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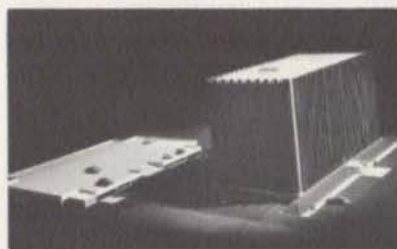
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Cover Photo: Model of 2990 Richmond Building, Neuhaus & Taylor, Architects. Curved Brick Walls and vertical fenestration provide continuity with surrounding buildings. The Houston Office Building is a Texas Architecture 1968 selection.

2990 richmond building

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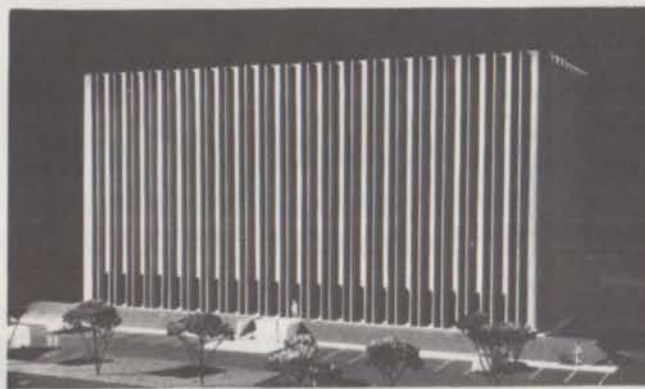
Contractor
Harvey Construction Company

Charles V. Chenault, Mechanical Engineer

TEXAS ARCHITECTURE 1968

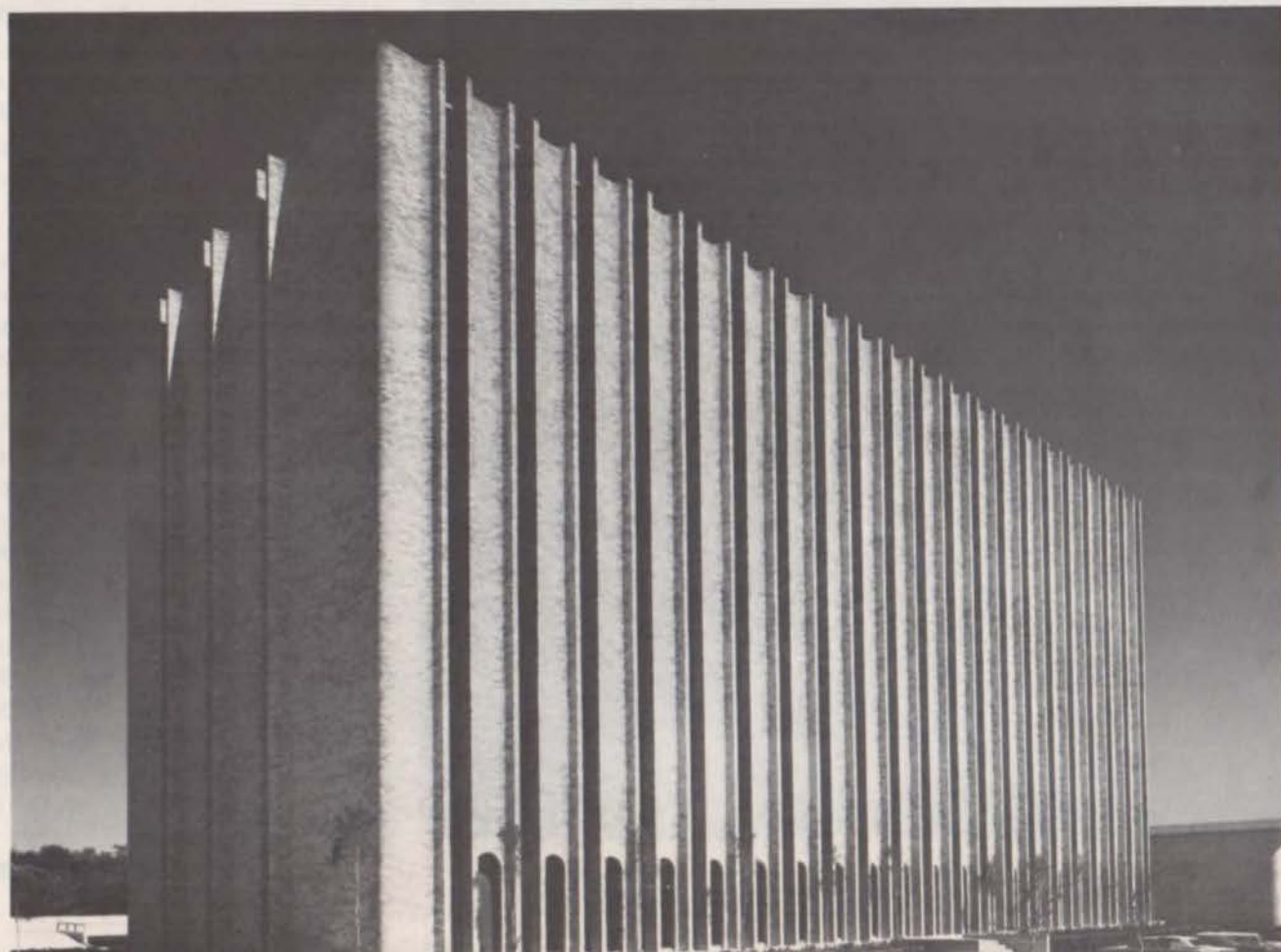


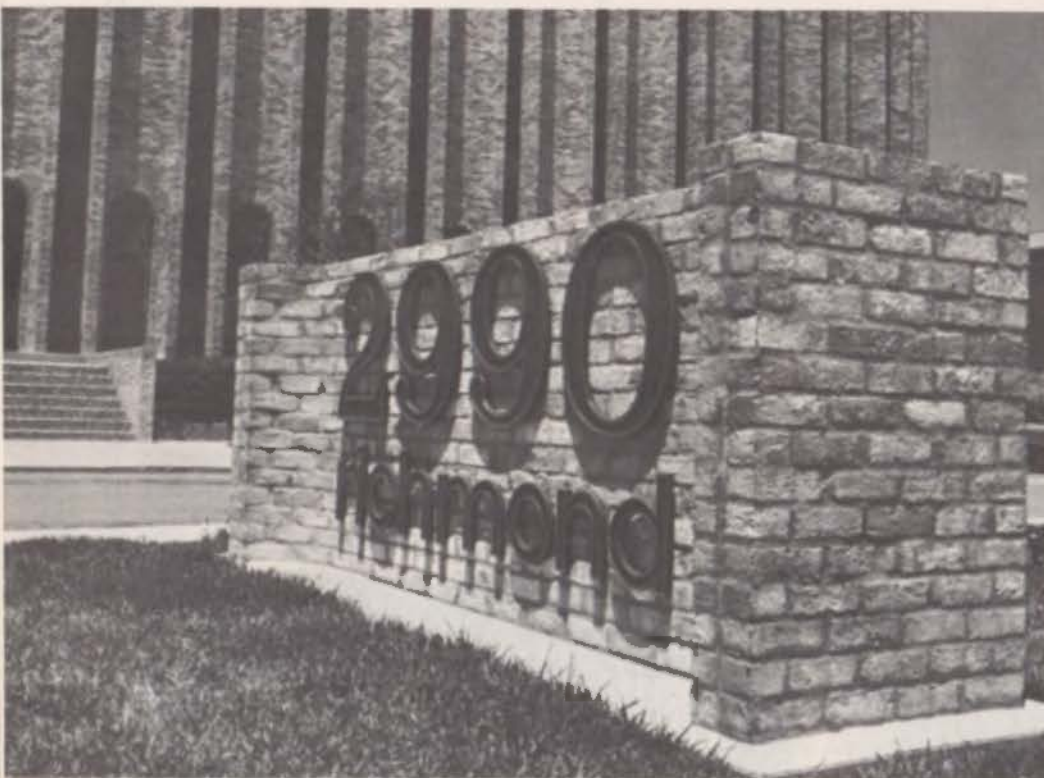
Architects vision—rendering form



Architects vision—model form

Architects vision—completed building





Forethought is reflected in sign design, as it harmonizes with building material & design.

Full height doors emphasize entrance to elevator lobby.



PROBLEM: Design an office building for an investment builder to provide the most flexible speculative office space at competitive rentals.

The building was to be located on the remaining unimproved tract on a street of approximately twelve similar projects. The client, who owns the majority of the buildings, had become conscious of a need for compatible design to enhance the adjacent structures and unify the general street scene.

SOLUTION: The building was designed to provide architectural continuity with the adjacent buildings. The curved brick masonry walls echo the building to the east, while the vertical window fenestration and fin walls blend with the building to the west of this structure.

Limited landscaped areas are enhanced by elevating the building 5'-6" above natural grade to provide a stepped landscaped berm that might be seen above both the guest parking on the south front and the tenant parking to the north. This elevated first floor also provided the ground floor tenants with an exterior view above the cars that surround the building.

In addition to on-grade parking, the north part of the site contains a low, split-level parking structure for tenants. This concrete structure rises only as high as the landscaped berm and its mass was specifically designed to avoid obscuring this elevation of the office building. Since pedestrian approach is from both the guest parking on one side and from tenant parking on the other, controlled entry became another one of the prime considerations in the design. In both cases, controlled entry was achieved by allowing the curved brick fin walls of



Elegant Entrance Spaces are the result of a sensitive use of Masonry Floors & Walls, combined with subtle lighting.

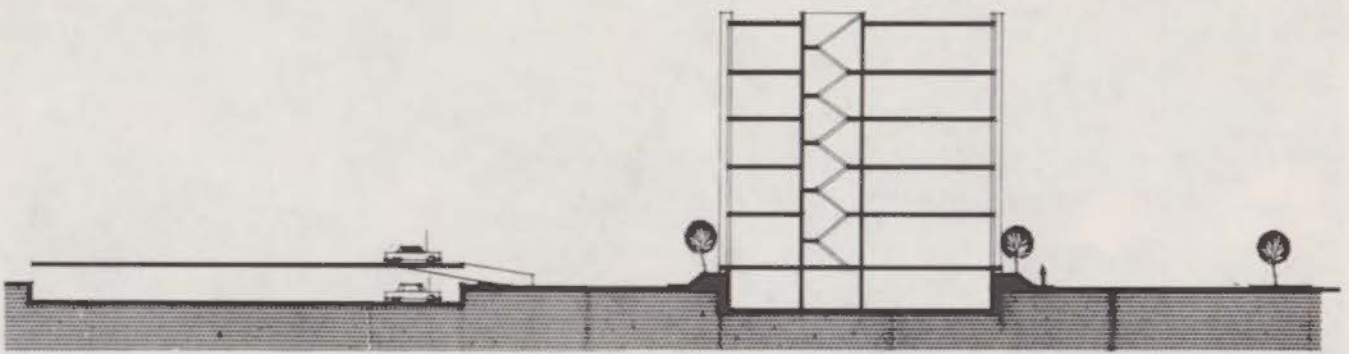
Sculpture adds interest to entrance lobby.



2990 richmond

Photographs
Ed Stewart Photography & Associates, Inc.

Frank Loz Miller Photography
George Lyons



Cross-section thru building & parking garage.

Elevator lobbies feature walls of bronze anodized aluminum.

the facade to carry down to the entry walk. The pedestrian progressing up the steps of the berm must pass between these structural columns before entering the recessed glass lobby doors. This "transition" area between the interior and exterior spaces became a unique architectural interpretation of the covered porch, integral with the total design.



The ground floor lobby was designed to follow this same idea of transition. The lobby extends completely through the building, providing both guest and tenant a visual relationship with the opposing exterior. The design of the lobby features curving brick walls to reflect the exterior treatment.

The linear core design and its adjacent central corridor provide maximum flexibility for the division of interior spaces on each floor. A 2 x 2 modular design of the building, combined with two foot width slit windows at eight foot centers, insure extreme flexibility of tenant partitioning requirements.



HIGHWAYS

Editors Note: The next several issues of *The Texas Architect* will present various statements, speeches, comments, regulations and policies concerning highways: The Federal Aid Highway Act, Texas Highways, highway planning process & Urban Planning.



STATEMENT OF THE AMERICAN INSTITUTE OF ARCHITECTS BEFORE THE FEDERAL HIGHWAY ADMINISTRATION CONCERNING PROPOSED REGULATIONS ON "PUBLIC HEARINGS AND LOCATION AND DESIGN APPROVAL," 23 CFR PART 3, DOCKET NO. 36, PUBLISHED IN THE FEDERAL REGISTER, OCTOBER 23, 1968

I. INTRODUCTION

Mr. Chairman, my name is George Kassabaum. I am a practicing architect from St. Louis, Missouri, and am President of The American Institute of Architects (AIA), a national professional society representing 22,200 of the Nation's 30,000 licensed architects.

The AIA supports the addition of Part 3 to Title 23 of the Code of Federal Regulations. If implemented, these worthwhile requirements will exert a positive, long-needed influence on future urban development by requiring *effective* public participation in the construction of properly located, well designed highways. Accordingly, we urge the Federal Highway Administration to promulgate the regulations as soon as possible.

II. HIGHWAY PLANNING PROCESS NEEDS IMPROVEMENT

Too often in the past, the highway planning process has ignored public opinion. Too often it has failed to give proper consideration to the full scale of important public values that should be weighed before a new highway is built: values such as the desirability of recreational areas, parks and open spaces, future development opportunities, in short the full scale of social and economic implications affected by highway construction. Such oversight is no longer tolerable.

A history of dozens of better highway routing struggles in both cities and countryside across the Nation indicates that a major change is overdue in the process used for selecting transportation corridors, delineating their specific locations, and executing their designs. Effectively in-

volving the public at the earliest stages is a necessary first step toward improving the highway planning process.

Various organizations have expressed concern that effective public participation, as proposed by the draft regulations, will delay and halt highway projects. We believe quite the opposite will be true. In our opinion, effective public participation will reduce the number of administrative proceedings and law suits filed to halt highway construction. It is only when the public's interests are not heard, when decisions are made regardless of public opinion, that serious acrimony occurs.

Unfortunately, the average citizen is not fully aware of the implications of highway programs. This is not his fault, for only recently has he begun to experience the full effects of highways—deleterious and beneficial. The public has only begun to develop an articulate voice in highway issues, which those concerned with highway building have had considerable time to develop their positions. The public must be informed so that it can effectively discuss the values it considers are important. Doing so will encourage an "amicable resolution of controversial issues that may arise."

The proposed regulations heighten the possibility of an "amicable resolution" because they call upon State highway officials to make available "pertinent information about location alternatives." Furthermore, the regulations: (1) *require* a study report which describes the social, economic, and environmental impact of alternatives developed for a particular route location or design; and they (2) *require* an evaluation of the effect of the chosen



route on the objectives of any urban plan that has been adopted by the community concerned *before* submission of a request for Federal Highway Administration approval.

Thus, we believe there is wisdom in the dual hearing and appeal approach. Under this procedure the public can discuss the values it considers important, and can appeal a decision which it believes is wrong.

III. AIA RECOMMENDATIONS

We have several suggestions which we believe will improve the public hearing procedure.

INFORMING THE PUBLIC

We suggest that the State highway department be required to develop and publish alternative routes and designs at least 45 days before the public hearings. In this way, the public can more effectively analyze the alternatives developed and can more accurately counsel State highway officials as to the advisability of such alternatives. This will eliminate public dissatisfaction caused by a surprise presentation of a route location or design which is a *fait accompli*, needing only an official stamp of approval. Furthermore, by utilizing the public as a sounding board, the State highway department will obtain considered public input during the planning process.

TIME LIMITS FOR APPEALS

To forestall unmerited delay in highway programs, we suggest that the Federal Highway Administration require all appeals to be filed within 30 days after announcement of an official decision on route location or design. Thereafter, we suggest that the Federal Highway Administration be required to decide any appeal within 60 days. While we believe that definite time limits during the appeals procedure are desirable, we are convinced that the *right* to appeal must be preserved if the regulations are to fulfill their purpose.

DESIGN CONCEPT TEAMS

The successful integration of a freeway into the urban environment requires the coordination of many professional skills. The proposed regulations recognize this by requiring consideration of social, economic, and environmental factors by State highway officials. As presently constituted, most State highway departments do not have sufficient personnel professionally qualified to consider social, economic, visual, historic, esthetic and the many other factors that must be weighed to plan an urban freeway. Nor can highway departments be expected to maintain such professionally qualified personnel within prudent budget limitations.

Therefore, we suggest that State highway departments be encouraged to make greater use of teams of experts—such as economists, social scientists, city planners, archi-



ects, engineers and landscape architects—in planning and designing urban freeways.

A team's task in route selection and design would be, as the regulations propose, to evaluate the full spectrum of costs and benefits associated with the proposed highway. After such evaluation, reasoned choices could be made in an attempt to reach the greatest community benefit at the least community cost.

Federal Highway Administrator Lowell Bridwell recently noted, in connection with an interdisciplinary design team's contribution to a new Chicago highway, that: "The design team, working with State and local officials, has developed ideas for Chicago's crosstown expressway which have not normally been a part of urban expressway planning in the past. This corridor-wide approach may well set a pattern for fitting urban highways and freeways into the major cities across the Nation."

The interdisciplinary team approach to urban freeway planning has proven value. The proposed regulations should reflect this new approach to highway planning. In this way, State and local highway officials can effectively involve both the public and planning experts in designing the best possible highways.

IV. CONCLUSION

The AIA appreciates the opportunity to comment on the proposed regulations. We believe that highway controversies can be minimized if these regulations are adopted. Accordingly, we urge their early promulgation. ■

Mr. Kassabaum was unable to deliver this Statement and Vice President Jules Gregory, AIA of Lambertville, New Jersey appeared in his stead.

HIGHWAYS

Remarks by Texas Highway Commission Chairman, J. H. Kultgen at hearings called by the Federal Highway Administration in Washington, D.C.

Reprinted from *Texas Highways Magazine*.

After reviewing most carefully the proposed regulations on public hearings and location and design approval which have been published in the Federal Register, I wish to express the opposition of the Texas Highway Commission and the Highway Department to this method of regulation and to recommend this action be rescinded. Before proceeding further, lest I be misunderstood, let me make two points. First, we are not opposed to public hearings. In fact, the procedure that we now use in Texas embraces the two-hearing process, and we have been doing this for a number of years. Transcripts are already made of all our hearings and are carefully reviewed following each hearing. Upon occasions, review of the transcript has caused the Commission to hold another public hearing concerning the matter in order to best serve the public interest.

Second, let me assure you we have not ignored, and we do not propose in the future to ignore, social, economic, and environmental factors in design or location of highways. But after reading the proposed regulations it appears that a number of the terms listed as social, economic, and environmental effects are so ambiguous it is almost impossible to determine what is meant.

The use of the phrase "but is not limited to the following items" is too all-inclusive for any semblance of identification. There is no known way of making a precise prediction of the social, economic, and environmental effects of any public improvement. Despite the magnitude of all the research on this subject done within the Department of Transportation, it will still remain a matter of judgment as to whether these effects have been properly considered.

It is difficult for us to understand why—after more than 50 years of cooperation with the Bureau of Public Roads on federal-aid highways—it is necessary to deviate from a successful venture and overreact to pressures and criticism, and thus place a stranglehold on a transportation system which is vital to the economy of the nation. We have always found that Federal Highway Administration and Bureau of Public Roads Policy Memoranda and Instructional Memoranda are adequate for assurance that the Commission and the Department will duly consider all factors relating to fast, safe, efficient, and economic transportation.

We see no need for changing this procedure since past performance has indicated that exceptions will arise which will be at variance with strict regulation, and some compromise must be effected to provide a method to move a project forward.

While the Texas Highway Commission and Department concur in the statement submitted for the record by the

American Association of State Highway Officials, I should like to point out that in Texas, we feel we have an effective method of handling the requirements outlined in the proposed regulations.

The Texas Highway Commission, in its official capacity as the policy-making arm of the Texas Highway Department, has encouraged the appearance before the Commission of interested citizens, groups, or other local officials to discuss and explore transportation problems and needs in the various cities, counties, and communities of our state. The Commission and the Department have enjoyed the confidence and trust of the people of Texas insofar as highway design, construction, location, and maintenance are concerned. Where exceptions have been taken by local groups, every consideration has been given and on many occasions substantial changes in plans have been made. The Department's endeavors are motivated toward the development of a highway system which will always be a source of pride to the citizens of our state. At the same time, the Department places great emphasis on consideration of the economic and social environment of the people of Texas regardless of their social standing or influence.

The proposed regulations pose a serious threat to our concept of government in the United States. Placing the final decision-making power in the hands of a single federal highway administrator which bypasses all the powers granted by the states to their commissions is a concept of government foreign in anything we have known in the past. This concept certainly does not enhance the philosophy of "creative federalism" which has been the theme of the same federal administration which now proposes such rules. We believe this plan will be unworkable since it should be apparent that the federal highway administrator will be swamped with decisions resulting from the protests of "interested persons."

In this connection, the imprecision of the regulation which proposes the concept that undefined "interested persons" can have the responsibility for making determinations of design and location of highways is strange indeed. For under the laws of the State of Texas, regardless of whether anyone, including the Department of Transportation, agrees or not, the Highway Commission has been delegated the responsibility to make the final decisions in these matters. This is important, particularly in view that state funds expended for highway construction and maintenance exceed those contributed by the federal government.

We find it difficult to understand why—under the proposed regulations—it is so imperative that the state highway departments and the division engineers of the Bureau of Public Roads, and for that matter the



undefined "interested persons," are required to submit their comments and decisions at certain specified times, but the federal highway administrator has no time limitation under the regulation in which to render judgment. I might comment at this point that under a portion of the federal statutes relating to highway construction in parks, historical sites, and other places of interest, we have had a project in San Antonio that has been delayed for some eight years even though federal officials including the federal highway administrator himself have approved the location on two occasions. Project approval is still pending before the Secretary of Transportation. Despite a vote of the citizens of San Antonio which resulted in a two-to-one majority in favor of the project, including its location, such "interested persons" as the Boy Scouts, Girl Scouts, Audubon Society, and conservation and historical societies have been able to present a minority viewpoint sufficient to cause the Secretary of Transportation to delay a decision.

Further, I would like to comment that while the proposed regulation provides an appeal procedure for the undefined "interested persons," I note no specific provision has been included for any appeal by the state or local agency.

This again points up the subversion of state and local responsibility and authority and further promotes the making of unilateral decisions at the federal level.

At this point I would like to emphasize the importance of expressways and freeways into the heart of the cities for the enhancement of the downtown area. In all of the major cities in Texas, the downtown area was suffering until we constructed freeways and expressways to those areas. It should be obvious that if the downtown areas of our major cities where the large tax values exist suffer from lack of access, the tax values will decline, and revenue will have to be raised from some other source. In addition to these expressways and freeways in Texas, we have developed the concept of the bypass which we feel should be built around all cities for the through traveler.

The history of the more than 50 years of the Texas Highway Department shows that agency has fulfilled the letter and the spirit of the federal law regarding hearings. In fact, existing Texas laws already adequately provide for the public hearing process relating to highway projects. Rules, regulations, policies, and procedures developed and followed in compliance with these state laws have afforded full opportunity for effective participation in consideration of highway location and design proposals.

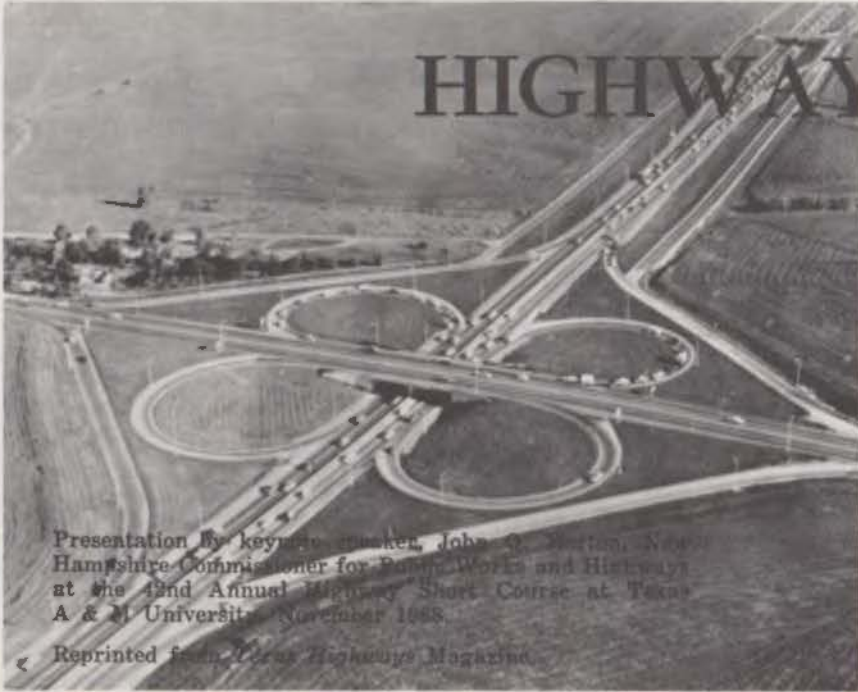


I am confident the response you have received from the citizens of Texas, both individually and collectively, has indicated they do not wish to subordinate the well-proven professional experience of our competent highway engineers and officials to the whims of any one individual, group, or special interest.

In conclusion, let me say that Texas has transportation problems far different from those of some of the urban Eastern states. We do not believe that an all-encompassing set of regulations which would provide solutions for a minority of cases should become an obstacle which could substantially delay, if not completely curtail, further construction and reconstruction of highways in our state. Just as the state of Texas would not make an attempt to write regulations based on our laws for the State of New York, we do not believe that the people of our nation and their congressmen and senators expect a federal agency to become the ultimate umpire for all construction projects. Therefore, we recommend that the proposed regulation be totally withdrawn and the American Association of State Highway Officials be requested to study and to develop a suitable, comprehensive plan which would be workable for all 50 states, a plan that would not subvert the Constitutional powers of the states and their highway departments.

We think there are workable and reasonable approaches to this matter and we see no need to rush to an immature decision which would be detrimental to the economy of the nation. ■

HIGHWAYS



Presentation by keynote speaker, John G. Barton, New Hampshire Commissioner for Public Works and Highways at the 42nd Annual Highway Short Course at Texas A & M University, November 1968.

Reprinted from *Texas Highways Magazine*.

It is indeed an honor and privilege to join with you at this, the first general session of your 42nd Annual Highway Short Course. I have reviewed the subject matter that you will be discussing over the next two days, and I am greatly impressed with the quality and the character of your program. The work performed by the Texas Transportation Institute and the Texas Highway Department is held in high regard by the highway engineers of this nation. As a matter of fact, the reputation that you jointly share for providing leadership in the field of highway engineering is well known, highly valued, and substantially followed by many nations on a worldwide basis

I come from a small New England state—a state where our total economic and social structure is keyed to the transportation afforded our people through a network of state and local highways. As a matter of fact, we have no other form of transportation that is worthy of being defined as a transportation facility. Highways are vital to us. The importance of highway programs is recognized, appreciated, and are strongly supported by our people. While the magnitude of the highway program in New Hampshire is not in any way comparable to that of Texas, all problems associated with its execution are similar to those of Texas. Any curtailment or full stoppage of the program causes just as many serious implications for us as it does for you. As a matter of fact, the curtailment or the stoppage of a highway program in any one of the 50 states of this nation is adequate cause for alarm and certainly demands a prompt and positive action to provide for its reestablishment.

For the past several years, I, along with many other state highway officials, have observed and deplored the ill-conceived and unwarranted attacks that have been leveled at the highway program and at us as highway officials. To an uninformed public, the popularity of the highway program has descended to an extremely low level. Many reasons attribute to this situation. I would say that in recent years we have become the victims of a poor press, both in newspaper stories and in numerous magazine articles. Within recent months editorials or articles appearing in *The New York Times*, *The St. Louis Post Dispatch*, *The Washington Daily News*, or *The Wall*

Street Journal have suggested that the President might have done well to veto the 1968 Federal Highway Act. The writers of such stories commented on a reduced beautification program, implied that the 1968 highway bill was pork barrel legislation, and said that Congress needs a reminder for concern of where the payment goes and how it is used.

It is difficult to imagine how one could encounter editorials written for major newspapers which were so sadly lacking in appreciation of the need for a stepped-up highway program. To me, it is apparent that many of the newspaper writers of today have little insight into the magnitude and complexity of our operations and, further, they do not take the time to understand or assess the true value of our accomplishments. I have come to the conclusion that these newspaper people only take time to listen to the words of opposition that are frequently voiced by the radical elements encountered within minority groups. I seriously question if such slanted material is in keeping with the purpose of a newspaper, or adheres to their code of ethics.

Then there are the voices of opposition that come from those who use conservation for publicity purposes or political gain. Generally, I believe that conservationists are well intended. However, for the most part they lack any real ability to visualize the appearance of a completed highway project. In addition, there are conservationists who will not even admit that highways can be pleasingly fitted into the natural surroundings of our rural areas, or located within our urban centers with a true sense of appreciation for the local setting. Certainly our past accomplishments have amply demonstrated that highway projects can be made attractive as well as serviceable.

Some of our opposition attempts to talk about and distort the problems being encountered in a few of our major cities—problems in connection with the extensions of the interstate system through or into these cities. As a matter of record, out of the 41,000-mile network of interstate highways, some 6,400 miles are contained within congested urban areas. Of this urban highway mile-

age, there are presently only 150 miles in dispute. Practically all of the remaining urban mileage has been constructed, or the locations resolved, with rights of way acquired and design plans currently in the process of being developed. Out of the total mileage of urban expressways, only 2½ per cent have presented problems of an unusual nature. In answer to our critics we can say this constitutes a record of accomplishment and not one of failure.

In all probability, most of the urban mileage in dispute could be resolved if those in command of the program at the federal level would take into account the extent of planning and study associated with these disputed areas and then exhibit at least a small degree of intestinal fortitude by making a straightforward decision.

What really gives highway officials the most concern is that in the past few years we have encountered people occupying positions of high authority in the federal government who apparently obtain their knowledge of highways from reading the newspapers, listening to the vociferous comments of a vicious minority group, or listening to the outcries of some poorly informed conservationists. For such reasons, and for even more sinister reasons, these people in authority want to completely undermine the total highway program of this nation. At first, the line of attack used by these bureaucrats was to call for more study and planning. This was effective in creating lengthy delays which, in some instances, resulted in the total abandonment of well thought-out and urgently needed highway projects.

Under the guise of requiring more study and planning, there usually followed the issuance of ill-conceived procedural memorandums and directives—directives that created unwarranted costs and added to the complexity of operations that were already overly complex. Such actions were often effective in sowing the seeds of misunderstanding and distrust in the minds of the public, and these actions frequently created the impression that we, as highway engineers, were the ones who were falling down on the job.

Now, in the past month, the federal highway administrator has published in the Federal Register, voluminous regulations regarding the conduct of public hearings and covering the location and design approval format that must be followed by the respective states. For most of the states this will have the effect of bringing about a complete stoppage of the highway program. In a number of states existing state laws must be changed to accommodate these proposed regulations. Of greatest consequence, however, is that these regulations will take the highway program out of the hands of the states and state highway departments, placing it at the mercy of a federal bureaucracy. At this time I would point out that the rules and procedures as currently published in the Federal Register far exceed the intent of the 1968 highway legislation recently developed by Congress.

This is the first time in the 52-year history of the federal-aid highway program that a government agency has resorted to use of the Federal Register for establishment of departmental rules and regulations. These rules and regulations, if allowed to stand in the Federal Register, have the effect of law. I personally regard this as a sinister move, conceived by a few people in high authority and possibly accepted by others unaware of its serious consequences.

There can be no doubt that the proposed regulations, if allowed to stand, will definitely have the effect of establishing rule by a minority. This small group of

government bureaucrats is known to be in strong opposition to the highway program. It seems incredible that a handful of irresponsible bureaucrats could dominate or define the future modes of transportation for this nation. Through the power and influence they can command, they could become effective in defining the future economic and social structure of this nation. Fortunately, the highway leadership of this country has become alerted to such possibilities and is beginning to act accordingly. It is gratifying to report that all the states, the highway user groups, leaders in private industry, members of the governors' conference, and members of Congress are now voicing serious objections to this action.

In this regard, I can advise that the opposition statement developed by your Texas Highway Commission and forwarded to Federal Highway Administrator Lowell K. Bridwell, is one of the strongest and most forthright statements I have seen. Mr. Dingwall and the members of the Texas Highway Commission are to be complimented for their constructive and aggressive approach to this vicious and unwarranted attack on the highway program. The statement of your Texas Highway Commission should be read and supported by all of you. In the final analysis, we will be successful only when the people of this nation are aroused and support the actions we are initiating . . .

The domination of the highway program by the federal government will have the effect of destroying many of the fine features of the Federal-Aid Highway Act of 1968. The Federal Highway Administration is undertaking an assumption of power that goes well beyond the intent of the act as expressed by Congress.

Dissolving the time-honored partnership between the Bureau of Public Roads and the states will destroy the continuity of well thought-out highway programs. Necessarily, it will create more confusion and complexity. A program completely dominated by the federal government can never be responsive to a fair and intelligent evaluation of local conditions or of local planning.

At the present time millions of highway dollars are being dissipated by a Washington bureaucracy—funds that are urgently needed for construction projects. Complexities are being created that cannot be untangled at the local, state, or federal level. Meaningless reports are being required—reports that will never be read, and each day the shuffling of more paper requires added help. All of these dubious requirements are being presented to the public under the guise of creative federalism.

We must resist this federal domination of the program. We must stand united in our efforts to return the controls over the highway program to the states where they rightfully belong. We must work to re-establish construction programs on a firm and continuing basis with their implementation being accomplished through sound and realistic controls designed to provide for an honest and efficient expenditure of vast sums of public money involved.

If we cannot reach such objectives through a fair assessment and adjustment of our problems by the Department of Transportation, then the time has come when the states must unite and jointly issue a declaration of independence and by so doing remove the highway program from the domination and control of the federal bureaucrats.

I am sorry that my remarks have to be made in such a critical vein. However, the American people are being confronted with a serious situation and it must be brought out into an open forum. ■

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Door



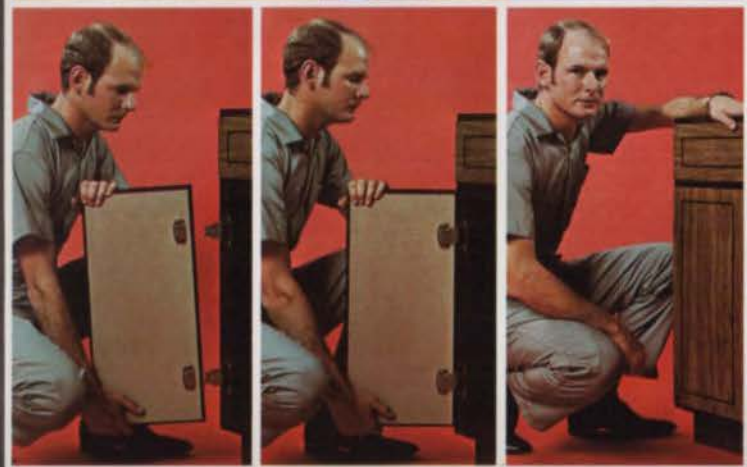
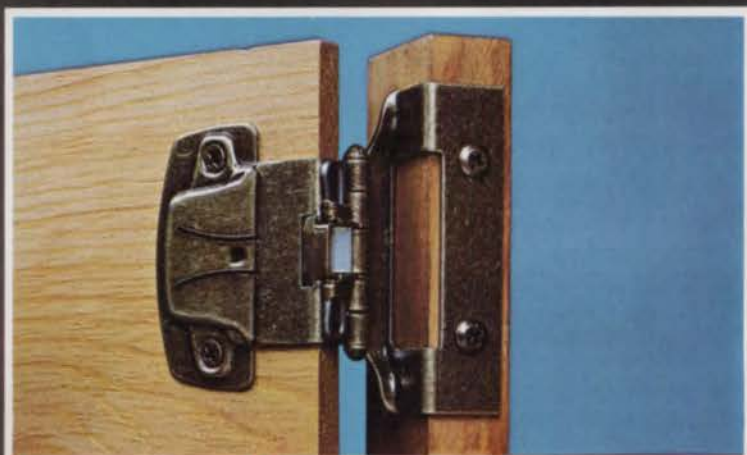
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INSIDE ARCHITECTURE

EXCERPTS FROM PRESENTATIONS OF GUEST SPEAKERS AT THE
TWENTY-NINTH ANNUAL MEETING, TEXAS SOCIETY OF ARCHITECTS

GEORGE KASSABAUM: How do you get more chances to do more and better work? Or different kind of work? Now some people accomplish this with personal magnetism, or by long associations with friends. You either have these, or you don't have them. So this is not anything that we can talk about this morning. But if we did count that, I think we can say that you get more and better work, by justifying getting more and better work. There is a reason for more confidence. There is a reason why your community should turn to you. Then you will get this confidence, and the community will turn to you more and there are two ways to accomplish this. Now, the first route is to recognize the whole of the value to the entire construction process. The value of good, tough, efficient management. This quality is largely ignored when the young architects wring their hands and wonder why so and so got this commission. The only reason that firms that are not as design oriented, or not as well equipped possibly, or don't know all of the latest thinking—the reason that these firms continue to get the good assignments is because they do offer to their world this management capability. Those who pick the wrong firms—and which generally means firms other than yourselves—are looking for something more than what you have to offer. Now we will always need to do better designing. Design is the entire basis of our profession. It is the whole foundation upon which we build, and we will always need to do better design. But the ability to design is not the weakness that is being exploited by those who replace or those who would ignore us, or lower us in stature. We will always need to make better drawings and write clearer specifications, but again, I think our world says that we do this just as well as anyone.

We have always been recognized as a profession that has creativity and imagination and excitement. But if this was all that our world really wanted, then I wouldn't think we'd be so worried about what we are going to be doing in the near future. It would be very easy for us if our world placed a very high value on the intangible things that you and I as architects really know make the difference between a home and a shelter, and can make the greatest difference between acceptance and rejection. We know these intangibles are important, but the difficulty and the reason that we are frustrated is that our world or our society or those outside the architectural profession, worship tangible things. They don't worship the intangible. They don't place the intangible at a very high point on their scale of value. They worship success, and they worship convenience, they worship usefulness. Now

let's never minimize the importance of these intangibles, but I think again if we wish more chances to do more things within the next few years, the intangibles have to kind of be the pluses—these very important pluses that we add to this solid core of very tough, good management. Thankfully, we live in a free society, but in a society like this power is generally placed in the power of men of action and not of the intellectual. Therefore, it seems to me that men of action in turn will look to men of action when they want things done. And so again I would say that architects can only hope for greater, or different, or more opportunities, if they offer more and greater and different services. Promises mean nothing. We can tell ourselves that we can do this. We could do it if we had to. We have the ability to do it. This sort of thinking leads to nothing. To do it is the most important thing. So I think the first thing that you have got to do if you choose this route is to act in your own behalf. You have got to conduct your own operation in a way that will demand respect, that will justify confidence and hopefully will even command admiration. Now if you are conducting your own life and your own business like a corner grocery store, or neighborhood shoe store, then again I say, why should you expect the successful business men of your community, or the political leaders of your community, to entrust you with millions of dollars or perhaps their whole career, if you are going to run your business like a hobby. Now, I'm not talking here about size; I'm not talking about dollars; I'm not talking about number of people. A three man office can be as poorly organized and poorly managed as a thirty man or three hundred man office. There is no common denominator that says that all of a sudden a certain type of thing becomes well managed. Management is something you all can bring to your own business.

But put yourself again in the role, in the hands of this man who you are asking to entrust you with more or greater or different opportunities than you have ever had before. Do you think you run your own business, you operate your own life in a way that justifies his confidence?

Now once this quality of management is brought into your operation, then I just see all sorts of very exciting and great sorts of things for every one of us. This leads us to what is really necessary. Really what the construction process in this country needs most is some one to pull it together, to organize, and to manage it. We have got to accept this greater challenge of being a very integral

part of the construction industry. What this country needs is a simpler building process.

Now we recognize the importance of management abilities and this would help us get involved in the leadership toward simplifying this construction process. Bob Hastings puts it very simply. There are three things involved in construction. There is the decision, there is the design, and there is the delivery. Now for two years I have talked to AIA groups, and a year ago you were very kind and patient to listen to me when I talked to you about the importance and the necessity of getting involved in the decision making process, and I am not going to elaborate on it. I will only remind you again that you have got to get out of the drafting room, and get out into the world where the action is if you are going to be a part of the decision process. Again, you can't take the traditional architect's role of being satisfied with being called in after someone has decided to build a certain kind of building—an apartment, a hospital, a school, or office building, on a certain site with a certain budget. The important decisions are made by that time, and if you are content then to be brought in and that's all you are asking, then I think you will probably never have much chance to do more. All you will be able to do then is the intellectual exercise, thinking about how you are going to make it prettier. The important decisions have been made by others.

Now the correction of this means that you have got to get out in the world and become involved in the world around you. This is the only way to become involved in the decision making process. Decision, design and delivery. Let me skip design a minute, because I do see a second way, that by concentrating only on the design process, I think you could be asked to do more. But let's get into the delivery process just a moment, because this is really where our present system falls down. The delivery of a building to a client. And again, this falls down because there is just no management capability. Now I know the general contractor has traditionally done this. But we all know that less and less general contractors are exercising this control, and so therefore this is falling down because of the failure to manage the entire construction process. I think we should realize that we aren't just architects, period. Because we could be the leaders of the construction process.

I would say right now that this weak link in the chain, the management of the construction process—and I have talked with government leaders who had the pressures on them to produce six million housing units in the next ten years. I don't think that they have produced 600,000 units in the last ten years. The pressure is on them. The pressure is brought about by changes in our cities. The pressure is on them to have this resolved, so I think they see the weakness of this particular link as meaning the entire chain is no good. And I think if we throw away the chain, the architects are guilty of throwing away a great deal. So I'd hate to lose this because of just one link being weak. Now I am sure that the architect is going to have to get more deeply involved in the construction process than he has ever been before if he is going to be the leader of the team. The only way to do this is to be the professional, not the amateur, but the real pro in the construction process. We are dealing today more and more at every level with great organizations that are put together in order to bring some sort of clarity and order into a very chaotic situation in this fast changing world. These pressures are there, indicating that someone is going to do it, and someone is going to do it through the effective management of the whole process.

So these are two steps—this idea of allowing us to bring the tangible thing, the actual building, into a world that

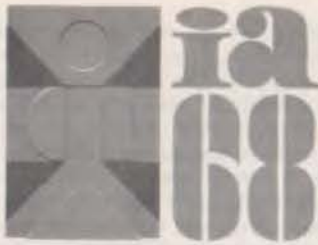
wants tangible things. We are the only industry—the building industry is the only industry that cannot meet the demands being placed on it by today's world. The automobile industry will make as many cars as this world will buy. The shoe industry will make as many shoes as this world will buy. The building industry is the only industry that is saying we can only do so much and you have got to be satisfied. And this is in a time when pressure is indicating that there cannot be satisfaction with this.

Decision, delivery and design—the traditional role of the architect where we traditionally recognize and accept this primary responsibility. Again, I think if you wish to insure hope for increased opportunity—let me emphasize more opportunity—if you want to have better chances, and more chances to do better buildings, then I think I have got to ask you—what are you doing today that you weren't doing a year ago? I hope some of you can say—“well, I'm doing this and this and this and this.” But I have to suspect that the answer is you are not doing much today that you weren't doing a year ago, and you are probably not doing it much better than you were a year ago.

Now, I point out to you the world has changed a great deal in the last year or so. We have had a lot of riots that we didn't have a couple of years ago. We are transplanting hearts that we weren't doing a few years ago. We will have men in space on the way to the moon soon that we weren't doing a few years ago. I don't know any other group in this world that we live in that is content to rest on the education that it got five, ten or fifteen years ago. I want my doctor to know all about the latest medicine, the latest techniques, and I am not satisfied with him if he hasn't continued to learn after his graduation. They say that what our scientists and space engineers learned, five years ago is half obsolete already. I think we have to accept that this applies to the architectural training that we have had. But again, consistently in this country, every chapter or any part of the institute that has tried to put together a continuing education course has given up in despair, because the practitioners just won't make the effort, or can't find time to learn these things.

What have you done lately? Or more important, I guess, what are you going to do tomorrow to try and bring your last year's knowledge up to date? I see your second hope as being the leader you want to be, to get more work that you want and better opportunities—I see it can only come from the management way, or by your being the expert in the building process in your community.

If you are a professional, and this means a guy that can do things better, and he does them easier, with more grace and more skill. Are you the professional in your community in your knowledge of building costs, or do you, like the leaders of your community, look to others for information like this? Are you the professional in your community for new materials and building techniques, or do you, like the other leaders of your community, turn to others for this sort of advice? Now if your answer is “Yes”, then I think you only need patience, because if you are invaluable, if you are essential to the construction of a good building in your community, then I say you are going to have more work and have better opportunities. But if you have to answer reluctantly, “No, I am not the professional in these areas,” then I think your getting a better chance and having a better future depends solely on the changes that you are willing to make—depends solely on your answer to the question, “What are you doing this year that you weren't doing last year?” ■



INSIDE ARCHITECTURE

NEAL LACEY: You all may wonder what led us to present a program about inside architecture—what's it all about? Well, what is it all about? Architecture variously defined should include all of the disciplines related to it, but absolutely should include by definition the inside of the structure. Now how do we control this, and what are the newest thoughts in this vast and important area of our responsibility?

It is our responsibility as we shape and influence our total environment. So, to help us enlarge our understanding and feeling for this important area of design, we have assembled for you all architects—and I repeat, architects—whose work and shaping all aspects of our inside environment is outstanding. These men are Mr. C. M. Deasy, Mr. Richard Kelley, Charles Pfister and Mr. Don Albinson.

C. M. DEASY: This question of inside architecture is one I am very happy that you have chosen to deal with because this after all is where the action is. We are born there, all our friends get together to view our remains there, and all the things that occur between these two terminal events generally occur inside. Vile plots are conceived inside, beautiful poems are conceived inside, and most children are conceived inside. So this is a subject I think we can devote a good deal of attention to, and find it very valuable.

My particular point is to draw your attention to one aspect of inside architecture that we don't spend a great deal of time thinking about. These gentlemen are tremendously expert in the field that you and I would recognize as being most important—lighting, color, texture, furnishings—all of those components that go to make up the interior environment. The point I would like to focus on is not how we do, or what we do, but what we do it for. In other words, what is the point of the interior, and what happens there that counts. Because in many instances, I think we have evidence that we are really missing the point. Kind of like the tailor who created an astonishingly new fashion in men's clothing by designing some trousers with only one leg. Now the color was beautiful, the material was superb, the workmanship magnificent, the design was outstanding. You have to admit it was certainly original, but it just wasn't relevant to the problem. But there are many cases that lead us to wonder if we are really focused on the right point. Take for example the case of architects. We are very sensitive to our environment. We are concerned with it, and we need to discuss it. We have been trained to be sensitive to it, and yet you know as well as I do that we can be tremendously happy in a crowded, noisy, dingy, smoke-filled room, with all the qualities of a janitor's closet, if that's where the action is, if that's where the people are, that's where the friends we enjoy most are. By the same token we can be in the most beautiful environment conceivable, the Grand Canyon, your latest masterpiece—whatever it might be—enjoying it thoroughly, goose bumps all over us, but let somebody walk in, and it is immediately destroyed—a former boss, a former

spouse, or perhaps a former client. So obviously there are social characteristics that affect our response to spaces and how affected we might be. And that's the kind of thing I would like to talk about this morning. We have some evidence, and it's not just intuitive or interpretive, about this reaction, and it's very astonishing. I don't know whether you are familiar with the windowless classroom study at the University of Michigan. It is very worth while looking at under any circumstances, but almost by accident they encountered something that to me was really astonishing, and that is that these children were not aware when the windows were removed and replaced by solid wall. Now you say to yourself, how can any human being in command of all their senses be so insensitive to their environment. The fact is that, that is the way it is with most of the people in the world.

We have had our own problems in that regard, with studies that we have made on performance in the streets and the parks in the City of Los Angeles, and we find the most astonishing thing. That people are very sensitive and alert to qualities that I wouldn't give a nickel for, and they can resolutely ignore things which I value very highly. They can walk by some of the handsome work that we have done in downtown Los Angeles without even quivering a muscle. In an attempt to put this in relevant terms to our work, our life, let me try and describe some examples. Certainly, anyone here could do a perfect job of designing a place for a student to study. We have all the technology that we need. We have all the knowledge, color, form, accent, pattern, rhythm, to put to this test, but there is also no one here who assumes for a minute that if you did all these things you could make the student study. And that is really the key that we are trying to find.

Similarly with the conference room. Can we design a conference room? Boy, can we design a conference room! We have everything we need to make a superlative space and of course depending on what your own particular sense of design might be, you can equip it magnificently with matched Brazilian rosewood, or you can equip it with hush hammered concrete, but at any rate, with all the things that the people need, these we can provide. But we don't design a conference room for light, or for seating, or for a place to display things. We design a conference room so that people may better come to a common agreement. We design it to promote original thinking. We design it so that creativity can build on creativity, and you cannot know those things without knowing how people react.

Another example that we are dealing with at the moment has to do with the library. Now every library that I have been in since I was that high has the same kind of seating. The tables that seat six or eight are grouped in orderly clusters. Now anyone who has any knowledge—detailed knowledge of human behavior—can predict that when people are brought together in that kind of configuration, they will interact. It doesn't make any difference how well disciplined they are, they will interact.

Someone will push his book over into someone else's territory, and there will be a squabble. Someone will get his knee on the table and it will push somebody else's purse off. Their knees will interfere, elbows will interfere, they will ask whispered questions. They cannot be kept still. Now of course this isn't why the seating was arranged that way. The seating was arranged that way presumably because it satisfied someone's idea of order and beauty, certainly to help the librarian to keep an eye on everybody that's in the library. But what has been done with this configuration is to defeat those two primary aims. First, the problem of protecting the collection and maintaining order, and second, the problem of keeping a quiet and orderly interior.

Now there are two observations about human nature that apply here. One has to do with the question of how people respond to open authority—in other words how many of you are motivated to get away with it if somebody is looking down your throat. A lot of people are. With these few components we suddenly see that we have a different kind of a problem and a problem where we can apply all of our knowledge about the interior to solve it. We can disperse the people. We can make our plans such that the people are not concentrated. We can design new furniture that separates the people. We can use light as a screening device, so that they don't interact. We can use all kinds of visual screens. We can contain sounds locally. All these things we can do to solve this problem, but we can't do it unless we understand that there is a problem and unless we have behavioral analysis that makes it possible for us to do that. Now obviously there are things here that we cannot solve alone—where we have to rely on the contribution of what are called the behavioral sciences. Now when I have spoken of this subject in the past, I find that there are three very strong reactions. You start talking about sociologists or social psychology or perceptual psychologists. Some people get red in the face with smoke coming out their ears. Other people laugh hysterically because they think the whole idea is so ridiculous, and a few people get a sort of glazed eyed trance about them because they think it is all so wonderful. I'd much prefer a fourth reaction, which is a matter of fact, "Let's see what they have to offer, and see if it works for us," because in my view they have a great deal to offer. It strikes at the very heart of the architect's concern and the architect's problem. We worked in the past with a team of social psychologists, and we have found it an extremely rewarding experience. We have also worked on our own in an effort to see if we could identify behavior patterns that would affect design. We have not been able to get much help elsewhere, because this is not something that very many people seem to be doing. As a consequence, our efforts are crude and tentative and not at all what I hope they will be. In essence, we have used three techniques. One, direct observation; two, professional consultation, and three, which is direct field research, which is now going on with a university project in Los Angeles. *Editor's Note: Remainder of Deasy presentation consisted of slides with commentary to illustrate the three techniques.*

RICHARD KELLEY: Now the very idea of today's panel on interior architecture is terribly exciting to me, and I just want to examine that a little bit. We have interiors, and maybe there is a difference in scale between the interior and the exterior, but that is changing so much, I almost question that now, because the Frank Lloyd Wright open plan, and the use of glass connecting the inside and the outside and the volumes has really reduced the difference between interior architecture and exterior so much that it is hard to know which is which very often. There is one difference that I can point to and that is the outside is where all the light is, and the inside is where it isn't. And that's true all day long, because day-

light is 12,000 foot candles out there and we have got cloudy skies that are brighter than any surface we can possibly light inside—well that's in the range of about a hundred to one. The sky is brighter than the brightest white wall with light pouring on it that we can get, and so even with all that there is that tremendous difference between inside and outside. I think scale difference is somewhat disappearing, because we have an interplay of volume inside and outside, and I have got lots to say about space as we go along. Also, our whole concept, of course, as architects, has stemmed in the past, from the inside where people are a great deal of the time on their furniture, and the furniture is the measure of people, and that scale continues in the thought—well, it does in light surroundings too in order to read the meaning of your surroundings, and Corbusier's machine for living was another way of saying we work from the inside out in measurements. We measure the distance by what's near to us and we measure the space around us by the concrete material we see interrupting space nearby. That's all a part of it. *Editors Note: Remainder of Kelley presentation consisted of slides with commentary.*

CHARLES PFISTER: The architect that doesn't do the interiors of his buildings isn't doing fifty percent (50%) of his design job. You do a shell and you don't bother doing the interior, and you say, "Well, the client wouldn't let us." Well, the client let's you do the building in the first place. We have not made an educational point of letting the client know that the interior is just as important as the exterior or the shell. I mean it seems to me that the interior in many ways is more important than the shell, because it is where people really touch and they see and they smell, to bring out one point. There are all kinds of things that happen, but they happen inside the building and they don't happen outside. This is an intimate association with the building that doesn't occur on the outside. It is the thing that you hear that they say over and over again that a tenant building is done. The architect doesn't do the interior and then the tenants start to move in and they bring their decorators with them, and the architect holds his head and moans and groans and says, "How can they do that to my building?" Well, it is very simple. You should have done something about it right at the very beginning. You have got to convince your client that this business of designing the interior has some pretty important ramifications, other than just putting in a sofa or a chair or selecting the draperies or pretty light fixtures.

We do a lot of our own interiors, mainly because of the mechanical considerations that are in high rise buildings. These are not as strong considerations as in residential work. I am going to gear my comments primarily to commercial structures, because that is really what I am involved with, and I know the most about, but because of the mechanical budget being 40% of the building today, we have gotten involved with doing the interiors so that we work with the mechanics of the building, and in so doing have come up with some pretty good results, I think. This business of the office landscaping vs. the open planning. We should have in our power everything available. It is just like with finishes. We shouldn't say that you can't use polished chrome because it is cold. It doesn't have to be cold. It depends on how it is used, where it is used. I think that the designer should have everything at his fingertips, and then draw from there to suit his particular situation. If he is doing the interiors to his building, he is able to use materials in new and unusual ways. He is able to really and truly enhance the building from a function standpoint and an *esthetic* viewpoint. *Editor's Note: Remainder of Pfister presentation consisted of slide with commentary.*



DON ALBINSON: Why a meeting on inside architecture? Okay. I think there is a reason for this. The truth is architects for many years have pretty well concerned themselves with what goes on inside. I can carry that all the way down to designing furniture. If I want to leave you an impressive list of architects who have done some pretty good furniture design, I would start with Mies, Corbusier, Breuer, Scandinavians like Matson; our own Frank Lloyd Wright, it wasn't very good furniture, but he really did it, in plywood. Giovanni, in Italy, Florence Knoll, Saarinen, and Charles Eames. I purposely ended with those guys, because I am quite sure you are all familiar with pedestal chairs, upholstered desk chairs, and Eames shell chairs, and other plywood potato chip chairs. Those were all architects who studied architecture. The common concern of the architect with furnishings as well as buildings must come from the fact that everybody expects the architect to be all things to all people. He is a psychologist. He is an engineer. He is a city planner, color consultant. He must be concerned with all the aspects, if he is working on architecture as such, it obviously includes a lot of things. Pappy used to say "Whatever you're working on, consider the next larger frame of reference." "If it's a chair, the room; if it's a room, the building; if it's a building, the neighborhood; a neighborhood, the city."

However, the architect obviously has found himself concerned with furnishings. When these guys didn't find the kind of furniture they wanted or wished to have in buildings, they went about designing furniture they thought they would like to have in their buildings, and there are quite a few pieces still around.

"How do you develop a new furniture design?" Well, nothing very mysterious about it. Designing furniture is not drawing pictures and then turning the pictures over to somebody else to put into production for you. That is usually a kind of wasted exercise, if you are concerned at all about your furniture design. It is not walking down the street and a light bulb flashes above your head and you suddenly have a great chair design. That doesn't happen. It is probably just like architecture. You try and study the problem, and you approach it in a very orderly workmanlike fashion. It might be more related to accounting or sales department or any other part of any normal American activity, business activity or development activity. It is a very common sense operation like any other job. A lot of people like to think that there is more magic in it than there is sweat, but it isn't really true.

What I can do that you might find of interest is—I happen to be uniquely qualified to trace the lineage of the Eames and Saarinen chairs. When I was a student at Cranbrook, Charles Eames and Eero Saarinen were both there. Eero was working with his dad in the architectural department, and Eames was teaching the course called "Design" which was a great course. We folded paper and piled up Sweets catalogues until it collapsed to find out the best way to fold paper, and we had a band saw and a table saw and a drill press and we worked with wood, and we had a great time—just terrific.

Eames and Saarinen heard there was competition being sponsored by the Museum of Modern Art in New York, and some related other agencies—a couple of department stores, two furniture manufacturers. It was called organic design competition, in 1939. They worked together to present designs for this competition. They designed as far as I know the first shell concept chair. They envisioned this to be a molded plywood shell, a three dimensionally formed shell that had a hole in the back which was to help bend the wood around this shape. It was not dissimilar from the final plastic shell, and Eames upholstered shell with an opening in the back. The chair was based on a plywood patent a man in Grand Rapids had taken out on three dimensional molding of plywood. Now they

interpreted the patent rather liberally. They figured if you could mold plywood three dimensionally, you could make soup bowls or chair buckets, or something like this with the process. The man in fact was making very shallow little trays, and he didn't bend the wood enough to split it or wrinkle it or fold it, and he didn't have any difficulty molding trays. Saarinen and Eames won three or four different categories, and they included also a line of unit storage cabinets sitting on benches. We actually followed the competition and made full sized molds to mold plywood. These molds went to the *Hascolite Company* in Grand Rapids. They proceeded to try and make chair shells.

Now because of the complex curves, it was quite a problem. They ended up cutting narrow strips of veneer, and sort of taping and tacking them all over this mold in different directions. In fact, it took a long time to lay up one of these and draw a vacuum on it to hold it tight against the mold and heat it to cure the glue, to form the glue, and then they would remove it from the mold, and they had a big ugly "Frankenstein" looking chair shell that only cost \$75.00. Now that was before the War when \$75.00 was worth like \$180.00 now, or something like that. It was almost an act of mercy that World War II came along, and the chair development had to be stopped for aircraft etc., that were vital to the National defense. However, both Eames and Saarinen learned from this process. Eames moved to California and developed the first plywood chair with the molded seat and back, and there you see he split the shell into two rather simple forms that could be molded without splitting, so it could be done relatively efficiently.

Saarinen went on into considerable architecture, but Florence Knoll interested him in designing furniture, and Saarinen proceeded in the molded shell technique, which resulted in his best chairs with that hole in the back. Now the fact is there is a seat panel and then his wrap around shell, whether it is the arm shell or the side shell. This actually was developed from a flat paper pattern. He cut a moon shape out and molded the paper so that he also was not making elaborate three dimensional bends, but rather simple developments from flat panels of *systyle* and resin.

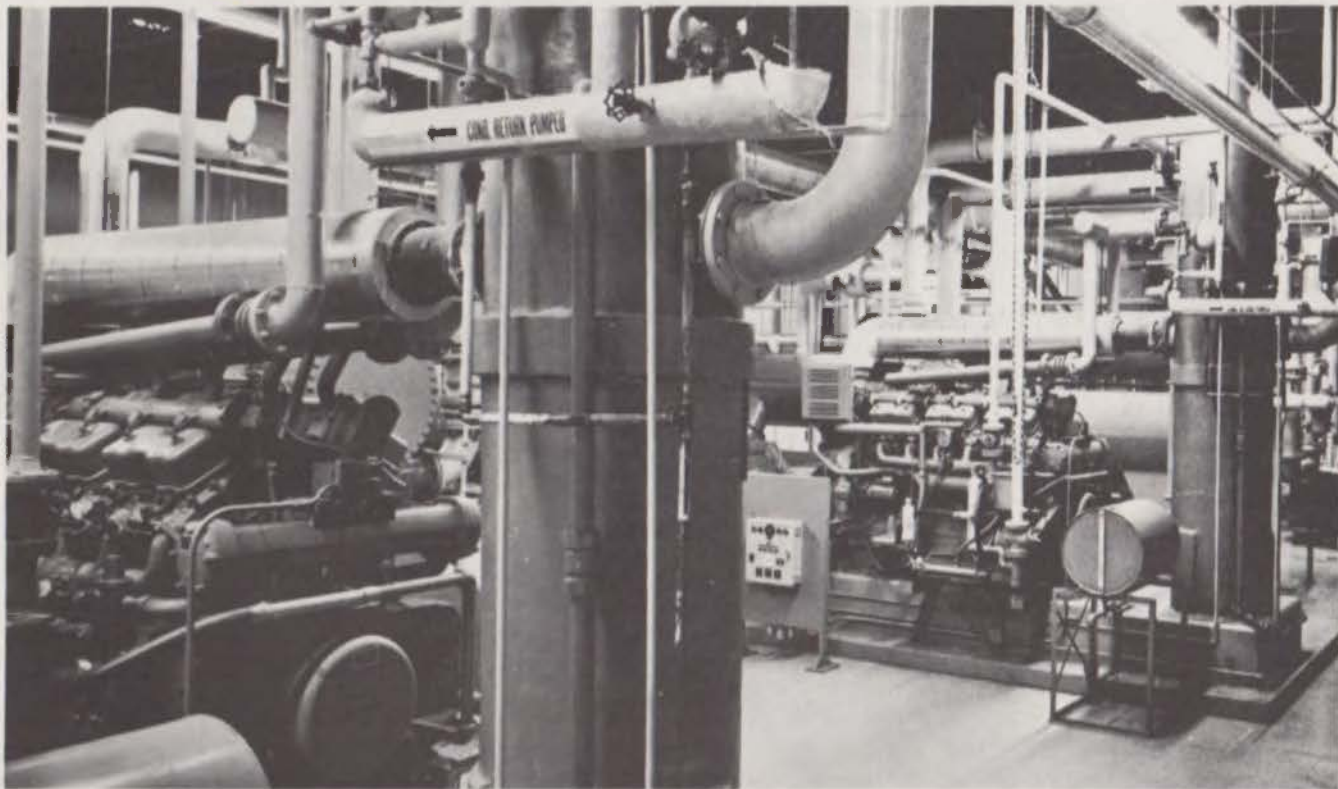
Eames then went back to the shell chair in 1949. It was redesigned as a stamped steel shell. At this time I was working for him, had been for quite a few years in California. This was another competition sponsored ten years later by the Museum of Modern Art. This time we presented stamped steel chair shells. We made one. We stamped an aluminum chair shell in our own shop. It was our own drop hammer that shook china off the shelf two blocks around that building and we made two aluminum side chair shells and one steel one. We just beat the daylight out of the dies and finally got a steel shell out that the Museum of Modern Art has in their permanent collection. But these shell chairs the second time around were designed to be stamped in steel, like any good automobile center. That didn't come to pass, because the tools to do it in steel, you know, you have to have a blanking die, and a forming die, maybe three sets of forming dies, to get into this final shape, etc. The tools were going to be like \$50,000.00, and nobody had that kind of money at the time. So one of the fruits of our World War II development came to the rescue when fiberglass material was brought to our shop in the form of a Christmas tree base. A company in Los Angeles wanted Charles to criticize the design of it, and I don't know what he said about the design of the Christmas tree base. But he was fascinated with this material, which was tough, about an eighth of an inch thick. It had solid color in it. It was very tough material, you could jump up and down on the Christmas tree base. The upshot of the whole thing was that the plastic company and Hermann Miller jointly decided to gamble \$13,000.00 to build a matched die to make an arm shell out of plastic. Had they known how much it really would cost before they got the plastic arm

shells out of the tools, they probably wouldn't have done it, but they thought it was \$13,000.00 and since ignorance is bliss, they went into this happily and sooner or later, we actually did have a molded plastic chair shell. So the plywood to steel to plastic shell—this is a sort of strange development, but it is how one particular chair which I think most of you are probably familiar with was developed. I am not saying that this is how all furniture is developed. We think we have learned from our experience, and we generally get to it a lot more directly than that, these days. Knoll fortunately is a company with resources, and we can afford to consider expensive tooling. Our shop at Knoll—I have about ten to twelve people. I consider about five of them accomplished furniture designers. They are all working on their own designs. Our shop is characterized by floors full of sawdust and sand pilings and plaster. Our primary tool is a 36" band saw which is a great tool and we have got a table saw and planers, shapers, routers. We also have got a metal shop, for sheet metal work. We don't have our milling machine yet, but that is in next year's budget. What we have is a real honest to goodness working shop. We do fiberglass work, plaster, clay, wood, metal, upholstery. We have sewing machines accomplished seamstresses. We don't wear neckties and suit coats. It looks like a bunch of real hardworking cabinet makers, something of that nature. The point is the way we work, the kind of projects we work on, we often don't get it on paper until it's all through.

We get into four or five working models as quickly as possible, in either the materials we intend to use, or as close to the materials we expect to use in production as we have. This is the way we work, and the way we design. How do we decide what we are going to design. It is not difficult. Being a part of Knoll, we know our product line. We know what is needed. We are in constant contact with sales people. We have a pretty good idea what kind of areas we would like to develop and then too, we actually plan our expansion, our development, our progress, and actually we sort of control what happens. It is not an ivory tower waiting for lightning to strike. It is more or less planned.

Designing inexpensive furniture is really why I am around, because that's exactly what I want to do. The boys that work in my shop are relatively young, married guys. They have children. The thing these guys know best is what American families need in the way of furnishings. This affects what they work on, what they design, and the products they pick to design. We have, I would say, a pretty high percentage of very domestically oriented pieces in the work. I think the simple little Stephens wooden chair is one of a number of things that are coming along. We have got another little wooden table that goes with the chairs. We have got pieces in the works that become lounge furniture for living rooms. I don't discourage this direction when these guys start working on it I think, first, it is what they understand best, for they are best qualified in a way to design these things. Too, my interest really is in trying to do well designed, inexpensive contemporary furniture. I feel very badly that everyone has to go to Sears Roebuck and pick over all that stuff to furnish their homes. I think it is a shame we don't have pieces in there that they can look at the price and compare and consider in making their selections. I also know that if I allow lots of home furniture oriented pieces to get into the line, my company will have to figure out some way to merchandise them before very long. We will either have Knoll home furniture stores, or we will work out arrangements with department stores, or something. So I am working at it in an *insidious* way, and I am not encountering any resistance in the company. The thing that bothers me the most in a trip I made about a year ago to Skidmore's office in Chicago was the guy in Skidmore who said, "I don't think Knoll should be working on low cost higher production items. Knoll is a company I always look to for one odd piece to fill that strange corner I've got. I look for one special nutty piece. ■

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INSIDE ARCHITECTURE

A. I. A. SEMINAR ON GOVERNMENT CONTRACTS

PHIL HUTCHINSON: In the summer of 1966 we carried a small notice in our AIA report to the effect that the general accounting office was going to study architect engineer fee limitations, and contract and procedures. We asked architects with experience in Federal contracting to inform the institute of any problems that they had. The response to me as a new staff member was quite startling. In less than a month's time we had several hundred letters from architects and the *consensus* was that an architect who sought Government work was likely to end up like these three young ladies. It was usually the innocent firm, the firm that was inexperienced in the pitfalls of Government contracting, and so the idea of a primer on Government contracting was put forward, a document intended to give the uninitiated, inexperienced firm a few facts of life about doing work with the Federal Government. In its present form we think the primer will serve this purpose, but thanks to the input of several seasoned architects like Julian Berla here, we think the primer will be valuable to some of the old gray foxes of the profession who have a lot of experience in Government contracting. We think we have got some good material here, and I'd like to spell out by giving you a fast running, nutshell account of what is in the primer. How do you seek Federal work? Well, the first thing you are going to have to do is to enter the paper work jungle and fill out your form 251, which is the U.S. Government Architect-Engineer questionnaire and submit it in triplicate to the agencies for whom you would like to work. We will have a 251 reprinted in the primer, so you will get a general idea of what it looks, or supposed to look like when it is filled out by one of the old gray foxes. The Government doesn't require you to prepare any elaborate brochure to supplement to primer, but it is not a bad idea to have a few photographs of recent work to overcome the impersonal nature of the document. The information on this 251 that you submit will be automatically distributed to all offices within the region. It is not going to be distributed to all agencies, but all offices of the agency within the region, so you want to be sure that you cover all of the agencies. Once you hit the agency, they will take care of distributing. You have got to keep your 251 up to date. Don't just file it and forget about it. About once every year you should submit a letter indicating that your interest is still understood in doing Government work, and submitting a revised form.

When the agency receives your 251, it is going to classify you with respect to location, your specialized experience, your professional capabilities, and your capacity to perform agency work. They will look at your previous job records as well. If local firms aren't able to handle the particular agency job, they will go outside, but particular preference is given to firms in the locality. Now you may ask if you have never had a Government contract, "Won't the fact that I have never had a Government job preclude me from getting one?" But this isn't the case. As a general rule, you can say that about 25% of the Government's AE contracts are awarded to new firms. So the fact that you haven't had a Government contract isn't going to hurt you.

Now, what agencies contract for AE services? We have included in the *appendix* a directory of Federal construction agencies. This directory lists the scope of work, the methods of procuring architect-engineer services, the field offices and addresses of all of the Federal agencies that contract for architect-engineer services. We have covered

such agencies as the Atomic Energy Commission, Department of the Army, Department of Housing & Urban Development, Post Office Department, Veterans Administration; all of them are in the *appendix*.

How do you learn about potential AE contracts. Well, this is a subject all in itself and it really requires a great deal of ingenuity, but there are several practical things you can do. The U.S. Department of Commerce publishes the *Commerce Business Daily* which is a newspaper publication announcing all procurements of goods and some procurements of services over \$10,000.00. It is not a sure fire bet for architect engineer services because the agencies don't have to put their announcements in the *Daily*, but many of them do. For example, the agency for International Development puts everything in the *Commerce Daily*, so if you are interested in a particular agency's work, and you know that agency advertises in the *Commerce Daily*, it is a source worth following.

Another thing you don't want to overlook is your congressman and your senator. Frequently, these fellows know much more about what is going on in the district, what's planned for the district in construction activity than anyone else, and if they don't know, a simple request from you to them would prompt a survey of construction agencies in your area. I have seen these surveys. I have asked the agencies for them myself, so I know it is quite an easy thing to accomplish. You should also keep in mind that the Federal agencies aren't at all *remiss* about discussing their future plans with you. It might be a good ice breaker topic to get to know some of these Federal officials.

Now a word of caution about commission agents. You should be wary of people who promise they can influence the award of Government contracts, that they know the right people in Washington. The chances are that these people can't produce, and if they can produce, the chances are the award is illegal, and it could be set aside. The test here is whether the individual's fee or salary is based upon his success in obtaining you a specific contract award. For example, if his fee is equal to 5% of the contract price, payable only if the contract is actually awarded (You fellows refer to him as the five percenter) —if that's the case, the contract is illegal, and you want to stay away from it.

How does the Government select architects and engineers? Well, first of all, the agency has a free selection panel which goes over your form 251 that you have submitted and they take a look at the specialized experience of the firm, the capacity of the firm to accomplish the work, time required, past experience, and the volume of work you have in your office at the time, and the volume of work you have had from Government agencies, with the idea of spreading the work around a little bit. This pre-selection list is then sent to a selection board who screens all of the people on the list, and they select a minimum of three firms in order of preference—one, two, three. Negotiations are then conducted with preference No. 1 firm, and if a fee which is fair and reasonable to both parties and doesn't exceed the statutory or budget limitations is reached, that ends the matter, and No. 1 firm is selected.

If the fee cannot be arrived at, No. 1 leaves the room, and No. 2 comes in, and they begin the process all over again.

Since 1939 most of the Federal construction agencies have been required by law to limit the fee payable to an architect-engineer to 6% of the estimated construction cost. These limitations apply to all the military agencies and to most of the civilian agencies. The only agencies on the civilian side that are exempt from this 6% fee limitation are the Atomic Energy Commission, Post Office Department, and the State Department. There's a trick with this limitation. It applies only to the zoning, plans, drawings, and specifications. It doesn't include any outside work such as field investigations, supervision or inspection or the like. It only applies to the zoning, plans, drawings, and specifications. Now suppose, as is the case more and more nowadays your contract was classified as research and development, rather than an architect-engineer contract. Then a new limitation comes into play. And the limitation for research and development work is 15%. Sounds better on the surface, but there is a hooker, because in research and development work, you have to submit a price proposal right in the beginning.

One other thing about the fee. Before the agency will sign you up, you are going to have to certify that your cost and pricing data is accurate, current and complete at the time of contract, and if later on it turns out your cost and pricing data is inaccurate and uncurrent or incomplete, the fee is adjusted downward. There is no corresponding upward adjustment. But the good part about this law, it is really a truth and negotiation law, and it just requires you to be truthful, and as citizens, I think we would all like that. The good part about the law is that you don't certify how many hours of design time you are going to have to spend to accomplish the project. You only have to certify to those costs which you know as your salary rates, your overhead, and other ascertainable costs of doing business.

Now, how is the fee determined? There are two methods of determining the fee. Number one, the percentage of estimated construction cost method and number two, the detail analysis method. Under the percentage of estimated construction cost method, the basic AE fee is estimated by applying a certain percentage showing a table curved to the agency's estimated construction cost. Now the fee may be adjusted for such factors as a complex building, or for an adaptation of stock plans. These fee curves have been secret in the past and the only people that have had them have been the agency people and the old gray fox again, the fellow who is making out already on the Government contracts. We are going to publish them in the primer, so everyone will have a chance at them. If you have a complex nuclear facility, you will have a fee for design, plans and specifications up around 5%. If you have a \$6,000,000 building, you will have a fee more in the neighborhood of 3½% for design, plans and specifications. And these things vary, so you are going to have to look at the chart and draw your own conclusions. The other method of arriving at fee is the detailed analysis method. Now under this method, the agency estimates the man hour requirements, and type of services for personnel, for each phase of the services to be required of the architect engineer. Estimated hourly rates are applied to the estimated number of man hours. Allowances are then made for the architect engineer's overhead to arrive at the total estimated fee, which is then used as a basis for negotiation.

Now this is a pretty good way of arriving at the fee, I think personally, because it requires the agencies to go through a process of figuring out what your fee ought to be, and it requires you to go through the same process, and when you get into the negotiating room, you will be comparing apples against apples, and you will spot something if it is way out of line immediately. But there are certain catches here too and this comes down to the

item of cost. The Government doesn't allow all your costs. It will only allow certain costs. These are spelled out for you in the primer. They will recognize salaries for example, but in figuring the rate of compensation for a principal, the Government will only recognize what it will cost the Government to obtain another professional to do that job. So if you put \$40.00 an hour down as the principal's time, they may cut it down to \$15.00, because they will say, "We could get that type of work down for \$15.00 an hour." Of course, they will recognize normal costs like transportation, telephone, telegrams and so forth. Non-allowable costs include commissions, bonuses, contingency reserve, contributions, interest on borrowing, etc. These are spelled out in the primer.

To your estimate of allowable costs, the Government will add overhead on direct labor, and general and administrative overhead. And they will recognize overhead on direct labor on such things as to include taxes, pension-health plans etc. General and administrative overhead are those costs which cannot be economically allocated to the contract work or essential to the success of the job—such things as accounting and clerical help, drafting room supplies and the like. And so all of these estimated allowable costs including your overhead, they are going to apply a percentage rate or margin of profit, and this percentage rate multiplied by the total estimated cost would be added to your cost to arrive at the maximum fee. Again, the Government has a curve showing allowable profit percentages based upon construction costs and we are putting these in the primer too, a range from about 10% on the low side to about 15% on the high side, the 15% being for a job that has a low construction cost. And while that sounds like a pretty good profit rate, remember they aren't recognizing all of your costs. ■



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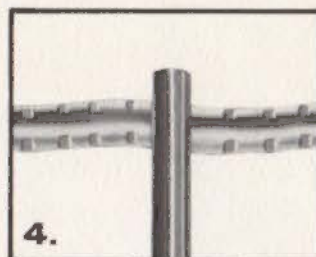
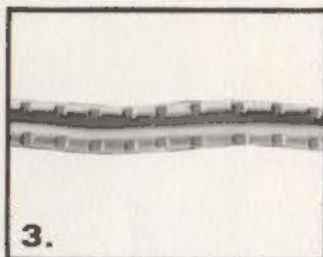
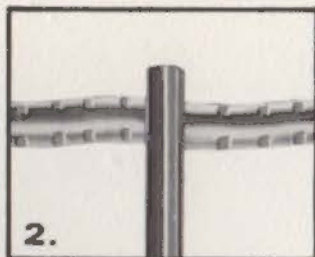
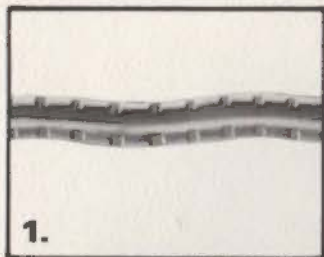
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