



LINCOLN PARK MIDDLE SCHOOL

Inspire Brilliance

It is one thing to design a building that can house students; it is much more to create the heart of these same students. With a heart, students and faculty have the pulse that generates the energy to inspire young minds to soar to greatness no matter their level of flight. It is so much more than a structure on a fantastic site. Lincoln Middle School is the heart of a neighborhood and a bridge in the educational system of Duluth. The designers were chosen to design not one but two middle schools for the Duluth Public School District, with the intent to create cohesiveness within a fragmented and divided school district; with the ultimate goal of creating equality between the two halves of the district. As with many urban populaces, there are very specific needs that schools need to be aware of and address, and that process began 2006. User group meetings, open communication with the school board, design team and other partners in the process combined forces to make what started out as Western Middle School and is now named after its neighborhood, Lincoln Park Middle School. With a \$43 million project value and a \$35 million construction and site budget the stakeholders set out to create the bridge between East and West.



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One of the major challenges in making this project successful was how to physically place this school where it would demographically become a conduit in a large missing gap in the community, along with meeting the needs for what has been a challenged portion of Duluth. What is the base of student needs? Who are these children? The children in question are in grades 6-8, are from poverty to low- income families. The average median household income in Duluth is \$35,341.00 in the State of Minnesota the average median income is 55,616.00. In the area code that this school is in the AGI (Adjusted Gross Income) of 89.5% of the population's income is less than 10,000 a year. Out of the entire school district these children make up the largest percent of Title 1, Reduced and Free Meal Programming, Latch Key, EDB and Special Needs. The goal was to create a learning environment that was not only conducive to the many diverse needs of the children, but to the staff and community as a whole.



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Initial site analysis included two existing structures and five buildable sites. In determining the proper site many factors came into play. The team analyzed the demographics in each neighborhood, they determined peak capacity would be, reviewed trends and approaches in the population, studied the demographics of Duluth neighborhood by neighborhood along with each school presently in use. As stated, one of the major challenges to make this project successful was how to physically place this school where it would demographically bridge across the existing gap in the community, along with meeting the needs in what has been a challenged portion of Duluth. During the site design process many things were examined including vehicle circulation as it relates to safety and separation of various types, good drainage to preserve the facilities, educational value for students in site placement, outdoor educational and recreational space, natural land elevations, and strong civil engineering to maintain outdoor activity spaces with the very distinct changing of seasons.

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Currently in the Duluth Public School District there are nine K-5 elementary schools, which then progress into two Middle Schools, and further to two high schools. During the planning process initially three different potential plans were considered in the process. Each plan was labeled a color Red, White and Blue. The Red Plan would maintain the two high schools; have two middle schools and less elementary school buildings. The White Plan would maintain the number of high schools at three, middle schools to three and decrease the number of elementary schools. The Blue Plan would decrease the senior high to one facility, maintain two middle schools and decrease elementary schools. After considering the reduced enrollment, (which has fallen from 22,000 in the 60's to 9,500 presently), combined with well over 100 community meetings the Red Plan was selected and the stakeholders and design committee would begin their process.

The design committee was made up of faculty from the three existing middle schools, maintenance staff, parents, community members, and teachers selected to begin the process of creating two middle school projects that would create cohesiveness and equitable distribution between. As the planning proceeded, each specialized portion (subject specific teachers) would separately meet with our team to identify past, present and future trends to have valuable input on the functional design of each department to function at its peak potential. It was determine to create 205,000 square feet of new educational space that would incorporate a 3,500 square foot Media Center, distinct areas for band, choir, rehearsal space for the arts, fitness centers, 10,000 square foot pool with an additional 6,000 square feet of locker room space, 400 seat state of the art auditorium, specialty therapy rooms, psychiatric office, guidance areas, EBD and special need areas, state of the art classrooms, and a school with a spectacular view of the area in which it lives.

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Design. How do you create a multi- use space that's first priority is a highly efficient educational space that can also meet the needs of a community during non-operational school hours? You create a multi-use signature "Non- program" space in the cafeteria that also serves as a community outreach space, along with being a pre-function space for events in the gymnasium and the auditorium. The design also serves as the circulation space for the student body. The "community" space can further be utilized by using the "lock- down" access feature to the Education wing; ensuring that in off-peak hours the classrooms and other spaces are kept private and safe. The 10,000 square foot pool area, while functional for class use during the day, also serves as a public pool for the community during off-peak times, thus creating more of a community center feel than a traditional school. The entire design is centered with efficiency of design and educational programming per square foot.



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Once you design for function, how do you incorporate style? From the exterior copper wall cladding which was utilized because of its life longevity that is comparable (or exceeds) brick. The panel will wear much like a penny, but does not require the tuck -pointing (like brick) in its lifetime. The use of this product also allowed insulation during the cold winter months without the use of heated shelters. Add in the exterior aluminum wall panels that are incorporated in the exterior design for both low maintenance with high design impact and you have a beautiful exterior design that is a beacon nestled in the hillside for all to admire. In the cafeteria an aluminum curtain wall system was added with low E insulating glass boasting a U-value of 0.32. Two levels of tinted glazing: Darker tint is utilized below seven foot height to decrease glare at eye level. A lighter tint is utilized above seven feet to capture better light levels at the ceiling, and allow light to extend into the room. The angle of the curtain wall system also creates an overhang which restricts the high summer sun but captures the low winter sun for more energy efficiency. Different gradients of shading are utilized to create the maximum amount of natural light control. On the east and west facing windows the darkest gradient was used, on the south a lighter gradient and on the north is the lightest of the three.



The cafeteria/community space utilizes the aluminum curtain wall system, a terrazzo floor and is surrounded on the second floor overlook with polycarbonate "3-Form" panels that have an integral grass pattern that is not only reminiscent to the building site, but the community as a whole. Bringing elements of nature inside is seen throughout the overall design. Sustainable design for all of the facilities and infrastructure produce energy efficient buildings; promotes ecological use of materials; a design model that will transcend current needs into the future and utilizes natural systems that provide healthy, cost effective benefits from natural lighting to storm-water reuse. All of these challenges were achieved throughout this design.



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One of the greatest elements in the overall interior design is the distinct learning areas. Each portion of the education wing is laid out so the faculty could have the option of dividing each grade floor by floor, or mixing the three grades together on each floor. Thus allowing (as class enrollment increases or decreases) the faculty the flexibility to adapt and change their methods of teaching to best meet the needs of the current student body. Each floor has classroom space, group learning areas for two or more classes to join together, cube “break- out” areas and passive observation abilities, so the teacher or other faculty have the ability to see through a side light at the classroom door to see both what is happening in the “common” space, and also back in the classroom when the teacher steps out. Being able to control students to keep them safe through daily operation was integral to the design. The acoustics in the classroom are structured to allow the audible tones of their instructor, while blocking out the mechanical sounds of the building. The ventilation system monitors the Co2 levels to ensure that the appropriate amount of clean air is being filtered in, to allow for better student alertness and overall health.



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The physical environment of the site consists of fitness trails, cross country skiing trails, and topography and grade that allows for a natural physical fitness arena. The wooded and wetland areas allow a completely new dimension to the science curriculum. Keeping the majority of the natural surroundings pristinely intact fosters a positive outdoor classroom environment. With added playing fields in the foreground, the view of our community's greatest natural resource teaches the students the rich and long history of Duluth.



Duluth is a community that was built on shipping, mining and trains. From the vantage point created with this school the students are literally nestled in the natural curve of the hillside sitting atop 120 years of history to inspire them to strive for greatness. Watching the ships in and out of the port daily allows the child to dream about a future that can take them, like the ships and trains, anywhere in the world. The design of this school is so much more than a building for education. Every angle, curve, light panel, tile, color choice, wood panel, height of lockers, tint to the glass is with one intent, to create an environment where a child, despite obstacles, can be greater than the sum of its parts.



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