1979

Work picks up on U-M's new law library addition

Guy Snyder

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U of M’s underground law library addition proceeds in Ann Arbor
Mich. Safety Conference scheduled for Apr. 24-25

Lansing — "Make Safety Shine in '79" is the theme of the 49th annual Michigan Safety Conference, to be held Apr. 24-25 at the Civic Center here.

Speakers include: Edgar A. "Bud" Guest, former resident host of "On the Sunny Side of the Street" on WJR radio; Tom Decke, corporate secretary of the National Safety Council; Ken Lewis, with the Delco-Remy Div. of GMC; and Ross Hersey, public relations department, Du Pont Co.

John Singley, BASF Industries Inc., Wyandotte, will chair the Chemical Section of the Industrial Div. program, new to the conference this year.

Also on the agenda is the presentation to the "Safety Professional of the Year" and the crowning of "Ms. Safety" for voluntary work in the area of community safety efforts. Over 100 exhibits of safety products and services will be on display in the lower level of the center.

Eugene Richmond, environmental health and safety coordinator for the Upjohn Co., Kalamazoo, will serve as conference president. Conference officers are: Executive Vice President, Daniel Gleighorn, safety manager, Motor Wheel Corp.; Administrative Vice President Al Kincaid, safety and security superintendent, Clark Equipment Co.; Divisional Vice President Fay Knapp, executive director, Greater Detroit Safety Council; Treasurer Wilfrid Robinson, codes consultant, Michigan Consolidated Gas Co.; and Secretary James Crawford, manager, employee safety, Chrysler Corp. Andy Anderson of Anderson Marketing Co., Okemos, is public relations coordinator and assistant to the president.

Trimmer predicts 60% const. volume for ABC


Speaking at the chapter's first monthly general membership meeting for 1979, Trimmer detailed ABC's growth over the past year and presented a prediction of the association's impact on the construction industry for the new year.

It is estimated that ABC will capture 60% of the construction volume in 1979. ABC reports that it has 62 chapters nationwide (including five in Michigan) and that its current membership exceeds 13,000 members.

A total value of $2,297,500 in new structures was begun last year in Grosse Pointe Farms, down from $2,788,255 in 1977.
Construction is continuing through this winter on the University of Michigan Law Library Addition in Ann Arbor. A three level underground structure containing approximately 77,500 sq. ft. in total gross area, it will wrap two sides of the existing library buildings and provide a view of their Gothic architecture by a large L-shaped skylight. A triangular skylight at the corner of the L-shaped addition provides additional natural light. Architect for the addition is Gunnar Birkerts & Assoc., Birmingham, and serving as prime contractor under a $7.3 million contract is J.A. Fredman Inc., Pontiac. Consulting engineers are Robert M. Darvas & Assoc., Ann Arbor (structural) and Joseph R. Loring & Assoc., New York, N.Y. (mechanical and electrical). Completion is expected approximately in late 1980.

The depth of excavation for the addition was approximately 50 ft. in a compact, dry (moisture content as low as 4%) soil. Tight site conditions also necessitate retaining walls that will become part of the addition's exterior walls. This view was taken in October, 1978.

Work picks up on U-M’s new law library addition

BY GUY SNYDER
Associate Editor

Ann Arbor — Construction is well underway on a three level underground addition to the University of Michigan’s Law Library, an effort intended to permit the expansion of structures influenced by Gothic architecture while also conserving energy.

Designed by Gunnar Birkerts & Assoc., Birmingham, the subterranean building will have a total gross area of 77,500 sq. ft., including some 15,000 sq. ft. of undeveloped expansion area. The L-shaped structure is being built on a rather crowded site wrapping the southeast corner of the existing library buildings in the Law Quadrangle, the elbow of the ‘L’ being approximately at the corner of Monroe and Tappan streets. Completion is slated for late 1980.

Serving as the prime contractor under a $7.3 million contract is J.A. Fredman Inc., Pontiac. Major subcontractors include John E. Green Plumbing & Heating Inc., Highland Park (mechanical); Hatzel & Buehler Inc., Oak Park, (electrical); and C.J. Rogers Inc., Flint, (foundations). Consulting engineers on the project are Robert M. Darvas & Assoc., Ann Arbor, (structural), and Joseph R. Loring & Assoc., New York, N.Y. (mechanical/electrical). Set to a depth of approximately 50 ft. in compact, dry (moisture content as low as 4%) soil, one arm of the addition will have dimensions of 220 ft. in length and 88 ft. in width, while the other will measure 210 ft. by 64 ft. Primarily of reinforced concrete construction, the structure will have typical bays measuring 25 ft. by 28 ft., using reinforced concrete columns, with waffle slabs with two-way joists. It will rest on 2½ ft. deep footings, a mud mat, 3 in. of sand, membrane waterproofing, then a 6 in. thick basement slab.

Gunnar Birkerts, architect for the addition, said that both aesthetic and practical reasons led to the
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The depth of excavation for the addition was approximately 20 ft. in a compact, dry (moisture content as low as 4%) soil. Tight site conditions also necessitate retaining walls that will become part of the addition's exterior walls. This view was taken in October, 1978.

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The L-shaped skylight will have a bank of limestone material on the side away from the addition to reflect sunlight into the underground building. Insulated glass on the addition will allow its entry into all three levels.

The second, smaller, triangular skylight at the elbow of the L-shaped addition will bring additional daylight into the corners of levels farthest away from the light trench. "This corner (skylight) gives the underground building transparency," Birkerts said. "If you put light on two sides of something, you have two points of reference as far as daylight is concerned, and you can see through. At that point, you don't feel dead-ended, closed-in, or in any way captive."

The emphasis on bringing light into the addition, Birkerts said, addresses not only the psychological needs of the users of the building. "It is true that buildings that go underground do not have facades," he said. "Therefore, the interior space becomes the major architectural expression." In this vein, such details as ivy plantings in the light trench, the balconies on the three floors with oak desk-rails near the main skylight, and an emphasis on decorating the interior walls in warm colors were incorporated into the design.

Work on the addition started in January, 1978. The tight site conditions coupled with the dry, granular soil brought with them dirt retainage requirements and the need for retaining walls that could become part of the building's exterior.

To meet these challenges, prior to excavation a system of cast-in-place auger pilings were installed around the foundations of the existing buildings on the north and west sides of the site. Around the south and east sides, where retainage was expected to be less critical, H-beam soldier piles were driven on 8 ft. centers to a depth of 55 ft. for the installation of ditch boards and tiebacks as the digging proceeded.

According to Ken Winters, project engineer for Darvas & Assoc., both 50 ft. long 14 in. diameter and 30 ft. long 12 in. diameter auger piles were installed. After obtaining the required depth, the earth auger was withdrawn and grout with a 4000 psi test rating was pumped into the hole. In every other hole, an I-beam was driven down before the grout had firmed up. Winters said the grout had a sand to cement ratio of 3.0 and a water to cement ratio of 0.53.

Upon installation of the two piling systems, excavation proceeded in 10 ft. lifts, with tiebacks installed at each level. Approximately 10% of the tiebacks have a test rating of 75 ton while the rest are rated at 50 ton.

Presently, about 95% of an estimated total of 60,000 cu. yd. of soil have been removed from the excavation. "We're pretty much finished with the excavation at this time,"
The light trench, the balconies on the facades, "he said. "Therefore, the interior space becomes the major feel dead-ended, closed-in, or in any addresses not only the day light is concerned, and you can farthest away from the light trench.

A closeup view Of the soldier pile system used on the east side of the excavation, Gunnar Birkerts of Gunnar Birkerts & Assoc., architect on the project, by a drawing illustrating the addition's vaulting skyline. At the bottom of the trench with a drainage system, along with a steam pipe to melt any snow falling into it.

Ben Clore, project superintendent for J.A. Fredman said, "A few footings are left and some of the dirt around the light well area has yet to be excavated."

One problem that surfaced during the excavation was the stuffing of soil through the ditch boards on the south and east sides. C.J. Rogers Inc., who was handling the digging operations, found especially at the 40 ft. level that the more that was dug to install the ditch boards, more of the dirt seemed to sift in, Clore said.

"Rather than keep running ditch boards, they drove sheeting in," he continued. "That held the bottom."

Clore estimated that about 5% of the structure has been completed so far, with decking work slated to begin in early spring. Concrete placement at outside temperatures of 39°F and above has already begun with an admixture being used during the winter to speed curing time.

"The concrete is a pretty tough condition," Clore said. "It's about 6½ bags concrete and you want a 5000 lb. design mix out of that. We've been coming up over that with the mix that we have."

Problems were encountered on the east and south sides of the excavation because of the sifting of the sandy soil. A Caterpillar 950H (seen here at the 40 ft. level) was used in sheet driving operations to stem this condition.

A n ingersoll-Rand compressor provided up to 1200 cfm of air to a Gardner-Denver model HSC-550 used in the installation of the soldier piles and ditch boards. The mast on the drill is about 30 ft. and the unit can drill holes up to 6 in. in diameter.

ACEC announces support of wage and price guidelines

Washington, D.C. — The American Consulting Engineers Council has adopted a policy statement supporting the President's wage and price guidelines, urging its 940 member firms with 100,000 employees to assist in achieving the goals of the Carter anti-inflation program.

The administration's guidelines on wages and salaries are un­derstood by engineers in private practice, who annually provide $3 billion in engineering services, ac­cording to ACEC President Duane Monical. Consulting engineers have difficulty, however, in understand­ing and complying with the recommended limits on profits, he said.

"Limits on profits are clearly not applicable to the performance of the unique professional services provid­ed by consulting engineers," Monical said. "Compliance in this area will be facilitated when the regulations relating to the engage­ment of engineering services are clarified."

MRMCA schedules 28th annual meeting

Lansing — The Michigan Ready Mix Producers Association's 28th annual meeting will be held March 9-10 at McGuire's Motor Lodge in Cadillac.

The meeting will feature a special report on Michigan's Personnel Certification Program, seminars on labor relations and the proper use of admixtures.

The labor relations session will discuss "How to Maintain an Open Shop Environment" and "How to Negotiate Your Labor Contracts."

The "Use of Admixtures" session will cover air entrainment, water reducers, super plasticizers and proper dispensing of admixtures.

Detroit Plaza to host Exchange annual meeting

Detroit — The Builders Exchange of Detroit and Michigan will hold its 84th Annual Meeting on Tuesday, Mar. 18 at the Plaza Hotel, in Detroit.

During the meeting, members will elect three directors to replace retiring President Jack U. Klarr, B. L. Klarr Co.; Vice President J. Robert Hamill, Scaffolding Inc. and Vice President Martin Kostere, United Black Co. Inc.

The Exchange is governed by a nine man board of directors, three of whom are elected each year for three year terms.