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What makes an architect a good financial manager?
Home At Last

When the first date for moving into our new offices came and went, we formed an office pool to predict the actual moving day. We figured that the prospect of financial gain would lighten our humor at having to work out of semi-packed boxes. Being a sporting fellow, the architect entered into the pool. He chose a date in 1986. What did he know that we didn’t?

Curiosity being a hallmark of human nature, we wandered singly and in groups over to the new space to observe the progress for ourselves. A ganglia of wires dangled from holes in the ceiling. Piles of wallboard promised partitions yet to come. A contractor bent over working drawings cursed all architects as blighted souls.

We went back to the office and took a few of the more essential items out of their boxes.

Days pass as they are wont to do, and the news flashed through the office that the carpet specially-designed for us was actually in transit. The subsequent flurry of inspection tours showed that walls were, indeed, in place, although some wore a peculiar tone. Those of us who dress for success were dismayed at the thought of having to invest in a new wardrobe in the bruised prune spectrum, but the architect soothed us with assurances that what we had witnessed was merely a base coat.

During the week or two that the carpet was due any day now, the pace began to pick up:

Boxes were repacked.
The only person who knew the formula for mixing the paint color recovered from the flu.
The inventory stickers on our office furniture started to curl up at the edges.

Carpenters foaming slightly at the mouth finished curving the conference room wall.

Our micro-refrigerator was defrosted and its contents donated to the biology department at UC Davis.

The lighting technician who wished all architects eternal insomnia in a very hot spot secured the fixtures that will do until the specified ones arrive next month.

Both the can opener and the pencil sharpener disappeared into unmarked boxes.

Several contingents of dignitaries walked through the new space verifying that the walls bore a relationship to the blueprints.

A bottle of wine that had turned to vinegar, a limp tuxedo tie, and an almost-hooked rug belonging, some say, to a former receptionist, were discarded.

Finally the City officially permitted us to occupy our new offices.

The tangible assets of the California Council, The American Institute of Architects were spread out over four blocks of downtown Sacramento and deposited in orderly stacks. Office elves failed to materialize overnight, so we spent a few days sifting through mountains of cardboard containers in search of our “in” boxes.

Lightheaded with the euphoria only offgassing can produce, we began to find our psychic balance within the new environment. A patina of order hangs over the office now. Most of the debris is stuffed into drawers. The telephones are hooked up. Loose ends are being rewoven into the fabric of efficiency. It’s starting to look like home again.

Someone somewhere once wrote that the Sanskrit word for “space,” literally translated, means “the opportunity for things to happen.” About a third of the area in our new office is designed for you architects out there. The conference room and reception/exhibition area, affectionately known as “the back forty,” stand empty right now, waiting for you to move in. So come by soon to claim your space and help the Council make things happen. But please, don’t bring any boxes.

By the way, no one won the office pool, not even the architect. Still, he was smiling the last time we saw him.

—JF
Workspace 85 is an exhibition concentrating product, technology and stimulating dialogue under one roof. It's for designers, architects, facilities managers and others who design, plan or manage the office.

Participants include Paul Goldberger, N.Y Times architecture critic; architects Philip Johnson and John Burgee; AT&T CEO Charles L. Brown; Niels Diffrient, and other leading designers.

Workspace 85 is produced and sponsored by National Fairs, Inc., in association with the IBD, Northern California Chapter.

For information: Technology Conference Group, 415/931-8255.

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The Navy Salutes Architecture

Two California firms were recognized in the ninth Biennial Awards Program for Distinguished Architectural Achievement sponsored by The American Institute of Architects and the Naval Facilities Engineering Command (NAVFAC). James McGraw Associates, San Diego, received a Merit Award for the LAMPS MK III Applied Instruction Building in San Diego. The Jury commented: "Natural light filters through exposed trusses and mechanical ducts in the central administration area and the main corridor. Other spaces are oriented toward the skylit area and borrow the natural light, creating a delightfully pleasant interior."

Kaplan/McLaughlin/Diaz, San Francisco, earned a Merit Award for the Engine Generator Building at Travis Air Force Base. The Jury was particularly impressed with the "care and effort taken by the architect in making what is usually an ordinary and mundane facility into a sculptural, fun, colorful, and pleasing addition to the built environment."

Jurors for the AIA/NAVFAC awards were Tai Soo Kim, AIA, Hartford, Connecticut; Homer Delawie, FAIA, San Diego; and Neil Jacobson, a student at the University of Utah.

CCAIA Firm Award

Daniel L. Dworsky, FAIA & Associates of Los Angeles is the recipient of the 1985 Firm Award, presented by the California Council, The American Institute of Architects. The annual Firm Award recognizes outstanding contributions to the built environment and active efforts to advance the profession of architecture.

In presenting the Award, the Jury commented: "For over 30 years, the firm has been a design leader in southern California, and early demonstrated that architecture can be achieved on modest budgets. The design example set by founder Dan Dworsky, FAIA, and his policy of providing opportunity and credit for his associates, attracts the best talents to the firm."

The firm's associates include vice president Bruce Sellery, AIA, CSI; senior associates Nathaniel Abrahms, AIA, Robert Levine, AIA and Robert Newsom, AIA; and associates James Bonar, FAIA, Allan Dietel, AIA, Robert Rosenberg, AIA, Gregory Serrao, AIA, Kenneth Stein, AIA, Wantland J. Smith, AIA, CE, Jorge Soto del Barco, AIA and Frank Webb, AIA.

A profile of work by Daniel L. Dworsky, FAIA & Associates will be featured in the September/October, 1985 issue of Architecture California.

Are You Charging Enough?

A nationwide survey of fees and pricing schedules for 474 design firms was just released by Professional Services Management Journal (PSMJ). The results show a 20 percent differential between the high and low regions, with the West having the highest fees and the East, South and Midwest the lowest fees. Large and full service (A/E/P) firms have the highest billing rates, while small architectural firms have the lowest.

The median billing rate for principals is now $75 per hour, with $60 for associates, $55 for project managers, $50
for project engineers and $45 for project architects, according to the survey. Custom contracts are used by 35 percent of the firms. Lump sum fees are the most predominant fee type (33 percent), while 16 percent of the firms report using hourly contracts.

The survey shows considerable variety in what firms bill in addition to fees. Copy charges are billed by 65 percent of the firms, and 55 percent bill for postage and shipping. Computer costs are billed to the client by 24 percent of the firms, while 32 percent include these costs in overhead. Policies on markups also vary, with western firms typically marking up these costs by 10 percent.

Data compiled by project type show that fees for government projects range higher than those for private sector clients. The fees for government projects vary from 10 percent for wastewater treatment plants to three percent for midrise office buildings.

Bidding/price competition now seems widespread in the industry with 75 percent of the responding firms participating in some form of bidding for design services, and 10 percent of all work originating from bidding/price competitions. Subconsultants reported a higher incidence of work from bidding/price competitions being required by the prime design professional. "While prime design firms do not want to compete on price themselves, they seem to want other design professionals to bid on their projects," remarked PSMJ Editor Frank Stasiowski. The complete survey is available for $90 from PSMJ, 126 Harvard Street, Brookline, MA 02146.

**REBAR CORROSION INHIBITOR**

The addition of calcium nitrite to concrete provides "long-term protection against corrosion-induced damage on properly engineered and constructed structures in severe salt environments," according to a recent test study conducted by the Federal Highway Administration. The calcium nitrite admixture forms a protective layer around the rebar, thus preventing corrosion. The technique, developed by W.R. Grace & Company, has various applications including bridge decks, parking garages, roof decks, and marine structures. For more information, contact Arthur Wallitt of W.R. Grace & Company, (617) 876-1400.

**ELECTRONIC OFFICE DESIGN**

Gensler & Associates of San Francisco won first place in Modern Office Technology magazine's 1984 Electronic Office Design Competition for innovative space
planning and interior design of the Crocker National Bank's Computer Systems Development department in San Francisco. The Jury commented: "From the angled top caps to the stair-stepped dividers to the fresh approach to interior fenestration, Gensler's design is innovative. Most definitely, this is a case study in not letting a tight schedule kill your imagination."

The program for the 125,000 square foot facility included four main goals: 1) devise a floor plan that anticipates organizational changes; 2) erect workstations using conventional metal stud and drywall construction; 3) wire workstations so that any type of terminal has cable access; and 4) create a pleasant office environment.

The use of gypboard to partition the workstations was a major money saver. According to Ray Henry, AIA, project director for Gensler & Associates, the drywall construction cost 30 percent of what systems furniture would cost. The cable wires were dropped from the ceiling to the permanent splines system that defines each workstation, thus eliminating unsightly power poles. Standard overhead light fixtures were placed in troughs along the splines to furnish uplighting. Cylindrical task lighting was added above writing surfaces.

"Crocker moves a lot," remarked Ray Henry. "They're always taking things down, putting them up again, and moving people around. So we developed the 'universal plan.' It's saved Crocker a ton of money."

**CERRITOS ARCHITECT HONORED**

Getting past planning commissions is a struggle no one likes, but Tomislav "Tom" Gabric has the process down pat: his 102nd design was recently approved by the City of Cerritos. Gabric says patience is the key to his success. "Any urban architect is in reality an intruder in another city," comments Gabric. "If you impose your design on the community, you must work with them for acceptance of the design. The city has requirements that each designer or architect should respect. Some architects have a hard time getting their designs through because they don't know how to negotiate."

The Yugoslavian refugee first came to America in 1962. Educated in France, Gabric started his own firm in the City of Commerce in 1972. His buildings reflect simple but distinctive one- or two-story forms distinguished by elegant entrances.

The City of Cerritos recently presented Gabric with a commendation for his architectural achievements. "He has done some beautiful buildings in Cerritos,"

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March/April 1985 Architecture California 13
said Planning Commissioner Ann Joynt. "It has really set a parklike tone for our industrial area."

**LANDSCAPING WITHOUT THE WATER**

The California Department of Water Resources is sponsoring "Xeriscape '85," a statewide conference on landscape water conservation on March 21-22 at the Westin South Coast Plaza Hotel in Costa Mesa. Topics include: 1) the impact of water availability on new developments; 2) cost effectiveness of water conserving landscapes; 3) state assistance programs for low water-using landscapes; 4) recent developments in low water-using landscapes; 5) research projects; and 6) seminars for homeowner associations, commercial property managers, and individual residences. Cost for the conference is $75 for both days, $50 for one day, and $60/$40 for students. To register contact Xeriscape '85, P.O. Box 656, La Habra, CA 90633, (714) 973-1023.

**HANDICAPPED ACCESS SEMINARS**

New construction standards relating to handicapped access in apartment buildings are the subject of training seminars sponsored by the State Department of Housing and Community Development and endorsed by the California Council, The American Institute of Architects. The seminars are scheduled for April 19, Concord; April 23, Sacramento; April 26, Riverside; May 3, Glendale; May 10, Redding; and May 17, Carlsbad. The cost is $40. For more information and a registration form, contact California Building Officials, 2215 - 21st Street, Sacramento, CA 95818, (916) 457-1103.

**REFERENCE BOOKS**

*Financial Management for Small Design Firms* is a 90 page manual prepared especially for the design professional giving concise, nontechnical information on the essentials of financial management. The manual can be obtained for $23 from Birnberg & Associates, 1905 North Halsted Street, Chicago, IL 60614, (312) 664-2300.

NCARB is publishing an all new, two volume *A.R.E. Handbook* to help prepare intern-architects to take the Architect Registration Examination. Volume 1 covers the three design-related divisions of the exam (Pre-Design, Site Design, and Building Design); Volume 2 deals with the remaining nine divisions. The two volume set is priced at $60, but can be purchased separately ($45 for Vol. 1, $25 for Vol. 2). To order, mail payment to NCARB, 1735 New York Avenue, NW, Suite 700, Washington, DC 20006.
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| Atrium Separation                  | 1715 (a) | 301.2         | 917.2     | 101  |
| Stage Proceum                      | 1904     | 404.11        | 917.6     | 101  |
| Special Hazard Areas               | 801 (d)  | 301.5         | 917.6     | 101  |
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CCAIA Awards

"Given the expected level of CCAIA work, its independence and variety, selection was not an easy task," said the jurors of the 1985 Honor Awards Program sponsored by the California Council, The American Institute of Architects. The Jury—Antoine Predock, FAIA from Albuquerque, New Mexico; John Follis, graphic artist from Los Angeles; and chair Robert Bliss, FAIA from Salt Lake City, Utah—reviewed 178 entries. Nine Honor Awards and three Merit Awards were presented.

One client was commended by the Jury. "It appears that the State of California is receiving high returns on its architectural investment," the Jury observed. The Jury concluded that the projects presented on the following pages "go beyond need and program and budget and system to become architecture."

Camino Alto Court
Mill Valley
Kaplan/McLaughlin/Diaz
Honor Award

Jury Comments: A housing project for people having various disabilities is realized through a design that is not handicapped by its users' special needs. A modest, simple, direct solution to housing the handicapped without obviousness or condescension.

SALLY SHACKLEFORD
**eats Restaurant**

**EL SEGUNDO**
**REBECCA L. BINDER, AIA AND JAMES G. STAFFORD**
HONOR AWARD

**Jury Comments:** This simple restaurant is an intriguing fantasy, a sculptural piece, sophisticated and cheap. The architect's persistence in chasing the idea of the light cable suspension to become the space-giving element is admirable.

---

**Pacific Townhouses**

**SANTA MONICA**
**REBECCA L. BINDER, AIA AND JAMES G. STAFFORD**
HONOR AWARD

**Jury Comments:** Typical of many semi-beach lots, some aggressiveness is needed to obtain a view. Reminiscent of warehouse skylights, the assertive exterior forms belie exceptionally calm and handsome interior living spaces. It fits into the crowded California beach city setting like a glove.
Monterey Bay Aquarium
MONTEREY
ESHERICK, HOMSEY, DODGE
AND DAVIS
HONOR AWARD

Jury Comments: Adaptive re-use, with every device and technique explored to return an industrial landmark to public function as an aquarium. The romantic Cannery Row rough image, with the necessary extensive changes, is artfully handled.
The Highlands Inn
Carmel Highlands
Shaw Associates with
Marquis Associates
Honor Award

Jury Comments: The interior rehabilitation of a 1929 inn, this project is a very sensitive remodeling, freshly and delicately detailed.
Montgomery/Washington Street Tower
SAN FRANCISCO
KAPLAN/MCLAUGHLIN/DIAZ
HONOR AWARD

Jury Comments: The architects seem to have done everything right in a surprising expression of mixed use in a highrise on-the-bias. Our cities need many more such spatially imaginative experiments in multiple function structures.
Interfirst Plaza
HOUSTON, TEXAS
SKIDMORE, OWINGS & MERRILL
WITH 3/D INTERNATIONAL
HONOR AWARD

Jury Comments: Expressing a cascade of corner offices, this 55 story, high-polish highrise more than holds its own with subsequent Houston post-modernity. A most professional achievement that will stand up well through the years.
Oxley Residence
LA JOLLA
ROB WELLINGTON QUIGLEY, AIA
HONOR AWARD

Jury Comments: This tiny house has a large sense of humor, holding its head up in the air for a view and to be viewed. It is one dumb space, which one column touches with articulate magic.
Mooli Residence
SAN RAFAEL
FERNAU + HARTMAN
HONOR AWARD

Jury Comments: Serene in its siting and with a knowing plan, this is a major house and would be so recognized whatever its provenance.
Santa Monica Bus Administration Facility

Santa Monica
Raymond Kappe, FAIA and
Lottery & Boccato
Architects/Planners
Merit Award

Jury Comments: A good freeway building that clearly states its function and is crisply detailed and expressed.
Albert Gersten Pavilion
LOYOLA MARYMOUNT
UNIVERSITY, LOS ANGELES
JOHN ALEKSICH ASSOCIATES
MERIT AWARD

Jury Comments: Given the volumetric needs of three basketball courts and seating for 5,000 spectators, this pavilion goes beyond the average clean, well-proportioned solution.

California School for the Blind
FREMONT
DANIEL L. DWORSKY, FAIA
& ASSOCIATES, INC.
MERIT AWARD

Jury Comments: This scheme successfully reproduces an urban-like living and learning environment for children having limited sight.
Interview: Whitson W. Cox, FAIA

Whitson W. Cox, FAIA has worked with public clients for over 30 years. As State Architect of California, Whit daily observes the intricate relationships between architects and their public.

What does the public client value in architecture?
The clients tend to be a bit inarticulate in their attitudes toward architectural design or tradition. Not because they don't care, but because they're just not trained to perceive the importance of good architecture. Their preoccupation is with long-term economy and function rather than an expressed concern for elegance, delight or many of the things that we value as architects. We need someone who is trained to function as an appreciative interpreter for the client, to express the need for quality and excellence in design. I look upon that as one of the many roles our office provides.

The government tends to become very rigid and not too receptive to innovation. Sometimes the tools which are developed to help us—support entities such as budgeting personnel—in the public sector somehow get perverted, so that they become controlling entities. They tend to nitpick, and the end result is that the project is so emaciated and so compromised that there is no opportunity for a high level of quality. That's not an indictment of the people who are doing a conscientious job. It's just the nature of the system. If I run an architectural firm and my budget people start telling me what I can and cannot do, I dismiss them or tell them in no uncertain terms who's running the show. Unfortunately, in the public sector the budget people often tend to become control people.

Are public clients suspicious of good design?
Most people recognize that they are not paying great premiums for good design. Certainly a sophisticated client is not going to make a design ugly just so people won't think we're spending too much money. I've experienced isolated examples of that attitude, but they're rare.

But aren't issues of aesthetics and quality often secondary to considerations of budget and schedules?
Certainly there are the people whose role is to be watchdogs, who presume to be guardians of the public interest and see that not too much money is spent. They take an adversary role with the architect and sometimes, frankly, with our office. We're trying to safeguard quality and aesthetics and make sure that they are incorporated into the building. The budget people are trying to safeguard the cost. It's a perennial battle that we face. The challenge is not only to create, but to influence people's decisions in the right way. One of the heavier impacts upon the building—more than the design itself—is the ability to develop the mechanism to deliver a quality project with everything in balance.

What is your personal definition of public interest when it comes to architecture?
I honestly feel the commitment to excellence in the public sector is even more compelling than in the private sector. The responsibility in the private sector is to what an individual owner wants to get out of that project. In the public sector, it's everyone's building. It needs to be top-notch design, it needs to have the quality necessary to give it long life, and it needs to be a humane space. The Capitol restoration is a fine example. You don't hear people complain about the sixty-some-odd million dollars that it cost, once they see it.
Architects dealing with a public client often become enmeshed with various levels of bureaucracy, and find it difficult to get clear lines of authority. What can an architect do about that?
The architect must safeguard his position by making certain that the client's top decision makers are always involved in his agreement. If that's the case, then you are more apt to get the true philosophy and the proper perspective. When you develop your programming information initially, start at the top and make certain that the top person is involved and knows exactly how important it is. The only problem with bureaucracy is that you're not always dealing with the right decision maker.

My entire practice for thirty years was with public clients of one kind or another. You always have to fight to remind the administrators that you have a contract to do a job and you have the responsibility to do it in the best professional manner, and that they are not the professionals. Very rarely do you come to that point of conflict where you just have to end the relationship. I've "fired" a couple of clients in my time, but only when I thought my professional reputation was on the line.

What are the advantages of working with the public client?
There are a number, not the least of which is you get paid. Not always in a timely manner, but you get paid eventually.

Government maintains an arms-length relationship with professionals that's sometimes hard to find in the private sector. Although they may be very conscientious about the expenditure of public money, it's not their money. No one can be as adamant as a client who is investing his own hard-earned dollars in something that he personally wants. You don't find quite that intensity in the public sector.

Government usually is a more sophisticated client, because a lot of these people are career people who have managed hundreds of projects and know the ropes. This doesn't always hold true. There are some very unsophisticated ones, too. Like the back county school board, which can be a terrible experience. But generally a public client can bring a lot of expertise to bear on the problem.

Some public projects, like the state prison building program, excite public concern over issues that are tangential to architecture. Do architects have to become advocates when working for a public client?
Yes. People's tax dollars are being spent, and they are very vocal about it. The individual is not as concerned about the developer's profit and loss, as long as the developer doesn't do anything which adversely impacts the neighborhood. With public projects, everyone feels that they have a right to get into the act.

Seldom do you find a project that doesn't have some sort of a group opposition. And it's more and more becoming the architect's role to mediate and to get all of the diverse points of view satisfied during the program phase of the project. We have learned a lot in the past 20 years about public responsibility or, specifically, the architect's responsibility to the public. Californians were pioneers in developing the format and the process of participatory planning.

What are the main complaints that public clients have about architects?
Defining the role and the responsibility of the architect is generally where the system breaks down. If people don't really understand what is expected of an architect, and the architect is inarticulate and doesn't express it, and it's not put down in a definitive document, you've got the whole basis for a misunderstanding. That's one of the major areas where misunderstanding exists: lack of definition in the role and responsibility.

Generally, contention centers around schedules and cost. Maybe the architect hasn't done a very good job of explaining to the client that there is no way that he can accurately estimate down to the last dollar what the project is going to cost, that there is a spread or percentage that he is confident of working within. If you explain everything to an intelligent client, you really don't have those major differences.

Design often is heavily criticized but even that is something the architect can overcome by helping the client visualize how the building will appear. Too often the architect gets held responsible for things over which he has no control, such as the quality of workmanship. Fortunately there aren't too many illustrations of completely incompetent or bad design. We have a great deal of professional competency by virtue of the exam and the weeding out process which occurs in the market place. Really bad architects don't have any work, eventually.

How effective is it for various departments in the state government to do their own A/E selection, rather than to work through the State Architect?
I make no secret of the fact—and I've made it known to the Governor—that I favor a consolidation of architectural services for a whole gamut of reasons: economy; continuity; a consistency of effort, so that you get the same documents, the same attitude and management approach, and so that the philosophy of the top administration gets filtered down uniformly. We may be in a prison building program now, but five years from now it will be a different building type. It's not economical to assemble one group to administer a specific program then dismantle it when the projects are completed. The Office of the State Architect has long provided project management for a variety of building types and is moving more toward this as our primary role. However, we feel it is necessary to have a qualified design group in-house so that we can train personnel to effectively administer projects and provide services on sensitive and difficult projects. Presently, over 70 percent of the work is done outside the OSA through the retention of outside A/E firms, and even more probably will be contracted in the future.

We are trying now to redefine the role of our project managers with an emphasis upon the total project delivery system. We are also trying to develop tools which would allow us to do a better job managing our various control and information systems.

In ten years, what changes will we see in the public client?
One would hope that the public client would be better educated to what can be done through application of architectural design.

The public clients probably will be more demanding. They will recognize that a fragmented series of services are performed which need to be integrated and more controlled. If the architect can expand his horizons to perform these services, then maybe he can return to the position of being the master builder, and not just one participant in the process.

Architects have abdicated a lot of that responsibility by letting somebody else provide the budgets, environmental impact reports, siting and programming. Too often, by the time the architect gets the project, he's so constrained that he finds it very difficult to perform an adequate job.

As the whole process becomes more sophisticated, someone needs to be in control of the process. To my way of thinking, it should be the architect.
Public Client, Captive Space

BY JANICE FILLIP

"Writing about this issue is dealing with dynamite," warns one architect involved in the largest prison building program ever undertaken in the United States. "When you get into this prison thing, you enter into war. Almost anything you say is controversial." At the roots of the controversy are time, money, and the pursuit of politics.

The need to add 19,400 beds to the California State Prison system—effectively doubling its capacity—is not in dispute. Present facilities operate at 147 percent of their capacity, and the overcrowding is greatest among the most dangerous inmates in the system. Newspaper accounts of prison violence are a constant reminder that inmates are hard to control in overcrowded situations. Prohibited inmate activity jumped from 1.36 incidents per 100 inmates in 1970, to 12.17 incidents in 1980. With an additional 21,000 prisoners expected to enter the prison population by 1989, the need for expanded facilities is obvious.

A majority of California's voters have no quarrel with footing the bill to meet this need. The bulk of the funds for the $1.2 billion building program were approved by the New Prison Construction Bond Acts of 1981 and 1984, sponsored by Senator Robert Presley (D-Riverside). Revenue Bonds and Certificates of Participation supply the rest of the funds. The money is earmarked to build 10 new prisons, a substantial addition to the California Men's Colony West, a small addition to the California Institute for Women, modular housing units at three existing institutions and eight new prison camps.

The prison building program began to take shape when Governor Deukmejian appointed Dan McCarthy as Director of the California Department of Corrections (CDC), and Dennis
Dunne became the Deputy Director for Planning and Construction. Under this leadership, CDC and its consultants, Kitchell CEM, developed the California Building System and set off in a rush to reverse a 20 year hiatus in facilities construction. Although the national average construction time for prisons from funding to occupancy is five years, CDC initially planned to occupy all the new prisons within three years using prototype designs and phased modular construction.

"Like Rip van Winkle, CDC was off and running after 20 years asleep," notes one architect close to the program. Once CDC's optimistic schedules were set, time became money, and the delays inevitable in launching a pilot program generated contention among the public bodies and private individuals charged with realizing the prison building program. "We set deadlines we thought were realistic at the time," says Bob Gore, assistant director of communications for CDC. "Then we ran into problems."

Acquiring sites for the proposed facilities became a major obstacle. "The public votes for prisons as long as they are located 500 miles away from their community," observes Richard Byfield, AIA, project director for Kitchell. Since southern California counties supply almost two-thirds of the state's inmates but contain only 39 percent of the existing prison beds, the New Prison Policy Guidelines determined that "institutions should be distributed geographically in proportion to the commitment rate." (Sixty percent of the inmates are committed from southern California, 20 percent from the San Francisco Bay area, and 20 percent from the rest of the state.) At the close of the prison building program, southern California is slated to contain 43 percent of the state's total beds, but this goal may be difficult to achieve. Over 50 sites in Los Angeles County have been explored and rejected to date.

Six out of the 10 proposed sites are in limbo; only locations which already host a prison remain uncontested. No sites exist for planned facilities in Los Angeles or San Bernardino Counties, and proposed sites in Kings and Riverside Counties currently face local opposition over questions of water rights and sewage disposal, and negotiations still are underway in San Diego County over sewage disposal routing. Residents of Ione in Amador County just filed suit to block construction of a minimum and low-medium security prison in an area they deem too close to existing residential development. Relocating the prison to an alternate site proposed by residents would boost the cost of the project by up to $6 million, according to Bill Richardson, AIA, architect for the facility, "What's being done just isn't easy," he says, "To get everyone in Ione to agree—the complexities boggle the mind."

Even when the issue of site selection is resolved, repercussions from the rapid construction and occupancy of the first prototype buildings at the California Medical Facility South in Vacaville are causing CDC to reconsider the priority given to quick construction.

**Prototype Designed for Quick Delivery**

The primary design criterion for the new state prisons is security. Inmates are classified on the basis of the amount of physical control needed to maintain them in custody. Level I prisoners need minimum security; Level IV require maximum control. "The client is not interested in awards," says Richard Byfield. "These are prisons. Durability, ease of maintenance, security, economy of construction, lower staffing costs—that's what matters. The concept of architectural flair is not as important."

Cost efficiency is another major design criterion. Faced with proposals for maximum security facilities at Folsom and Tehachapi projecting a $90,000 to $110,000 cost per cell and a five to six year design and construction schedule, the Legislature instructed CDC to develop a faster, more economical approach to prison construction. Kitchell developed 16 different schemes, comparing construction costs, staffing efficiencies, life-cycle operating costs, security and time schedules for design and...
The economic life of a correctional facility averages 70 years, although San Quentin has been in operation for over 130 years. Inflation aside, operating costs can run up to 15 times more than initial construction costs, according to Kitchell's estimates. So another program objective was to find design solutions which could reduce operating costs without jeopardizing security.

The prototype program devised by CDC and Kitchell meets, and in some cases exceeds, the nationally-recognized prison design guidelines established by the American Correctional Association. Kitchell, a capital expenditure management company headquartered in Phoenix, Arizona, provides a range of management services for the prison building program, including architectural programming, project coordination, advice in A/E selection, design review, scheduling, estimating, value engineering, alternative analysis, and recommendations for phased construction. Specialists in all fields of corrections, in the various prison support services, and in the Prison Industries Authority collaborated with Kitchell in determining the prison program. A legislative mandate requiring full inmate employment dictated the inclusion of manufacturing and educational facilities.

CDC began its planning process at ground zero. "No one was around who even remembered how to build prisons," recalls Bob Gore. The planners began by charting the flow of staff and inmate movement at Vacaville through all aspects of their daily routine. The amount of inmate participation in any given space determined the degree of security needed in that space. This approach led to the realization that many buildings in the prison complex could be constructed with less expensive materials than the concrete and steel traditionally used throughout a prison. Space with little prisoner participation, such as administration buildings and warehouses, could be erected more cheaply than ever before.

"We are able to build an appropriate style building for each facility component by function," says Richard Byfield. "These projects have an exciting side. Multiple security levels, a variety of technology, the separation of public and private, the creation of industrial space, sewage treatment, chapels, gymnasiums—the scope is similar to what you face designing a city or a university."

Participants in the planning and design process found they had to undertake a mutual education effort. "Initially we were dealing with architects who speak in concepts rather than goals," says Bob Gore. "We had to reorient them."

"Once the architects and engineers understood what we wanted—and that had to be reinforced an awful lot—the job became a lot easier," recalls William Nyberg, Chief Deputy Superintendent of the California Medical Facility at Vacaville, and an original member of the planning team. "The A/E firms wanted to gussy up the places and make them look pretty with false fronts, things that would create blind spots. The fact is, we're building a prison, not a college campus. We told them: just give us a plain building. Make it as safe as possible for the inmates and staff."

The prototype configuration of buildings groups similar facilities adjacent to each other and surrounds them all with a common perimeter. This scheme reduces the amount of security fencing and the number of guard towers, with a subsequent reduction in staffing costs. Each group of buildings includes housing units organized around a central service spine which accommodates food preparation, laundry and maintenance. Housing units are grouped around a common recreation field.

Unlike the traditional "telephone pole" design of cell blocks organized along a central corridor, the form for the precast concrete housing units is a square, with one side cut in at a 45° angle. One hundred cells are arranged in two tiers around three sides of a common area or dayroom. The cells measure about 60 square feet, and contain two bunks, a desk, two storage shelves, and a combination sink/toilet. In minimum security facilities, walls between cells are left out to form dormitories with 120 beds, housing five inmates per room. (Two beds per cell are included as a temporary measure to relieve overcrowding in existing facilities. When the prison building program is complete, CDC plans to eliminate double-cell practices.)

The fourth wall of the housing unit is angled with the control room, sallyport (secured entrance), and support facilities placed in an optimum position to allow uninterrupted observation of the cells and dayroom. Prison authorities hold that the opportunity to supervise inmates at all times is central to securing the safety of both inmates and prison staff.

The prototype design allows housing units and support services to be completed quickly so the site can be occupied while other buildings in the prison complex are still under design and construction. Housing for 2,400 inmates at Vacaville will be accomplished in an amazingly short timeframe. Just 10 months after funds were appropriated by the Legislature to begin design and construction in September, 1983, the housing was 25 percent occupied; complete occupancy is expected this year. "The time it took to build Vacaville is a miracle in the state system," observes Bill Richardson.

To relieve the severe overcrowding that makes Vacaville's existing facility a potential powderkeg, prisoners were moved into the new housing as quickly as possible, before the construction dust had settled and all the utilities and support systems were fully operational. Temporary provisions were made for heating the units with propane and gas. Since the kitchen and dining facilities were not included in the first phase of construction, inmates have to be escorted through the prison yard, often muddied by winter rains, to temporary facilities for their three daily meals. With the prison industries and educational facilities slated for later construction, inmates are left with little to do but roam the dayroom and watch television.

Despite these adverse conditions, prison administrators are happy with the new housing units, and they say the inmates are, too. "The inmates like the new housing. They feel safer because it's so wide open, with high visibility. There are few blind spots," says Bill Nyberg. "We were the first prison in the United States to have inmates occupy in 10 months. I can't be anything but pleased."

Others have a less sanguine view: The remarkable speed with which construction was completed still fell short of established schedules, and the project was over budget by under one percent of the total funds appropriated by the Legislature. Both these factors have subjected CDC to a barrage of criticism which focuses on time as much as money. The very speed of the program is being identified as the major cause of cost overruns, but other factors contributed to the burden. The City of Vacaville increased its buy-in charge for utilities connections, additional utilities were needed onsite to service additional acreage, and
the square footage of the prison industries building was expanded. "We're within one to three percent of estimates that were given before we had preliminary plans," notes Dennis Dunne. "Our cost modeling is better than anything in the state government right now. More and more data goes into the cost model—by the time three or four prisons are done, we'll know what every aspect costs and we can control the costs more and more."

**PUSHED BEYOND THE NORM**

"Because it is such a simple design, the cost was very reasonable. The precast concrete construction was efficient," says Martin del Campo, AIA, a principal in one of the joint venture firms serving as architect for the Vacaville project. "Fast construction effected the price. The speed increased the price by about $1 million, because the contractors had to include overtime and possible penalties into the bid. And the budget overrun was partly due to phased construction, which leaves itself open to problems."

CDC plans to minimize those problems in future facilities. "We won't put anybody in the new prisons before we have the food service on-line," says Bob Gore. "Time was of the essence at Vacaville. We had to show it could be done." Architects, contractors and correctional personnel working on other prisons within the building program are using Vacaville as a learning laboratory. The experience at Vacaville suggests ways in which the prototype design and approach to phased construction can be refined and improved. "We're all new at this, from the Director on down," states Bill Nyberg. "This is the first time we've built our own prisons. By the time the second one comes online, we'll have learned from our mistakes. By the time the tenth one is built, it should be a cake walk."

Vacaville is the start of a learning curve for those managing the prison building program. "Everybody has to understand that the building program is unprecedented in California," says Senator Robert Presley, chair of the Joint Committee on Prison Construction and Operations (JCPPO), a six person committee which reviews preliminary plans and oversees the building program on behalf of the Legislature. "Given that fact and the speed by which we're trying to do it, it's going quite well. This is a learning proposition, and we have to understand and be tolerant."

Lack of understanding is seen as the root of the budget problem by some observers. "The cost overruns are because the Department gave speculative costs to the Legislature—estimates based on virtually no information on what they were going to build, where they were going to build. We got their best guess at the time," says Gerald Beavers, an analyst on the capital outlay project staff of the Legislative Analyst, the office which advises the Legislature on policy issues regarding the budget.

"We maintain that people will be in these facilities for 50 to 100 years. A few months in that timeframe isn't that important," Beavers adds. "The most important time to spend is in the planning stage. We're suggesting that CDC makes sure the program is correct, then goes out and fast tracks. That would stretch out the process up front, but construction would be the same or faster because the documents would be better."

CDC and its consultants claim that critics who fault the time schedule at Vacaville are missing the point. "We're five months late by our schedule, but two years sooner than anyone else in the country who's building prisons," notes Bob Gore. "When the program is finished, people won't want to place blame, they'll want to take credit."

"We put out a tough schedule," says Richard Byfield. "We may have missed the astronomical goals we set ourselves, but we're an unheralded success by all other definitions. We've pushed beyond the norm."

When schedules slip and budgets overrun on a construction project, battle lines are drawn and casualties soon begin to mount. Architects usually are prime targets in this kind of skirmish, but this time they may be regarded as noncombatants. "In general, the architects have done very well," says Gerald Beavers. "Architects have to work within the limits of what the Department wants. Whoever's in the driver's seat is going to be the fall guy. I see no indication that architects on their own have caused delays. Delays are caused by the direction given by the Department, and that's something that can't be faulted to architects."

Senator Presley adds, "I haven't been aware of any criticism of architects. The people who have to be counted are the people in the Department."

Whether CDC will continue to direct the prison building program is the subject of much speculation in Sacramento. The uncertainty over the program's future is affecting its daily operation. "We seem not to be working for one mind," says an architect connected with the program. "California has an unusually defensive check-and-balance system. That system seems to be used often for political leverage. Sometimes you wonder if there's anybody out there who wants the project to proceed. No matter what you do, it's wrong. There's a constant game of one-upmanship."

Political priorities are taking their toll on the prison building program. "CDC's working relationship with the Legislature is reasonably satisfactory," says Senator Presley. "But with the Legislative Analyst, they've been having a running battle. To a certain extent, I've encouraged that. The Legislative Analyst is being extremely critical, which is healthy because it raises issues, even if they are unreasonable."

The major issue being raised is accountability. "CDC is under pressure because the Department continually gives the Legislature schedules that show tight timeframes," explains Gerald Beavers. "Those time schedules virtually eliminate the Legislature from the decision making process. If they take that responsibility, they have to take the heat."

"The Department made a commitment to the Legislature to build within those funds, those schedules. I haven't heard them back off from that. The Legislature will hold the Department to that commitment unless the Department comes back and says why they can't do it. It's in their court."

Recent developments in the Legislature may change that arena. In January, Assemblyman Richard Floyd (D—Los Angeles) introduced AB 486, which would allow the Department of General Services to assume control of the prison building program. "The Legislature made a major mistake by putting the entire design and construction in the hands of a bunch of prison guards," charges Assemblyman Floyd, a member of the JCPPO.

"I want to put it back into the Department of General Services where people know how to design buildings."

"We made mistakes, but the Legislature didn't make a mistake to put the responsibility under one department," says Dennis Dunne. "We admit our mistakes and go forward. We have the ability to get things done. When we're finished, California will have the best, most cost efficient prison system in the country. Sometimes the overriding burden of the state system makes it difficult to provide excellence. But we're interested in nothing less than excellence. We owe it to the people."

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Janice Fillip is editor of Architecture California.
South of Market Value

BY KELLY COLLINS

Visually, functionally, and olfactorily, the South of Market area often appears a mess," concluded the South of Market R/UDAT Report. "But it is a very useful mess. It is the lowest rent district in San Francisco. Yet it is immediately adjacent to the downtown core, an area which it directly and immediately services." Developing strategies to maintain the South of Market's low rent district was the main focus of the AIA's 78th Regional/Urban Design Assistance Team (R/UDAT).

Members of the R/UDAT, headed by urban designer John P. Clarke, AIA from Trenton, New Jersey, were selected to meet the needs of this particular study. Most of the Team are experienced in planning major urban areas—Joe Berridge with Toronto's Central Area Plan; Eric L. Ernstberger, ASLA in waterfront developments along the Ohio River in Indiana; John R. Hunt, AIA with the South Campus Urban Design Plan for the University of Washington in Seattle; and Michael Kwartler, AIA in New York City. Redevelopment expertise was provided by John Andrew Gallery, AICP, former Director of the Office of Housing and Community Development in Philadelphia, and Weiming Lu, AICP, executive director of the Lower-town Redevelopment Corporation in St. Paul, Minnesota. Completing the Team were James Braman, AICP, a transportation planner from Seattle, and John Pastier, urban critic and senior editor of Arts + Architecture.

"Two fundamental ideas came out of the R/UDAT," said Jack Robbins, FAIA, chair of the AIA/San Francisco Chapter's Urban Design Committee and coordinator for the R/UDAT. "The first was an Embarcadero extension with Mission Bay Park. This was a new idea. It provides a reference point for South of Market and balances the waterfront with Fisherman's Wharf to the north. The second idea was a business and housing assistance program. This would be complicated to carry out, but would be very beneficial to San Francisco's future."

To serve as a release valve for the mounting pressures of development, the R/UDAT called for a development corridor that would bring the waterfront area south of the Bay Bridge within the heart of the City. The plan creates a blueprint for a grand Embarcadero boulevard connecting and unifying three separate existing development proposals—Mission Bay, Santa Fe/Southern Pacific's mixed use project in China Basin, and South Beach and Rincon Hill, two residential projects being proposed by the San Francisco Planning Commission. "The projects tend to be oriented away from the Embarcadero, leaving that street a tattered urban edge," the Report warned. "The whole design orientation should be turned around, with the Embarcadero providing the major orientation for the buildings."

The R/UDAT invited city planners to
envisioan an Embarcadero with a continuous street wall of buildings on the land side and a pedestrian path along the Bay. “The building of highrises to right to the water’s edge was not our idea of how San Francisco should grow,” said landscape architect Eric Ernstberger. “It should taper down in scale as it reaches the waterfront and become lower and lower as you move away from the downtown core.” A height limit of 40 feet was proposed for most of the study area, including the Embarcadero, with an increase to 80 feet along the downtown/Mission Bay corridor.

During the days of the Gold Rush, the area of the proposed Mission Bay development was a tidal marsh. Due to continuous landfill, all that remains of the original topography is Mission Creek. Instead of the “harder-edged water park” proposed in the current Mission Bay development scheme, the Team joined the Mission Creek Conservancy in recommending the re-creation of tidal marshlands at the end of the mile-long Embarcadero walk. “A tidal basin exploits the City’s full potential to provide a diversity of recreation and open space experience,” said the Report.

The R/UDAT studied various transportation alternatives being proposed for the permanent location of CalTrans’ Peninsula service terminal. CalTrans’ idea for a $300 million train tunnel to the Transbay Terminal on Mission Street was deemed too costly by the R/UDAT. “We recommended that the CalTrans train station be pulled back (to 7th and Channel) and hooked up with MUNI’s extension of light rail,” said transportation planner James B. Berman. “We would then be able to tie the Embarcadero through the China Basin area to Showplace Square. Because transfer is always a problem, this plan would allow for across-the-platform transfers, encouraging increased ridership.” Moving the train station and demolishing an unused portion of elevated freeway also could open up large tracts of land, providing an opportunity to develop the City’s economically declining waterfront.

For the study area’s residential neighborhoods, however, the R/UDAT scrapped all talk of bulldozer development and urged active conservation of the low cost housing stock and commercial space, together with infill construction to satisfy unmet demand. “Listening to the community and various interest groups, we received an enormous variety of diverse opinions,” said R/UDAT member John R. Hunt. “But they all added up to the same direction—which we recommended in our Report—that the area should be conserved and kept from gentrifying.”

“The preservation of low cost housing is a more difficult problem than the Embarcadero,” remarked John P. Clark, R/UDAT chairman. “These are tougher design solutions which require a 10-15 year commitment and dedicated workers.” As it is, South of Market is a resource for the downtown core, housing blue collar workers and small support businesses. The Team concluded that this resource must be protected from encroachment by highrise development, currently the most popular scheme for developing downtown business districts. As urban planner Joe Berridge observed, “This area has two reasons to make it a target for developers: first, its accessibility and second, its low rent. Once investment confidence has been created, the area will become incredibly attractive very quickly.”

To stave off development, the R/UDAT Report recommended what Berridge termed “creative benign neglect.” The Report suggested creating two public/private investment corporations, one for housing and one for small business. The housing corporation would help community groups and local tenants to purchase low income housing by offering below market rate loans. Through devices that control the resale price, such as second mortgage liens, housing could be taken off the normal real estate market, thus discouraging speculative investments. The Report urged the City to vigorously pursue this plan until it achieves a controlling interest in the area’s real estate market. This would enable the City to maintain the area’s low rents.

The Team felt that strict zoning ordinances alone would not be sufficient to stabilize the small businesses in the area. “Many cities have found that small businesses have little or no access to technical assistance in matters of business management, marketing, promotion and growth,” the Report stated. “Since the objective is to keep and help these businesses prosper, it might be appropriate for the City to offer a limited technical assistance program designed to achieve modest growth and expansion of employment for the existing businesses.”

Large scale rehabilitation of the area was a development strategy opposed by the R/UDAT. “Preserving South of Market depends largely on keeping it one of the less attractive neighborhoods in the City,” the Report said. “The City should resist the temptations to try to ‘prettify’ and sanitize it. Where money is to be spent, it should be directed toward people rather than to projects.”

The City was encouraged to increase its social services to the poor to maintain a stable environment South of Market. The Team recommended additional shelters for the homeless, two detoxification centers for inebriates, and more senior activity centers for the elderly, who make up one-fifth of the area’s population.

The Team did not concur with the proposals of some community groups for a building moratorium or rent control, stating that such devices “while useful for addressing some issues, tend to be limited by their preventive and negative approach.” Instead, the Team urged that active steps be taken for “an aggressive housing acquisition campaign by a community housing corporation, and a package of financial assistance to secure the area for existing businesses.”

The San Francisco Planning Department currently is reviewing the R/UDAT recommendations which will be included, along with other reports and findings, in a final development plan for the area to be presented to the Board of Supervisors in June. “As part of the democratic process, the R/UDAT was most helpful in that it became clear to business leaders that the residents of South of Market want conservation,” said Susana Mohtiana, Project Manager for the Planning Department’s study. “The prestige of the R/UDAT will help us when we present our report.”

Furthering that planning process and bringing diverse groups face-to-face is at the crux of the R/UDAT program. “What struck me was the people participating in the preservation of the urban fabric,” remarked redevelopment expert Weiming Lu. “We must have talked with 20 or 30 community groups. Each had a special position. All were well versed and able to articulate their own plans. I was pleased with the Team’s recommendations for active conservation. What we presented was a way to address the problems—not just a pretty design, but a structured process.”

Kelly Collins is Assistant Editor of Architecture California.

March/April 1985 Architecture California 35
It's this idea that March and others see as a possible way toward building a machine that shows imagination. The machine's designer must provide it with a language (including a grammar) for design, just as Alberti formulated his rules for architecture. "Given that we have provided it with language, this machine, I believe, will have an artist's imagination," says March. "That's no worse than the case of Alberti, who believed (the language) was provided by the angels."

Attempts have already been made to formulate sample architectural grammars by studying in detail the work of particular architects. A few years ago, two architecture students, working under George Stiny at the University of California in Los Angeles, managed to extract the essence of Frank Lloyd Wright, and their computer generated new Wright house designs that experts insisted were authentic. "These (designs) had all kinds of quirks, peculiarities that one tends to associate with a real Frank Lloyd Wright house," comments March, "and that was entirely generated through the use of this very vast grammar."

March admits that an architecture machine won't be able to do the whole design process by itself. "Right at the core of the thing is the language which we have to more or less implant into the machine initially," says March. He sees a future role for architects as language designers. "It puts designers on a new level... in which we are designing languages for design," March says, "and then we get our servant, the machine, to figure out how to effect a certain design."

Russell A. Kirsch, a researcher in the field of artificial intelligence at the National Bureau of Standards in Gaithersburg, Maryland, says March and his students are "showing that some of the tools that have grown up around computer science are reasonable candidates for achieving some kind of synthesis between the arts and humanities on the one hand and technology on the other."

March says, "I personally believe that by trying to mechanize we actually begin to understand more and more about what we do as human beings." At the same time, although the prospects of achieving "artificial imagination" still seem remote, work on a "science of design" is moving along rapidly. March's optimism is reflected in the spirit of Alberti's favorite Latin motto: "Quid Tum," or simply "What next?"

Ivars Peterson is editor of Policy/Technology for Science News from which this article is reprinted with permission.
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