

ROSS VALLEY SCHOOL DISTRICT

WHITE HILL MIDDLE SCHOOL

Originally built in 1967 and facing increases in student enrollment, White Hill Middle School required more flexible, safe, sustainable, accessible and technology-enabled facilities. In response, we delivered a master plan synthesized from stakeholder input; a technology-forward design with multi-use, adaptable learning spaces that take advantage of the school's natural setting — in fact, using it as a teaching opportunity —; and a campus that fits into its community and context.

SCOPE OF WORK

The Ross Valley School District is a four-school elementary school district serving the central Marin, California communities of San Anselmo, Fairfax and Sleepy Hollow. White Hill, the sole middle school in the District, is located on 20 acres, of which 12.7 are usable. The District's goal for the White Hill campus — to create an enhanced sense of connectivity, both within the campus and to its picturesque hilly surroundings — drove building configuration and placement. The Small Learning Community model, recently adopted by the District, inspired the notion of separate “houses,” or intimate learning spaces serving 7th and 8th graders. The District also wanted to make evident the systems that support the school so the buildings and landscapes themselves could double as teaching tools.

Our firm developed a comprehensive master plan to be implemented in two phases. The first phase of the project includes the two new classroom buildings, or “houses,” for the 7th and 8th graders; a modernized 6th grade wing; and enhanced art classrooms. The second phase, for a multi-purpose building and playfields, is pending funding.

BUDGET

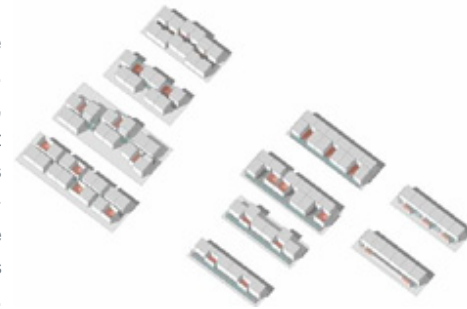
\$17.1 m

COMMUNITY ENGAGEMENT PROCESS

It was a top priority for Ross Valley School District that students and educators helped drive the planning process, so we facilitated that throughout the process. During the master plan stage, design meetings were regularly scheduled with a core stakeholder group that included District administrative staff, educators and community members. Through the design, many stakeholders provided input on overall strategy, including height, view opportunities, noise, and variety of places for reflection, group play and instruction. Through the design of the classroom buildings, options were developed and trace paper sessions allowed for various stakeholders to help prioritize and express interests and concerns. Students and parents participated through focused sessions, identifying key issues on learning spaces and environmental issues. During the space and functional programming phase, our team collected and analyzed data to complete a space program that referenced the District's education specifications, as well as met with District Facilities staff, neighborhood organizations, and upper-level District administrators for programming guidance. Throughout the process, our team met with the District's citizens bond oversight committee and the District's governing board on a regular basis. The ultimate master plan and design became a synthesis of input from stakeholders, District priorities, and our experience designing safe, sustainable and cost-effective environments for education.

EDUCATIONAL ENVIRONMENT

The new classroom buildings are organized around a central outdoor gathering space that extends the existing entrance courtyard to the north. “Teaching patios” support outdoor learning, making conservation a part of the everyday experience. These new outdoor spaces accommodate a variety of activities that range from small social gathering to large school assembly, reducing the amount of building square footage and lowering the total cost of the project by 15%. Designed to support flexibility, collaboration, and a connection to the outdoors, the classrooms are divided by moveable, acoustically sound walls that have a magnetic and writable surface. Likewise, each “house” has an open flex classroom that can be used for break-out sessions, small group learning, or collaboration with adjacent classrooms. The spaces have already proven to be effective collaboration spaces, as Math, English, History and Science classes come together to work on projects, making connections across disciplines. Additionally, we incorporated space for a sophisticated Robotics labs into both classroom buildings. *The modular diagram at right shows configurations of flex spaces.*



PHYSICAL ENVIRONMENT

The new facilities leverage wind and light, views, and the campus' location at the base of a watershed. Also, the closeness of classrooms and the desire for collaboration made good acoustics, air flow, comfortable lighting and healthy materials a top priority. The classrooms are naturally day-lit and ventilated, with radiant heating and cooling for comfortable conditioning with very low energy. The controls for the radiant heating and cooling are made visible to provide teaching opportunities. Viewing the campus' direct access to water as another opportunity, we embraced stormwater management with bioswales, pervious concrete paving and flow-through planters that weave between the classroom buildings and throughout the site. This strategy allows the site itself to serve in an educational role using water as a major theme.

RESULTS OF THE PROCESS & PROJECT

Designed to Meet the District's Values

The Small Learning Community teaching model, adopted by the District, and employed throughout the campus design, was intended to break down the scale of the school. By creating smaller learning spaces with retractable walls that open interior classrooms onto one another, the design offers intimate “houses” that encourage teachers to collaborate on curriculum and follow the progress of students more consistently with one another, thus connecting to students in a more meaningful way.

Technology-Forward

Wireless ports are integrated into the classrooms to allow for flexibility and ease of connectivity inside each “house” and outside — from teaching patios to the central gathering court space. Epson projectors with IT controls on the teacher's wall are available in all classrooms. iPads are available for each student to connect to Apple TV boxes and document cameras. A campus BMS coordinates building mechanical and lighting systems to better manage efficiencies and provide the opportunity for educational uses.

Suits its Context

The District's goal to create an enhanced sense of connectivity, both within the campus and to its picturesque surroundings drove building configuration and placement. The buildings are oriented east-west for good daylighting, taking advantage of the wind for natural ventilation and organized around a central all-school gathering space. Existing campus pathways and views to the surrounding hillsides were considered in the placement of new buildings. The site is organized and designed to accept/connect to the regional qualities of the site. Site water is controlled with various systems, providing a slowdown of infiltration and a chance for use in curriculum.



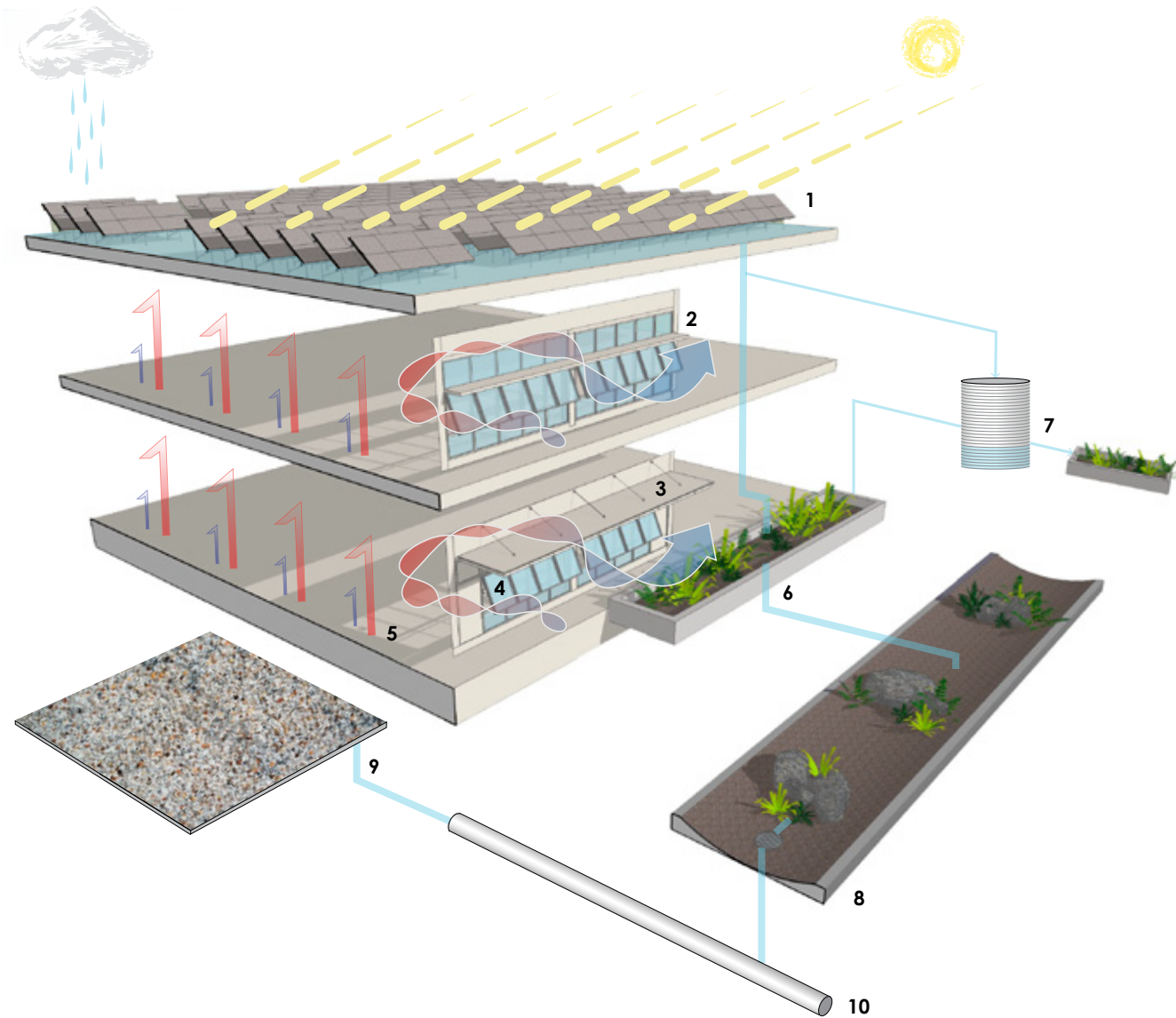
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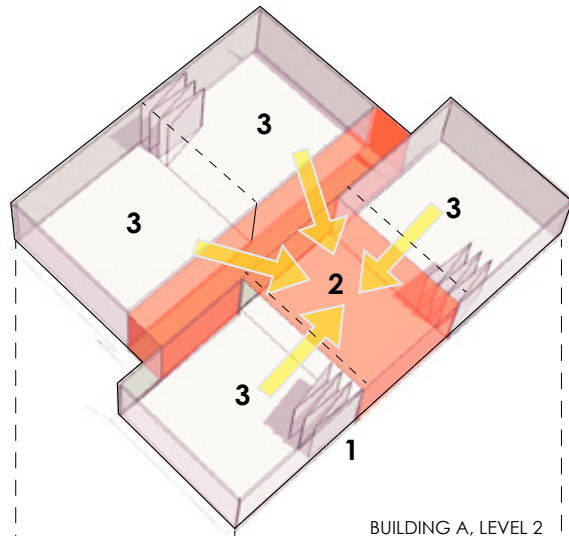


White Hill Middle School - Master Plan - Scheme A Level 1

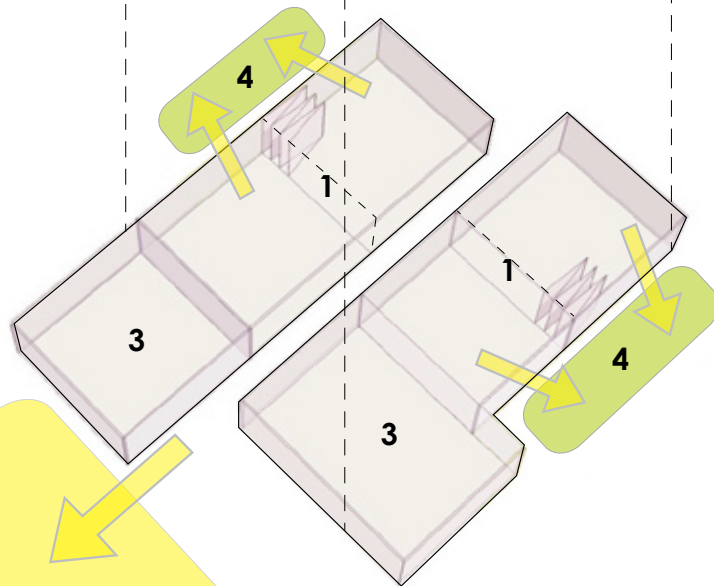


- 1 PVs**
photovoltaic panels on roof provide energy for campus
- 2 SUNSHADE**
south facing window sunshades protect from direct daylight overheating classrooms
- 3 CANOPY**
south facing window canopy protects from direct daylight overheating classrooms and provides shelter for teaching patios outside ground floor classrooms
- 4 OPERABLE WINDOWS**
allow for natural ventilation and passive cooling
- 5 RADIANT SLABS**
"temper" the interior environment with efficient heating and cooling
- 6 FLOW THRU PLANTERS**
rainwater collected from roof routed through planters to filter out contaminants and slow the movement of water across the site
- 7 RAINWATER TANK**
collects rainwater from roof for use as learning opportunities
- 8 SWALE**
controls flow of water across the site, allows onsite infiltration, visual amenity
- 9 PERVIOUS PAVING**
slows down flow of water across the site and allows for onsite infiltration
- 10 STORM DRAIN**
water not used or infiltrated onsite flows into municipal storm water system

SUSTAINABLE STRATEGIES



BUILDING A, LEVEL 2

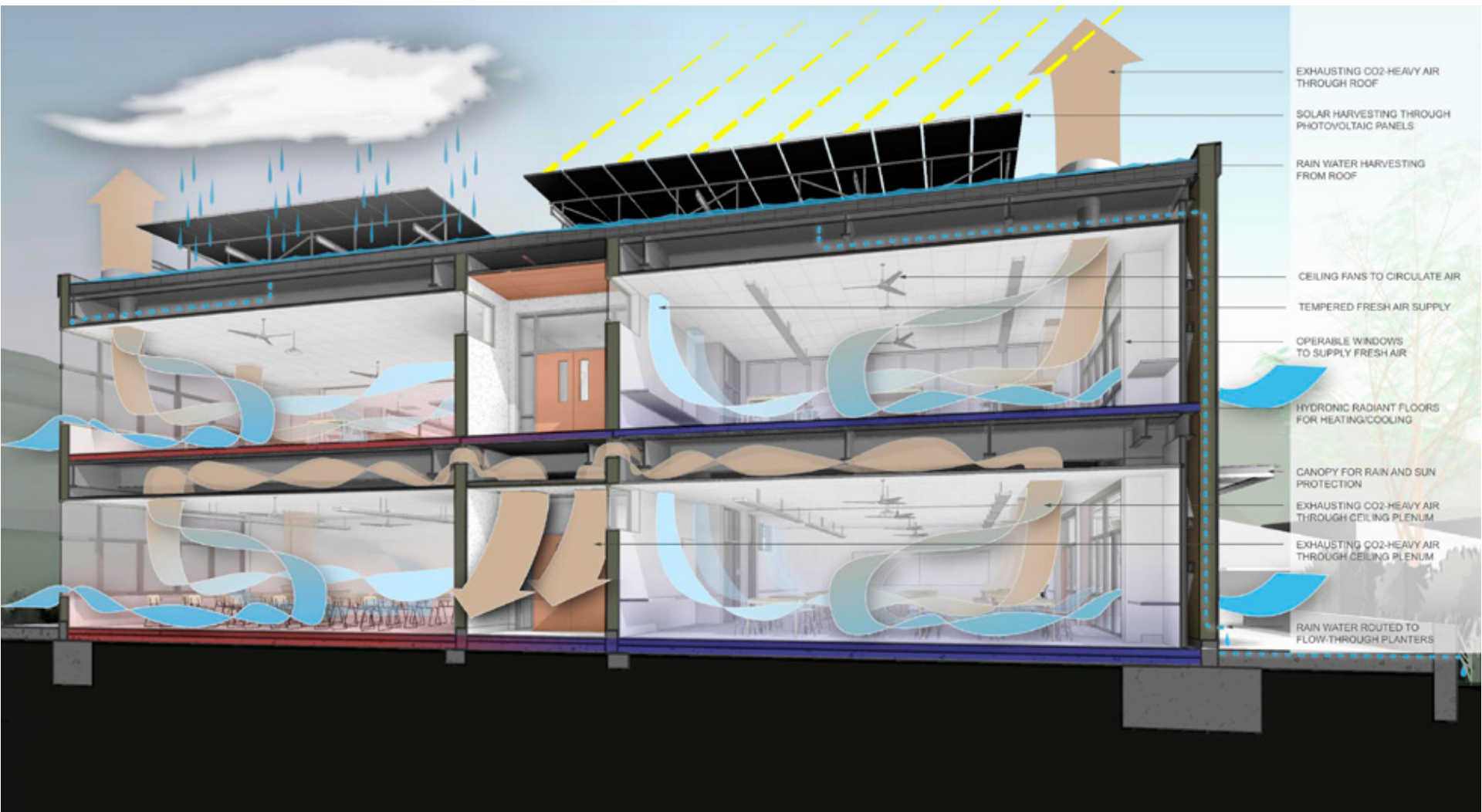


BUILDING A, LEVEL 1



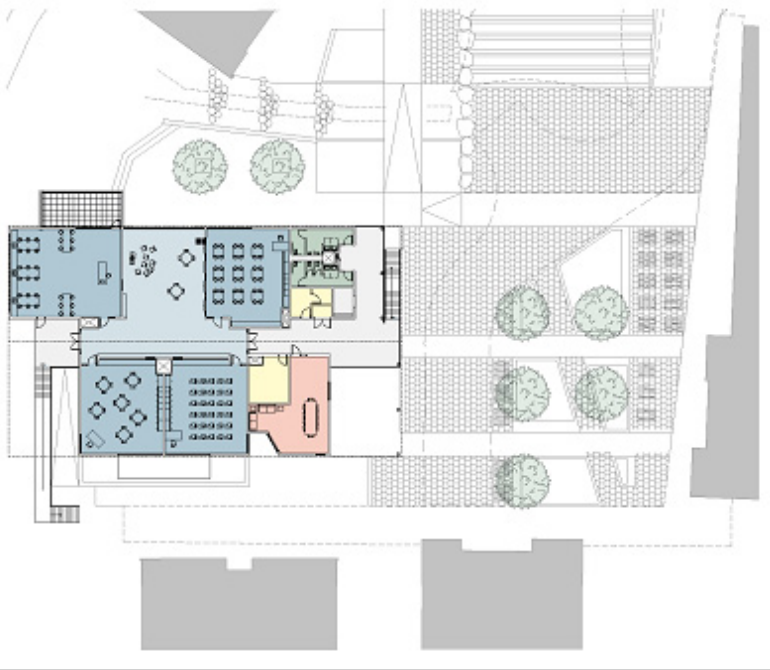
- 1 OPERABLE WALLS**
provide flexibility for classrooms to expand and to open to flex classroom
- 2 FLEX CLASSROOM**
flexible space allows for gatherings of varying sizes
- 3 TYPICAL CLASSROOMS**
- 4 TEACHING PATIOS**
operate similarly to flex classroom, providing gathering spaces outside
- 5 GATHERING SPACES**
larger outdoor spaces in campus for assembly

SPACE RELATIONSHIPS

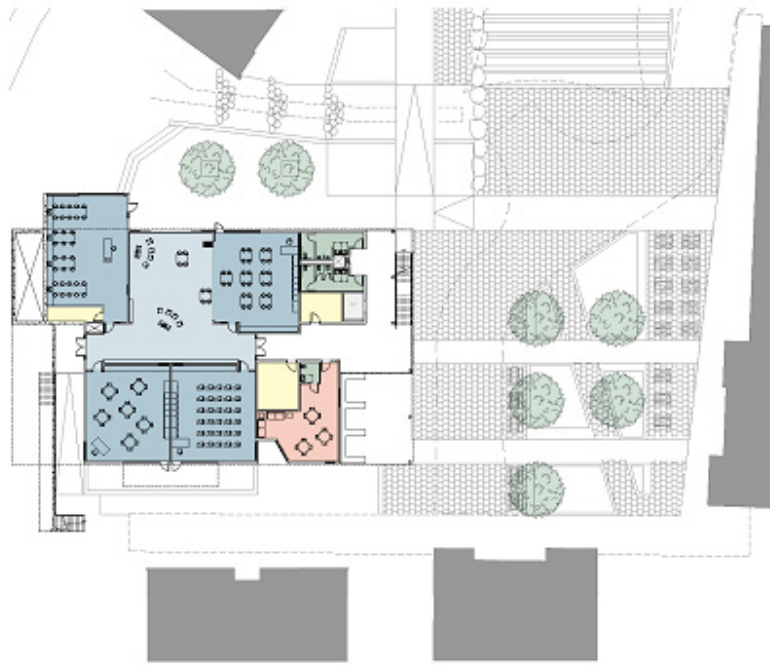


- EXHAUSTING CO2-HEAVY AIR THROUGH ROOF
- SOLAR HARVESTING THROUGH PHOTOVOLTAIC PANELS
- RAIN WATER HARVESTING FROM ROOF
- CEILING FANS TO CIRCULATE AIR
- TEMPERED FRESH AIR SUPPLY
- OPERABLE WINDOWS TO SUPPLY FRESH AIR
- HYDRONIC RADIANT FLOORS FOR HEATING/COOLING
- CANOPY FOR RAIN AND SUN PROTECTION
- EXHAUSTING CO2-HEAVY AIR THROUGH CEILING PLENUM
- EXHAUSTING CO2-HEAVY AIR THROUGH CEILING PLENUM
- RAIN WATER ROUTED TO FLOW-THROUGH PLANTERS

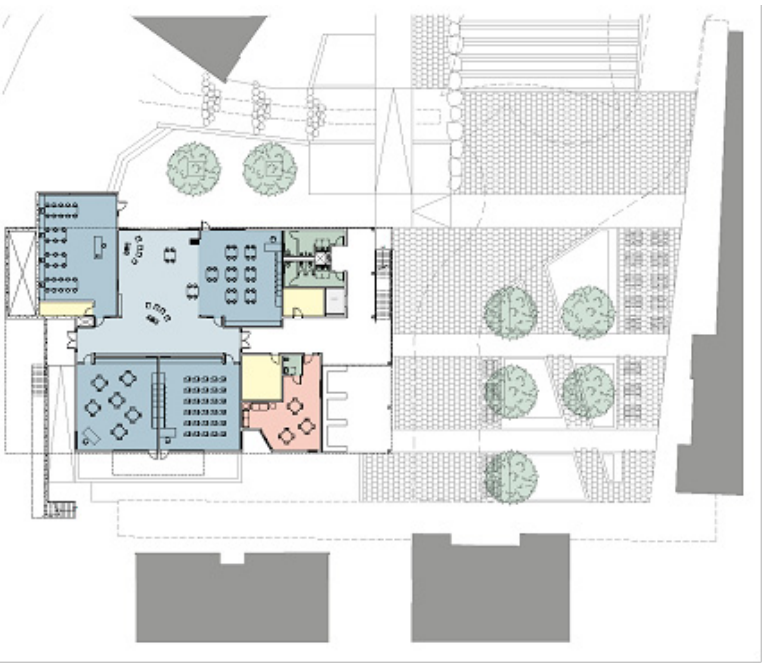
- classrooms
- flex space
- teachers
- storage
- toilets
- balcony



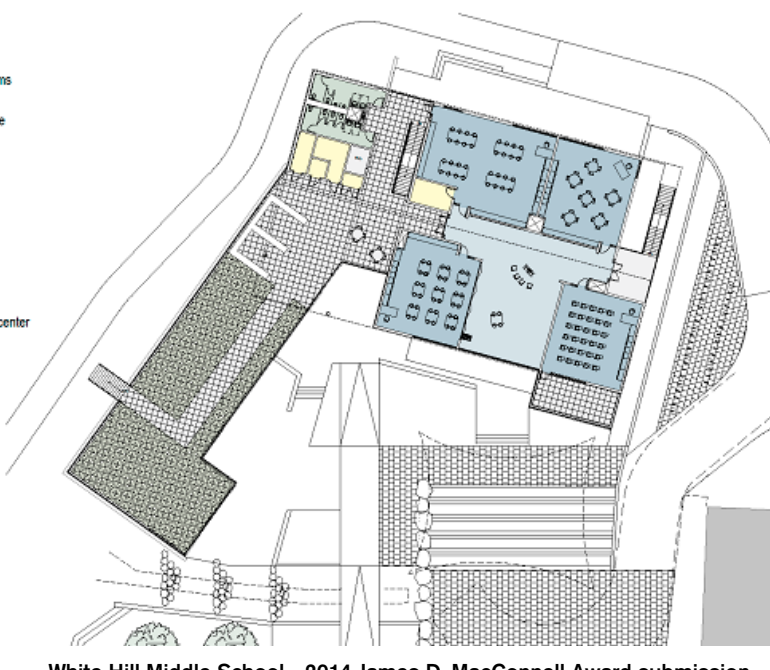
- classrooms
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- teachers
- storage
- toilets
- balcony



- classrooms
- flex space
- teachers
- storage
- toilets
- balcony



- classrooms
- flex space
- teachers
- storage
- toilets
- balcony
- learning center
- art



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 Don't Erase


Lego Sumobot Wre

Awards Competition

Don't Erase

- Grand Prize trophy 
- 2nd, 3rd, 4th?

Award


 official

grand prize trophy

ribbon → Ribbon Printed or st

Duplicate red on

Participation button colors: Red, black lettering

sticker for spectators

4 and 5th place?

No 4 and 5th place and 2nd ribbons

Who we need

Money 600? People \$?

(Homemade?)

G E O ? D F C O E F E A ?



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