

MOUNT SI HIGH SCHOOL
Snoqualmie, WA

EXECUTIVE SUMMARY

MOUNT SI CHALLENGE: ELEVATE THE CAMPUS PHYSICALLY, EDUCATIONALLY, & EXPERIENTIALLY

DESIGNING FOR RESILIENCE

Located in the flood-prone Snoqualmie River valley, Mount Si High School is a beacon of resilience. The physically elevated campus creates a wealth of opportunities—educationally and experientially—in a future-oriented learning environment. Seven connected school buildings are composed on a created ground plane lifted above the native grade on piers so that flood waters flow unobstructed, neither damaging the buildings nor interrupting academic functions. Rather than employ a large scale, centralized regional high school typology, the learning environments are organized as small student-centric learning communities with multiple academic and social nodes. The added flexibility of the programmatic response makes the school relevant for decades, achieving programmatic resilience. Biophilic design principles intertwine architecture and landscape to achieve welcoming, natural, human-scale spaces throughout the entire elevated campus.

PERFORMING ARTS CENTER



MOUNT SI CHALLENGE: ELEVATE THE CAMPUS

EXTRAORDINARY CHALLENGES AND OPPORTUNITIES

- Managing the inevitability of flooding with resilient design principles.
- Honoring a highly aspirational educational vision for integrated learning.
- Mitigating the impact of the building's large scale on learning.



SCOPE OF WORK & BUDGET

CONTEXT

The campus provides a window into and visually reflects nature. With views of Mount Si and Rattlesnake Ridge, the natural landscape permeates the site experience. The architecture and interiors engage with the environment in different ways at every turn. The rugged appearance of Mount Si is reflected in the texture of the building materials.

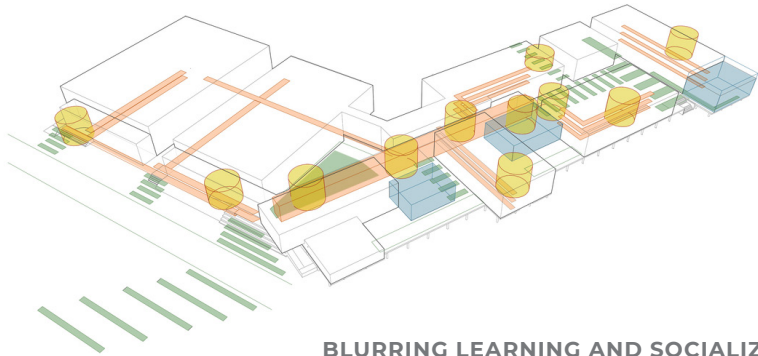
VISION FOR PROGRESSIVE LEARNING

The design team worked with the District, community, staff, and students to explore ideas for a progressive high school to serve their immediate and long-term futures. A vision for a campus of small learning communities emerged, creating a student-centered environment for 2,300 students that addresses their physical, emotional, and educational needs.




MITIGATING THE LARGE SCALE

The rebuilt school is approximately 50% larger than the previous school. The District wanted to ensure that students can find their "place" and build strong relationships with each other, staff, and the environment. Mitigating the scale was achieved through programmatic and design solutions. The architecture became a series of interventions that humanize the occupants' daily experience:

- Three-story pavilions create interdisciplinary academies with a more personal feel.
- In lieu of a single large cafeteria, three separate, smaller, dining spaces with balconies distribute foodservice throughout the campus.
- The flow of spaces, formal and informal, blurs the line between learning and socializing.
- Connections to views, landscape, and outdoor experiences permeate the campus.



BLURRING LEARNING AND SOCIALIZING

-  Distributed Cafeterias
-  Nodes of Informal Learning
-  Outdoor Gathering Spaces

Design Capacity:	2,300 students Future Addition can accommodate 500 more students
Building Area:	358,000 sf Previous building was 225,000 sf
Below Building Covered Parking:	190,338 sf
Total Project Cost:	\$208 Million
Construction Cost:	\$172 Million (3 contracts)



Parking Garage below elevated platform (shown in red)

SCHOOL & COMMUNITY ENGAGEMENT

RESULTING VISION: The physical environment should be ahead of current pedagogies to create a school that can evolve over many decades and still remain relevant and fresh.

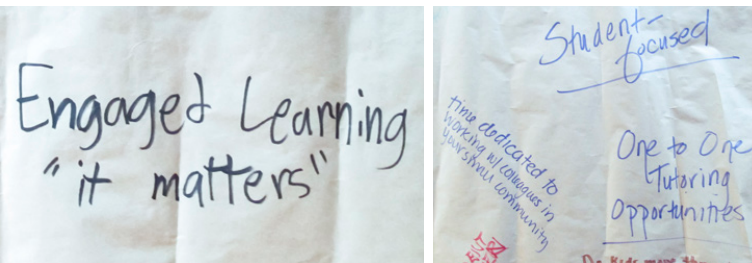
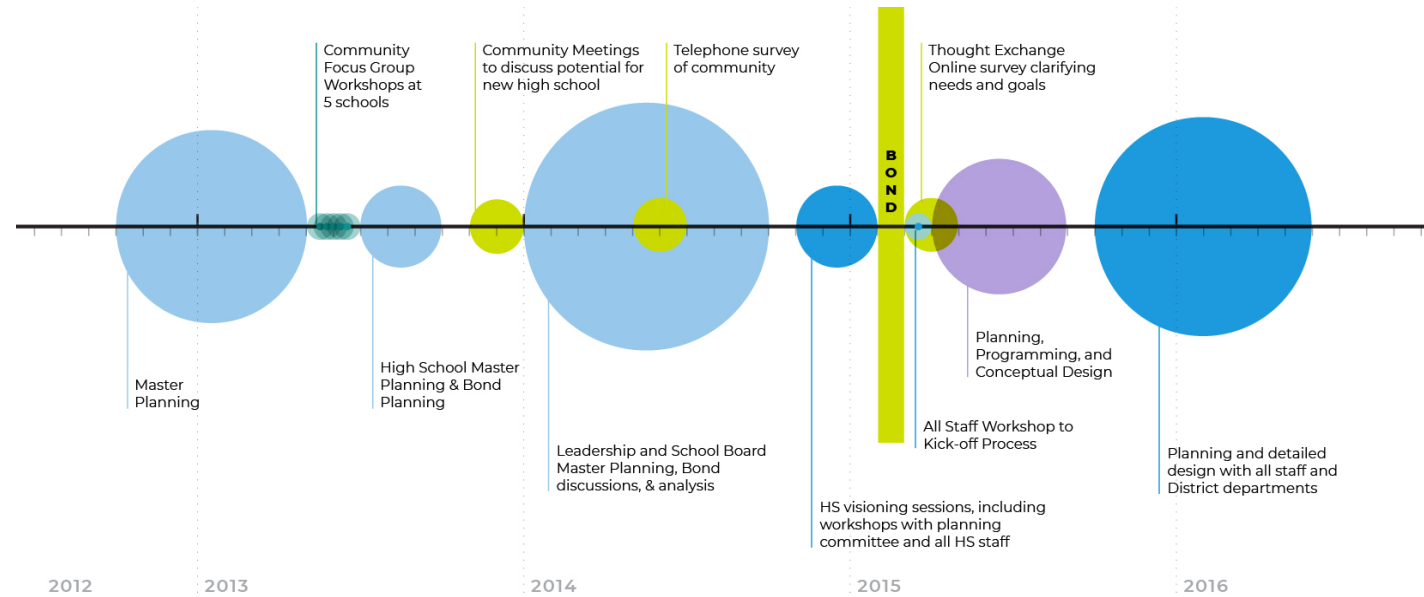
PROCESS CHARACTERISTICS:

- Large Groups
- In-Person and Surveys
- Readiness to Think Big
- Explored Pedagogies

PARTICIPATING GROUPS

- District Leadership and School Board
- Planning Committee and all HS Staff
- Community
- Community Focus Groups
- Architect Team

Circle sizes indicate length of a particular type of community engagement.



A STUDENT CENTERED ENVIRONMENT

Interdisciplinary Learning \ The planning committee wanted to break down barriers between departments, fostering interdisciplinary collaboration and strong connections between groups of teachers and cohorts of students. This resulted in Small Learning Communities organized as multi-disciplinary academies.

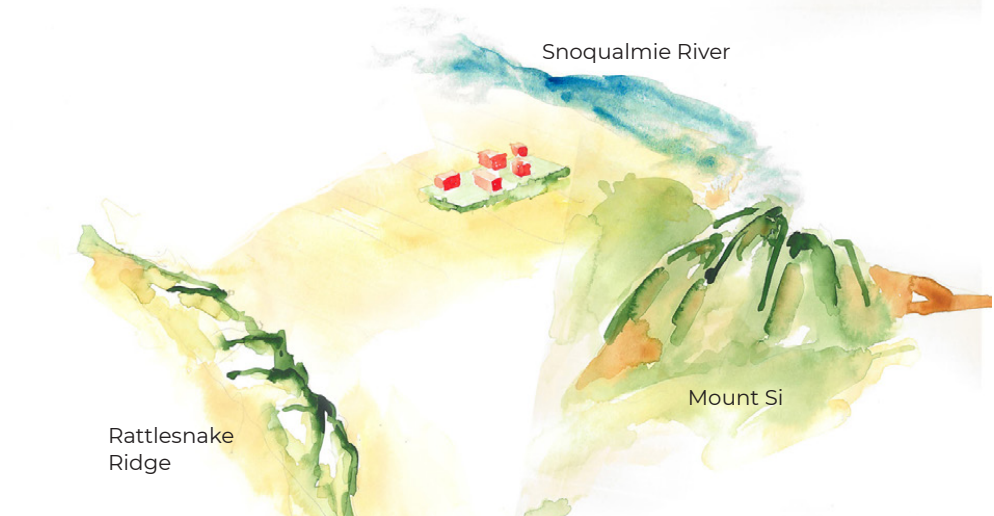
Library as a Synergistic Research Hub \ The library was re-imagined as a hub for research in a broad sense—through reading and through doing. It is a destination for many purposes, during the school day and after school. It links other programs and spaces that have “common cause.”

Career Technical Education as a Collaborative Showcase

\ The core Career and Technical Education (CTE) spaces were to accommodate new and changing programs offered as engaging opportunities. Linking multiple spaces together to create interdisciplinary connections was desired.

Cafeteria Space Inclusive and Scaled for All

\ Meal times are key times for socializing, so it was critical to develop comfortable, engaging, and still easily supervised spaces for eating. One gigantic cafeteria was anathema to serving all students’ needs. Therefore, three cafeterias, each with balcony and other seating options, were developed to support extroverts, introverts, individuals, and groups.



Mount Si texture

PHYSICAL ENVIRONMENT

RELATIONSHIP TO MOUNT SI & RATTLESNAKE RIDGE

Located in Snoqualmie Valley near historic downtown Snoqualmie, Mount Si High School faces Mount Si to the east and Rattlesnake Ridge to the south, making the campus the third large-scale element in the valley. Mount Si High School is the sole high

school and an important cultural center for the Snoqualmie Valley School District community which encompasses 400 square miles, three cities, and over 7,000 students.

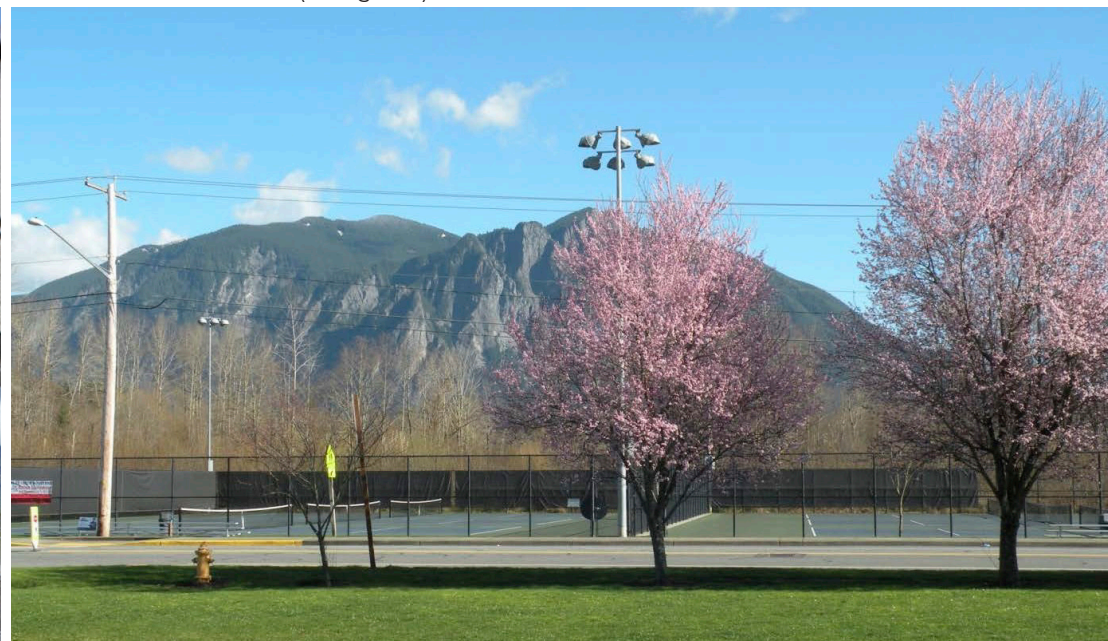
View from athletic fields



View from rooftop greenhouse



View from site to Mount Si (facing east)





ELEVATING THE CAMPUS PHYSICALLY — Enhancing Resilience & Long Term Sustainability

The community has co-existed with the seasonally flooding Snoqualmie River for generations and wanted to rebuild within the floodway, but do so with eyes wide open.

Elevating the building on piers protects the school by allowing flood waters to flow unobstructed below. Lifting the school above the 400-car parking provides elevated outdoor space, a more secure campus, and expansive connections to the spectacular natural context.



Last major flood on the site in 2009.

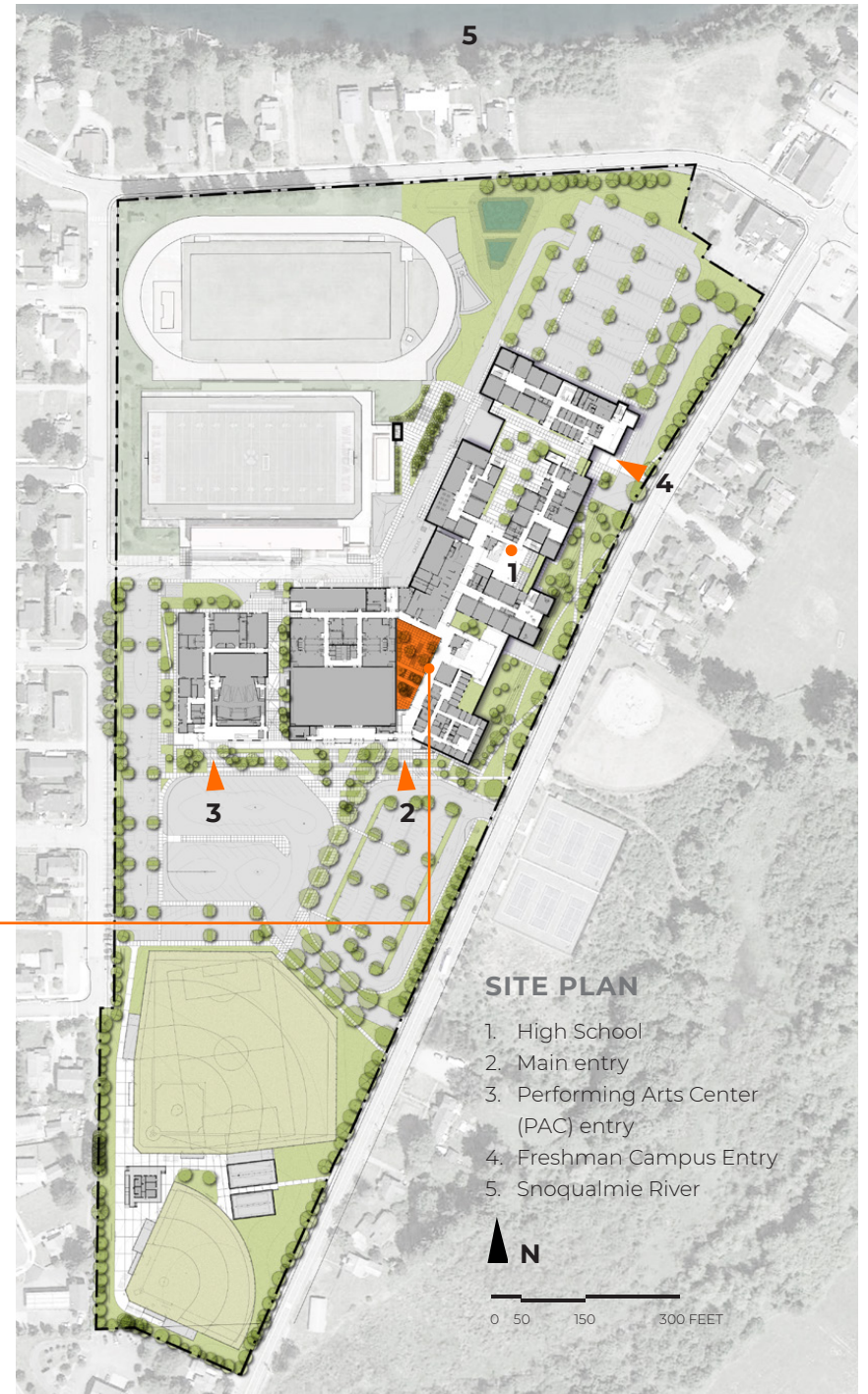


Simulation showing school resilience.



Lunch area extends inside and outside.

SITE PLAN



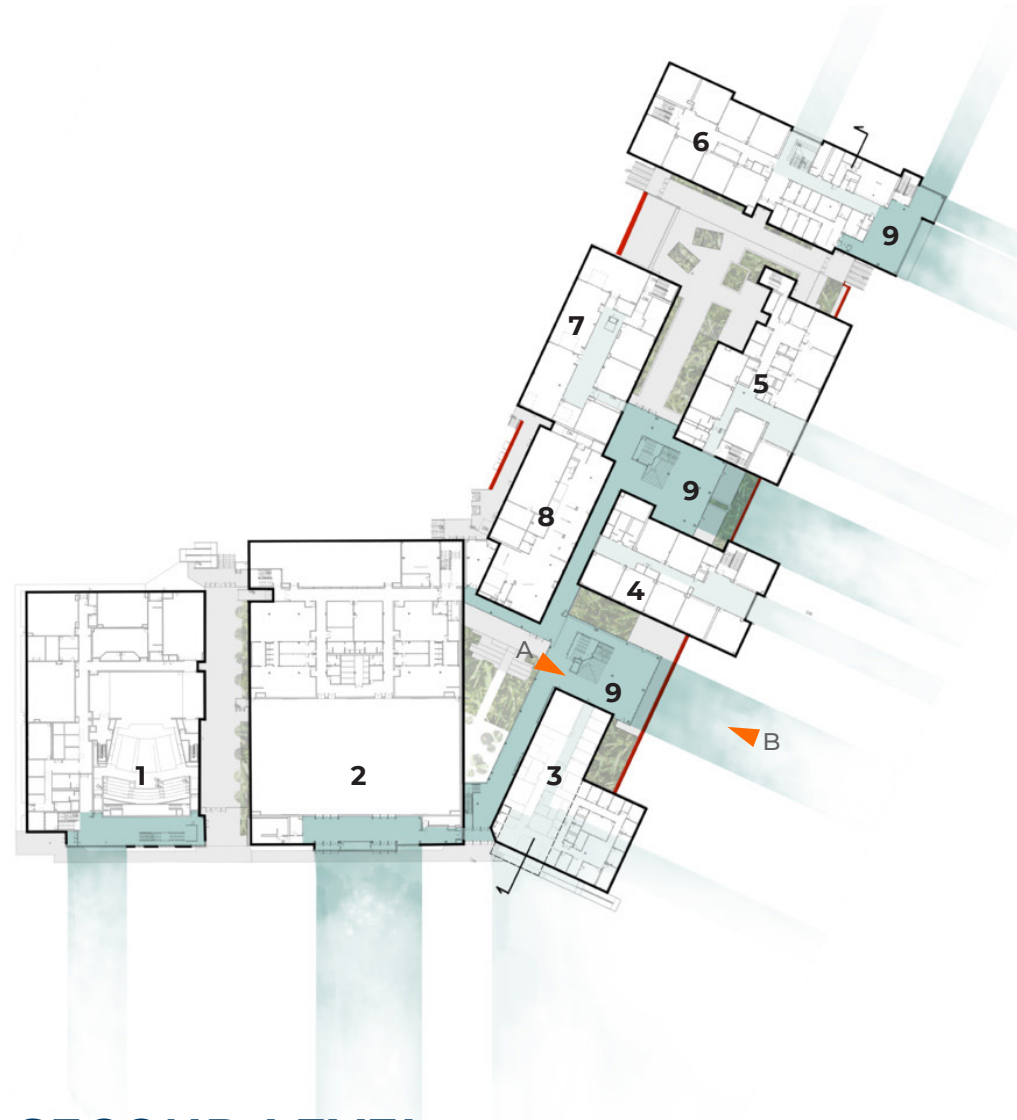
Platform level plan (above the parking). The triangular courtyard is an oasis inside the building perimeter where the ground plane connects with the platform.



A



B



SECOND LEVEL

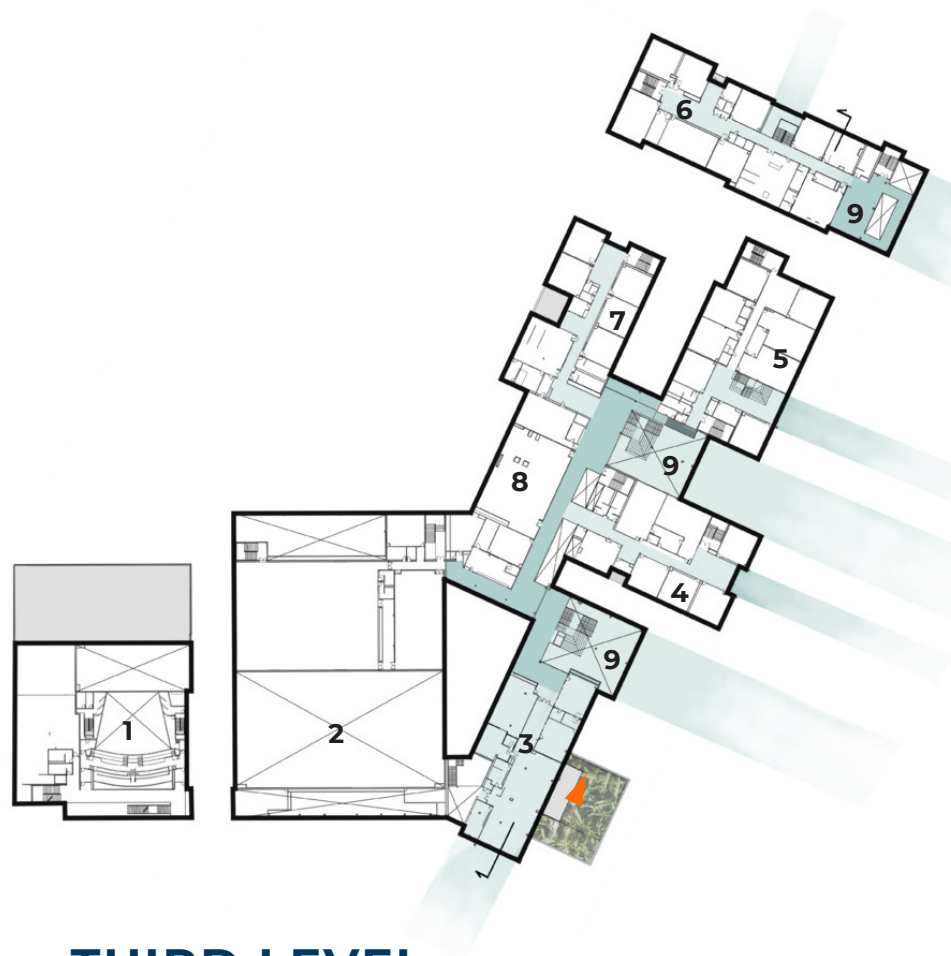
SECOND LEVEL = ELEVATED PLATFORM = FIRST FLOOR PLAN

- | | |
|---------------------------------|---|
| 1. Performing Arts Center (PAC) | 6. Freshman Campus |
| 2. Sports Building | 7. Career Technical Education (CTE) Suite |
| 3. Administration | 8. Kitchen / Cafes / Services |
| 4. Academy / SLC | 9. Distributed Cafeteria |
| 5. Academy / Special Education | |





View from Library terrace to Commons below



THIRD LEVEL

THIRD LEVEL = SECOND FLOOR PLAN

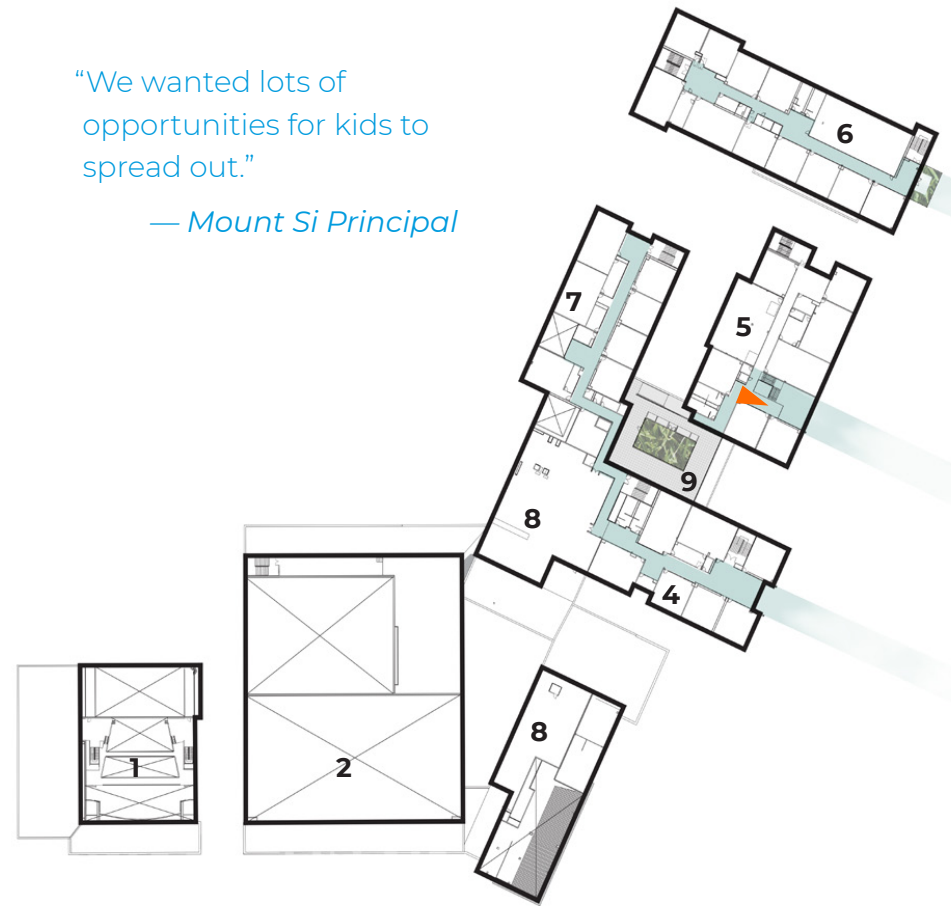
- | | |
|--|-------------------------------|
| 1. Performing Arts Center (PAC) | 5. Academy / SLC |
| 2. Sports Building | 6. Freshman Campus |
| 3. Library Suite
Maker Space, Digital Lab,
Film Studio | 7. Art SLC |
| 4. Academy / SLC | 8. Kitchen / Cafes / Services |
| | 9. Distributed Cafeteria |





“We wanted lots of opportunities for kids to spread out.”

— Mount Si Principal



FOURTH LEVEL

FOURTH LEVEL = THIRD FLOOR PLAN

- | | |
|---------------------------------|---|
| 1. Performing Arts Center (PAC) | 6. Freshman Campus |
| 2. Sports Building | 7. Career Technical Education (CTE) / Art Academy |
| 3. Administration | 8. Mechanical |
| 4. Academy / SLC | 9. Greenhouse Terrace |
| 5. Academy / SLC | |





Library is designed for all-staff meetings of 150 people and broader community events, effectively becoming the City of Snoqualmie's living room.

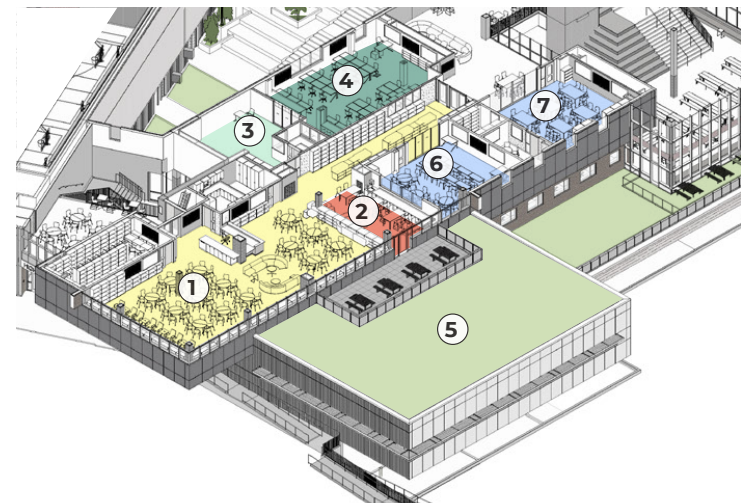


Sliding glass doors expand the leadership classroom into the library foyer.

EDUCATIONAL ENVIRONMENT

A COMMUNITY LIVING ROOM: Library as a Research Center and Town Commons

Seeking a more interactive and interdisciplinary role for this future-forward library, the whole suite is conceived as a research center with multiple synergistic programs. Maker space, video lab and green screen film room, and the distance learning classroom are all part of the unit. This hub serves as an all-day and after-hours place to research, work, and create.



1. Library Proper
2. Maker Space
3. Green Filming Studio
4. Digital Lab
5. Outdoor Terrace
6. Flexible Classroom
7. ASB Classroom



INTENTIONAL PROGRAM MIXING — FINDING PASSIONS

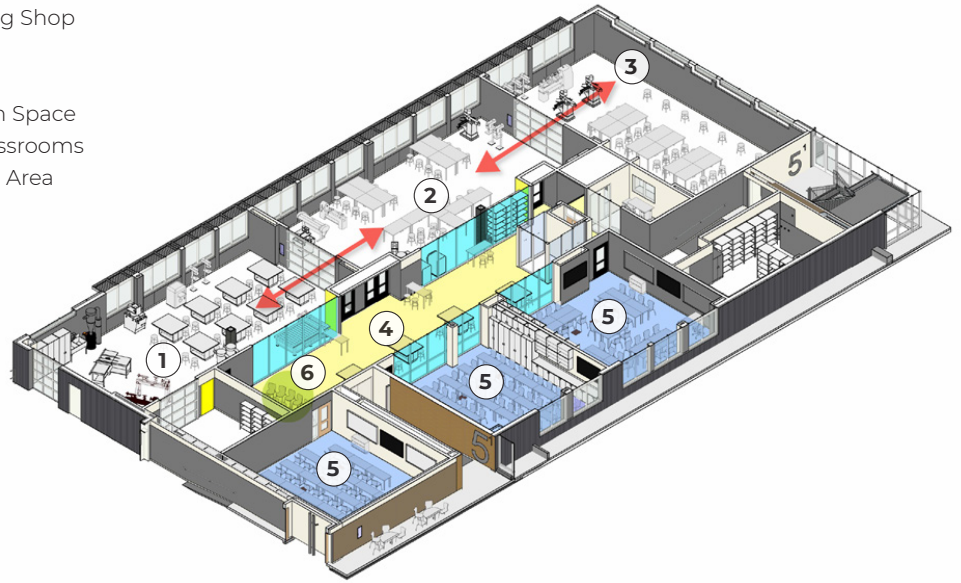
Shops and robotics/engineering classrooms are juxtaposed to mix students who might be on separate paths and provide opportunities leading to new passions and interests.

SHOWCASING CAREER TECHNOLOGY EDUCATION

The CTE area, immediately off one of the large Commons spaces, is accessible and visible to all students. Attractive, engaging, and highly functional, this space encourages students to participate in a variety of programs. Shops and robotics classrooms are designed as a collaborative suite centered around a large collaboration and presentation space.



1. Woodworking Shop
2. Metal Shop
3. Welding
4. Collaboration Space
5. Robotics Classrooms
6. Presentation Area



AUTHENTIC STUDENT ENGAGEMENT

A student internship group called “Future 2.0” worked in the Architect’s office for a summer to help envision the CTE area.



Table 5: -Aaron Rayevich -Jenna Stanisor -Daniel Taylor -Alex Thijssen	Table 7: -Emil Ambartsourmyan -Macy Baunsgard -Connor Benkel -Neelakshi Berdan	Table 9: -Warren Betz -Halley Bostick -Amelle Brownstein -Branson Cornell
Table 6: -Bilal Ahmed -Kiera Antonelli -Blake Benkel -Eden Coleman-selle	Table 8: -Cameron Holloway -Alexander Holloway -Laurel Howard -Alex Merkushev	Table 10: -Robert Montgomery Jr -Jack Schnepf -Ethan Talbert

8:07

Career Center (bottom right) opens onto the Commons at a major circulation path. ASB Room and Second Floor Library Suite Entry (top right) overlook the Commons.



Freshman campus cafeteria

A



Students relaxing next to Deli located under the stairs.

B

RESULTS OF THE PROCESS & PROJECT

SPATIAL INCLUSIVITY FOR ALL:

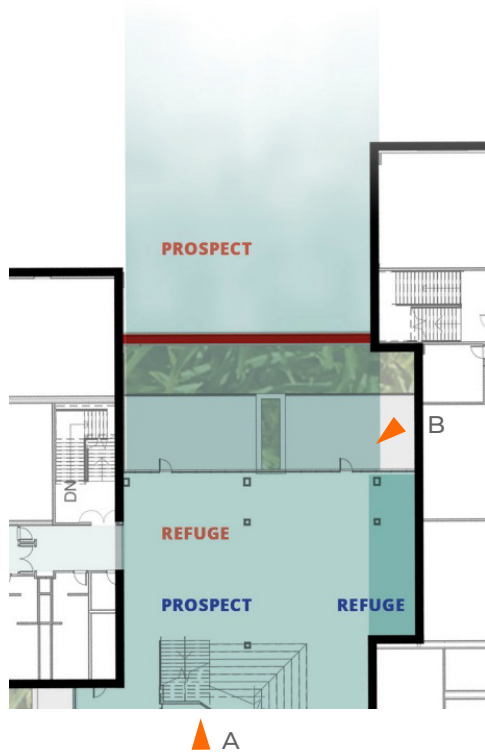
Spaces Designed and scaled to help students form relationships and find their place within the larger school community

- The school's planning committee understood that one extra-large cafeteria and kitchen for a high school of this scale was not conducive to its key goal of fostering student interaction.
- The cafeteria is divided into three separate two-story spaces with plenty of extended informal areas for eating inside and outside.
- Five food service locations includes a full kitchen and grab-and-go kiosks.
- The culinary arts program is connected to the main kitchen allowing students to work with the kitchen staff as part of their coursework to prepare and serve food.



- Food distribution choices
- Dedicated indoor eating areas

SPATIAL INCLUSIVITY: Support For The Social Brain



BIOPHILIC DESIGN: PROSPECT & REFUGE

The biophilic principle of prospect and refuge is woven into the spatial fabric of the campus, inside and out, to enhance the campus' experiential quality and foster students' relationships.

Prospect and refuge spaces alternate in scale and character, enhancing a dynamic perception of distance.



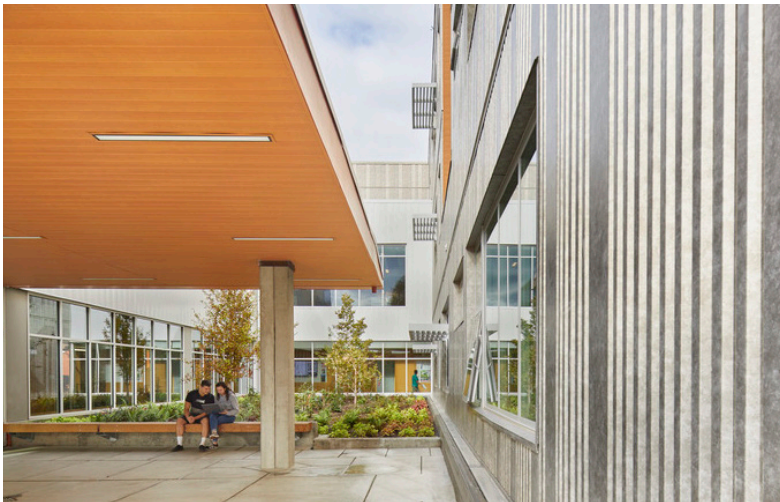
A



B

THE SPACE BETWEEN: Places for One, Places for Many

Spaces of different scales and character, indoors and outdoors, engage extroverts and introverts. Courtyards, gardens, terraces, interstitial spaces, and open interior gathering spaces help teens feel safe and welcome.



THE SPACE BETWEEN:
PLACES FOR ONE, PLACES FOR MANY





SCHOOL AS A CENTER OF COMMUNITY

THEATER AS A LARGE REGIONAL VENUE

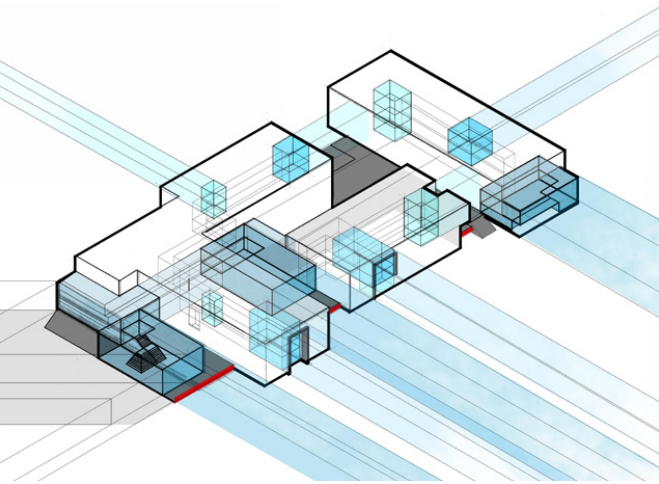
A 700 seat theater and 2,400 seat gym have independent, thoughtfully crafted lobbies and support spaces to allow simultaneous and frequent community use.



Custom fabricated perforated panels in the gym lobby reflect an abstracted Mount Si image and provide acoustic absorption.

MITIGATING LARGE SCALE: Small Learning Communities

Shared spaces are distributed throughout the Small Learning Communities, ensuring ample opportunities for informal learning.



“We wanted flexible spaces that would adjust over the next 100 years of education, increased student collaboration to move outside of a classroom, to have something that was truly learner-centered and not just adult focused, to try interdisciplinary approaches, and to really meet the social and emotional needs of our students.”

— John Belcher, Mount Si Principal

MOUNT SI CHALLENGE: ELEVATE THE CAMPUS

PHYSICALLY EDUCATIONALLY EXPERIENTIALLY

Buildings have the power to shape culture and improve interactions for their occupants. Mount Si's student-centered environment actively facilitates the District's goals to improve educational justice, reduce opportunity gaps, and establish a culture of inclusion. Stimulating curiosity and engagement, the myriad spatial moments invite diverse uses and set a course for future learning that welcomes change.

