Executive Summary

Founded in 1931 by the Society of the Holy Child Jesus, Mayfield Junior School is an independent Catholic school located in Pasadena serving 515 students in grades K-8. As a part of the Holy Child Network of Schools, whose philosophy supports trust and reverence for the dignity of every person, Mayfield is committed to providing a distinctive educational experience that balances tradition and innovation in an intellectually challenging and creative environment. Mayfield’s mission is to challenge each child to reach his or her potential.

Mayfield Junior School provided us with a design brief that called for the replacement of the one story 8,000 SF library building with a 25,000 SF three story building to provide learning environments to support project based learning, PBL, for the entire school. Through an extensive visioning and programming effort with students, teachers, staff and parents, we came to understand that a more holistic approach was called for that included a smaller, new library building and strategic modernizations to all campus learning environments to support project based learning everywhere. By distributing limited financial resources across the whole campus and not concentrating on a single building, improved learning is experienced everywhere on campus. Traditional classrooms along double loaded corridors did not support the project based learning pedagogy that the school leaders envisioned for the school. The outdated buildings and infrastructure lacked the flexibility and visual openness to support a 21st century curriculum and technologies. This is where the team discovered opportunities to enhance the school’s campus through more extensive architectural interventions.
SCOPE OF WORK AND BUDGET

PROJECT DATE: 2019-Present
PROGRAM: Elementary & Middle School Masterplanning
SITE CONDITIONS: New Construction & Renovation
SIZE: 86,000 SF
BUDGET: $32,000,000

**PHASE 1:**
**FIELD AND PARKING**
- Solves Parent & Event Parking Problem
- Levelled Field over Subterranean Parking
- Constructability Preference of Finishing Below Grade Work First
- Can be financed without long fundraising effort
- Makes Parking Count a Non-Issue with Pasadena for Cup Approval

**PHASE 2:**
**STUDENT CENTER LIBRARY**
- New Building Spaces & Program will be used by all students
- Extra Classrooms & Spaces allows for other buildings to be renovated

**PHASE 3:**
**ELEMENTARY AND ENTRY PAVILION**
- Modernization of Historic Elementary Building, adding connections to the outdoors,
- Relocation of Admin. Offices and Reception to Entry Pavilion Providing a New Secure Front Door to Campus.

**PHASE 4:**
**HAYDEN BUILDING**
- Aligns Classroom Design and Layout with Project Based Learning Pedagogy.
- Creates a Flexible and Open Learning Environment.
Through multiple design charrettes, stakeholder interviews, and extensive site observations, we explored the opportunities and challenges within the school’s campus with faculty, staff, and board members. We began to develop a comprehensive masterplan that elevated learning environments across the campus to better serve the school’s students and staff. The stakeholders identified key issues with campus layout and building utilization which, along with the new landscape design, informed the new campus plan. We took the independent Catholic school’s budgeting constraints into consideration and designed a plan that could be accomplished in multiple phases over time to align with the school’s fundraising efforts while causing minimal disruptions on the active campus.
Though areas of the campus had been recently upgraded, some of the most loved buildings dated back to the 1930’s and did not support the educational vision for the school. Some of the aging buildings still fit the schools needs, but others lacked necessary space and upgrades to work for 21st century learning. Beyond the library we were originally brought on to design a replacement for, Hayden Hall, the Middle School’s primary classroom building, and the Elementary Classroom Building were pain points on the campus for stakeholders. Hayden Hall’s second floor lacked elevator access and the classrooms were not accommodating for project based learning. The Elementary Building needed more flexibility and housed the campus’s single technology lab.
Tracking student flow throughout the day helped inform the masterplan and eventual design of the student center library by highlighting where students are through the day and how current campus spaces are utilized.
From the student flow diagrams, we determined major axises through the campus and started to plan how to maximize these spaces and improve their functionality by the shape and placement of the new central building.
The masterplan sought to create a central gathering space that felt connected to the entire campus, yet was intimate enough to host both small and large gatherings. Working with a challenging elevation difference, we were able to simplify the number of grade changes to allow for freer movement throughout campus. Every student has different needs and so we sought a diversity of space types and interactions with nature, from a bubbling water feature, rocky outcroppings, exposed wood columns in the library, filtered sunlight through louvers, many opportunities to open classrooms to the outdoors through folding doors and operable windows, and even down to creating a variety of sized rooms and spaces that the different aged children will enjoy being in.
The new Masterplan was crafted with practical sustainable solutions in mind. Early on we determined that two existing buildings, Hayden Hall and the Elementary Building, were flexible enough to fit the new program and did not have to be demolished. This move saved a huge portion of potential waste embodied carbon and saved new materials entering the waste stream.

The floor plans of these buildings were redesigned to incorporate more flexible seating and spaces for collaborative learning.
The conceptual layout of the library took inspiration from a tree, with a smaller ground floor footprint that had multiple connections to outdoor shaded rooms created by the second floor overhang. This allowed for precious spaces, such as the playground, to be enlarged compared to the existing playground, while adding classroom space on campus.
LIBRARY SECOND FLOOR PLAN

PROJECT SCOPE:
- SECOND FLOOR: 7,110 GSF TOTAL
- ROBOTICS LAB (1)
- MIDDLE D-LAB (1)
- WATERING HOLE
- SHARED TEACHER OFFICE
- STUDENT LIFE SUITE:
  - LEARNING RESOURCE CENTER
  - COUNSELING OFFICES
  - STUDENT LIFE OFFICE
  - WEST BALCONY
- LIBRARY: 2,380 SF
  - 8,780 VOLUMES
- MEZZANINE MOUNTAIN
- MIDDLE LIBRARY
- EAST BALCONY
- DEEP ROOF OVERHANGS AND TRELLIS PROVIDES 2,482 SF OF SHADED OUTDOOR SPACE
- GLULAMINATED TIMBER STRUCTURE EXPRESSED
- DOUBLE PANE WINDOWS WITH AUTOMATED NATURAL VENTILATION ACTUATORS
- SUPPLEMENTAL HVAC
- ROOFTOP SOLAR PV

EDUCATIONAL ENVIRONMENT
Mayfield Junior School practices the “whole child” philosophy of teaching and support enriching students lives through a variety of classes. Mayfield’s Service Learning Program combines service and studies, highlighting interconnectivity within the world. The program integrates different subjects as students draw connections across disciplines. Mayfield’s commitment to project based learning requires flexible spaces and room for collaboration.
Mayfield Junior School has a daily all-school morning prayer where students, teachers, and parents come together to start their days. The new library design incorporates a small platform and a courtyard for the community to gather comfortably.

Designed with theater-like flexibility, the courtyard is intimate for small practice performances, but can also be expanded to include audience indoor seating through a large sliding barn door on the ground floor, and through outdoor balcony seating on the library’s second floor.

Team sports are at the core of Mayfield’s pedagogy and from this main gathering space views to the field are visible through the transparent ground floor.
The design of the new Library takes cues from the nearby South Marengo Historic District and the influence the Craftsman style has had on Mayfield’s campus.
For the new library building, we wanted to further reduce the embodied carbon and studied different structural systems and how we could reduce the use of steel and concrete, a huge contributor to embodied carbon. A hybrid structural system of cross laminated timber floor slabs, glue-laminated beams, and steel moment frames gave us the program flexibility and openness the library necessitated.
We then studied the existing campus buildings to see how solar heat gain would impact the orientation of the massing and the design of the new façades and found that deep roof overhangs, precise applications of solid walls, and exterior sun louvers were very effective in controlling heat gain. Our estimate is that within two years the natural ventilation system will pay for itself with energy savings costs. Our masterplan was successful in identifying synergies between the existing and new buildings that will result in less energy being used, less embodied carbon, and healthier, happier occupants.
Landscape design throughout the campus is reimagined to incorporate indigenous plants, water features, and outdoor learning environments, along with improved athletics field. Existing underground parking will be extended to accommodate capacity needed for school events to lessen the parking burden in the surrounding residential areas.
The new masterplan aligns Mayfield’s campus with its pedagogy. New flexible spaces, innovative sustainability measures, and upgraded landscaping revitalize the campus and support daily activities and learning. What was once a library renovation has become a whole-campus masterplan that brings new life to spaces that were no longer meeting the school’s needs.
The transformation of Mayfield Junior School will have the most positive impact on its students and faculty, and with so many parents of students who are also alumni of the school, the transformation will impact generations. The overall efforts will also enhance the neighborhood surrounding the school, whose long presence in the community has been a symbol of compassion, integrity, and confidence.