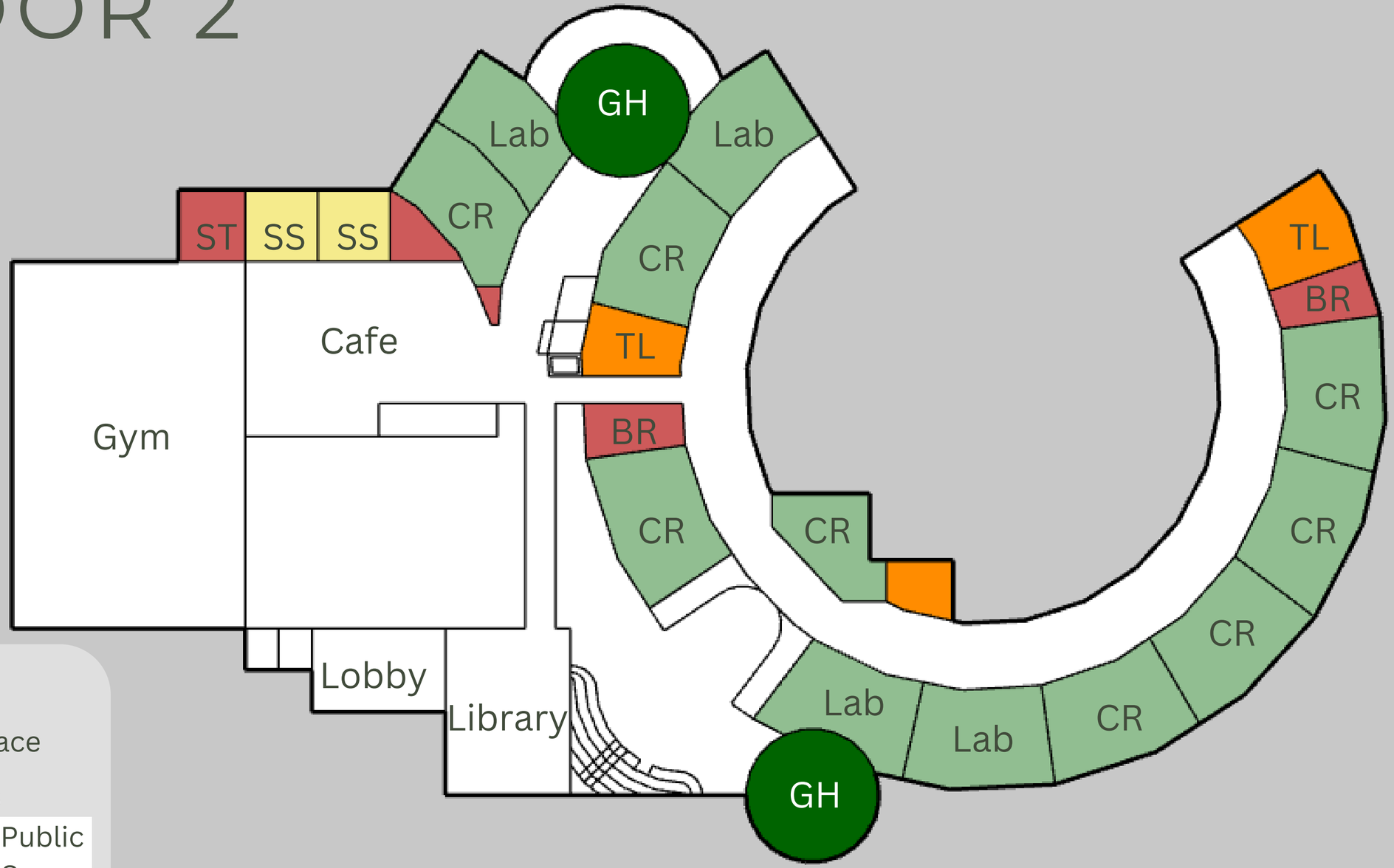
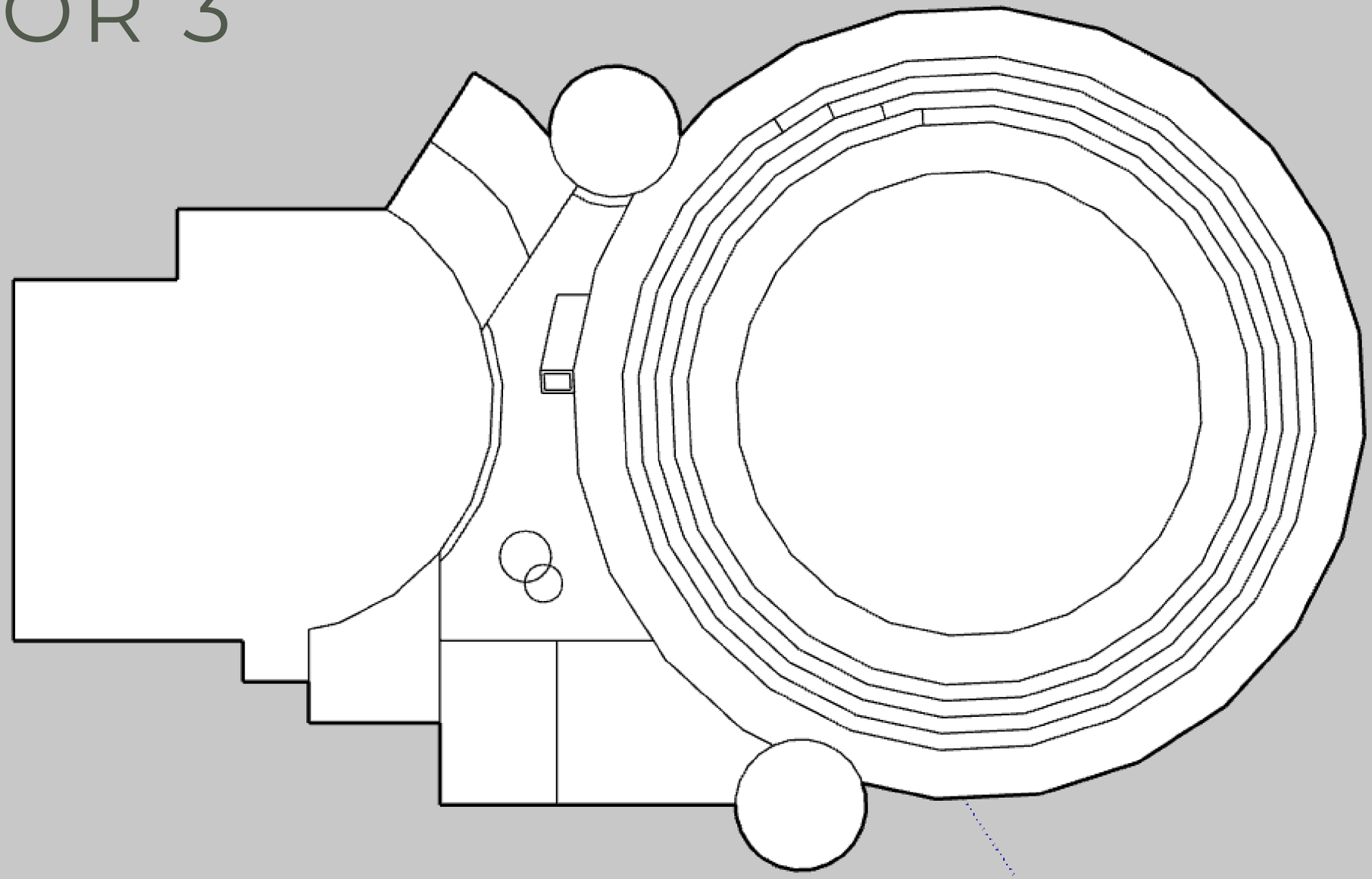


Key

- Teacher Space
- Classrooms
- Kitchen
- Bathrooms

Public Space

FLOOR 3



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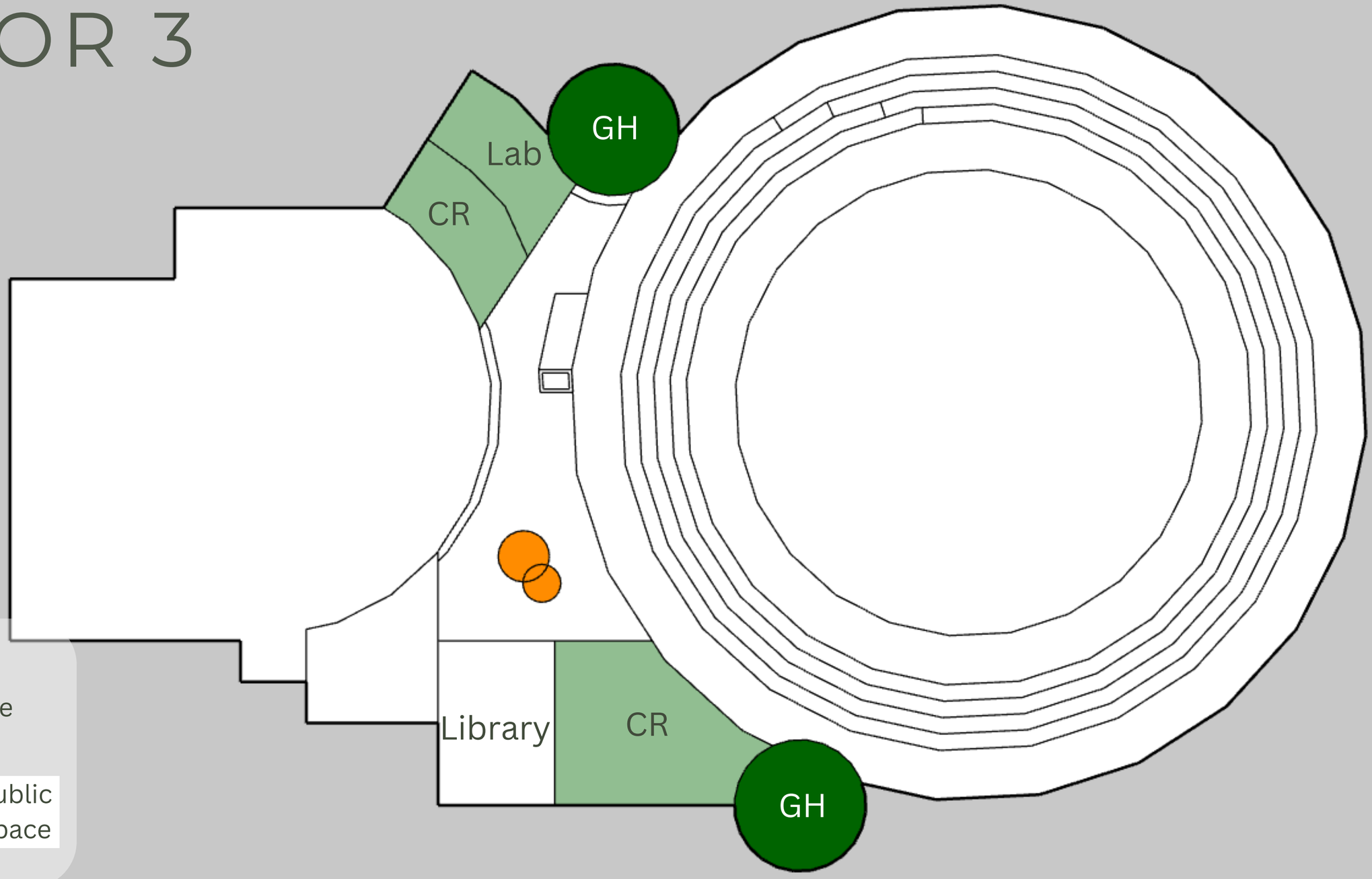

Key

- Teacher Space
- Classrooms
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- Bathrooms

Public Space

CORE CLASSROOMS

UNIQUE FEATURES

The hexagon tables alow for many different table shapes and maximizes collaboration

CORE CLASSROOMS

UNIQUE FEATURES

Many classrooms have different areas so they can change up their learning space

Whiteboard walls are one of the main features of our school, It is an amazing learning tool and is excellent for math/planning work

Students can choose alternative seating spaces depending on what works for them

There is storage in every classroom and especially more in science labs

All classes have an outdoor view to their unique surroundings

ECO
High School
SchoolsNEXT