MITR will install new core

(Continued from page 1)
are produced each second and, of these, about a third are available for experimental purposes.
The original MITR-4 was a heavy-water moderated and cooled reactor. Heavy water contains the deuterium isotope of hydrogen, weighs slightly more than ordinary water (about one part in 6000 of sea water is heavy water), and costs about $28 a pound. The heavy water was used to carry away the heat produced by the core (cooling) and to enhance the nuclear reaction by reducing the neutron energies to a range where the fission reaction is more likely (moderation).
The new core, MITR-1, is heavy-water moderated and cooled. In MITR-1, the expensive heavy water will be used only to reduce the leakage of neutrons from the core (reflection).
The modification project involves removing the present core tank, reflector tank, primary heavy-water coolant system, and other minor systems and replacing them with new components which have been in preparation for more than a year.

Urban Systems Lab.

social work since '68

By Greg Saltzman

The largest single focus of the Lab has been on urban transportation problems. However, the Lab has also had projects dealing with housing, health delivery, environmental problems, and computer modelling of urban systems.

"A main characteristic of the Lab," Milligan notes, "is its interdisciplinary nature, The Lab provides a framework for people from different departments to get together.

In order to maintain this interdisciplinary nature, the size of the Lab's permanent staff has been kept small. With the exception of a core staff of about a dozen people, all of the Lab's staff has been drawn from the (Please turn to page 3)

The Atomic Energy Commission gave MIT the final go-ahead for the modification in April of last year. Original schedules called for the cessation of operations in February, but problems with the contractors supplying new components forced the date to be pushed back to the end of May. Minor structural flaws detected in the aluminum core tank required that it be recast; the inspectors are satisfied that his new cast is sound.

Planning for the modification has been in progress for more than five years and has since been the subject of a number of debate. By the end of 1970 the provisional design of the new core, including a thorough safety analysis, had been completed. Negotiations with the AEC over other points continued, the review process being completed with the end of the 30-day public notice period last year.

Work over this summer will primarily involve the physical removal of old equipment and installation of the new. When these systems have passed pre-operational tests satisfactorily, a series of low power tests will be conducted to determine the exact behavior and nuclear characteristics of the core. When the reactor administrative and operations staff is certain that the new core is acting as expected, the reactor will return to its normal schedule of Monday-through-Friday five-megawatt operation.