

# A NEW FACE FOR ENGINEERING

by Linda Kral

The setting is the University of Missouri-Columbia, 1893. The scene is the construction of the engineering building, first in a series of eight divisions to form what is now the engineering complex (see diagram).

Eighty-seven years later the scene is again one of construction. Portions of the engineering complex are currently being renovated. Why and

what is being done? Due to the age of the engineering buildings, some type of renovation is naturally needed to update classrooms and laboratories. Three departments—civil, mechanical, and chemical—consulted with architects and submitted proposals for renovation of their respective departments. Five to six million dollars were needed to carry

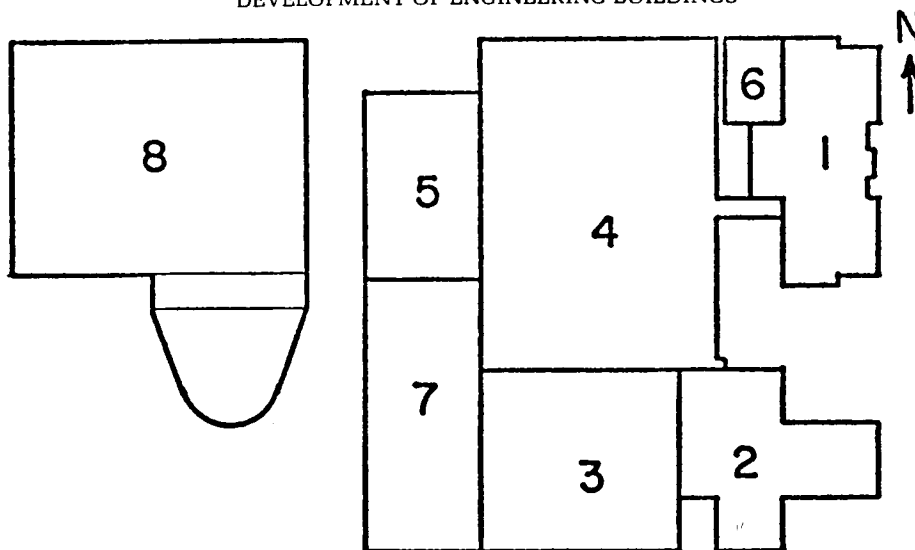
out the submitted proposals. However, only \$1.98 million was allocated to all three departments and so priorities and feasibility of the proposals were defined for each department based on the allocation of funds.

The civil engineering department has been in Phase One of the renovation since last fall. The civil engineering building was built in 1893 and was known at that time as the mechanic arts building. This building is the home of classrooms, faculty offices, and the student lounge. In 1922, the civil engineering laboratories were added to the engineering complex and more laboratories were again added in 1957.

The civil engineering department is applying their portion of the renovation funds to a cosmetic surgery of the mechanic arts building. Dr. John O'Connor, chairman of the civil engineering department, considers their portion of the renovation a "very highly student oriented renovation." Classrooms are being carpeted for improved sound properties and better lighting facilities are being added to improve visual aids. A new climate controlled heating system is also being added to the building for energy conservation and a more comfortable classroom atmosphere. An attractive student lounge will also be provided from a fund contributed to by the civil engineering alumni.

Dr. O'Connor claims the renovation is rapidly moving and should be completed this month. There have been a few setbacks due to labor strikes and materials problems, but occupation of the building should begin next semester. During the course of the renovation, some of the

UNIVERSITY OF MISSOURI—COLUMBIA  
DEVELOPMENT OF ENGINEERING BUILDINGS



- 1 Engineering Building, 145' front, 70' deep. Built 1893; cost \$30,000.
- 2 Mechanic Arts Building, 108' front, 117' deep. Built 1893, burned 1911; repaired 1929, 1922, cost \$44,500.
- 3 Engineering Laboratories (Civil Engineering), 185' x 109'. Built 1922, cost \$47,000.
- 4 Engineering Laboratories (Chemical, Mechanical, and Electrical Laboratories), 207' x 140'. Built 1936, cost \$57,000.
- 5 Engineering Laboratories (Mechanical and Electrical Laboratories), 110' x 52'. Built 1949, cost \$338,700.
- 6 Engineering Annex (Offices), 38' x 48'. Built 1951, cost \$40,000.
- 7 Engineering Laboratories (Civil and Chemical Laboratories), 160' x 52'. Built 1957, cost \$504,000.
- 8 Electrical Engineering Building, 123' front by 190' and 300-seat auditorium. Built 1958, cost \$1,500,000.

NOTE: A two-story brick veneer frame building, 145' x 75' called the Engineering Annex occupied the east half of the space shown as Building #4 in the above diagram. This building, occupied by the Electrical and Mechanical Engineering laboratories, design rooms and offices, was torn down in 1936 to permit construction of Building #4.

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faculty members have been housed at 614 Maryland Avenue and classes have been taught throughout campus. However, knowing what lies ahead for the department has caused little complaining. In celebration of the event when the civil engineering building will be turned back over to the department, Dr.

O'Connor has developed a calculator contest, at his own expense, for determining the date of completion of the renovation. One contest has already been conducted without consideration given to the delays that have occurred. However, only one student hazarded a guess, October, and thus won a mini-calculator.

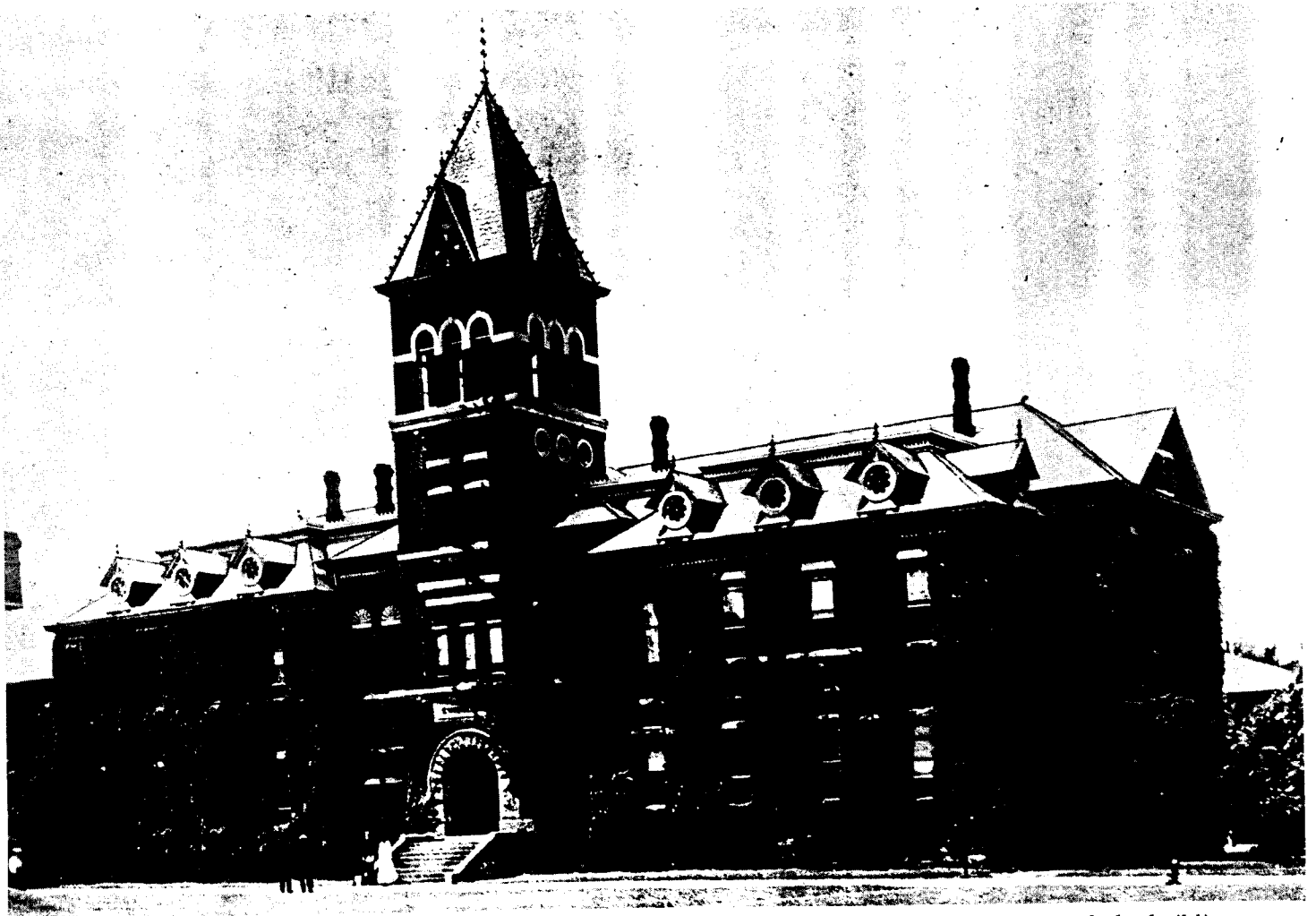
Phase Two of the contest is currently under way with three divisions: faculty and staff, graduate students, and undergraduate students. The completion date is to be decided on the date Professor Jay McGarraugh moves back into his office. When the renovation is completed, Dr. O'Connor plans a celebration and dedication.

Phase Two of the renovation comprises the mechanical and chemical department's laboratories. The mechanical engineering department is housed in the main engineering building built in 1893. The mechanical engineering laboratories were built in 1936 with an addition in 1949. The department is applying their funds for renovation, which began this past summer, to their 1936 laboratories.

Double decks are being constructed in the laboratory bays. The me-

(cont. on page 18)

*"Classrooms are being carpeted for improved sound properties and better lighting facilities are being added to improve visual aids."*



*This 1910 photograph of Engineering shows the ivy and the four chimneys that once graced the building.*

(cont. from page 7)

chanical engineering department's south bay will be completed while the north bay will just have a slab installed, due to a current lack of funds. On the first floor of the south bay, improved lighting and video capabilities are planned along with a computer aided design room and an instrumentation check-out room. The second floor will house specialization laboratories including a laser facility. To improve safety standards, corridors will pass through the front and back of all bays, with a "superramp" constructed on the outside of the building for handicap access. Undergraduate and graduate students both will benefit from this laboratory renovation.

Dr. Paul Braisted, chairman of the mechanical engineering department, stated that he was very proud of the staff, faculty, and students attitude during the renovation period. Only two classrooms are currently being used in the mechanical engineering department. Dr. Braisted claims that "one way or another courses with required labs are being taken care of." Renovation of the laboratories is scheduled for completion next summer.

The chemical engineering department completes the three departments involved in the renovation process. Chemical engineering is also renovating their laboratories in conjunction with the mechanical engineering department. The chemical engineering laboratories were built along with the mechanical engineering laboratories in 1936 and additional laboratories were added in 1957.

The chemical engineering bay will be decked over for additional space. On the first floor three new research laboratories will be partitioned off while three existing laboratories will be renovated with the shop. One research laboratory, however, will be lost in order to house an air-conditioning system. The second floor will contain some open space over the shop to house tall equipment with the remainder decked over. On the second floor, three research laboratories will be added while two exist-

ing laboratories and two faculty offices will be renovated. Safety features are being added to all laboratories to comply with current safety standards. The nuclear engineering department will also gain one lab during this portion of the renovation.

Dr. George Preckshot, chairman of the chemical engineering department, feels space will still be a problem when the renovation is completed. The department has been plagued with problems due to the construction. According to Dr. Preckshot, the renovation "lacks indepth planning" by the University since no space was allocated to move facilities during the renovation. Faculty offices are cramped in the engineering annex and current laboratory space is lacking. However, Dr. Preckshot is happy to see the renovation currently under way and is looking forward to the new facilities.

All the renovation has been taking place in the presence of record enrollments. In 1979, the College of Engineering's enrollment was 1961 students, while this years enrollment

climbed to 2243 students. The college will receive an accreditation visit next fall and hopefully the renovation will be completed by then. No plans currently exist for more renovation phases of the engineering complex although much more is needed to bring the engineering facilities at UMC into adequate condition for the 1980's.

Other proposals, outside of renovation, have been submitted to restore beauty to the engineering complex. One such proposal is to restore the engineering building for its historical significance in technical and scientific education. The engineering building is an integral part of the Francis Quadrangle, a National Historic Landmark. Professor Gayl Bunch of mechanical engineering and Dean William Kimel, have submitted proposals twice to the Department of Natural Resources to restore a portion of the engineering building to the original architectural style of the 1890's. The proposal includes restoration of the entrance and foyer facing the Francis Quadrangle, the front hallway of the main floor, the ground floor and the second floor of





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the interior. Ceilings and flooring tile would need to be replaced, restoring the archways as they originally were. On the exterior of the building, four chimneys are down and need restoring while the tower and cupolas need some of the decorative fillagree replaced.

This proposal for restoration of the engineering building was submitted twice, the last time being March 1, 1979. Both times the proposal was rejected unfortunately. Reasons for the rejection may be that a building in the private sector has preference over a public building and the engineering building is still in stable condition. Another reason may be because the cost was too high (\$250,000). No plans currently exist for



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submitting the proposal a third time, but perhaps one day the restoration will take place and the engineering building can become a showplace.

To help restore beauty to the engineering building, a mural project has recently been approved by the Executive Council of the College of Engineering. Professor Tracy Montimony, of the UMC art department, designed the mural to be executed on the north wall of the main east /west hall of the engineering building. A scale representation of the mural was placed on display for several weeks in the Dean's office. The mural presents a challenge to Professor Montimony due to the location and fact that the surface consists of brown tones of ceramic brick separated by a grid of mortar. An elevator door is also located on the proposed wall. Professor Montimony's solution is an abstract design incorporating engineering motifs and a bold acknowledgement of the grid pattern due to the bricks. She has titled the mural "Engineering: Images and Symbols".

Dr. Aaron Krawitz, professor of mechanical engineering, is chairman of the Ad Hoc Committee for the Proposed Mural Project. Dr. Krawitz feels that the mural "symbolizes the role of the College of Engineering as a member of a campus with a strong humanistic tradition. It will also be a decorative and stimulating addition to our facility that is consistent with the ongoing program to beautify the campus." The UMC art department will be funding the mural project while the College of Engineering will prepare the wall for painting. The mural is a class project for Experimental Media and will be executed during the winter semester of 1981.

The mural project and the proposed restoration illustrate the interest in having an attractive engineering facility. An attractive complex will draw better students and faculty to UMC's College of Engineering.

*These projects and proposals along with the renovation shows that the UMC is in tune to the needs and interests of the 1980's.*