

# Resisting Homogeneity, Reconstructing Identity: Part 2 – The Canyon School

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## THE IDENTITY OF PLACE

....For all of these have those qualities I associate with a sense of place: a lively awareness of the familiar environment, a ritual repetition, a sense of fellowship based on a shared experience.'

Industrialized and corporate economies have failed to acknowledge the fundamental relationship between the development of individual character and the stewardship of place which makes stable communities and an ethos of place possible.'

The places that we make and those we preserve are irrefutable evidence of what is important to us and what we believe in.' In turn, places that we inhabit influence our ideas. This mutually dependent relationship between places and people is a ubiquitous concept but one that is too often forgotten in a post-industrial world. The general drift to homogeneity has resulted in the loss of local culture and identity. In some small corners of the world, people are working to resist this trend. The preservation and reconstruction of a unique community's public identity has been the purpose of our work in Canyon, a small rural community in northern California. This is Part 2 of a brief history of that work. Part 1 can be found on page 374 of this volume.

Canyon is located in a narrow range of hills between the city of Oakland and the suburban sprawl of Contra Costa county. Clustered alongside San Leandro Creek in a protected watershed and surrounded by a second growth redwood forest, Canyon remains one of the last communities of rural character in the midst of the otherwise cosmopolitan Bay Area. An unincorporated town of approximately 150 households, Canyon has no artificial nor arbitrary boundaries defining it. It is one of those special places that nature has provided in which topography combines with the forest to create a fertile ecosystem for memory, imagination, and myth. Because of a unique identity that differentiates Canyon from the recurring paradigms of city and suburb, it is an important place to preserve and nurture in the interest of having a rich, diverse cultural landscape.

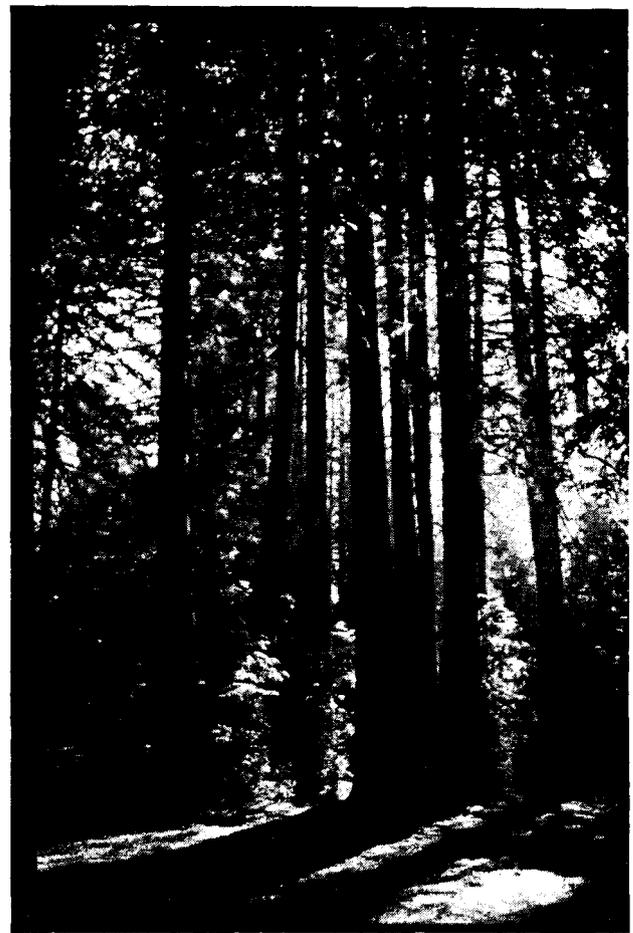


Fig. 1. The Redwoods.

Canyon's legacy is rich and varied due to the landscape and to the people drawn to it. But by the 1980s the public realm there had eroded. There were two public buildings; the post office housed in a trailer and a small ramshackle schoolhouse which had essentially been condemned. Our work involved the reconstruction of the post office and the school into permanent public places that ensured the preservation of Canyon's unique identity, giving residents places to gather

and providing a public realm for the community. Our method was to engage with the participants and understand the place as much as we could, and then to design public places that could promote identity by serving as links between the natural landscape and the people, to somehow make clear how essential is the link between experience of the physical landscape and experience of belonging to a small rural community.

## BACKGROUND

Public places are loaded with significance because they are lodged in the imaginations of many people and structure their interaction. Places result from the intersection of the enduring facts of the world: sun, wind, earth, water, vegetation, and our propensity to define and construct in order to control the impact of the surroundings on our lives. Places are space to which people can give the dimensions of their imaginations and which they can hold in their minds.<sup>4</sup>

There are two public buildings in the rural community of Canyon, California. One is the Post Office and the other, a short walk down the county road or along the former railroad bed, is the small public school. There is actually another way to get to the school, which is to take a path that winds through the woods known as the "Peanut Trail." The name is an oblique reference to the fact that the normal habitués of the Peanut Trail are small children, but anyone who walks on the trail is likely to feel a sense of child-like wonder. The trail follows San Leandro Creek; brushes past large graceful sword ferns, stoops under creek dogwoods, bay and madrone trees, and honeysuckle; steps over patches of miner's lettuce, virgin's bower, wild lilac and ginger, snowberry, star flower, and avoids patches of hedge nettles and poison oak. Everywhere the forest floor is a springy soft reddish brown duff of needles over dark rich loam densely matted with tiny hair like roots. These roots feed the giant Sequoia Semperavirens or coast redwood trees which tower over the hundred or so other plant species that make up the native forest in Canyon. In a few places the trail wanders through one of the groups of these giant trees that tend to grow in thirty foot diameter rings around the former stumps of their ancestors. Looking up into the soaring vertical space formed by a ring of redwoods is to feel connected to a small patch of visible blue sky by a soaring column of air that was once a giant tree. The children along the peanut trail will recite the specific names that have been passed down through generations of kids for each place or thing along the trail. Hence this tree is "the Wart," that log is the "Noggin," a lightning stunted redwood is "Flat-top." These are not just so many trees but a place where each element is familiar and has a proper name.

At the school site the creek makes three wide meanders through large redwoods on the narrow strip of flat land between the road and the old railroad embankment. Within the first meander was a grove of big old eucalyptus trees. Within the second meander was the school play area; basi-



Fig. 2. The old Canyon School

cally a clearing in the redwood forest known as the "Big-Field." At the point of this peninsula the redwoods formed a colonnade known as the "Apse." This has always been the site of outdoor gatherings and benefit concerts at the school. Within the third meander was the old Canyon School itself, shaped like an "L" around a small paved courtyard. Beyond the school the creek ran through a very large area of redwoods known as "the Grove."

The story of the school begins in 1917, when finding itself beyond the boundaries of other school districts, the community organized its own public school district according to the state laws. They chose a school board, levied taxes, hired a teacher, and built a one room school house.<sup>5</sup> This building was added onto in 1949 and again in 1970. By 1985 it was a three classroom school that housed about 60 students ranging from kindergarten through eighth grade. That year the California Office of the State Architect inspected the school and informed the Canyon School District Governing Board that the original 1917 building and the 1970 addition had never been certified as meeting the required standards for earthquake resistance. Public school buildings and hospitals are the most stringently regulated buildings in California, and state law requires such certification if the state is to bear any liability.

The beloved old building was too small, had little foundation, was falling apart, did not meet the code requirements for accessibility and had numerous other problems. The cost of renovation was high and there was no ready funding mechanism for all of it. When it became clear that it could not be upgraded to meet all of the required standards, the school board was faced with a choice. They could accept personal liability for continuing school in the old building or somehow build a new one. Of course there was another option, which was to not have a school in Canyon anymore and instead to send Canyon children to the neighboring suburban town of Moraga for schooling. Moraga is only 5 miles away and the children could be bussed to the modern elementary and intermediate schools there. However this alternative was out of the question for several reasons. First of all the cost of bussing would start to exceed the cost of a new school after a decade and it was not clear how this could be paid for. But the main reason was that the school is considered the center of

public community life in Canyon and without it many residents felt that Canyon would lose its identity and its voice.

Because Canyon is not incorporated as a town, it is officially under the jurisdiction of the county of Contra Costa. The lines of authority that extend from the county to Canyon are concerned mostly with regulations regarding such things as the county road, grading and building permits, and septic and water systems. At the same time, because Canyon is a single-school district, it has its own District Governing Board. This Board is comprised entirely of elected volunteers. As a Board, these volunteers become official representatives, a "lead agency," of the state of California and are thus invested with considerable power, responsibility and workload. If governance has to do with the concerns of people's daily lives, then it is the school board and not the county that has the greatest day to day actual effect on the lives of most people in Canyon. There are a lot of families with kids in Canyon. Most of the kids go to the school and the families of Canyon are very concerned with what goes on there in a direct way almost every day. As the only Canyon-specific governing body, the Board occasionally serves as the interface between the concerns of the community and the often conflicting interests of the larger administrative and governmental bureaucracies with jurisdictions in Canyon. Thus not only is the school a center of interest within the community but its governing board comes closest to representing the political identity and voice of Canyon outside the community.

In 1985 I was still living in Canyon where I had designed the Post Office and "town square." I was also teaching architecture at U.C. Berkeley. During the period that the school board was deliberating the fate of the old school, I had my design studio produce different potential alternatives and present them to the community. They were exciting visions of what could be. We engaged the board in discussions about what Canyon School meant to the community. We educated the board about their power as a lead agency.' We also researched what would be required to build a new school, learning that due to its complexity there was a slim chance that it could ever be done. There were many reasons. The school property was tiny and divided by a meandering watershed stream. The project would require completely new independent water supply and septic systems. Stringent state regulations mandated a building of a certain minimum size that didn't seem like it would fit the site. The difficulty of the site would make construction very expensive. Where would kids go to school during a multi-year construction project? Could the commitment of the volunteer board and building committee be sustained through the long difficult process? Finally, the East Bay Municipal Utilities District (EBMUD) that owned and managed most of Canyon as a watershed would rather the school go away and would probably enlist the Contra Costa County Department of Environmental Health to try and stop the project.<sup>8</sup> Despite these challenges a critical mass of key people became convinced that the singularity of this place demanded the preservation of its own separate and alternative public identity.' The school board decided to

pursue the construction of a new school, appointed a building committee to oversee the project, and commissioned me to do the design.<sup>10</sup>

### Strategies For Survival

Funding for construction of public schools in California is heavily subsidized by the State." The funds are made available through school construction bond issues placed on statewide election ballots. The larger and wealthier school districts also have the ability to pass local bond initiatives to raise some of the money needed for school construction directly from their local communities. A small poor community has to rely completely on the state bond funds. Though large districts may require less percentage of support from the state, their state subsidy is still many times the amount a small district usually needs. This system makes it possible for small school districts like Canyon to continue to exist if they can manage to compete for the limited state funds. Survival in the competition requires having someone pay constant attention to shepherding a project through a long and very complicated arduous bureaucratic process, and to continuously advocate for it.<sup>12</sup> Large districts usually have salaried project managers to do this. Canyon School District relied on Ellin Barret, a committed volunteer board member and "District Representative," and myself, the architect.<sup>13</sup>

We developed a "campaign strategy,"<sup>14</sup> the basic idea of which was to learn the entire process better than any other player in it and to therefore shift from being clients of the process to become proactive client managers of the process. It took seven years of intense effort including a public relations campaign, lobbying, political strategies, bureaucratic management, and additional fundraising. But we were able to build a new public elementary school project in a redwood forested canyon alongside a watershed stream which included: three buildings, three bridges, a playground and extensive site work, all built to rigorous California seismic safety standards, through competitive public bidding, on a tight budget. We were also able to include daylighting design, a complete water system, a complete septic system,<sup>15</sup> and the restoration of the watershed creek and native plant community in the area.

### Place Specific Design

Public school construction in California is a cumbersome process at best and the standards for such construction were not established to relate to the complexities of situations like Canyon's. Common to all new schools, the process combines the most meticulous regulatory criteria and demands with the legal requirement that the low bidder gets the job. This has the unhappy consequence of marrying great complexity with extreme stringency. In many cases, to meet the requirements with the least cost, schools are standardized to a sort of lowest common denominator of design and material expectation. Many schools in California have been built this way.<sup>16</sup> Thus our experienced consulting geotechnical engineers recom-

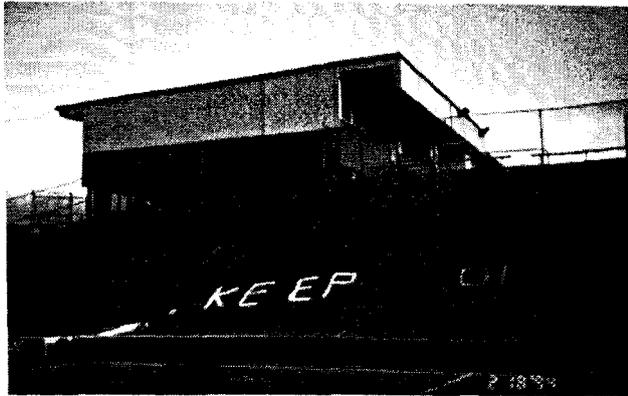


Fig. 3: An example of the lowest common denominator.

mended a standard approach to public school construction; we should clear the site of redwood trees, straighten the creek into a culvert, grade a massive building pad, build a large retaining wall at the railroad embankment, then build the school. But the community mandated that the redwoods, the creek, and the hillside should be preserved to the greatest extent possible. And as architects, we wanted to celebrate what was special about Canyon by addressing the complexity of this unique site as a whole system.

Our site design techniques achieved the dual goal of constructing the project and preserving the natural features—the creek, the native vegetation and the topography." The approach was both managerial and technical, and required careful understanding of, and tediously detailed attention to, the site and methods of construction. It required forcing the cumbersome machinery of public school construction to deal with complexity. Managerial techniques included phasing construction to avoid overwhelming the site with too many operations at once. Technical methods included using costlier pier and grade beam foundations to avoid trenching for standard footings that would cut too many redwood tree roots. These techniques and methods also applied to the creek and topography.

### The Ecosystem of the Creek

San Leandro Creek supports a native run of trout, and feeds the San Leandro Reservoir as part of the East Bay Municipal Utilities District watershed. The stream is state-protected; any work done in or directly adjacent to it is strictly regulated by the State Department of Fish & Wildlife. The creek is also subject to periodic flooding, which causes erosion (and eventually a different course). To protect its investment in the new school, the state required that flood/erosion-control measures be provided. The stream, disturbed by past dumping, also needed to be cleaned up.

The conventional approach to flood/erosion control usually involved lining a creek with concrete. But our mandate was to preserve its natural character. We integrated our solution to the flood control issue into the overall site planning. The necessity of doing flood control work on the stream and our intention to do stream restoration made our project

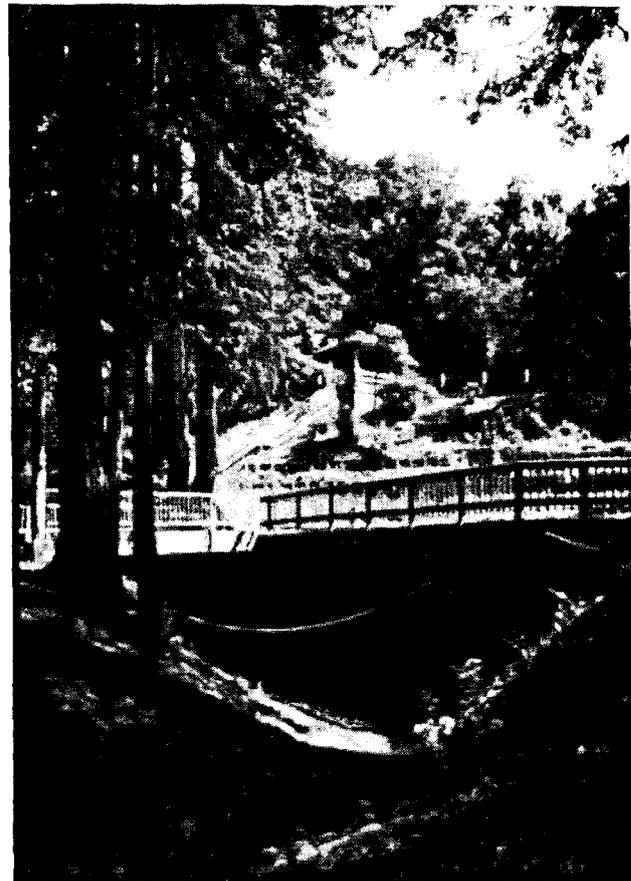


Fig. 4. Paths and places

eligible for other sources of funding. We applied for and were awarded a \$76,000 "Stream Restoration Grant" from the State Department of Water Resources. Our strategy was to treat the entire site as a riparian area so the stream grant could enhance the funds available to do all of the site work. It allowed us to clean up the creek, utilize flood control techniques that preserved most of the creek's natural character, and subsidized the cost of the rest of the general site work.

We built funding for site specific native plant reforestation into the grant. We retained a native plants consultant who identified, collected, preserved, and propagated a complete cross-section of site specific native plants. Before construction of the school was ever started, she had spent a year hiking around the site and the canyon identifying and collecting a complete cross section of native plant specimens. These were propagated off-site and throughout the construction project were continuously replanted into gabions, crib walls and in the creek banks for erosion control and reforestation. The riparian habitat restoration project became the basis for an ongoing environmental science program for the students, helping to connect the children to the uniqueness of their surrounding environment.

The Peanut Trail's relation to the creek inspired our approach to the issue of pedestrian access throughout the site. We designed a system of pathways including the three required bridges, stairs, and decks overlooking the creek to

provide a continuous sequence of unique settings as one moves through the canyon. Serving to interconnect the community and its public spaces, from the "town square" at the Post Office to the "piazza" at the school, these pathways satisfy the requirements of pedestrian access while heightening sensitivity to nature.

### THE MASTER PLAN

There were only two possible sites for the new school: the site on which the old school still sat or the "Big Field" site just across the creek. Several in the community had not wanted to build a new school but had wanted instead to somehow fix up the old one. Now these same people felt that if a new school had to be built it should be built, for the sake of tradition, on the site of the old one. We argued that the school should be built on the Big Field for several practical reasons: 1. Though students would lose the playfield during construction, they would be able to keep attending the old school until the new one was ready. Otherwise where would they go to school? 2. The Big Field site was high enough that gravity could carry

waste under a bridge to the old school site which could have a septic drain field under a new playground. Otherwise pumps would be required to carry waste the other way. But the arguments that ultimately prevailed were less practical and had more to do with place identity. We had presented the historic example of the Ise Shrine, where during twenty year intervals, a new shrine is reconstructed right next to the old shrine. Upon the completion of the new shrine, the old shrine is removed and the process begins again in a continuous cycle of renewal. We also pointed out that the students, while staying in the old school, would witness the history of their community changing and perhaps feel more connected to the new school.

We developed a master plan showing parking and access in the first creek meander, "Bridge #1" providing emergency vehicle access to the courtyard and school in the middle creek meander, and "Bridge #2" providing pedestrian (and utility) access to the playfield and septic drain field in the third meander. "Bridge #3" would extend the new playfield into the vast area of redwoods known as "The Grove." We secured the

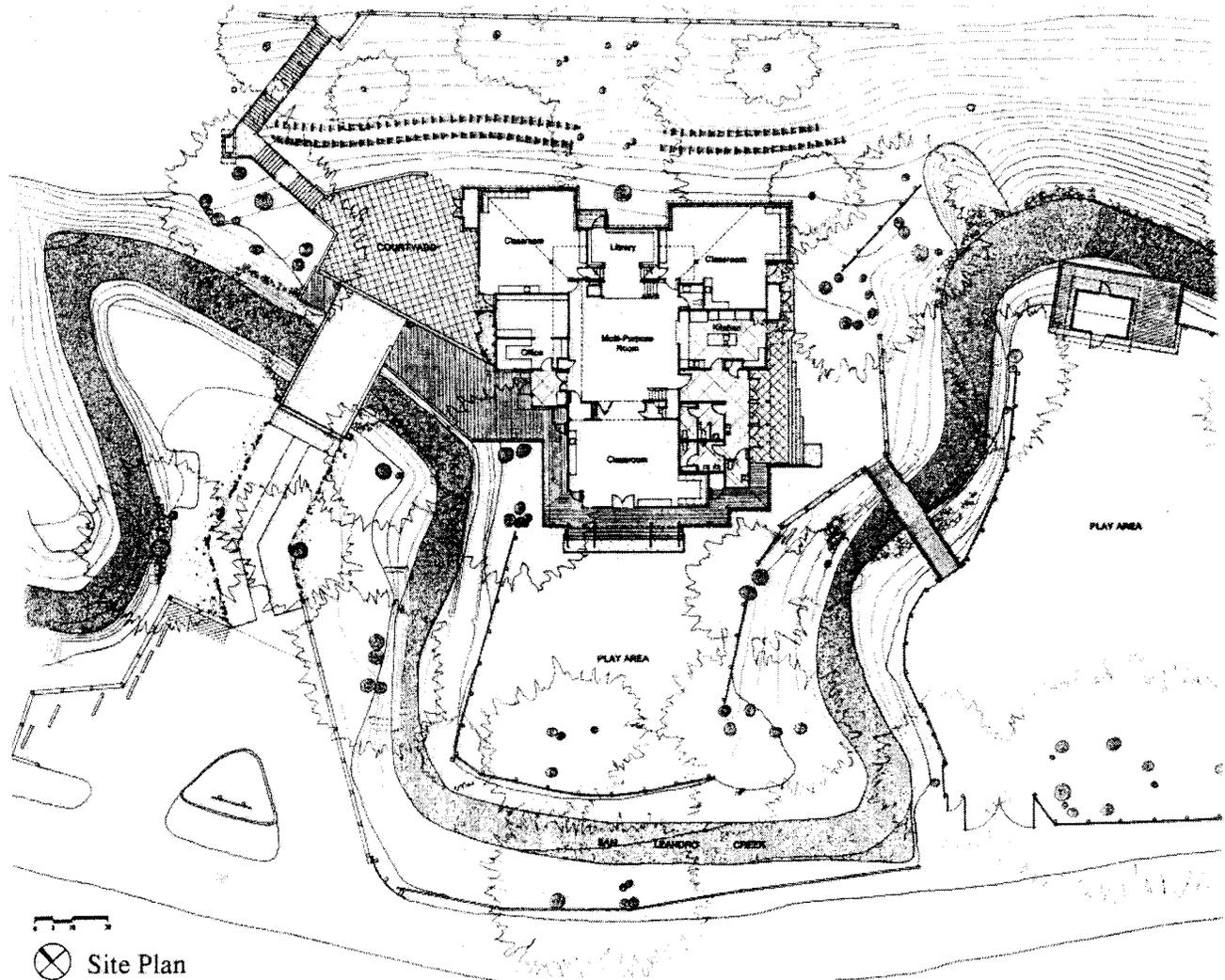


Fig. 5. Site plan.

approval of all the numerous state agencies involved or even peripherally related.<sup>18</sup> We secured concept approval from the county agencies.<sup>19</sup> Then the school board, as the lead agency for the state, complied with the California Environmental Quality Act, by declaring the project "categorically exempt."<sup>20</sup>

The area of land defined by the creek's first meander was the ideal location for vehicle access and parking as it was adjacent to the county road. Unfortunately that land was owned by EBMUD. There had been a long and bitter history of EBMUD's efforts to rid the watershed of the community of Canyon through condemnation and demolition.<sup>21</sup> We certainly felt that they could stop the project and might be inclined to try. We had notified EBMUD about our project at the time of filing our CEQA forms but fortunately they were too slow to respond or issue a delaying challenge within the legal time limit. The next thing they knew they were facing the Canyon School Board, with all necessary approvals, acting now as a lead agency of the State of California, requesting why 2.5 acres of their many thousands of acres of watershed should not be condemned for additional school site. Canyon School was prepared to go forward with condemnation proceedings but an acceptable compromise was reached and EBMUD made the parking area as well as "The Grove" available for use by the school.

### The Canyon School Building

Now there is new interest in smaller schools. Because of their more modest size, these facilities are seen as being more agreeable in scale, less threatening, and less institutional.... In the long run, these institutions prove to be much more flexible."

Canyon is fortunate for the long tradition of parents and residents taking a very active role in the life of the school. We met with the building committee, the school board, and the community over 100 times during the seven year project to encourage participation and consensus building through the design process. We insisted on such a consensus-building participatory design process that took longer than public funding agencies would have liked but which assured continued community involvement.<sup>23</sup>

There was always wide agreement that the new school should have some kind of assembly or multi-purpose room. Specifically such a room could accommodate the two semi-annual all Canyon School presentations which are big events in the community and which used to squeeze into the larger classroom of the old school. Generally speaking we felt that Canyon needed some kind of large public interior space, a room that could serve as the de facto "town hall" and community gathering place. In addition, the 6,500 square foot school building would continue to have three mixed grade classrooms, an office and conference room, a library, a kitchen, and toilet rooms.

We designed the building to integrate with and reflect the topographically rich natural environment of Canyon. It is accessible, yet many interesting levels, nooks, crannies, and

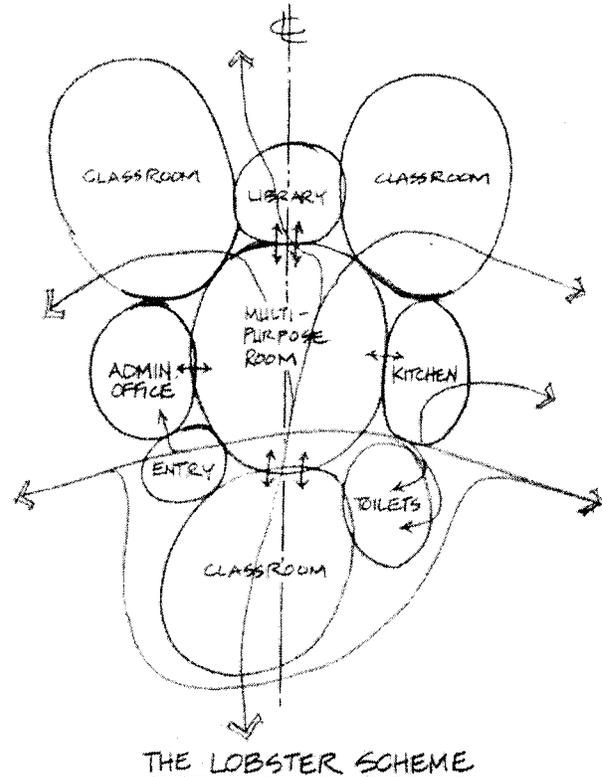


Fig. 6. The Lobster scheme.

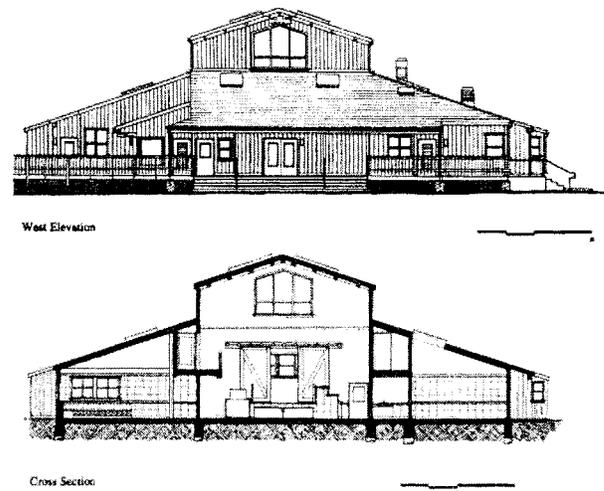


Fig. 7. Cross section and west elevation

a rich variety of group activity settings for teaching and learning are provided both indoors and outdoors. The nature of the site dictated much of the form of the building in its necessary interaction with the trees and the creek and took a shape that the children gleefully referred to as the "lobster" scheme.

The body of the lobster is a central two story multi-purpose room that rises out of the building allowing it to have clerestory windows. The roof slope of the school was then adjusted

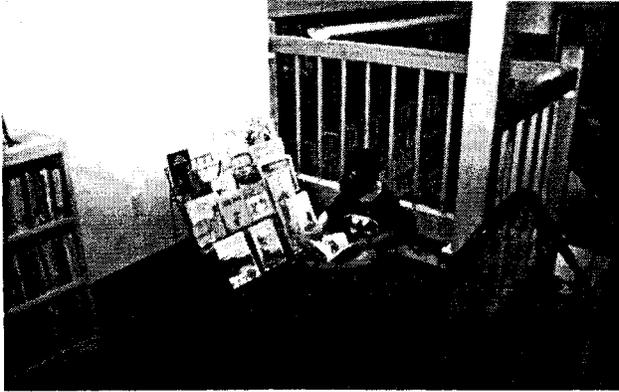


Fig. 8. Library nook.

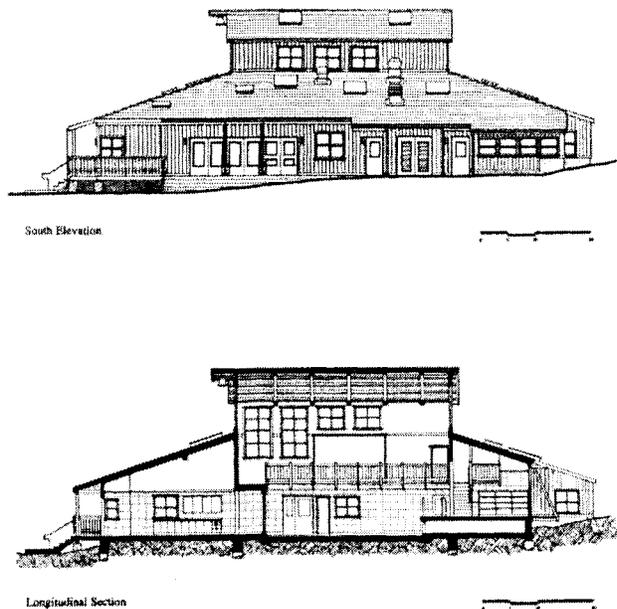


Fig. 9. Longitudinal section and south elevation.

to allow maximum sun into the courtyard on the north side of the building and to leave headroom for an upper mezzanine walkway on two sides of the central room.

At one end of this room, the head of the lobster, is a raised platform in front of a very large opening controlled by barn-style doors. The library is on this raised platform behind the doors. The library's platform opening doubles as a proscenium to support the many children's as well as community performances that occur there. Adjacent "nooks" within the library provide opportunities for reading and escape in this otherwise public building. The mezzanine is connected to the library through one of the nooks and wraps around the multi-purpose room to allow for stage management and performance viewing.

At the other end of the multi-purpose room, on axis with the proscenium, is a folding wall which can be opened into one of the classrooms at the tail of the lobster to accommodate large assembly crowds. The other two classrooms are at the

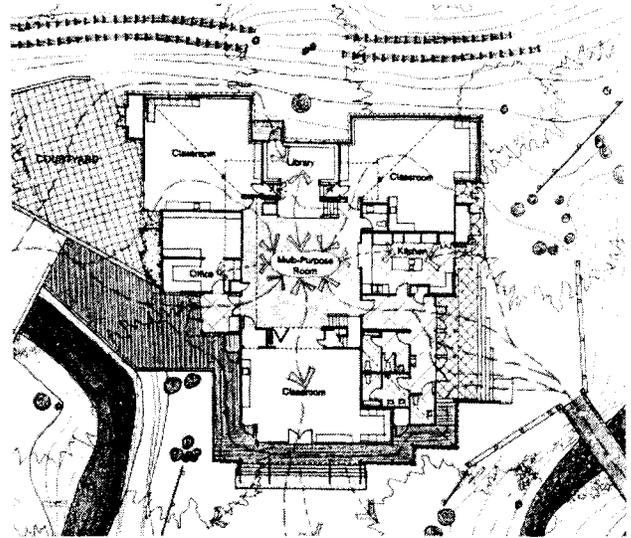


Fig. 10. Floor plan.

claws of the lobster and also connect to the multi purpose room. Each classroom in the school is unique, influenced in structure and fenestration by the character of the portion of the site to which it is oriented. This configuration reflects the nature of the Canyon School curriculum, in which due to the mixed grade classrooms, teachers have developed curricula in response to the individual children rather than pre-packaged, homogenized teaching materials for stratified grade levels. The three rooms are divided into grade groupings: K-2 in one room, 3-5 in another, and 6-8 in the third. Working with the building committee we designed each classroom to support a wide variety of activities, with a "wet" area for art and science projects, a "soft" area for individual and small group activities, and a more traditional formal teaching area.

The lunch program at the school is a valued tradition of hospitable family-style meals prepared on a daily basis. We designed a comfortable kitchen which can serve meals to the multi-purpose room through a roll up window. A sunny small dining area in the kitchen invites informal hanging out and the central prep table is suitable for children's cooking lessons."

Canyon School is intended to act as a gentle lens which focuses awareness on both the natural setting and on the communal experience of schooling at the same time. The building is designed to allow for both the interpretation of nature as well as seamlessly combine nature with the daily life of human interactions in the school.

We have an innate capacity for remembering and imagining places. Perception, memory and imagination are in constant interaction; the domain of presence fuses into images of memory and fantasy.<sup>25</sup>

Imagine a level clearing in a forest of monumental trees. There is a creek murmuring in the shadows. There are shafts of sunlight. There are patterns of paths to the clearing that people have made because the clearing is a good place to meet as a group. Now there is a large room there. The shafts of sun filter through the structure. The doors into the room are



Fig. 11. Multi-purpose room.

continuations of the paths in the forest that start from and lead back to other specific places, scattered homes and work. The room gives structure to the confluence of pathways whose interwoven pattern defines the identity of Canyon. Each door presents a slightly different aspect of the site. Out this door is the hillside, out another door is the school piazza, out still another door is the sound of the creek coming up through the deck boards.

From inside the school the tops of the redwoods are visible, gently swaying in the breeze. The clearing has become the central meeting room of the school and the heart of the community. Each room in the school has its own unique character, but all of them open onto this central room where there is a platform for speaking, a balcony from which to watch the proceedings, and a floor from which to participate. The room is designed to direct our attention to each other and to the joys of being present in this time and place.

#### **Identity Through An Environment of Consciousness**

Identity of a place depends upon the conscious construction of an harmonious ecosystem that includes both the environments of human culture and of nature. Canyon School demonstrates how geography, nature and culture combine to form an environment that creates community identity. Identity



implies knowledge and recognition, and therefore relies on consciousness. The word consciousness comes from the Latin *conscientia*, or "together knowledge." "The logical structure of the concept 'environment' depends upon the existence of such shared knowledge and consciousness."<sup>26</sup> Place awareness relies on the concept of shared awareness. Shared awareness is a prerequisite of community identity.

Undeniably the strength of Canyon's identity is due in large part to its natural setting. People have now become a permanent part of this natural ecosystem. The need for public space that precipitated our involvement was in some sense a call for a more permanent presence of the human element in Canyon's ecosystem. Our motivation sprang from a desire to create a public building that did not contribute to the increasing monoculture and obliteration of memory in the American landscape. The process required much more energy and time; we worked to the end of our endurance to preserve and celebrate this community within a system that tends to encourage a lack of care.

By all accounts, the local community very much appreciates their new post office and school. From a more global viewpoint, however, the design of these two public places is often judged in relation to a non-regional, media driven standard, and their architecture is not spectacular despite their

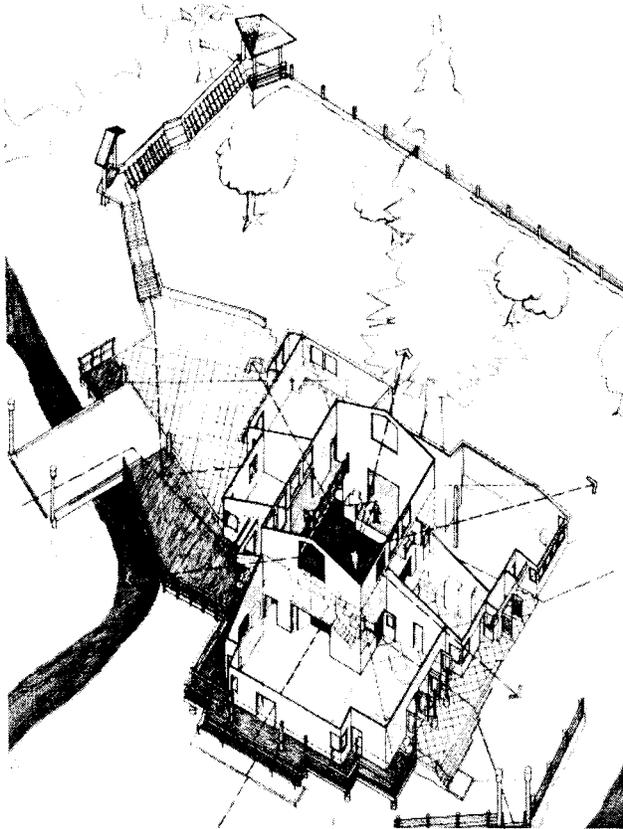


Fig. 12. Axonometric.

thoughtful creation." We rejected standard single-issue solutions in favor of place-specific, whole-system design responses. In our attempt to create places for people in buildings that harmonize with their natural settings, we resisted pressures to create either "Logo" architecture on the one hand, or off-the-shelf designs common in a global economy on the other. With the idea that the greatest art is to conceal art, we felt that the impact over the long-term would be greater if the work was not self-conscious. Rather, in resisting the overwhelming forces of global homogeneity, our most prominent goal for the community of Canyon was to create spaces within which this little microcosm of alternative culture could thrive and flourish.

The sense of place is not within the grasp of the architect alone....It is not the designer who creates the sense of place. It is the user or observer. The designer merely sets out opportunities for others to use - to make distinctions, to perceive connections, and to take advantage of (or not) of the structure of thought that is there."

## NOTES

- <sup>1</sup> J.B. Jackson, *A Sense of Place, A Sense of Time* (New Haven: Yale University Press, 1994), p. 159.
- <sup>2</sup> Folke Nyberg, "Logo Architecture and the Architecture of Logos," *Column Five: Journal of Architecture of the University of*

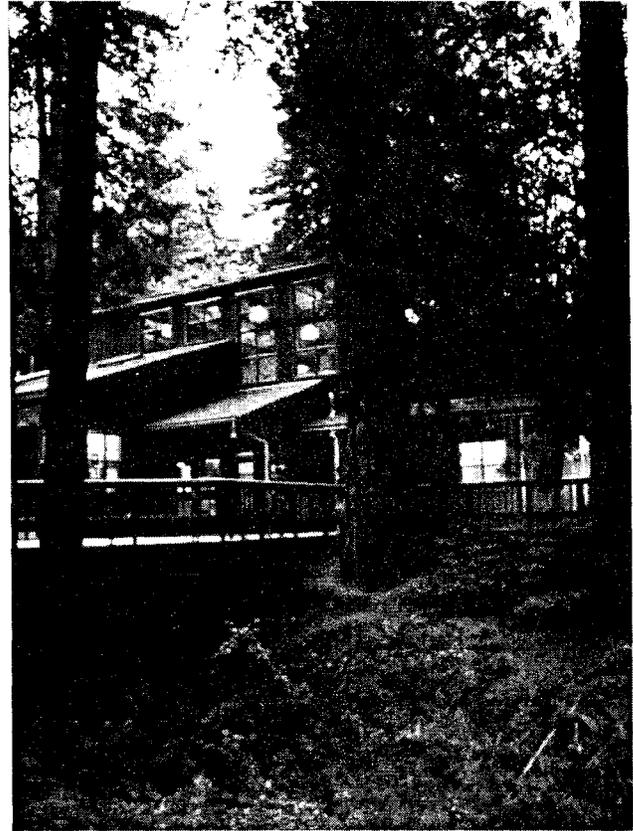


Fig. 13. The School in the Redwoods

*Washington* Volume 8, (1994), p. 5.

Paul Tillich, *Theology of Culture* (Oxford: Oxford University Press, 1959), p. 16.

<sup>3</sup> See: Phillip Thiel, *Visual Awareness and Design* (Seattle: University of Washington Press, 1981), p. 26.

<sup>4</sup> Doniyn Lyndon, "On Places." *Places: A Quarterly Journal of Environmental Design* Vol. 4, No. 1, (1987), p. 9.

<sup>5</sup> Van Der Zee, John. *Canyon: The Story of the last Rustic Community in Metropolitan America*. (New York: Harcourt Brace Jovanovich, Inc., 1971), p. 22.

<sup>6</sup> The Field Act & the Garrison Act. Sections 39210-39234 and Section 39141.3 of the State Education Code. The intention of these laws is to protect the children but also to plan that schools would be able to survive earthquakes intact and therefore be available as emergency shelters.

<sup>7</sup> The architecture students sense of limitless potential was very inspiring to the community. The school board, though made up of very public spirited volunteers, was not completely informed about their responsibility and power until the District Representative, Ellin Barret, and I briefed them on the potential for such a project and the fact that they actually had the power to set it motion.

<sup>8</sup> For history of past relations between EBMUD and Canyon see Part 1 of this paper earlier in this volume.

See also: John Van Der Zee. *Canyon: The Story of the last Rustic Community in Metropolitan America*. (New York: Harcourt Brace Jovanovich, Inc., 1971). and. John W. Noble. *Its Name Was M.U.D.* - (official history of the East Bay Municipal Utilities District). (Oakland: East Bay Municipal Utilities District, 1970).

<sup>9</sup> The larger question of whether it was an "efficient" use of public funding to build a school in Canyon when there was another school district 5 miles away was answered vehemently. Canyon

residents had watched for years as their own homes were condemned and destroyed in the name of protecting a watershed that supplied nearby unchecked suburban sprawl including developments such as "Blackhawk", where \$2 million homes surround golf courses cheek by jowl and use an average of 30,000 gallons of water per day per household.

- <sup>10</sup> I employed two people to work on this project: Paul Kotapish who worked on the site work plans in 1989-90, and Sandy Stannard, who joined the project in 1991 after completing graduate school, and provided the indispensable energy and enthusiasm that enabled us to complete it. Professor Stannard also put together the first draft of this paper out of writings we have done since the project was completed.
- <sup>11</sup> Passage of State Proposition 13 in 1978 made school districts unable to raise local property taxes shifting the burden of the cost of school construction back to the state. In 1986 School Districts won back the legal authority to sell bonds but not to raise property taxes.
- <sup>12</sup> Frank Gunnison, "Schools Take Years To Build As Classroom Shortage Grows," *San Francisco Chronicle*, 3/27/91. In 1990 \$1.6 billion was approved by California voters but there was at least \$6 billion in need for school facilities. A 1987 Price Waterhouse study said that half the applications for new schools took more than 755 days to be processed by the state and some took more than four years. There were sometimes as many as 90 forms to complete and a 190 page handbook to follow to comply with the funding requirements. At the same time very meticulous design reviews and constant attention to changes in the process were also required. A public school might take 5 years to build, four for paperwork and one for construction. There were 54 steps in the funding process but no money available to fund the administrative costs of following the steps. An entire industry of consultants in the state capital was ready to take the district's money to help decipher the bureaucracy. Larger school districts, such as Los Angeles Unified, keep whole staffs of people in Sacramento to follow projects.
- <sup>13</sup> This required a re-examination of the role of the architect. It was clear that simply working with the building committee to do a design and to then hand it over relying on someone else to see it through would not work. The project was too complex for the volunteers who made up the board and the building committee to manage. Even though some of them were very competent professional people, they had jobs, families and other obligations, and could not be expected to put in the time required. The project had to become a total commitment for myself and Ellin Barret, to not just design a building but to design an entire strategy for making the building happen and then see that it did. In that spirit I bought an old construction job shack trailer and moved it into the canyon. I remodeled it into a field office and found that by 1988, armed with computers and a fax, a single architect with a small office could compete with larger entities. The construction management burden, imposed by the bureaucracy and the regulations, of a state school project is daunting. Small projects are almost as much work as large projects. Larger firms that "do schools" as bread and butter type work have budgets for staff and procedures already set up. The modest architectural fees allowed on a small school project discourage one time set-up of such management procedures. Our dilemma was how to pay for the daily administration of the project. The state requires a resident building inspector on the site all day every day. The inspector is employed by the District but approved by, and answers to the architect. To flatten the management, and to subsidize my more intensive involvement in the project, I took the requisite exams to become the state school inspector.
- <sup>14</sup> Our strategy included the following key points:  
A. Trust, partnership and total commitment between the architect

and client. Expand the role of architect to include advocacy and action. Empower the architect not just to do a design but to make it happen.

B. Extend the idea of design into the realms of public relations, lobbying, political strategy, bureaucratic management, fundraising, etc.

C. Identify the key challenges early and develop proactive strategies for overcoming them before they become problems.

D. Promote the election of people to the school board who were committed to the project and continue to educate them about their political power.

E. Continuously and publicly assert the identity and value of the community and the quality of the school program, its history and right to exist.

F. Achieve consensus support in the community through a participatory design process.

G. Master the bureaucratic processes. Learn more about the funding and approval bureaucracy than any other player in it.

H. Continuously and publicly assert the right of the community to have the highest quality solutions. Design a project worthy of the effort and of the extraordinary site.

I. Understand the particular technical issues of construction at the Canyon site so well as to be able to guarantee its feasibility.

- <sup>15</sup> Again presenting an anomaly that differentiates the Canyon School from most other public schools in California was the need to establish and construct basic utility infrastructure for the school. These utilities included a new well and independent water system utilizing state-of-the-art filtration/ozonation treatment that does not use chemicals (chlorine) that could pollute the watershed and that meets the rigorous state and federal treatment requirements for public drinking water, and a new independent septic system integrating dosing control and valved leachfields.

- <sup>16</sup> It seems the strict regulations and the competitive bid industrialized construction process can discourage innovation because too much extra effort is required to do anything beyond a norm that regulators are used to approving and the "school contractors" are used to building. The regulations and standard specifications are so well known that the materials and methods have become formulaic. Once we were publicly listed as the architects, we were buried in mailings from contractors, subs, and suppliers with their "line cards" of standard materials that "everybody uses."

It took a huge effort and cost to get the Office of the State Architect Structural Safety Section to approve a concrete crib retaining wall in lieu of paving the hillside with concrete simply because the latter is what they were used to.

The state normally funded what was considered the conventional building envelope at a given cost. The California Energy Commission lobbied the Office of Public School Construction to make supplemental funding available for design features that would conserve "unreplenishable energy resources." We were able to utilize the resulting program (approved in 1988) to get what was called, interestingly enough, an "unconventional energy" grant which paid for a modest daylighting strategy (skylights in key places), an enhanced insulation package, and an energy management system; elements that one might consider should be part of the norm to begin with.

- <sup>17</sup> Jonathan Reich, "The School Built Among the Redwoods" in *On The Ground*, Volume 1, No. 2, (Berkeley, Thousand Words, Winter/Spring 1995), pp. 20-21. Describes our site work methods in more detail.

- <sup>18</sup> State of California agencies: Office of Local Assistance (OLA) (Now the office of Public School Construction), Department of Education (DE), Office of Planning and Research (OPR), State Fire Marshall Division of Industrial Safety and Inspections, Department of Transportation (CALTRANS) Department of Fish And Game, Office of the State Architect



Figure 14: Lunch.

(OSA) Structural Safety and Access Compliance Sections. Department of Health Services. Board of Public Health & Sanitary Engineering, Division of Mines and Geology, State Water Resources Control Board. Department of Water Resources. California Energy Commission (CEC), California Environmental Quality Act (CEQA) Officer @ OLA. Other Agencies:—East Bay Municipal Utilities District (EBMUD), East Bay Regional Parks, Moraga Fire District, Pacific Gas & Electric (PGE).

- <sup>19</sup> Contra Costa County: Assessor's Office, Community Development Department, Public Works Department. Environmental Health Department. The single most important thing we did, was to very early on, secure a letter describing the type of septic system that would be approved for the new school, written and signed by the health inspector. This proved decisive later when our project was challenged by a new health inspector. EBMUD and the Health Department had always worried about the school polluting the creek with sewage. We began a program of creek water quality testing at the very outset of the project that indicated that neither the existing school nor the new school was a source of pollution. Of course the reservoir has always been polluted anyway by the cattle that graze all around it (as well as by all of the other warm blooded animals in the watershed). This type of pollution is exactly what EBMUD's treatment systems are set up to handle. Unfortunately the creeks that drain to the reservoir from the nearby suburbs of Moraga are polluted with pesticides, herbicides, solvents, heavy metals and other chemicals from the run off of golf courses, lawns, and shopping center parking lots. Many of these chemicals are listed by the EPA as dangerous, their synergistic effects are unknown, and there is

little effective treatment.

- <sup>20</sup> The Canyon School project was "categorically exempt" from having to undergo an environmental impact review per Article 19. Section 15302(a) of the California Environmental Quality Act (CEQA) Guidelines which allows categorical exemptions for "...replacement of existing schools...to provide earthquake resistant structures which do not increase the capacity more than 50%."
- <sup>21</sup> Van Der Zee and Noble. Op. Cit.
- <sup>22</sup> Ben E. Graves. *School Ways: The Planning and Design of America's Schools* (New York: McGraw Hill, 1993), p. 4.
- <sup>23</sup> See: Henry Sanoff. *School Design: Planning With People*. (New York: Van Nostrand Reinhold, 1994). for excellent information about participatory planning case study school projects and techniques.
- <sup>24</sup> Canyon School's non-institutional, personal touch is in stark contrast to the assembly line uniformity of food service at some other schools. I visited the award winning "Golden View" (public) School in a nearby suburb several times to study their multi-purpose room and lunch program. Their kitchen was not set up nor used very much for cooking. On each occasion I visited, the dumpster was full of Styrofoam containers from the lunches that a local fast food franchise had contracted to provide to the kids.
- <sup>25</sup> Juhani Pallasmaa. *The Eyes of the Skin: Architecture and the Senses* (London: Academy Group Ltd., 1996), p. 47.
- <sup>26</sup> See: Thiel, Op Cit. p-264. and. Heinz Von Foerster, "Logical Structure of Environment and Its Internal Representation." *In International Design Conference, Aspen, 1962*, edited by R. E. Eckerstrom. (Zeeland, Michigan: Herman Miller, 1963).
- <sup>27</sup> Apart from two IESNA awards for interior lighting design and energy efficient lighting for the Canyon School, there has been very little recognition of this work by the architectural design community.
- <sup>28</sup> Donlyn Lyndon, "Caring About Places," *Places: A Quarterly Journal of Environmental Design* Vol. 2, No. 1 (1987), p 2.

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## PHOTOGRAPHY CREDIT

All photos and drawings by authors unless otherwise noted.