RICHARD C. SLADEN

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WORLD TRADE CENTER

EVALUATION OF ARCHITECTURAL FIRMS

BOOK 1

THE PORT OF NEW YORK AUTHORITY

WORLD TRADE CENTER

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BOOK I

THE PORT OF NEW YORK AUTHORITY

WORLD TRADE CENTER

EVALUATION OF ARCHITECTURAL FIRMS

for retention as World Trade Center Architect

August 27, 1962

prepared by: World Trade Center
Planning Division

assisted by: Mr. Gordon Lorimer

BOOK I

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INTRODUCTION

The preparation of the following report was undertaken to provide a source of information to assist The Port of New York Authority in evaluating the qualifications of the architectural firms being considered for retention as the World Trade Center Architect. The final selection will be based upon several factors, one of which will be this report. Other sources of information on each architect include the personal interviews which were held and the written material which each architect submitted. The information contained herein consists of recommendations, conclusions and evaluations by the World Trade Center Planning Division, assisted by Mr. Gordon Lorimer as well as a collection of data pertaining to the firms under consideration.

The report has been divided into two parts for the convenience of the reader.

Book I - Recommendation and Evaluation Summaries

Book II Detail Information

The proposed World Trade Center is of such magnitude and complexity tha it will require a large organization to carry out architectural and engineering responsibilities. Since the seven architects under consideration vary in the numerical size of their organizations, the report conclusions will describe the capability of each architect in this context.

CHART

Summary of Evaluation of Architectural Firms

	WELTON BECKET	CARSON LUNDIN & SHAW	PHILIP JOHNSON	KAHN & JACOBS	KELLY & GRUZEN	THE ARCHITECTS COLLABORATIVE	MINORU YAMASAKI
1. Does the architect have a great CREATIVE talent that would produce a W.T.C. of historical significance?	....	....	....	....	....	YES	*YES
2. Is the architect generally consistent in PRODUCING OUTSTANDING ARCHITECTURAL WORK in his own right?	YES	....	....	....	....	YES	YES
3. Does the architect have a sufficient ORGANIZATION and staff to execute a project of this magnitute?	YES	....	....	YES	....	....	....
4. Would a COLLABORATION of his organization and a creative talent produce a successful project?	YES	....	....	YES	....	....	....
5. Has the architect consistently stayed within the planned BUDGET of the client?	YES	YES	YES	YES	YES	YES	YES
6. Do all the OWNERS RECOMMEND the architect?	YES	YES	YES	YES	YES	YES	YES
7. Would the key principal devote his FULL ATTENTION to the project?	....	....	YES	....	....	....	YES

* See Recommendation page No. 3

RECOMMENDATION

Due to its great size and scope, the proposed World Trade Center in its realization has the inherent power to create a great impact on man's architectural thinking. Its planning, design, and construction should therefore represent man's highest ideals, imagination and creative ability. Through full application of all his knowledge, he can build efficiently and economically a great constructive symbol of international trade in the Port of New York.

For Consideration as the World Trade Center Architect:

RECOMMENDED: MINORU YAMASAKI ASSOCIATES

ARCHITECT: CARSON, LUNDIN & SHAW
425 PARK AVENUE
NEW YORK 22, NEW YORK

SUMMARY OF EVALUATION

ARCHITECTURAL FIRM: Carson, Lundin & Shaw

CONCLUSION:

This competent architectural firm usually participates in a project as the design partner; associating with another firm which provides drawing and detail production requirements. They possess the facility of designing successful high-rise commercial structures in the vein of large office buildings constructed in New York for the past few years. The buildings inspected provided no evidence of imagination and creative ability. They can probably produce a very fine office building, but would have some trouble in designing an outstanding one.

ARCHITECTURAL EVALUATION:

The architecture of the buildings inspected represents a good expression of commercial high-rise structures. The buildings functioned well in the opinion of the owner. The interiors were pleasant with evidence of unique approaches now and then, specifically in the design of a ceiling pattern which incorporated the lighting elements. At 339 Park Avenue there was a tendency to over use teak wook and travertine in the decor of certain areas. In the building at 666 Fifth Avenue the owner completely dictated bay spacing, mechanical layouts, skin treatment, etc. The architect in this project was not responsible for cost control. The impression received indicated it was easy to bend the architects; this might be an advantage or disadvantage depending upon your outlook. The Esso Building, one of the first high-rise buildings constructed in the post war period, was designed to conform to the pre-World War II structures of the Rockefeller Center complex and does not reflect any innovations.

ENGINEERING EVALUATION:

Since Carson, Lundin & Shaw used outside consultants for the electrical and mechanical design work, this evaluation merely estimates the architects concern for the engineering services and his ability to control over-all system quality.

All mechanical and electrical systems contained in the building inspected were conventional in type and application. There was little of the novel or distinctive approach. Equipment quality and performance standards were high, but this is perhaps a reflection of the owners affluence.

There was little evidence of unusual effort toward integration between the utility services and the structure. Because of these considerations, it is felt that the engineering design work was a disassociated matter and does not reflect favorably on the architect's performance.

OPERATION & MAINTENANCE EVALUATION:

This firm has demonstrated good design characteristics in the buildings visited by the team. No where in their design, are problems created for the operation and maintenance of the buildings. However, this firm did not demonstrate any tendency to pioneer new concepts that would benefit the owner in operating and maintaining his building.

EVALUATION TEAM:

Architect:	H.M. Roberts (399 Park Avenue) H.A. Tessler (666 Fifth Avenue) C. Panero (Esso Building)
Engineer:	F. DiPaolo
Operation: O&M:	D. Burns

DATE OF INTERVIEWS AND INSPECTIONS:

July 11th (339 Park Avenue)
July 18th (666 Fifth Avenue
July 17th (Esso Building)

BUILDINGS:	OWNERS REPRESENTATIVE:
399 Park Avenue, New York, N.Y.	C. E. Schwendler, Vice President, First National City Bank
666 Fifth Avenue, New York, N.Y.	Mr. John Tishman
Esso Building, Rockefeller Center, New York, New York	Mr. G. Eyssell, President of Rockefeller Center

ARCHITECT: PHILIP JOHNSON
375 PARK AVENUE
NEW YORK 22, NEW YORK

SUMMARY OF EVALUATION

ARCHITECTURAL FIRM: Philip Johnson

CONCLUSION:

The evaluation team met with Mrs. Phyllis Lambert, Director of Planning for Seagrams, to discuss Mr. Philip Johnson's participation as Associate Architect for the Seagram's Building. Mrs. Lambert was somewhat reluctant about answering a questionnaire regarding Mr. Johnson, but informed us that she would answer yes on all questions relating to his competence. She made very strong statements to the effect that Mr. Johnson was not the architect of the Seagram's Building, but was merely an associate to Mies van der Rohe, who was the prime architect and designer for the project. It was her feeling that the architectural team of Johnson, Mies van der Rohe, and Kahn & Jacobs (who produced the production drawings), worked well together, met their budget, met all deadlines, and had little trouble in their relationship with the contractor. It should be noted that the contractor in this case, the George A. Fuller Company, and the president of the Seagrams Corporation are very close personal friends.

Based upon the above information regarding Mr. Johnson's participation in the Seagrams project, we do not believe this building should be regarded as one of his prime works.

A review of the photographs submitted by Mr. Johnson, though outstanding in their own right, indicated his work was not of an architectural character suitable for the World Trade Center.

ARCHITECTURAL EVALUATION:

The design of the building is the culmination of all the glass skin construction that has been produced in New York City since the end of World War II. The architectural team has refined the curtain wall to its simplest form and this, plus the over-all bulk of the building, represents a very fine structure. However, it is not felt that we would want another replica of the House of Seagrams as a dominant feature of the World Trade Center complex.

ENGINEERING EVALUATION:

The mechanical and electrical systems are very well designed, with excellent space utilization and equipment arrangements. The power controls and signal systems are centralized for ease of operation. The peripheral air conditioning units are well designed and take little space. The inobtrusive fixtures provide effective light intensities with low brightness ratios. The peripheral three modules on every floor are provided with a luminous ceiling which complements the prestige office areas and gives the building a pleasing soft glow at night.

OPERATION & MAINTENANCE EVALUATION:

There have been no unusual maintenance difficulties in the mechanical and electrical systems and the equipment is excellent. There are, however, some weak elements. Access to the freight elevator and to mechanical systems outside of equipment areas is poor. The exterior bronze presented a difficult maintenance problem initially and still requires attention. The grading of platforms for storm drainage is poor.

EVALUATION TEAM:

Architect: H. A. Tessler
Engineer: M. P. Levy
J. Milano

DATE OF INTERVIEWS AND INSPECTION:

July 11: Owner Interview
July 13: Building Manager interview and building inspection

BUILDING:

Seagram Building
375 Park Avenue
New York, New York

OWNERS REPRESENTATIVE:

Mrs. Phyllis Lambert
Director of Planning for Seagrams

ARCHITECT: THE ARCHITECTS COLLABORATIVE
63 BRATTLE STREET
CAMBRIDGE 38, MASSACHUSETTS

SUMMARY OF EVALUATION

ARCHITECTURAL FIRM: The Architects Collaborative

CONCLUSION:

The artistic quality of the work of The Architects Collaborative is excellent. They have displayed great imagination and ingenuity in putting materials, equipment and space together in a simple yet bold way. The exteriors are well integrated with the interior activity and nothing is left to chance. Furnishings seem to be a part of the architecture.

It is unfortunate that the team only saw small structures for it left us with a question as to their capabilities of handling a project of the magnitude and scope of the World Trade Center. Their office staff is relatively small, therefore in order to perform the complete service would have to collaborate with an efficient production office. We believe a marriage of this kind could produce a significant complex for the World Trade Center.

ARCHITECTURAL EVALUATION:

The Harvard Graduate Center which was built in 1949 consists of about 9 buildings in an extremely well conceived spatial arrangement. It is unfortunate that the extremely low budget they were confronted with affected the selection of building finishes; the Assistant Dean emphasized this to us more than once. If this is taken into consideration we would say the architect produced a successful architectural complex of dormitories, recreation building, cafeteria and lounge.

The six buildings at Brandeis are outstanding. The architects have developed simple yet bold architectural forms with the creative use of masonry materials which flow into the interior space. An inviting warmth has been created by the excellent use of daylight and of soft textured materials placed in contrast to the masonry. The imaginative space arrangements have fulfilled their planned functions very well.

Dr. Sachar, President of Brandeis University and Mr. Trottenberg, Assistant Dean of Harvard, plus their staff, registered a high degree of satisfaction with the architect. Their familiarity with other architects is extensive. They are presently using The Architects Collaborative on new projects for their campuses and found them concientious, accurate, prompt, receptive and extremely capable of solving the complicated functional problems of University buildings. They rate the architect very highly. Mr. Roedel, Executive Vice President of the Chase Manhattan Bank, is very well satisfied with the work of The Architect Collaborative and is presently considering using the Great Neck Bank as a prototype of future first class suburban banks.

ENGINEERING EVALUATION:

The mechanical and electrical equipment is well designed and the careful integration with the surroundings is consistent throughout the work of The Architects Collaborative. Considerable skill and ingenuity has been shown in the use of daylighting and acoustical design in spaces of varying size and function. The successful selection of illumination, heating and air conditioning levels indicates thoroughness in the analysis of space functions. The architects strive for a maximum of simplicity in their mechanical and electrical systems and on all the projects visited they made effective use of the structural surfaces for baffles and reflectors.

It is the opinion of the team that The Architects Collaborative could effectively furnish a large engineering organization with the direction and ideas needed for a project of the magnitude of the World Trade Center.

OPERATION & MAINTENANCE EVALUATION:

The owners of Architects Collaborative projects are well satisfied with the operating and maintenance cost levels. The functional simplicity of design and the well planned accessibility serve to reduce costs to a minimum.

EVALUATING TEAM:

Architect:	C. J. Spaulding H. A. Tessler
Engineer:	J. Milano

DATE OF INTERVIEWS AND INSPECTIONS:

July 16 - Brandeis
July 17 - Brandeis and Harvard
August 3 - Chase Manhattan Bank

BUILDINGS:	OWNERS REPRESENTATIVE:
Harvard Graduate Center & Various older structures on the Campus	Mr. Arthur D. Trottenberg Assistant Dean
6 Educational Buildings at Brandeis University	Dr. Abram L. Sacher, President
Chase Manhattan Bank Great Neck Long Island	George A. Roeder, Vice-President

ARCHITECT: KAHN & JACOBS
TWO PARK AVENUE
NEW YORK 16, N. Y.

SUMMARY OF EVALUATION

ARCHITECTURAL FIRM: Kahn & Jacobs

CONCLUSION:

It is the opinion of the team that the firm of Kahn & Jacobs have not displayed the artistic quality that we should seek in the selection of an architect for the World Trade Center. Their work displays a complete lack of imagination and creativity, however, there is strong evidence of a high level of architectural competence in producing work of great magnitude. They displayed a sensible use of space and materials and produce efficient buildings to operate and maintain.

Although we have not had the opportunity to visit their offices, it is evident from the work that we saw that they might be a good choice in complementing a smaller creative firm as their production back-up. This is further evidenced when you consider the many times they have successfully collaborated with more creative architects.

ARCHITECTURAL EVALUATION:

The Travelers Insurance Building in Boston, which is probably one of the best buildings executed by the firm, without collaborating with other architects, is clear evidence of this efficient and economic approach to architectural design. The architects have developed a very compact utility core, which projects from the building, allowing for the best possible office space arrangements on the interior. The interior was finished in blue and white glazed masonry which adds a cheapness to the building. The best part of the building was the entrance lobby which utilizes the minimum amount of space yet leaves you with the feeling of openness by the use of a pleasant glass enclosed approach with well placed lighting, reflecting pool and mural.

425 Broadway N.Y.C. is a typical "wedding cake" which fills out the zoning envelope, providing maximum utilization of rentable area. All aspects of design were done in typical efficient way but with a complete absence of creativity. Here again is a building that operates for its owner as an efficient machine.

1407 Broadway N.Y.C. was one of the first post war high-rise office structures built in New York City and for its time it cannot be considered bad, yet the desire for maximum rentable office and semi-factory space broke the building facade badly. Here again is an efficient machine utilizing all buildable space efficiently. The lobby which is over 14 years old looks as if it might have been built yesterday. The unfortunate selection of materials and design forms, which did not successfully go together, hurt the design quality.

We must state that we have never met clients who were so pleased with the buildings that were developed by their architect. All the owners had extensive experience in dealing with other architects and all of them rated Kahn & Jacobs as the finest architectural firm they have ever dealt with. There were no problems in terms of meeting deadlines, relationship with consultants, contractors or inefficiency on the part of the architects. The owners in some cases are presently using the firm again and will use them in the future.

ENGINEERING EVALUATION:

Kahn & Jacobs used outside consultants for the electrical and mechanical design work. The mechanical and electrical services are generally well designed and the equipment areas are very well utilized. The distribution of equipment within the structures is generally excellent and results in low installation and operating costs. Planning for future requirements was

somewhat erratic, however, this could be attributed to owner influence. There was little of the novel or creative approach in design or selection of equipment and fixtures.

The architect is capable of producing an efficiently functioning structure of any size or nature, relying principally on skillful application of systems that have been proven.

OPERATION & MAINTENANCE EVALUATION:

This firm has demonstrated good design characteristics in the buildings visited by the team. The types and sizes of equipment have been carefully limited to reduce maintenance costs. The visibility and accessibility of equipment is generally good, When well managed the systems can be maintained at very low costs.

EVALUATING TEAM:

Architect: C.J. Spaulding

Engineer : J. . Milano

DATE OF INTERVIEWS AND INSPECTIONS:

July 16 -Traveler's Insurance Building (Boston)

July 18 -Traveler's Insurance Building (Boston)

July 19 -1407 Broadway, N.Y.C., N.Y.

July 20 & 24 - 405 Park Ave., N.Y.C., N.Y.

BUILDING	OWNERS REPRESENTATIVES
The Travelers Insurance Building Boston, Massachusetts	Mr. Roger C. Wilkins, Vice-President
425 Park Avenue - New York City	Mr. G. J. Engler
1407 Broadway - New York City	Mr. Samuel Hirsch

ARCHITECT: MINORU YAMASAKI ASSOCIATES
1025 EAST MAPLE ROAD
BIRMINGHAM, MICHIGAN

SUMMARY OF EVALUATION

ARCHITECTURAL FIRM: Minoru Yamasaki Associates

CONCLUSION:

It is the opinion of the team that Mr. Yamasaki would bring a new and desirable architecture to New York. His creative ability, dedication to his work, and competence are evident in the buildings inspected and impression received from those interviewed. Warmth and human scale so rarely found in modern architecture are experienced by those who view or enter his buildings. His architectural and engineering talents are constantly directed toward accomplishing full intergration of all building elements. His buildings are therefore, economical to operate and maintain. The buildings the team has seen were small in floor area and simple in functional complexity and it is difficult to determine at this time, whether the creative design ability seen would be realized as completely in a project with the scope of the World Trade Center. However, it should be noted, Mr. Yamasaki has done or is in the process of doing other work of a larger magnitude and complexity.

His organization is small relative to the demands of the project, therefore it would be necessary for him to associate with a larger architectural organization.

This associate, in order to acceptably translate the creative thinking of Mr. Yamasaki into working drawings and specification, must be imaginative, productive and have the facility to specialize.

ARCHITECTURAL EVALUATION:

Mr. Yamasaki gives a great deal of attention to the study of proportions and interplay of visual planes. The owners interviewed felt he is cost conscious, extremely creative in architectural and structural approaches, detailing and use of materials. He works mainly in precast stone and reinforced concrete structures.

McGregor Hall, Wayne University, considered his greatest work is truly a most modern inspiring building. To quote Dean Kneef, "It seems to demand a dignified approach to the solution of problems discussed within its conference rooms."

The plans of the College of Education building are very functional, the interior is simple but well designed, however the facade has a tendency to be highly stylized.

The precast stone facade of the Michigan Consolidated Gas building is well studied; the 28" spacing of window mullions gives a feeling of security even though you are high above the street. Minimum spandrel areas and elongated windows provide a feeling of lightness.

His aluminum space frame skylight at the Reynolds Building and structural cantilevered aluminum skylight at McGregor Memorial Building; his use of reinforced concrete slab coffers as light troffer and air plenum; his intregation of the soffit of the coffer rib in his module of office layouts demonstrate his talents for design innovations.

ENGINEERING EVALUATION:

One of the strong points of Yamasaki's work is the quality and distinction of the mechanical and electrical installations. Many architects are merely concerned with the space requirements of the utility services and leave the actual design work to outside consultants. Yamasaki seems to strive for a total rather than a piecemeal solution to the design challenge of a building. He displays considerable personal knowledge about purely engineering matters and employs a proficient engineering staff attuned to his architectural objectives.

Yamasaki's close-knit teamwork generally results in highly integrated modular floor systems and facades. In the Reynolds Building and the Michigan Gas Building, the integration "vehicle" is the waffle slab, complete with luminous ceiling, combination light/air fixtures, flexible partitioning, sound attenuation and 30' spans. In the College of Education, "double T" beams provide integration with 52' spans.

The Engineer member of the P.A. team feels that Yamasaki is an outstanding leader in the "integrated approach" to building design, now gaining favor among leading architects for the following potential benefits: reduced construction cost from lower floor heights and material standardization, greater comfort from finer air/light distribution, greater convenience from the underfloor duct system and greater possibility of longer spans and column-free interiors. Such benefits are of paramount importance to the success of the World Trade Center as an economic venture in terms of higher rentability and greater value for the construction dollar.

OPERATION & MAINTENANCE EVALUATION:

Mr. Yamasaki's design is characterized by his close attention to detail. His use of space, materials and equipment is done with the definite intent to maximize the building's utilization. His designs have resulted in low operating and maintenance costs for the owner.

EVALUATING TEAM:

Architect:	H. M. Roberts
Engineer:	F. Di Paolo
Operation - O&M:	D. Burns

DATE OF INTERVIEWS AND INSPECTIONS:

July 19 - Reynolds Regional Sales Office and Michigan Consolidated Gas Bldg.
July 20 - McGregor Memorial and College of Education

BUILDINGS	OWNERS' REPRESENTATIVES
Michigan Consolidated Gas Company of Detroit	Mr. R. T. McElvenny, President
Reynolds Metals Co. Regional Sales Office - Detroit	Mr. J. E. Blomquist, Vice President and Regional General Manager
McGregor Memorial and College of Education Building, Wayne State University, Detroit.	Dr. Kneef, Provost Wayne State University

ARCHITECT: WELTON BECKET ASSOCIATES
10000 SANTA MONICA BOULEVARD
LOS ANGELES 25, CALIFORNIA

SUMMARY OF EVALUATION

ARCHITECTURAL FIRM: Welton Becket & Associates

CONCLUSION:

Welton Becket and Associates are an extremely well organized firm of major size with wide experience in large-scale projects throughout this country and in many parts of the world. Their well coordinated team approach is evidenced in the consistency of well executed detail of exterior and interior throughout each of the projects visited. Their special department assigned to interior and furnishings appears to be especially strong in a field usually assigned to interior decorators. The architectural control of the entire interior is therefore of high order.

Organizationally there is little doubt of their ability to execute a project of the scope of the World Trade Center.

Contra to the above organization strength however lies the fact that while generally in good taste their work is somewhat lacking in dynamic creative concept and visual subtlety.

There is a danger, therefore, that if retained singly for the World Trade Center, a very competent series of structures would be achieved but that the contribution to architecture of the next decade and impact on world thinking would be less than that possible under a strongly creative mind.

ARCHITECTURAL EVALUATION:

Kaiser Center has revitalized Oakland and has developed great local pride as well as providing a considerable tourist attraction.

Excellent site utilization has been achieved through dramatic curvature of the building accommodated to the general shore line. This combination of curved plan and vertical T wing produced stability in the total structure and

permitted use of a single reinforced concrete bearing slab. The curved corridors minimize the long "bowling alley" effect generally found in long structures. The roof areas over the lower stores and service functions have been very effectively utilized as landscaped terraces for the use of all tenants. The gradual upward sweep of the planting soil from a minimum of 1 foot for grass and ground cover, to 4 feet depth for larger shrubs and trees is particularly successful in contrast to the level water of the irregularly shaped reflecting pool.

The various stores are architecturally attractive with good sales appeal. The interiors and sales fixtures were primarily designed by the Becket Organization.

A very skillful use of the owners various products and materials has permitted legitimate display without loss of architectural unity. Very effective use of color and textured materials is in evidence throughout.

Great pride in and enjoyment of the structure was displayed by all of the staff with whom contact was made on a quite intensive tour of all elements of the building.

The Bethlehem Building is somewhat less spectacular than Kaiser Center particularly in regard to treatment of interiors. Though designed as a company headquarters building with a few large-scale tenants, an administrative cut-back has converted it to a commercial office building with multiple tenants on many floors.

In this capacity the building is proving to be a very successful real estate venture, renting at $6.00/sq.ft. per year for single floor occupancy and $7.50/ sq.ft. for multiple tenant floors.

The fully exposed exterior columns are justified in this building as a demonstration of Bethlehem construction technique, but are admittedly a costly detail. The spacious ground floor lobby might seem over generous, but has brought excellent response from potential tenants who feel it gives them status.

The California Teachers Association building in Burlingame, California was visited only briefly. The cleaness of the simple reinforced concrete frame in contrast to the rich delicacy of the gold anodised aluminum sun screen, produces a most attractive building achieved at relatively low cost. Here also the integration of planting with structure is noteworthy.

ENGINEERING EVALUATION:

The organizational strength of Welton Becket Associates is particularly in evidence in the orderly handling of mechanical equipment, and its dimensional integration of structural and architectural components.

The firm is obviously in the habit of retaining top-flight consultants to implement their own organization.

OPERATION & MAINTENANCE EVALUATION:

At Kaiser Center and Bethlehem Building the building managers seem well satisfied with the structures. Practically no leakage has occurred and no serious problems have arisen in the mechanical equipment. The Janitorial Staff is contracted for on an hourly basis. The opinion was expressed that this method had proved more efficient than retaining a permanent staff, due to elimination of costs of absenteeism and professed sickness common among this type of worker.

ARCHITECT: KELLY AND GRUZEN
10 COLUMBUS CIRCLE
NEW YORK 19, NEW YORK

SUMMARY OF EVALUATION

ARCHITECTURAL FIRM: Kelly & Gruzen

CONCLUSION:

Kelly & Gruzen associates are a competent architectural firm having the capacity to handle complex and unique functional requirements fairly successfully. There is a measure of creativity in their design concepts, but it is not a dominant or consistent quality. In reviewing their buildings, one feels the effort toward a new and fresh approach without, however, the sense of a finished, totally satisfying, achievement.

Two deficiencies in the Kelly & Gruzen work are poor architectural detailing and some evidence of poor planning in the instance of the Einstein School. While the resulting buildings are in the category of better-designed modern buildings, they could not be called outstanding architectural accomplishments.

Considering the size of their present organization, their offices would have to expand or associate with a large organization to meet the design responsibilities of a World Trade Center project.

ARCHITECTURAL EVALUATION:

Kelly & Gruzen have demonstrated in the buildings inspected a capacity to handle the challenge of new and unique functional problems. This is demonstrated by their solution to the special security requirement of the U.S. Mission to the U.N. Precast concrete fins of the facade design were developed to act as a visual obstruction to prying individuals. In the New York School of Printing they had the problem of accommodating heavy vibration printing machines. This was solved by locating the academic classroom on the upper two floors of the building above the printing shops. The problem was also solved structurally through the use of concrete shear walls plus other structural techniques. At the Albert Einstein College of Medicine a new method of instruction for medical students was accommodated by a well studied room layout with the labs ("home workroom") and offices located on the building perimeter, the inner core consisting of service areas and elevators.

In solving functional problems the team felt that excessive corridors and lobby areas were developed. The Albert Einstein School of Medicine and the New York School of Printing were not impressive in exterior design. The Albert Einstein School of Medicine was too factory-like in appearance according to the people using the building.

The United States Mission to the U.N. Building was attactive with an interesting developed inner court architecturally screened from the city street.

ENGINEERING EVALUATION:

The engineering services in the buildings inspected for this architect were designed by outside consultants. In light of this fact, Kelly & Gruzen's performance is given a "fair" rating in terms of planning and coordination.

The electrical/mechanical installations were generally of good quality in themselves. However, the lighting was often inadequate in intensity and showed a lack of standardization in fixture types. The architect's performance suffers most from poor planning and coordination. This is most ivident in the Einstein School where additions of mechanical and electrical capacity in the form of chillers, pumps, power panels, switches, etc. and interior alterations continues to this day at a ludicrous rate.

It is felt that the architect does not retain a proficient engineering force within his staff and the general lack of emphasis on the engineering aspects produces very serious deficiencies on the final product.

OPERATION & MAINTENANCE EVALUATION:

This firm did not pay sufficient attention to detail in its building design and as a result the owners are experiencing high operating and maintenance cost. For example, eleven foot ceilings were found in office areas, which results in greater wall surfaces to be painted and greater volumes of space to be heated, vented and air-conditioned.

EVALUATING TEAM

Architect: H.M. Roberts

Engineer : F. DiPaolo

Operations: D. Burns

DATE OF INTERVIEWS AND INSPECTIONS

July 18 - Interview, U.S. Mission to the U.N.

July 23 - Inspection, U.S. Mission to the U.N.

July 23 - Inspection, N.Y. School of Printing

July 24 - Interview and Inspection, Einstein School of Medicine

July 26 - Interview, N.Y. School of Printing

BUILDINGS	OWNERS REPRESENTATIVES
U.S. Mission to the U.N.	Mr. L. Hunter, Deputy Dir., GSA Mr. Gervasi, Bldgs. Mgr.
N.Y. School of Printing	Mr. M.L. Radoslevich, Director Architecture, N.Y. Board of Education
Einstein School of Medicine	Mr. J.S. Perlstein, Asst. to Dean, Business Affairs