health sciences architects & engineers

THE CERNY ASSOCIATES INC.
HAMMEL GREEN & ABRAHAMSON INC.
SETTER LEACH & LINDSTROM INC.

113 HUBBARD BUILDING, 2675 UNIVERSITY AVENUE
SAINT PAUL, MINNESOTA 55114

612/646-8875

2 January 1973

Mr. Kurt Hamann
321 Morrill Hall
University of Minnesota
Minneapolis, Minnesota 55455

Regarding: Operating Room K-X
Health Sciences Expansion
University of Minnesota

Dear Mr. Hamann:

This is to confirm the information given to you in our telephone conversation today. We anticipate the construction costs for the referenced project to be $90,000.

Other costs of which we are aware that you may wish to consider include:

a. Supervision Fees
b. Architectural Fees
c. Temporary partition construction by the hospital engineering staff
d. Kilpatrick Associates Fees (if any).
e. Sodding of site storage area (if required).

We shall advise you of our recommendations of the various dates for the bidding process as soon as possible.

Sincerely,

HEALTH SCIENCES ARCHITECTS & ENGINEERS, INC.

Jerrald B. Olson

cc: Mr. Maupin
Mr. Jones
Mr. Kopietz
TAC

health sciences architects & engineers

THE CERNY ASSOCIATES INC.
HAMMEL GREEN & ABRAHAMSON INC.
SETTER LEACH & LINDSTROM INC.

113 HUBBARD BUILDING, 2675 UNIVERSITY AVENUE
SAINT PAUL, MINNESOTA 55114

612/646-8875

February 7, 1973

Mr. Paul Maupin
Health Sciences Planning Coordinator
University of Minnesota
4104 Powell Hall
Minneapolis, Minnesota 55455

Regarding: Operating Room K-X
Health Sciences Expansion
University of Minnesota

Dear Mr. Maupin:

Enclosed is a tabulation of the bids for the referenced project. We are pleased to report that the low bid of $88,000 is $2,000 below our estimated construction cost of $90,000.

We would encourage the University to award the contract for this project as soon as possible due to several long lead-time items included. Several of these items may require four or five months for delivery. They then become the major factor in the determination of the completion date for the project.

Sincerely,

HEALTH SCIENCES ARCHITECTS & ENGINEERS

Jerrald B. Olson

Jerrald B. Olson

cc: Dr. Joseph Buckley
Mr. Paul Kopietz
Mr. Tom Jones
Ms. Marilyn Lande
Mr. Wally Petrykowski
Mr. Jack Geretz
TAC

FEB 8 1973

MAYO MEMORIAL BUILDING - OPERATING ROOM K-X REMODELING
UNIVERSITY OF MINNESOTA
HEALTH SCIENCES EXPANSION

UNIV. OF MINN. HEALTH SCIENCES PLANNING OFFICE

THE ARCHITECTS COLLABORATIVE, INC.
HEALTH SCIENCES ARCHITECTS & ENGINEERS, INC.
BID OPENING 2:00 P.M. 7 FEBRUARY 1973

BIDDER	BOND OR CHECK	TOTAL LUMP SUM BID	ADDENDA RECEIVED
1. Arkay Construction Company	X	$ 90,700	1
2. B-E Enterprises, Inc.	X	$ 97,500	1
3. Dupre Construction Company	(Late - Bid Not Opened)		
4. George J. Grant Construction Co.	X	$ 98,980	1
5. Kraus - Anderson of St. Paul	X	$ 96,800	1
6. Loeffel - Engstrand Company	X	$ 93,190	1
7. McCall and Company	X	$ 98,000	1
* 8. Minnesota Midwestern Contractors	X	$ 88,000	1
9. Norman Construction Company	X	$108,100	1
10. Roger Sheehy Company	X	$ 94,200	1
11. Perry Swenson Company	X	$ 89,940	1
12.			
13.			
14.			
15.			

* Low Bidder

UNIVERSITY OF MINNESOTA
TWIN CITIES

Division of Space Programming and Management
Office of Physical Planning
N-363 Elliott Hall
Minneapolis, Minnesota 55455
(612) 373-7540
(612) 373-2996

RECEIVED
MAY 16 1975
UNIV. OF MINN.
HEALTH SCIENCE
PLANNING OFFICE

May 12, 1975

To: Clinton Hewitt

From: Vernon L. Ausen

SUBJECT: Appraisal Reports on Property at 500 Harvard St. S.E.

The appraisal reports for the Frankfurter property at 500 Harvard Street Southeast (abutting Powell Hall to the east) indicated the following values:

Shenehon - Goodlund & Associates	$160,000
Russell Smith Associates	$125,000

These appraisal values come to $19.24 and $15.03 per square foot of land respectively. The building contains 15,228 square feet on three levels, thus having a greater area than the Fenwick at 318 Harvard (12,684 sq.ft.) and the Marian at 312 Harvard (12,684 sq.ft.), but a few less apartment units. Shenehon-Goodlund valued the land only at $56,000, or $6.73 per sq. ft. as compared with his valuation or land under the Kensington Apartments at $10.00 per sq. ft., but the value per rental unit is not much different.

Would you like me to have a discussion with Thorpe Brothers and make an offer of, say, $142,500, the average of the two appraisals? We had a balance of $229,000 in the Health Sciences land acquisition account as of March 31, and have balances to pay only on the Granrud and Dittberner properties (partial payments have been made).

I shall remind you that we also must cover relocation costs of all residents in the 16 apartments, which could exceed $60,000 if all were to be found eligible for property rental or purchase supplements. This is quite unlikely, and will depend on how many units the Student Housing Office can help replace.

You have a file on this property. Mrs. Frankfurter inquired about the University's interest in it back in 1927, and W.T. Middlebrook made an offer in 1951. A few years later, all of the Frankfurter property except the apartment building was acquired under eminent domain.

VLA:MM
cc: Paul Maupin ✓
Milt Trapold

HEALTH SCIENCES
TEN YEAR BUILDING PROGRAM
(1975-1985)

UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS

August 22, 1974

HEALTH SCIENCES TEN YEAR BUILDING PROGRAM

UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS

THE MASTER CAMPUS PLAN

The University of Minnesota Health Sciences Expansion provides facilities for the consolidated units of the Health Sciences: School of Medicine, University Hospitals, School of Dentistry, School of Public Health, School of Nursing, and the College of Pharmacy.

The complex of new and remodeled existing buildings comprising the Health Sciences facilities is the architects' response to the University's goal of physical and curricular integration of the Health Sciences units with each other and the rest of the Minneapolis campus of the University. This Health Sciences Master Plan was accepted and approved by the Regents of the University in 1967.

The problem as defined by this goal was to develop a high density building system on a tight urban site with strong relationships to major existing facilities. This system needed to respond to the initial phase of expansion as well as to the continuing need for growth and change inherent in Health Sciences units.

The architects' initial effort was to develop a master plan which provided for short and long term expansion and responded to the integrated relationships called for in the program. This master plan serves as a framework for growth by establishing the major paths of circulation knitting together new and existing buildings. A centralized receiving unit (Unit E) is the focus of a separate service circulation network connecting existing buildings and new construction two floors below grade. The centralized receiving with material distribution tunnels to Health Science areas will replace eighteen widely dispersed receiving areas. The master plan also provides for an eventual major pedestrian spine with branches to existing buildings and new construction to the 2,000 car parking ramp providing the capability of moving to all parts of the Health Sciences without being exposed to the frequently severe weather.

The general criteria which established the basic planning framework are as follows:

1. Because of the great investment from public and private sources in existing facilities, the plan must conserve and enhance the desirable characteristics of the present Health Sciences Center.

2. The plan must be adequate in scale to serve all contemplated programs of the Health Sciences Center -- programs that include substantial enrollment increases in all areas.

3. The plan must facilitate and, in fact, encourage interaction among persons in all Health Sciences programs.

4. The plan must provide maximum flexibility for adaptation to anticipated but unspecified changes in programs in the wake of social and scientific progress.

5. The plan must be compatible with other aspects of University development and enhance the involvement of the Health Sciences with the rest of the University and the community.

6. The plan must provide opportunity for development beyond any programs now contemplated.

FIRST PHASE - HEALTH SCIENCES DEVELOPMENT

The first phase development of the Health Sciences includes sizeable new and remodeled areas. Major blocks of space to be remodeled include the existing Dental School facilities, the existing Outpatient Clinics, the existing Department of Radiology, and a substantial part of Powell Hall. The master plan is comprised of Units A, B/C, K/E, and F.

Unit A - The School of Dentistry occupies two-thirds of the building. The remainder is being used by the Medical School, Basic Sciences, and the School of Public Health. General use space includes auditoriums, classrooms, seminar rooms, student and staff dining areas, as well as Basic Sciences teaching labs.

Unit K/E - Unit E, as previously mentioned, constitutes the centralized receiving unit for the Health Sciences. Above Unit E, Unit K will house a Cardiovascular Research Center. Construction of the unit is currently under way, with completion scheduled for October, 1974.

Unit B/C - Unit B/C is primarily a Medical School facility and will include auditorium and general classrooms, a Learning Resources Center, outpatient clinics and seminar rooms, faculty offices and teaching faculty research and support space. Unit B/C is designed as a continuation of the recently completed Unit A, both physically and functionally.

The Unit B/C program consists of two parts. One part (52.98%) will be completely finished space. The other part will be shell, or unfinished space at present. The finished space will include auditorium and general classrooms, a Learning Resources Center, outpatient clinics and seminar rooms, faculty offices and teaching faculty research and support space.

Unit B/C is designed to integrate the education of medical students with patient care through more effective use of outpatient clinics as well as providing the usual teaching and office facilities. A total of 228 examining rooms is planned for the new outpatient area. As part of this proposal a total of 156 examining rooms are scheduled to be completed. Also included in the clinic modules are seminar rooms to allow increased interaction for faculty, student and patient. It has been recognized that the patient, as well as the students and faculty, must be easily and comfortably accommodated within the clinic complex to provide the type of interaction needed for both effective teaching and effective health care for the patient.

Unit D - This subterranean facility south of Masonic Hospital shall house the Radiation Therapy replacement facility.

Basic Sciences - The planned increase of the entering medical and dental classes, as well as significant increases in number of students in associated health programs require expansion of the existing facilities. Since Basic Sciences acts as a foundation for all subsequent Health Sciences programs, this expansion must start in the last part of 1975. The expansion areas are to be remodeled spaces in Owre Hall, Jackson-Owre, and Millard vacated by the School of Dentistry, and space in Mayo on the second level vacated by Hospital Outpatient Clinics. Existing Microbiology labs in Mayo Tower will be vacated for use by the School of Nursing.

Unit F - The base levels of this building would house large shared classrooms, for Basic Sciences and Dentistry. The tower would be the College of Pharmacy.

Bio-Medical Library - No expansion for the Bio-Medical Library is being considered for the 1977 Health Sciences program.

Ambulatory Care - This element consists of a facility planned to accommodate outpatients coming from long distance for diagnostic work which might require a stay of more than one day, and visitors. Location for this facility will be determined at a later date.

Continuing Education - The Continuing Education program will place major emphasis on keeping practicing Health Sciences specialists abreast of the latest trends in the Health Sciences field. The extent of the 1977 program will consist of moving the existing offices into a larger remodeled area of Powell Hall.

Mayo Garage - The new Health Sciences parking ramp (2,000 car capacity) located at Oak Street and Delaware shall be finished this year. Mayo Garage will be devoted to outpatient parking as well as a portion of the new parking ramp. Part of the Mayo Garage may be developed for animal quarters until Building B/C is completed.

Administrative and Related Space - Space has been provided in existing facilities for the Administrative Offices of the Health Sciences, Medical School, and numerous other service activities such as: bookstores, building services, Minnesota Medical Foundation, and Student Affairs offices.

Allied Health - New programs include: Biomedical Data Processing, Bio-Engineering Research and Training, Information Retrieval, Laboratory and Hospital Automation, Medical Technicians, Inhalation Therapy, Mortuary Science, etc. These facilities will be located in remodeled areas of the Mayo Building.

On-Call Quarters - Present quarters located in Powell Hall will remain.

Outpatient Clinics - Major emphasis on outpatient care will require phasing out of existing facilities and construction of new facilities. These will be located in Unit B/C of the new complex, and will be served by the public 'street' one level below grade which will have direct connections to Mayo Garage, the new parking ramp east of Oak Street, and eventually to a public transit stop at Washington Avenue when it is tunnelled. Existing outpatient facilities in Variety Club Heart Hospital will remain.

School of Nursing - Consolidation of administrative and seminar facilities for the School of Nursing will be accomplished in the initial expansion program. Present space occupied by the School of Nursing in Powell Hall will be vacated for other uses. The new location and future expansion space for the School of Nursing will be in the Mayo Tower.

School of Public Health - The School of Public Health will be consolidated in new facilities at a later stage of development. In the interim period, a major part of Public Health teaching and administration will be located in remodeled areas in Powell Hall. Labs, including those in the existing space in Mayo Tower, will be located in the new Unit A. This space will be vacated when new facilities are available and will be used for School of Dentistry expansion.

Scientific Apparatus Shop - Space for this facility for design and fabrication of apparatus required for scientific research will be determined at a later date.

General Purpose Classrooms - This program consists of teaching spaces utilized by Health Sciences, including Mayo 100 and Mayo 125. Major blocks of this space will be located in the Unit A base to relate directly to Basic Sciences, Dentistry, and Public Health.

SECOND PHASE - HEALTH SCIENCES DEVELOPMENT

Foreseeable expansion of the Health Sciences beyond that originally programmed for 1977 and extending through 1985 includes new facilities for the School of Public Health and a new hospital to replace beds now located in the Mayo Building. Space vacated by beds and other hospital functions in Mayo will be remodeled and used for expansion of clinical teaching and research, student study space, faculty and administrative offices.

A summary of new construction includes:

Unit G - The base levels of this building would house large shared classrooms and teaching labs for the School of Public Health, which were in the first phase located in the base levels of Unit A. Tower floors of Unit G would house the remainder of the School of Public Health. First phase Public Health space in Powell Hall would be vacated to allow for the removal of the building to make room for the new hospital. We should emphasize this site location, as the new hospital is not a firm decision.

Unit H - This structure ties the old and new parts of the Health Sciences Center together. At ground level it would contain the hospital entry concourse and allied public facilities, allowing public access to the new hospital from the Delaware and Union entry court. The level above the entry concourse includes expansion for the surgery suite.

Unit J - This building accommodates new hospital facilities for the Center. Hospital functions now located in Mayo Building will move into this complex. Teaching and research facilities may also be included.

HEALTH SCIENCES TEN YEAR BUILDING PROGRAM

UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS

ITEM	1975	1977	1979	1981	1983	1985
1. Basic Science Remodeling - Phase I	3,500,000					
2. Conversion of Primary Electrical Services in Health Sciences Complex	230,000					
3. Diehl Hall Energy Conservation and Bio-Medical Library Air Conditioning	265,000					
4. Ventilation/Rehabilitation - 4th Floor Variety Club Heart Hospital - Animal Areas	150,000					
5. Basic Science Remodeling - Phase II		4,000,000				
6. Unit F - College of Pharmacy Building		16,000,000				
7. University Hospital Vacated Outpatient Clinics to be remodeled for Basic Sciences, Public Health, Allied Health, etc.						
Planning		70,000				
Construction			1,000,000			
8. University Hospital Planning Funds (Units J & H)			5,500,000			
9. Unit F - Movable Equipment		1,000,000				
10. Health Sciences Off-Campus Research Animal Farm		500,000				
11. University Hospital Construction Funds (Units J & H)				40,000,000	40,000,000	
12. Ambulatory Care Facility (100 private rooms)		N/A				
13. Mayo Tower Remodeling for School of Nursing classrooms, labs, and office areas					15,000,000	
14. Unit D - Radiation Therapy		2,000,000				
15. School of Public Health Building						30,000,000
16. Roadway Bridge to connect Washington Avenue and East River Road		150,000				
17. Health Sciences Environmental Pedestrian Tunnel to move patients to and from the Center to the parking ramp			6,000,000			
TOTALS	4,145,000	23,720,000	12,500,000	40,000,000	55,000,000	30,000,000

* Health Sciences Administration anticipates that over 50% of the funds indicated could be provided by federal and private support. We have not added a cost factor for escalation beyond the date of this report.

SPACE REPORT

DEPARTMENT OF LABORATORY MEDICINE AND PATHOLOGY

April 1976

prepared by

Ad Hoc Committee on Space Needs

Andreas Rosenberg, Chairman
David M. Brown
Juan Rosai
Richard Brunning
Donna Blazevic
Leo Furcht
Don Howard, ex officio
Donna Wieb, ex officio

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UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Laboratory Medicine and Pathology
Medical School
Box 198 Mayo Memorial Building
Minneapolis, Minnesota 55455
(612) 373-8623

April, 1976

SPACE REPORT AND PROPOSAL

The Department of Laboratory Medicine and Pathology is responsible for providing the University Hospitals with a full range of laboratory services including clinical chemistry, hematology, blood bank, microbiology, coagulation, medical genetics, immunology, virology, toxicology, surgical pathology, and autopsy services. It provides computer services to the Medical Center through the Division of Health Computer Sciences.

It is responsible for undergraduate teaching of clinical and anatomical pathology to medical students. It provides the medical technology undergraduate program and participates in the teaching effort for programs in the Medical Center outside of the Medical School. The Department offers graduate programs in Laboratory Medicine, Pathology, Medical Technology and Health Computer Sciences. It offers postgraduate training programs in Anatomic and Clinical Pathology and Health Computer Sciences.

The academic staff of the Department consists of 80 faculty members at the level of Instructor and above, with 40 additional faculty members at the affiliated hospitals. During the last year the Department had 3,405 students registered for its course offerings. The civil service personnel consists of 310 hospital and 122 departmental employees. Thus, without question, it is one of the largest departments in the Medical School with respect to students, faculty teaching load and service effort.

In the following report we will analyze in detail the space available for different service operations and teaching commitments, describe additional space needs of the department and present a tentative plan for accomplishing goals.

The present assignment of space for the Department is given in detail in Table 1. This table reviews the 57,789 sq. ft. of space assigned to the Department by building and function. It shows that approximately 6,626 sq. ft. of departmental space is utilized for hospital service functions augmenting some 29,000 sq. ft. of University of Minnesota Hospital space in the Mayo complex utilized by the Department in performing its hospital related service efforts. Another 18,422 sq. ft. is committed to various programs and faculty divisions which fall in the jurisdiction of the Department of Laboratory Medicine and Pathology, yet because of the very nature of this space, it is non-reassignable by the Department even as our own needs and priorities shift. Another 3,724 sq. ft. is unfinished shell space in 496 Jackson Hall. This leaves the Department with 27,762 sq. ft. of space for assignment for administration offices, faculty offices, teaching space, research, and teaching laboratories and service areas as the priorities and needs of the Department dictate.

What we see from these figures is that only 47% of the total space assigned to the Department of Laboratory Medicine and Pathology is available for assignment and reassignment by the Department as its needs and priorities change. Over 31,000 sq. ft. or 53% of the space assigned to the Department falls into the category of function-dedicated space which, while administratively assigned to the Department, is not

actually available for reassignment. The vast majority of departmental research space is located on the 4th floor of Jackson=Jackson-Owre=Owre Halls. This totals approximately 11,000 sq. ft. and is dedicated to the research efforts of the faculty of the Department. The total space committed to teaching classrooms, laboratories and library is 6,132 sq. ft. with 5,150 sq. ft. located in Building A. Non-committed space is totally out of proportion with relation to the size of the Department as it relates to space available for teaching and research programs.

Department	Faculty	Teaching Load Credit Hrs.	Lab Office Space	Teaching Space
Lab. Med. & Path.	80	11,479	27,871	5,100
Anatomy*		14,609		
Biochemistry*		6,820		
Medicine*				

Consequently, we are describing the minimal space requirements to accommodate the existing critically important programs of the Department.

HOSPITAL SERVICES

The service functions in the Hospital Laboratories have grown explosively during the last several years. We have chosen 1966 as the base year for comparisons because at that point the addition of the Southwest Court area represents the last major increase in laboratory space. Since 1966, as seen in Figure 1**, our workload has doubled and so has our personnel. Increases in work efficiency and automation have allowed major personnel savings during these years in chemistry and hematology. At present, 22 persons provide 7-day a week, 16-hour a day coverage of most standard chemistry and hematology tests which represent something in the neighborhood of 75% of all clinical laboratory tests. This radical increase in work efficiency, further enhanced by the introduction of a laboratory computer system, has been more than compensated for by concomitant development of new specialty areas with tests requiring manual performance, endocrinology, toxicology, enzymology, immunology, coagulation and surgical pathology representing the most pronounced tendency in this direction. The development of a tissue typing reference laboratory in immunology, for example, is a very labor-intense unit. In the same vein, the RIA assays in endocrinology have up to ten times larger labor input than laboratory procedures in standard chemistry. These tendencies are expected to continue since further automation in chemistry and hematology will have less and less effect on the overall labor utilization.

Table 5 shows that the space per person in the laboratory has dropped catastrophically since 1966. In 1976-77, we will have less than 100 sq. ft. total space per person. The floor space per person in the morning shift will drop from 48 to 45 sq. ft. The present density is not acceptable. We are not even able to control such trivial things as temperature and ventilation not to mention hood space safety requirements for solvents and isotopes.

As a guideline for minimal laboratory space, the American Red Cross recommends 150 sq. ft. per laboratory worker. If we use our morning peak staff of 370 workers in the laboratory, our minimal space allotment should be at present 55,000 sq. ft. We are 29,500 sq. ft. short of this amount. The shortage in reality is much worse since the Red Cross recommendations are projected for a community hospital, not an academic medical center where there is a large teaching and research effort.

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*Data not available from Dean's Office

**See page 24

We cannot say that the deterioration of the space situation was unexpected. In 1968, the "Clinical Laboratory Space Planning Committee" analyzed the situation and predicted a growth rate that we have exceeded by a large margin. The 1973 predicted chemistry personnel was 75; we actually had 87. Thus, although our predicted growth rate materialized with the necessary income, no increase of laboratory space took place. The 1968 Committee recommended 62,000 sq. ft. for 1973, none of which was acquired.

At the present, we have to accept a space shortage of 29,500 sq. ft. for service work with an additional projection of 20% workload increase for the next several years. This will result in an overall need for an additional 10,000 sq. ft. of space for a total of 35,000 sq. ft. over the 1975 level.

The following discussion will summarize the space needs for the laboratory divisions: the present shortages, the projections, and details of the usage of the space.

Clinical Chemistry

Faculty - 9
Technical staff - 81
Maximum number of people working in laboratory - 98
Present space - 7,486 sq. ft.
Space per person during first shift - 76 sq. ft.

Clinical chemistry has tripled its workload since 1966 without any increase in space. Due to major gains in automation, its personnel increased only by a factor of two. The projected increase for the next three years is 8% per year leading to an overall increase of 25% in three years. An increase of 15-20 in personnel is projected for the same time period. We assume here that the major workload increase will take place in specialty areas.

The following space problems have to be solved:

1. Extension of the present specimen and spinning area by 400 sq. ft. The present receiving area of 510 sq. ft. contains 5 biological hoods, 3 storage refrigerators resulting in approximately 150 sq. ft. of floor space for 6 people and a computer terminal. The actual floor space per person is about 20 sq. ft. reaching the limits of physical impossibilities.

2. Immunochemistry provides 1,000 tests per month in 200 sq. ft. All the radioactive work (two major assays, digoxin and methtrexate) is carried out in a one-man hood. We need to satisfy safety requirements for 400 sq. ft. additional space and another 200 sq. ft. to move scintillation counting facilities to a separate location.

3. Projects delayed or not started due to space shortage:

a. For the past few months a concerted effort has been generated by members in our Department, as well as the Departments of Medicine and Biochemistry, to form a group devoted to the development of laboratory tools for the surveillance of the state of cancer. So far, this group includes Dr. Andreas Rosenberg, Dr. Michael Steffes, Dr. Walid Yasmineh and Ms. Esther Freier (Department of Laboratory Medicine and Pathology); Dr. Athanasios Theologides (Department of Medicine); and Dr. Irvin Liener (Department of Biochemistry, St. Paul Campus). Preliminary meetings among the members have emphasized the need for the formation of such a group in this

institution. It was also emphasized that although some of this work could be done within the various departmental laboratories, additional space of about 400 sq. ft. for a central laboratory would be required. There will also be a need for office space for the keeping of patients' records.

The methods to be developed would have two main objectives: First, a good deal of effort would be placed on the choice and development of a combination of methods that would constitute a laboratory profile for the assessment of the "state" of the cancer patient. Second, a major effort would be exerted in evaluating the earliest stages of cancer by new techniques. Tenetatively, factors such as the prostaglandins (Dr. Steffes), increased peptidase activity (Dr. Liener, Dr. Rosenberg), and the presence of abnormal isoenzymes (Dr. Yasmineh) will be studied. The results from such studies could then be related to the attending physicians (Dr. Theologides), who would attempt to correlate these findings with early symptoms.

b. In order to provide expanded, around-the-clock service, the toxicology laboratory needs about 1,000 sq. ft. of lab space (approximately twice the present area). This will allow us to: (1) expand service, including assays for blood lead, hydralazine, diazepam, proposphenamine and other drugs on a routine basis; (2) deal more efficiently with our growing regular workload; (3) provide better emergency service; and (4) meet special requests for measuring drug levels.

In our present cramped quarters, work is very inefficient. Normally there are seven people in the room (including the estriol and development people); however, there is adequate bench space for only two or three workers. It is physically impossible for all those in the room to be performing chemical work at the same time. At times when there are overdose patients in the Emergency Room and many tests are required urgently, this problem becomes acute.

In addition, we have been called upon to set up assays for lead, several anti-hypertensive drugs, antibiotics, cardiac drugs, adrenergic blocking drugs, etc. The limitations of space have effectively prevented us from setting up these tests. In certain cases (propranolol, theophylline and procaine amide) we have been able to find a reliable outside lab to which to send specimens.

The lack of chemical fume hoods is a particular problem, since the toxicology lab does a great deal of work with flammable solvents, including ether, ethyl acetate and acetone, and much of our work involves toxic chemicals such as mercuric nitrate sprayed into the air. The grossly inadequate fume hood facility in our present lab (i.e., one hood) poses both fire/explosion and health hazards. A reasonable minimum number of hoods for toxicology is three. Needless to say, there is no room for installation of additional hoods in the present space.

c. The Outreach Program requires separate facilities for the purposes of specimen receiving and processing, phone communications, outreach bulletin preparation and coordination, billing, etc. At present, this activity is performed within a faculty office and within routine laboratory areas.

d. Developmental laboratory activities currently are performed in temporary Owre Hall laboratories which must be vacated to accommodate pathology activities. This is not research but is needed for procedural modification and prior to incorporation of new procedures into the routine laboratory, personnel and equipment needs must be separated from service laboratories.

e. The endocrinology laboratory has more than doubled its activities during the past year, both in terms of the procedures offered, as well as the number of determinations. It is anticipated that an additional doubling will occur within the next two years. Since many of these procedures do not lend themselves to automation, these projects call for additional space. Furthermore, the use of volatile solvents and the presence of several heat and noise-generating instruments in this laboratory mean that special fume hoods, air conditioning and beta and gamma counter spaces are needed. The present facilities are not capable of sustaining the present activities according to the Department of Environmental Health and must be replaced, even without regard to expansion.

f. The urinalysis laboratory requires an increase of approximately 20% on the basis of increase of current utilization and to provide increments in program and teaching requirements.

Summary of Chemistry Space Requirements

Expansion of receiving area	400 sq. ft.
Reorganization of immunochemistry	600
Cancer surveillance laboratory ✔	400
Expanded toxicology service ✔	400
Drug monitoring laboratory ✔	400
Central radioactive counting facility ✔	400
RIA development space (equipped according to AEC safety requirements)	400
Automated instruments maintenance lab	400
Clinical chemistry development lab	500
Outreach program laboratory support	300
Faculty offices, 2 x 150 sq. ft. (Steffes, Stern)	300
Total	4,500 sq. ft.

This additional space will raise the chemistry gross space to 11,986 sq. ft. Using the projected personnel in 1977 of 90 people, we have 133 sq. ft. per person gross space or 111 sq. ft. in the morning shift. This still does not meet the Red Cross standards but represents the minimum space for maintaining laboratory function at the desired level.

Hematology

Faculty - 3
Technical staff - 23.15
Maximum number of people working in laboratory - 29
Present space - 2,966 sq. ft.
(There is a discrepancy in printouts describing the surface of different rooms so the hematology space can be counted as 3,378 sq. ft. Our measurements indicate that true space is very close to 3,000 sq. ft.)
Space per person - 129.9 sq. ft.
Space per person during peak load - 102 sq. ft.

Presently routine hematology has 1,300 sq. ft. of space. During the day, 14 technologists work in this space which means 92 sq. ft. per technician.

1. It is necessary to expand the main hematology laboratory by 1,800 sq. ft. to provide the necessary working space for technicians and the highly automated procedures demanding space for instruments like the late models of the coulter counter. We need 150 sq. ft. for office and clerical space, both missing at present. This is important if computerization is to be implemented.

2. Specimen receiving areas are now incorporated within the individual laboratories which creates confusion and inefficiency. A single area for this purpose would increase efficiency of all components.

3. Principal and senior medical technologists require offices outside of the laboratories in order to conduct their activities. Further space for 3 technologists' offices is needed.

4. Space is needed for a small storage area. The hematology laboratory at present has no storage space.

5. Research and developmental laboratory activities related to service obligations currently are performed within existing service laboratories. These activities evaluate and/or modify new procedures prior to incorporation into the service laboratories.

Summary of Hematology Space Requirements

Expansion of the main service laboratory	1,800 sq. ft.
Receiving and clerical area	150
Three offices for senior technologists	360
Storage facility	200
Automated differential counter laboratory	400
Clinical hematology research and developmental laboratory	300
Total	3,210 sq. ft.

This will lead to a total area of 5,966 sq. ft. which gives a density of 238 sq. ft. for technicians and a projected peak load for the next years of 192.5 sq. ft. per person (two additional positions included).

Blood Bank

Faculty - 2
Technical staff - 31
Present space - 2,355 sq. ft. of which 424 sq. ft. is donor room
Space per person (with donor room) - 76 sq. ft.
Space per person (without donor room) - 65 sq. ft.

1. It is evident that space for present functions has to be extended considerably. Approximately 500 sq. ft. is urgently needed to reduce the extreme crowding at present.

2. Antibody reference lab. We continue to see more complicated blood transfusion problems, including drug-related antibodies, monospecific Coombs testing, red cell, white cell antibody cross-reactivity and so on. These special studies require a sophisticated staff and proper facilities in which to work. There are currently three

and often four people working in our antibody laboratory which is 198 sq. ft. This is totally unsatisfactory because of the inability to store rare red cells and serum near the working area for these people, and it also does not allow us to add equipment such as liquid nitrogen storage, so that we can efficiently initiate more of these special studies, such as drug antibodies, monospecific Coombs testing, and so on. The antibody lab should be designed for five people, one of whom would be a student. This would require approximately 750 sq. ft. of space. Since we now have 198 sq. ft., this would be approximately 550 additional feet.

3. Storage space. Additional storage space is required for supplies for red cell freezing and for storage of supplies for preparation of transfer factor and for platelet- and leukapheresis. This is estimated at 200 sq. ft. Also, storage space is required for additional record-keeping. As we convert to a volunteer donor system, our donor file will expand. The experience gained by others has indicated that a larger number of donors must be kept on file if they are volunteers rather than paid donors, in order to obtain the same number of units of blood. We project 150 sq. ft. for this purpose.

4. Preparation of transfer factor. This requires approximately 250 sq. ft.

5. Component laboratory. Additional space is required for the centralization of our centrifugation and frozen blood equipment. As rejuvenation of outdated red cells becomes practical, we expect to increase our freezing activity by rejuvenating group O and group A bloods. This will require an additional freezer and additional deglycerolizing equipment. The current component lab is 90 sq. ft. and should be expanded to approximately 400 sq. ft.; thus, an additional 310 sq. ft. will be required.

6. Consolidated leukapheresis unit-donor room. At present, the donor room for drawing ordinary bloods is separated from the three-bed leukapheresis-plateletpheresis unit. By combining these two facilities, we would be able to use our nursing staff much more efficiently. In addition, the donor history area currently provided is totally inadequate, since there is absolutely no privacy for taking the donor history. The current donor room space is 560 sq. ft., and the current leukapheresis unit space is 496 sq. ft. (which was really loaned to us by Dr. Kennedy). A satisfactory donor area including all of these activities with seven beds, canteen and private history cubicles will require approximately 1500 sq. ft., or a net increase of approximately 450 sq. ft. We would like to emphasize that the purpose of this additional request would be to consolidate these two activities in one large room, so that the staff could cover all of these functions.

7. Freezer space. With the increased use of cryoprecipitate and fresh frozen plasma in the management of various bleeding disorders, not only hemophiliacs, but also the treatment of disseminated intravascular coagulation and the treatment of bleeding following heart surgery and renal transplantation, plus the addition of programs such as the use of zoster immune plasma for the treatment of immunodeficient patients exposed to chicken pox or herpetic infections, our present freezer space is totally inadequate. We are able to stock right now only approximately a three-day supply of these frozen products. This is very inefficient because our staff must process incoming shipments almost every other day, and if we have a very heavy usage weekend, we are not even able to stock enough products to carry us through a long weekend. Therefore, current storage space for freezers should be expanded significantly. This could be in a room separate from the blood bank, although hopefully not too far because the staff will have to go to the freezers often to get the products. We request 400 sq. ft. for this purpose.

Summary of Blood Bank Space Requirements

Expansion of present laboratory space	500 sq. ft.
Freezer storage space	400
Blood bank development laboratory (antibody reference)	436
Storage of records and supplies	350
Transfer factor laboratory	150
Blood component preparative laboratory	310
Total	2,700 sq. ft.

This would lead to a total space of 5,055 sq. ft. with 163 sq. ft. per technician at the present level and 148.6 sq. ft. per technician next year if 10% work load increase materializes.

Microbiology

Faculty - 3
Technical staff - 32.1 (virlogy included)
Present space - 6,453 sq. ft.
Space per person - 201 sq. ft.
Space per person at peak load - 126 sq. ft.

It is evident that this division has better space at their disposal than the previously described unit. However, the nature of microbiology work puts large demands on counter space and thus some expansion is predicted even for microbiology. The main demand for space is based on the relocation of the present virology laboratory.

1. Clinical virology currently is located in Jackson Hall Pathology research laboratories. This temporary allocation was necessary because of the lack of space available within the microbiology service laboratories. This creates an inefficient system since clinical microbiological specimens frequently require parallel processing for bacterial and virologic work. This laboratory should be incorporated into the microbiology area of the service laboratory unit. The application of immunofluorescence techniques to diagnostic virology necessitates a separate space within the virology laboratory. No space is available for that activity.

2. We have been requested to perform all acid fast cultures and smears within the laboratories since the service being utilized from the State Board of Health is inadequate and unreliable. A separate laboratory with appropriate hooding is essential.

3. A separate anaerobic culture laboratory has become essential because of the volume of the work generated by the UMH patients.

Summary of Microbiology Space Requirements

Clinical virology and immunofluorescence laboratory (presently 472-478 Jackson)	1,200 sq. ft.
Acid fast laboratory	400
Anaerobic culture laboratory	400
Faculty offices (Marker, Ederer, Hofherr)	450
Total	2,450 sq. ft.

About 1,600 sq. ft. of this total is new space. C289 and Jackson Hall virology labs will be relinquished. This would lead to a total area of 7,653 sq. ft. or 238 sq. ft. per technician.

Coagulation

Faculty - 2
Technical staff - 13.3
Present space - 1,098 sq. ft.
Space per person - 82 sq. ft.
Space per person at peak load - 46 sq. ft.

This laboratory is totally unacceptable for the present size, especially since its workload has risen an average of 36% per year during the past seven years.

1. Klauss (modified thrombin time) fibrinogen determination. This will require 25-75 sq. ft. of laboratory space, depending on whether the method is done manually or by instrument, and if by instrument, the type of instrumentation utilized.

2. Platelet survival studies. This often talked about test still ought to be set up in our hospital. Depending on methodology, space requirements should range between 75-150 sq. ft.

3. Factor VIII immunoassay. We believe that the progress of our research ought to enable us again to attempt a Factor VIII immunoassay within another two years. This may be a difficult determination. It would require between 200 and 300 sq. ft. of laboratory space, plus perhaps 25 or 30 sq. ft. for rabbit cages and the animal quarters.

4. Additional platelet function tests. Additional platelet function tests may require an additional 50 to 100 sq. ft. of laboratory space over the next several years. It is hoped for the most part that different platelet function tests may be done instead of the current tests rather than in addition to them.

Summary of Coagulation Space Requirements

Laboratory area for special tests and studies		1,000 sq. ft.
Office space (Miller)		150
	Total	1,150 sq. ft.

This 1,150 sq. ft. would increase the total space to 2,248 sq. ft. This comes to 169 sq. ft. per technician now and 149 sq. ft. next year (increase by two positions projected).

Immunology

Faculty - 2
Technical staff - 14.5
Present space - 2,000 sq. ft.
Space per person - 138 sq. ft.
Space per person at peak load - 105 sq. ft.

The immunology laboratories provide the space for our nationally recognized tissue typing facility. The nature of tests involving large scale culture of human cells puts much higher demands on space than other laboratories. It is in this respect comparable to microbiology.

1. The many major innovations in the laboratory practice of immunology and the heavy dependency of the clinicians of the UMH upon that laboratory necessitate major changes in the space available to this laboratory. These applications require major investments in research and developmental efforts to support the service laboratory. Specific designation for laboratories for humeral and cell-mediated immunity are essential in order to provide technical personnel with appropriate laboratory facilities.

2. An antisera preparation laboratory is necessary in order to provide reagents for other components of the laboratory. This will include extensive column and gel chromatography facilities.

3. New laboratory space is needed for rapidly expanding fields such as B and T cell identification, macrophage function, cancer related antigen-antibody identification and immuno-fluorescence application, all of which are performed by this laboratory within improvised but inadequate space.

Summary of Immunology Space Requirements

Expanded humeral immunity to accommodate new serum antigen-antibody procedures	300	sq. ft.
Cell immunity testing laboratory	500	
Antisera preparation laboratory	300	
Cancer antigen-antibody laboratory	300	
Faculty office (Greenberg, others)	300	
Total	1,700	sq. ft.

This additional space will raise the total area to 3,700 sq. ft. which translates into 255 sq. ft. per technician now and 200 sq. ft. after the expansion of personnel by four positions requested in this year's budget.

Genetics

Faculty - 2
Technical staff - 8
Present Space - 2,305 sq. ft.
Space per person - 288 sq. ft.
Space per person at peak load - 213 sq. ft.

Cytogenetic applications to medicine beyond traditional applications, e.g., oncologic genetics, have increased the work demands upon this laboratory. Many new and complex techniques have evolved with a heavy biochemical dependency. These require a modest increase in space for the cytogenetics laboratory.

This division is at present well equipped with space and the demands for the next year are modest.

Summary of Genetics Space Requirements

Cytogenetics laboratory	200	sq. ft.
Biochemical genetics	300	
Total	500	sq. ft.

This raises the total space to 2,805 sq. ft. In this calculation, we assume that major new developments in biochemical genetics are to be expected especially with

respect to screening of newborn birth defects. With a 10% increase in workload, we expect the sq. ft. per technician to remain the same. The high area is due to very extensive instrumentation such as the automated amino acid analyzers, etc.

Data Division

Faculty - 1
Technical staff - 8
Present space - 525 sq. ft. (Space for computer included)
Space per person - 65 sq. ft.
Space per person at peak load - 58 sq. ft.

1. The computer room is amazingly cramped, so much so that some data has been accidentally lost because of persons backing into machine switches. For customer engineers, these cramped quarters are not only inconvenient but also hazardous. In hospitals of comparable size, computer rooms are minimally two and one-half times the size of ours.

2. Essentially, we have little possibility to add laboratories such as microbiology, blood bank, cardiac catherization, etc., onto the computer system unless a third disc drive is added. The floor space is simply not available in C215 for the necessary additional hardware. To allow safe working conditions and potential for expansion, the computer room should be extended into C216 soon. This would of course eliminate our present work space and paper storage space. As cramped as it is, C216 does serve a critical need currently. If C216 were remodeled as a computer room extension, one or more of the C-corridor labs would be extremely useful as an office for our operations supervisor, a work room for customer engineers and a storage space for supplies. We are contractually committed to provide the customer engineers who service the equipment adequate repair work benches and storage facilities. Office space for consultation is currently inadequate, as it is crowded and far removed from the action. Since service is the primary product of our group, it is particularly important to provide the lab personnel ready access to an operations consultant.

Summary of Data Division Space Requirements

Additional computer space	1,000 sq. ft.
Faculty office (Connelly)	150
Supervisory technologist offices, x 3 (including programmers)	360
Total	1,510 sq. ft.

The necessary space for the data division is related to the necessity of the operations to be in one block near the major specimen receiving area. Consequently, in our plans the space for the data division has to come from present chemistry laboratory space adjacent to the computer room.

Laboratory Administration

Personnel - 22 individuals, 4 of which are located in office space.
Present space - 198 sq. ft.
Space per person - 40 sq. ft.

This office provides the clinical laboratories with the following:

1. All personnel hiring and supervision for 200 fulltime employees. A site for personnel interviewing or supervisor meetings is needed in order to carry out the daily activities of the laboratories.

2. Coordination of all financial data of the laboratories regarding personnel, equipment purchases, maintenance and servicing, supply purchasing, preparation of all laboratory budgets and compilation of expense and income data for all laboratory divisions.

3. Interviewing of commercial representatives regarding laboratory equipment and supplies.

Although these activities have increased more than two-fold in the past five years, the space currently available has not increased in about ten years.

Summary of Laboratory Administration Space Requirements

Supervisory technologist office, x 2	250 sq. ft.
Personnel interview room/conference room	150
	400 sq. ft.

This additional space will then result in a total space of 600 sq. ft. providing 120 sq. ft. per person. This estimate is without any personnel expansion.

Departmental Administration Offices (Mayo, Owre, and Jackson Hall sites)

Personnel - 2 faculty, 21 civil service employees
Present space - 2,775 (Mayo component = 1,493 sq. ft.)
Space per person - 120 sq. ft.

The Department currently has its administrative offices in three locations, Mayo, Jackson Hall and Owre Hall, thus impairing efficient coordination of its activities and utilization of support personnel. Hence, it is desirable to bring these activities into one area. Furthermore, the departmental library and conference room was converted into a resident's study room several years ago and this left the Department with no conference room for educational or service-oriented activities. The additional space needs are not so much expansion than consolidation of space in one central location, especially since the space in Jackson Hall where accounting is located is of a temporary nature and is needed for faculty offices.

Summary of Departmental Administration Space Requirements

Centralize departmental administrative offices in Mayo	1,282 sq. ft.
Anticipated needs projected for 5 years, based upon 2 faculty offices plus secretarial support	500
Departmental conference room and library	400
Total	2,182 sq. ft.

Of this space, 500 sq. ft. is for staff expansion over 5 years and 400 for library space. Consequently, the density figure will remain the same.

SURGICAL PATHOLOGY AND AUTOPSY SERVICE

Summary: The space problems of these two divisions differ greatly from the other laboratory divisions. Surgical pathology has been assigned a considerable amount of space on the first floor of Jackson Hall. Total space for the division is approximately 7,500 sq. ft. The major problem of the division is the nature and location of this space. About 3,880 sq. ft. of Jackson Hall space will be remodelled to allow consolidation of histology services. However, the balance of the space available for surgical pathology in Jackson Hall is marginally usable. It does not replace the need for a certain amount of expansion in Mayo adjacent to the present operation. Such an expansion, I am sure, will allow the use of some of the Jackson space for teaching programs in Pathology, or if rebuilt, for research by Pathology faculty.

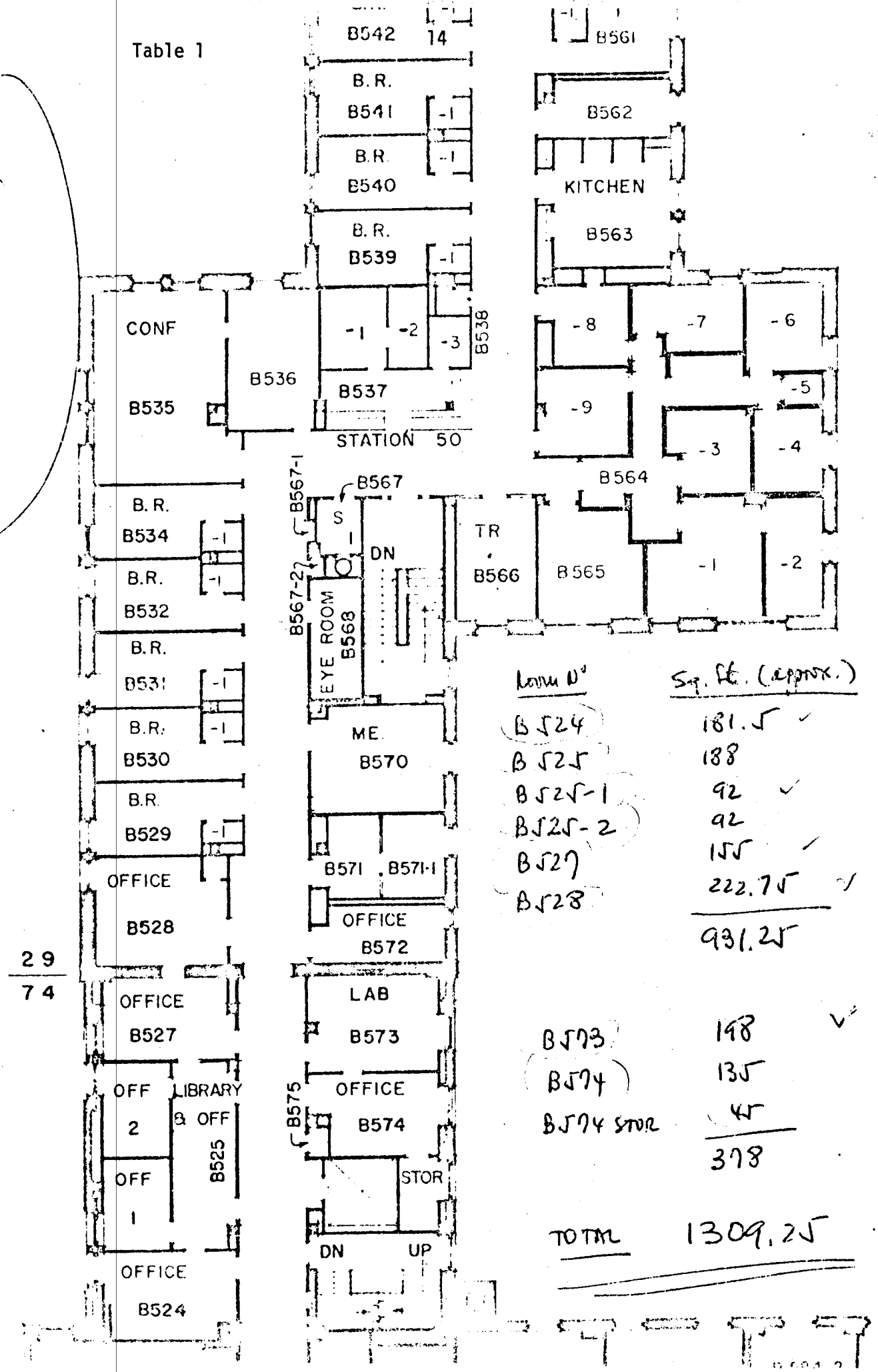
The space needs for the autopsy service are pressing and a shortage of space is the major difficulty. The autopsy facilities have to be modernized. The only reasonable location for expansion is Station 12. A proposal for such a move is outlined on the following pages.

- -

Both services, surgical pathology and autopsy, are at present undergoing a thorough modernization and revitalization. After years of inactivity with the services remaining on the level of performance reached in the forties, major reorganization started two years ago and is still continuing. The new staff that has taken leadership in this area has radically changed the role of these two services both in patient care and in teaching of pathology in the Medical School curriculum. At present, the workload of surgical pathology is increasing by approximately 15% per year. This will build up to a very large cumulative increase even if the yearly increment diminishes in the future. The driving force for this rapid expansion lies in the abnormally low utilization of the services prior to the reorganization that started after the fusion of the Departments of Laboratory Medicine and Pathology. It is reasonable to expect that during the next five years we will catch up with the level of performance prevalent in modern academic medical centers. The increases in workload prior to our reaching that level are difficult to predict since they are not directly related to admissions, patient days, and predictable changes in techniques, data that enables us to estimate service loads for the divisions with surprisingly high precision. With the irregular rapid change in workload, large demands for space are natural. The space both these services inherited was and partially still is totally outmoded and not acceptable by any standards. In contrast to other laboratory services, no major modernization of this space has taken place for many years. We are at present paying the price of these omissions.

The analysis of the present space of the two divisions is, due to ongoing reassignments and rebuilding projects, somewhat imprecise. Some of the areas have three functions: temporary present, immediate future, and long-range plans. In the following, we have counted all space permanently assigned to these divisions. We have excluded the temporary space in Owre and Diehl which surgical pathology will vacate in the beginning of 1977. Thus, the picture emerging will correspond to approximately January 1, 1977.

Table 1



Room #	Sq. Ft. (approx.)
B524	181.5
B525	188
B525-1	92
B525-2	92
B527	155
B528	222.75
	931.25

B573	198
B574	135
B574 STOR	45
	378

TOTAL 1309.25

29
74

Request from Surgical Pathology

1st floor maps

Surgical Pathology

Faculty - 5
Technical staff - 10.5
Residents - 11
Maximum number of people working in laboratory - 25
(includes residents and students)
Present space - 4,374 sq. ft.

Present space (currently assigned research space and temporary assignments not included):

Mayo 4th floor	B424 - 530 sq. ft. B426 - 362 sq. ft. B427 - 150 sq. ft. B429 - 150 sq. ft. B475 - 239 sq. ft.	Sub Total -	1,431 sq. ft.
Jackson Hall 1st floor	170 - 391 sq. ft. (Dehner, Hertel offices) 173 - 226 sq. ft. (Rosai office) 193, 199 *	Sub Total -	617 sq. ft.
Jackson Hall 1st floor to be rebuilt Autumn, 1976	188 - 192 - 196 -	Sub Total -	2,326 sq. ft.**
		Total -	4,374 sq. ft.

Surgical pathology considers as necessary the following expansion:

*193, 199 storage space reassigned to anatomical pathology.

**The difference between this and the total rebuilt space has been tentatively assigned to neuropathology service and a shared autopsy histology laboratory. The space for this is presently accounted for in the autopsy service.

Summary of Surgical Pathology Space Requirements

Office for director	222 sq. ft.
Office for assistant director	181
Office for two staff members	198
Two secretarial offices and files	343
Darkroom for immunofluorescene	92
Office for codification of diagnoses	135
Storage room for stationary	45
Room for photomicroscopy	92
	1,308 sq. ft.

This additional space together with the present space of 4,374 sq. ft. will increase surgical pathology service and office as well as teaching space to 5,682 sq. ft.

The space requirements of surgical pathology obviously cannot be judged by the same simple formula as for other divisions since the total space at present, before expansion, is quite large, and especially since rebuilding in Jackson will provide further space. The problem here should be looked at as a problem of space in the Mayo area adjacent to surgery. The 5th floor Mayo space presently allocated to Neurology is suggested as suitable expansion space for surgical pathology. We have to note that the areas between autopsy pathology and surgical pathology are overlapping. The histology laboratories in 197 Jackson and those on 4th floor Owre will be combined. The need for space for the gross collection described in the teaching section by Dr. Ratliff should be satisfied by reassignment of 199 Jackson to anatomical pathology.

Suggested space to request for surgical pathology, therefore, includes: Mayo Building, 5th floor, Rooms B524, B525, B525-1, B525-2, B527, B528, B573, B574 (presently occupied by the Neurology Department). See attached plan. These rooms will require little, if any, remodelling.

Autopsy Service

Faculty - 4
Technical staff - 4
Present space - 2,620 sq. ft.

The present autopsy service space includes the following areas. Autopsy suite: two rooms, entrance hall, dressing and shower room, autopsy office and supply room (C125-1, C125-2, and C127); Office area on first floor Jackson: pathology assistants (198 Jackson), director's office (198-A Jackson), about 80% of the resident's cubicles in 184 Jackson, and the usage of 196 Jackson for students and rotating personnel (this will vanish with the pathology rebuilding this autumn). In addition, we have the autopsy histology space in 197 Jackson. After rebuilding on first floor Jackson this fall, histology operations will be consolidated with surgical pathology and Room 197 Jackson will be free for reassignment (possible space for pathology gross collection, for example.

In summary, the space available for the autopsy service after the surgical pathology rebuilding is complete includes:

Autopsy suite	1,028 sq. ft.
Office space (198 Jackson)	432
Usage of 80% of cubicles in 184 Jackson	500
Total	1,960 sq. ft.
+	600 sq. ft. new shared histology laboratory

The need for a special histology laboratory will vanish.

It is evident that this amount of space is not adequate for a first-class autopsy service. The major and critical shortages are: (1) separate autopsy room for contaminated cases suitable for table LM-20 with access to decontaminating facilities; (2) autopsy conference and demonstration room with autopsy table and adequate space for residents and students who participate in the teaching effort of the autopsy service.

Summary of Autopsy Service Space Requirements

Autopsy room for 3 L-shaped tables (comparable area of present suite)	720 sq. ft.
Contaminated case autopsy room with decontamination facilities	250
Autopsy conference and demonstration room	450
Office space for secretaries (2), residents (6), and senior staff (2), pathology assistants and autopsy director	1,500
Cleaning and sterilizing, tissue storage, supplies, histology cutting	650
Shower and locker space	400
Walk-in cooler	150
Tissue culture laboratory (R & D), Jauregui	300
Total	4,420 sq. ft.

If we subtract the present space of 1,960 sq. ft. we have a shortage of 2,460 sq. ft. Roughly speaking, the increase to 4,420 sq. ft. involves an expanion of the autopsy area by 500 sq. ft., the service area adjacent to it by 1,500 sq. ft., and the office area by 600 sq. ft. This is somewhat imprecise depending upon utilization of the resident cubicles in 184 Jackson.

The autopsy service presents the following justification for their expansion:

"As has been noted in the past, numerous times, the autopsy working area dedicated to us now has outused its efficiency for lack of working area needed. We have no place for tissue storage at this time; at present the wet tissue is being stored in the autopsy room suite. Our supply storage room was removed from our possession when the new building adjacent to Station 12 was erected. For the time being, and only temporarily, we have been allowed to use a small space from a storage area located in Powell Hall. The autopsy rooms contain only one table each, however, on the average we are running approximately 2 autopsies per day. We cannot handle conferences during these autopsy procedures. Also, the space for moving the patients around tables and transferring to autopsy tables as well as to mortuary carts is insufficient and inadequate and very clumsy. Both suites are very difficult to

keep clean and the sanitary conditions are only just bearable. We do not have a locker room, and our shower is not separate from the autopsy suite. According to Health Services, this is an inadequate situation and must be corrected. Also, our office space is extremely inadequate, for we also have to store supplies in this area. It is adjacent to an attached autopsy suite and if an autopsy is in progress, it is difficult to enter or leave the autopsy suite without exposure of the autopsy to patrons walking the corridor. Also, at this time, the entrance way allows easy access to many people who do not have authority to be in the autopsy room suite, such as children and relatives of the deceased who eventually may find their way into the autopsy area.

The ventilation has also been noted to be inadequate during the last CAP accreditation inspection. We feel that it is also a great hazard working with the present autopsy tables that we have at this time. The plumbing is substandard as well. Included with many of the above mentioned drawbacks, we are unable to proceed with new and better research methods due to the inadequacy of space."

Without knowing any space which we might be designated, if any, we have researched the possibility of taking over and remodelling Station 12 to become the new autopsy service.

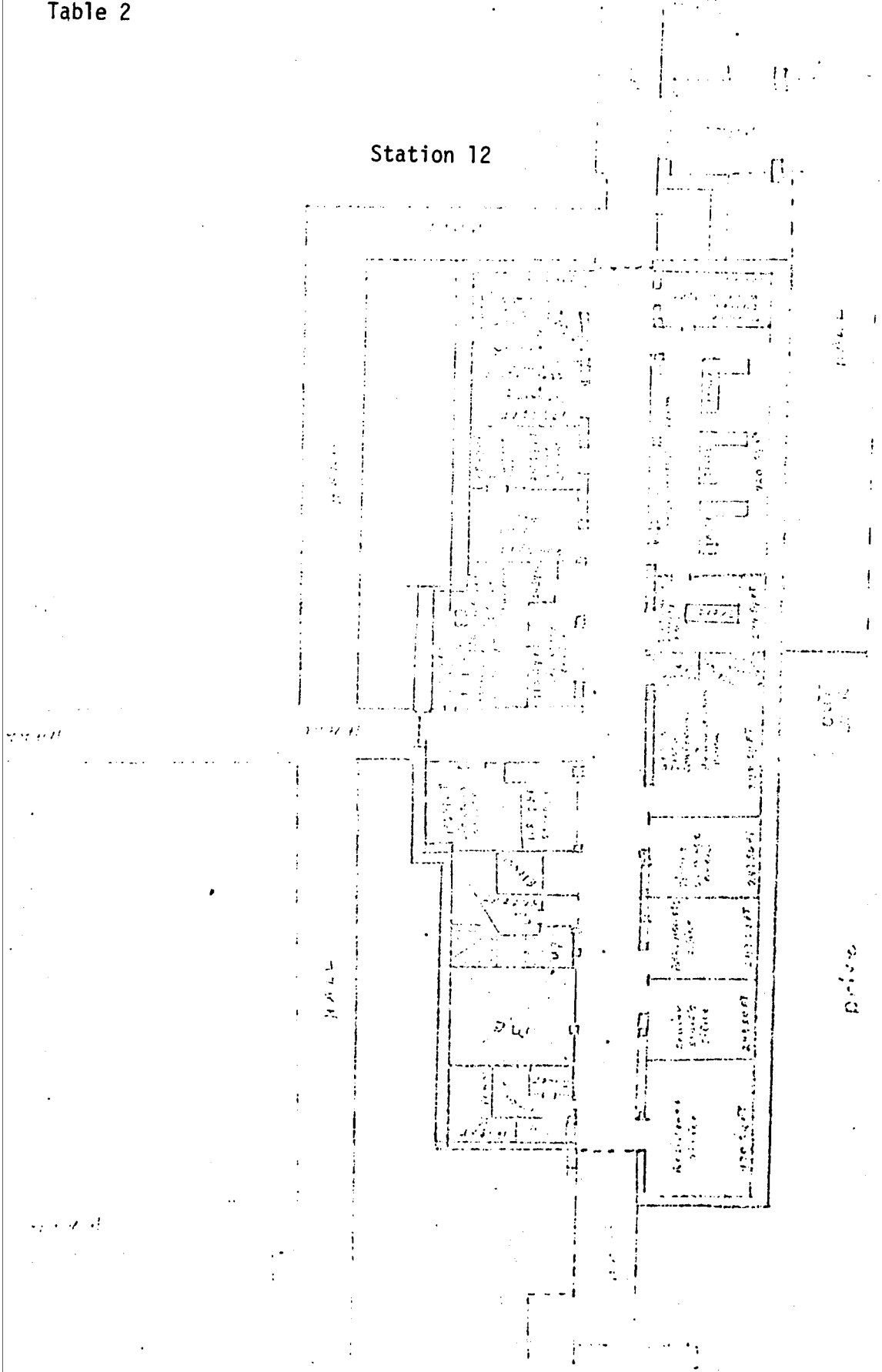
The actual working space in this area is 4,206 sq. ft. not counting hallways. With hallways, it is approximately 6,000 sq. ft. as described by the floor plans. It is also accessible to the morgue by being located in this area. It is ideal for morticians because it is extremely efficient for receiving bodies for they could enter the hospital through a short corridor which receives little traffic. Also, outside this entrance way is a very good area, large enough for parking their hearse vehicles.

We have also entertained the possibility of reserving and remodelling one of the old autopsy suites that we are now using which would be used as a teaching and conference room, as well as a projection room, rather than using the room in 178 Jackson (which we have only partial access to at this time).

In summary, the autopsy service suggests that their increase of approximately 2,000 sq. ft. should materialize by conversion of part or whole of present Station 12 to the autopsy service. Since the total space of Station 12 is 6,000 sq. ft., the autopsy part should involve one-third of the Station.

Table 2

Station 12



COMPARISON OF DEPARTMENTAL AND SERVICE SPACE WITH AVAILABLE NORMS

We are well aware that no two operations are so similar that precise comparisons can be made. Furthermore, it is agreed that we cannot consider any number emerging as being a precise goal to strive toward. However, we do feel that such comparisons have importance since they indicate clearly how we stand in the mainstream of modern American medicine.

1. Comparison of the Department of Laboratory Medicine space in 1970 with seven comparable medical centers.

This investigation led to a report presented in 1970 at the meeting of the Academy of Clinical Laboratory Physicians and Scientists in San Francisco. The comparison involved Departments of Laboratory Medicine in 20 medical centers all over the country. Thus, in 1970, the average space for a Laboratory Medicine department was 38,800 sq. ft. The space for the Department of Laboratory Medicine at the University of Minnesota at that point was 23,552 sq. ft. in Mayo and Diehl, and 3,000 sq. ft. of rented space in Stone Laboratories. Thus, the Department was 15,000 sq. ft. below the national average. Since the space for Laboratory Medicine functions has, since 1970, increased by only 5,000 sq. ft., our present status has had no possibility to improve and has with all probability deteriorated further.

2. Recommendations for minimal space necessary for a laboratory worker in biology and chemistry.

a. J. L. Gray, National Research Council of Canada Report #3, 1949. 110 sq. ft. office space per office worker; 350 sq. ft. lab space per laboratory worker.

b. College of American Pathologists Survey, 1959. Average laboratory space per technologist in hospitals with over 600 beds = 250 sq. ft. (Data from 96 hospitals compiled by A. E. Rappaport in Manual for Laboratory Planning and Design, CAP, 1960). Nota bene. These estimates refer directly to service laboratories and not to the education and research component.

3. American Red Cross, 1975 Guideline for Minimum Laboratory Space in Community Blood Banks (from the architectural guidelines of that building in St. Paul = 150 sq. ft. per technician. (Ref. Dr. Edward Steen, National Red Cross, Washington, D. C.).

4. Comparison of the Departments of Laboratory Medicine, Seattle and Minneapolis, 1976.

	University of Washington and Harborview Medical Center	University of Minnesota Hospitals
	(Divisions of Chemistry, Hematology, Immunology, Coagulation and Microbiology)	
Personnel	146	164
Space	20,931 sq. ft.	20,003 sq. ft.
Density	143 sq. ft./per employee	122 sq. ft./per employee
Workload	586,000 tests per year	1,316,560 tests per year

The area per technician is higher than it should be because all supervisory personnel

have been omitted since we do not have the distribution of such positions in Seattle. However, it is gratifying to see that the total workload for these divisions in Seattle is only one-third of Minnesota's volume. Regardless of the fact that we might be counting some procedures in a more favorable way, it is evident that we hold our own as far as efficiency goes both in respect to personnel and surface area.

In summary, our personnel and productivity per unit of surface area has been declining and is below the national average, established norms, and even comparable rapidly expanding centers like Seattle.

Table 3

TENTATIVE ANALYSIS OF DEPARMENT SPACE

BUILDING	DEPARTMENT	HOSPITAL SERVICE	NON-REASSIGNABLE, NON-DEPARTMENTAL	RENTED, BORROWED OR NOT BUILT
MAYO	3,876	(20,343)[1]	(973)[1] EEG none	none
JACKSON	9,992	3,820	469 (classroom)	496 Jackson 3,724 unfinished
J-O ADDITION	4,264			1,819 Mouse Col[2]
OWRE	4,413	1,129	204 (classroom)	
LYONS			5,761 Halberg	
BLDG. A			1,443 Bell Inst. 5,149 Teach Lab	790 HCS Learn Lab[2] 200 Cubicle Stor[2]
VCHH	1,209		(8,184)[1] Heart Cath	
MASONIC	411		1,353 HCS	
POWELL		614	1,215 Med Tech Of	
DIEHL	439	933		
VFW		130	2,828 HCS	
FR. HALL				
PLAZA				2,255 HCS
STONE	3,158			
KE				1,200 Cardiovascular Committee Space[2]
TOTAL	27,762	6,626	18,422	5,979

1 - The Department currently utilizes just over 29,000 square feet of space assigned to the U of M Hospital to carry out the various hospital laboratory service functions as they relate to Laboratory Medicine & Pathology. Of this total 973 square feet is utilized by EEG in the Mayo complex and 8,184 square feet is utilized by Heart Cath. in VCHH.

2 - Space not included in totals and not assigned to our department.

Space assigned to Laboratory Medicine and Pathology: 58,789

Committed to:

Dr. F. Halberg, Lyons Lab (Chronobiology studies)	5,761	
Classrooms - not usable for other functions	5,822	
E.T. Bell Institute	1,443	
Division of Health Computer Sciences	6,436	
Division of Medical Technology Offices	1,215	
Hospital Services	6,626	
Unfinished space	3,724	31,027

Space assigned by Department to Administration, Teaching and Research: 27,762

Table 4

DEPARTMENTAL SPACE INVENTORY

Laboratory Medicine and Pathology

	Total	Hospital	Research Lab Space	Office & Adm.Space	Unassigned	Classroom
Jackson	18,005	3,820	5,569	4,423	3,724	469
Owre	5,746	1,129	2,176	2,237		204
Powell	1,829	614		1,215		
VCHH	1,209		1,135	74		
Mayo	3,876			3,566		310
Lyons	5,761		4,541	1,220		
Masonic	1,764		1,764			
VFW	2,958	130	705	2,123		
Diehl	1,372	933	439			
Jackson-Owre	4,264		3,493	771		
Unit A	6,592			154		6,438
Stone Labs	3,158		2,775	383		
Park Plaza	2,255		1,973	282		
	58,789	6,626	24,570	16,448	3,724	7,421

Figure 1

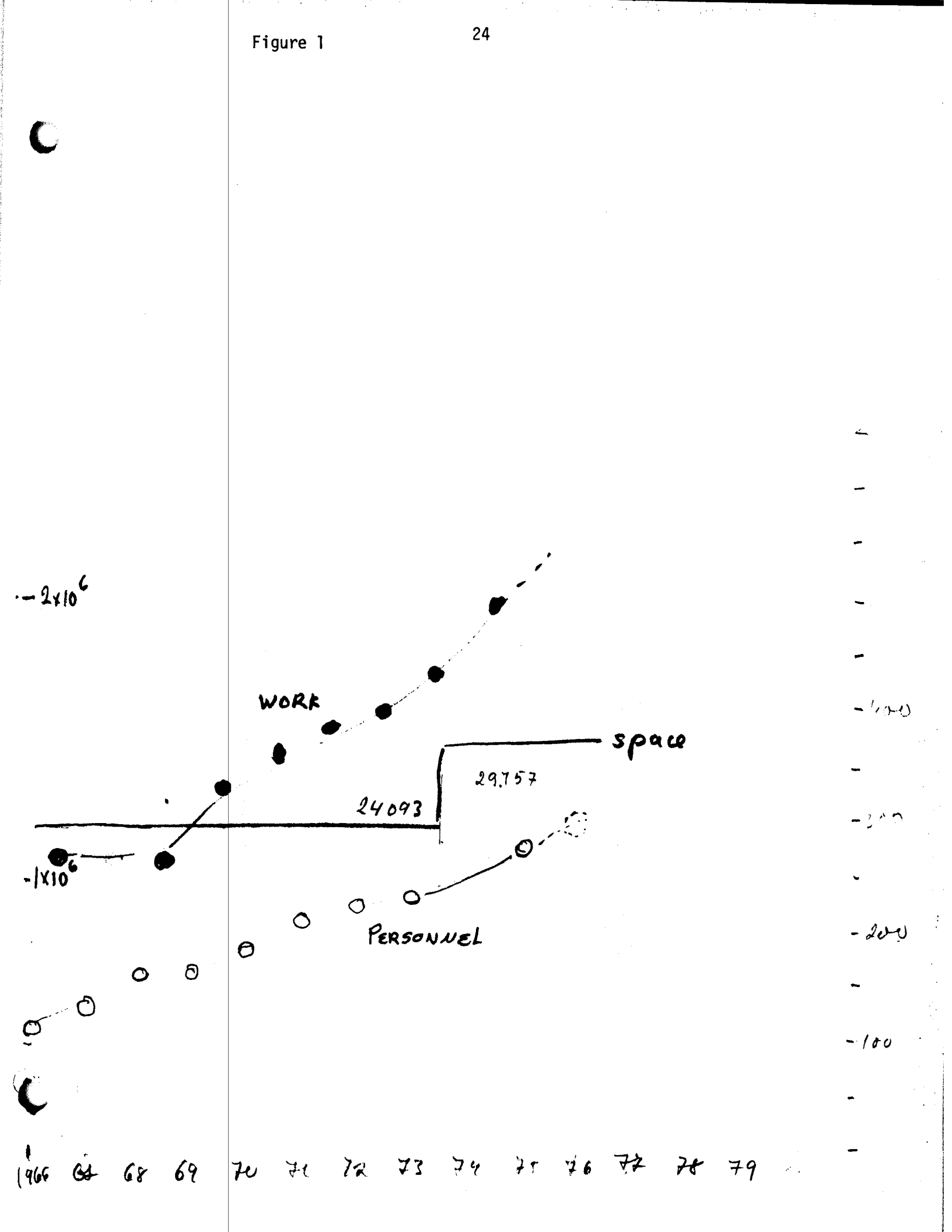

2x10^6
WORK
space
29,757
24093
-1X10^6
PERSONNEL
1966
68
69
70
71
72
73
74
75
76
77
78
79

Table 5

SUMMARY OF GROSS SPACE PER INDIVIDUAL

	Present Gross Space Per Individual at Peak Hours	Present Space	Additional Space Requested	Total Space Required	Final Gross Space Per Individual at Peak Hours
LAB. ADMINISTRATION	40 sq. ft.	198	400	598	120 sq. ft.
COAGULATION	46 "	1,098	1,150	2,248	169 "
SURGICAL PATHOLOGY	57 "	1,431	1,308	2,739	176 before pers.ex 86 after pers.exp
DATA DIVISION	58 "	525	1,510	2,035	213 "
CHEMISTRY	76 "	7,486	4,500	11,986	111 "
BLOOD BANK	76 "	2,355	2,700	5,055	163 "
HEMATOLOGY	102 "	2,966	3,210	6,176	192.5 "
IMMUNOLOGY	105 "	2,000	1,700	3,700	255 "
DEPTL. ADMINISTRATION	120 "	2,775	2,182	4,957	120 "
MICROBIOLOGY	126 "	6,453	2,450	8,903	238 "
GENETICS	213 "	2,305	500	2,805	213 "
		29,592	21,610	51,202	

Table 6

SPACE WORKER RELATIONS IN CLINICAL LABORATORIES*

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
SPACE	24093	same	same	same	same	same	same	same	same	29757	same
EMPLOY	116.7	132	163.8	166.7	186	213.5	227.3	237		284.7	294.
SPACE / PERSON	181.8	181.8	147.1	144.5	129.5	116.6	109.6	105.0		104.5	100
FLOOR SPACE**	14455	same	same	same	same	same	same	same	same	17854	same
LOOR SPACE / PERSON	123.8	109.1	88.2	86.7	77.7	67.7	63.6	60.9		62.7	60.

Peak load calculation indicating the total number of persons simultaneously in laboratory. Technologists, faculty supervisory personnel students, indicates 370 persons in morning shift which gives a floor space of 48 sq. ft. per person.

*Heart Cath., EEG, EEC space and personnel excluded

**At present 60% of total. It is diminishing due to instrumentation and safety needs. 1975-76 it is more like 50%.

SPACE FOR EDUCATIONAL PROGRAMS, GRADUATE STUDIES AND FACULTY RESEARCH

This space corresponds to what in general would be called departmental space for departments within the Medical School. The very large needs of our Department are related to three major factors all related to the history of this School. First, the Department of Laboratory Medicine has practically no space assigned to its faculty although its teaching and research commitments are comparable to those of any basic science department. Secondly, the rapid increase in service functions is continuously encroaching on any teaching and research effort, and as a third factor, we have the fact that the whole Medical Technology teaching program has no space assigned except for some office space in Powell Hall. These inherited deficiencies of the Department have been carried over to the combined Department of Laboratory Medicine and Pathology. In fact, the increasing service functions are rapidly encroaching on the departmental space of the Division of Anatomic Pathology. The space assigned to Pathology within the framework of the JOML project is smaller than the allotment to other departments. In addition, it contains 4,000 sq. ft. of unfinished space counted in that allotment. In fact, the JOML expansion of departmental space with about 4,000 sq. ft. of finished space on the 4th floor of Owre is nearly compensated for by the loss of 3,800 sq. ft. to the surgical pathology service of the Hospital on the first floor of Jackson Hall. Therefore, the total addition to the Department within the JOML assignments is 3,800 sq. ft. unfinished space and some office space presently used by the accounting staff.

Requirements for space necessary to carry out a successful educational program are most difficult to express in concrete terms. We shall first review our present teaching assignments and review the existing facilities to judge whether they are sufficient--and, if not, try to point out deficiencies. Surface areas and teacher-student relationships cannot be established except in concrete instances of laboratory courses with known number of students. Most of the graduate level teaching is intimately connected with our service function and we can only arrive at a rough estimate of the space within our service laboratories necessary to function as an educational tool.

First, our total teaching load for 1974-75 from data supplied by the Admissions and Records Office:

	Number of Students	Credit Hours
Pathology	529	1,365
Laboratory Medicine	265	820
Laboratory Medicine and Pathology	1,953	6,606
Medical Technology	658	2,688
Total	3,405	11,479

Details of the distribution within separate courses, undergraduate, graduate and allied health science fractions follow:

Laboratory Medicine and Pathology Course Offerings (1974-75)

L Med (Course and number of credits (GRADUATE)	Number of Students
5-103 Principles of Microbiology (4)	16
5-110 Hospitals Infections Control (2)	22
5-133 Medical Mycology (3)	12
5-136 Anaerobic Bacteriology (4)	11
5-138 Clinical Microbiology Seminar (1)	10
5-139 Adv Microbiology	1
5-160 Human Cytogenetics (2)	4
5-161 Human Cytogenetics Lab (3)	4
5-169 Research in Human Genetics	2
5-170 Adv. Probs: Medical Genetics	5
5-172 Human Genetics Traits: Blood Serum Protein Polymorphism (3)	2
5-177 Clinical Chemistry (6)	11
5-179 Seminar: Chemistry	2
5-180 Adv Chemistry (3)	3
5-267 Muscle Cell Structure, Function (1)	1
5-270 Immunohematology (3)	11
5-271 Immunohematology Lab (2)	4
5-272 Immunobiology (2)	4
5-273 Adv Immunology (3)	5
5-274 Molecular Aspects of Immunology (3)	23
5-765 Hematology (4)	6
5-766 Hematology (4)	7
5-767 Hematology Seminar (1)	2
5-768 Advanced Hematology (Arranged)	17
5-864 Research Seminar (1)	34
5-865 Departmental Seminar (1)	35
8-235 Adv Clinical Lab Med (4.5)	45
8-236 Research: Clinical Lab Probs (6)	47

LaMP (Course and number of credits (UNDERGRADUATE)	
Allied Health: 5-170 Pathophysiology-Disease I (3)	191
Allied Health: 5-171 Pathophysiology-Disease II (3)	185
Allied Health: 5-175 Pathology, Clinical Med - Applied Health Students I (3)	214
Allied Health: 5-176 Pathology, Clinical Med - Applied Health Students II (3)	207
5-181 Lab, Clinical Hematology	2
5-182 Lab Studies: Genetic Disorders	4
5-183 Clinical, Lab Immunology	2
5-184 Immunohematology: Blood Banking	1
5-185 Lab Probs: Blood Coagulation	1
5-186 Clinical Pathology Externship: MH (6)	2
5-187 Clinical Pathology Externship: Mt. S. (9)	135
5-188 Clinical Pathology Externship: HCGH (9)	3
5-194 Computer Applications: Medicine (6)	2
5-203 Clinical Pathology Externship: NMH (6)	4

Pathology (Course and number of credits) (GRADUATE)	Number of Students
5-101 General Pathology (6)	14
5-102 Experimental Pathology (5)	11
5-104 Autopsies (10)	34
5-106 Diseases of the Heart (1)	17
5-110 Research Seminar (1)	6
5-111 Conference: Autopsy Histopath. (1)	19
5-112 Diagnosis of Tumors (3)	18
5-113 Surgical Pathology (10)	20
5-125 Immunopathology (2)	25
5-126 Techniques in Immunopathology (1)	16
5-128 Experimental Immunopath. (4)	2
5-140 Seminar: Exper. Chronobiol. (1)	1
5-141 Probs: Exper. Chronobiol	1
5-160 Human Cytogenetics (2)	15
5-161 Human Cytogenetics Lab (3)	15
5-169 Research in Human Genetics	10
5-170 Adv. Probs: Medical Genetics	2
5-180 Adv Chemistry	1
5-267 Muscle Cell Structure, Function (1)	6
5-865 Departmental Seminar (1)	4
8-200 Advanced Problems in Pathology	1
8-201 Research (5)	16
8-207 Research: Experimental Pathology (5)	1
8-270 Immunohematology (3)	3
8-271 Immunohematology (4)	1
8-272 Immunobiology (2)	3
8-274 Molecular Aspects of Immunology (3)	26

LaMP (Course and number of credits) (UNDERGRADUATE)	
3-050 Pathology for Mortuary Science Students (5)	51
5-100 Pathology for Dental Students (5)	139
5-101 General Pathology (6)	240
5-113 Surgical Pathology (9)	7
5-114 Surgical Pathology HCGH (9)	6
5-115 Surgical Pathology VA (9)	4
5-125 Chronobiology (9)	6
5-141 Probs: Experimental Pathology (9)	2
5-150 Anatomic Path. (9)	2
5-151 Anatomic Path. HCGH (9)	7
5-152 Anatomic Path. VA (9)	7
5-153 Anatomic Path. SPR (9)	4
5-154 Anatomic Path. Fairview (9)	5
5-155 Anatomic Path. MH (9)	5
5-158 Cardiac Path. (9)	11

InMd	5-110 Medical Genetics	240

UNDERGRADUATE TEACHING - PHASE B

InMd Lab. Med.: Phase B - Lab Teaching

	Number of Students
5-290 Laboratory Medicine	240
5-226 Blood	240
5-223 Kidney	240

InMd Anat. Path: Phase B - Lab Teaching (joint participation)

5-220 Cardiovascular System	240
5-221 Respiratory System	240
5-223 Kidney	240
5-230 Nervous System and Muscle	240
5-231 Gut	240

For the purpose of undergraduate teaching, we have available 5,100 sq. ft. of teaching space in Building A and an additional 790 sq. ft. borrowed space in the same building. First, in our undergraduate teaching program in Laboratory Medicine, we consider that space adequate for:

Lab. Med., Phase B	240 students
Blood, Phase B	240 students
Kidney, Phase B	240 students

Lecture rooms in HSA are adequate for:

LaMP 5-270/271	180 students
LaMP 5-175/176	180 students

LaMP 5-175/176 independent study utilizes the Learning Center and is adequate

As far as we know, the space for Pathology in Mortuary Science and Dental programs (Runge, Wattenberg) is sufficient.

The only shortage in this part is an acute shortage of storage space (120 sq. ft.) and office space for 4 parttime instructors (250 sq. ft.).

Space for straight undergraduate Pathology teaching:

Path 5-101	240 students

For this purpose we have four teaching laboratories holding 32 students each, and one demonstration room for 50 people. If Pathology teaching within Phase A increases, such a request is in the hands of the Educational Policy Committee, the present space will be clearly inadequate. The second point in respect to Pathology teaching space is the absence of space for the gross collection being assembled and now having no central location. Permanent space for this has to be found on the first floor of Jackson Hall (room 197, for example). It is evident, and should be mentioned here as well as in the final summary, that the only available teaching space expansion in Pathology is on the first floor of Jackson Hall where at present the expansion of clinical services takes place. This leads to a long-term conflict of interests.

In summary, Laboratory Medicine undergraduate teaching needs 120 sq. ft. storage space and 250 sq. ft. office space. Pathology undergraduate teaching needs 700 sq. ft. space, space for gross collection, and expansion space for laboratories if Phase A teaching increases.

The third teaching program in the Department on the undergraduate level is that of Medical Technology. The nation's oldest and largest medical technology program, with a class of 60, has at present no space at all. The Medical Technology Division has 240 students and 14 faculty members. Its teaching takes place in Pathology teaching space in Building A. For the chemistry laboratories, two classrooms of 15 students each are borrowed from the Biochemistry Department (Building A). For office space, there is 1,213 sq. ft. divided between Powell Hall and Mayo Building. In order to carry on the medical technology program successfully, two steps are necessary: one, consolidation of office, audio-visual and storage space in one location; and two, acquisition of wet laboratory space to replace the space borrowed from Biochemistry.

Estimated space needs for the Medical Technology program:

Chemistry laboratory wet space for a section of 30 students occupying it fulltime for 20 weeks of the year	4,000 sq. ft.
Area for audio-visual equipment, multipurpose area	360 sq. ft.
Utility area, instrument storage, lab prep.	500 sq. ft.
Office space for 14 faculty members, 3 clerical people - 17 x 150	2,550 sq. ft.
Total	7,410 sq. ft.

At the present time the laboratory component of a course in clinical chemistry for graduate and undergraduate students in Medical Technology and for fellows in Laboratory Medicine is taught in student laboratories of the Department of Medical Biochemistry. Due to teaching commitments of Biochemistry and to the nature of the necessary material to be presented, it has been necessary to offer one course of almost overwhelming concentration only during spring quarter. These time schedules and space constrictions have restricted the availability of the course to the groups noted above. In addition, it has been necessary to move the hardware and software for the course in and out of storage before and at the end of the course.

Due to the lack of available space for laboratory work, the Department of Laboratory Medicine and Pathology has been hampered in developing and offering courses in clinical chemistry other than the basic course.

Faculty and graduate students must utilize space and equipment, as available, in the service laboratory area for investigative and developmental research. The requested space would alleviate this detrimental situation.

Offices for the faculty associated with the Division of Medical Technology are scattered throughout the Health Sciences complex with some in the Mayo Building and others in Powell Hall. The long range plans for Health Science construction are to move offices of the School of Public Health to Powell Hall with eventual demolition of Powell Hall for construction of a new University Hospital. To consolidate the administrative functions of the Division and in anticipation of an eventual relocation, it seems prudent to plan for office space at this time.

Space requirements for graduate education

The Department has at present:

35 Residents
58 Graduate students
3 Postdoctoral fellows

There are two types of space requirements for graduate studies. First, some laboratory space within the service divisions to provide the experimental part of graduate course work. As an example, the basic courses of clinical chemistry (held at Mt. Sinai in rented space) and hematology (held in Building A). Both of these should be located within the respective service areas. The same is true for immunology, microbiology, coagulation and genetics. We suggest that within each divisional

service area an average of 350 sq. ft. would be used as graduate laboratory and workshop space.

Chemistry	450 sq. ft.
Hematology	450 sq. ft.
Blood Bank	450 sq. ft.
Coagulation	350 sq. ft.
Immunology	350 sq. ft.
Genetics	350 sq. ft.
Microbiology	350 sq. ft.

The total sum of 2,400 sq. ft. distributed within the divisions is necessary for graduate education in Laboratory Medicine and Clinical Pathology in order to provide the close link to the actual service work. The same requirements are valid for surgical pathology and the autopsy service. The space request for those will appear directly in the surgical pathology service and autopsy service areas.

The space for research in graduate programs will be provided within the research space allocation. We will calculate, in the next section, that departmental research space of 58,800 sq. ft., of which we at present have 29,500 sq. ft., would accommodate 49 postdoctoral fellows or residents and 49 graduate students. These numbers closely match our present population so that no additional space is necessary under this heading.

Summary of additional space needs for teaching:

Laboratory Medicine	
Storage area	120 sq. ft.
Offices	400 sq. ft.
Pathology	
Gross collection	700 sq. ft.
possible additional expansion	open at this point
Medical Technology	
Laboratories	4,000 sq. ft.
Storage utility	860 sq. ft.
Offices	2,550 sq. ft.
Graduate education space in clinical laboratories	2,400 sq. ft.

Space for faculty designed for research and experimental part of graduate education program

Table 7 shows an estimate of the space which is at present available to the faculty members of the Department of Laboratory Medicine and Pathology. The present situation is a product of the histories of the two divisions of the Department of Laboratory Medicine and Pathology. Pathology had its center for many years in Jackson Hall where all the space assigned to research and graduate work is located on the 4th floor. Both the additions stemming from the JOML project are adjacent to this core and expand it with approximately 10,000 sq. ft. The present assignable area within Jackson is 9,800 sq. ft. The addition by JOML project will further increase

it with a minimum of 5,000 sq. ft. In the event the undeveloped area between Lyon and Jackson is developed, an additional 3,500 sq. ft. would become available. With a faculty of 12 at present, the space per faculty member is around 900 sq. ft. and expected to extend to 1,500 sq. ft. after completion of JOML.

The Department of Laboratory Medicine, on the other hand, has historically had no departmental space. Its members used part of the Hospital service laboratories for their academic pursuit. Space outside this block was either rented or assigned by the Dean on a temporary basis.

In summary, 36 faculty members had at their disposal 2,370 sq. ft. Hospital and departmental office space and 2,970 sq. ft. Hospital laboratory space for partial use in research and teaching. 9,151 sq. ft. has been rented or assigned to the individual faculty members.

In summary

	Laboratory Medicine	Pathology
Faculty	36	13
Total space	14,448 sq. ft.	9,816 + 5,227 (to be remodelled)
Office	2,370 sq. ft.	
Hospital	2,927 sq. ft.	
Non-departmental	9,151 sq. ft.	916 sq. ft.
Total space per person	401 sq. ft.	1,157 sq. ft.

The disparity in faculty space for the two divisions of the Department is of historic origin tracing back to the times when both divisions were independent departments with their own growth rate and different goals in both service and teaching. If we, for a moment, set this aside and pool all the faculty and all the space, we arrive at:

Total faculty - 49
Total space available for faculty - 29,491 sq. ft.
This results in 602 sq. ft. brutto per faculty member

This is an estimate including space assigned to faculty members individually by the Dean on a temporary basis and space rented by the Department. If this sum is subtracted, we have a total reassignable space of 20,340 sq. ft. or 415 sq. ft. per faculty member. It should be noted that we have, in this calculation, not included the space of Health Computer Sciences and the chronobiology laboratories since these areas were originally not of the Department and, although they are at present administered by the Department, they represent a separate resource for the School. The amount of space we arrived at, 602 sq. ft. brutto space, will expand about 80 sq. ft. if the unfinished space between Lyon and Jackson is finished. From these numbers it is evident that the Department as a whole is seriously short of space for faculty.

Without temporarily rented or assigned space, the brutto space falls to 415 sq. ft., scarcely more than an office and bench space for one student or technician.

The large percentage of rented or temporarily assigned space, 9,151 sq. ft. or 31% of the total, severely limits the Department to acquire new faculty since space vacated, in the case of the Dean's assignments, will not return to the Department.

The next step is to make some reasonable assumptions about space necessary for a faculty member so he can be productive and function in the graduate education programs. It is evident that we can again talk only about averages. The accompanying collection

of documents from individual faculty members shows well-justified needs for additional space both for people presently without space and those having reasonable space assigned to them at present.

Assuming that a faculty member at the associate professor level has one postdoctoral fellow, one graduate student, one technician and two parttime students. He would need as a rough estimate, 800 sq. ft. laboratory space, 200 sq. ft. office space, and 200 sq. ft. space for animals or massive instrumentation such as electron microscopy. The size of this group needs an average yearly support of $50,000 in grants. Of course, some of the senior professors have considerably larger groups, however, this is compensated for by the smaller groups of junior faculty which includes a number of members without any group yet. Using this number, we arrive at 49 x 1,200 = 58,800 sq. ft. of space necessary for faculty research and graduate education projects. At this point we have to consider the grant support available to the Department; it would be fallacious to argue for space covering activities for which the Department has no funds to perform. Assuming the necessity of $40-50,000 yearly support to keep a group occupying 1,200 sq. ft. going, we arrive first at ($45,000 x 49) an estimate of $2,200,00 per annum. This is an overestimate since it would again assume 100% utilization allowing no further expansion of activities. We assume 80% utilization of the projected space is reasonable. This demands $1,760,000 in yearly support to justify the space we deem necessary.

In summary

Total faculty - 49
Total space available - 29,491 sq. ft.
Total grant support available - $2,193,459 (support to Health Computer Sciences group and chronobiology laboratories has been excluded since their source was not counted in space available nor their personnel in total faculty)
Space deemed necessary - 58,800 sq. ft.
Grant support necessary to justify the above - $1,760,000 for year

It is evident that we have a shortage of 29,309 sq. ft. of research and graduate education space. We also have already adequate federal funds at hand to justify activities utilizing that area to 80% efficiency. The only additional space on the horizon is the 4,000 sq. ft. of unfinished space assigned to us.

In the next section we shall summarize the space needs for the three categories of activities we have described in the preceeding sections and we shall forward some proposals for steps that can be taken to alleviate the problem in the time space of the next five years.

Table 7

LABORATORY MEDICINE

Click - 618 + 161 office (temp. JOML + 173 borrowed)
Kersey - 1640 Jackson
Greenberg - 1030 VCHH
E. Yunis - 763 Jackson + 1306 borrowed (mouse colony)

Benson - 1600 rented Stone
Rosenberg - " " " + 1050 KE Dean's Commit.
Hallaway - " " "

Steffes - Share 500 in KE Dean's Commit. + 100 office Hospital space
Brown -

Balfour - 350 KE Dean's Commit. + 200 office Hospital (shared with Marion)
J. Yunis - 614 Hospital space partially research
J. McCullough - 192 Hospital space partially research
R. Edson - 465 Hospital space partially research
W. Yasmineh - 300 Hospital space partially research
E. Freier - 300 Hospital space partially research
Sundberg - 150 Hospital office space
Brunning - 150 Hospital office space
Bridges - 200 office space
Bradley - 100 office space

Blazevic - 50 office
Ederer - 50 office share also 250 Hospital research space
Hofherr - 50 office

Stewart - 100 sq. ft. Hospital space
McKenna - 100 Hospital office space
O'Carroll - 50 Hospital office space
Zieske -
Marker - 50 Hospital office space (see Steffes)

MEDICAL TECHNOLOGY

Hovde - 201 office space
Rausch - 211 office space
Cox - 25 Hospital office space
N. Hansen - 25 Hospital office space
J. Hansen - 25 Hospital office space

Carter - 185 office space
Karni -

Viskochil - 96 office space
Lofness -

Common resources - 200 audio visual

Total Space:		
	Office	2,370 sq. ft.
	Hospital Space	2,970 sq. ft.
	Outside	9,151 sq. ft.

PATHOLOGY

Wattenberg - 4400
Furcht - 1000
Estensen - 550
Gajl - 258
Runge - 371
Burke - 200 office
Mariani - 0

Rosai - 226 office
Dehner - 391 office
Hertel - 476 lab space shared in Diehl
Sibley -

Jauregui - 210 office
Ratliff - 440 KE space

Common resources - 232 histology
485 storage
158 cold room
629 laboratories (474A, 474, 475)

Total laboratory office and animal space

Jackson	8900
Borrowed Deans, etc.	916
total	9816

In addition, 5,227 sq. ft. JOML addition to be remodelled and at present utilized on a non-permanent basis to house among other things part of surgical pathology operations.

SUGGESTIONS FOR SPACE ALLOCATIONS

Service Needs - Additional Space

Main Laboratories	21,610 sq. ft.
Surgical Pathology	1,308 sq. ft.
Autopsy Service	2,460 sq. ft.

The expansion of the main laboratories has to take place adjacent to the present laboratories. The laboratory computer system can function cost effectively only if the number of main entry points is minimized and the distances for cable installations are kept down. Furthermore, the needs for air handling, hoods, etc., are such that the present main chemistry area has to remain the center of our work effort. If a central receiving area is developed within the laboratories, we cannot split the present laboratory complex.

We suggest for the main laboratories:

a. Give up present RIA laboratory
b. Give up present hematology, urinalysis*
c. Give up present laboratory administration and library

We ask for the whole 2nd floor of Mayo from Todd Amphitheater and the kitchen involving the present admissions, pediatric clinic, hospital administration, family practice clinic and medicine clinic, all on the D corridor system. Also included will be the present pahrmacy and outpatient laboratoy. Within this space we intend to accomplish the following:

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*Another alternative could be developed by not relinquishing all of the present hematology space. This would give only the two former teaching laboratories, B207 and B209, to the Department of Radiology. This loss of space for hematology will then be compensated for by acquisition of the blood bank donor room, library, present departmental offices, and the office of the Department Head. This altogether will give an additional 1,000 sq. ft. which is considerably short of the goal of an additional 3,000 sq. ft. of space. Expansion along the C corridor runs into the expansion of the Data Division. The only possible assignable room, C208, would compensate for the loss of C211 (special heme). The only possibility for this alternative to be viable at all would be if EEG moved and relinquished all of its 973 sq. ft. of space to hematology. That would give hematology a net gain of 2,000 sq. ft. instead of 3,000 in the present plan. The advantage would be a closer location to the computer which might outweigh the somewhat smaller space allocation to hematology. However, as far as we know, there are no plans at present to move EEG. It is highly illogical that that operation is not moved to B-C. Still, since the ER will remain in its present location as well as Radiology, a stream of patients for special procedures will move along the B corridor and EEG could stay where it is and in fact expand. I have not, in this plan, taken a stand in respect to moving EEG. We as a committee have had no information concerning this question.

1. Remove all divisions except chemistry from the Southwest Court, move RIA and urinalysis into the Court, and use the rest of the space in that area for chemistry expansion.

2. The computer unit will stay where it is and expand along the C corridor towards our present main office (C213, C212, C211, and C210).

These two steps would eliminate the necessity of building new chemistry space which is the most expensive of all spaces per sq. ft. It will also diminish or eliminate costs for large changes in the computer system.

3. We will expand the present blood bank through present pharmacy and into the opposite side of the corridor (Rooms D205, 206, 207, 208, 210, 212, 213, 217, 219-8, 219-9, 219-10, 218, 291). This again cuts costs since the present space can be utilized without major changes.

4. We will move coagulation into the present pediatric clinic (Rooms D229, 225, 235, 242-1, 242-2, 242-3, 242-3A, 242-4, 242-5, 242, 242 Ex 6-11), and hematology into the present family practice and outpatient laboratory (Rooms D242 Ex-12, 251-1, 251-2, 251, 254, 253, 260 1-15, 275, A-265, 261, 272, 269 1-4, 265 1-4).

This diminishes costs since the mixture of small rooms and a few large rooms in addition to the present outpatient laboratory can be utilized efficiently by hematology. It would be prohibitive to convert it to chemistry. The coagulation area, on the other hand, needs more remodelling.

5. We will move the departmental and laboratory administration offices into present admissions eliminating nearly all needs of major remodelling (D214 1-8, 212 1-2, 215 1-7, 219, 222, 224).

6. We will move virology into the present medicine clinic (A231, 232, 233, 234, 235, 236, 237, 280, 279, 278, 277, 276, 274, 253, 244, 243, 242, 241, 259, 254, 255, 256). Here major rebuilding is necessary. However, this is outweighed by its location relative to the present microbiology space.

7. The divisions of immunology (Rooms D307 1-4, 311, 386, 388, 385, 383, 381, 380, 379, 352 3-7) and genetics (Rooms D377, 374, 372, 352-8, 352-9, 352-10, 360, 360 1-4, 361) will be moved to the 3rd floor into the present ear, nose and throat clinic and west clinic areas.

The choice of immunology and genetics to move upstairs allows the most test- and result-intense laboratories to stay together on the second floor. The already existing staircase from west clinic to family practice clinic will tie the laboratory areas together.

The extent of remodelling will thus look like this:

a. Present Southwest Court - practically none.

b. Admissions area - 2,200 sq. ft., minor changes for office personnel.

c. Expansion of blood bank - 2,100 sq. ft., moderate changes.

d. Remodelling of family practice clinic and outpatient labs to hematology - 3,500 sq. ft., moderate changes.

e. Remodelling of medicine clinic to virology - 2,200 sq. ft., extensive changes.

f. Remodelling of pediatric clinic to coagulation - 2,500 sq. ft., moderate to extensive changes.

g. Remodelling of ear, nose and throat clinic to immunology - 2,608 sq. ft. moderate to extensive changes.

h. Remodelling of west clinic to genetics - 3,800 sq. ft., moderate to extensive changes.

The space allocations to the divisions are summarized in the following list and the areas outlined in the following floor plans.

TENTATIVE SPACE DISTRIBUTIONS FOR DIFFERENT DIVISIONS

Data Division

Retains present space	375
Gains from Chemistry	560
Gains from Hematology	210
total gain	770

Chemistry

Gives up:	to Bact.	525
	to Data Div.	560
	to Rad. Therapy	1000
	to X-ray	400
Gains in Court and C289		5725
	total gain	4130

Microbiology

Retains present space	
Loses C289	348
Gains A206	560
Adds Virology space on second floor	3100
total gain	3312

Administration

Gives up	2775
Gains on second floor	4900
total gain	2275

Blood Bank

Loses donor room	424
Gains on second floor	2524
total gain	2100

Hematology

Loses all space	2848
Gains on second floor	6500
total gain	3650

Coagulation

Loses present space	900
Gains on second floor	2500
total gain	1600

Genetics

Loses present space	2682
Gains on third floor	3800
total gain	1120

Immunology

Loses present space		2192
Gains on third floor		4800
	total gain	2608

For that purpose, we give up and ask on -

4672	sq. ft.
19500	sq. ft.
8600	sq. ft.
28100	sq. ft.

Net New Space ~23,400 sq. ft.

Teaching and Research Needs - Additional Space

Space needs for Laboratory Medicine and Pathology undergraduate teaching are small for Laboratory Medicine and not yet well defined for Pathology. It appears at present that an expansion has to be contemplated within the JOML complex. The square footage necessary is not too great and probably could be accommodated there. If Hospital services, presently in Jackson Hall in the form of surgical pathology, would acquire space in the Hospital, their area would be available to satisfy the needs for teaching which are in the 1,000 - 2,000 square foot range.

The major problem in teaching is the Medical Technology program. This program should have a core area of office and wet laboratory space. According to attached plans which, as an example, suggest a floor of B-C (7th), Medical Technology argues for about 10,000 sq. ft. of office and laboratory space, a not unreasonable request for this program. We have, in a previous section, arrived at 7,500 sq. ft. based on somewhat diminished areas for individual offices and auxiliary rooms.

Using as a reference the book, Laboratory Planning for Chemistry and Chemical Engineering, Harry F. Lewis, Reinhold Publishers, 1962, the following figures are presented for justification of the space requested.

1. Laboratory space
   a. For scientific and technical facilities, the most usual area per occupant ranged from 140 sq. ft. to 180 sq. ft. Using the middle figure of this range, 160 sq. ft. x 30 students = 4,800 sq. ft.
   b. For hospital research laboratories, 200 sq. ft. per occupant on a net area basis is a "rule-of-thumb" figure. Because the clinical chemistry course is closer to this kind of activity, 200 sq. ft. x 30 students or 6,000 sq. ft. would be a more realistic figure.

2. Conference room - Dimensions for such a room range from 216 sq. ft. (for 10 people), to 700 sq. ft. With storage of AV equipment, the figure of 360 sq. ft. (or 400 sq. ft.) does not seem unreasonable.

3. Utility and preparation room - Although the need for space for such functions is recognized, it is difficult to find figures. The area of a general storage room is 1,650 sq. ft.

4. Office area
   a. Chairman - 200 sq. ft.
   b. Associate director and 12 faculty - 150 sq. ft. each = 1,950 sq. ft.
   c. 3 secretarial and file - 450 sq. ft.
   d. Duplicating room - 100 sq. ft.

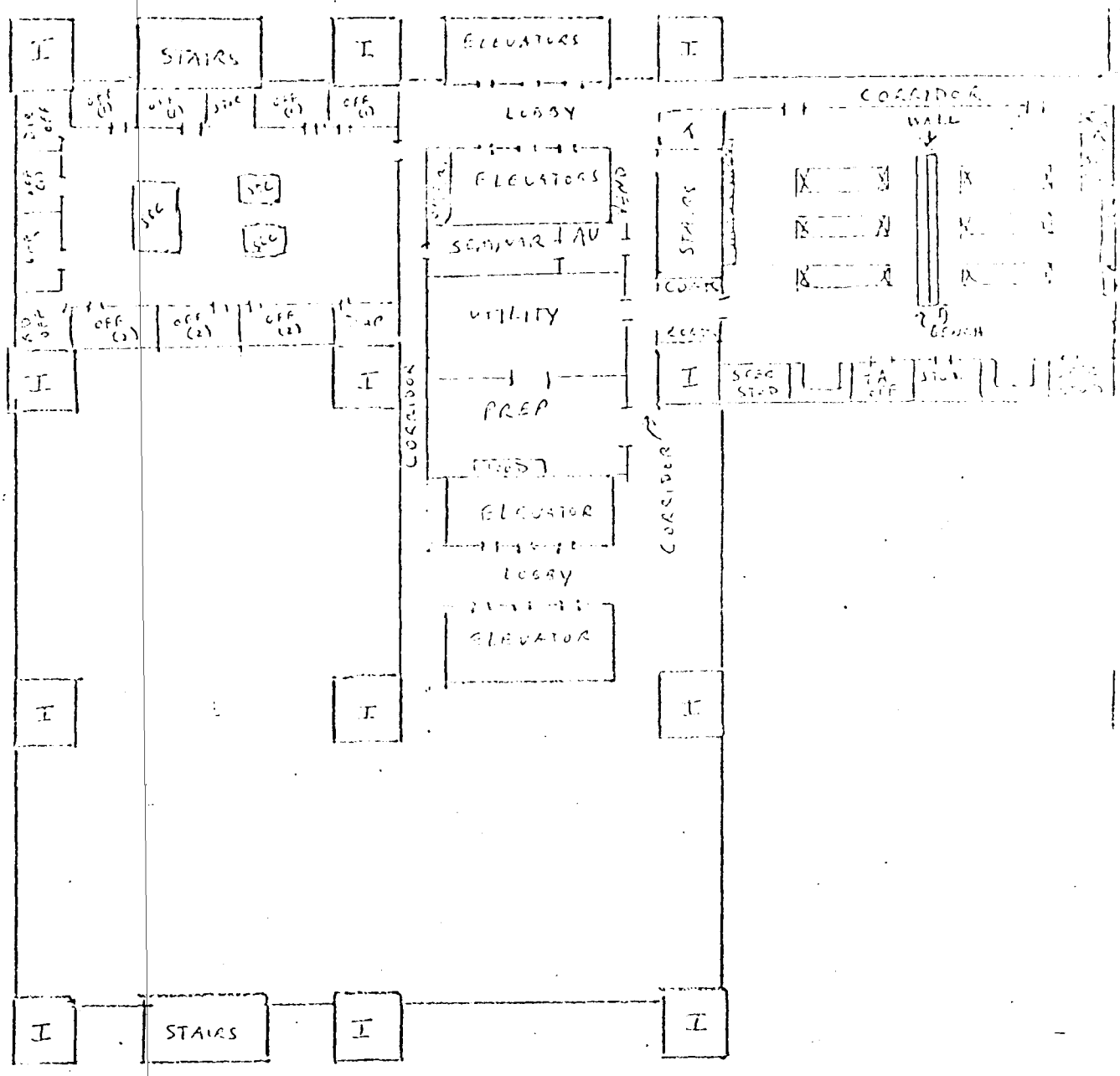
   Total - 2,300 sq. ft.

Total of above, using:

1a.	4,800 sq. ft.	1b.	6,000 sq. ft.	1c.	4,000 sq. ft.
2.	360		360		360
3.	1,650		1,650		500
4.	2,700		2,700		2,550
	9,510 sq. ft.		10,710 sq. ft.		7,410 sq. ft.

It should be noted that we would continue to share the rooms 3-317, 3-325, 3-331, 3-343, and 3-349 in Unit A, due primarily to the availability of microscopes. Alternative 1c is minimal space request based on comparison with the present teaching space and teaching load for other programs in the Department.

Space needs for graduate teaching within the Clinical Laboratories: The suggested space allocation for service is large enough, 2,000-3,000 sq. ft. above service requirements. Thus, the full allocation will take care of these needs.



NOT TO SCALE

I = SERVICE COLUMNS

Alternatives for Satisfying the Needs for Faculty Research and Graduate Education Space

The first alternative that has to be looked at is of course the possibility of redistribution of space within the existing space. The only members of the staff having space in excess of 1,000 sq. ft. are Wattenberg and Furcht of the Pathology Division and Rosenberg, Kersey, Greenberg and Benson of the Laboratory Medicine Division. All of these individuals have vigorous research programs with large personnel and adequate grant support. In the case of Benson, Greenberg, and Rosenberg, all of the space is either Dean's Commitment or rented space outside the University complex. The total space that could be repossessed by the Department would be at most 1,000-2,000 sq. ft. and would in essence mean curtailing some research effort in favor of another. It is not within the jurisdiction of this committee to suggest such steps. We would, however, like to point out that the amount of space available for redistribution is extremely limited and would not alleviate our problems but only shift the problem from one area to another. In a previous section we have calculated the space necessary for our faculty to continue a satisfactory research effort, an effort for which Federal funds are already at hand. The need for additional 28,000 sq. ft. of laboratory space is, therefore, well documented. We may gain 6,000-7,000 sq. ft. of rebuilt space in the Owre complex. This would leave us with a shortage of 20-25,000 sq. ft. This additional space could, of course, be located practically anywhere. We suggest here an addition by three sections:

1. Reallocation of space within the JOML complex. In this case an argument for Laboratory Medicine as a basic science should be made (maybe 5,000 sq. ft.).

2. The rest of 3rd floor clinics in Mayo could be assigned (rough estimate - 15,000 sq. ft.).

3. A floor of the B-C building would give us adequate space (5,000 sq. ft.).

Finally, it should be pointed out that in the expansion of service space we have calculated the possibility of 2,500 sq. ft. to be used as graduate and resident laboratory space. This is space that should then be counted to the faculty research and graduate studies area. These small additions are gratifying but they do not make a dent in the large accumulated shortage.

UNIVERSITY OF MINNESOTA
HEALTH SCIENCES EXPANSION
THE ARCHITECTS COLLABORATIVE Inc.
20 MAY 1976

DRAFT TO BE REVISED 9-26-77

DRAFT PROPOSAL FOR THE REVISION OF HEALTH SCIENCES MASTER PLAN

This is a proposal for professional services in connection with the revision of the Health Sciences Master Plan. The study shall comprise two parts:

I. Updating the 1968 Health Sciences Planning Report to reflect existing conditions.

II. Proposing a revised Master Plan for the continued physical development of the Health Sciences.

These parts are described in the first two sections of the proposal. A third section consists of a Fee Proposal.

U/MINN HSE
TAC
Proposal for Revising Master Plan
20 May 1976
(Revised 10 December 1976)

PART 1

UPDATING THE 1968 HEALTH SCIENCES PLANNING REPORT TO REFLECT EXISTING CONDITITONS

A. Space Inventory

Record, in the form of drawings and tabular lists, the departmental assignment of each Health Sciences space. Include:

1. Plan drawings of all levels of the Health Sciences complex showing the location of each space and the boundaries of each department.

2. Field verification of the listing of each Health Sciences space in the University of Minnesota, Facility Inventory System. Corrections to be given to the University for update of list.

3. Summary of areas of each department, from updated list, compared with previous master plan space projections.

B. Circulation Patterns

Record entry points and circulation paths for staff, students, visitors, materials, inpatients, and outpatients. Include circulation patterns within buildings and between buildings on the Health Sciences site.

C. Access to the Health Sciences Site

Describe changes which have occurred since 1968 in patterns of access to the Health Sciences site. Include:

1. Dartmouth Street, freeway interchange

2. Parking ramp at Oak Street

3. Closing of Union Street from Deleware Street to Essex Street

4. New service entrance from East River Road

5. Reconstruction of East River Road and designation as limited access route.

D. First Phase Development, New Construction

Describe changes to the Health Sciences complex resulting from the construction of new facilities. Include completed projects and those currently being implemented.

1. Off site Utilities
2. Unit A
3. Unit B/C
4. Unit K/E
5. Parking Ramp

E. First Phase Development, Renovations

Describe changes resulting from renovations to space in existing buildings and/or reassignment of space in existing buildings. Include completed projects and those currently being implemented.

1. JOML
2. PAP remodelings: Milland, Gould, Stone
3. VCHH Remodeling
4. Nutrition remodeling in Mayo and Powell
5. Emergency Department
6. Reassignment of former Microbiology Laboratory space in Mayo Tower.
7. Kidney Dialysis unit
8. Reassignment of vacated outpatient clinic space in Mayo

F. First Phase Development, Projects Which Differ From 1968 Plan

Describe projects which were implemented in a manner different from as proposed in the 1968 Planning Report. Describe why these changes were made. Include:

1. The relocation of the Emergency Department in the Mayo garage instead of the basement of Unit C.

2. The remodeling of the kitchen and dining rooms in Mayo instead of relocating them in the upper levels of K/E.

3. The construction of Unit K as part of Unit E.

G. Aspects Eliminated From The 1968 Plan

Describe aspects of the 1968 Planning Report which have been postponed or eliminated. Describe why these changes were made. Include:

1. Unit F

2. Unit C inpatient nursing units.

H. Overview of Status of 1968 Master Plan

Review the overall status of the 1968 Health Sciences Master Plan.

1. For each of the projects described in C - F, record the estimated versus actual cost, sources of funding, implementation schedule, net and gross area, location of functional units and effect on enrollment.

2. Describe elements awaiting implementation and estimate the probable schedule for their implementation.

3. Record current Health Sciences goals which influence the Master Plan.

I. Presentation

Present the above material A - H in a report comprising all drawings, tabular lists, and sufficient text to clearly explain all significant aspects of existing conditions. Complex drawings will also be presented separately, at larger scale, for detailed study.

PART II

PROPOSING A REVISED MASTER PLAN FOR THE CONTINUED PHYSICAL DEVELOPMENT OF THE HEALTH SCIENCES

A. Overall Goals for the Health Sciences

Identify the overall goals and trends underlying the continued physical development of the Health Sciences Center. Include:

1. Goals relating to the size of the institution: number of students and patients.

2. Trends regarding the focus of departmental activity.

3. Trends toward curricular and physical integration of Health Science components.

4. Trends regarding available funding for physical development.

B. Site Constraints

Identify those constraints which, in addition to existing conditions, may effect the future selection of sites for the Health Sciences expansion. Include:

1. "The University of Minnesota, Minneapolis Campus. Long Range Master Plan."

2. Federally funded projects, protected from demolition.

C. Program Requirements for Second Phase Development Through 1985.

Project program requirements for each component of the Health Sciences. Include: Ambulatory Care, Basic Sciences, Biomedical Library, Clinical Teaching and Research, Continuation Education, School of Dentistry, Mayo Garage, Hospital, Administration and Related Space, Ancillary Programs, On-Call Quarters, Out-patient Clinics, School of Nursing, School of Public Health, Scientific Aparatus Shop, Student Housing, and General Purpose Classrooms. Record:

1. General statement of requirements.

2. Projected area requirements: net area and gross area.

3. Adjacency requirements including needs for intra-departmental circulation.

D. Master Plan, Second Phase Development, Through 1985

Propose a Master Plan for the development of the Health Sciences Center through 1985.

1. Plan for access to the Health Sciences site by private automobile, mass transit, intra-campus transit, ambulance, bicycle, pedestrian, service, etc.

2. Overall plan for circulation within the Health Sciences site by the above modes of travel for inpatients, outpatients, visitors, students, staff, service, research animals, etc.

3. Overall plan for the zoning of the Health Sciences site by function.

4. Specific allocation of space to Health Sciences departments.

E. Implementation, Second Phase Development Through 1985.

Identify the specific increments of construction for implementing the Second Phase Master Plan with accompanying time schedule and cost data.

1. Identify specific new construction and remodeling projects which, when taken together, make up the Second Phase, Master Plan.

2. Assign a schedule for the implementation of each of the above projects.

3. Estimate the probable cost of each of the above projects.

F. Master Plan, Third Phase Development, Through 1995

Propose a program and Master Plan for the development of the Health Sciences Center through 1995.

1. Project program requirements for each component of the Health Sciences.

2. Propose a Third Phase Master Plan for the development of the Health Sciences.

G. Presentation

Present the above material (II A-F) as a report comprising a statement of program in written and tabular form, a Master Plan in the form of plans and sections, and information about implementation in the from of scheduling diagrams and tabulated cost data. Provide sufficient text to clearly explain all significant aspects of the work.

PART III
FEE PROPOSAL

We propose that the University shall compensate the architects for the work outlined in Part I and Part II of this proposal according to the conditions outlined in the attached documents:

1. Standard Form of Agreement Between Owner and Architect, (A.I.A. Document B141); Compensation on the basis of a multiple of direct personnel expense.

2. Schedule of Charges, Time Charge Contracts as a multiple of direct personnel expense; TAC document, effective date May 1974.

Appendix III

UNIVERSITY OF MINNESOTA
TWIN CITIES

University Hospitals
Minneapolis, Minnesota 55455

September 15, 1976

TO: Tom Jones

FROM: Dan Rode

SUBJECT: Inpatient Admissions/Credit and Business Office Functions - Mayo Satellite

Below is information which I believe has been requested regarding the needs for Admissions, Business and Credit Office functions in Mayo Building once the move to BC has been completed.

All the functions, with the exception of bed control, are direct patient related functions with the large majority of them relating to the point in time when the patient is admitted to the hospital. It is due to this contact point that we must strongly argue that such functions be easily accessible to the main entrance to the hospitals which, I believe, has been the third floor circle entrance.

Since the Admissions/Credit functions will be and are 24 hour staffing functions, I have drawn a grid below to show the approximate staffing patterns. Please remember that there is an overlap in the staffing patterns (i.e., the evening supervisor is also the weekend supervisor, etc.).

	Shift				
	Day	Evening	Night	Weekend	FTE
Admissions Manager	1				1
Admissions Office Supvr.	1	1			2
Admissions Statistic Coordinator	1				1
Admissions Bed Control Coordinator	1	1	1	1	4
Admissions Interviewer II	4			1	5
Admissions Interview I	4	3		2	9
Admissions Receptionist & Support Staff	3	1		1	5
Credit Inhouse Rep.	1				1
Credit Support Staff	3				3
Cashiers Office	1.5				1.5
	20.5	6	1	5	32.5

Going from the above grid to actual space need, I must point out that these requirements are based on the time of day when the maximum staff would be working.

Admissions Manager	1 @ 120 sq ft = 120 sq ft	120
Admissions Office Supervisor	1 @ 90 sq ft = 90 sq ft (1)	90
Admissions Coordinators (Bed Control & Statistics)	2 @ 90 sq ft = 180 sq ft	180
Admissions Interviewers and 2 Inhouse Credit Rep	11 @ 90 sq ft = 990 sq ft (2)	960
Admissions Receptionist and Support Staff	3 @ 90 sq ft + Ctr = 315 sq ft (3)	225
Credit Support Staff	2 @ 60 sq ft = 180 sq ft	120
Cashiers Office	2 @ 60 sq ft + Wd = 225 sq ft (4)	(225)
Filing Storage and Machine Areas	180 sq ft	180
Waiting Room	500 sq ft	500
Total Space Requirement excluding Hallways et al	2,780 sq ft (5)	3,315

Note: (1) 90 sq. ft. is assuming the two supervisors share desk, office, etc. as we are currently doing. It would be preferable to increase this space to two offices or enough space in one office to hold two desks.

(2) This space includes room for the Nursing Department liaison staff member who also performs a nursing interview in some cases.

(3) CTR - counter for inpatients to report to and hold all materials necessary plus equipment.

(4) This space includes room for small safe, input/output terminals and cashier window/counter.

(5) To this 2,780 sq. ft. might be added corridor space, additional supervisory space, and patient restrooms. Other concerns might include space for social work, patient relations, etc. which we will not go into at this point.

The interviewing space shown includes space for handling the appointments, pre-admit and interviewing functions as they now exist. At the point in time when the Admissions Office would occupy another space, these functions will differ in regard to the way they are handled by staff personnel. We, therefore, have equated the space to our projection as to the number of personnel needed to handle these functions at that time rather than in the circumstances that now exist.

The space allocated for a waiting area is likewise based on the system as we projected and anticipated it [illegible] statement shown is for patients and relatives who would come into the Admissions area similar to the way they currently enter such an area and includes a space for wheelchairs and luggage. Of concern [illegible] the location of such a space, it must be noted that we have made inquiries as to the transport system that

will connect Mayo Building with BC. The file room for the department, it must be noted, will be located in BC as well as Medical Records. If the connection between the two buildings enters on the first or second floor, it is imperative that there be some means to access it on third floor (i.e., entering the transport system to the dumbwaiter and having an employee on an 8 hour basis use the dumbwaiter to transport materials to other floors). Without this contact, it would then be necessary for the department to have a runner to connect the two offices or a means to have access to the transport system. Therefore, due to the requirements shown above, I would like to once again indicate our feelings that the Neuro-Psych Clinic space would make an extremely ideal location for the Admitting, Credit and Business Office functions. The clinic examination rooms fit the bill fairly well for patient interview rooms and supervisory offices. The counterspace already exists as well as a waiting area that includes restrooms. The location is right next to the main dumbwaiter and would allow access hopefully to the transport system. An opening could be made into this section through the front waiting lobby which then would mean that patients could easily identify the Admissions Office to which most of them would be reporting at the beginning of their inpatient admission. The only major construction that would be necessary would be to design a cashiers office that would be accessible not only to the patient but to the staff and perhaps such an office could be located in the current existing entrance to Neuro-Psych.

If there is any additional information that you need, please feel free to contact me at any time.

DR/tr

cc: Cliff Fearing
Greg Kujawa
Bob Baker
Julia Aamodt
Bill Conner
Phil Hanson
Heather McCune

UNIVERSITY OF MINNESOTA
TWIN CITIES

University Hospitals
Minneapolis, Minnesota 55455

February 9, 1977

TO: Hospital Planning Steering Committee

Drs. Eisenberg
Gault
Gedgaudas
Hastings
Najarian
Resch
Winchell
Mr. Jones

FROM: John Westerman, Chairman

SUBJ: Appointment

Thank you very much for agreeing to serve on a Hospital Planning Steering Committee. As we discussed, the Committee is basically a grouping of those representing the hospitals in the planning process through their ex-officio positions. The Committee is asked to provide direction and focus to the hospitals' planning effort by appointing task forces to work on specific projects, to periodically meet and advise the hospitals regarding planning issues, and to receive, review, and forward reports representing hospitals' planning positions to the Board of Governors and to various Health Sciences planning committees:

The Steering Committee ex-officio members include:

Chief-of-Staff	Paul Winchell
Former Chief-of-Staff	Don Hastings
Chairman of Council of Clinical Chiefs	John Najarian
Chairman of Council of Clinical Sciences	Eugene Gedgaudas
Medical Staff Representatives to Board of Governors - Facilities Committee	Joe Resch & Mike Eisenberg
Dean - Medical School	N.L. Gault
General Director - Hospitals	John Westerman
Director of Hospitals Planning	Tom Jones

Eugene Gedgaudas and Tom Jones will represent us on the newly formed Health Sciences Facilities Advisory Committee. University Hospitals' representatives on the parent Health Sciences Planning Council are John Westerman and Donald Van Hulzen.

We will meet (as a first part of the Executive Steering Committee) on Thursday, February 17, 7:00 a.m., in Dining Room III.

UNIVERSITY OF MINNESOTA
Office of the Vice President for Health Sciences Affairs
432 Morrill Hall
Minneapolis, Minnesota 55455

Staff

Clint Hewitt

DATE	JUL 25 1977
CH	
FILE	

MEMO June 20, 1977

TO: Health Sciences Deans and Directors

FROM: Cherie Perlmutter, Assistant Vice President

Clint Hewitt and I are prepared to convene the space committee which we have been asked to co-chair. This committee, which will be advisory to the Health Sciences Planning Council, has as its primary charge the updating of the Health Sciences Master Plan. Attached is a sketch of the process.

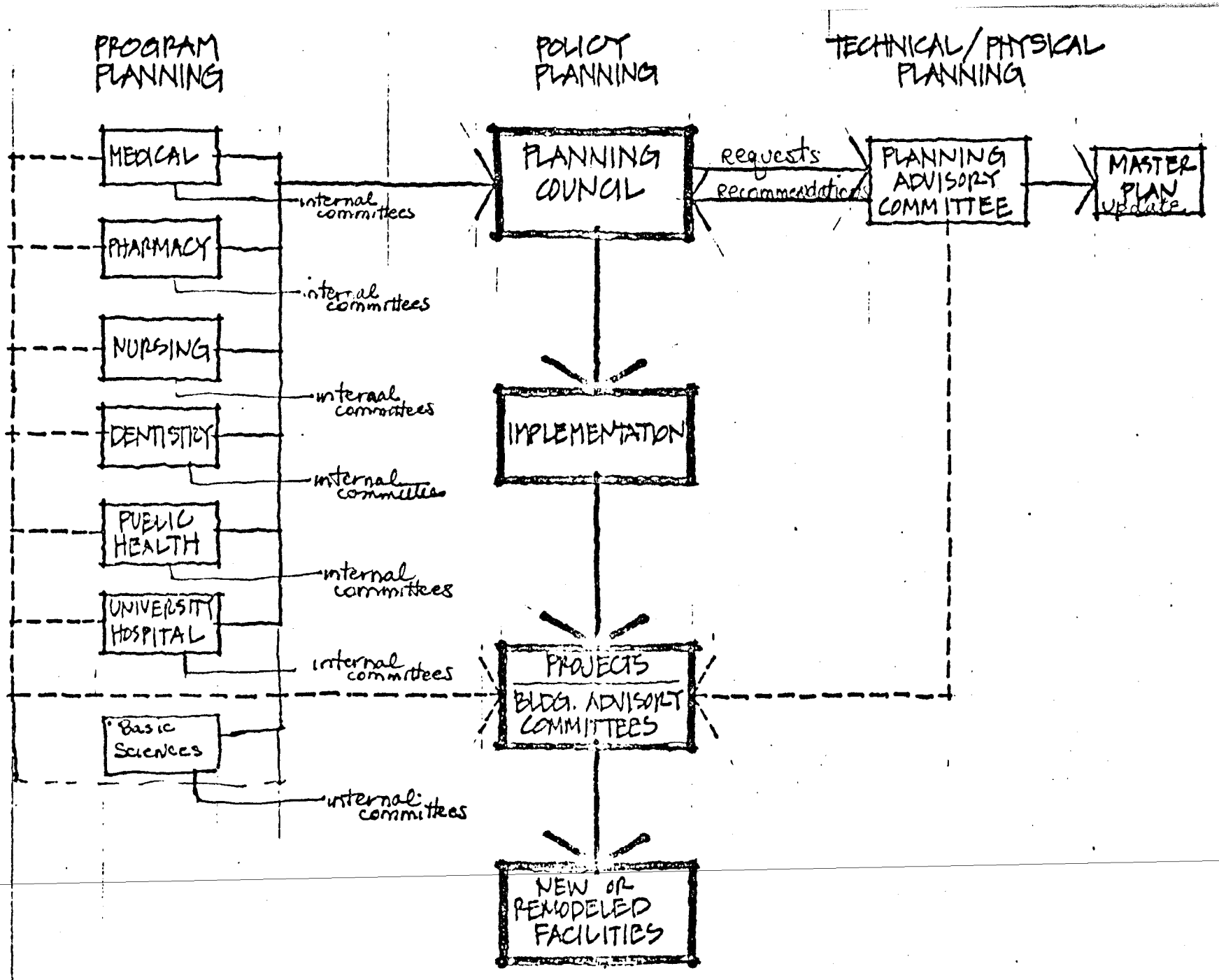
The membership of the space committee will be one administrative and one faculty person from each unit. In addition, a representative of the Basic Sciences, which serve as a resource for all Health Science academic programs, will be helpful. Ideally, the chairman of each school's space planning committee or task force would be the appropriate faculty person, particularly for those projects which are in the planning stage.

John Byrd, the Director of Space Planning, and Paul Maupin, Health Sciences Space Planning Coordinator, will serve as ex-officio members of the committee.

Please call Karen at 373-7610 with the names of your school's representatives so that appropriate appointment letters can be prepared and an early meeting of the committee can be arranged.

C. P.

CP:kgw
Enc.


PROGRAM PLANNING
POLICY PLANNING
TECHNICAL/PHYSICAL PLANNING
MEDICAL
PHARMACY
NURSING
DENTISTRY
PUBLIC HEALTH
UNIVERSITY HOSPITAL
Basic Sciences
internal committees
PLANNING COUNCIL
requests
recommendations
PLANNING ADVISORY COMMITTEE
MASTER PLAN update
IMPLEMENTATION
PROJECTS
BLDG. ADVISORY COMMITTEES
NEW OR REMODELED FACILITIES

Recommendations Regarding Space Reassignment in the Mayo Complex: Report of the Vacated Mayo Space Task Force

Dr. Robert Goltz, Chairman
Dr. Ellis Benson
Dr. Richard Ebert
Dr. Gene Gedgaudas
Mr. Tom Jones
Dr. Richard Varco

August 1977

Enclosed is the report of the Vacated Space in Mayo Task Force. This document identifies the most pressing current needs for critically needed space in the Departments of Laboratory Medicine and Pathology as well as Radiology. The conclusions and recommendations made have the unanimous approval of this Task Force.

Within this draft are well documented and clearly stated space requirement needs, yet only those with a very high priority are appealed for by these departments at this time. It is their (and our) deeply felt conviction that failure to provide reasonable space relief to the Departments of Laboratory Medicine and Pathology, as well as Radiology, in those areas which they urgently require it, is almost certain to damage gravely these keystone elements of clinical medicine at the University Hospitals.

This Task Force recognizes that certain commitments have been made to the School of Public Health. Those needs, it is appreciated, are an appropriate concern for strengthening this sector of the University. However, perhaps some of their wishes, in addition to those pressing needs of the Departments of Laboratory Medicine and Pathology as well as Radiology, can be adjusted within Mayo, as well as any alternative spaces available in the total University building situation. Therefore, it would help to have identified for this Task Force Committee both the documented needs of the School of Public Health and any specific commitments of space that have already been made.

All of this appeal seeks to emphasize both the strong spirit of cooperation felt by this Task Force while at the same time noting with concern the substantial threat to the stability and vigor of these departments which carry the responsibility for patient care and teaching impacting on all clinical departments and all patients in the Health Sciences.

The Task Force is eager to negotiate with all concerned parties about this matter of such deep importance for so many people in the Health Sciences

and the patients for whose care they are responsible.

Vacated Mayo Space Task Force

Robert W. Goltz, M.D., Chairman

Ellis S. Benson, M.D.

Richard V. Ebert, M.D.

Eugene Gedgaudas, M.D.

Thomas S. Jones

Richard L. Varco, M.D.

I. Summary of Recommendations:

The Vacated Mayo Space Task Force after studying the pressing needs for expansion of certain vital hospital services, suggests that 20,115 square feet of space in the Mayo Complex, vacated by the move of clinics to Unit B-C, be reassigned to the programs of diagnostic radiology, nuclear medicine, clinical laboratories and inpatient admissions. New construction in the Northwest courtyard should be completed to provide an additional 4000 net square feet.

Specifically the Task Force recommends that the following reallocation of existing hospital space (and new construction) be strongly considered in immediate and long range planning:

1) Diagnostic Radiology/Nuclear Medicine be assigned 7379 sq. feet of space on the second floor of the Mayo Building. This area is now occupied by the Hematology Laboratory, E.E.G. Laboratory, Radio-Immune Assay Laboratory and departmental offices of the clinical laboratories.

2) Clinical Laboratories be assigned 16,400 sq. feet of space on the second floor of the Mayo Building vacated by business office, admissions, pediatrics, family practice, and medicine clinics. The Task Force further recommends that 4000 sq. feet of space be constructed for clinical laboratory use by filling in the northwest courtyard at level 2.

3) The E.E.G. Laboratory be relocated and expanded in 1400 sq. feet of space vacated by the family practice department on level 2 Mayo.

4) 2315 sq. feet of space vacated by the neurology/psychiatry clinic on level 3 Mayo be reassigned to inpatient admissions.

II. Introduction:

The space needs of diagnostic radiology, clinical laboratories

and admissions have been well documented over the past ten years. Space requirements approaching the magnitude of currently defined needs were originally detailed in two planning reports to the Learn Committee:

"Future Planning for the Health Sciences, Part III". December 1966.

"Future Planning for the Health Sciences, Part III, University Hospitals Supplement". February 1968.

The requirements have remained consistent through a number of interim reports as marked expansion has occurred in service volumes and dramatic changes in the technology of service delivery have developed.

The Joint Commission on Accreditation of Hospitals, the Commission on Inspection and Accreditation of the College of American Pathologists, the office of the State Fire Marshall, and the University Department of Environmental Health and Safety lend external confirmation of the need to accommodate these changes.

We view the move of clinics to Unit B-C and occupation by the School of Nursing of a new building as an opportunity to meet these needs by reassignment of space which is contiguous and functionally acceptable for the programs described in this report.

Assignment of this nature is consistent with historic intent and fits well with future clinical facility plans.

III. Problem Definition:

A brief summary of deficiencies follows:

Diagnostic Radiology/Nuclear Medicine

-No waiting space for litter or wheelchair patients except hallways.

- Inadequate patient dressing and toilet facilities.
- Inadequate on-call space.
- Insufficient space for film reading, interpretation, and clinical consultation.
- Insufficient office space for faculty and staff.
- Insufficient electronic shop work space.
- Lack of locker/lounge space for technical staff.
- Radiographic rooms too small dimensionally to accommodate modern equipment.
- Inadequate space for new development technology, such as ultrasound and computerized tomography.
- Inadequate storage for films and supplies.
- Inadequate library and conference space.
- Insufficient teaching space for the radiographic technology programs

Clinical Laboratories

- Laboratory space per staff person ranges from 40-100 square feet. Recommended national standards range from 150-200 sq. feet. Inadequate space in all laboratories.
- Equipment and personnel density resulting from space deficiencies taxes the electrical and mechanical support systems and makes most laboratories environmentally unacceptable.
- Inadequate storage space for reagents and supplies.
- Planned expansion of current programs must be deferred unless additional space is acquired. Examples include Immunology (tissue typing) and Virology which support the clinical transplant services.
- Insufficient office space for faculty and staff.
- No locker or lounge space.
- Insufficient numbers of fume hoods.

Inpatient Admissions

-Improper location (presently 2nd floor) with Unit B-C opening. Main hospital entrance for patients to shift to 3rd floor circle.

-Inadequate waiting area for patients.

-Insufficient office space for admissions, interviews, financial counselors, and supporting staff.

IV. Recommended Solution:

The Task Force urges that the radiology, laboratory, and admissions programs, because of their central importance to patient care, receive the highest priority for space reassignment. An acceptable diagnostic capability, represented by clinical laboratories and diagnostic radiology, is essential to the continuing support of the Hospitals and Clinics as a regional referral center. An admissions area adequate in space and in an appropriate location as a point of first contact for the patients is of equal importance.

Specific Recommendations:

A. Diagnostic Radiology:

The departmental program appended to this report identifies an additional 14,125 square feet of space required to maintain program quality. Since the radiology department will move into newly constructed space on the Powell Hall site in the mid-1980's the Task Force recommends program space deferment. Departmental personnel have agreed with this concept and, with assignment of additional adjacent space, a smaller amount would be acceptable. Accordingly, we suggest that 7379 square feet of space to be vacated by the hematology, E.E.G., and radio-immune assay laboratories and departmental offices of laboratory medicine be reassigned to Diagnostic Radiology and Nuclear Medicine.

B. Clinical Laboratories:

Departmental program documents (see appendix) have identified space shortages of approximately 35,000 net square feet. Since the laboratories will remain in their present location in the long range plan and will expand into adjacent space, assignment and development of additional space vacated by the clinics would be an acceptable long term investment. A second increment of expansion can occur later when radiology moves to the Powell Hall site. The Task Force suggests that:

a. 20,400 square feet of space be assigned to clinical laboratories. 16,400 square feet to be gained from vacated business office, admissions, pediatrics, family practice, and medicine clinics. 4000 additional square feet to be acquired by infilling the northwest courtyard at level 2 with new construction. This would provide space lost by assignment to Radiology and also for additional expansion.

b. The E.E.G. Laboratory to be relocated and expanded in 1400 square feet of space vacated by the family practice department on level 2 Mayo.

C. Inpatient Admissions:

The inpatient admission function located on the second floor of the Mayo building occupies approximately 2000 square feet of space. The location of this department is functionally inappropriate since, with the opening of Unit B-C and the Delaware Street circle, the main entrance to the Hospitals will shift to the third floor. Space located off the main third floor lobby is thus and ideal solution. The Task Force suggest that 2315 square feet of space vacated by the neurology/psychiatry clinic on level 3 Mayo be reassigned to inpatient admissions.

The Task Force believes that its recommendations represent a reasonable shorter term response to meeting critical space requirements. The well documented shortages should serve as an additional catalyst toward completion of the proposed Powell site clinical facility construction. Buildings grow old and strong programs grow. Remodeling and new construction are therefore an integral and accepted component in the life of any viable organization. The Task Force recognizes the strengths of the radiology, laboratory, and admissions programs and believes that implementation of our recommendations will preserve and enhance their significant contributions to the Health Sciences Center.

Space Summary

Radiology

Present Space	Task Force Recommendations	Total
16,161 N.S.F.	7379 N.S.F.	23,540 N.S.F.

Clinical Laboratories

Present Space	Task Force Recommendations	Total
35,626 N.S.F.	16,721 N.S.F.[1]	52,347 N.S.F.

[1] This figure represents incremental space gains since labs lose current space to radiology.

E.E.G. Laboratory

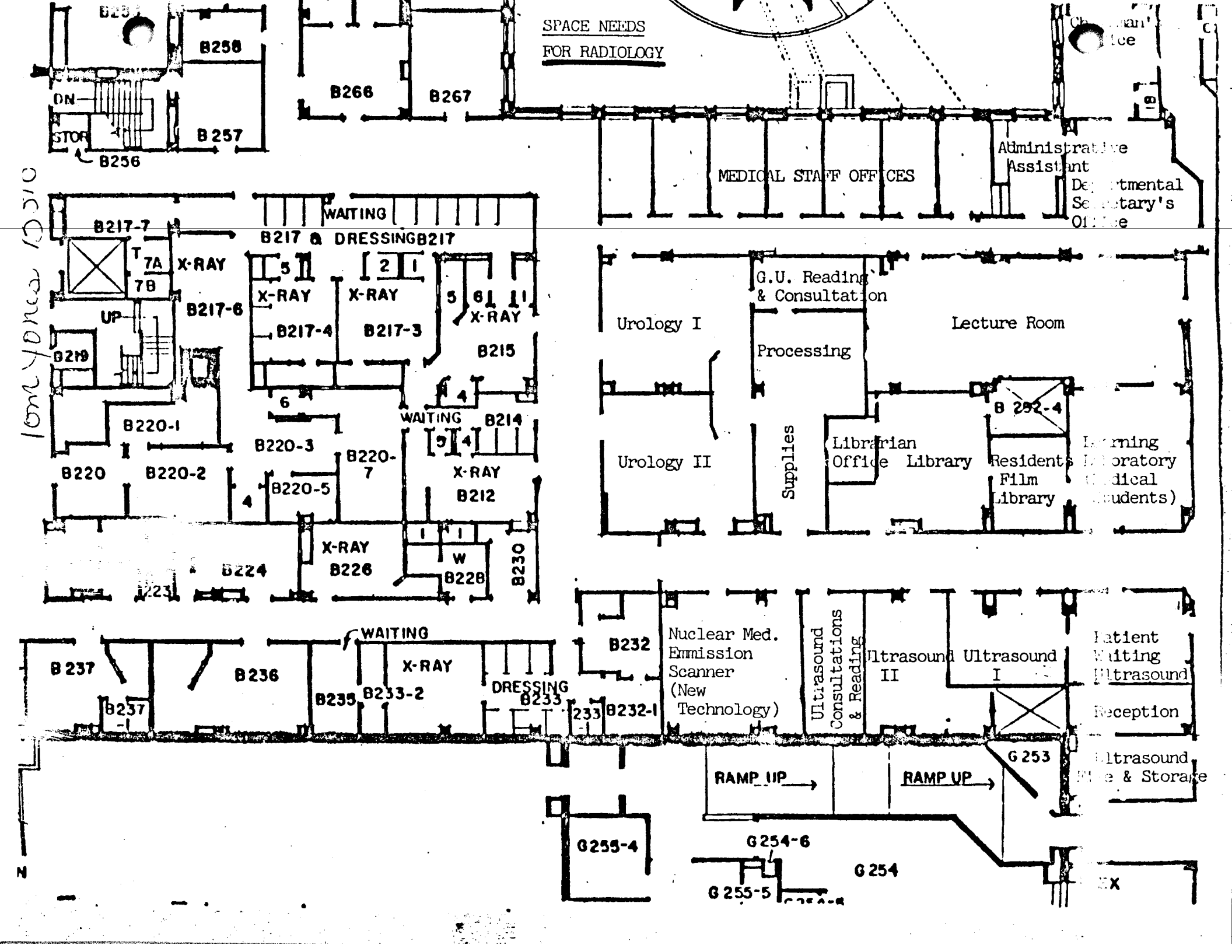
Present Space	Task Force Recommendations	Total
1,000 N.S.F.	1,400 N.S.F.[2]	1,400 N.S.F.

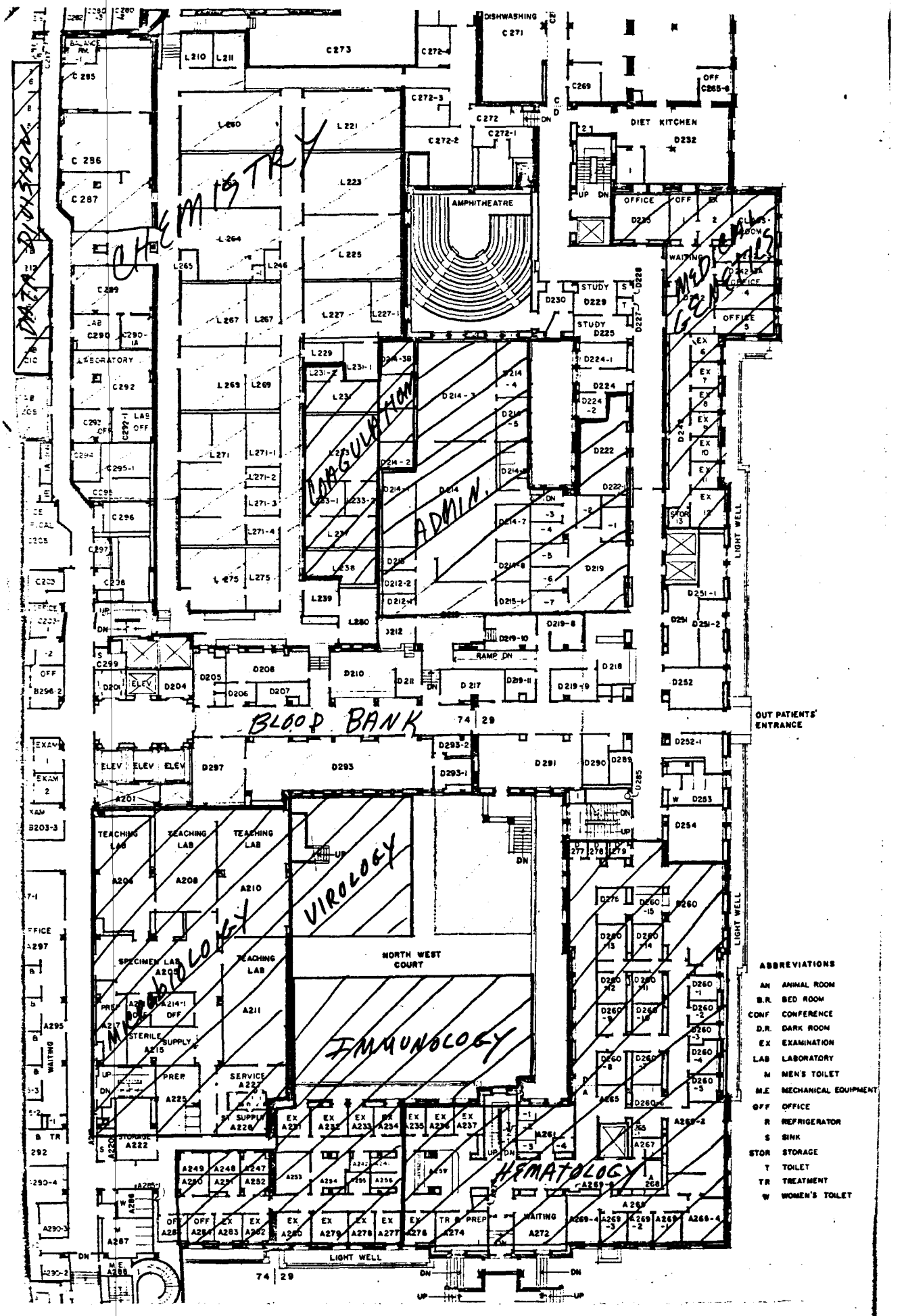
[2] This space is not incremental but represents a total replacement.

Admissions

Present Space	Task Force Recommendations	Total
2,100 N.S.F.	2,315 N.S.F.[2]	2,315 N.S.F.

[2] This space is not incremental but represents a total replacement.


SPACE NEEDS
FOR RADIOLOGY
B258
B257
B256
B266
B267
MEDICAL STAFF OFFICES
Administrative Assistant
Departmental Secretary's Office
WAITING
B217 & DRESSING
B217-7
B217-6
B217-4
B217-3
B215
B214
B219
B220-1
B220-3
B220-2
B220
B220-5
B220-7
B212
B224
B226
B228
B230
X-RAY
G.U. Reading & Consultation
Urology I
Urology II
Processing
Lecture Room
Supplies
Librarian Office
Library
Residents Film Library
B 252-4
Learning Laboratory (Medical Students)
B232
Nuclear Med. Emmission Scanner (New Technology)
Ultrasound Consultations & Reading
Ultrasound II
Ultrasound I
Patient Waiting Ultrasound
Reception
Ultrasound File & Storage
B237
B236
B235
B233-2
DRESSING
B233
B232-1
RAMP UP
G 253
G 255-4
G 254-6
G 254
G 255-5
EX


DISHWASHING
C 271
C 273
C 272-4
C 272-3
C 272
C 272-2
C 272-1
C 269
OFF C265-6
DIET KITCHEN
D232
AMPHITHEATRE
OFFICE
D235
WAITING
STUDY
D230
D229
STUDY
D225
D228
D227
OFFICE
5
D224-1
D224
D224-2
D222
D214-3
D214-4
D214-5
D214-2
D214-1
D214
ADMIN.
D214-7
D214-8
D219
D222-1
D219-8
D219-10
RAMP DN
D218
D217
D219-11
D219-9
D212
D212-2
D212-1
D215-1
D214-6
D251-1
D251-2
D252
LIGHT WELL
OUT PATIENTS' ENTRANCE
BLOOD BANK
74 | 29
D293-2
D293-1
D293
D297
D291
D290
D289
D285
D252-1
W D253
D254
277 278 279
D276
D260-15
D260
D260-13
D260-14
D260-12
D260-11
D260-10
D260-9
D260-8
D260-7
D260-6
D260-5
D260-4
D260-3
D260-2
D260-1
A265
D260-0
A269-2
A267
A268
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A269-4
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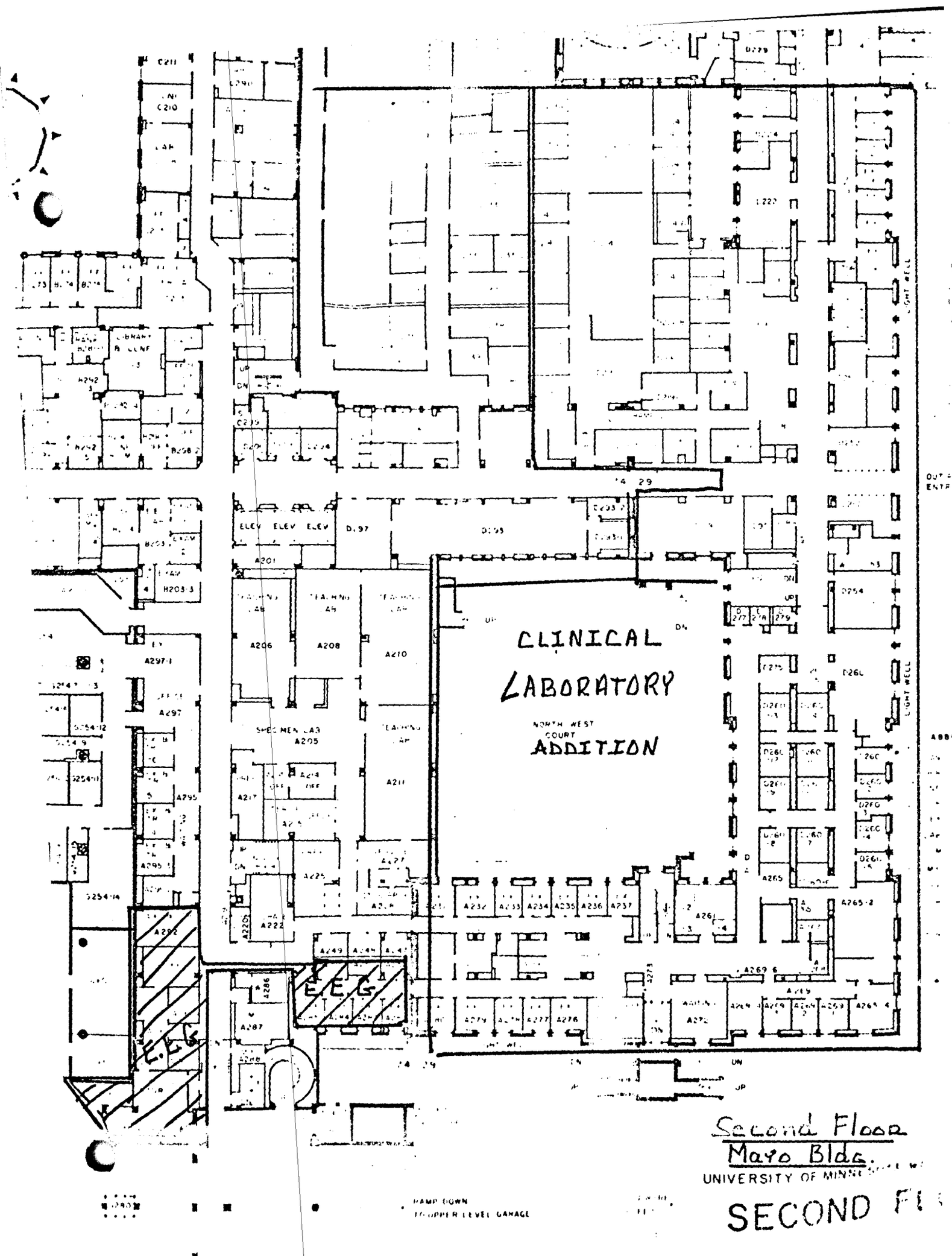
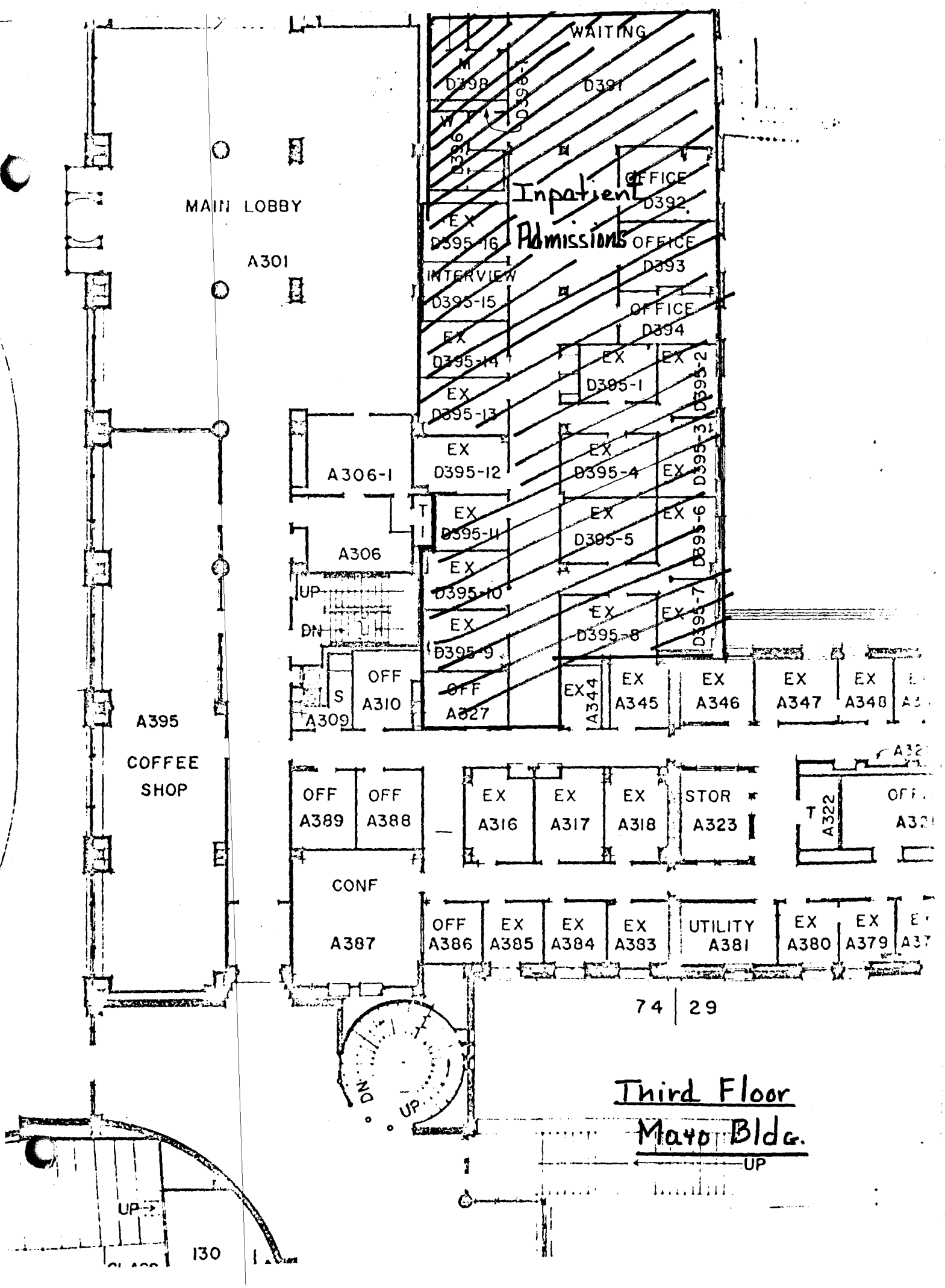
A214-1
A214
A213
A212
A211
A210
A208
A206
A204
A201
TEACHING LAB
SPECIMEN LAB
STERILE SUPPLY
PREP
SERVICE
SUPPLY
STORAGE
VIROLOGY
MICROBIOLOGY
NORTH WEST COURT
IMMUNOLOGY
HEMATOLOGY
WAITING
TR
PREP
LIGHT WELL
74 | 29
ABBREVIATIONS
AN ANIMAL ROOM
B.R. BED ROOM
CONF CONFERENCE
D.R. DARK ROOM
EX EXAMINATION
LAB LABORATORY
M MEN'S TOILET
M.E MECHANICAL EQUIPMENT
OFF OFFICE
R REFRIGERATOR
S SINK
STOR STORAGE
T TOILET
TR TREATMENT
W WOMEN'S TOILET



Second Floor
Mayo Bldg.
UNIVERSITY OF MINN

SECOND FL



Third Floor

Mayo Bldg.

Appendix

I. Program of the Department of Radiology

II. Program of the Department of Laboratory Medicine and Pathology.

III. Program of the Department of Inpatient Admissions.

Appendix I

RADIOLOGY PROJECTED SPACE NEEDS AND JUSTIFICATIONS

The present Department of Radiology was designed in the early 50's to accommodate approximately 35,000 to 50,000 patient examinations a year, largely of a relatively simple nature. Even at that time there was minimal space for the medical staff and essentially no space for the medical residents and the technical staff. In fiscal year 1975-76, 114,000 patient examinations of a level of sophistication undreamt of at the time the department was constructed were performed basically in this same space. The personnel necessary to carry out this tripling of the work load has increased accordingly. Necessary space, however, for work stations, film reading, consultation space, office space and storage space has not increased which has resulted in extremely crowed working conditions. At the time this department was constructed, the faculty consisted of the Chairman of the Department and three staff members. The medical staff alone has increased seven times since then. There has been a corresponding increase in the numbers of medical residents, technologists, nurses, equipment service personnel and clerks. This high density occupation of the current department sometimes has a demoralizing effect on the employees which in turn adversely affects their productivity. Some have resigned because they could not tolerate the crowded working conditions. These difficulties will be briefly discussed in five categories:

1. Patients; 2. Staff A. Doctors, staff & residents; B. Technolgists, C. Equipment Services; D. Clerical & Secretarial; 3. Equipment; 4. Storage; 5. Educational

1. Patients:

In-patients who come to the department are frequently very ill and are kept on various life support systems. These patients need space where they can be cared for by departmental nurses. This care is presently being given in the hallways, all of them being busy traffic thoroughfares.

Other in-patients who are not as critically ill come to the department in wheelchairs. They should also be placed in a comfortable waiting area until their examination can be performed. There are no waiting rooms of any kind in the department. Consequently, all types of patients, ambulant and in-patients no matter how ill must be kept in the busy congested hallways. Hallways in the Department of Radiology are high traffic areas since they are used not only by the general hospital staff, but also by University students who travel through the hospital on their way to and from classes. A room must be established for the critically ill patient who is in the department for examinations and needs special nursing care. This room should be equipped with necessary life support systems and emergency medical drugs and the monitoring equipment essential for this type of care. Still another room for litter and wheelchair patients who are not so critically ill would be desirable and only the out-patients would then be required to sit in the hallways. The same conditions pertain in Nuclear Medicine. Since we do not have any portable radioisotope scanning equipment, the proportion of critically ill patients brought to this area is larger than in general diagnosis.

Patient dressing and toilet facilities are totally inadequate in the current department. Patients must undress in small dressing booths and stack their clothing and belongings somewhere in that general area because other patients need to use the same booths. There should be lockers for all patients to secure their clothing and valuables while they are in the Department of Radiology. The lack of facilities of this type has resulted in the loss of such items as glasses, billfolds, overshoes, etc.

The current department has two woefully inadequate lavatories for patient use other than those which are attached to fluoroscopy rooms which are non-accessible to patients.

2. Staff:

A. Medical

The Department of Radiology provides 24 hour medical staff coverage. In order to facilitate this service, a physician's sleeping room has been created from a storage space. Even though the best available space was used, it is very inadequate. The room is small and very poorly ventilated. The adjacent small lavoratory is also used for storage of special contrast supplies. Consequently, traffic flows through the physician's sleeping room as demand necessitates and on some occasions, may extend to any hour of the day or night.

The current film reporting area is much too small to meet the expanded routine film reading needs of the departmental staff. There is very little space for consultation with clinicians who come to the department, and no space for teaching of nonradiology residents, medical students and x-ray technologists. Also, film interpretation areas must be considerably larger in order to adequately house modern more efficient film display equipment such as the multi-viewer units which are capable of holding up to 200 films for rapid recall. Space is also necessary for video tape units which are used for replay of various flouroscopic examinations.

Because of lack of patient examining rooms, many faculty and staff offices have been converted to clinical space. For example, when a computerized tomographic unit was given to us as part of a major research grant, three members of the staff from Neuroradiology, one with the rank of Associate Professor had to move out of their office space which was then converted into a working and research area for total body scanning. These members of the faculty now

have no offices but share some space with departmental secretaries. Some of our small offices accommodate two or three more members of the staff but only one of them can be in the room at a time. Six staff radiologists are without access to any office space This includes members of the faculty with ranks of Associate Professor and Professor. The situation will become even more critical when additional faculty will be added July 1, 1977.

The number of medical residents (fellows) in this department at any one time usually numbers from 17 to 20. The only space provided for them is a small room 5 x 7 ft. which contains a number of small lockers. In some teaching departments such as the Mayo Clinic, there is a small office or study module for every two or three residents in training.

The Department currently has two nurses to administer patient care to critically ill patients and those undergoing sophisticated procedures. These nurses do not have any office space or nursing station to care for the ill.

B. Technologists.

The technological staff currently numbers 30. The auxilliary space for this group is essentially non-existant. There is one lounge, 7' x 10', available for their use. These is no place for the technologists to change their clothing, hang up their coats, or store their personal belongings. Only the Administrative Director of Technical Services has a small office. The Chief Technician does not have an office or a desk.

The radiological technology school, which is a University degree program, with 35 students, has no space whatsoever. They share a small library with the residents and medical students. Unfortunately, this is our only conference room and various other groups also meet here every day. Even though it is too small to house some of the groups it is still necessary to store equipment essential to the teaching effort in this room. They have no lounge or dressing facilities for themselves. Each student is supplied with a locker about 12 x 12 x 15 inches.

C. Equipment Services & Staff:

The electronic shop work space is totally inadequate for the necessary functions which must be performed there. This small one room space is used as a combination service area and office. Four electronic service people work here. It is essential that more space be provided which will allow for an office to be used for departmental planning, meeting with representatives of equipment companies, record keeping of equipment servicing, meeting with represenatives of the Department of Plant Services, etc. The present room is too small simply to handle the ever increasing amount of service work.

D. Clerical & Secretarial Staff:

The patient registration area manned by a number of girls as the work load varies during the day has been reduced in size to allow construction of small offices. As a result more people now work in a smaller space than was available 25 years ago.

The same is true of the clerks that handle the film files. There are more clerks squeezed into very small quarters making for a very difficult and inefficient operation for our staff and for the entire medical staff of the Hospital who use this service.

Secretarial space is limited as is the number of secretaries so that most of the staff do not have adequate access to secretarial help. The actual amount of space is smaller now than it was 25 years ago.

3. Equipment:

New radiologic equipment demands considerably more space than the original equipment for which the rooms were designed 25 years ago. As a result, much of the modern day equipment cannot be installed in the department. Some larger rooms are now necessary not only to accommodate the

patient and the equipment, but also to afford space for medical students, radiology residents, and technology students, all of whom receive much of their training in these same rooms.

There have been some major new developments in medical imaging such as computerized tomography and ultrasonography. Our section of ultrasound which now examines some 15 patients a day (1 or 2 patients a week only several years ago) is limited to one room. This room not only serves as the area where the patient is examined, but also houses many other functions such as patient registration, patient preparation, record keeping, staff office for a full Professor in charge of ultrasound and a residents work area. The resultant crowding and over utilization of space is totally unacceptable by any standards.

4. Storage.

Supplies are currently dispersed in five different locations, one of these being Powell Hall. A large amount of effort is wasted in maintaining supply levels because of this situation. For economy, many supplies including drugs should be concentrated in one area which would allow rapid and automatic replacement service as needed. Linen storage is currently located in a exposed hallway within the central core of the Department. In order to provide adequate cleanliness for this type of storage, linens should be kept in closed cabinets away from patient areas.

5. Educational.

A departmental library is needed especially for resident and staff educational activities where books, periodicals, magazines and necessary audiovisual materials would be available. The Department of Radiology is engaged in a large program of education of residents of medical students and technologists. This effort requires space on

a locally available basis for use five days a week approximately 4 to 5 hours a day. It might also serve as storage space for necessary audiovisual equipment and other teching aids.

A space need exists for departmental meetings of the technological staff and the medical staff for purposes of in-service education.

In considering the multitude of educational programs going on, the department needs a minimum of 3 rooms for this purpose, a library type room, a large conference room, and a smaller teaching room.

Comment.

Any space which is added to the present Department of Radiology should be adjacent to the current department. In order to maintain the best in patient care, multifaceted teaching and clinical research, as well as provide a consultation service, proximity to the central department is essential. Supervision of the activities is better carried out and the entire facility can be operated more economically.

This description of the space and lack of space in the Department of Radiology does not portray the situation as vividly as would an actual tour. You are invited to come to the Department of Radiology for a more complete understanding of the handicaps created by the cramped operating conditions.

There are two areas within the department which need space assigned specifically for their use rather than sharing it with many other functions as is the case now.

Mammography is destined to grow and since this is a specialized technique it should have a room assigned for this purpose.

Urologic radiology is now scattered all over the department making this a very inefficient operation. This service should be concentrated in two or three rooms in one area adjacent to the urologic radiologists interpreting room who is responsible for the injections, film checking during the examination and the final interpretation.

SPACE PROJECTION 1977-1987

DIAGNOSTIC RADIOLOGY REVISED 6-18-77

9	Staff offices @ 180 square feet	1620
1	Ultrasound Suite @ 900 square feet (2 examination room, 1 staff office, 1 consultation room, technologist work area, record storage)	1550
1	Conference Room @ 1000 square feet	1000
1	Departmental Resource Library @ 500 square feet	500
1	Learning Laboratory, medical student instruction area and office	300
	Active Film Storage & Clinical Consultation Area @ 2000 square feet	2000
1	Emergency Radiographic Room	400
	Litter patient waiting area	300
	Wheelchair patient waiting area	175
	Technological School (Energized lab, classroom office, locker room, etc.)	1000
	Ambulatory Patient waiting space	175
	4 lavatories each at 60 square feet	240
	Patient dressing area - lockers	200
	On-call sleeping area for resident	145
	Supply storage @ 400 square feet	400
	Linen storage @ 200 square feet	200
	Chief technologist's office	100
	Electronic shop and office	350
	Information and telephone center	150
	Hallways and housekeeping space as needed	
		10,805

January 12, 1977

NUCLEAR MEDICINE SPACE PROJECTION
1977-1987

Nuclear Medicine Waiting Space (Litter Transportation)	200
Nuclear Medicine Patient Prep Room	100
Nuclear Medicine Waiting Room (Ambulatory)	150
4 Staff Offices @ 150 square feet	600
Isotope Laboratory	120
Solution Preparation	100
Record Assembly Area	100
3 Examination Rooms each 400 square feet	1,200
Resident Library & Study Area	225
Consultation Room	225
Patient Record File Area	400
Patient Reception & Report Typing Area	100
Mobile Equipment Storage space	400
TOTAL SQUARE FEET	3,920

Appendix II.

UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Laboratory Medicine and Pathology
Medical School
Box 198 Mayo Memorial Building
420 Delaware Street S.E.
Minneapolis, Minnesota 55455
(612) 373-8623

July 19, 1977

TO: Mr. Tom Jones
Associate Director
University Hospitals

FROM: Dr. Andreas Rosenberg
Chairman, Ad Hoc Committee on Space Needs
Department of Laboratory Medicine and Pathology

RE: Alternate Space Configuration for the Clinical Laboratories on Mayo Second Floor if No Third Floor Space will be Available for the Laboratories

The premise for this reassignment is the fact that the 8,600 sq. ft. space projected for third floor in the original planning document will not be available but that the Northwest Court area will be built for laboratories (about 6,100 ft. gross space).

This change diminishes the total projected expansion space with approximately 2,500 sq. ft. The total space is somewhat changed by the availability of D222 and A285, 284, 283, 282, 250, 251, 252. However, rooms D254, 252, 251 originally included will not be available. So, in summary, the total space will still be approximately 2,500 sq. ft. less. We have made the appropriate adjustments in the new plan.

The principle in this development is the optional utilization of the two courts, one presently already in use with the L series of rooms, and the Northwest Court to be built. These areas allow relatively easy airflow, both for air conditioning and fume hoods, thus the divisions with need for radioactive, biological and chemical hood space will preferably be located in the Court areas. The major points of the plan are as follows:

1. Chemistry will, as before, take over most of the present court space with L series of rooms. However, Coagulation Division will remain in its present location in the Southwest Court which means that Chemistry expansion space is cut by 900 sq. ft. We will allow Coagulation to expand into the present administration area provided a doorway can be built from the court to the area presently occupied by Admissions (the D series of offices).

2. Immunology will have half of the Northwest Court for the MLC and other activities needing radioactive hoods. Serology data terminal and offices will be accommodated in the present A series of rooms (Medicine Clinic). That part would not need large air supply nor drain systems (microscope bound services).

3. Virology unit will occupy about 1,600 sq. ft. of the Northwest Court to be built with all the necessary precautions and with a separate system of airflow. This diminishes somewhat the originally assigned space but since this represents totally new space, the planning can be made much more efficient. The final third of the court will be assigned to Blood Bank which would allow the operations of the Blood Bank requiring radioactive tracer (Australia Antigen) to have adequate evacuation systems. Further, since very strong collaborative efforts between Immunology and Blood Bank are developing, adjacent space is useful for optimal utilization.

4. Hematology will, as before, occupy the present Family Practice clinic. The loss of D251-254 will be compensated for by assignment of part of the A series, presently Medicine Clinic space. This means that the requirement for air and drainage for the whole area to be rebuilt will be quite modest.

5. Medical Genetics will occupy the present Pediatric Clinic space previously assigned to Coagulation. Again the service requirements, although considerable in case work and cold rooms, are relatively modest in evacuation systems.

6. Chemistry will occupy the bulk of the L series rooms in the Southwest Court addition. Here only minor changes are necessary to convert the previous Microbiology space to use for Chemistry. The present Radioimmunoassay Laboratory from the C244 area will occupy the present Medical Genetics area with very small modifications (some updating due to safety rules for handling radioisotopes.

7. Data Division will expand as in the previous plan into the series of laboratories along the C corridor. We have tentatively left the computer operation in the present area. The alternate possibility of moving the computer into the more central location in the present area of Admissions has two drawbacks: (A) The receiving area will be away from the computer terminal; and (B) The space freed by the Data Division could be used basically only by Chemistry. Still, the alternative has to be considered.

We would assign D214-3 and 4 adjacent small rooms to the Data Division. Chemistry would then reoccupy the C corridor rooms except C215 which will contain the computer terminal. Since the differences between the two alternatives for the Data Division do not involve major rebuilding (the only questions would be air conditioning and power supply), we can keep both options open until architectural planning begins.

8. The Blood Bank will, as before, be situated along the D corridor. The D219-218 series of offices can be easily converted into the donor room. This would allow us to utilize nearly all of the Admissions area without large demands for water, air or hoods. It is also good policy to locate the donor area near the entrance making it easily accessible to donors.

This arrangement would thus accommodate nearly all the planned expansion for the various divisions. The area for Administration, however, may be encroached upon by both the computer operation and Coagulation. However, the resulting shortages would in principal be one of office space for accounting which hopefully could temporarily be taken care of on the third floor. Rooms D251-254, when freed, will in the future allow the accounting offices to return to the second floor. The total space for each division will remain approximately the same, the 2,500 loss being divided between Chemistry, Microbiology and Administration.

In summary, the alternate planning will accomplish all that we proposed in the original document. The alternate plan, as we can judge, would involve somewhat more complex changes in the corridor system and doors to accommodate and integrate the laboratories in both Court areas. On the positive side is the fact that by effective use of the new Northwest Court area, the majority of new evacuation and ventilation systems can be placed into this area making the rebuilding of old space considerably less complicated. Although it is difficult to judge all the architectural problems at this point without having any consultations, the present alternative, in my opinion, represents a considerable overall saving in rebuilding costs.

In this brief outline I have not touched upon the general problems of locker rooms for employees and sanitary facilities. Due to the complicated floor plan, a central employee space could only be located near the present outpatient entrance with future use of the D251-254 series of rooms. I feel that at this point, details of such a nature are somewhat premature.

The attached plan shows the different division assignments.

AR:cj
Enc.
cc: Ellis S. Benson, M.D.
David M. Brown, M.D.
Don Howard

UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Laboratory Medicine and Pathology
Medical School
Box 198 Mayo Memorial Building
Minneapolis, Minnesota 55455
(612) 373-8623

May 10, 1976

TO: Dean Neal Gault
Mr. John Westerman

FROM: Dr. Ellis S. Benson ESB

RE: Report of Space Committee, Department of Laboratory Medicine and Pathology, April, 1976

I convey to you with this letter the report of a special ad hoc committee of the Department of Laboratory Medicine and Pathology which was commissioned by me to investigate and thoroughly study the present space needs of the Department in areas of service, teaching and research. Since I know this is an extremely critical time in regard to space plans for the next five to ten years, I am communicating the report of this committee to you for your early attention and consideration.

I believe the committee did a very thorough job of investigating the needs of the Department at this time. These needs are not greatly different than they were at the time of the Learn Committee study, needs that were reported to and endorsed by institutional committees associated with the Learn study. The requirements have become somewhat more urgent and extensive due to two circumstances: (1) the growth of the Department's activities in the service area which has been much more extensive than predicted; and (2) the merger of the two departments in 1973.

I strongly endorse the report of this committee and believe its projections and recommendations are very realistic ones and ones that are based upon sound data.

I will be very happy to meet with you or any other institutional authorities and committees charged with responsibilities for space planning and assignment at any time.

Thank you.

ESB:cj
Enc.

Distribution: Dean Neal Gault
Mr. John Westerman
Mr. Tom Jones
Dr. Richard Varco
Mr. Paul Maupin
Mr. James Nelson
Departmental Space Committee

ABSTRACT OF SPACE REPORT

Department of Laboratory Medicine and Pathology

1976

In the following analysis and request, we have divided the departmental needs into three categories:

1. Expansion of service laboratories, justified strictly on the present workload and the number of currently employed personnel;

2. Teaching space related to the number of credit hours in the last academic year and the size of the faculty for our teaching programs;

3. Faculty office and laboratory space related to faculty size, number of graduate students, residents and postdoctoral fellows as well as the research dollars presently at hand.

We have shown that the documented linear and incessant rise of workload in service laboratories has, during the last 10 years, more than doubled our output. Our ability to increase productivity per person and surface area have reached a limit. We have shown that our productivity both per person and per surface unit is high when compared to similar centers nationwide. We show that in order to alleviate the space shortage that resulted from accumulation of unsatisfied needs during the last 10 years, the hospital laboratories need an additional 25,000 sq. ft. of space adjacent to our present operations. This, if realized, will result in an employee density on the lower borderline of nationally recommended norms for medical and biological laboratories. It should be pointed out that further automation only replaces bodies with machines increasing in fact needs for floor space and ventilation.

We show in the second section that whereas Laboratory Medicine and Pathology teaching space (Building A) is in general adequate if no expansion of Pathology teaching load occurs, the space for our vigorous medical technology program is totally absent. Minimal needs for this, our nation's oldest, largest, and most prestigious program, are presented as 7,500 sq. ft. with 4,000 sq. ft. teaching laboratory space.

In the third section we show how the Department, due to the absence of research space in Laboratory Medicine, produced a cumulative shortage far larger than would be expected due to expansion of teaching programs in the School. The conclusion, quite self evident, is that large increases in demands for laboratory services and the increased role of laboratory medicine in the medical curriculum have been met by the Department by the rapid expansion of faculty reaching at present 27 persons on the Laboratory Medicine side. The space allocated by the School at present is such that when divided, it would not suffice for an office for each of the teachers despite the fact that the discipline is laboratory science. The shortage of space, nearly totally due to an historic neglect of the Laboratory Medicine faculty, is 25,000 sq. ft.

The development of modern medicine during the past years has enormously increased the relative role of the laboratory physician and scientist. This Department has responded by rapidly building up a faculty, a faculty whose quality is best

characterized by the amount of Federal research dollars coming to this Department. The number of residents, postgraduate, and graduate students has reached a level comparable to a basic science department. It is time that the Medical Center for the first time in its history acknowledge the change in the role of the laboratory and respond by allocating adequate space for our purpose.

In the last section we show how to minimize costly building of new laboratories. We suggest that space can be utilized on the 2nd and 3rd floors of the Mayo building. We suggest, thus, an expansion of present service space in Mayo of approximately 25,000 sq. ft. As for faculty research space, we tentatively suggest some reassignment in the Owre Hall area, some space in Mayo adjacent to our service area, and a block of space in the B-C building. The last building is the only space we can see at present that could satisfy the Medical Technology program.

UNIVERSITY OF MINNESOTA
TWIN CITIES

University Hospitals
Minneapolis, Minnesota 55455

May 27, 1977

TO: Lee Larson

FROM: Dan Rode

SUBJECT: Inpatient Admissions/Business Office Space Request

Recently we completed a review of space needs for the Admissions/ Business Office Department. As a result of this study and some changes in program and systems, I have been asked to inform you that the space need for the central inpatient functions of the department is now estimated to be 2,315 sq. ft. excluding hallways.

This space includes waiting area space and space for Admissions, Business Office (inhouse) and Nursing liaison staff. It does not include either the space orginally requested for a cashiers office or space for an on site blood drawing unit. Likewise it does not include space for the additional inpatient functions that will be preformed in Unit BC (clerical), Masonic Hospital (current space) or the Pediatric's Department (current).

As you are aware, we feel that a portion of the current Neuro-Psych clinic space would be most ideal and appropriate for a perminate (pre Unit J) inpatient admissions function area. With a minor amount of construction, the space provides a pleasant waiting facility, rest rooms, space for blood drawing and ample interview/ office space. The area is also centrally located to the main Hospitals' entrance, the dumbwaiter connecting to the BC transport system, elevators to all floors and stations and CID.

Since the concept of a cashiers office satellite in Mayo has not received administration approval, I have left the 225 sq. ft. out of the request. I will follow up on this as needed. The actual location of such a facility may determine whether it is feasible or not. The lab drawing unit request has come about recently, If the unit were provided and rest rooms available to take urine specimens, lab testing could begin immediately upon admission.

Your immediate consideration of this request (for space, especially Neuro-Psych space), in light of the recent approval of Unit F and

completion of Unit BC, would be greatly appreciated. Please let me know if you have any questions or concerns on this matter.

Much thanks.

DR/dr

cc: Tom Jones
Cliff Fearing
Phil Hanson
Bill Conner

Addendum to Space Report

Tentative outline of urgent space assignments for faculty:

In case the question arises as to how the research space we are requesting will be distributed, I have a tentative list of urgent space assignments based on the letters this committee received from the faculty. All these assignments refer to highly active grant supported activities that are strongly hampered by lack of space at present.

Laboratory Medicine

	Present Space	Additional Need
E. Yunis replacement as director of immunology and tissue typing laboratory	763 sq. ft.	2,500 sq. ft.
Toxicologist replacement	0	500
B. Statland replacement as chemical pathologist	0	750
Ederer, Hofherr, Blazevic	250	900
Yasmineh	350	200
Edson	150	400
Steffes	½ of 550	1,500
McCullough, Swanson	192	1,000
T. Lee	180	650
H. Balfour	350	1,000

Pathology

T. Mariani	0	1,000
Ratliff	515 shared	1,000 (EM prep space included)
Estensen	550	600
Rosai, Dehner, Hertel, Sibley	476 (temporary)	1,000
Schollmeyer	440 shared	300
Jauregui	0	300
Mouse Colony	3,000 (borrowed)	6,000
Liquidation of Stone (rented space)		3,000

Total immediately assignable 22,500 sq. ft.

This does not include space for a large number of faculty members. The above allocations suggested are only those where extensive written documentation was presented. Among those who have large spaces available at present, Wattenberg presented a good case for expansion. His needs will be presented in a separate case since the urgency compared to the others is not there.

	Present Space	Additional Need
Wattenberg	4,400 sq. ft.	950 sq. ft.

Part of the space requests for Medical Technology faculty are not included since they refer to bench space in service laboratories and should be taken care of by the 2,500 sq. ft. R and D space within all divisions included in the service space.

UNIVERSITY OF MINNESOTA
TWIN CITIES

Housing Office
Comstock Hall—East
210 Delaware Street S.E.
Minneapolis, Minnesota 55455
(612) 373-7542

DATE SEP 16 1977	
CH	
FILE	

September 14, 1977

Mr. Clinton Hewitt
Assistant Vice President
Physical Planning
340 Morrill Hall
University of Minnesota

Dear Mr. Hewitt:

In response to your questions about student housing supply-demand on the Twin Cities campus, I would reiterate comments I have made over the past three years. Again this year and for the third year successively, demand for residence hall accommodations continues to exceed supply. Depending on the date prior to the starting of fall quarter for the past four years, waiting lists for housing have been typically in the range of 200 - 300 students for residence halls. Undoubtedly, those waiting lists would be significantly higher if the Housing Office permitted them to seek their own demand level. In fairness to students we have had to actively discourage waiting lists of more than 300 for the simple reason that those students would have little hope of securing such housing.

Given these realities, stable or somewhat increasing University enrollments and a commuter population seeking more housing close to or on the Twin Cities campus, demand will continue to exceed supply.

It is for these reasons I request that the plus 26 rooms temporarily allocated to office space in Frontier Hall be returned to their permanent student housing status for allocation to students who will need them in the fall of 1978.

Sincerely,

David J. Anderson
Director of Housing

cc: Frank B. Wilderson, Jr.
Donald Zander
C. L. Carlson

lmt

UNIVERSITY OF MINNESOTA
Office of the Vice President for the Health Sciences
A-306 Mayo Memorial Building, Box 501
420 Delaware Street S.E.
Minneapolis, Minnesota 55455

February 22, 1977

To: Lee Stauffer
Irene Ramey
Neal Gault
Judy Atlee
Geoffrey Fisher

From: Dave Preston

We have discussed on numerous occasions over the past several months requests from University Housing to return space occupied by our units in Frontier Hall.

We have reached agreement that for at least an additional year the following space will continue for Health Sciences use:

1. Health Sciences Minority Programs - Rooms 189-198
2. Rural Physicians Associate Program - Rooms 187-190
3. School of Nursing - Rooms 169, 171, 173 ✓
4. Health Sciences Student Personnel Services - Rooms 175-176
5. School of Public Health - Rooms ~~172, 174~~, 178, 180, 183, 184
6. Room 182 will remain a conference room.
7. Room 133 will remain a copy room operated by the Health Sciences Minority Programs.

In the agreement, they indicated they would want us to vacate these quarters by July 1, 1978. Depending on our space circumstances, particularly in relation to B/C and the possibility of a Unit F, we may need to reopen discussions at a later date.

UNIVERSITY OF MINNESOTA
TWIN CITIES

Support Services and Operations
337 Morrill Hall
Minneapolis, Minnesota 55455
(612) 373-3746

February 14, 1977

TO: David Preston

FROM: C. Luverne Carlson

Donald Zander

SUBJECT: Rental space, Frontier Hall

You have requested that the following programs remain in Frontier Hall for one more year. We understand these programs are as follows:

1. Health Sciences Minorities Program - Rooms 189-198.
2. Rural Physicians Program - Rooms 187-190.
3. School of Nursing - Room 169, 171, 173.
4. Health Science Student Personnel - Rooms 175-176.
5. School of Public Health - Rooms 172, 174, 178, 180, 183, 184.
6. Room 182 will remain a conference room.
7. Room 133 will remain a copy room operated by the Health Sciences Minorities Program.

Even though we have a very heavy demand for student housing, we will agree that these programs stay in Frontier Hall one more year, but that they must vacate these quarters not later than July 1, 1978. If you have any further questions in this area, we would be most happy to discuss them with you.

CLC:jmg

cc: David Anderson
Clint Hewitt
John Byrd

UNIVERSITY OF MINNESOTA
TWIN CITIES

Health Sciences Planning Office
Physical Planning
Box 75 Powell Hall
4103 Powell Hall
Minneapolis, Minnesota 55455
(612) 373-8981

September 16, 1977

TO: Cherie Perlmutter

FROM: Paul Maupin

SUBJECT: Health Sciences Long Range Planning

I believe yesterday's Health Sciences Master Planning Committee meeting was well received; however, the statement "The era of expansion is over and developing capital improvement requests for future bienniums must cope with a complex set of new issues" is one that I strongly disagree with and wish to take issue with. We all know the future holds a new national health planning act and a national health insurance program. I certainly hold a great degree of optimism for the future and would hope that in the process of developing and updating our Health Sciences master plan that we could all keep foremost in our minds the following national priorities.

(1) The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas.

(2) The development of multiinstitutional systems for coordination or consolidation of institutional health services (including obstetric, pediatric, emergency medical, intensive and coronary care, and radiation therapy services).

(3) The development of medical group practices (especially those whose services are appropriately coordinated or integrated with institutional health services), health maintenance organizations and other organized systems for the provision of health care.

(4) The training and increased utilization of physician assistants, especially nurse clinicians.

(5) The development of multiinstitutional arrangements for the sharing of support services necessary to all health service institutions.

(6) The promotion of activities to achieve needed improvements in the quality of health services, including needs identified by the review activities of Professional Standards Review Organizations under part B of Title XI of the Social Security Act.

(7) The development of the health service institutions of the capacity to provide various levels of care (including intensive care, acute general care, and extended care) on a geographically integrated basis.

(8) The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services.

(9) The adoption of uniform cost accounting, simplified reimbursement, and utilization reporting systems and improved management procedures for health service institutions.

(10) The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of available health services.

I sincerely believe the above indicates increased enrollments and greater demands for research and services in our future.

PJM:rt

UNIVERSITY OF MINNESOTA
TWIN CITIES

University Hospitals
Minneapolis, Minnesota 55455

September 27, 1977

TO: Mr. Clint Hewitt
Ms. Cheri Perlmutter
Co-Chairpersons: Committee to Update
Health Sciences Master Plan

FROM: John H. Westerman, Chairman
Hospital Planning Steering Committee

SUBJECT: Report of Hospital Mayo Vacated Space Task Force

The Hospital Planning Steering Committee was created to coordinate the multitude of individuals and groups involved in planning for University Hospitals and Clinics. A copy of the committee charge is enclosed for your information.

As one of our sub-committees, the Hospital Mayo Vacated Space Task Force was charged with developing a hospital position on the vacated outpatient space consistent with our understanding of the Health Sciences Master Plan. The enclosure letter from the task force clearly reflects a strong cooperative spirit in presenting some well documented needs. It is our understanding that the Health Sciences Facilities Committee is the group designated to reconcile the legislative commitment with the Health Sciences Master Plan and the needs of the Medical School, School of Public Health and University Hospitals and Clinics.

Both Eugene Gedgaudas and Tom Jones are prepared to discuss the contents of the report with your facilities committee.

cc: Mr. David Preston, Chairman
Health Sciences Planning Committee

Enc.