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CLEVELAND

No. 8

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[August, 1951] 3

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Volume IX

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Number Eight

The Danger of Survival by MR. CHARLES LUCKMAN, A.I.A.

For a time Mr. Luckman forsook the architectural profession, during which time he was president of Lever Bros. Co., one of the country's leading soap and detergent producers. He has now returned to his first love and this is an address he gave at the Michigan Building Industry Banquet, the concluding event of the 37th Annual Convention of the Michigan Society of Architects

For emphasis, may I state at the outset, my profound respect for the master planning work which has been done for the unborn cities of tomorrow.

However, the tragedy of today lies in our apparent willingness to await the total destruction of atomic war, before we accept our obligation to replan and rebuild our existing cities. Now of course you can interrupt me to say that "some master plans have been made for some of our present cities." I know. The vaults are filled with master plans which are gathering dust because, for the main part, they were conceived in a vacuum of unreality. They were based on what the planner felt a city *should* be, instead of what it *could* be.

Those plans could be fruitful only if the cities are obliterated by war. Is that to be the limit of our genius? Perfection is always a desirable goal but, in this case, the opporunity for a perfect plan exists only if through voluntary or involuntary means, the torch of dynamite is applied to our existing cities. Perfect plans require perfect circumstances. Therefore, unless we have atomic war, the layers of dust will continue to accumulate on the perfect plans.

Can we not, instead, truly show our genius? A realistic approach acknowledges that the cities exist; they are tangible; they are here. Every city has much that is good, and they are functioning today-granted, in some ways good and in some ways bad. But what does a doctor do with a patient who is sick? He diagnoses; he applies therapy; he effects a cure. When he is through, he has the same patient with the same personality-only healthy instead of sick. The disease has not been permitted to kill the patient. Can not we do as much for our valuable but sick cities.

This, of course, introduces the element of compromise. But, I don't think that is bad! We exist today because our forefathers had sufficient genius to effect what has been called 'The Great Compromise'—the Constitution of the United States. Can we not be the sons of our forefathers? Can we not equally blend imagination with hard-headedness in order to consistently achieve results? Can we not apply a realistic therapy to our sick cities? We can—but whether this will be done by the force of intelligence, or by the force of brute disaster, cannot be forseen.

I hope it is clear in my early remarks that I am not arguing for "piecemeal" planning. However, I would like to say in passing that I know of a few city puzzles that have a few missing pieces—which should be put in their place. Is it not puzzling to be able to go down the Henry Hudson Parkway from Connecticut to New York City in less than an hour-and then spend more than an hour going a few blocks from the Parkway to the East River Drive? Is it not puzzling to attend the Rose Bowl game and, as a motorist, have access to four fine freeways-but, as a pedestrian, not to have access to a single underpass or overpass to cross the highways?

Is it not puzzling to fly from Chicago to Detroit—in slightly more than an hour—and then spend an equal time getting from the airport to the hotel?

If I had the time we could keep on our puzzling tour of the United States. Suffice it to say that perhaps we should not too hastily rule out just a slight touch of "piecemeal planning."

Today's interest in broad city planning is the reaction against a whole century spent in living from day to day. However, in spite of the existence of many conscientious city planning associations, and of trained specialists in the planning and administration of towns, there prevails a shocking lack of direction and an inability to remove the most obvious inconveniences. Thus far we have been unable to save our present cities from becoming simply a vast acreage of hot asphalt and cold stone.

From 1870 on, the great cities developed continuously toward what they are today-unserviceable instruments. No one knows when this tremendous waste of time and health will be cut down; when this pointless assault on the nerves will end; when this failure to achieve a dignified standard of life will be remedied.

But I think we can all agree that the city today is profoundly menaced in all countries, and without exception—not by any outside danger, but from an evil within itself. This is the evil of the machine.

Because of the confusion of its different functions, its growing mechanization, the omnipresence and anarchy of the motor car, the city is at the mercy of industrial machines. If it is to be saved, its structure must change. This change, which will be forced by machinery just as in other days it was brought about by implements of war, is inevitable.

The question then arises whether the large city as it has been inherited from the 19th century, with its chaotic intermingling of functions, should not be allowed to die.

On this question the division is sharp and clear, especially in the United States, where mechanization is so much more advanced than in Europe. One opinion is that the metropolis cannot be saved and must be broken up and eliminated. The other, that instead of being destroyed, the city must be transformed in accordance with the life and genius of our times.

Between those who believe that the city will disappear, and those who try to preserve it by changing its structure, there is no disagreement on the point that the intricate disorder of the present day cannot continue, that man cannot live forever with the conditions which stimulate ulcers.

From my point of view, cities cannot simply be dis-(Continued on page 33)



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THE ARCHITECT IN PRACTICE

Notes from Mr. George F. Diehl's talk to the University of Detroit Student Branch of the A.I.A.

We can take it for granted that the school gives the students about as comprehensive a program as they can expect in the time alloted.

Î believe there is a definite advantage in students interspersing their school work with work in an architect's office, preferably an office of medium size. They are likely to get lost in one department of a large office.

In the case of a small office, with one or two men, they cannot hope to get the broad view, as one individual can hardly hope to be proficient in all the branches.

These short periods of employment, in either one, or several offices, should be sufficient to help the student decide whether or not architecture is to be his chosen profession.

There is always the question of how long a draftsman should spend in the employ of others, if he hopes ultimately to have his own practice. Naturally this varies with the individual. In my own opinion, it should be approximately ten years after graduation. I also believe that this 10-year-period should be spent in at least three or four different offices so that his experience be be a varied one.

I think it advisable for the college graduate to try for registration as soon as the law permits; but he should remember that registration does not necessarily qualify him to practice.

Before he is ready for his own practice, he should have a certain amount of experience in each one of the various branches, including planning, design, specification work, and supervision of construction.

The latter is often difficult to obtain while in the employ of others, as an employer would hesitate to send an inexperienced man out onto the field. The draftsman can, however, help himself considerably by paying visits to the jobs, during and after construction, particularly those jobs on which he has worked. This is really worthwhile, even if he has to do so on his own time. It also helps if he can get an opportunity to assist more experienced men in measuring up existing building jobs that are to be altered.

One of the primary reasons for stressing these visits to the jobs, during and after construction, is that, without a thorough knowledge of the various building materials, and their adaptability to the purpose for which he intended them, he can never lay claim to being an architectural designer. — He who designs in line alone is very apt to deceive himself as well as others.

Assuming now for our purpose that our "would-be" architect has the general all-around experience, I just mentioned, there is no reason why he should not make the venture of opening his office.

I am not one of those who feels the field is overcrowded—nor that opportunities of the present time do not offer as much as they did in the past. The opportunity has always been there for the right man; and, in this day and age, if anything, they are greater than ever. Just as in any time, though, the beginner is going to find obstacles, and the path is not all rosy. In my opinion, it lies entirely within the character of the individual whether or not he wins through.

Of course, it is also true that for many individuals it would probably be better not to try operating as a "lone wolf" — but rather to associate themselves with either more experienced men, as junior partners, or with others of complementary abilities.

One thing I should like to stress above all—and that is, in this, just as in any other profession or business, you will probably make good if you set out to do so, and if you are properly prepared to take a few of the hard knocks that are bound to come.

Above everything else, don't "sell out." By this term I mean do not accept a permanent position as architect for a non-architectural concern.

Undoubtedly, you may be offered lucrative opportunities with a large construction firm, or possibly in the architectural department of a large corporation which handles its own construction. Opportunities of this kind are often hard to resist, especially when a young man is married, and living costs are high, and he sees before him the chance of a steady position, regular vacations, pensions after sixty-five, group insurance, and a few other attractions—and, on the other hand, he is faced with going out to battle for a few meagre jobs that he can get in competition against larger offices which are already established in the field.

When I make this statement about non-architectural concerns which employ architects, I have heard some say that, after all, there's very little difference between a position of that kind, and being an employee of one of the very large architectural offices. My answer to that is, it depends upon the office.

I am afraid that in a few cases today, there is very little difference. I refer to offices which, while practicing under the names of architects and engineers, are little better than brokers. Although, we must admit they appear to be good business men. In some cases, the chief stockholders of the corporation are not architects. There may be one or two architects on the Board of Directors, but they really are not responsible for the direction of the office. Promotion men are employed; and in some cases, these professional promoters don't even know the rudiments of architecture.

Offices of these kind sometimes bid against each other for jobs. They often take more work than can possibly be handled in one office, and then sublet it to smaller offices for a consideration. Certainly work handled in this way cannot be given the careful study and consideration that it warrants.

However, there are large offices which really practice the profession as it should be practiced. An architect working for a concern of this kind, even though on a salary basis, will be listened to, his ideas are respected, he may consult with other departments in the matter of engineering—and, it is easy to see where a well organized office of this kind can achieve very good results. I might add too, that a position of this kind offers opportunities for ultimately becoming a partner in the organization.

In the early period of the career, there is a tendency that a good many have already resorted to, unfortunately, and that is to offer their services at lower than the accepted rates. In my opinion this sort of price cutting is a distinct mistake and merely prolongs the battle.

If you have had the experience I mentioned above, before opening your own office, you can probably handle the job as well as one who has been longer established. However, this pre-supposes that you recognize the fact (Continued on page 31)

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Self-contained types for offices and factories. Tank type for industrial water cooling-for heat-treating, for high speed coolants and many other uses.



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From 1/5 to 25 H.P. capacities for refrigeration and air conditioning applications.



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type cooling units to control temperatures in many manufacturing processes.

Reach-in Refrigerators Self-contained or remote, up to 62 cu. ft. For cafeterias, medi-cal depts., factory stores.

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installation costs, for little or no duct work is needed. And there'll be no major building alterations to pay for. Operating costs are equally low; for individual Frigidaire units can be turned off or on to fit changing conditions.





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Start Taking Your Pictures Now for the Annual A.S.O. Competition

1951 COMPETITION PROGRAMME ARCHITECTS SOCIETY OF OHIO, INC.

Once again an architectural competition will be held in connection with the Annual Meeting of the A.S.O. The Convention this year will be in Columbus, at the Deshler Hotel from Oct. 17th to Oct. 20th and entries will be received at the hotel through Monday, October 15th.

Judgment will be confined this year to two classes: Hospitals and Residential Work.

Class No. 1 – Hospitals – including any kind or size of hospital, nursing home, out-patient facilities, or medical laboratory.

Class No. 2 – Residential – single family and multi-family buildings, hotels, apartments, and other structures for human habitation.

The judges will be three out-of-state architects. They will choose a first prize in each class and one building as "Best of the Show." Winners of sufficient merit, in their judgement, will be awarded medals which will be specially struck. Results of the judgement will be announced at the annual dinner.

As usual all architects resident and registered in the State are eligible to compete. Entries may be submitted by firms or by individuals. All entries are to be completed buildings executed since 1951.

Material submitted must be photographs plus necessary line drawings, black line prints or photostats to give plan information, all to be arranged on a 20" x 30" mount composed vertically.

Detail requirements will be published in the next issue of the "Ohio Architect."

The Committee

THE HOOSIERS ARE COMING!

As in previous announcements on this subject, this is to remind all architects in Ohio and Indiana as well that the annual football game between Ohio State and Indiana will be held on the last day of our annual convention, October 20th and that arrangements have been made by the A.S.O. Convention Committee to have some good seats for this game-providing application for each (2) two seats accompanied by a check to cover the cost of same at \$3.50 each, are on file with C. Melvin Frank, chairman, 43 W. Long St., Columbus, Ohio not later than October 1st. All seats so reserved may be picked up at the Convention Reservation Desk on Thursday or Friday before the game. No refund of the amount paid for any tickets will be made unless request for such refund is in the hands of Mr. Frank on or before October 1st.

From all reports a good game is assured and while no guarantees against a Jupiter Pluvius exhibit are being offered, it is more than reasonable to say that the game will not be played in the snow.



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ARCHITECT

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ARCHITECT—Arnold A. Peterson, Painesville

TRINITY LUTHERAN CHURCH, Monroe, Michigan ARCHITECTS—Hahn & Haynes, Toledo

SEVENTH DAY ADVENTIST CHURCH, Toledo ARCHITECT—Wayne E. Tolford, Toledo

E U A CHURCH, Fairhope ARCHITECT—Ralph R. Orr, Columbus

CARROLL WEIR FUNERAL HOME, Columbus ARCHITECT—J. Edgar Outcalt, Columbus

NOBLE ROAD PRESBYTERIAN CHURCH, Cleveland ARCHITECTS—Richard Hawley Cutting Associates, Cleveland

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THE OHIO

1951 - ROSTER - 1951 ARCHITECTS SOCIETY OF OHIO, INC.

(Corrected to August 10, 1951)

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- 1750 Abbot, Henry M. (Abbot & Pichler) 17 S. High St., Columbus 15
- 935 Abenroth, Fred J. (Regional Plan Com.) Rm. 415, The Arcade, Cleveland 15 1779
- Abramovitz, Max (Harrison & Abramovitz) 630 Fifth Ave., New York 20, N. Y. 444
- Adams, John Quincy, 33-35 S. Champion Ave., Columbus 5 Adams, John Q., Jr. 1575 West First Ave., Columbus (12) Adams, Richard C., 312 5th Street, Williamstown, W. Va. Addams, William W., 18 Sunset Ave., Ft. Thomas, Ky. Agree, Charles N., 1140 Book Bldg., Detroit 26, Mich. Ahlert, William L. E. (Div. of Bldgs.) City Hall, Cincinnati 2 Albert Lack (Control March 1997) 1353
- 1905
- 547
- 1719
- 1181
- Albert, Jack (Garfield, Harris, Robinson & Schafer) 1740 1306 E. 12th St., Cleveland 14
- 181
- Albrecht, Herman J., 512 McClymonds Bldg., Massillon Alcox, Lawrence H., 1720 Waltham Rd., Columbus, Ohio 1244
- Alexander, Louis T., 77 Bank St., Waterbury 18, Conn. 1518 1192
- Alge, Robert P., First Natl. Bank Bldg., Findlay
- 255
- Allan, James E., 914 Main St., Cincinnati 2 Allen, Harry G., (State Arch) 705 Ohio Depts. Bldg., Co-424 lumbus (15)
- 1378 Allen, J. Lloyd (Allen & Kelley) 333 N. Pennsylvania St., Indianapolis 4, Ind.
- 1691
- 946
- Alling, Stephen J., 7373 Kirkwood Lane, Cincinnati (33) Allison, Donald M., 715 Prospect Ave., Cleveland 15 Almirall, Francis C., 5044 Millwood Lane, N. W., Washing-1844 ton (16) D. C.
- Althouse, William L., 683 Maple St., Mansfield 194
- Altman, Harry W., Craig and Derrick Sts., Uniontown, Pa. Altshuld, Meyer I., 935 Parkerwood Dr., Cleveland (8) 1657
- 746
- 1534
- Anderson, Helmer N., 595 Parketwood Dr., Cleveland (9) Anderson, Helmer N., 5948 Midway Park, Chicago 44, Ill. Anderson, Wallie, 6426 South Canterbury Rd., Cleveland (9) Andrews, Frank T., Jr., 733 Hanna Bldg., Cleveland 15 Antenen, Harry G., East Ave., & Hanover St., Hamilton, O. 1813
- 806
- 642
- 1941 Arany, Alec J., 4439 Stansbury Ave., Sherman Oaks, Calif.
- 1899 Arduser, Robert C., 3750 Charloe Court, Cincinnati (27) Arend, Arthur R. (Arend and Arend) 914 Main St., 1094 Cincinnati 2
- 1275 Arend, William S. (Arend and Arend) 914 Main St., Cincinnati 2
- 404 Armstrong, Kyle W., 144 N. Sixth St., Coshocton, Ohio
- 1338 Armstrong, Timothy G. (Benham, Richards and Armstrong) 167 E. State St., Columbus 15
- 1153
- 374
- 556
- Arrasmith, William S., 1720 Euclid Ave., Cleveland (15) Austin, Ernest W., 17 S. High St., Columbus 15 Ayers, Robert D. (Inscho, Brand and Inscho) 60 E. Broad St., Columbus 15
- 1079 Azzarelli, Frank A., 4826 Eppes St., Houston 4, Texas

-B-

- 323 Bacon, Francis R. (School of Arch., WRU) 11206 Euclid Ave., Cleveland (6)
- 643 Badowski, T. A. (Patter & Badowski) 3697 E. 71st St., Cleveland (5)
- 842
- 311
- 1828
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- 856
- 537
- Cleveland (5) Baer, Arthur F. (Cleveland Board of Education) 1380 E. 6th St., Cleveland 14 Bail, Frank W., 2230 Hendry St., Ft. Myers, Fla. Bail, George H., P. O. Box 310, Fort Myers, Florida Bail, Ralph E., 2230 Hendry St., Ft. Myers, Fla. Bailey, Alonzo W., 715 Prospect Ave., Cleveland 15 Baker, John H. (C. F. Cellarius) 906 St. Paul Bldg., Cincinnati 2 Cincinnati 2 1125
- Baker, Joseph E., 240 N. 14th St., Newark 528
- Ball, George J., 614 Met. Bldg., Akron 8 1689
- Ballinger, Robert I, 121 North Broad St., Philadelphia 7, Pa. Barber, Charles L., 519 Spitzer Bldg., Toledo (4) Barber, C. Merrill, 1303 Prospect Ave., Cleveland (15) Bardon, Oliver H., 305 East Sixth St., Cincinnati 2 Barbor, Baul & (Spaba and Barres) 19400 Codes Pd.
- 1196
- 548
- 706
- Barnes, Paul K. (Spahn and Barnes) 12429 Cedar Rd.. 1132 Cleveland 6

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Barrett, Leo J., 1740 E. 12th St., Cleveland (15)
Barry, Gerald A. (Barry and Kay) 53 W. Jackson Blvd., Chicago (4) Ill.

- 456 Baumer, Herbert, Ohio State University, Brown Hall, Columbus (10) 1163
- 1721
- Baxter, Cyrus L., 3903 Oak St., Cincinnati (27) Beardsley, Wallace P., Seward Block, Auburn, N. Y. Beatty, Hamilton (Austin Co.) 16112 Euclid Ave., Cleve-1437
- land 1044
- 367
- Beatty, Robert F., Potters Sav. and Loan Bldg., E. Liverpool Beck, William H. (Union Central Life Ins.) Cincinnati (1) 572 Becker, John W., (Garriott, Becker) 800 Broadway, Cincin-
- natti
- 102 Becker, Karl H., 201 Gardner Bldg., Toledo 4
- 934
- Becker, William E., 205 E. Gambier Ave., Mt. Vernon Beeghly, Robert R. (Potter-Tyler-Martin) 128 Sixth St., 1668 Cincinnati (2) 1200
- 1215
- Beidler, Herbert B., 952 N. Michigan Ave., Chicago 11, Ill. Beihl, George P., 527 S. 27th St., Lafayette, Ind. Belford, Kenneth E., Jr., 1051 N. Springfield Ave., Chicago 1855 (51) Ill.
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- Bellman, Lawrence S., 30 Pueblo Vista, Santa Barbara, Calif. Benham, Eugene T. (Benham, Richards and Armstrong) 213 926
- 167 E. State St., Columbus 15 1736 Bennett, Robert J., Monongahela Bldg., Morgantown, West
- Virginia 1329 Bentz, Carl E. (Tibbals, Crumley & Musson) 584 E. Broad
- St., Columbus (15) Berger, Leo V., 356 Fulton St., Brooklyn 1, N. Y. 1722
- Bernhard, Harold C. (Shreve-Lamb-Harmon) 11 East 44th St., New York (17) N. Y. 1651
- 1543
- 1730
- Bernstein, Nathan, 4618 Euclid Ave., Cleveland 3 Berr, Alfred H., Jr., 18222 Winward Rd., Cleveland 19 Bertsch, F. William (Kruckemeyer and Strong) 1304 Carew 645 Tower, Cincinnati 2
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- 1785
- Black, Gerald R., 1112 Clark Bldg., Pittsburgh 22, Pa. 1665
 - Bliss, Edwin F., 569 East Exchange St., Akron (6)
- 595 Bloodgood, Wylie, 418 Benton St., Aurora, Ill.
- Boccia, Michael G., 505 Osborn Bldg., Cleveland 605
- Bochkor, Stephen, 22 Purchase St., Rye, N. Y. 1108

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988 Bock, Edward Paul (McGeorge-Hargett) 7016 Euclid Ave., Cleveland (3) 623 Boenisch, Julius (Assoc-M. H. White) 804 Finance Bldg.,

Bolinger, Donald D., 2300 Oak Park Ave., Dayton 9

(Continued on page 30)

Bollinger, Orville F., 1228 Dorr St., Toledo 7

Bostwick, Donald L., 34 S. Main St., Niles

Bohlen, August C., 930 State Life Bldg., Indianapolis 4, Ind.

Bohm, Max B. (A. M. Kinney) 1211 Enquirer Bldg., Cin-

Bolton, Charles L., 1505 Race St., Philadelphia (2) Pa.

Bonebrake, John C., 20812 Syndenham Rd., Shaker Hts. 22

Bonfield, Harold O. (Bonfield and Cumming) 1900 Euclid

Borchers, Perry E., Jr., 412 W. Hillcrest Ave., Dayton (6)

[August, 1951] 21

OUR PRESIDENT'S MESSAGE

The raw wind that came across "The Straits" Friday morning, August 3rd, found the passengers of the first trip of S.S. Algomah II seeking the shelter of the cabin, which was far too small on a morning like this to accommodate the indomitable Mackinac bound excursions. Those of us who couldn't get inside, sought the shelter of a funnel or stack and just shivered and turned purple. But once on the Island, the temperature registry changed with the warm sunlight that poured thru the long colonade of Grand Hotel's renowned veranda, and the



CARL C. BRITSCH

welcome extended us by our fellow Architects of Michigan in their three day midsummer conference.

On this neat little island, Michigan's fabulous summer resort, the Architects of that state, for the past eight years, have been holding midsummer conferences, which have served somewhat as a means of transacting a bit of state organization business, but more as an excuse for the boys to get away from the press of office affairs for a few days of the mellowing influence of fraternizing over cocktails.

Under the critical eye of the newcomer Architect relaxing on the veranda of Grand Hotel, the long lines of wood siding seem to wave in both the horizontal and vertical direction, but the veteran of many midsummer conferences accepts this phenomenon as part of the experience.

We also discovered at the Saturday evening banquet, that Rodger Allen's understudy Adrian Languis, showed the old maestro a good time at toasting toastmasters et al.

At Mackinac Island, and Grand Hotel in particular, there is something synonymous in the presence of horses and the profusion of red geraniums.

President of the Michigan Society of Architects, Leo M. Bauer, and his able staff secretary Clair W. Ditchy and line of V.P.'s Ralph Hammet, Adrian Languis, and Jim Spence made us feel very comfortable in their warm welcome, commissioning us to bear greetings to Ohio Architects, and to assure you that the invitation is extended to all for next year's event. All of this was reinforced by our Regional Director, John N. Richards, with whom we of course feel very much at home.

On the morning of the second day of the conference, President of the A.I.A. Glenn Stanton arrived from Portland, Oregon, giving the meeting national significance. From across our western boundry, Ray S. Kastendick of Gary, President of the Indiana Society, represented the Hoosier Architects.

Here we had some opportunity to advertise our own state convention at Columbus, October 17, 18, and 19, which is to be a combination of Great Lakes Regional Seminars and Architects Society of Ohio Annual Convention. The O.S.U.—Indiana State football game Saturday, October 20th may be a great inducement to our neighbors in the profession to attend Great Lakes Seminars.

The members of A.S.O. Executive Committee are looking forward to the September 6th meeting at Sleepy Hollow Country Club near Massillon, Ohio, which by some coincidence is also the date of Eastern Ohio Chap-



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tive.

will bring our representa-

ter's annual golf party at the same place. We forecast a mixture of business and pleasure.

Following this date, on September 7th the Inter-professional Committees of A.S.O. and O.S.P.E. meet at Columbus to discuss the interests and problems of Architects and Engineers. At the risk of taking the punch out of George Voinovich's report to the annual convention on this activity, I wish to say here that very satisfactory progress in inter-professional relations is resulting from these joint committees which were started earlier in the year.

We wish to take advantage of this opportunity to inform the Architects of Ohio that a tentative draft of a portion of the proposed new Building Code for the State of Ohio, being prepared under the direction of the Ohio Program Commission will be ready for preliminary review on or about September 1, 1951.

Copies of the tentative draft of Chapter 6 which covers the "Classification of Construction and Requirements Based on Type of Construction" will be forwarded to those who may be directly concerned with the material covered, upon written request to Paul E. Baseler, Code Coordinator, Ohio Departments Building, Columbus, Ohio. CARL C. BRITSCH

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The Toledo Country Club

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Sincerely,

JOHN Á. HILL, President The Toledo Country Club

This is typical of hundreds of unsolicited testimonials from Meta-Kote users.

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VITH EITHER DIMENSION VERTICAL.	AND HEIGHT.
Nicholas Building	D GLASS COMPANY Toledo 3, Ohio RINCIPAL CITIES

COLUMBUS CHAPTER NEWS

The members of the Columbus Chapter have been extremely fortunate in having many fine programs in 1951. One of the outstanding meetings was held at the Scioto Country Club recently and one of the largest turn outs of the year enjoyed a fine dinner followed by a very profitable program. Rather than try to summarize and spoil what was said, it seems far better to repeat portions of the program in full. From the biographical data covering the speakers, it is evident that they are fully informd concerning their subjects and therefore speak authoritively.

Russell Rarey, President of The Marble Cliff Quarries Company, was born at Groveport, Ohio, and has spent all his life in Columbus and its immediate vicinity. Upon graduation from High School, he took a short business course, and his first regular employment was as shipping clerk and time-keeper with The Claycraft Brick Company, Groveport plant. After about two years at the brick plant, he was transferred to the Woodruff-Pausch Stone Company at Marble Cliff—the late John W. Kaufman, having had a substantial interest in both companies. About this time The Woodruff-Pausch Stone



Company led in the consolidation of the Casparis Stone Company, the Columbus Stone Company and the Scioto Stone Company into the present Marble Cliff Quarries Company. Shortly after this consolidation, Rarey was transferred to the retail yard of the Quarries Company, then the Columbus Macadam Company, where he later became Manager. The chief activity of the Columbus Macadam Company was the distribution of rubble or building stone to local buildings. Transferred

RUSSELL RAREY

once again, this time to the main office of the Quarries Company, Rarey successively operated as salesman, Vice-President in Charge of Sales, and more recently as President of the organization.

Rarey's entire business life has been spent with his present organization. During that time he has seen the development and wide use of limestone sand, the installation and successful operation of the rotary lime kilns at Marble Cliff, the expansion of the use of ground stone as an architectural liming material and the development of the bituminous concrete or Black Top paving business. Meanwhile, the use of limestone for highway construction and as railroad ballast continues at high levels, and the use of limestone flux by the steel industry constitutes the largest single item of Marble Cliff production.

The Arrow Sand & Gravel Company was consolidated with the Quarries Company and the production of sand and gravel was continued and the distribution of readymixed concrete greatly expanded.

Rarey holds membership in the National Lime Association, the Agricultural Limestone Institute and the National Crushed Stone Association. He has served as National Director of each of these associations, and is currently a member of the Executive Committee of both the Agricultural Limestone Institute and the National Crushed Stone Association. He was President of the National Crushed Stone Association for two years. He is a member of the Columbus Athletic Club, the Scioto Country Club, and the Rotary Club of Columbus. He resides with Mrs. Rarey at 2666 Kent Road, Upper Arlington. Of his three sons, Charles is associated with the Quarries Company, Robert is Resident Plant Engineer with the Chrysler Corporation at Detroit, and John is associated with The Columbus Coated Fabrics Corporation.

Aside from his business, Rarey plays some golf, but his major outside interests lie in hunting and fishing. He also was quite a bowler for a long time and played base ball until the Boy Scouts crowded him out.

Remarks by Russell Rarey, President, The Marble Cliff Quarries Company:

Those of us at Marble Cliff are appreciative of your presence here tonight. The opportunity of meeting with members of your profession on the more or less common ground afforded here is indeed a privilege and a pleasure.

It has been quite some time since I had my first impression of the architectural profession. That early impression was a mixture of awe and admiration. The "awe" portion probably had its source in an early visit to the office of a local architect—my mission then was the selling of face brick—where I encountered two signs on the architect's door. The one sign stated "Hours— I to 5"; the other, in somewhat bolder lettering, said "Material agents not admitted." Small wonder that I was impressed.

The "admiration" portion of my early impression was better founded. The very stature and integrity of the architect and his profession was reflected then, as it is now, in the beauty, stability and utility of the buildings he creates.

Today I am happy to add that my admiration for the architect and the architectural profession continues undiminished. I have great respect for the high ethical standards and the accomplishments of your profession. You definitely contribute to the finer living and the better traditions of our people.

It would be quite surprising if our inviting you here tonight would not develop some selfish purpose.

We have two programs relative to the use of two of our major materials that we are hopeful will be interesting and instructive to you. We also would like for you to know us better. To that end I would like now to introduce to you the several members of our Engineering, Sales and Service Departments.

Most everyone in the building industry in Columbus knows Stephen Stepanian. Steve is a pioneer in the aggregates business, in ready-mixed concrete, and in concrete products. Along with his other accomplishments, Steve is the inventor of ready-mixed concrete. Today probably 90% of our concrete used in building construction, at least in the east, is delivered ready mixed. Steve's most recent interest in concrete is the Arrowcrete Corporation, local producers of Flexicore.

Mr. Emery Haines, General Manager of Arrowcrete, is also a guest here tonight.

Associated with us in our concrete business are the Ready-Mix twins—Bob Massman, with the ruddy cheeks, and George Bukey, with the ruddy hair. While these boys are primarily interested in securing orders for concrete, they really follow through from batching plant to



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Our highway and paving boys are Frank Longabaugh, interested primarily in stone for construction and paving projects, and Floyd Redick, our asphalt or black top expert. Both well trained and both with a back-ground of wide experience, these boys can be really helpful to your specification men if you will call them.

Bill Margraf and Ralph Morden are old-timers with us, dating back as shipping clerks over 35 years ago. Margraf very efficiently handles our pulverized stone and agricultural departments. In addition, Bill is a barbershop quartetter, a good golfer, and an all round good guy.

Ralph Morden is our Traffic Manager and is responsible for flux stone sales to steel mills. Ralph has been tops with us away back to Casparis days. They just don't come any finer.

Clyde McMurray works close with Morden in traffic matters and rates a bow for his efficient handling of our order department. For years a shipping clerk at the quarry, Mack's experience stands him well in his present duties.

The next comes pretty well close to home. Our lime department is headed by my son, Charles Rarey. "Chuck" does things well and quietly and I am happy and proud to present him to you.

One just can't deliver stone, concrete, asphalt or lime without adequate trucking service. The Anderson Haulage Company has dedicated itself primarily to serving our customers. Most of you know Archie Anderson and all of you should learn to know his son, Frank. We are proud of our association with them.

At each of your places you found a twin picture show-

ing past and present quarrying methods. We have no information as to the origin or exact date of the one picture, but it is typical of the very earliest quarrying methods in the Marble Cliff district. Close observation of the picture will show that the steam engine had no traction or self propelling device. It was mobile only insofar as it was drawn by horse power. We checked with the Case Manufacturing Company and were informed that the type of engine shown in the picture was no longer built after about 1895. Certainly the engine and perhaps the quarrying scene in that picture anti-dated that year. This was one of the earliest crushing operations in the district. Prior to that early date, quarrying was limited to producing stone for the burning of lime through pot or oven type of kiln and for the quarrying of stone for foundations, range works, water tables, etc. Stone for the exterior of the State House, built in 1851, came from the Marble Cliff district. It is, therefore, safe to say that the quarrying industry at Marble Cliff as of this year 1951 is at least in its 100th year.

These earlier operations, particularly the burning of lime, were carried on by the Stitt-Price Company and perhaps others, with the lime kilns located at Marble Cliff along the Scioto River and directly west from the Scioto Country Club ground, and other kilns at downtown Columbus about where the new Post Office building now stands. Many of the foundations, particularly of the older buildings in Columbus, are constructed of rubble stone and lime from Marble Cliff, and it might be said in passing that many of these foundations are in excellent shape and continue as good foundations for the structures they support. Later quarrying shifted from hand methods to mechanical crushing and the early operations were carried on by a number of partnerships



and small corporations. These early operations included the Casparis Stone Company, probably best remembered, and the Woodruff & Pausch Stone Company, from which latter organization the present Marble Cliff Quarries Company had its beginning.

There has been a constant development in the size and type of the equipment used in quarrying. Carts and horses have been replaced first by steam or dinky locomotives, and more recently by diesel powered rubber tired trucks. Hand loading was replaced by steam shovels and more recently by full electric shovels. Original crushing was accomplished by stone hammers and drop balls, while modern crushers both in size and productive capacity are truly surprising. Lime burning has progressed from the hand fired pot or oven kilns to the modern rotary kiln. Marble Cliff has kept pace with each and all of these developments. Aside from some relatively minor changes and installations that are necesarsy to bring our modernized plant to final completion, Marble Cliff reflects the very best in plant design and equipment known today.

The stone at Marble Cliff belongs to the Devonian period-sub-divided into the so-called Delaware and Columbus formations. The chemical and physical analysis of these two stones lends well to a wide variety of uses. Approximately 800 lbs. of stone is required to produce one ton of pig-iron and an additional 150 lbs. of burned lime is required to convert one ton of pig-iron into steel. With approximately 100,000,000 tons of steel to be produced in the U.S. in 1951, it follows that the steel industry alone will consume almost fifty million ton of limestone. Flux stone from Marble Cliff is consumed in the Canton, Wheeling, Weirton and Ashland, Kentucky districts and will total in 1951 approximately

one million tons.

Stone from these same ledges are used in the production of burned and hydrated lime. Much of the lime from Marble Cliff is used in the metallurgical processes and very substantial quantities are required for water purification, sewage treatment, and many other chemical industries.

The construction industry requires lime for masonry purposes and today there is a very definite trend among architects and architectural engineers to specify mortars of high lime content as against the temporary trend of a few years back of specifying high cement mortar. Better work-ability, better bond, and greater resistance to weather are secured without any critical sacrifice of high crushing strengths.

In the construction field, high consumption of stone ballast by the railroads continues. The resiliency of the road-bed, the definite supporting strength of the keying action of the crushed stone particles, combine to produce a ballasting material not approached by any other medium.

In highway construction, the old water-bound or macadam road continues the superior of all other types of base construction. This pavement needed only the development of the plant mixed asphaltic concrete surface as a wearing course to establish unquestioned superiority.

In the field of concrete, Marble Cliff crushed limestone and Marble Cliff limestone sand recognize no superiors locally. True, most of the concrete used by this group in their buildings is of another and cheaper aggregate. This lower price results from the more economical methods of processing the native aggregate and from having its production sources closer to the high



ARCHITECT

consuming areas down town. However, since the cost of a yard of concrete using limestone and perhaps limestone sand as aggregate is only a little higher than concrete using other aggregates, and since the price of a yard of concrete delivered by the transit mixer to the job represents only a relatively small portion of the cost of the concrete per cu. yd. in place—which incidentally is where you become interested in your costs—it follows that a yard of stone concrete in place represents a very small higher cost percentage-wise. It is my judgment that architects and builders can with very definite advantage to themselves and their clients specify limestone concrete.

It is with very real pride that we at Marble Cliff point to the Ohio Stadium, built over twenty-five years ago, using Marble Cliff stone and Marble Cliff limestone sand as aggregate. Neither the architect nor the engineer on that project have cause for regret in the selection of those aggregates. May I again thank you for your interest and the opportunity afforded me for talking with you tonight and let us now proceed with the more formal part of our program which will be presented by Mr. Joe Gray, Field Engineer for the National Crushed Stone Association, Washington, D. C., and Mr. Fred Swineford, well known Highway Engineer, who is now Engineering Director for Macadam Pavements, Inc. He has directed paving work on municipal and state projects for thirty years.

Fred E. Swineford received his degree in Civil Engineering from Ohio State University in 1915. He had also attended Wooster College and the University of Akron. He is a Registered Professional Engineer and a member of the American Society of Civil Engineers and the Ohio Society of Professional Engineers. He was formerly Director of Public Service at Akron, Ohio. Prior to Fred Swineford's appointment as Engineer-Director to Macadam Pavements, Inc. in 1947, he was affiliated with the Ohio Department of Highways at various times since





FRED E. SWINEFORD

1920, serving in the capacities of Division Engineer at Ravenna, Ohio; Chief Engineer of Maintenance; Chief Engineer of Tests; and Chief Engineer of Construction. Mr. Swineford now resides at 198 Walhalla Road, Columbus, Ohio.

The above outline does not say so but during the "dark" 30's Fred was one of the king pins in the alphabetical agencies starting out with offices in the Wyandotte Building here in Columbus. During this period his work covered the checking and reviewing the drawings for many building projects throughout the state.

In his contacts with the architects he was a very sympathetic and cooperative administrator often under very trying circumstances, both parties profiting quite materially in working out the many problems involved in the designing and erecting of buildings during that period.

Parking for the Customer

Architects are in the paving business whether they like it or not. Every new retail or amusement enterprise must provide attractive and adequate parking space for the patrons' automobiles.

With present high building prices there is seldom enough money for an adequate building, nevertheless, an attractive and durable parking area must be provided or the new shopping center, suburban market, theatre, restaurant or recreation center will not attract much business. Likewise, churches, schools and audi-

toriums must provide adequate parking areas for cars. Bituminous pavements, often called "blacktop" just naturally fit into the better class developments to such an extent that a new building surrounded with an attractive bituminous pavement brings in the business.

Fortunately this bituminous pavement on a macadam base is low in cost and extremely durable. In most areas commercial crushed limestone or blast furnace slag are available for such macadam bases and experienced contractors are standing by ready to do the work.

For automobile parking areas a macadam base with an asphalt surface can be laid for approximately 22c per square foot.

The procedure in paving off street parking areas is easy. First, the area is graded so that it will drain to the outer edge or to storm-water inlets with a slope of no less than 1/8" per foot and preferably 1/4" per foot. If the ground is unstable it should be stabilized by the addition of a layer of crushed stone or slag. It should be carefully shaped to conform to the finished surface because variations in the subgrade are bound to show up in the finished pavement.

The design, specifications and construction methods are simple and in everyday use. The following specification is an example which specifies the thickness, materials and methods.

PAVING SPECIFICATIONS FOR AUTOMOBILE PARKING AREAS AND DRIVEWAYS

A. The subgrade shall be carefully shaped, well drained and thoroughly compacted to the grade specified by the architect or engineer.

B. Upon the compacted subgrade there shall be constructed a 5" (finished thickness) course of waterbound macadam using No. 1 and 2 size 100% angular crushed limestone or blast furnace slag filled with screenings. The materials, equipment and methods shall conform to Item R-20 of the Ohio Highway Specifications which include the following operations:

Spreading 1" of limestone or slag screenings (3/8" to dust) on the sub grade with a mechanical spreader;

Spreading No. 1 and 2 size (31/2") crushed limestone or slag with a mechanical spreader to make a 5" (finished thickness) course:

Rolling with heavy rollers to thoroughly compact and key the large stone:

Filling the voids in the large stone with several applications of limestone or slag screenings and jarring each application into the course by rolling until the course is completely filled;

Waterbinding the course by applying water and rolling. When dry the surface shall be swept to remove excess screenings prior to the application of the bituminous wearing course.

C. Upon the waterbound base there shall be laid a 2" (finished thickness) course of bituminous concrete. This course shall consist of dense graded, plant mixed, hot laid bituminous concrete spread with a mechanical spreader and thoroughly compacted by rolling, all in accordance with Item T-35 of the Ohio Specifications.

Comment: The 5" thickness in paragraph B may be written as 4", 5", 51/2", or 6" to meet varied traffic and subgrade conditions. (Continued on page 30)



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The 2" course in paragraph C may be written as 11/2° for light traffic.

The present cost for a 5" waterbound macadam base in paragraph B and a 2" bituminous concrete wearing course in paragraph C is approximately \$2.00 per square yard.

The above secification may be modified to conform to local conditions. If pre-mixed bituminous concrete is not readily available the wearing course may consist of mixed-in-place or bituminous penetration macadam.

For truck terminals a similar specification may be used by increasing the thickness of the waterbound macadam base to 8" or 9" and increasing the thickness of bituminous wearing course to 21/3" or 3".

Further description, details, pictures, methods and specifications may be found in a booklet entitled "Asphalt Paving for Parking Areas" published by the Asphalt Institute, 801 Second Avenue, New York 17, N. Y.

Note: We expect to report on Mr. Gray's talk in a future issue of the "Ohio Architect."

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(Continued from page 21)

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- 513 Chamberlin, Oliver N., 1368 Kenilworth Ave., Lakewood (7) Ohio (Continued on page 46)

THE ARCHITECT IN PRACTICE

(Continud from page 11)

that there are still many things that you can learn only by experience; and, because of this, you may have to, at first, expend a greater portion of your fees for expert advice on mechanical and structural engineering, etc.

To those who might have given some thought to "selling out" as I put it before, and obtaining one of the so-called safe jobs, I would like to remind them that if this had never been done by members of our profession, the architects' field would be many many times as great as it is at present.

It has been said on good authority that as much as 75% or 80% of the construction work in the country is being done without the employment of a regular architect. Remember, this does not mean that it has been done without architectural services because whoever designs the building, no matter in what capacity he happens to be working when he designs it, is performing architectural work. One of the differences is that if, he is doing it for a builder, or a large corporation of another kind, he is still an employee and, as such to a greater or lesser extent, he must do what he is told.

The builder who offers architectural services free actually hopes to get well paid for it. Since, however, he is in competition with others of the same caliber, and cost is a big factor, his design is bound to be influenced by the material more readily available to him, the type of construction that he is more familiar with, and other considerations that enter into the cost factor.

I can site concrete examples of particular jobs where the so-called free service would have actually cost the owner three or four times as much as if that same job

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was handled by a regular competent architect and a competitive bidder.

The reason why a considerable amount of this work does go to some of the large builders, who offer this complete service in cellophane, is in just one word, "salesmanship."—It might be well for the practicing architect to recognize the fact that he needs a certain amount of ability along that line as well.

Many of the large corporations who do their own work feel that it is the logical thing to do, because their plant engineers, who really know just how they intend to function, are better qualified than the outside architect to make the layouts that will give them the greatest efficiency. While it is true that these plant engineers are certainly best qualified to know how they intend to handle the manufacturing of their products, and that it is certainly essential to consult with them on the plans of industrial work, they are, nevertheless, not architects; and the finest results have been achieved when handled by members of our profession outside the plants. Moreover, it has even been shown that this has been done at a considerable cost saving to the owner of the plant.

In one sense what I have said about consultation of the architect with plant engineers also applies in every branch of construction. In the case of the home, the prospective owners certainly have ideas of their own, and should be listened to. In the case of commercial work, the merchant knows best how he can handle his goods.

In various other types of building, such as hospitals, public institutions, banks, etc., there are those who have made a study of the particular requirements, and can certainly be of great help to the architect; but when all is said and done, and that after he has listened to all this advice, the architect should be the one best qualified to co-ordinate it, and to set it on paper, as well as to finally see it through the construction stages, if he has the qualities that will give him a right to make a success of his profession.

To enumerate a few of these qualities then—he should be a dreamer and a realist; an artist and a business man.

The late Albert Kahn once said that the practice of the profession consisted of about 90% business and 10% art.

I don't believe A. K. was serious when he said this for in my opinion he was really a great artist. He was, however, a great business man as well, and I should say a very good salesman. Very few of us can hope to have all of these qualities, but it is always best to set our goal high and keep aiming.

I would also like to make a remark about present tendencies on the part of a good many practitioners of doing, what I would call, only part of the job. By that I mean, very often they make a set of what is called the working plans and leave details to others.

In the case of institutions, they sometimes build the shell of the building; then the so-called interior designers step in to provide much of the built-in equipment, the decorations, color schemes, draperies, etc. Very often the excuse is that the architect's fee is not large enough to cover the cost of all this special work. Again I believe this is wrong and that the condition was brought about through men who really didn't have the ability.

The architect should be the master of the designfrom the foundation to the roof, on the exterior and interior.



A building design should be visualized in brick and mortar, in stone, in plaster, and all the other materials to be employed, and certainly it cannot be without picturing it in color.

In design, as in planning, the architect should seek, and should certainly be helped by, the views of those who specialize in the various fields; but, unless he has the ability to co-ordinate and direct, there are very apt to be clashes, and the final result will not be what it should be.

In this age of specialization, and because we cannot hope to be all things to all men, it seems to me that an architect is well advised to specialize in certain types of buildings. This is a matter that is rather hard to decide at the outset, when one must necessarily take whatever is offered; but, either by accident or design, he will come to find that one type of structure appeals more to him than another, or that he is better qualified for one than he is for another. This might also well be influenced by the type of men he has in his employ as time goes on. Even the difficult when they try too great a variety.

CORRECTION! On Page 18 of this issue, only two classes of entries are given for the 1951 Architectural Competition. THIS IS IN ERROR. ADD to these Class No. 3 — Churches of all styles and denominations.

THE DANGER OF SURVIVAL

(Continued from page 9)

carded like worn out machinery. They have too large a part in our destiny. But it is abundantly clear that the life which they have abused is increasingly exacting its revenge-and that this feverish institution must soon be brought within narrower limits.

In the accomplishment of this there are some who, unfortunately, are not aware of the fact that plans do not exist in a political and economic vacuum. That the decision as to what to plan should always be determined by what can in fact be realized. This latter decision is not made by planners. Yet the decision partly depends on the people's and the planners' determination to plan for something substantine; on their determination to change the program if there cannot be a practical realization of the program.

Those who are unwilling to unable to accept the age old philosophy, "A bird in the hand is worth two in the bush," might be well advised to plan for a new jobinstead of a new city.

The real issue in redevelopment of our existing cities, is that of revolution versus common sense. As for myself, I do believe in master plans. But I do not believe in the revolutionary master plan. I believe only in the common sense master plan. To put it simply, I am opposed to "dream-able" plans. I am in favor of "do-able" plans.

Here is a ringing quotation from a recently published "manual on city planning."

"The time has come to rebuild our cities. The mere redevelopment of problem areas will not provide the inspiration. The American city mocks at



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us. The dead hand of the past baffles every effort. Our towns were built hastily and carelessly. Are we to be forever satisfied with mere improvement? Or shall we not instead completely rebuild our cities? Can we not ignore present obstacles and dream big dreams?"

End of quote. End of paragraph. End, I hope, of such marijuana inspired day dreaming.

Now, may I read you a well worded castigation of the view which I have been expressing:

"Nothing is more contemptible than the timid or commercial reformers, "practical idealists," who express scorn for the great utopian planners—who ever spread the lie that the purpose of 'academic' plans is to prevent anything from being done—but when they press their own plans to the point where they could be effective, they end up by emasculating precisely one of the great plans, usually long out of date." But where are these "great plans"—these brain

But where are these "great plans"—these brain children of the Utopian planners? Where in the entire United States is there a single example of an "ideal" master plan having been actually superimposed upon an already existing city? The facts require my question to be answered only by a thundering silence!

I like being labeled a "practical idealist." I suspect each of you also welcomes that tag. When a client brings his problem to you, you give him an imaginative solution. You don't give him a lecture, complete with color slides, on how much better you could have done—if only he didn't have a problem!

Recognizing that we have a problem, we must elevate community planning to the top of our profession, for the future of architecture itself is inseparably bound to the future of planning. A single factory or a single housing development bears little consequence to the total scheme. The inter-relation between living, labor and leisure can no longer be left to chance. Conscious planning is demanded.

A community plan is not a layout of streets and houses, or of viaducts and factories. It is more like a choreography of society in motion and in rest, an arrangement for society or being directed. There is, of course, a variety of town schemes: gridirons, radiations, ribbons, satellites, or vast concentrations. What is important, however, is the activity going on—how it is influenced by the scheme and how it transforms any scheme. How it uses or abuses any site. How it actually contributes to the living, labor and leisure of the people.

The community does not create its conditions. In fact, it's the reverse; the conditions should stimulate the plan. Therefore the plan must not be imposed as if it were an end—but rather as achievable means to a desirable end.

Consider, for instance, the original laying-out of the District of Columbia and the City of Washington. For various reasons of politics and transportation, the plan was to connect the Potomac waterway with the Ohio, and the new city on the Potomac was thus to become the emporium of the West. But the canal system which would have fulfilled this technological scheme fell through. A hundred years later, therefore, Washington was still a small political center, without economic significance, while the commerce of the West flowed through the Erie Canal to New York.

But now, ironically enough, a political change has made Washington a metropolis far beyond its original grandiose plans, and people flock from near and far to the capitol, to wander dazedly through a forest of red tape, in the hope of transacting their business. I am (Continued on page 43)



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(Amended House Bill No. 484)

AN ACT

To amend sections 12600-1, 12600-2, 12600-3, 12600-4, 12600-5, 12600-9, 12600-10, 12600-11, 12600-12, 12600-13, 12600-14, 12600-15, 12600-21, 12600-22, 12600-23, 12600-24, 12600-30, 12600-31, 12600-35, 12600-37, 12600-39, 12600-42, 12600-43, 12600-46, 12600-47, 12600-48, 12600-49, 12600-50, 12600-52, 12600-54, 12600-55, 12600-56, 12600-57, 12600-59, 12600-61, 12600-63, 12600-64, 12600-65, 12600-67, 12600-69 and 12600-78 of the General Code, to enact 12600-1a, 12600-1b, 12600-3a, 12600-5a, 12600-6a, 12600-7a, 12600-8a, 12600-32a, 12600-48a, 12600-54a, 12600-73a, 12600-76a, 12600-76b, 12600-76c, 12600-78a and 12600-134a, and to repeal sections 12600-116, 12600-117 and 12600-118 to modernize the Ohio building code relative to school buildings, and to declare an emergency.

Be it enacted by the General Assembly of the State of Ohio:

SECTION I. That sections 12600-1, 12600-2, 12600-3, 12600-4, 12600-5, 12600-9, 12600-10, 12600-11, 12600-12, 12600-13, 12600-14, 12600-15, 12600-21, 12600-22, 12600-23, 12600-24, 12600-30, 12600-47, 12600-35, 12600-37, 12600-50, 12600-52, 12600-54, 12600-46, 12600-47, 12600-48, 12600-49, 12600-50, 12600-52, 12600-54, 12600-55, 12600-55, 12600-57, 12600-59, 12600-61, 12600-63, 12600-64, 12600-65, 12600-76, 12600-1a, 12600-78 of the General Code be amended and sections 12600-1a, 12600-48, 12600-54, 12600-5a, 12600-7a, 12600-8a, 12600-32a, 12600-48a, 12600-54a, 12600-73a, 12600-76a, 12600-76b, 12600-76c, 12600-78a and 12600-134a be enacted to read as follows:

Sec. 12600-1. Under part two which follows, will be found under their respective titles, the various classes of buildings covered by this code together with the special requirements for their respective design, construction and equipment.

The classifications of the various buildings will be found under the following titles, viz.:

Title 1. Theaters, assembly halls and assembly halls built in connection with school buildings.

Title 2. School buildings.

Buildings or parts of buildings used only for the specific purposes mentioned under their respective title and classification shall be designed, constructed and equipped as called for under all of the sections coming under such title and classification.

Buildings used for two or more different classes of occupancy and combining the classifications covered under more than one title shall be designed, constructed and equipped in accordance with the requirements for the best and safest construction and arrangement called for under the various sections of the Ohio state building code affecting such buildings or parts of such buildings.

The detailed requirements of the above mentioned special requirements, together with standard devices will be found in subsequent parts of this code.

Sec. 12600-1a. Where fireproof or composite construction is required for structural elements and openings in school buildings or assembly halls built in connection with school buildings, said structural elements and openings shall conform to the fire resistance ratings as provided in the following table:

TABLE

FIRE RESISTANCE RATINGS OF STRUCTURAL ELEMENTS AND OPENINGS (IN HOURS)

Exterior Walls 30'	OF		
More From Any	In-	Fireproof	
terior Lot Line	or	Non-Combustible	
Building		Materials	Composite
Bearing Walls-	Walls	2	11/2
Exterior			Non-Combustible
	Windows	0	0
	Doors	0	0
	Lintels	6' and under 1/6" steel- over 6'-2 Hr. inside	6' and under 36" steel- over 6'-1 Hr. inside
Non-Bearing Walls		soffits and sides	soffits and sides— Non-Combustible
Exterior	Windows	0	0

	Doors	0	0
	Spandrel	θ' and under K6" steel-	6' and under 1/6" steel-
	Beams	over 6'-2 Hr. inside	over 6'-1 Hr. insid
	Calumna	soffits and sides-	soffits and sides-
	Columns	2—Note 3 1½ for one story bldgs.	1
Bearing Walls-	Walls	$1\gamma_2$ for one story blugs.	1 Hr. Non-Combustib
Interior	17 dil 5	-	Heater Rms. 2 Hr.
	Windows	Non-Combustible	0
	Doors and	Corridors #" solid wood	0
	Openings	Heater Rms. 2 Hr.,	
		S. C.	2 HrS. C.
		Basm't Stairs 11/2 Hr.	1 Hr.
		Shafts-Elevator	
		1 Hr.	1 Hr.
		Adj. Comp. Const.	
		2 Hr., S. C.	
	Lintels	Lab. Rms. 1 Hr. 6' and under 36" steel—	3/4 Hr.
	Linters	over $6'-2$ Hr. inside	6' and under 16" steel- over 6'-1 Hr. inside
		soffits and sides-	soffits and sides-
	Members Su		sound and sides-
	porting		
	Bearing		
	Walls ove	-	
	6' Span	2	8
Fire Walls	Walls	2	8
	Openings	3	8
Non-Bearing Walls-	- Walls	Corridors Non-Com.	
Interior		Heater Rms. 2 Hr.	2 Hr.
		Shafts-Elevator 2 Hr.	
		Basm't Stairs 2 Hr.	2 Hr.—N. C.
		Stairs-(above	1 Hr.—N. C.
		basm't) 1 Hr.	1 HrN.C.
		Lab. Rms. 1 Hr.	1 Hr.—N. C.
	Doors	Same as for bearing	Same as for bearing
		Walls	Walls
	Columns	2	
		1½ for one story bldgs.	1
Floors	Deck	1½-Note 1	3/4
	Beams		
	Girders	1½-Note 1	3/4
		TABLE	
FIRE RESIST	TANCE RAT	INGS OF STRUCTUR	AL ELEMENTS
	AND OPE	NINGS (IN HOURS)	
	Columns	2	1
		s All Members and	
		Deck	2 Hrs.
	Deck	1-Note 2	3/4
Roofs		Non-comb. if 20' from	Non-comb. or mil
Roofs		floor or one story	constr. if 20' from
Roofs			floor or one story
Roofs			noor or one story
Roofs	Beams-	1-Note 2	3/4
Roofs	Girders	Non-comb. if 20' from	3⁄4 Mill construction if 20
Roofs	Girders Buildings 2	Non-comb. if 20' from floor-Note 2	3/4
Roofs	Girders Buildings 2 stories or more	Non-comb. if 20' from floor—Note 2	3⁄4 Mill construction if 20
Roofs	Girders Buildings 2	Non-comb. if 20' from floor—Note 2 Non-combustible—	¥ Mill construction if 20 from floor
Roofs	Girders Buildings 2 stories or more	Non-comb. if 20' from floor—Note 2	34 Mill construction if 20 from floor Non-comb. or mil
Roofs	Girders Buildings 2 stories or more One story	Non-comb. if 20' from floor—Note 2 Non-combustible— Note 2	3/4 Mill construction if 20 from floor Non-comb. or mil constr.
Roofs	Girders Buildings 2 stories or more One story Columns	Non-comb. if 20' from floor—Note 2 Non-combustible— Note 2 2—Note 3	34 Mill construction if 20 from floor Non-comb. or mil
Roofs	Girders Buildings 2 stories or more One story	Non-comb. if 20' from floor—Note 2 Non-combustible— Note 2	3/4 Mill construction if 20 from floor Non-comb. or mil constr.

Note 1. When the floor construction is above an air space or crawl space less than four (4) feet six (6) inches in height and used for no other purpose than to provide access to pipes, ducts, controls, and similar devices serving the building, and is separated from the usable portion of the building with walls of one and one-half $(1\frac{1}{2})$ hour fire rating, openings of one (1) hour fire rating, and a non-combustible deck or slab of one (1) hour fire rating, then the structural supports except columns may be of non-combustible materials.

Note 2. The roof construction for gymnasiums, assembly halls and assembly halls built in connection with school buildings may be of open mill construction with roof sheathing of wood not less than one and fiveeighths (15%) inches in thickness, tongue and grooved and with a non-combustible roof covering, if no part of such mill construction is less than twenty (20) feet from any floor, or such mill construction is protected by a ceiling of at least one (1) hour fire rating.

Fire rating or fire resistance rating is defined as the measured time in hours or fractions thereof that the material of construction will withstand fire exposure as determined by fire tests conducted in conformity to recognized standards hereinafter referred to.

The fire resistance ratings approved by the board of building standards shall be approved ratings for the structural elements and doors required in this table. Ratings given in this table are minimum ratings.

The fire resistance ratings of the "Uniform Building Codé, 1949-Edition," of the "Pacific Coast Building Officials Conference" shall be approved ratings for structural elements. Also the fire resistance ratings resulting from tests made on fire doors according to the "American Society for Testing Materials," designation "E-152-41," shall be the approved fire resistance ratings for doors.

Non-combustible construction is defined as the use of non-combustible materials which will neither ignite nor support combustion in air at a temperature of twelve hundred (1200) degrees Fahrenheit during an exposure of five (5) minutes in a vented tube or a vented crucible furnace.

One and one-half $(1\frac{1}{2})$ hour fire resistance may be provided by a four (4) inch reinforced concrete slab or reinforced concrete joist construction with three (3) inch slab. One (1) hour fire resistance may be provided by reinforced concrete joist construction with two (2) inch slab.

Note 3. The exterior columns supporting the roof of a one story building when used as window mullions may have the required fireproofing extending to a minimum of thirty-four (34) inches above the first floor level, except in heater rooms, theaters, assembly halls, assembly halls built in connection with school buildings, and gymnasiums.

Note 4. Except as required in section 12600-9 of the General Code. Sec. 12600-1b. Acoustical materials may be used as interior finish for walls and ceilings of school buildings subject to the following requirements:

(1) Acoustical materials used in corridors or exit ways, including lobbies providing a required means of egress, in kitchens, and in rooms exceeding five thousand (5,000) square feet in floor area or to be occupied by more than three hundred (300) people shall meet the classification of Incombustible in Federal Specification SS-A-118a, promulgated February 12, 1948, hereinafter referred to as "SS-A-118a," except as otherwise provided in subparagraphs (3) and (4) below;

(2) Acoustical materials in all other rooms, areas and locations not included within subparagraph (1) above, in buildings required to be of fireproof or composite construction, shall be of any classification in "SS-A-118a, above Combustible;

(3) Acoustical materials used against wood sheathing roof decks in gymnasiums and assembly halls built in connection with school buildings of fireproof or composite construction where such decks are authorized by section 12600-1a and the Table of Fire Resistance Ratings of Structural Elements and Openings set forth in said section shall be of any classification in "SS-A-118a," above Combustible;

(4) Acoustical materials used in one-story school buildings of fireproof or composite construction shall be of any classification in "SS-A-118a," above Comhustible; provided, however, in corridors or exit ways, including lobbies providing a required means of egress, and in kitchens, such acoustical materials shall meet the classification in "SS-A-118a" of Incombustible; and

(5) Acoustical materials meeting the requirements of this section may be suspended from or attached to any floor or roof construction and attached to any wall where such floor or roof construction or wall alone meets the requirements of section 12600-1a and the table set forth therein, for the particular construction classification, provided that (a) if such material when applied against a non-combustible backing is not more than two (2) inches removed from such backing, the space behind such material shall be fire-stopped in an area not exceeding ten (10) square feet or eight (8) feet in any direction, and (b) if such material is more than two (2) inches from such backing, it shall meet the classification in "SS-A-118a" of Incombustible, and (c) if such material is applied directly against a backing of non-combustible material, it shall meet the minimum requirements of subparagraphs (1), (2), (3) and (4) of this section, whichever is applicable.

Sec. 12600-2. Under the classification "theaters" are included all buildings or parts of buildings to which the general public is admitted to witness regular theatrical, vaudeville, burlesque, dramatic or operatic performances in which scenery is used, or motion pictures or televised pictures projected.

For assembly hall stages, see section *** 12600-43 of the General Code.

Under the classification "assembly halls" are included all buildings or parts of buildings seating or accommodating one hundred (100) persons or more and used for the assembly of persons for education, instruction, entertainment or amusement including all places where persons congregate to hear speakers or lecturers, to listen to operas, concerts or musical entertainments; banquet halls, dance halls, skating rinks and gymnasiums, in which no transient scenery is used.

For assembly hall stages, see section *** 12600-43 of the General Code.

Under the classification "assembly halls built in connection with school buildings" are included all buildings or parts of buildings built in connection with school buildings accommodating one hundred fifty (150) persons or more. Under this classification are included recreation rooms built in connection with school buildings.

Sec. 12600-3. The highest point of the main auditorium foyer of any theater shall be so placed that it can be reached from the adjacent grade line or sidewalk levels by means of gradients or ramps with not to exceed one (1) foot rise in twelve (12) feet of run.

Theaters seating more than one thousand (1000) persons and theaters with one or more balconies shall be of fireproof construction, except the working part of the stage, viz., the stage floor between the jambs of the proscenium opening from the curtain line to the rear wall of the stage which shall be of mill or fireproof construction.

Theaters seating one thousand (1000) persons or less and containing no balcony shall be of fireproof or composite construction, except the working part of the stage floor which shall be of mill construction or better.

No rooms or apartments for any purpose whatsoever shall be placed over a theater seating five hundred (500) persons or more, unless the entire building is of fireproof construction, except that in buildings of substantial construction, seating over three hundred and not more than five hundred persons and where the theater is on the ground floor of the building, rooms in such building may be rented for other purposes, if the floor, ceiling and side walls of such theater are of fireproof construction and all openings communicating with such theater are covered by double standard fire doors.

For summer theaters see section *** 12600-41 of the General Code. For assembly hall stages, see section *** 12600-43 of the General Code.

Assembly halls and assembly halls built in connection with school buildings may be placed with not more than one-half the height of the story below the finish grade line and in no case more than eight (8) feet. *** Scating capacitics of assembly halls and assembly halls built in connection with school buildings shall be assumed to be the total aggregate seating capacity of all balconies, galleries, stages and platforms and the main portion of such assembly halls ***, rooms or assembly halls built in connection with school buildings. Where fixed seats are not to be used the number of persons shall be computed upon a basis of six (6) square feet of floor area per person, except in dining rooms, dance halls and gymnasiums where the floor area shall be computed upon a basis of fifteen (15) square feet per person.

Assembly halls and assembly halls built in connection with school buildings shall have a maximum area and seating capacity and be of the type of construction and limited as to the height of the main floor level above the average grade line at any entrance to or exit from the building as shown in the following table:

FLOOR HEIGHT LIMITATIONS IN FEET

Areas In Sq. Ft.	Capacity	Fireproof	Composite Height in Ft.	Frame * Height in Ft.
1800	300	no limit	35	16
2400	400	no limit	30	12
3000	500	no limit	25	8
3600	600	no limit	20	6
4200	700	no limit	15	4
4800	800	no limit	12	3
5400	900	no limit	IO	2
6000	1000	no limit	8	• •
*** 0000	1500	no limit	6	
12000	2000	no limit	2	
15000	2500	no limit		
18000	3000	no limit		

* Frame requirements shall apply only to assembly halls.

Assembly halls and assembly halls built in connection with school buildings of fireproof construction are unlimited as to the height of the main floor level if ingress and egress is provided as required by sections 12600-20 *** and 12600-21 *** of the General Code.

Assembly halls and assembly halls built in connection with school buildings of incombustible construction with all exists leading to streets, alleys or open public grounds, with the highest point of the main floor level not more than two (2) feet above the grade line, may be of unlimited seating capacity.

Assembly halls and assembly halls built in connection with school buildings of composite construction with the main floor level not more than two (2) feet above the grade line at any entrance to or exit from the building shall not exceed twelve thousand (12,000) square feet of floor area or accommodate more than two thousand (2,000) persons.

Assembly halls of frame construction with the main floor level not more than two (2) feet above the grade line at any entrance to or exit from the building, with more than six thousand (6,000) square feet of floor area shall be limited to summer use only except that when not over fifty thousand (50,000) square feet in area with enclosing walls not over twelve (12) feet in height shall be limited to temporary use only subject to the approval of the proper state or municipal authorities.

Assembly halls or assembly halls built in connection with school buildings of fireproof or composite construction that are used as gymnasiums may have wood running tracks built of mill or exposed steel construction.

Sec. 12600-3a. Where fireproof construction is required for theaters, assembly halls and assembly halls built in connection with school buildings under the provisions of section 12600-3 of the General Code, roof construction shall be of fireproof or non-combustible materials.

Sec. 12600-4. No theater or motion picture show room shall be less than eighteen (18) feet wide, measuring in the clear between the walls, nor less than thirteen (13) feet high.

Theaters not over one hundred (100) feet long, and seating or accommodating not over three hundred (300) persons and all assembly halls and assembly halls built in connection with school buildings shall have in
addition to the main entrance, either the rear or one side wall abutting upon a street, alley, open court or fireproof passageway with direct access to a public thoroughfare.

If the lobby or entrance to the above theater or motion picture show room is built at an angle to the auditorium, the length of the lobby or entrance including the thickness of the walls, added to the length of the auditorium and stage including the rear wall shall not exceed one hundred (100) feet.

The above street, alley, open court, or fireproof passageway shall be not less than six (6) feet wide in the clear.

Theaters in excess of the above requirements regarding seating capacity and total length shall have in addition to the main entrance two (2) other walls abutting upon streets, alleys, open courts or fireproof passage-ways.

The width of such streets, alleys, open courts or fireproof passageways shall be not less than eight (8) feet wide in the clear for theaters ***, assembly halls and assembly halls built in connection with school buildings seating or accommodating not to exceed one thousand (1,000) persons with an additional three (3) inches of width for each additional one hundred (100) persons or fraction thereof, to be accommodated.

Said streets, alleys, open courts or fireproof passageways shall connect with and accommodate all exits leading thereto from the building and shall be kept clear of obstructions at all times.

No openings other than the exit doors from the auditorium, balcony and gallery shall be placed in the above mentioned fireproof passageways, and no stage exits or other openings from the stage shall connect thereto.

Walls, floors and ceiling of such fireproof passageways shall be of fireproof construction and the ceiling height shall be not less than ten (10) feet in the clear.

The said courts or passageways shall not be used for storage or other purposes whatsoever, except for egress and ingress.

Sec. 12600-5. A theater or assembly hall in connection with or as a part of a building used for other purposes, shall have all of its various parts separated from the other parts of the buildings by standard fire walls and fireproof floors and ceilings and all communicating openings between the theater or assembly hall and the other parts of the building or buildings shall be covered by double standard fire doors, provided that in theaters seating less than three hundred the fireproof ceiling is not required.

Openings which are used or liable to be used as a means of egress, shall be covered by standard self-closing fire doors.

Exceptions. Where an assembly hall is built in connection with and is a necessary adjunct to a church, *** lodge building, club house, hospital or hotel, and is designed principally for the use of the occupants of such buildings, the above-mentioned standard fire walls or fireproof walls, ceilings and fhoors will not be necessary, providing the construction of the other parts of the building is of the same, or of a better grade than the assembly hall.

No theater or assembly hall shall have any door or window connecting directly with any sleeping or living room of a tenement or dwelling house, and no theater or assembly hall shall be used for living or sleeping purposes.

All exterior and court walls of buildings coming under this classification within twenty (20) feet of any other building, structure or adjoining lot line, shall be fire division walls not less than twelve (12) inches thick and all openings shall be protected by special standard fire doors or standard automatic fireproof windows.

All exterior and court walls of buildings of frame construction coming under this classification shall be located twenty (20) feet or more from any other building, structure or adjoining lot line.

Sec. 12600-5a. Assembly halls built in connection with school buildings shall have all of their various parts separated from the other parts of the buildings by fire walls, fire doors, and fireproof floors and ceilings except where the construction of the other parts of the buildings is of the same fireproof construction.

No such assembly hall shall have any door or window connecting directly with any sleeping or living room of a tenement or dwelling house, and no such assembly hall shall be used for living or sleeping purposes.

All exterior and court walls of buildings coming under this classification within twenty (20) feet of any other building, structure or adjoining lot line, shall be fire walls and all openings shall be protected by fire doors and automatic fireproof windows.

All exterior and court walls of buildings of frame construction coming under this classification shall be located twenty (20) feet or more from any other building, structure or adjoining lot line.

Sec. 12600-6a. A stage in an assembly hall built in connection with a school building shall be separated from the audience by a fire wall of at least one (1) hour fire rating extending the entire width of the stage and to the highest adjoining roof.

The curtain wall under the proscenium opening shall be located under the center of the curtain and shall be a fire wall, built up to the under side of the stage floor.

There shall be no openings in this wall above the stage floor level except the proscenium opening and two (2) communicating openings between the stage and the auditorium, and not more than two (2) openings below the stage floor level, and not more than one (1) opening to the attic.

The proscenium opening shall be covered by a fire curtain and all other openings by self-closing fire doors. The latter openings shall not exceed twenty-one (21) square feet in area for any opening.

The wall over the proscenium opening shall be of non-combustible construction with at least one (1) hour fire rating.

The height of the proscenium wall over the proscenium opening shall not be less than twice the greatest height of the proscenium opening plus six (6) feet where a vertical lift curtain is used.

Sec. 12600-7a. No scene dock, workshop, storage or general property room shall be placed above the stage or auditorium of any assembly hall built in connection with a school building, or in any fly gallery.

Scene docks, workshops, storage and property rooms shall be enclosed by fire walls and all openings shall be provided with self-closing fire doors of at least two (2) hour fire rating.

If scene docks, workshops, storage or general property rooms are located under the stage the same shall have fireproof ceilings and floors with at least two (2) hour fire rating.

Sec. 12600-8a. Stages in assembly halls built in connection with school buildings shall be separated from the dressing rooms by walls of at least one (1) hour fire rating. Such dressing rooms shall also be separated from other parts of the building by fire walls. Dressing rooms shall have fireproof floors, ceilings and partitions.

The above rooms shall be separated from the other parts of the building by self-closing fire doors of at least two (2) hour fire rating.

All dressing and employees' rooms shall be well ventilated by windows opening into areaways, streets, alleys or open courts.

Sec. 12600-9. Furnaces, hot water heating boilers and low pressure steam boilers may be located in the buildings, provided the heating apparatus, breeching, fuel room and firing room are inclosed in a standard fireproof heater room and all openings into the same are covered by standard self-closing fire doors. When such boilers and furnaces are located in an assembly hall built in connection with a school building, the same shall be inclosed in a fireproof heater room and all openings shall be covered by self-closing fire doors as provided in section 12600-18.

No boiler or furnace shall be located under, adjacent to or in direct connection with any stairways, elevator shaft or exit of any theater ***, assembly hall or assembly hall built in connection with a school building.

No high pressure boiler shall be located within the main walls of any theater ***, assembly hall or assembly hall built in connection with a school building.

Low pressure boilers located within the main walls of any theater ***, assembly hall or assembly hall built in connection with a school building shall have a reinforced concrete slab not less than six (6) inches thick over the heater room.

No communicating doorway or other opening shall be placed between the heater or fuel room and the fan, room or air intake.

Sec. 12600-10. No smoking room shall connect with, or be entered directly from any auditorium of a theater or assembly hall; or *** connect with, or be entered from any lobby, entrance, foyer or corridor leading to any *such* auditorium *** unless protected by a vestibule with two sets of self-closing doors.

Sec. 12600-11. The plans shall be clearly marked showing the maximum number of persons to be accommodated in the various parts of the building.

All seats, chairs and benches in the auditorium, balcony and gallery shall be spaced not less than two feet six inches (2' 6'') from back to back, measuring horizontally.

The width of seats or chairs measuring from center to center of arms shall be not less than twenty (20) inches for theaters and public assembly halls and not less than eighteen (18) inches for *** assembly halls built in connection with school buildings.

If benches are used, the seating capacity of the same shall be established by allowing one sitting or seat to each fifteen (15) inches of length or fraction thereof.

All seats, chairs and benches (except chairs in boxes or loges) shall be securely fastened to the floor.

Boxes or loges shall be so designed, or if necessary, shall be provided with rails which will prevent seats or chairs from being pushed or knocked into the aisles.

On the main auditorium floor level in assembly halls and assembly halls built in connection with school buildings with level floors, seats or chairs may be securely fastened together in sections ***.

No seat shall have more than *** seven (7) seats between it and *** an aisle *** except in the following arrangement. When the seating is fixed chairs with self-rising seats so spaced that when the seats are raised there is an unobstructed space of not less than eighteen (18) inches horizontal projection between the rows of seats, and doorways leading directly to exit corridors are provided not less than five (5) feet apart along the sides of the auditorium, the number of seats in a row may be twenty-four.

Seat platforms in grandstands, stadiums, athletic field houses, recreation buildings, gymnasiums, and similar structures where seats without backs are used shall be not less than thirty (30) inches in width, unless the height of the rise from one platform to another is fourteen (14) inches or less, in which case such platforms may be a minimum of twenty-two (22) inches in width. No seat shall be more than thirty (30) feet from any aisle in this type of seating.

Sec. 12600-12. No seat bench or platform shall have a riser of more than twenty-two (22) inches, be placed more than one foot two inches (1'2'') above the level of the aisle immediately next to the same ***.

No balcony platforms for seats or aisles shall be placed nearer any ceiling or soffit than seven (7) feet.

Balcony aisles with steps will not be considered stairs.

Sec. 12600-13. Aisles on the main floor level with seats on both sides shall be not less than three (3) feet wide in the clear at any point and shall be increased in width not less than one (1) inch in addition thereto for every six (6) feet of run.

Aisles on the main floor level with seats on one side only shall be not less than two feet and six inches (2' 6'') wide in the clear at any point and shall be increased in width not less than one-half $(\frac{1}{2})$ inch in addition thereto for every six (6) feet of run.

Aisles in each balcony and gallery with seats on both sides shall be not less than three (set and six inches (3' 6'') wide in the clear at any point and shall be increased in width not less than one (1) inch in addition thereto for every six (6) feet of run.

Aisles in each balcony and gallery with seats on one side only shall be not less than three (3) feet wide in the clear at any point and shall be increased in width not less than one-half $(\frac{1}{2})$ inch in addition thereto for every six (6) feet of run.

Steps in balcony aisles may not exceed seven and one-half $(7\frac{1}{2})$ inches in height and treads may not be less than nine and one-half $(9\frac{1}{2})$ inches.

Where the main aisles do not lead directly to the exits cross aisles or foyers *** shall be provided, intersecting with all main and wall aisles and leading directly to each exit. Said cross aisles shall not be less in width than the widest aisle with which they connect and in no case less than four (4) feet.

Vomitories connecting the main exit with the cross aisles shall have a total width not less than the sum of the width of the widest aisle leading thereto plus fifty (50) per cent of the total width of the remaining aisles leading thereto or according to the requirements in section 12600-21.

Sec. 12600-14. No false openings giving the appearance of a door or window where none exists shall be placed in any part of a theater ***, assembly hall or assembly hall built in connection with a school building used by the general public.

Sec. 12600-15. No mirror shall be placed in any part of a theater ***, assembly hall or assembly hall built in connection with a school building used by the general public, except in the women's and men's retiring and toilet rooms.

Sec. 12600-21. The width of stairways in theaters used as a means of ingress shall be at the ratio of one foot eight inches (1' 8'') to each one hundred (100) persons to be accommodated.

No stairway shall be less than three (3) feet or more than five (5) feet wide measuring in the clear between the hand rails.

Where more than one stairway is required for any one tier or level they shall be located as far apart as possible.

Where the seating capacity exceeds the limit of five (5) foot stairways, wider stairways may be used providing substantial center hand rails not less than three (3) feet in height are used to divide the stairways into widths not less than three (3) feet and not exceeding five (5) feet wide.

Stairways used by the general public shall have a uniform rise of not more than seven (7) inches and a uniform tread of not less than ten and one-half $(10\frac{1}{2})$ inches.

Stairways not used by the general public shall have a uniform rise of not more than seven and one-half $(7\frac{1}{2})$ inches and a uniform tread of not less than nine and one-half $(9\frac{1}{2})$ inches. The above dimensions shall be from riser to riser and from tread to tread.

No riser shall be less than five (5) inches. ***

No stairway shall have more than sixteen (16) nor less than three (3) risers in any run.

No winders shall be used and all nosings shall be straight.

Hand rails shall be provided on both sides of all stairways and steps. Outside steps and areaways shall be provided with guard rails not less than two feet six inches (2' 6'') high.

A uniform width shall be maintained to all stair and stair platforms used by the general public by rounding or beveling the angles and corners.

No door shall open directly upon a stairway, but shall open upon a platform or landing equal in length to the width of the door.

All stairways leading directly from the basement to the stage, shall be enclosed by fire division walls not less than eight (8) inches thick, and the ceiling shall be of fireproof construction and all openings protected by standard self-closing fire doors.

No stairways used by the general public shall be placed over any basement stairway, unless the basement stairway is enclosed in fireproof walls, and the ceiling or soffit over the same is of fireproof construction, and all openings to the basement stairway are provided with standard self-closing or automatic fire doors.

No closet for storage shall be placed under any stairway.

No stairway used by the general public shall lead downward to a platform and then upward to a new level or vice versa except the steps in the balcony and gallery aisles.

If a theater has more than one balcony, the stairways from the level above the first balcony shall run directly to and connect with the streets, alleys or open courts, and shall have no direct connection with any part of the theater.

Stair treads shall be provided with approved non-slip treads or shall be carpeted or covered with other material to prevent slipping or tripping.

Where stairways are required in theaters, inclines or gradients may be used providing the same are supplied of the width, in the number and are located as prescribed for stairways. The pitch of incline or gradient shall not exceed one (1) foot rise in *** ten (10) feet of run.

All stairways in assembly halls shall be enclosed by fire division walls not less than eight (8) inches in thickness and shall have fireproof ceilings and floors and all openings shall be protected by self-closing fire doors.

Widths of stairways shall be at the ratio of three (3) feet per hundred (100) persons to be accommodated.

Otherwise stairways and inclines shall be constructed and equipped the same as required for theaters.

Stairways in assembly halls built in connection with school buildings shall be enclosed by fire walls and shall have fireproof ceilings and floors and all openings shall be protected by self-closing fire doors as provided in section 12600-1a of the General Code, except that interior ingress stairways from the auditorium floor to the first balcony shall have walls of one (1) hour fire rating and need not have fire doors.

Otherwise stairways and inclines shall be constructed and equipped the same as required for assembly halls.

Sec. 12600-22. All lobbies or entrances to theaters shall be level or flush with the sidewalk.

To overcome any difference in levels in and between courts, corridors, lobbies, passageways, auditorium and aisles on the ground floor, gradients shall be employed.

Gradients in auditorium aisles shall not exceed one (I) foot in rise to five (5) feet in run, and no other gradient or incline shall exceed one (I) foot in rise to *** ten (IO) feet in run without handrails. Gradients with handrails as required for stairs shall not exceed one (I)foot in rise to eight (8) feet in run.

Sills at all exits shall be so designed as to be level and flush with the adjacent floors.

Sec. 12600-23. Halls, foyers and passageways shall be so designed and proportioned as to prevent congestion and confusion.

No hall, foyer or passageway leading to a stairway or exit shall be less in width than the width of the stairway or exit, and in no case less than four (4) feet wide.

All corridors, passageways, hallways and stairways used by the general public leading from any public part of the building or to any toilet, retiring or check room shall permit of a free passage to an outer exit of the building without returning.

The aggregate capacity of foyers, lobbies, corridors and passageways for the use of the general public, not including aisles space between seats, shall be for each floor, balcony or gallery, sufficient to contain the entire number of persons to be accommodated on the said floor, balcony or gallery, in the ratio of one and one-half $(1\frac{1}{2})$ square feet per person.

Any stairway, corridor or passageway shall be of equal capacity to the aggregate width of all stairways, corridors or passageways which it serves as a means of egress.

The foyer requirements designated in this section do not apply to assembly halls built in connection with Grade A school buildings.

Sec. 12600-24. Elevators in theaters and assembly halls shall be enclosed by fire division walls not less than six (6) inches in thickness and by fireproof ceilings and floors and all openings shall be covered by standard elevator fire doors.

Elevators in assembly halls built in connection with school buildings shall be enclosed by fire walls, fireproof ceilings and floors and all openings shall be covered by elevator fire doors as provided in section 12600-1a of the General Code.

Otherwise elevators shall be constructed, equipped and installed in accordance with the requirements of the department of industrial relations and the industrial commission of Ohio.

Elevators shall not be considered or computed as a means of egress.

Sec. 12600-30. In calculating construction the *** live loads on the various floors and roofs shall be assumed as follows:

In auditoriums with fixed seats, eighty (80) pounds per square foot. In auditoriums with movable seats, one hundred (100) pounds per

square foot. In halls used for dancing, one hundred and twenty-five (125) pounds

per square foot. In lobbies, passageways, stairways and corridors, one hundred (100)

In lobbies, passageways, stairways and corridors, one hundred (100) pounds per square foot.

In dressing rooms, fifty (50) pounds per square foot.

On theater stages, two hundred and fifty (250) pounds per square foot, and on assembly hall stages or platforms, one hundred and fifty (150) pounds per square foot.

In scene docks, one hundred (100) pounds per square foot.

On gridiron, seventy-five (75) pounds per square foot.

In property rooms, one hundred (100) pounds per square foot.

In attics not used for storage, twenty (20) pounds per square foot. On roofs, *** thirty (30) pounds per square foot.

Sec. 12600-31. A heating system shall be installed which will uniformly heat all parts of the building to a temperature of sixty-five (65) degrees in zero (0) weather.

Assembly halls, assembly halls built in connection with school buildings and theater auditoriums shall be provided with a system of ventilation which will change the air not less than six (6) *** room volumes per hour *** and supply not less than *** two hundred (200) cubic feet of outdoor air per *** hour for each person to be accommodated ***. Sufficient fresh air intake capacity shall be provided for the entire number of air changes required and where there is any recirculation, automatic controls shall be installed to regulate the quantity of this fresh air supply to maintain the required room temperature. A system which provides for mechanical circulation or recirculation of air and which automatically maintains the required room temperatures may be used if it conforms to the above capacity requirements. An accessible and self-contained type of unit ventilator may be used providing that it conforms to the above provisions. When this type of ventilator is used, the rate of discharge shall be at a minimum velocity of six hundred (600) feet per minule. Seating capacities *** shall be computed upon the basis established under section 12600-3 *** of the General Code. All parlors, retiring rooms, toilet rooms, check rooms and smoking rooms not having sufficient natural ventilation, shall be ventilated by a system which will change the air not less than four (4) times per hour.

No direct-indirect system shall be used where ventilation is required, and no stove or open fire shall be used in any theater, assembly hall built in connection with a school building or assembly hall.

Where ventilation is required, the fresh air supply shall be taken from outside the building above the grade line, *except where ventilation* is required for toilet rooms, in a clean and sanitary location ***. The intake shall be properly screened and drained to prevent the collection of dirt or water. Where ventilation is required for toilet rooms, no independent fresh air supply need be provided and ventilating air may be taken from corridors. Vent registers shall be provided at or near the floor line and vitiated air shall be conducted through flues or ducts to and be discharged above the roof of the building.

Floor registers exceeding one hundred (100) square inches in area shall not be used in theaters, assembly halls built in connection with school buildings or assembly halls, and no floor register shall be placed in any aisle or passageway.

No coil or radiator shall be placed in any aisle or passageway used as an exit, but said coils and radiators may be placed in recesses formed in the wall or partitions providing no part of the radiator or coil projects beyond the wall line.

Sec. 12600-32a. Toilet requirements, except requirements for drinking fountains, for assembly halls built in connection with school buildings may be those provided for school purposes if readily accessible and not more than one hundred (100) feet from such assembly hall, providing the assembly hall is used for no other purpose than assembly. If not readily accessible and more than one hundred (100) feet from the assembly hall, the requirements shall be the same as provided for assembly halls in section 12600-32 of the General Code.

Sec. 12600-35. All electrical materials and installations shall be in strict accordance with the *** "1951 National Electric Code" of "The National Board of Fire Underwriters" ***, except that all electrical wiring shall be installed in *** rigid metal conduits, electrical metallic tubing or surface metal raceways, meeting the requirements of such code.

Exit lights *** shall have not more than one set of fuses between same and service fuses.

Exit lights and all lights in halls, corridors or any other part of the building used by the audience, except the general auditorium lighting, shall be fed independently of the stage lighting and shall be controlled only from the lobby or other convenient place in front of the house.

Under "exit" lights are included lights over all stairways and tunnels leading from the auditorium, balconies or galleries, lights over every door leading from the auditorium, balcony or galleries to streets, alleys, open courts or lobbies, in fact all light as may be necessary to lead or direct the audience from the auditorium, balconies or galleries to such parts of the building as are normally kept lighted, or to streets, alleys or open courts.

Under "exit" lights are also included such lights as may be necessary to lead or direct all performers, stage employes including all persons on or about the stage, to public streets, alleys or open courts.

Every portion of the theater *******, assembly hall or assembly hall built in connection with a school building used or occupied by the public including all courts, passageways, corridors, stairways, exits and outlets from the building to streets, alleys or other public ground and necessary means of egress for performers and stage employes shall be adequately lighted during each performance and shall remain lighted until the entire audience has left the premises.

Over each exit light shall be placed a box or receptacle not less than

six (6) inches by six (6) inches by twelve (12) inches, made of twenty (20) B. & S. gauge galvanized iron or other incombustible materials of equal weight and stiffness. Each such box or receptacle shall be provided with a sign with the word "exit" in plain, block, transparent, red letters not less than five (5) inches high. Where necessary, signs shall also contain an illuminated arrow pointing to the means of egress.

Sec. 12600-37. Where a water supply of sufficient pressure is available the following standard stand pipes with lines of one and one-half $(1\frac{1}{2})$ inch hose shall be installed.

Theaters and assembly halls less than thirty (30) feet wide and less than one hundred (100) feet long, shall have stand pipes and hose placed as follows: one in the balcony, one at the rear of *the* auditorium, one on the stage and one under the stage.

Theaters and assembly halls more than thirty (30) feet wide or more than one hundred (100) feet long shall be provided with stand pipes and hose placed as follows, viz.: one in *the* auditorium; one in each balcony and gallery; one on each side of the stage; one in each fly gallery and one on each side of the basement under the stage.

The above lines of hose shall not be more than seventy-five (75) feet long, and where lines of hose of the above length will not reach the extreme portions of the building additional stand pipes and hose shall be installed.

Where water supply of sufficient pressure is available automatic sprinklers operated by fuses shall be placed over the stage and in each property room, carpenter shop and paint room. Automatic sprinkler over the stage shall be placed not more than six (6) feet from the stage walls and between these points shall be spaced in both directions and not more than ten (10) feet on centers.

Sprinklers shall be so designed as to operate at a temperature from one hundred and sixty (160) to one hundred and sixty-five (165) degrees Fahrenheit.

Where sprinkler equipment is installed as above specified no stand pipe or hose need be provided for the areas protected by the sprinklers.

Where water supply of sufficient pressure is not available, or where available is not of sufficient pressure to reach the various parts of the building for which the same is intended, in lieu of stand pipes and hose, standard chemical fire extinguishers shall be provided as follows:

In theaters and assembly halls less than thirty (30) feet wide and not more than one hundred (100) feet long, chemical fire extinguishers shall be placed as follows: one in the heater room, two on the stage, two under the stage, one in dressing room section, two in auditorium, two in balcony and one in box office. In theaters and assembly halls more than thirty (30) feet wide or more than one hundred (100) feet long, chemical fire extinguishers shall be installed as follows: two on each side of stage, two in basement under stage, two in each fly gallery, one in each property room, one in each scene dock, one to every four dressing rooms or less, one in each foyer, one in each women's and men's retiring or toilet room, and one in each auditorium, balcony and gallery to each two thousand (2000) square feet of floor space or less.

All extinguishers shall be prominently exposed to view and always accessible.

This section shall also apply to assembly halls built in connection with school buildings.

Sec. 12600-39. All aisles, foyers and passageways in assembly halls, assembly halls built in connection with school buildings and theaters shall be kept free from camp stools, chairs, sofas, and other obstructions, and no person shall be allowed to stand in or occupy any of the aisles, foyers or passageways during the performance or entertainment.

Sec. 12600-42. No roof garden, roof theater or skating rink shall be placed on the roof of any building unless the entire building is of fireproof construction, and no part of any such roof garden, roof theater or skating rink shall be placed over or above any garage ******* or any portion of the stage of an assembly hall, assembly hall built in connection with a school building or theater.

Sec. 12600-43. When an assembly hall or room of any academy, school, college, or other educational institution, or a concert hall in any club house or hotel, or the lodge room in a temple or place of assemblage of fraternal or other organizations, either for the exclusive use of the members or for the public at large, contains a stage and a limited amount of scenery as hereinafter described, such hall, room or place of assemblage shall comply with all the prescribed conditions for theaters and assembly halls, with the exception of the following modifications for the stage.

An assembly hall stage or the stage of an assembly hall built in connection with a school building with not to exceed one permanent sets of scenery and on which no transient scenery is used need not be provided with an asbestos curtain, stage ventilator or masonry prosenium wall as required for theaters. The entire set including the drop curtain shall not be more than one thousand (1000) square feet in area, except that in the case of a stage in an assembly hall built in connection with a school building the area shall be not more than three thousand (3000) square feet. *** Such sets shall be painted with a fire resistive paint as required *** in section 12600-38 *** of the General Code except fireproof scenic or decorative walls or set partitions built as a permanent part of the building, which may be of unlimited area. Otherwise such stages shall be designed, constructed and equipped as required for theaters.

An assembly hall stage with not to exceed one permanent set of

scenery and on which no transient scenery is used, but in excess of the requirements regarding the area of the permanent scenery as above stated, shall be separated from the other parts of the building as required for theaters and shall be provided with an automatic stage ventilator with an area equal to one-sixteenth (1/16) of the area of the stage floor.

Otherwise the stage shall be designed, constructed and equipped as required for theaters, and the auditorium shall be designed, constructed and equipped as required for assembly halls.

Assembly halls and auditoriums containing a stage in excess of the above requirements shall be designed, constructed and equipped as prescribed for theaters.

Sec. 12600-46. No building of grade B shall occupy more than ninety-five (95) per cent of a corner lot nor more than ninety (90) per cent of an interior lot or site.

No building of grade A shall occupy more than seventy-five (75) per cent of a corner lot nor more than seventy (70) per cent of an interior lot or site. The measurements being taken at the lowest tier of floor joists.

No wall of any building coming under this classification containing windows used for lighting school or class rooms shall be placed nearer any opposite building, structure or property line than thirty (30) feet. No exterior walls containing windows for toilet rooms and school offices shall be placed nearer any opposite building, structure or property line than twenty (20) feet.

Light courts may be used providing the least distance between any two opposite walls containing windows for the lighting of class and school rooms is equal to the height from the lowest window sill to the top of the highest opposite cornice or wall. All court walls shall be fire *** walls *** with a fire rating as described for exterior bearing walls in section 12600-10.

No light court shall be covered by a roof, skylight, or other construction.

If the areaways are used for lighting basements, the width of the area shall be not less than equal to the height from the lowest window sill to the top of the adjoining grade line.

Sec. 12600-47. Buildings of *** any classification built in connection with a building or buildings of a lower grade of construction, or a different class of occupancy, shall be separated from the other parts of the building or buildings by *** fire walls, and fireproof ceilings and floors, and all communicating openings in these walls shall be covered by *** fire doors, using a self-closing door *** or doors, as provided in section 12600-1a of the General Code. Where a single self-closing door is used for this purpose, there shall be fusible links on both sides of the opening.

All rooms or apartments used for general storage, storing of furniture, carpenter shops, general repairing, paint shops, laboratories or other equally hazardous purposes shall be constructed with fireproof walls, ceilings and floors and all openings between these rooms or apartments and the other parts of the building shall be covered by *** self-closing fire doors ***.

No open wells communicating between any two stories shall be used, except the necessary stair and elevator wells.

All exterior and court walls of buildings *** of fireproof or composite construction *** within twenty (20) feet of any other building, structure or lot line shall be fire *** walls *** with a two)2(hour fire rating and all openings shall be covered by *** fireproof doors or windows with a two (2) hour fire rating.

Sec. 12600-48. Furnaces, hot water heating boilers and low pressure steam boilers may be located in the buildings, providing the heating apparatus, breeching, fuel room and firing room are enclosed in a *** fireproof heater room *** having walls, floors and construction as provided by section 12600-1a of the General Code. All openings into the *** room shall have self-closing fire doors.

No boiler or furnace shall be located under or in direct connection with any stairway, elevator shaft or other emergency exit from the building.

No high pressure boiler shall be located within the main walls of any school building.

Sec. 12600-48a. For purposes of sections 12600-9 and 12600-48 of the General Code, a high pressure boiler shall be defined to be any boiler carrying in excess of fifty (50) pounds pressure.

Sec. 12600-49. Rooms used for school purposes may be placed not more than half the height of the story below the grade line providing they are properly damp proofed, heated and ventilated, and have the required glass area ***.

Sec. 12600-50. The minimum floor space to be allowed per person, in school and class rooms shall be an area sufficient to accommodate seats, desks and chairs used with aisle spaces as provided under section 12600-53 *** of the General Code. The floor space per person where seats are not fixed shall be figured at eighteen (18) square feet each.

Toilet, play and recreation rooms shall be not less than eight (8) feet high in the clear measuring from the floor to the ceiling line.

The height of all other rooms used for school purposes shall be not less than one-half $(\frac{1}{2})$ the average width of the room minus twelve (12)inches, and in no case less than ten (10) feet *** to the main part of the ceiling. The heights required from the floor to the top of windows may be considered as meeting the room height requirements of this section.

Where bi-lateral natural lighting is provided for schoolrooms in addition to the minimum natural lighting requirements of section 12600-54 of the General Code, and is located at least eight (8) feet from the floor of the room and in the wall opposite the main source of natural light, then the width of the room may be increased beyond the maximum permitted by this section by the following proportions: One (1) foot in extra width to each additional five (5) per cent of the minimum natural lighting requirements provided by this bi-lateral lighting and without providing corresponding additional height to the top of windows. There shall be a minimum of fifteen (15) per cent of such lighting used in this calculation of additional room width.

In laboratories, drafting rooms, domestic science rooms, manual training rooms and shops, lighted from two or more sides or by means of skylights, with not less than one (1) square foot of glass area to each five (5) square feet of floor area, the requirement for *** relative location of window tops to room width may be disregarded. The plans shall be clearly marked showing the maximum number of pupils or persons to be accommodated in each room.

Sec. 12600-52. A room seating or accommodating more than one hundred *** and fifty (150) persons shall be considered as an assembly hall built in connection with a school building.

No such assembly hall in a building of grade A shall be located above the second story in a building of fireproof construction, nor above the first story in a building of composite construction.

Otherwise such assembly halls shall be constructed and equipped as called for under part 2, title 1.

Sec. 12600-54. There shall be provided not less than one (1) square foot of glass area to each five (5) square feet of floor area in each class, study, recitation, school room and laboratory *** where the nearest wall or adjacent property line is less than one hundred (100) feet away. Where the nearest wall, adjacent property line or nearest possible building line is one hundred (100) feet or more away and a minimum of fifteen (15) foot candles of artificial light is provided at desk top level, there shall be a minimum of one (1) square foot of glass area to each six and one-half (δ_2) square feet of floor area. There shall be not less than one (1) square foot of glass area to each eight (8) square feet of floor area in each domestic science, manual training room or shop. Each gymnasium, play, recreation and toilet room, shall have not less than one (1) square foot of glass may be omitted in gymnasiums and band rooms when a minimum of eight (8) foot candles of artificial light is provided at floor level and ventilation is provided and maintained as required for assembly halls built in connection with school buildings.

Area of windows shall be taken above thirty-four (34) inches from the floor for grade A buildings and above thirty-six (36) inches from the floor for grade B buildings.

Windows shall be placed either at the left, or the left and rear of the pupils when seated, except in laboratories, drafting rooms, domestic science rooms, manual training or other rooms in which desks, benches, tables or machines can be placed to secure proper lighting otherwise. In no case shall more than fifty (50) per cent of the light be placed at the rear of the pupils when seated.

Tops of windows shall be placed above the finished floor line at a height equal to not less than half the average width of the room minus *** twelve (12) inches except as otherwise provided in this section and section 12600-50 of the General Code. The minimum height to the tops of the windows shall be nine (9) feet and nine (9) inches above the floor. The width of the room shall in every case be measured at right angles to the principal source of light. The windows in the side wall shall be considered as producing the principal source of light.

Lecture rooms shall have a minimum of one (1) square foot of glass area to each ten (10) square feet of floor area. The restrictions as to relative room width, to the height to top of windows mentioned in the preceding paragraph, shall not apply to said rooms.

The width of class, study, recitation, school rooms, and laboratories may be increased in the proportion of one (I) foot in width for each ten (IO) per cent increase of net glass area beyond the minimum requirements of this section and without corresponding increase in the height to the tops of the windows.

Clerestory natural light areas may be used for room lighting provided: (1) they are parallel to and facing in the same direction as the source of primary light, primary light being the light from the windows in the exterior walls, (2) at least two-thirds $(\frac{2}{3})$ of the required window area is provided by the primary source of such light, and (3) the inside face of the clerestory light area is located within the middle one-fifth $(\frac{1}{5})$ of the room width. The width of class, study, recitation, school rooms, and laboratories, with clerestory lighting providing at least one-third $(\frac{1}{3})$ of the natural light requirements, shall not exceed twice the height from the floor to the clerestory windows plus ten (10) per cent of this amount.

*** Except for such clerestory windows, all windows shall be placed in the exterior wall of the building, except for halls, corridors, stock and supply closets which may be lighted by ventilated skylights or by windows placed in interior walls or partitions. Museums, libraries, art galleries, laboratories, drafting rooms, domestic science rooms, manual training rooms and shops may be lighted by skylights or clerestory

windows.

Sec. 12600-54a. Light directing glass block consisting of partially evacuated hollow units of glass, produced by fusing two sections of pressed glass together at elevated temperatures, and capable of directing fifty (50) percent or more of the transmitted light in an upward direction under all conditions may be used in lieu of flat glass areas required by section 12600-54 of the General Code, provided that the installation of such glass block starts at a minimum of five (5) feet nine (9) inches from the floor and provided that the gross area of such glass block panels in relation to the floor area shall be fifteen (15) percent greater than that required for the gross flat glass areas.

Glass block, other than the light directing type, consisting of partially evacuated hollow units of clear colorless glass produced by fusing two sections of pressed glass together at elevated temperatures, may be used in lieu of flat glass areas required by section 12600-54 of the General Code; provided the gross area of such glass block panels in relation to the floor area shall be twenty-five (25) percent greater than that required for the gross flat glass areas.

Where natural lighting in the form of exterior windows or skylights, or both is required, there shall be provided a minimum of ventilation openings in such windows or skylights equivalent to twenty-five (25) per cent of the required glass area.

Sec. 12600-55. All means of egress from the building shall be by exit doors placed in exterior walls and swing outward only.

Grade A buildings of fireproof construction. Means of egress from rooms in the basement and superstructure shall be in proportion to three (3) feet in width to each one hundred (100) persons to be accommodated in buildings accommodating not more than five hundred (500) persons.

When buildings accommodate from five hundred (500) to one thousand (1000) persons, two (2) feet additional exit width shall be provided for each one hundred (100) persons or fraction thereof in excess of five hundred (500) persons.

When buildings accommodate more than one thousand (1000) persons one foot additional exit width shall be provided for each one hundred (100) persons or fraction thereof in excess of one thousand (1000) persons, but in no case shall an exit be less than three (3) feet or more than six (6) feet wide.

Means of egress from each room in the building may be by exit doors leading directly to the corridors and all such doors shall be so arranged that there are no pockets or dead end corridors beyond any stairway or other means of egress from the building.

Grade A building of composite construction. Each room in the superstructure used by pupils as a class or school room, shall have at least two separate and distinct means of egress.

No class, school or high school room shall have more than one door or opening between it and the main halls or corridors of the building.

Communicating doors between two class or school rooms shall not be considered as a means of egress.

The proportion of exits to the seating capacity shall be not less than three (3) feet to each one hundred (100) persons to be accommodated.

One exit door from each room shall lead to the main corridor and all other exits shall lead to *** inclosed fireproof stairways.

All such exits not more than eight (8) feet above the grade line may lead to fireproof outside steps or stairs and thence to the grade. In no case shall an exit be less than three (3) feet or more than six (6) feet wide.

Each room in the basement used by the pupils shall have a direct exit not less than three (3) feet wide, with stone, cement or iron stairways leading up to the grade line. Stairways shall be not less than three feet six inches (3' 6'') wide.

Areaways around such stairways shall have substantial hand and guard rails on both sides.

These exits shall be provided in addition to the usual service stairways and means of ingress.

Grade B buildings of fireproof or composite construction. Each room or apartment used for any purposes other than storage shall have two separate and distinct means of egress.

Means of egress from each room in the building may be by exit doors leading directly to the corridors, and all such doors shall be so arranged that there are no pockets or dead end corridors beyond any stairway or other means of egress from the building.

Egress from the building shall be by means of fireproof stairways or steps leading directly to the grade line from each story in the building or through sclf-closing fire doors through a fire wall and leading directly to the main corridor of an adjoining section of the building with direct access to the grade.

Means of egress shall be at the rate of three (3) feet per hundred (100) persons to be accommodated.

It shall be assumed that the persons in the building shall be distributed to the various means of egress.

In libraries, museums and art galleries, the capacity of the building shall be established by allowing to each person fifteen (15) square feet of floor area in all exhibition rooms, reading rooms and other public parts of the building. Grade *** B. Buildings of frame construction. Each room shall have at least, two three (3) feet exits; one leading to the open with steps to the grade, and the other the usual means of ingress; and all steps shall have hand rails on both sides.

Over each exit door shall be painted a sign indicating the word "EXIT" in plain block letters not less than six (6) inches high.

Sec. 12600-56. Grade A. Buildings of fireproof construction. Buildings of fireproof construction shall have at least two stairways located as far apart as possible and the same shall be continuous from the grade line to the topmost story.

The basement shall have at least two stairways located as far apart as possible and run from the basement floor level to the grade line, which stairway may be placed under the main stairway. No further means of egress will be necessary.

The basement stairs shall be enclosed with walls of two (2) hour fire rating and with inside stair openings of one and one-half $(1\frac{1}{2})$ hour fire rating. Stair walls above the basement shall have a one (1) hour rating. The stairs and landings shall be of non-combustible construction.

Grade A. Buildings of composite construction. Basement stairways shall be enclosed with *** non-combustible walls of one (1) hour fire rating and with stair openings of one (1) hour fire rating.

The width of stairways required under this classification shall be equally divided, one-half being placed in the main service stairways and the other half in the enclosed fireproof stairs or fire escapes.

Grade B. Buildings of fireproof construction. ***

The basement stairs shall be enclosed with walls of two (2) hour fire rating and with inside stair openings of one and one-half $(1\frac{1}{2})$ hour fire rating. Stair walls above the basement shall have a one (1) hour fire rating.

In buildings more than three (3) stories in height the stairwell shall be enclosed and separated from the building corridor by *** self-closing fire doors of one (1) hour fire rating in each story *** above the basement. ***

Stairways shall be provided with grade line platforms with exit doors not less than three (3) feet wide leading to streets, alleys or open courts.

Grade B. Buildings of composite construction. In buildings of composite construction the stairways shall be separated from the other parts of the building by *** walls of one (1) hour fire rating with fireproof ceiling at the topmost story, with fireproof floor at the lower-most level, and all openings to these enclosures shall *** have fire doors having a fire rating of one (1) hour.

The above enclosures shall be provided with grade line platforms, and with exit doors not less than three (3) feet wide leading to streets, alleys or open courts.

Monumental stairs from the basement to the second story may be used in buildings of grade B, providing they are placed as far distant from the other stairways as possible.

Width of stairways shall be at the rate of three feet per hundred (100) persons accommodated in buildings accommodating not more than five hundred (500) persons, when *a* building accommodates from five hundred (500) to one thousand (1,000) persons two feet of additional stairway width shall be provided for every one hundred (100) persons or fraction thereof in excess of five hundred (500), when buildings accommodate more than one thousand (1,000) persons, one foot additional stairway width shall be provided for every one hundred (100) persons or fraction thereof in excess of one thousand (1,000) persons, one foot additional stairway width shall be provided for every one hundred (100) persons or fraction thereof in excess of one thousand (1,000) persons.

No stairway shall be less than three (3) feet nor more than *** $six (\delta)$ feet wide in the clear measuring between the hand rails. Stairways over six (6) feet wide shall have substantial center hand rails not less than three (3) feet in height. No inside or outside stairway or fire escape shall have less than *** two (2) nor more than eighteen (18) risers in any run.

No stairway shall have winders and all treads shall be of uniform width. Stairways, stair platforms, landings and exit doors shall not be decreased in width in the direction of exit travel and a uniform width shall be maintained by rounding or beveling corners and angles.

Hand rails shall be provided on both sides of all stairways and steps. Outside stairways and areaways shall be provided with guard rails not less than two feet six inches (z' 6'') high.

All stairways and steps shall have a uniform rise and tread in each run. No riser to be more than seven (7) inches in height and no tread to be less than ten (10) inches in width exclusive of the nosing, measured from tread to tread and from riser to riser.

No door shall open directly upon a stairway, but shall open on a platform or landing equal in length to the width of the door.

No closet or storage space shall be placed in, under, over or in connection with any stairwell or stairs. Stair treads shall be covered with approved material to prevent slipping or tripping.

Sec. 12600-57. **

Gradients shall be of six (6) feet or more in length and shall not be of over one (1) inch rise to ten (10) inch run without hand rails and one (1) inch rise to eight (8) inch run if provided with hand rails as required for stairs.

Floors at all exits shall be so designed as to be level and flush with the adjacent floors.

Sec. 12600-59. Elevators shall be enclosed in *** fireproof shaft walls, or by fireproof walls, ceilings and floors, and all openings to the enclosures shall be covered by *** fire doors for elevators.

Not more than one elevator shall be placed in any one shaft.

Thresholds to elevator shaft openings shall be of non-slip material.

All elevator doors shall have electrical interlocking attachments to prevent doors being opened, unless car is at floor level, and all cars are to be equipped with electrical interlocking safety gates.

All rules and requirements of the industrial commission of Ohio, relating to elevators, shall be complied with.

Sec. 12600-61. Every building *** having a flat roof or attic shall have *** a bulk-head or scuttle not less than two (2) feet wide and not less than three (3) feet long, covered on the outside with metal and provided with a stairway or permanent ladder leading thereto.

Bulk-head and scuttle doors shall never be locked.

Sec. 1.2600-63. In calculating *** construction, the *** live load uniformly distributed on the various floors and roofs shall be assumed at not less than the following, viz.:

Classrooms, sixty (60) pounds per square foot.

Halls, assembly halls built in connection with school buildings, stairs and corridors, eighty (80) pounds per square foot.

Museums, libraries and art galleries, one hundred (100) pounds per square foot.

Attics not used for storage, twenty (20) pounds per square foot. Roofs, *** thirty (30) pounds per square foot.

Sec. 12600-64. A heating system shall be installed which will uniformly heat all corridors, hallways, play rooms, toilet rooms, recreation rooms, assembly rooms, gymnasiums and manual training rooms to a uniform temperature of 65 degrees in zero weather; and will uniformly heat all other parts of the building to 70 degrees in zero weather.

Rooms with one or more open sides used for open air or out door treatment need not be heated.

A system of ventilation shall be provided for the supplying of pure fresh air to all parts of the building except the corridors, halls, heater rooms, fuel rooms and storage closets. Rest rooms, offices and other rooms not greater than two hundred (200) square feet in area need not be ventilated.

The ventilating system shall be capable of supplying not less than six (6) *** room volumes of air per hour and shall provide for the positive introduction of outdoor air at the minimum rate of two hundred (200) cubic feet per occupant per hour. Sufficient fresh air intake capacity shall be provided for the entire number of air changes required and where there is any re-circulation automatic controls shall be installed to regulate the quantity of this fresh air supply to maintain the required room temperatures. A system which provides for mechanical circulation or re-circulation of air and automatically maintains the required room temperature may be used if it conforms to the above capacity requirements. The system shall provide the above requirements in each study, class, recitation, assembly, laboratory, and other room used for instruction purposes *** In all other parts of the building not otherwise excepted ***, the system shall provide not less than three (3) complete changes of air per hour.

The ventilating system to be installed where required, shall be a gravity, indirect or mechanical indirect system, or a unit ventilating system except that in one story buildings with not to exceed four (4) school or class rooms standard ventilating stoves may be used.

Where wardrobes or lockers are in the class room they shall be considered a part of the class room and the vent register shall be placed in the wardrobe or lockers *where possible*.

The bottom of warm air registers shall be placed not less than (8) feet above the floor line, except that unit ventilators with a substantially vertical discharge may have the outlet not less than twenty-four (24) inches above the floor and floor registers may be placed in corridors or lobbies. An accessible and self-contained type of unit ventilator may be used providing that it conforms to the above provisions. When this type of ventilator is used, its air delivery capacity shall not exceed fifteen hundred (1500) cubic feet per minute and the rate of discharge shall be a minimum velocity of six hundred (600) feet per minute.

Vent registers shall be placed not more than six (6) inches above the floor line, except in rooms where no direct supply of fresh air is required.

The fresh air supply shall be taken from the outside of the building, except where ventilation is required for toilet rooms, in a clean and sanitary location above the grade line. *** The intake shall be properly screened and drained to prevent the accumulation of dirt and water. Where ventilation is required for toilet rooms, no independent fresh air supply need be provided and ventilating air may be taken from corridors. The vitiated air shall be conducted through flues or ducts to and be discharged above the roof of the building.

A hood shall be placed over each and every stove in the domestic science room, over each and every compartment desk or demonstration table in the chemical laboratories and chemical lecture rooms, of such a size as to receive and carry off all offensive odors, fumes and gases.

These ducts shall be connected to vertical ventilating flues placed in the walls and shall be independent of the room ventilation as previously provided for. Where electric current is available electric exhaust fans shall be placed in the ducts or flues from the stove fixtures in domestic science rooms and chemical laboratories, and where electric current is not available and a steam or hot water system is used, the main vertical flues from the above ducts shall be provided with accelerating coils of proper size to create sufficient draught to carry away all fumes and offensive odors.

Sec. 12600-65. Where a water supply and sewerage system are available sanitary equipment shall be installed as follows:

In the superstructure of the building one (1) sink and one (1) drinking fountain shall be installed on each floor to each six thousand (6000) square feet of floor area or less.

In the basement one (1) sink and one (1) drinking fountain shall be installed on the males' side, and the same on the females' side, to each three hundred and fifty (350) pupils, or less.

Sinks shall be the ordinary slop sinks, in lieu of which lavatories may be used providing the waste plug or stopper has been removed.

Sanitary drinking fountains shall be installed, and no tin cups or tumblers shall be allowed in or about any school building.

In libraries, museums and art galleries there shall be provided the following fixtures, viz.:

One water closet to each one hundred (100) females, or less.

One water closet to each two hundred (200) males, or less.

One urinal to each two hundred (200) males, or less.

The above to be based upon the actual number of persons to be accommodated, the capacity *** being established as prescribed under section *** 12600-55 of the General Code.

In all other school buildings there shall be provided the following fixtures, viz.:

Water closets for males shall be installed in the following proportions: For the first one hundred (100) male pupils, one water closet for

each *** fifty (50) male pupils or fraction thereof.

For all exceeding *** one hundred *** (100) male pupils, one water closet for each seventy-five (75) male pupils or fraction thereof.

Urinals for males shall be installed in the following proportions:

*** One urinal for each thirty (30) male pupils or fraction thereof.

Water closets for females shall be installed in the following proportions:

For the first one hundred (100) female pupils, one water closet for each *** twenty (20) female pupils *** or fraction thereof.

For all exceeding *** one hundred *** (100) female pupils, one water closet for each *** thirty-five (35) female pupils or fraction thereof. ***

Toilet accommodations for males and females shall be placed in separate rooms, with a traveling distance between the entrance doors of not less than twenty (20) feet ***, except that separate toilets for males and females directly off classrooms used exclusively for primary grades, up to and including the second grade, may have the entrance doors adjoining one another.

Juvenile or short closets shall be used for primary and grammar grade schools. This does not apply when latrine closets are used.

In buildings accommodating males and females it shall be presumed that the occupants will be equally divided between males and females.

Where water supply and sewerage systems are not available no sanitary equipment shall be installed within the building, but pumps in lieu of drinking fountains, closets and urinals in the above proportions shall be placed upon the school building grounds, and no closets or urinals shall be placed nearer any occupied building than fifty (50) feet.

Where pumps or hydrants are used the outlet shall be inverted.

Buildings more than three (3) stories in height shall be provided with toilet rooms in each story and basement, and in these shall be installed water closets and urinals in the above required ratios in proportion to the number of persons to be accommodated in the various stories.

Toilet rooms for males shall be clearly marked "BOYS" or "MEN" and for females "GIRLS" or "WOMEN."

Sec. 12600-67. *** All electrical materials and installations shall be installed in accordance with the provisions of section 12600-35 of the General Code.

All stairways, corridors, passageways, hallways and other parts of the building used as a means of ingress or egress shall be adequately lighted by artificial light at all times when the building is occupied after dark. Such lights shall be controlled by switches accessible only to those in authority.

Assembly halls *** built in connection with school buildings shall be provided with exit lights according to section 12600-35 of the General Code. All class rooms shall have not less than fifteen (15) foot candles of artificial lighting computed at desk top level.

Sec. 12600-69. Standard stand pipe and hose shall be provided in each story and basement of grade A buildings and in each story and basement of grade B buildings with sufficient length of one and one-half $(1\frac{1}{2})$ inch hose to reach any part of the story.

Hose lengths shall be not more than seventy-five (75) feet, and (continued in back of book)

THE DANGER OF SURVIVAL

(Continued from page 34)

sure there is no need to relocate the capitol. No enemy would bomb Washington and deliberately end all that confusion.

Historians can point to, and debate with intense interest, the various facets and comparative qualities of town planning as exemplified in the early days of London, Paris, Frankfort on Main, Rotterdam and Amsterdam.

Of these Amsterdam is one of the few cities of our times which shows a continuous tradition in town planning, unbroken since 1900. This uninterrupted building activity is particularly important for our purposes this evening, since it affords us a view over a long period of development.

Town planning in Amsterdam operated within the realm of what was really possible. There were no erratic developments, no Utopian enterprises—there was only sensible and steady progress. The method behind the work can only be termed analytic. Both progress and mistakes were made by slow stages at Amsterdam.

In the interval between 1900 and 1920 the population increased by 50%. It was in this period that the maximum building activity took place. For what classes were these buildings raised? The early London squares were for the gentry. The middle classes were the chief objects of Haussman's boulevard building in Paris. In Amsterdam the building activity was carried on in the interest of the lower middle class and the working people.

The impetus for all of this came from the Dutch Housing Act of 1901. "This enactment," to quote from the Harvard City Planning Studies, "is perhaps the most comprehensive single piece of legislation ever to be adopted in this field. Its eleven chapters provide the essentials of a complete attack upon the national problems."

The general plan for the future development of the city was prepared by a joint commission of architects and the Department of Public Works. A careful and sane analysis was made of all those factors which determine the social and economic makeup of a city.

For example, the recreational needs of the future population were studied in detail. It was found that people make little use of any parks farther than one quarter of a mile from their homes. The maximum distance between any two parks has, therefore, been limited to a half mile. Such planning is consciously proportioned to the human scale. It moves in the direction of those "playgrounds at the doorstep" which Corbusier has proclaimed as one of the fundamental requirements of city planning.

I wish time permitted us to examine the entire plan. Suffice it to say, in the steady progress of realizing this scheme, only conditions actually in force – and those which calculation established as most probable–were taken into consideration. All measures so far adopted have been approved by the later course of events. It was not, on the other hand, a Utopian plan. Mistakes were made; compromises ensued; but a steady and visible progress was made. Life has filled out and diversified the original plan the way a river occupies and shapes its bed. This is always the inevitable result of a total concept which is based on freedom and flexibility.

Speaking of freedom, I believe our best hope of keeping it lies in a clearer realization of the limitations as



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well as of the advantages of our system of private enterprise. We have scarcely begun to explore the possibilities of a partnership between government and private enterprise. To the contrary, many rugged individualists are adamant in feeling like the famous admiral who said "We have just begun to fight." However, the nation might benefit greatly by the adoption of the earthly philosophy, "if you can't beat 'em—join 'em!" And as long as the government already participates with its hand so deep in our cash registers, we may as well legalize the relationship.

If we could think of government as the partner rather than as the truant officer of business, we may be able to devise a procedure that relies more on incentive than it does on compulsion. The proper incentives could stimulate the best qualities of private business, instead of restraining it by endless regulations. The task will not be easy! But is that a sufficient reason for not attempting it?

Nor is it easy to secure creative action. Yet it is virtually necessary. Decentralization, as we now see it, affects not only the locality and the surroundings of the city, itself but also the whole state, the region, even the whole nation. This broad field must now be included in our planning. Local, state, or regional planning can be adequate only if it is related to national planning. National planning must develop according to comprehensive principles, in which local and regional planning are interrelated parts.

A broad concept of our task would enable us to find, not only the right location for the decentralized industries, their settlements and their related agricultural areas, but also the best routes for power lines and transportation systems; we could discover new and better ways for the use of land and water; for the development and conservation of local, regional, and national resources.

Every city has its zone of influence, the area where live people who work within its boundaries. The larger the city, the more its zone of influence expands. Interurban tracks at first, and later the automobile, have provided the means of transportation within this zone. As transportation has advanced, settlement of such areas has increased. The tendency toward decentralization, the exodus from the city, is manifest in every large growing city.

However, because the growth of these suburban areas has been planless, a disorganized and chaotic suburbanization has resulted, uneconomic and unsatisfactory to the population.

As people leave the city because conditions become unfavorable for good living there, so also do industries seek more convenient locations for their plants outside the city limits. Their movement, like the movement of the population, is proceeding without plan or foresight. This planless decentralization of industry is even more dangerous than the random flight of residents to outlying areas. In a very short time, it will produce outside the city, the same unfavorable conditions of smoke, soot, fumes and snarled traffic, which now prevail within it.

Such a planless suburbanization must unquestionably be put under control. The zone of influence of the city, as well as the city itself, must be replanned. Even the replanning of this influence zone may not be enough. It becomes evident, as we study our problem more deeply, that adequate solutions can be reached only when planning extends to the entire region, of which the city and its zone of influence is only a part.

The nation needs its urban industrial centers and its agricultural areas, both working together. To render



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such cooperation possible and efficient, we need national planning, superimposed upon the planning of city, state and region. Only national planning can link together the different functions of different areas and relate them to their respective importance.

Plan we must, not only economically, but always and primarily for the benefit of man. We should always bear in mind that at the center of all things is man—man who creates everything, and for whom everything is created. Our real problem is life itself. Agriculture, industry, and transportation are important only as they contribute to the richness and fullness of life. We should *plan* to make this world a better place in which to live. And there is nothing wrong with this country that cannot be cured by a good dose of unselfishness.

"In a philosophical sense, the goal of city planning should be the fulfillment of 'life, liberty, and the pursuit of happiness.' Our forefathers were careful to guarantee life and liberty, but equally careful not to guarantee happiness—only the *pursuit* of happiness. If we gave the people of our nation the proper environment, the proper distribution of those things which are presumably free—the sun and the air—we would be well embarked on the road to eliminating some of the malignancies upon which socialism and communism are born and fed. Upon us rests the principal responsibility for these environments—both physical and psychological. As architects, everything we do directly affects the cond tions surrounding the living, labor and leisure of our people.

"In conclusion, therefore, I recommend for your consideration the passage of a National Community Planning Act, which would require every community of 10,000 or more inhabitants to devise a plan encompassing its future expansion. In order to recognize that continued growth inevitably results in changed requirements, the community plan should be revised every ten years. To accomplish this, our primary need is not money but direction. Across the United States there exists countless agencies responsible for various aspects of city planning and development. We have plenty of brain power but not enough co-ordination.

We must recognize that the present emergency is very likely to be an extremely long one. The distribution and use of present building materials; the use and substitution of new materials; the revision of outdated city codes governing the use of materials; the plans affecting the cities' use of these materials all should become part of a national, coordinated effort.

Obviously, we can not have a *uniform* development plan applicable to all communities, but we can have a *common denominator* in conception, cooperation, and courage.

And speaking of course, we must not allow the shadow of atomic war to dim our eyes. As architects, we must not accept the fatalistic attitude so prevalent today. For myself, I have no patience with the fearful who cry out "Atomic war will be the end of civilization." Actually, nothing but a power mightier than man will ever end civilization.

Of course atomic war will be fiery beyond imagination! Cities will be obliterated. Some of us will die some of us will live. It is upon the survivors the world must depend for leadership.

It has ever been thus. Civilization as we know it today is born of the trials and tribulations of yesterday. All through the ages, the cities of the world have been ravaged by fire, earthquakes, plagues, and devastating warfare. Each time, out of the ashes, the survivors have built anew. Even the motto appearing on the great seal



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of the city of Detroit empraises "out of the ashes, build anew."

Today many cities of the world are repairing the ravages of one war, while simultaneously anticipating destruction from a new war. In this country our cities did not have the wrath and destruction of war dumped directly upon them. While this is a blessing, it nonetheless leaves open to question the resiliency of our national character. If atomic warfare should rain down upon us, we must hope and pray for the strength to rebuild for tomorrow. To plan for that tomorrow, is our assignment today. For this, architecture will need great individualists-thinkers, planners, and do-ers. For the only 'danger of survival' would be our failure to prepare for it.

We are now going through the test period of our civilization. The world is filled with uneasiness and unrest. Almost each day, one crisis is superimposed upon another. For at least the next decade, the strength and resiliency of our national character will be sorely tested.

Yet I know we will find the spirit and strength to build and rebuild-to prove in every way that America is truly a great nation-to show that in a very real sense, democracy is a living, breathing, dynamic force, which will carry the world safely through these perilous times.



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- Shelton, Jesse M., 706 Bona Allen Bldg., Atlanta 3, Ga. Shepherd, Thomas E., 1345 Hillcrest Ave., Cincinnati 24 Sherman, Philip T., 650 W. First St., Defiance Shilling, William K., Box 172, Mt. Pleasant, Ohio Shimmon, Karl V., 872 Eloise Drive, Cleveland 12 Shively, Chester H., 4001/2 Croghan St., Fremont Shoemaker, M. M., Jr., 225 West Eugenie St., Chicago, Ill. Shorr, Bernard Shorr, 714 S. Crescent Ave., Cincinnati (29) Shupe, Hollie W., Rm. 310 Brown Hall, Ohio State Univer-sity, Columbus 10 Sibert, Edward F., 114 5th Ave. New York (11) N Y 1133 889
- 719
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- sitty, Columbus 10 Sibert, Edward F., 114 5th Ave., New York (11) N. Y. Sidells, Arthur F., 2660 South St., S. E., Warren Siebenthaler, George, 3001 Catalpa Drive, Dayton 5 Siegel, William A. (Mueller, Hair & Hetterich) Anthony Wayne Hotel Bldg., Hamilton 1319
- Siemens, Barbara Wolfe, 9559 Longwood Dr., Chicago 43, Ill. Silsbee, Ralph S. (Silsbee and Smith) 22 Turner Bldg., 1565 267 Elyria, Ohio
- 905
- Simon, Sanford, 1000 Wayside Rd., Cleveland (10) Simpson, Russell S. (Conrad, Hays, Simpson & Ruth) 1110 479 Hanna Bldg., Cleveland 15 Sims, Dan Williams, 4204 Alentangy Blvd., Columbus Sims, Ray (Sims, Cornelius and Schooley) 2901 N. High 1903
- 690
- St., Columbus (2) 1712
- St., Columbus (2) Sinclair, Robert E., 370 E. Torrence Rd., Columbus Skidmore, Louis (Skidmore-Owings-Merrill) 575 Madison Ave. New York (22) N. Y. Skolnik, Louis, 309 Perry-Payne Bldg., Cleveland 13 Skubic, Leroy F., 53 W. Jackson Blvd., Chicago 4 Sloctemyer, Edward H., 3113 Phillips Ave., Cincinnati 5 Small, Keppel O., 22 E. High St., Oxford Small, Philip L. (Small, Smith, Reeb) 1010 Euclid Ave., Cleveland (15) 1411
- 517
- 1751
- 446 1128
- 152
- 451
- 1533
- 1886
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- 691
- Small, Philip L. (Small, Smith, Reed) 1010 Euclid Ave., Cleveland (15)
 Smith, Alva C., Turner Bldg., Elyria, Ohio
 Smith, Benjamin L., 101 Park Ave., New York 17, N. Y.
 Smith, David H., 69 W. Delaware Pl., Chicago (10) Ill.
 Smith, Ellasson R., 836 W. Stroop Rd., Dayton 9
 Smith, Frank F., 302 Schween-Wagner Bldg., Youngstown 3
 Smith, Frank F., Jr., 302 Schween-Wagner Bldg., Youngstown 3 1706
- Smith, George C., (Small, Smith & Reeb) 1010 Euclid Ave., (Rm. 709) Cleveland 15 157 1875
- Smith, George T. (Kling and Frost) 339 West Judson Ave., Youngstown (11) 1085
- Smith, Harry Lee (Bellman, Gillett & Richards) 518 Jeffer-son Ave., Toledo 4, Ohio 130
- Smith, Howard Dwight, Brown Hall, Ohio State University, Columbus 10 1735
- 1545
- 1452
- Smith, Commons 10 Smith, Keener G. (J. W. Green) 159 Main St., Painesville, O. Smith, Livingston, 1520 Locust St., Philadelphia 2, Pa. Smith, Perry Coke, 101 Park Ave., New York 17, N. Y. Smith, Robert, Jr., Rt. No. 2, Hobart Rd., (Kirtland) Will-845 oughby Smith, Robert Earl, 834 Main St., Hamilton Smith, Warren L., 167 E. State St., Columbus 15, Ohio 512
- 1638
- 1884 Smith, Wiliam Jones (Childs and Smith) 20 N. Wacker Drive, Chicago (6) Ill.

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- 1933 Snyder, Leon R., Jr., 38 N. Washington Ave., Ba Michigan
- 1824 Snyder, Philip D. (Ralph H. Harmon) 414 South Belmont St., Springfield, Ohio
 1494 Sobel, Herbert, 646 N. Michigan Ave., Chicago 11, Ill.
 1516 Sobel, Walter H. (J. Stewart Stein) 737 N. Michigan Ave.,
- Chicago (11) Ill. Solomon, Howard, 590 Tod Lane, Youngstown (4) Ohio Sommer, Charles B., 1448 W. Henderson St., Chicago (13) 1354
- 1932 Illinois
- 615 Sonnhalter, John E., 1315 Avondale Rd., (So. Euclid) Cleveland 21
- 1043 Spagnuls, Joseph E., (Dept. of Arch.) Carnegie Inst. Tech. Pittsburgh 13, Pa.
- Spahn, Ronald A. (Spahn & Barnes) 12429 Cedar Road, 1172 Cleveland 6
- Spangler, Robert C., 2055 Arlington Ave., Columbus (12) Spencer, Meade A. (C. B. Rowley) 2008 Keith Bldg., Cleve-1930 304 land 15
- Spiers, Donald M., 914 Main St., Cincinnati (2) 1768
- Spies, Donald G. (R. R. Royce) 2152 Riverside Drive, 1358 Columbus (12)
- Spieth, Otto A. (Leavitt & Spieth) 1031 Schofield Bldg. 1178 Cleveland 15
- Spissman, Fred J., 13115 Bellaire Blvd., Cleveland Spitzig, Francis A., 19115 Detroit Rd., Rocky River, Cleve-land (16) 859 1605
- Stanhope, Leon E., 400 N. Michigan Ave., Chicago 11, Ill. 1548
- Stanton, William M., Berwin St., Akron 1556 Starbuck, Edwin Paul, (Kenwood) 7784 Montgomery Rd. 1316
- Cincinnati 36 692
- 1869
- Stark, Charles H., Jr., 2960 Jermain Dr., Toledo 6 Stark, Donald H., P. O. Box 548, Mount Hope, West Va. Starr, Arthur P., 1223 Conn. Ave., N. W., Washington 6, D. C. 1489
- 235
- 1726
- 1242
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- 1536
- Starr, Arthur P., 1223 Conn. Ave., N. W., Washington 6, D. C.
 Stedman, Claude W., Mt. Pleasant, Utah
 Steffiian, Edwin T., 161 Devonshire St., Boston (10) Mass.
 Stegmiller, George J., 2660 Berwyn Rd., Columbus (12)
 Stein, J. Stewart, 737 N. Michigan Blvd., Chitago (11) Ill.
 Steiner, Charles F., Jr., 387 Homewood Ave., S. E., Warren
 Steinle, William J., 350 Kenilworth Ave., Dayton 5
 Steinmark, Arthur N., 922 Empire Bldg., Pittsburgh 22, Pa.
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- Stevens, Dwight Elton, 205 Willis St., Stillwater, Okla. Stevens, Dwight Elton, Arch. Dept., A. & M. College, Still-822 822
- water, Okla. Stewart, Budd A., 135 W. Wooster St., Bowling Green 415
- Stewart, James R., 514 Main St., Cincinnati 2 Stickle, George W. (Stickle-Kelly-Stickle) 2422 Prospect Ave., 291 1262 Cleveland (15)
- Stickle, Robert W. (Stickle, Kelly & Stickle) 2422 Prospect 1525 Ave., Cleveland 15
- 682
- Stine, Sidney L., 2333 Scottwood Ave., Toledo 10 Stith, Joseph E., 561 Reading Rd., Cincinnati 2 729
 - land 15 Stitt, Edwin M., 2008 Keith Bldg., Cleveland (15)
- 778
- Stock, Joseph J., 3800 Terminal Tower, Cleveland 13 Stockdale, Reed F., University of Cincinnati, Cincinnati 21 Stohldrier, William C., 127 Parkway Road, Bronxville (8) 941 885
- 1531
- New York Stone, Oliver M. (Case Institute of Tech) Euclid Ave. 1126 Cleveland 6
- Stophlet, Robert T., 2432 Himebaugh Ave., Omaha, Nebr. 435
- 1550

- Strauss, Alvin M., 415 Cal-Wayne Bldg., Ft. Wayne (2) Ind
- 1327
- Tower, Cincinnati (2)
- 1744
- 1743
- 227
- Strong, James W., 705 Cook Tower, Lima Strong, Lyman, Jr., 705 Cook Tower, Lima Strong, Lyman T., 705 Cook Tower, Lima Stryker, Paul V., 3339 Queen City Ave., Cincinnati (11) Sullivan, Clyde W. (Grunkemeyer & Sullivan) 3717 Eastern 396
- Sullivan, John, Jr. (W. Ray Yount) 419 Third Natl. Bldg. 1164
- Summersett, Harold C., (Garfield Hts.,) 12333 Darlington 621 Ave., Cleveland 25
- 350 Suppes, John F., 55 E. Mill St., Permanent Bldg., Akron &
- 1039 Surmann, John F., 1204 Everett Dr., Dayton (7) Ohio
- 1576 Suter, Warren C., P. O. Box 255, Mission, Texas

Stophet, Robert 1., 2432 Himebaugh Ave., Omaha, Nebr. Stotz, Charles M., 801 Bessemer Bldg., Pittsburgh 22, Pa. Stough, Robert E., 3311 Middlesex Dr., Apt. D., Toledo Stoutenburg, A. W., 3 St. Clair St., Norwalk, Ohio Stoutenburg, A. W., Stoutenburg Park, Norwalk Stowe, William A. (U. S. Army) 3710 Salem Ave., Dayton (6) Ohio 1916 1073 1073

- 1194
- 961
- Strauss, Carl A., 437 E. Fifth St., Cincinnati 2 Stritzel, Fred W., 539 E. Town St., Columbus 15 Strong, Charles R., (Kruckenmeyer & Strong) 1304 Carew 1247 300

- 1098
- Ave., Cincinnati 26
- Dayton 2

- Sutter, Frank L., 1582 Wayne Ave., Dayton 10
 Swagert, Everett D., 936 Crane St., Menlo Park, California 1876 1474 Swanson, J. Robert F., W. Long Lake Rd., Bloomfield Hills, Mich.
- Swift, Francis R., 311 Aberdeen Dr., Middletown
 Szabo, Albert R., 1432 Schofield Bldg., Cleveland (15)
 Szendy, Emil J., 1740 Broadway, New York (19) N. Y.

-T-

- 1439 Tamplin, Ernest G., 22800 Vassar St., Hazel Park, Mich. 1552 Taylor, R. E. Lee, 1012 N. Calvert St., Baltimore 2, Md. 506 Taylor, Richard C. (Taylor and Porter) 3915 Plainville Rd., **Cincinnati** 27
- Taylor, R. Bronson (City of Toledo) 565 N. Erie St., 828 **Toledo** 2
- 1925 Taylor, Rhoderic F., Rural Route, No. 1, Powell, Ohio Taylor, Walter A., Dept. of Ed. & Research, The American Institute of Arch., 1741 New York Ave., N. W., Washington, D. C.
 301 Taylor, William R., 517 Union Commerce Bldg., Cleveland 14
- land 14
- 745
- Teach, Max K., 850 W. Fifth Ave., Columbus 12 Teague, James E., 2607 Conn. Ave., N. W., Washington (8) 1799D. C.
- 328
- Teare, George W., 1375 Euclid Ave, Cleveland 15 Teare, Wallace G., (Weinberg & Teare) 1206 Citizens Bldg., 674 Cleveland 15
- 1439
- 1004
- Tamplin, Ernest G., 22800 Vassar St., Hazel Park, Mich. Templin, Howard M., 144 Oak Knoll Drive, Dayton (9) Tennant, Shirley Swan, 210 E. Blake Ave., Columbus (2) 1854 versity, Columbus (10) Tewksbury, Hillis A., 810 Seborn Ave., Zanesville, Ohio Thal, Nelson E., 2616 West Central Ave., Toledo (6) Thies, Walter J., 618 Mutual Home Bldg., Dayton (2)
- 1838
- 1051
- 457
- 639
- Thomas, C. Arnold, 316 S. Downing St., Piqua Thomas, Charles G., 1873 E. 55th St., Cleveland 3 Thomas, Eugene A., 5916 48th Ave., S.W., Seattle 6, Wash. Thomas, James W., Streetsboro Rd., Hudson 392
- 1444
- 246
- Thompson, Raymond K., 402 Equitable Bldg., Portland 1621 (4) Oregon
- Thompson, Victor King, Art Dept., Stanford University, Stanford, California 1325
- 1103 Thompson, William B. (B. F. Goodrich) 500 S. Main St., Akron
- 612 Thornell, J. Harper, 6391 Meis Ave., Cincinnati (24)
- Thorshov, Roy N., 400 Metropolitan Life Bldg., Minneapolis 1652 1. Minn.
- 1698 Thum, F. Charles, c/o Smith, Henger & Moore, Grand Junc-
- tion, Colo. Tibbals, A. Todd (Tibbals, Crumley & Musson) 584 E. Broad St., Columbus (15) 1123
- Tichy, Rudolph J. (Ernest Payor) 372 Hanna Bldg., Cleve-1601 land (15)
- 288 Tietig, Rudolph (Tietig and Lee) 34 W. Sixth St., Cincinnati 2
- 1253 Tilley, George L., 1487 King Ave., Columbus
- Tilton, Charles Edw., 660 Madison Ave., New York (21) 757 New York
- 1471 Tislow, Oswald A., 618 Architects Bldg., Indianapolis (4) Indiana

- 1471 Tistow, Oswald A., 618 Architects Bidg., Indiatapons (4) Indiana
 1008 Todd, H. Allan, 402 Blackmore St., East Liverpool, Ohio
 1918 Toguchi, Fred S., 1832 East 79th St., Cleveland (3) (Apt. 11)
 950 Tolford, Wayne E., 4143 Monroe St., Toledo 6
 422 Tompert, Walter W., 214 Cambridge Ave., Dayton 7
 1761 Tonsager, Howard A., 500 Peshtigo Court, Chicago 60, 111,
 1008 Todd, H. Allan, 511 College St., East Liverpool, Ohio
 1671 Toon, Willis E., 6980 Murray Rd., Mariemont, Cincinnati 27
 1740 Towers, Lloyd H., 6519 Crestview Ave., Cincinnati (13)
 1449 Trautwein, George K. (Trautwein & Howard) 1411 Walnut St., Philadelphia (2) Pa.
 1619 Trent, George E., Baker Bldg., Rochester, Pa.
 476 Troxel, Lynn, 201 Laird Bldg., Tiffin
 1810 Troxell, Robert R., 132 W. Lincoln Ave., Worthington, O.
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 630 Tuck, James Allen, 9081 Whitney Ave., Elmhurst L. I., N. Y.
 1312 Tully, Richard L. (Tully, Hobbs, Hansen) 582 Oak St., Columbus 15 Columbus 15
- 752
- Tully, Thomas J., 945 King Ave., Columbus (8) Tuttle, Howard Wm. (Tuttle-Holroyd) 3201 West Broad 1575 St., Columbus (4) 480
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- 1818
- 613 Vance, Edward J., Rt. No. 5, S. Bellingham, Wash.
 1818 VanderMeer, W. J., Jr., 70 S. May St., Aurora, Ill.
 635 Van Rooten, Luis R. D., 233 E. 60th St., New York (22) New York
- Varasso, Orville, 706 East Broad St., Columbus (5) Vaughn, Edward L., 5227 Akron St., Philadelphia (24) Pa. 1906
- 708
- Vetter, Harry G., 3606 Broadview Rd., S. W., Cleveland 9 518 Vieneister, August L. (Eldredge Snyder) 101 Park Ave., New York (17) N. Y. Vogel, Willis A., 708 Security Bank Bldg., Toledo (4) 1752
- 587
- Voinovich, George S. (Miller & Voinovich) 1011 Swetland 1157 Bldg., Cleveland 15
- Voorhees, Stephen F., 101 Park Ave., New York 17, N. Y. 1450 -W-
- Wachter, Horace W., 1220 Madison Ave., Toledo 2 Wachter, Robert Earl, 1253 Edgewood St., S. E., Wa 160
- 1923 Warren Wade, Robert V., (Cooper, Wade & Peck) 10528 Wilbur Ave., 575 Cleveland 6
- Wagner, Clarence, 475 William St., Williamsport 2, Pa. 1695 Wagner, Edwin D. (Wagner & Luxmore) 200 Permanent Bldg., Akron (8) Ohio 279
- Wagoner. Harold E., 1100 Architects Bldg., Philadelphia 3, 1660
- Penna. Walker, George R. (Walker-Norwick and Templin) 1301 898
- 1451
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- 1685
- Walker, George K. (Walker-Norwick and Templin) 1301
 American Bldg., Dayton (2)
 Walker. Ralph T., 101 Park Ave., New York 17, N. Y.
 Walling, George L., 10 Rockefeller Plaza. New York (20)
 Walquist, John A., 145 East 32nd St., New York 16, N. Y.
 Walsh, George P., (Damon & Worley) 1743 25th St., Cleveland (14) 491 land (14)
- Walsh, Travis G., 508 Cuyahoga Savings Bldg., Cleveland 15 Walters, Albert V., 921 Fed. Reserve Bank Bldg., Cincinnati 373 947 (2) Ohio
- 552
- 1274
- Walters, George C., 1206 Citizens Bldg., Cleveland 15 Walters, Marcus D., 306 Payne Bldg., Charleston, W. Va. Waldelmaier, Gustav W., 1564 Broadway, New York (19) 1397
- New York Ward, David M. (Ward & Conrad) 702 Swetland Bldg. 1095
- Cleveland 15 853
- 624
- Ward, William G., 618 Mutual Home Bldg., Dayton (2) Warwick, Spencer J., 6299 Glade Ave., Cincinnati (30) Weber, Christian C., (Weber & Weber) 510 Traction Bldg., 764
- Cincinnati (2) 1092
- Weber, Fred C., 6747 N. Ionia Ave., Chicago (30) Illinois Weber, Stewart K., (Weber & Weber) 510 Traction Bldg. 765 Cincinnati (2)
- 1746
- 849
- Wefel, Walther J., Jr., 17405 Scottsdale Blvd., Cleveland (20) Wehrell, John F., 8 Indiana Ave., Youngstown 4 Weich, Peter J. (Weich, Bingham & Roberts) 303-304 American Trust Bldg., Middletown, Ohio Weinberg, Joseph L. (Weinberg-Teare) 1206 Citizens Bldg. 1087
- 200 Cleveland 15
- 538 Weiny, Daniel W. (Board of Education) 270 E. State St., Columbus 15
- Weiskopf, Leo, 904 S. Hague Ave., Columbus (4) Weiskopf, Lawrence J., 123 N. LaSalle St., Chicago, Ill. Weit, Roy W., 1541 Newman Ave., Cleveland (7) 1762
- 1053
- 1010 852
- Welker, John K., 6111 West 76th St., Los Angeles 45, Calif. Welker, Lehr E., 31 N. Summit St., Akron (8) Wells, William W. (McLaughlin & Keil) 500 Dominion 1311
- 1349 1336
- 1279
- 1373
- Welty, Wilbert N., 11 W. Monument Bldg., Dayton 2 Werking, Paul R., 2000 East Main St., Richmond, Ind. Werner, Melvin T., 45 5th Ave., Berea, Ohio Wertz, Wm. Chas. (Rm. 232) Third Natl, Bldg., Dayton 2 Wheeler, John (Garfield, Harris, Robinson & Schafer) 1740 K. 12th St. Cleveland 14 1227
- E. 12th St., Cleveland 14 Wheelock, H. Vernon (J. G. Turnbull) 2630 Chester Ave. 508
- Cleveland (14) Wherley, Richard C., 23318 Williams Ave., Euclid, Cleve-1804 land 23
- 1065
- White, Dale Alfred, 261/2 Public Square, Mt. Vernon White, Donald Frank (White & Griffin) 126 John R. at 1625 Broadway, Detroit (26) Mich. White, Maxwell H., 804 Finance Bldg., Cleveland (15)
- 436 Whitehouse, Albert G., 3653 Limberg Way, Weirton (2) 713
- West Virginia
- 1508 Whitmore, L. Damon, McEwen Rd., Box 315, Dayton (9) Whitney, Franklin L., 3777 Glenwood Rd., Cleveland Hts 1318 (21) Ohio
- Whitworth, Henry P., 222 Park Ave., Winter Park, Fla. 519
- Widing, Nelson G. (Euclid) 401 East 264th St., Cleveland 23 1745

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- Wiechelman, Wm. H., Jr., 4527 Golfway Rd., S. Euclid 1837 996 Willard, James O. (Willard & Rose) 641 Engrs. Bldg., Cleveland (14)
- 1760 Willgoos, Robert A., 1700 Sansom St., Philadelphia (3) Pa.
- 197
- 1917
- 182
- 1868 715
- Wilgoos, Robert A., 1700 Sansom St., Philadelphia (3) Pa.
 Wile, John Raymond, 529 Willis Ave., Youngstown
 Wiley, Kenneth F., 317 Stanton Ave., Akron (1)
 Wilhelm, Karl E., 1256 Lennox Ave., N. E., Massillon. Ohio
 Wilking, Joseph E., 320 Pearl St., Cincinnati (15) Ohio,
 Wilkens, John J. (Wilkens, Schrand & Wilkens) S-106 Cincinnati Union Terminal, Cincinnati 3
- Wilkens, John J., Jr. (Wilkens, Schrand & Wilkens) S-106 Cincinnati Union Terminal, Cincinnati 3 Willgoos, Robert A., 123 Fairfax St., Alexandria, Va. Williams, Gareth R. (Lorenz & Williams) 223 West First 1610
- 1760
- 1710 St., Dayton 2,
- 407 Williams, Harry J., The Plaza, Palm Springs, Calif
- 1381
- 1498 1680
- Williams, Harry J., The Plaza, Paim Springs, Calif.
 Williams, H. Roger, The Plaza, Palm Springs, Calif.
 Williams, John A. (Garfield, Harris, Robinson & Schafer) 1740 E. 12th St., Cleveland 14
 Williams, Lt. Col. Macon G., 7300 Material Control Group, A. P. O. No. 10, c/o Postmaster, New York, N. Y.
 Williams, Malcolm M., 2200 Olds Tower Bldg., Lansing (9) Miching. 1628
- (8) Michigan 1201 Williams, Milton R. (Lorenz & Williams) 223 West First St.,
- Dayton 2 1617
- Willits, Charles D. (Garfield, Harris, Robinson & Schafer) 1740 E. 12th St., Cleveland 14 Willsey, Carter C., 1126 Irving Ave., Dayton, Ohio
- 1351
- 795
- Wilson, J. Davis 145 Fair Ave., N.W., New Philadelphia Wilson, John D., 1942 Humphrey Rd., Birmingham, Mich. Wilson, Kenneth L., 11835 Lake Ave, Cleveland (Lakewood) 1566
- 1807
- Wilson, Mark Leonard, 58 Morton Place, East Orange, N. J. Winans, Lynn C., 1220 Pacific Blvd., San Diego, Calif. 978 675
- 1158
- 1554
- Winkler, Fred J., 814 First Natl. Bank Bldg., Hamilton Winn, Otis, 528 Michigan Bldg., Detroit 26, Mich. Winnes, Clifford J., 882 North Bend Rd., Cincinnati 24 816
- Winters, Paul C., 1293 West First Ave., Columbus 12 1510
- 1577Wittenmeyer, James K., 801 Bauer Ave., Charleston, W. Va.
- 505 Wojahn, Eric F. 2972 Scranton Rd., Cleveland 13
- 290
- 136
- Wolff, A. C., 309 Frederick Bldg., Cleveland 15 Wolfe, C. Edward, R.F.D. No. 1, Sandusky Wolff, Otto D., 225 Ft. Mitchell Ave., Ft. Mitchell, Ky. Wolstein, J. B., 975 Heyl Ave., Columbus (6) Woo, Lam, 120 Overbrook Dr., Columbus (2) Woodward Clifford B, 2011 Relmont Ave. Cincinnati 1850
- 631
- 1764
- Woodward, Clifford B., 3811 Belmont Ave., Cincinnati 27 Woodard, Donald S., 18951 Pasnow Ave., Euclid (19) Worden, Roy A., 312 W. Colfax, South Bend 7, Ind. 273 1882
- 1469
- Worley, Leon M. (Damon & Worley) 926 B. of L. E. Bldg.. 1109 Cleveland 14 945
- Worthley, Max L., 28 Park Ave., West, Mansfield, Ohio Worthman, Edgar S., 1122 N. Dixie, Lake Worth, Fla. Woyar, Peter, 372 E. Chase Ave., Worthington, Ohio 087
- 863
- 1266 Wright, Clark C., 333 N. Michigan Ave., Chicago (1) Ill. Wuebling, Harry B. (Hannaford) 1024 Dixie Terminal Bldg., 180
- Cincinnati 2 1591
- Wuellner, Walter V., P. O. Box 1035, Toledo (1) Wurst, Wilbur W. (Hart, Igleburger & Wurst) 518 Mutual 1234
- Home Bldg., Dayton (2) Wyatt, Arthur V., Oak Hill Rd., Ira, Ohio 1366

-Y-

- Yager, Gordon A., West Wood Drive, Strongsville, Ohio Yeager, Michael L., 408 ½ East Rich St., Columbus (15) Yoakum, Robert C., 188 Sheffield Rd., Columbus (2) 1821
- 1812
- 1524
- Yoder, Robert N. (Dalton & Dalton) 979 The Arcade, Cleve-1645 land (14)
- 855
- Yost, Arthur C., P. O. Box 506, Holland, Mich. Young, Hilda, 1968 Denune Ave., Columbus (11) Yount, W. Ray, 419 Third Natl. Bldg., Dayton 2 1174
- 1392
- Youst, Claude W., 55 E. State St., Columbus 15 785

-Z-

- 826 Zajack, Nicholas S., 305 Hippodrome Bldg., Cleveland (14)
 1521 Zaugg, Thomas G., 1121 Lexington Ave., Mansfield, Ohio
 603 Zeller, Lloyd J. (Zeller and Hunter) 709 E. High St., Spring-field (11) Ohio
 1532 Zetsche, Robert G., 19 Cushman Rd., White Plains, N. Y.
 1398 Ziegele, John N., 1805 Knoxville Ave., Peoria (5) Ill.
 1805 Zimmerman, Ralph W., 3214 Sherbrooks Rd., Toledo (6)
 1539 Zisler, LYyle F., 302 McKerchey Bldg., Detroit (1) Mich.
 1321 Zuber, Richard N., 462 E. Main St., Alliance, Ohio
 1803 Zwertschek, Erich H., 569 Rosemont Ave., Cincinnati 5 1532
- 1398
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HOUSE BILL NO. 484

(Continued from page 42)

where hose of such length will not reach the extreme portions of the story additional standpipes and hose shall be provided.

Where water supply is not available, standard chemical fire extinguishers shall be provided in the proportion of one (1) extinguisher to each two thousand (2,000) square feet of floor area or less.

Standard chemical fire extinguishers shall be provided in each story above the basement of grade A buildings in the proportion of one extinguisher to each two thousand (2,000) square feet of floor area, or less.

All fire extinguishers shall be prominently exposed to view and always accessible.

Sec. 12600-73a. Whenever any unprotected steel or mill construction is permitted under section 12600-1a of the General Code, such permissive construction shall be considered as meeting the requirements of sections 12600-73 and 12600-75 of the General Code, respectively, as such sections apply.

Sec. 12600-76a. The building regulations of the American Concrete Institute for reinforced concrete (ACI 318-41) shall be accepted as a standard in the construction of buildings.

Sec. 12600-76b. The June 23, 1949 specifications of the American Institute of Steel Construction shall be accepted as a standard in the construction of buildings.

Sec. 12600-76c. The National Design Specifications of Stress Grade Lumber and Its Fastenings of the National Lumber Manufacturers Association, revised 1948, shall be accepted as a standard in the construction of buildings.

Sec. 12600-78 Fire division walls and fireproof floors and ceilings shall be designed and constructed to meet the conditions of loading to which they may be subjected and materials and work-manship shall be in accordance with recognized standards of engineering practice.

Concentrated and uniform loads shall be so distributed to the points of support that the allowable unit stresses shall not be exceeded. The thickness of walls, floors and ceilings shall be increased when necessary to meet the conditions of loading to which they may be subjected.

For the purpose of computing stresses gross sectional area shall be considered as the length times the breadth (width) of the building unit as laid in the wall with no deduction for hollow spaces and the net area shall be considered as the actual area of solid material in compression.

Masonry units shall be uniform in size and free from imperfections or defects that interfere with the proper setting in the wall or that impair the strength, permanence or fire resistive qualities of the construction.

The average ultimate compressive strength of brick shall be not less than two thousand (2000) pounds per square inch.

The allowable working stress on brickwork laid in natural cement mortar or cement-lime mortar with not to exceed fifty (50) per cent of lime by volume of cement used shall not exceed one hundred and fifty (150) pounds per square inch.

The allowable working stress on brickwork laid in Portland cement mortar with not to exceed ten (10) per cent of lime by volume of cement used shall not exceed two hundred and fifty (250) pounds per square inch.

The allowable working stress on brick having an ultimate crushing strength of five thousand (5000) pounds per square inch or more, laid in Portland cement mortar shall not exceed two hundred and seventy-five (275) pounds per square inch.

The allowable working stress on brick with an ultimate crushing strength of eight thousand (8000) pounds per square inch or more, laid in Portland cement mortar shall not exceed three hundred and fifty (350) pounds per square inch.

The average ultimate compressive strength of hollow tile laid with the cells vertical shall not be less than twelve hundred (1200) pounds per square inch of gross sectional area.

The average ultimate compressive strength of hollow tile laid with the cells horizontal shall be not less than seven hundred (700) pounds per square inch of gross sectional area.

The allowable working stress on hollow tile laid with the cells vertical shall not exceed one hundred and twenty (120) pounds

66 [August, 1951]

per square inch of gross area and when laid with the cells horizontal shall not exceed ninety (90) pounds per square inch of gross area.

Load bearing hollow clay tile shall be laid in mortar composed of one part Portland cement and three parts clean sharp sand to which may be added hydrated lime not to exceed fifteen (15) per cent of the volume of the cement used.

Concrete building units shall be standard load bearing concrete tile, or concrete hollow block.

The average ultimate compressive strength of concrete building units exposed to soil or weather shall be not less than one thousand (1000) pounds per square inch of gross area in compression and not less than fifteen hundred (1500) pounds per square inch of net area in compression.

The average ultimate compressive strength of concrete building units not exposed to soil or weather; or where protected by a suitable water proof covering material shall be not less than seven hundred (700) pounds per square inch of gross area in compression and one thousand (1000) pounds per square inch of net area in compression.

Concrete building units exposed to soil or weather and not protected by a suitable water proof covering material shall have an absorption of not to exceed ten (10) per cent by weight.

The allowable working stress on concrete building units having a gross compressive strength of one thousand (1000) pounds or more per square inch shall not exceed one hundred and twenty (120) pounds per square inch of gross area in compression and on concrete building units having a gross compressive strength of seven hundred (700) to one thousand (1000) pounds per square inch shall not exceed ninety (90) pounds per square inch of gross area in compression.

Load bearing concrete building units shall be laid in mortar composed of one part Portland cement and three parts clean sharp sand to which may be added hydrated lime not to exceed fifteen (15) per cent of the volume of the cement used.

Sec. 12600-78a. Steel joist construction shall meet the requirements of the standard specifications for steel construction, revised April 30, 1946, published by the Steel Joist Institute.

Sec. 12600-134a. Fire extinguishers of the kind, size, number, location and fire hazard as recommended by pamphlet number ten of the National Fire Protective Association of Boston, Massachusetts and published by the National Board of Fire Underwriters and dated August, 1950, shall be deemed to meet the provision of section 12600-134 of the General Code.

Section 2. That: existing section 12600-1, 12600-2, 12600-3, 12600-4, 12600-5, 12600-9, 12600-10, 12600-11, 12600-12, 12600-13, 12600-14, 12600-15, 12600-21, 12600-22, 12600-23, 12600-24, 12600-30, 12600-31, 12600-35, 12600-37, 12600-39, 12600-42, 12600-43, 12600-46, 12600-47, 12600-48, 12600-49, 12600-50, 12600-52, 12600-54, 12600-55, 12600-56, 12600-57, 12600-59, 12600-61, 12600-63, 12600-64, 12600-65, 12600-67, 12600-69, 12600-78, 12600-116, 12600-117 anl 12600-118 of the General Code are hereby repealed.

Section 3. This act is hereby declared to be an emergency measure necessary for the immediate preservation of the public peace, health and safety. The reason for such necessity lies in the fact that its enactment into law at the earliest possible time will facilitate the approved construction of public school buildings in Ohio. Therefore this act shall go into immediate effect.



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COMMENTS ON THE OLD COURT HOUSE AT DAYTON

(See Article in July, 1951 Issue)

February 7, 1951

Mrs. Joseph W. Sharts 1230 Phillips Ave. Dayton 10, Ohio Dear Mrs. Sharts:

As a native of Dayton Ohio and as an architect with an abiding interest in the preservation of buildings of historical architectural significance, I am pleased to reply to your letter of January 29 concerning the old Montgomery County Court House which still stands at the northwest corner of Third and Main streets in Dayton.

I question whether any statement I might make as an individual would have the weight that a statement from a group such as the American Institute of Architects. That organization has a National Committee on the Preservation of Historical Monuments whose interest in this matter should be enlisted and whose expression of opinion would carry certain weight and influence.

I am therefore referring you to Mr. John Sullivan who was the 1950 President of the Dayton Chapter of the American Institute of Architects. I have his address as 419 3rd National Bank Bldg.

I am sending a copy of this letter to Mr. Sullivan and also Mr. Carl Britsch, President of the Architects Society of Ohio, 531 Nicholas Bldg., Toledo and Mr. John W. Richards, the Great Lakes Regional Director of the American Institute of Architects.

The old Court House is an example of Greek Revival style which should be preserved at all costs, in



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its original location, if at all possible, but preserved in any event, even if at some other location where it could be used as a monument of historical significance.

> Yours very truly, Howard Dwight Smith, University Architect

AN OLDER COMMENT

National Council for Historic Sites & Buildings

511 10th St., N. W., Washington 4, D. C.

July 18, 1949

Hon. James M. Cox Dayton Daily News Dayton, Ohio

My Dear Governor Cox:

The editorial in the Dayton Daily News of June 24, 1949, has come to my attention and I hasten to send my congratulations on its publication. To those of us who view with alarm the too frequent destruction of the historic buildings, which heretofore have preserved in our midst some of the graciousness and good taste we have inherited from our forefathers, the proposed demolition of such an edifice as the old courthouse in Dayton seems a sacrilege.

It is to resist just such havoc in our historic heritage by informing public opinion of the values it is proposed to destroy, that the National Council for Historic Sites and Buildings was established over two years ago by the joint action of a number of historic societies and associations. Can you suggest any way we can be of help?

From the standpoint of utilitarian efficiency, such an old building may have lost its usefulness for the purpose for which it was built; but as an example of the search for grace and architectural beauty which inspired our forefathers and as a surviving and vivid example of the grace that American life can and once did have, it is certainly of outstanding value not only to ourselves but also to future generations. Surely the great city of Dayton, which I have on several occasions had the pleasure of visiting, can afford to forego the slight pecuniary return it would bring, probably little more than the value of the land on which it has stood for over a century. On the other hand, I venture to doubt whether it can afford to deprive its citizens in future generations of this permanent reminder that Dayton, already in the middle of the nineteenth century, had "the most costly and elegant" building in Ohio.

It would seem that, if no longer usable for the courts, it might be pre-





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served with slight interior alterations as a memorial to the great of Dayton, who have lived and died that the land its builders founded and brought to greatness might continue to live and prosper. Other cities are building such memorials at great expense and architecturally they will rarely equal the one you have inherited, while they lack the long association with the city's development which endears your old courthouse to all those who can see and feel. Doubtless, you have already considered this possibility and my suggesting it is superfluous. I hope you will not consider it impertinent.

With best wishes for your success in saving this thing of beauty which can be a joy, forever, Sincerely yours,

U. S. Grant, 3rd, Major General, USA., Ret. President

Editor's Note: We all believe in home rule of course, but here is a situation where some unbiased opinions from outside Architects might give the local group some very much needed moral support. Address Mrs. Sharts, "Ohio Architect" or John Sullivan.

MODEL ORDINANCE BEING PREPARED

A model emergency ordinance to set minimum standards of construction which may be adopted by local government subdivisions is being prepared by committees of the Building Officials Conference of America, Inc., the Pacific Building Officials Conference and the Southern Building Code Congress.

Preparation of the new ordinance, which will be written to apply during the present emergency period, was authorized at the joint BOCA and

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Building Officials Foundation convention held in Toronto recently. The American Society of Building Officials also recognized the "need for immediate adoption of such emergency ordinances to make exceptions from existing building regulations and allied ordinances, governing the construction and maintenance of buildings and structures."

Copies of the ordinance, when completed, will be distributed to active members of the groups which participated in the Toronto meeting, to local building officials, the Office of Defense Mobilization and to all other federal, state and local agencies concerned with building regulations and allied ordinances.

George E. Strehan, correlator of the Basic Building Code, is directing operations of the new Structural Bureau of the BOF and coordinating the activities of the Code Changes Committee and the Materials Approval Committee of the BOCA.

BOOKLET OF PREFINISHED WALL PANELS

The U. S. Commerce Department's Commodity Standards Division has just issued a new commercial-standard booklet covering prefinished wallpanels, one of the newer popular materials for interior walls and ceilings.

This commercial standard was prepared and proposed by the Prefinished Wallpanel Council, the national association of the industry, to establish definite criteria of physical requirements that should be possessed by this material.

Now for the first time, there is a uniform basis on which performance quarantees may be made by the manufacturers for the guidance and assurance of the property owner, the architect and the builder.

The new standard provides minimum specifications for prefinished wallpanels and covers in detail the physical requirements and tests for strength, water absorption, linear expansion, hardness and resistance to light, heat, humidity, acid, alkali and staining. It sets forth the standard commercial sizes and tolerances for this material.

This material has many industrial, commercial and institutional applicaions and the Prefinished Wallpanel Council reports a constantly growing demand for this material, which is readily available in a wide variety of colors and finishes.

> Do You Have Your Entries Ready for the A.S.O. Architectural Competion? See Page 18



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Experience has proved that the cost of installing Modernfold is lower than that for permanent walls. It should be noted that this type offers greater flexibility, because it can be quickly folded against the wall when full use of the area is desired. Maintenance of the unit is simple . . . an occasional lubrication of track being the only requirement. The special treated finish makes the task of removing finger marks, dirt or ink an easy one. A mild soap and water bath is said to restore the unit to a newlike appearance.

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