

JOML - Design  
Development

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

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MAR 31 1976

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES

DATE: 18 March 1976

PROJECT: JOML Complex Remodeling  
Phase I - Design Concept and Scheduling Phase

SUBJECT: Meeting to review Report

PLACE: Mr. Clinton Hewitt's Office

NOTES BY: Duane Blanchard

PRESENT: Clinton Hewitt, Tom Kyle, John Scott,  
Jerry Olson, Duane Blanchard

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The purpose of the meeting was to review the draft copy of the Phase I JOML report for final input and direction concerning this phase.

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1. A general presentation of the project was made using the presentation Boards and the report. Mr. Hewitt indicated that the report appeared complete and did provide the basis for concluding the Phase I work.
2. Mr. Hewitt indicated that three conditions must be satisfied before the project can receive full authorization to proceed.
  - a. The University must receive full legislative financial support. Confirmation of this support should be available shortly.
  - b. The Advisory Committee and the Engineering Construction Committee must give their concurrence on the report.
  - c. The project estimate and budget must match. The Architect left supplementary cost information concerning Code corrections for further evaluation.
3. Mr. Hewitt indicated that work can proceed in the following manner until full authorization is provided.
  - a. Proceed orders should be developed in accordance with the Contract Provisions.
  - b. Committee reviews should occur as soon as possible.

- c. The Mechanical Equipment Tower (Contract A) work can proceed.
  - d. Investigation of Existing Conditions can proceed.
  - e. User Meetings can proceed when the Advisory Committee has indicated their concurrence with the Phase I report.
4. The Phase I work should be brought to a conclusion as follows:
- a. Review Phase I report (Draft Copy) with Advisory Committee and Engineering Construction Committee.
  - b. Complete report based upon Committee response. Committee comments are to be evaluated by HSP0 for direction to the Architects.
  - c. Proceed orders are to be mutually developed in accordance with the final approved Phase I report. Full authorization to proceed into Phase II will be given by Mr. Hewitt.

cc: Clinton Hewitt  
Paul Maupin  
Tom Kyle  
John Scott  
Jerry Olson

THE ARCHITECTS COLLABORATIVE, INC.  
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HEALTH SCIENCES EXPANSION

*JOML - Costs*

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MAY 20 1976

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 22 April 1976 2:00 pm

PROJECT: JOML Complex Remodeling

SUBJECT: Non-Building Cost Meeting

NOTES BY: Bruce Johnson

PRESENT: Paul Maupin, Vic Scott, Jerry Nelson, Tom Kyle, Linda Satorius,  
U/M; Jerry Olson and Bruce Johnson HSAE

- 
1. Reviewed Probable Costs for 75 Grant Construction Planning Report.
    - a. Decision made to keep Construction Cost as indicated in Planning Report with Bidding Contingency.
    - b. Professional Services and Special Charges sections were changed as per the enclosed Cost Estimate.
    - c. Cost Consultant Fee was brought into the A/E Fee section.
    - d. A/E Master Planning Fee was questioned. There will be a reduction credit applied to the next phase. The figure should be somewhere between \$175,000 and \$50,000 that Mr. Maupin suggests it should be.
  2. Furnishings and Equipment was changed to reflect Cold Room Work as part of the \$980,000 designated in the Grant. Mr. Maupin suggests that this Grant figure is sacred and must be spent as such.
  3. Total Project Cost has now been reduced to an excess of \$511,492 over the funds available. This will be reduced by additional funds from other remodeling work and using Deduct Alternate up to 10% of the Construction Cost.
  4. Non-Building Costs for Surgical Pathology were then discussed and changed as per the enclosed Cost Estimate.

# PROBABLE COSTS

RECEIVED

## I. CONSTRUCTION

MAY 26 1966 GRANT CONSTRUCTION

a. Unassignable Spaces (Related to Assignable)		
1. Stairways		90,860
2. Elevators		41,500
3. Corridors		384,000
4. Toilets		85,430
5. Fan Room Towers (2 Towers)		449,230
6. Interior Equipment Rooms		123,300
		<u>\$1,174,320</u>
b. Distribution Systems (Related to Assignable)		
1. Corridor Ductwork		180,000
2. Fire Protection		40,500
3. Chilled Water Piping		252,280
4. Steam Piping		78,400
5. Signal Systems		67,500
6. Power Systems		180,000
7. Emergency Systems		45,000
8. Fume Hoods (Exclusive of 81,000 s.f.)		0
		<u>\$ 843,680</u>
c. Assignable Spaces		
1. Category 1 3,955 s.f. x \$ 5.85/s.f.		23,140
2. Category 2 8,496 s.f. x \$13.05/s.f.		110,880
3. Category 3 8,628 s.f. x \$28.80/s.f.		248,490
4. Category 4 15,317 s.f. x \$40.00/s.f.		612,680
5. Category 5 41,380 s.f. x \$50.00/s.f.		2,085,550
6. Cold Rooms 2,469 s.f. x (N.I.C.)		0
7. Stair/Mech. 755 s.f. (Under other areas)		0
	81,000 s.f.	<u>\$3,080,740</u>
d. Bidding Contingency		
1. (10% of Construction Estimate)		<u>\$ 509,870</u>
Total Construction Cost		<u>\$5,608,610</u>
(Construction Monies from Grant \$5,639,500)		

## II. PROFESSIONAL SERVICES

a. A/E Fees		
1. A/E Basic Services (Contract A)		37,500
2. A/E Basic Services (Contract B)		535,860
3. A/E Master Planning/Additional Services/ Reimbursable Expenses Including Consultants.		223,040
		<u>\$ 796,400</u>

b. Consultants	
1. Special Consultants	5,000
2. Scheduling Consultant	0
3. Cost Consultant (Special from U/M)	0
4. Testing and Balancing	10,000
	<u>\$ 15,000</u>
c. U of M In-House	
1. Supervision (1.25% x Const. Cost)	70,100
2. Misc. Engineering	8,000
3. Site Survey	1,500
4. Activation and Incidental	10,000
5. Health Sciences Planning Office (1.25% x Const. Cost)	70,110
6. Landscaping Design Fees	Inc. Elsewhere
7. Furnishings and Group I & II Equipment Fees	Inc. Elsewhere
8. Graphics & Signage Fees	Inc. Elsewhere
	<u>\$ 159,720</u>

### III. SPECIAL CHARGES

a. Sitework (Landscaping Allowances)	26,350
b. Utilities	4,000
c. SAC Charge	4,250
d. Permits (.002 x Const. Cost)	11,220
e. Control Center Wiring	40,000
f. Chilled Water Systems	100,000
g. Construction Contingency (5% x Const. Cost)	280,430
h. Materials Testing	5,000
	<u>\$ 471,250</u>

### IV. FURNISHINGS AND EQUIPMENT

a. Group I Equipment not in Base Contract	
1. New Cold Rooms \$125/s.f. 1500 s.f.	187,500
2. Remodeled Cold Rooms \$ 60/s.f. 920 s.f.	55,200
b. Group II Equipment	
1. Furnishings and Equipment	717,300
2. Graphics and Signage	20,000
	<u>\$ 980,000</u>

PROJECT COST (PRIOR TO COST REDUCTIONS) \$8,030,980

### V. COST REDUCTION ITEMS

TYPE I COST - Prorated cost paid by Future Remodeling	
a. Surgical Pathology Renovation	\$ (35,007)
b. Mortuary Science Renovation	\$ (20,999)
	<u>\$ (56,006)</u>

TOTAL PROJECT COST \$7,974,974

# PROBABLE COSTS

## I. CONSTRUCTION

## SURGICAL PATHOLOGY CONSTRUCTION

a. General Cond.-Contr. Expenses	35,000
b. Demolition and Removal	3,510
c. General Construction	14,090
d. Mechanical Construction	56,960
e. Electrical Construction	8,370
f. M and E Distribution System (See below)	0
g. Group I Equipment	67,300
h. Temporary Window Air Conditioning ( Units)	2,040
i. Bidding Contingency (10%)	18,730

Construction Cost Total \$206,000

## II. PROFESSIONAL SERVICES

a. A/E Fees	
1. Basic Services 15% (Construction Contract)	30,900
2. Additional Services (10% of Contingency)	1,030
3. Reimbursable Expenses	1,000
4. Reimbursable Expenses (Cost Consultant)	800
b. Consultants	
1. Special Consultant	0
2. Scheduling Consultant	0
3. Cost Consultant (Special U/M Consultant)	0
4. Testing and Balancing	5,000
c. U of M In-House	
1. Supervision (1.25% of Const. Cost)	2,575
2. Misc. Engineering	1,500
3. Site Survey	0
4. Activation and Incidentals	1,000
5. Health Sciences Planning Office (1.25% of Const. Cost)	2,575

Prof. Services Cost Total \$ 48,080

## III. SPECIAL CHARGES

a. Site Work	0
b. Utilities	0
c. SAC Charge	500
d. Permits (.002 Const. Cost)	412
e. Construction Contingency (5%)	10,300
f. Materials Testing	0
g. Prorated Costs	
1. Unassignable Spaces	20,896
2. Distribution Systems	7,695
3. A/E Fees	3,630
4. Consultants	55
5. U/M In-House	1,101
6. Special Charges	1,630

Special Charges Cost Total \$ 46,219

# PRORATED COST APPENDIX

## SURGICAL PATHOLOGY RENOVATION

	<u>PLANNING REPORT</u>	<u>PRORATE FACTOR</u>	<u>PRORATED COST</u>
<b>Unassignable Spaces (Related to Assignable)</b>			
1. Stairways	90,860	.011	1,000
2. Elevators	41,500	.011	456
3. Corridors	384,000	.0022	845
4. Toilets	85,430	.011	940
5. Fan Room Towers (2 Towers)	449,230	0	0
6. Interior Equipment Rooms	123,300	.0143	17,655
	<u>\$1,174,320</u>		<u>\$20,896</u>
<b>Distribution Systems (Related to Assignable)</b>			
1. Corridor Ductwork	180,000	.0022	396
2. Fire Protection	40,500	.011	445
3. Chilled Water Piping	252,280	.011	2,775
4. Steam Piping	78,400	.011	862
5. Signal Systems	67,500	.011	742
6. Power Systems	180,000	.011	1,980
7. Emergency Systems	45,000	.011	495
8. Fume Hoods (Exclusive of 81,000 S.F.)	0	0	0
	<u>\$ 843,680</u>		<u>\$ 7,695</u>
<b>A/E Fees</b>			
1. A/E Basic Services (Contract A)	37,500	0	0
2. A/E Basic Services (Contract B)	535,860	.0022	1,180
3. A/E Master Planning, Additional Services, Reimbursable Expenses including Consultants	223,040	.011	2,450
	<u>\$ 796,400</u>		<u>\$ 3,630</u>
<b>Consultants</b>			
1. Special Consultants	5,000	.011	55
2. Scheduling Consultant	0	0	0
3. Cost Consultant (Special U/M)	0	0	0
4. Testing and Balancing	10,000	0	0
	<u>\$ 15,000</u>		<u>\$ 55</u>
<b>U of M In-House</b>			
1. Supervision (1.25% x Const. Cost)	70,110	.011	771
2. Misc. Engineering	8,000	0	0
3. Site Survey	1,500	0	0
4. Activation and Incidentals	10,000	0	0
5. Health Sciences Planning Office (1.25%)	70,110	.0022	330
	<u>\$ 159,720</u>		<u>\$ 1,101</u>

SURGICAL PATHOLOGY RENOVATION (cont.)

	<u>PLANNING REPORT</u>	<u>PRORATE FACTOR</u>	<u>PRORATED COST</u>
<u>Special Charges</u>			
Utilities and SAC Charge	8,250	.011	90
Control Center Wiring	40,000	.011	440
Chilled Water System	100,000	.011	1,100
			<u>\$ 1,630</u>
TOTAL PRORATED COST			\$35,007

ASSUMPTIONS FOR PRORATED FACTORS

1. Individual Project in JOML Complex which gains from overall General Building Improvements:

$$\frac{2,250 \text{ s.f. (Project Area)}}{203,138 \text{ s.f. (Net Assign. Area in JOML Complex)}} = .011 \text{ Factor}$$

2. Individual Project in JOML Complex which gains partially from improvements to the building:

$$\frac{2,250 \text{ s.f. (Project Area)}}{203,138 \text{ s.f. (Net Assign. Area in JOML Complex)}} \times 20\% \text{ (Percent of actual use gained)} = .0022 \text{ Factor}$$

3. Individual Project in JOML Complex which gains principally from improvements to the building:

$$\begin{aligned} & \text{(Applicable \% of Building Improvement)} \times \text{(Percentage of use gained from improvement)} \\ & (43\%) (33-1/3\%) = .0143 \text{ Factor} \end{aligned}$$

4. Individual Project in JOML Complex which gains no use from improvements to the building:

$$= 0 \text{ Factor}$$



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8/6/2/76

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HEALTH SCIENCES EXPANSION

JUN 2 1976

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 26 May 1976  
SUBJECT: JOML Complex Remodeling  
Engineering Meeting  
NOTES BY: Jerrold B. Olson  
PRESENT: Paul Maupin, Tom Kyle, Gus Scheffler, Paul Kopietz, Pete Merz,  
Dave Kerkow, Cliff Olson, Jim Coleman, and Jerry Olson.

1. Review of Previous Meeting Notes

- a. The mechanical equipment towers block some windows in rooms outside of the 81,000 sf limits of the project. The method and costs of air conditioning these spaces was not presented. This will be done at the next meeting.
- b. It was re-affirmed that TAC/HSAE is authorized to work on the Mortuary Science Project.
- c. The cost data comparing alternative approaches to air condition the Jackson 496 area was not presented. This will be available at the next meeting.
- d. Mr. Merz was not able to comment meaningfully on the layout of equipment in the towers as only a sketch of the supply unit was shown. We are to provide further information on all the mechanical components of the tower to permit a meaningful evaluation to occur.
- e. The U-values for the mechanical equipment towers were discussed. It was noted that we are presently contemplating an uninsulated cavity wall. We are to evaluate the benefit of insulating the walls and present cost data on the various approaches. This will be done at the next meeting.
- f. We have received the University's engineering drawings of the Lyon animal quarters area. We have not evaluated them.
- g. Mr. Cisewski has not arranged as of yet to meet with Mr. Merz to inspect the Anatomy/Mortuary Science cooler in Jackson. This is to occur as soon as possible.

## 2. Mortuary Science Remodeling

- a. If temporary window units are to be used they will be provided and installed by the University. We shall provide power at the proper locations under the construction contract. Tom Kyle will investigate availability of existing window units to be used temporarily in this space until new tower equipment is operating.
- b. The extent of funds available has not been determined. We are proceeding on the basis of the full project as developed with the Users and Tom Kyle. In the event there is change, additional time will be required to revise the drawings.
- c. The extensive use of incandescent lighting fixtures was discussed. The use is justified by User needs to demonstrate the various effects of varying light.

## 3. Surgical Pathology Remodeling

- a. The method of providing air to accommodate the needs of the fume hoods and exhaust hoods was discussed. It was noted that window units could not provide sufficient volumes of air. We are to report back at the next meeting our recommendations which shall include consideration of the schedule of the construction of the southwest mechanical equipment tower. The space will not be completed for this Fall Quarter.

## 4. Mechanical Towers

- a. We advised that Larry Copley would evaluate the noise and vibration considerations in order to account for User concerns.
- b. The access to the southwest tower can be via an exterior stair.
- c. Floor hatches within the towers are not required. The approach using a continuous opening with a removable railing is acceptable.
- d. A curb is to be provided at the air handling unit. A curb is not required at the stair/equipment access opening to contain water leakage. A toeboard is, however, required at the floor openings.
- e. Interior access to the vault below the southwest tower is acceptable.
- f. We are to study the tunnel access system to the southwest tower to segregate the tunnel from the electrical areas south of the Jackson-Owre Addition. This will include study of the existing switching system.
- g. The use of a double wall air handling unit housing in lieu of a concrete block enclosure is acceptable. We will, however, consider economic and acoustical implications and report back at the next meeting.



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HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

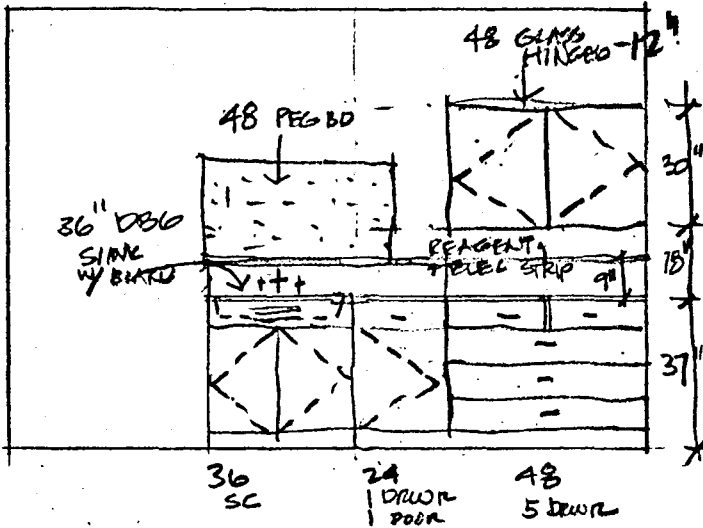
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 8 June 1976

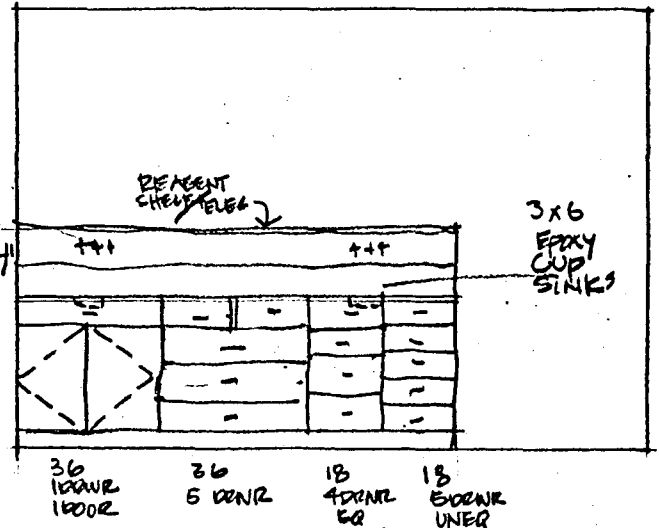
NOTES BY: Bruce Johnson

PRESENT: Dr. Youoszai, Dr. Sorenson, Anatomy Dept.; Tom Kyle, HSPO  
Bruce Johnson, HSAE.

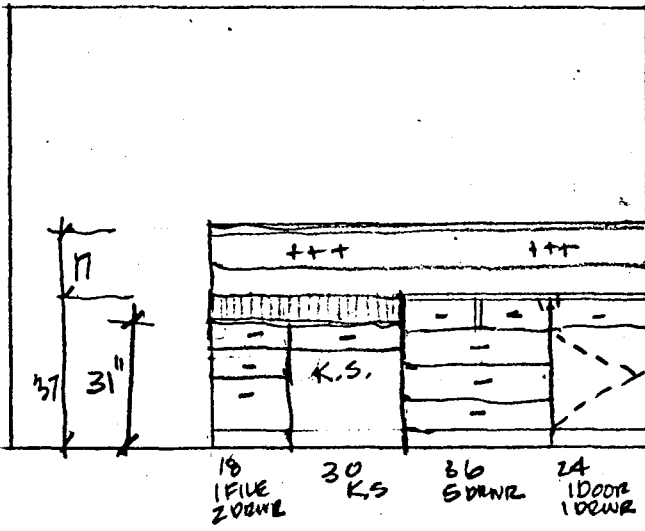
1. Design Development Floor Plans were discussed, and elevation drawings of the casework and walls were drawn. Any possible changes in the floor plan were discussed and changes made accordingly.
2. Enclosed find copies of that plan and corresponding drawings of the wall elevations and casework which you have approved to date.
3. These drawings are for your use. The final phase of drawings will be the construction working drawings. We will have one or two meetings then to further discuss details of your plans. At that time any additional services (gas, air, electricity, etc.) or other special requirements or changes should be discussed.



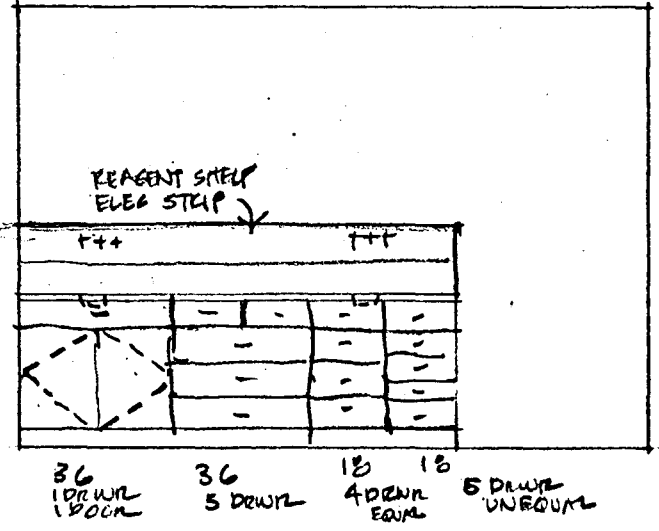
7.1



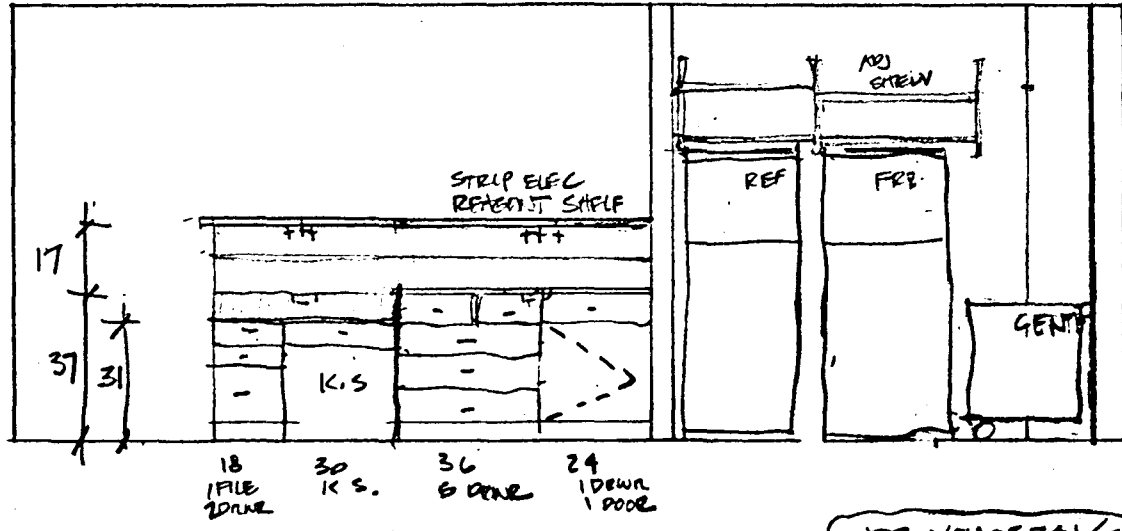
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7.3

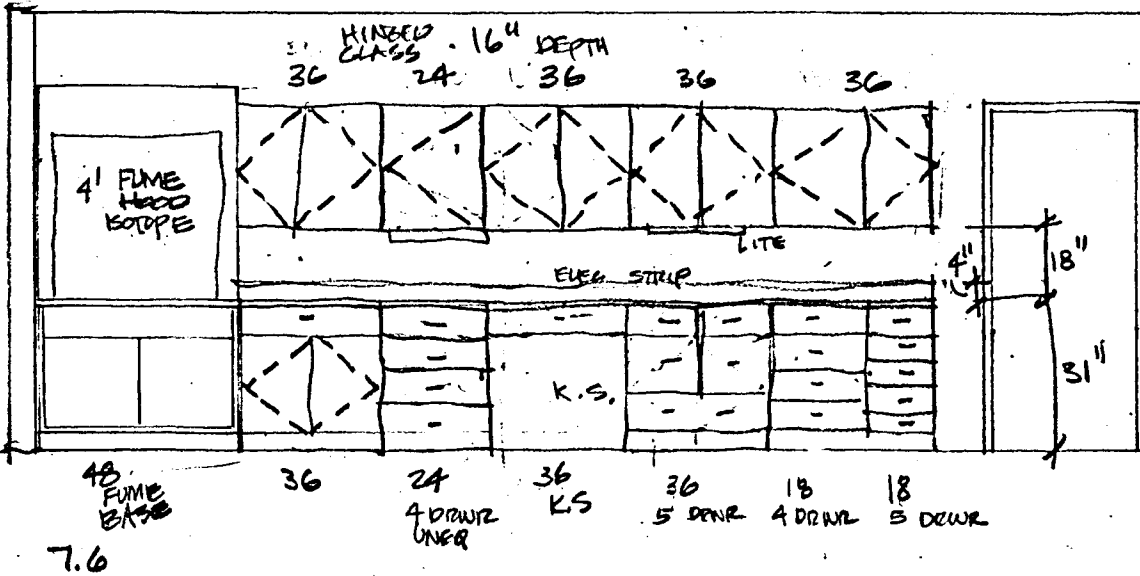


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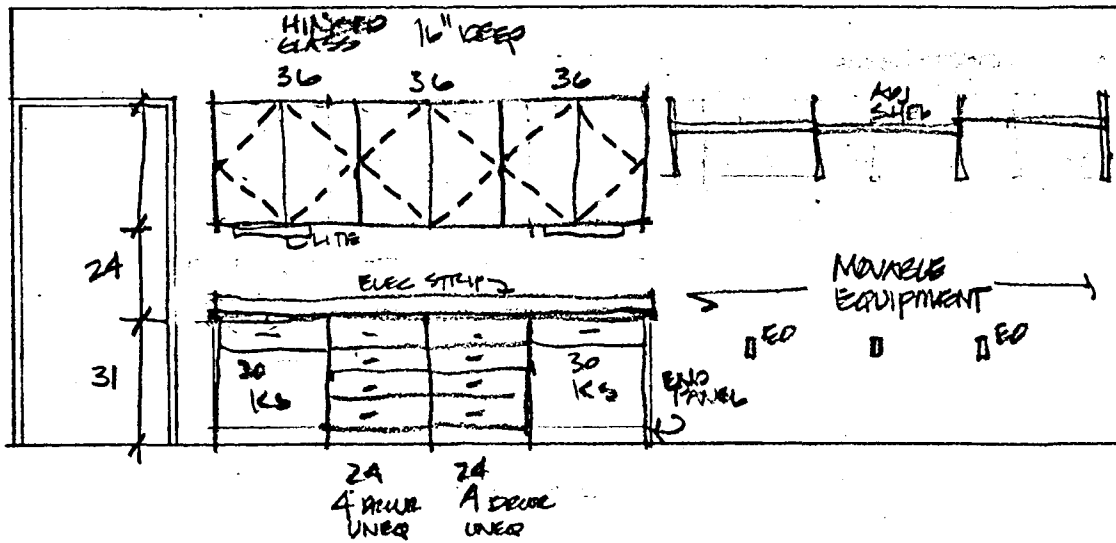


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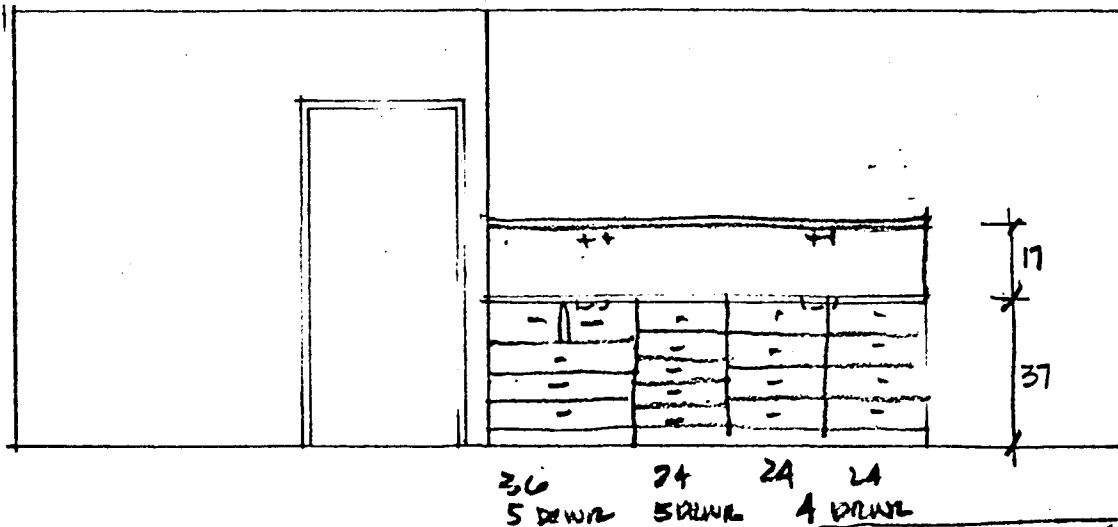
DR. YODOSZAY/SORENSEN  
8 JUNE 1976  
ANATOMY 2ND F



7.6

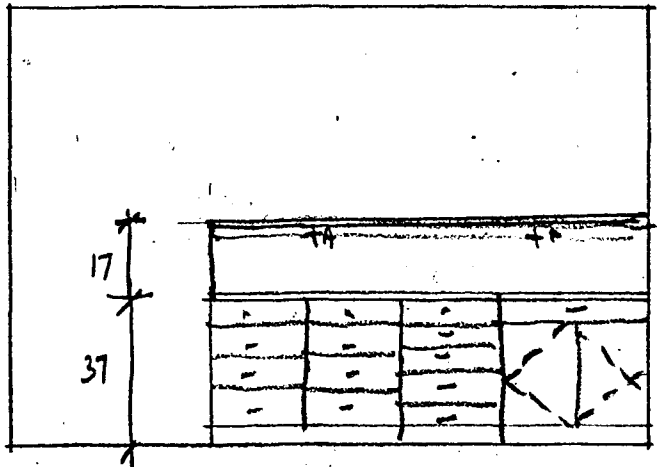


7.7



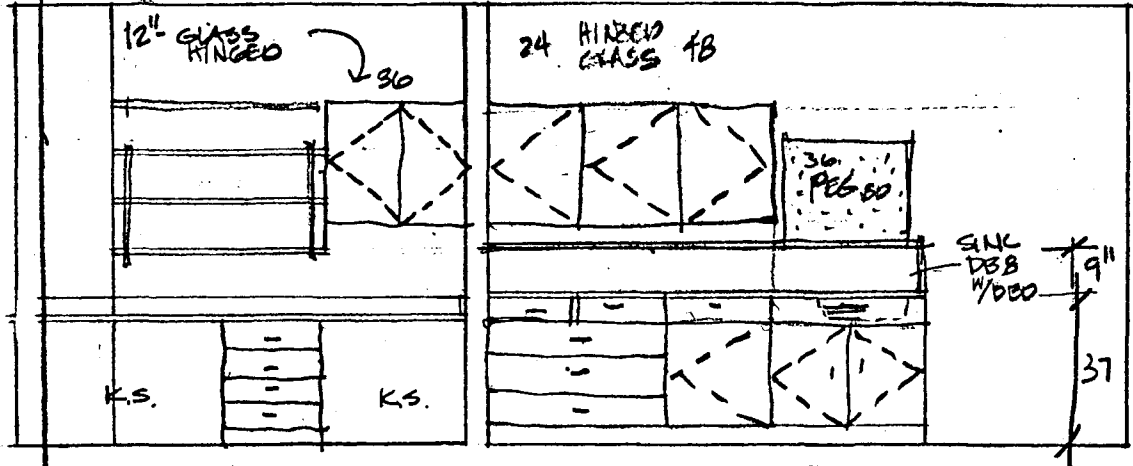
7.8

DR YOUSZAY/SORENSEN  
 8 JUNE 1976  
 ANATOMY  
 2ND FLR



24 24 24 36  
 4 DRAW 5 DRAW 1 DRAW  
 UNEQUAL 2 DOOR

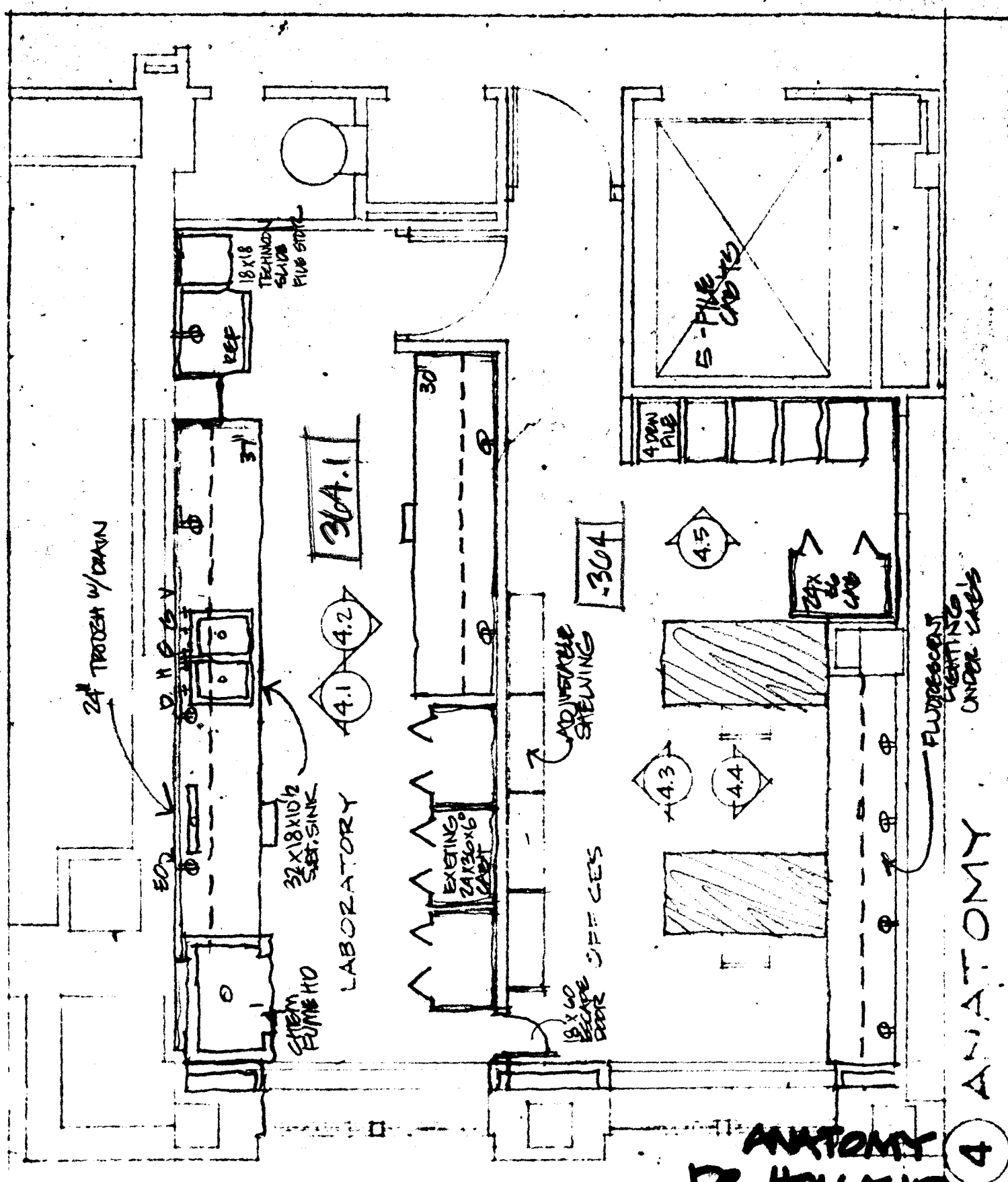
7.9



12" GLASS HINGED 36  
 24 HINGED GLASS 48  
 36 PEG BOARD  
 SINC DSB 1/2 DOOR 9"  
 37  
 K.S. K.S.  
 24 DRAW  
 48 24 36  
 5 DRAW 1 DRAW 50  
 1 DOOR

7.10

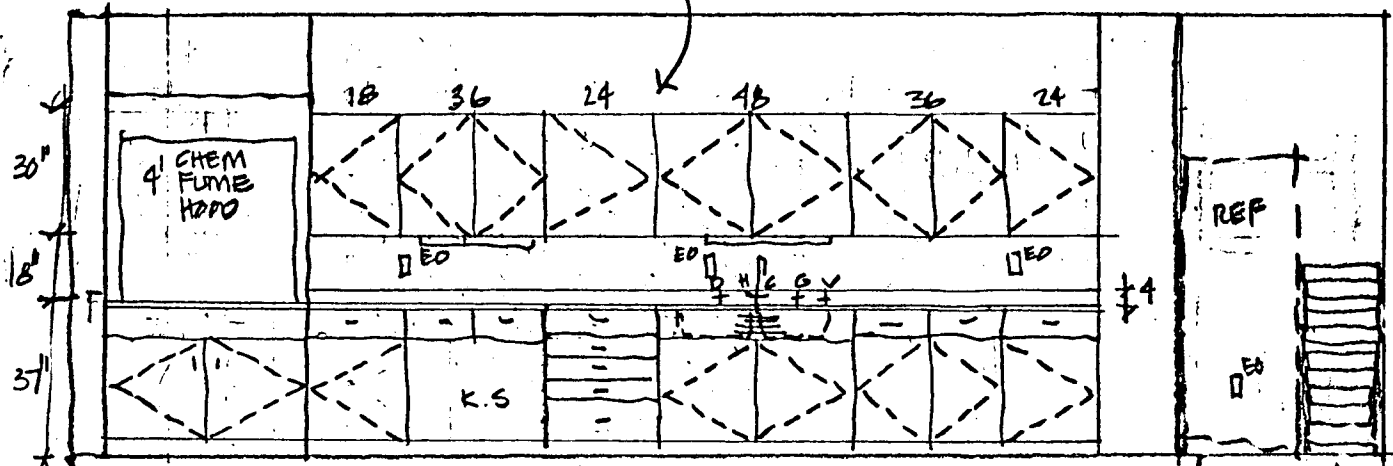
DR YAJOSZAKI/SORENSEN  
 8 JUNE 1976  
 ANATOMY 2ND FLR



**ANATOMY 4**  
**DR. HOLLAND**  
**GORDON HERBERT**  
**8 JUNE 3<sup>RD</sup> FLR**

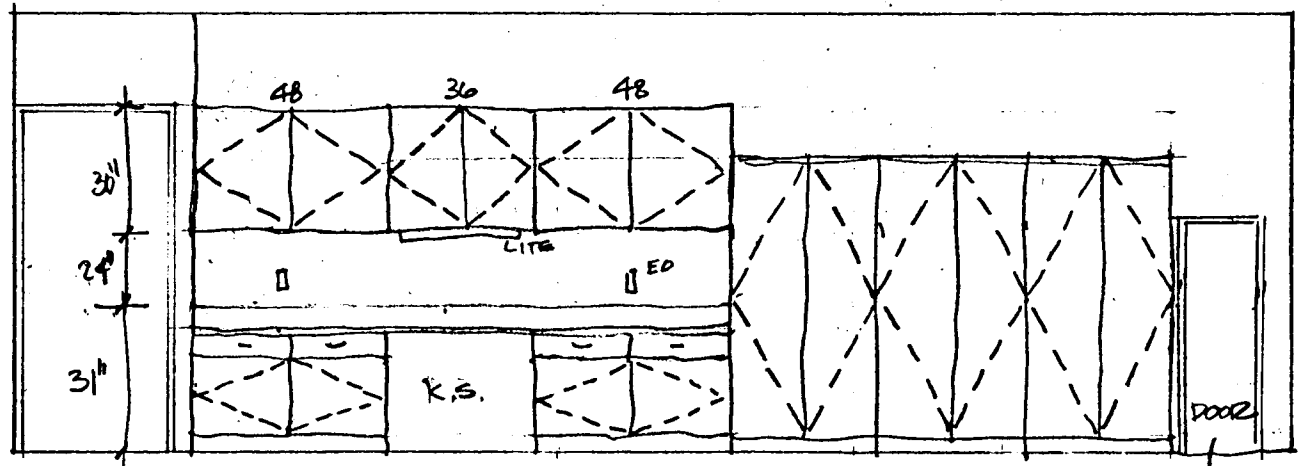


WALL - SOLID DOOR - 12" DEEP - NO LOCKS



4.1

48 FUME HOOD  
 18 1 DR 1 DEW  
 36 K.S 2 DEW  
 24 5 DOW  
 48 SB 2 DR  
 36 2 DR 2 DEW  
 24 1 PR 1 DEW  
 32 x 18 x 1/2 S. ST SINK

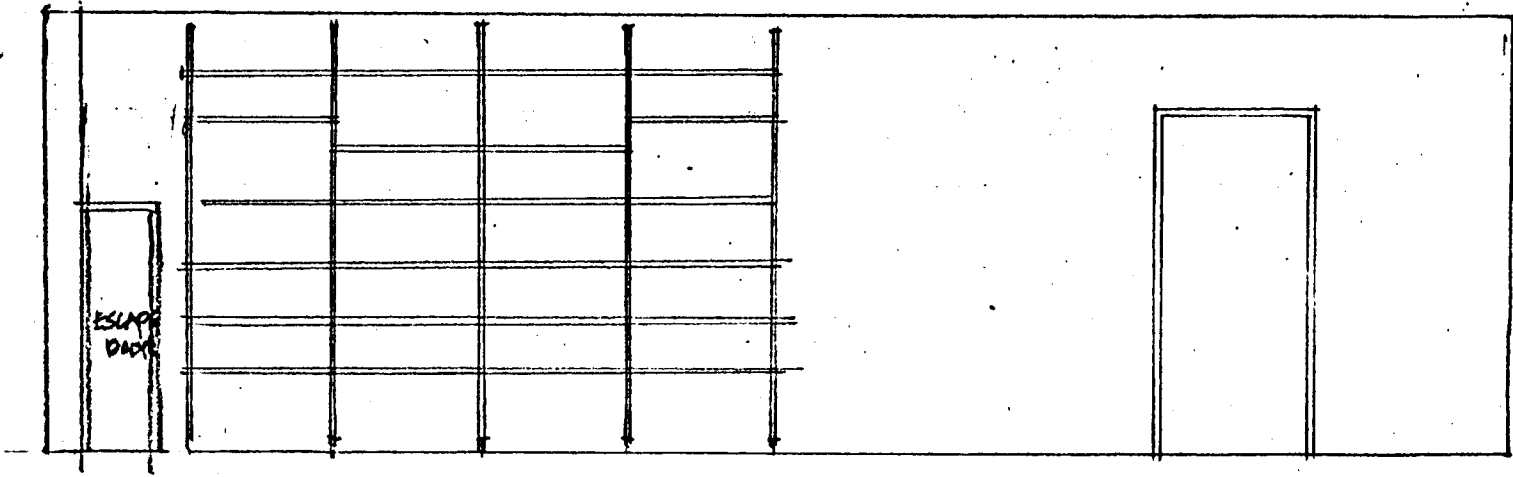


4.2

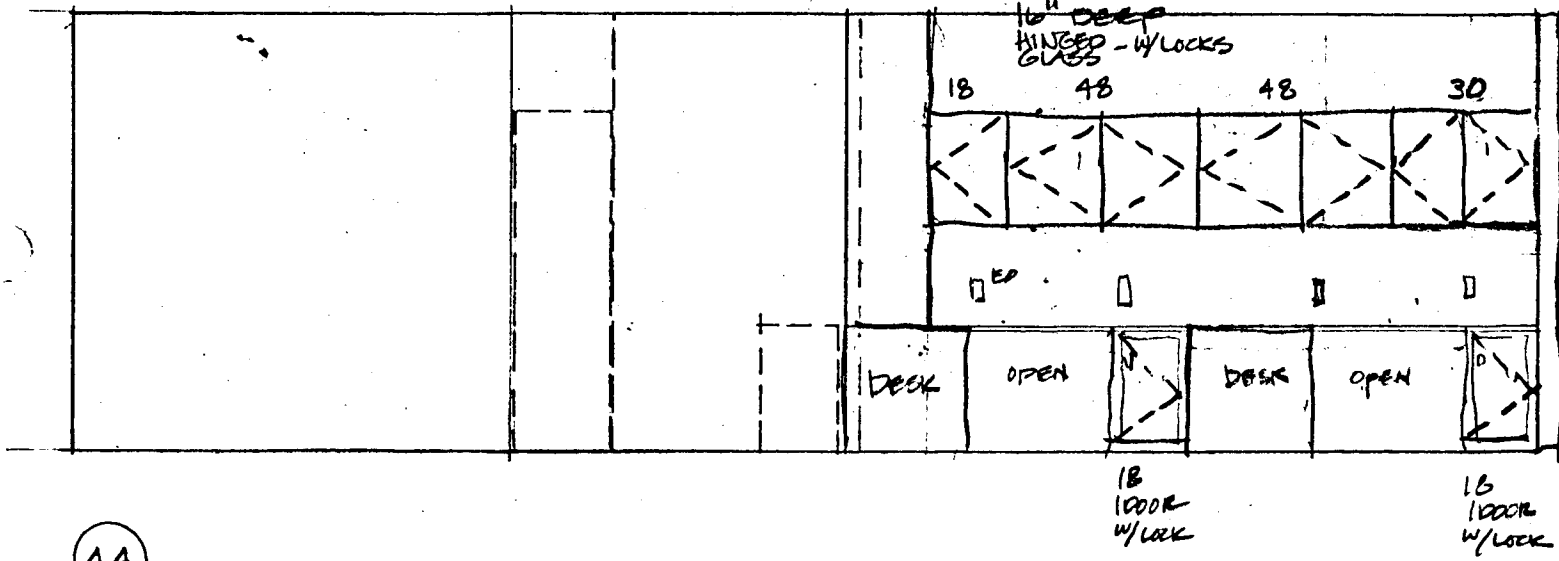
48 2 DOOR 2 DEW  
 36 BLANK  
 48 2 DOOR 2 DEW  
 36" STOR CAB  
 36" STOR CAB  
 36" STOR CAB  
 ESCAPE DOOR

DR. HOLLAND / GORDAN HERBST  
 8 JUNE 1976  
 ANATOMY 3RD FLR.

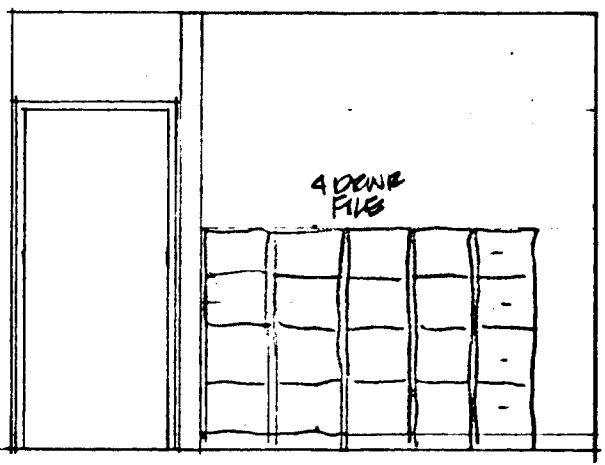
ADJUSTABLE  
SHELVES



4.3



4.4



4.5

DR. HOLLAND / G. HERRERT  
 8 JUNE 1976  
 ANATOMY 3RD FLR.

# JOML-Engineering Meeting Notes

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS & ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

## MEETING NOTES:

DATE: June 9, 1976

SUBJECT: JOML Complex Remodeling - Engineering Meeting

NOTES BY:• Cliff Olson

PRESENT: Tom Kyle, Paul Kopietz, Pete Merz, Dennis Leslie, Jerry Olson,  
Cliff Olson

### A. Review of Previous Meeting Notes

- 1a. Approximately 7,000 sq.ft. of room area will be affected by the elimination of windows for the construction of the new SE & SW Mechanical Equipment Towers. Air conditioning of this additional area could be handled by the new equipment being installed in the towers. However, this area is not included in the 81,000 sq.ft. limit of the project and therefore costs are not included in the cost estimates.
- 1c. Cost comparison figures were presented to air condition Jackson 496 from the new SW Tower or from a new unit in the existing 5th Floor Jackson Penthouse. The installation in Jackson Penthouse would cost approximately \$3,000.00 more because of the long piping run for chilled water. A suggestion was made to reduce the piping run by installing the horizontal portion in the 3rd Floor suspension ceiling and connecting to the SW Tower at the 3rd Floor ceiling level. This would require increasing the capacity of the vertical pipes in the tower, or if left the same size would necessitate a reduction in capacities of all units when all tower units are finally installed and operating.

The writer was asked to prepare cost figures to install a factory build supply air unit in the Jackson Penthouse, chilled water piping from 3rd Floor SW Tower, and supply air ducts down thru floor of Penthouse into 4th Floor space. This installation to be of temporary nature and replaced when NW Tower is built.

- 1e. The "U" value of the new tower walls was discussed. The wall was to consist of 4" face brick, plus 2" air cavity, plus 8" lightweight concrete block for a "U" value of .22. This value equals the present Energy Code.

If 1" insulation is added inside the wall reducing the air space to 1", the "U" value will change to .12. This insulation would cost approximately \$2,000.00 per tower and save approximately \$100.00 per year in heating costs. It was decided to omit the insulation as the proposed wall meets the minimum Energy Code.

- 1g. Mr. Merz mentioned he had talked with Mr. Cisewski about the Anatomy/mortuary Science cooler in Jackson. Mr. Merz's records indicated the University Engineering Dept. had recommended replacing the entire cooler and equipment in 1970 as the system was antiquated. We were requested to investigate costs involved to provide new equipment, remodeled area, etc.

#### B. Mechanical Towers

1. Prints of the proposed Mechanical Equipment Installation in the new SE & SW Towers were presented and reviewed. The drawings indicated the supply air unit size per floor, duct sizes in tower and entering existing building, component parts to make-up supply unit, vertical pipes for systems, etc.
2. Mr. Merz noted the drawings indicated using centrifugal blowers to supply the air for each system. He expressed dissatisfaction with a blower having a scroll by-pass damper for air volume control. This feature is provided only by Trane Co. and therefore becomes proprietary. The writer indicated the use of inlet vane controllers on each blower was anticipated and this type of control was satisfactory to Mr. Merz. Also noted was the height restriction at each unit making the use of vane axial fans very difficult and impossible for some. The writer commented that some units are of low air quantity 14 to 17,000 cfm making the cost of the centrifugal blower considerably less than a vane axial fan. Mr. Merz retained a set of prints for examination and future comments.

#### C. Jackson Hall Transformer Vault

1. A sketch of the Jackson/Owre Switch Gear Room and Vault Area was presented and discussed.

The sketch included primary switch gear and transformers installed in an enlarged transformer vault. The sketch would be given to Mr. Kerkow for his examination and comments.

2. Dennis Leslie explained that the addition of the new 333KVA transformers were to replace the existing 288KVA transformer and could be done without changing the vault structure.
3. It was discussed that a separate meeting should be arranged with Mr. Kerkow and Dennis Leslie to discuss the vault possibilities. Then a discussion would be made as to including the vault expansion and remodeling into the scope of the project.

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HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

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MEETING NOTES:

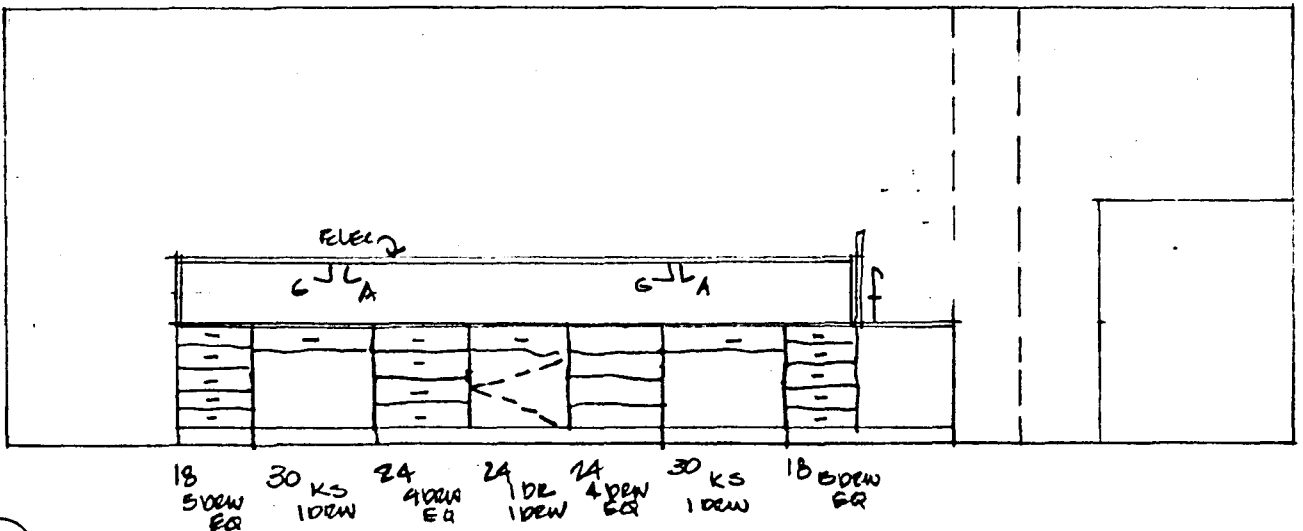
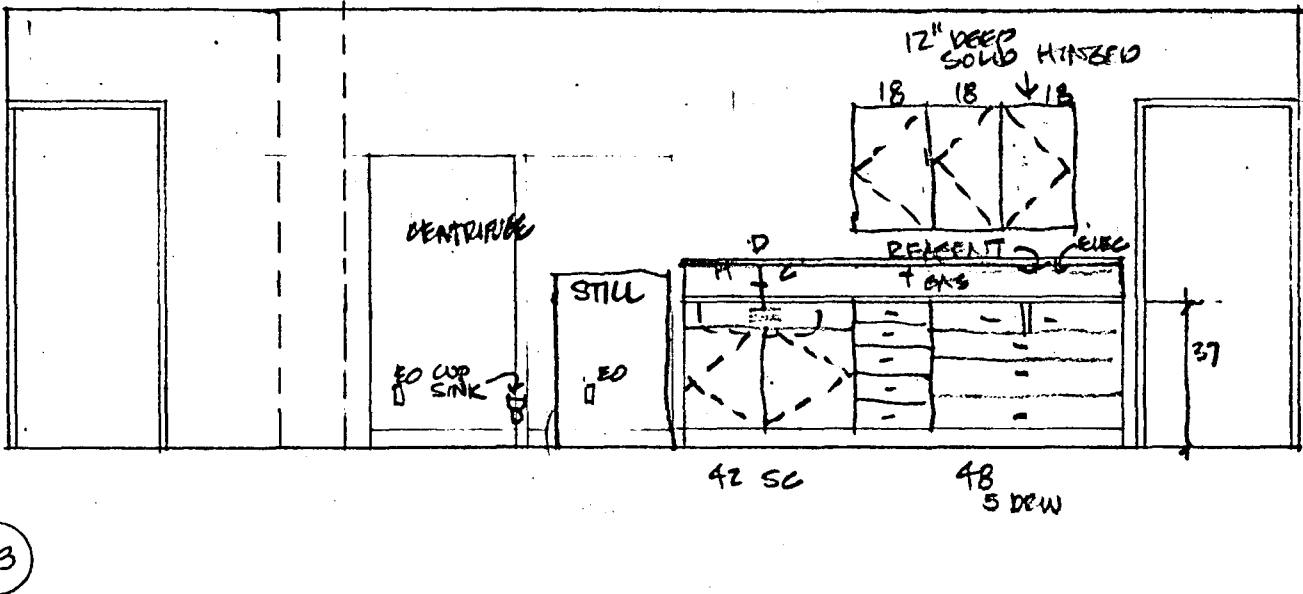
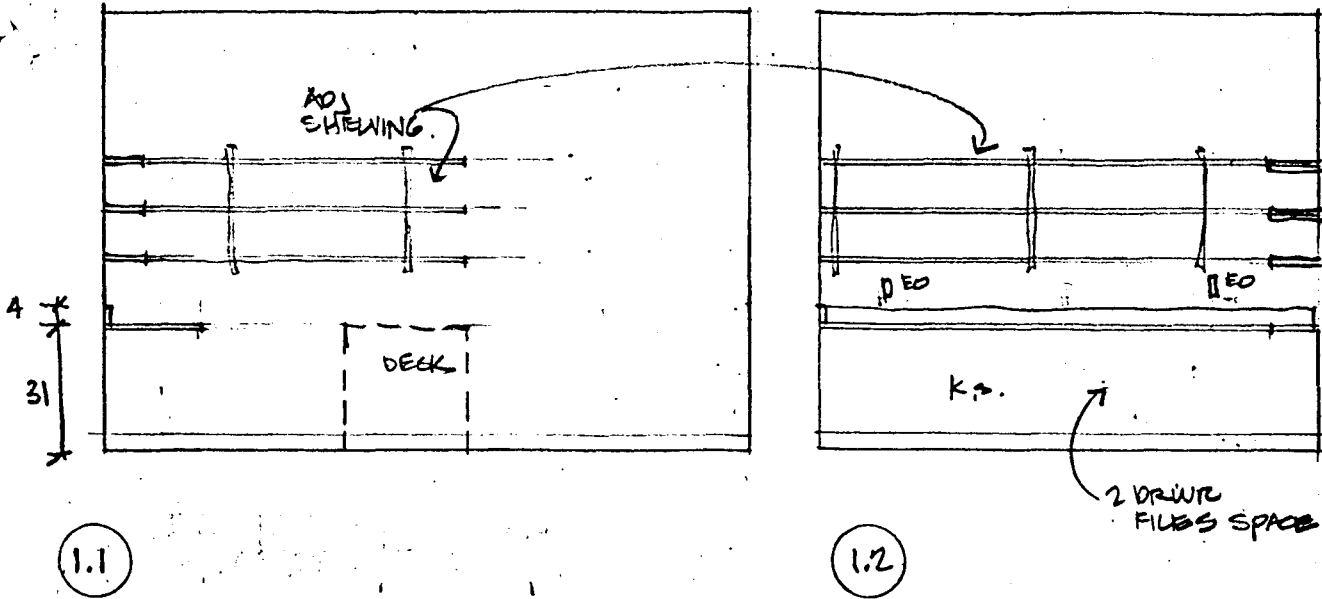
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 16 June 1976

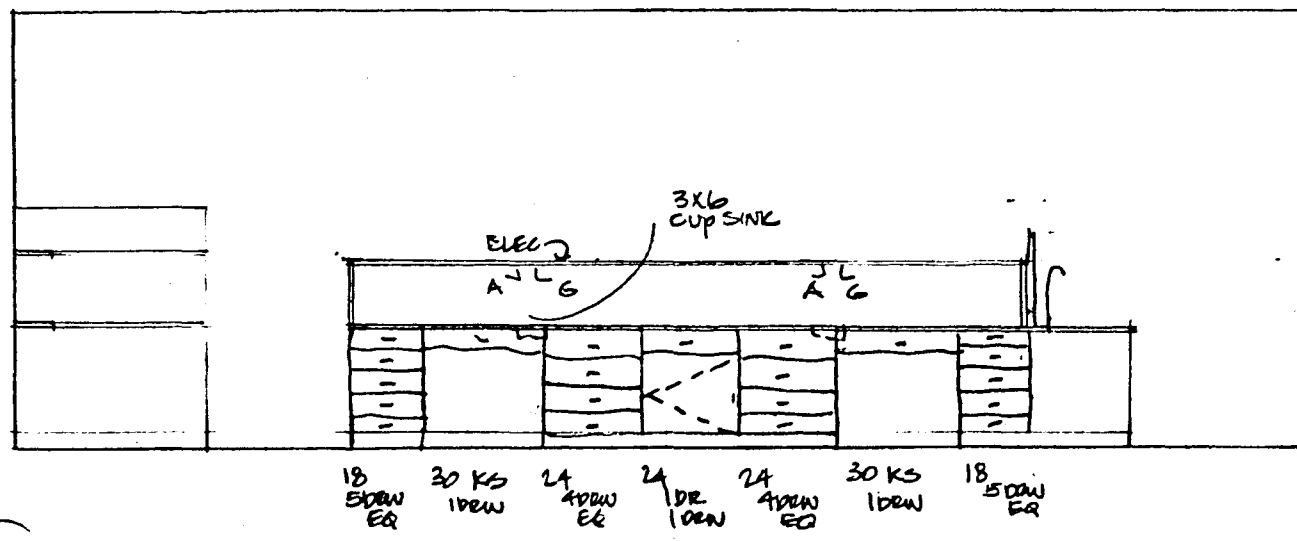
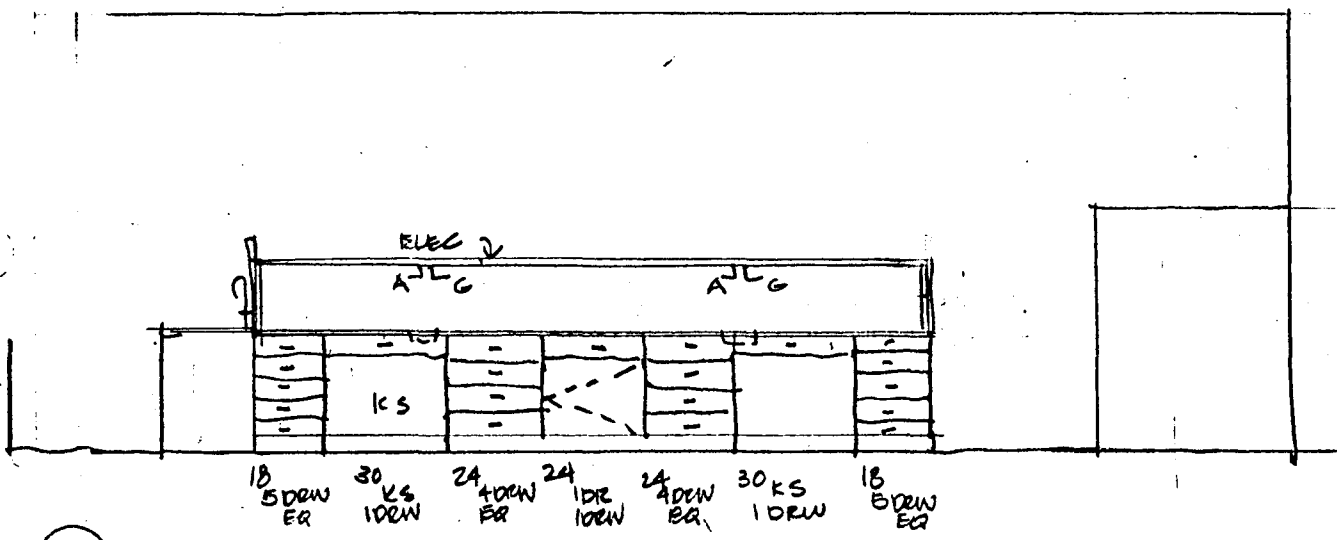
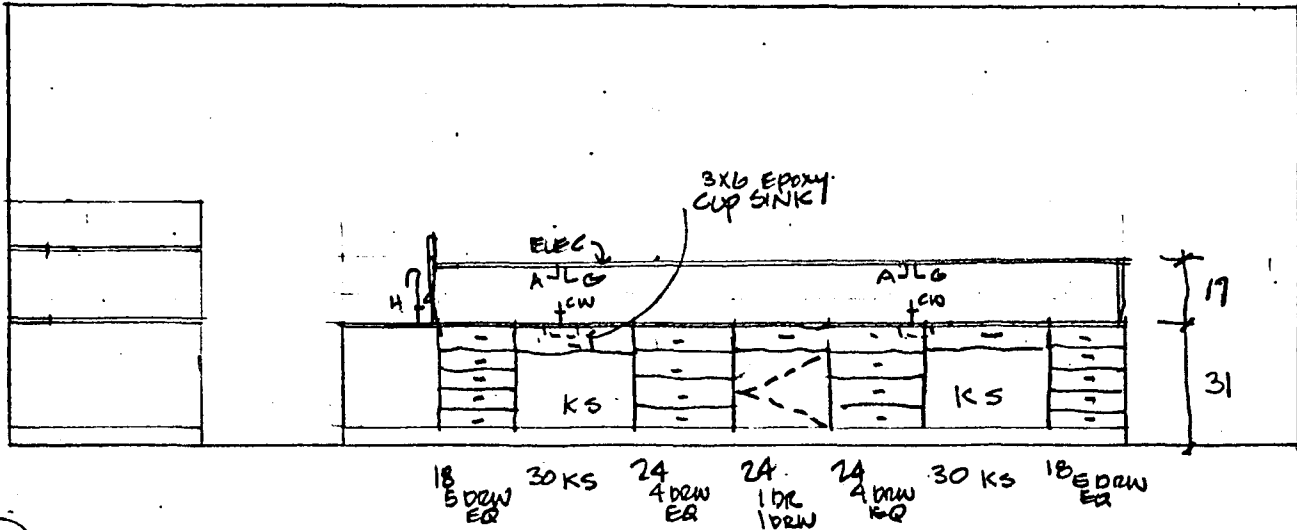
NOTES BY: Bruce Johnson

PRESENT: Mr. McEvoy, Dr. Hegre, Anatomy Dept.; Tom Kyle, HSP0;  
Bruce Johnson, HSAE

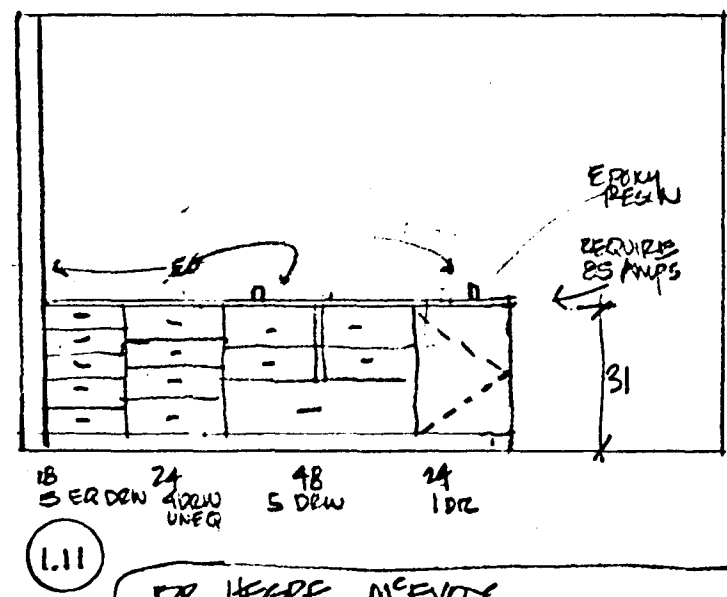
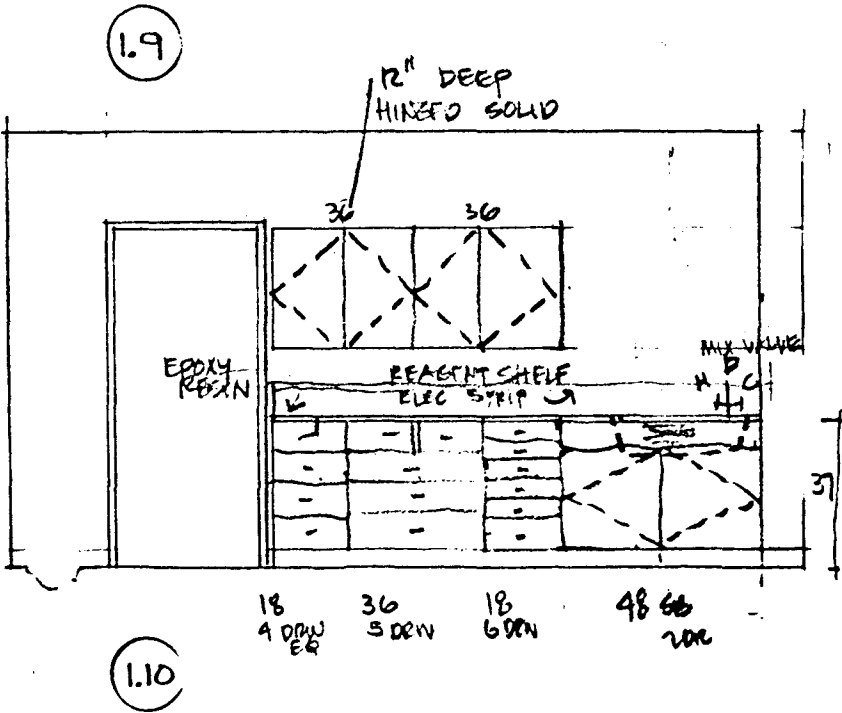
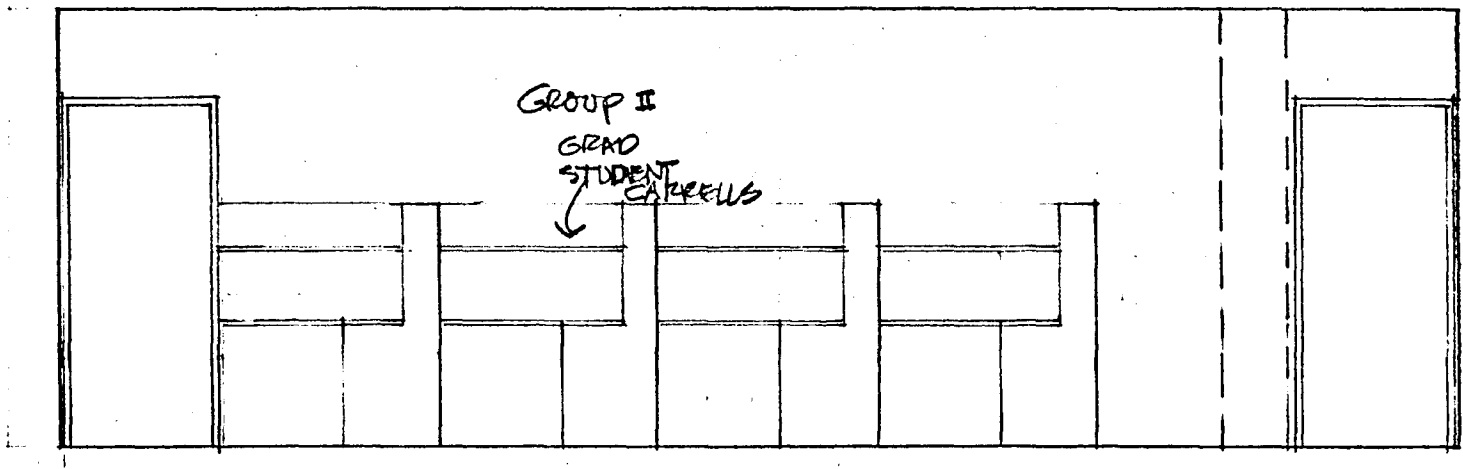
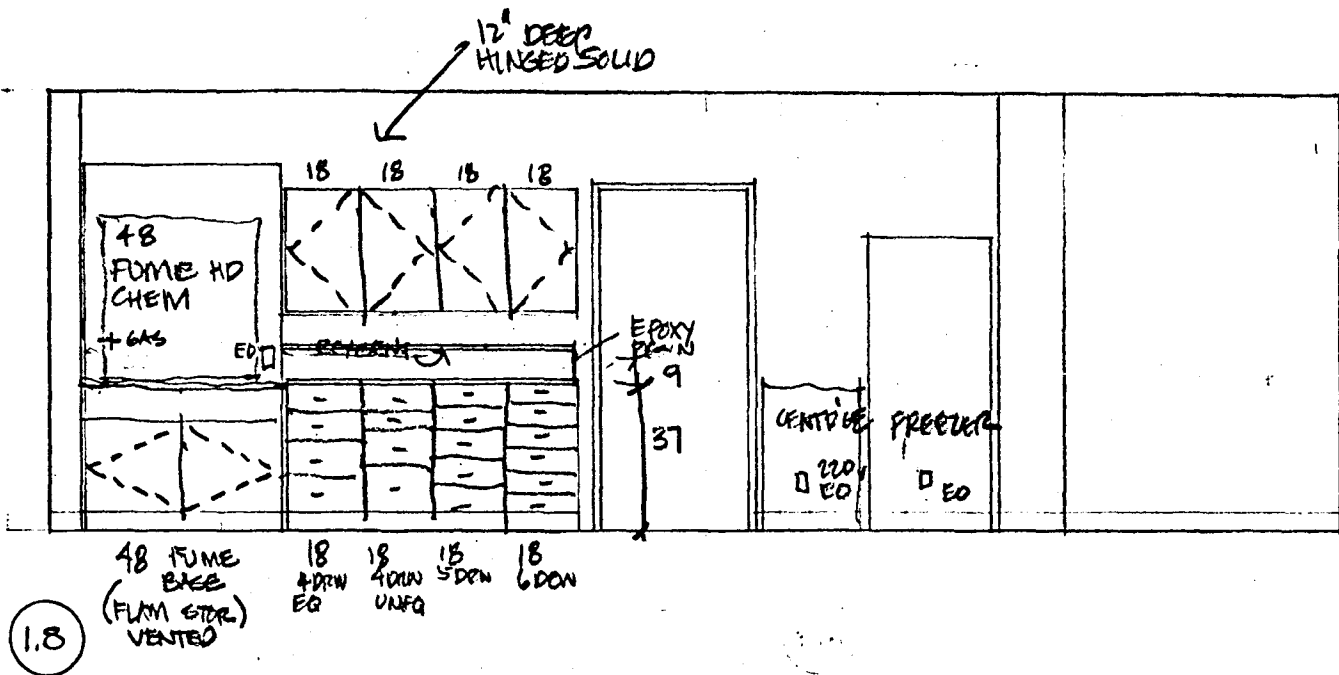
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DR. HEGER MCFEY  
ANATOMY  
16 JUNE 76  
2ND FLE

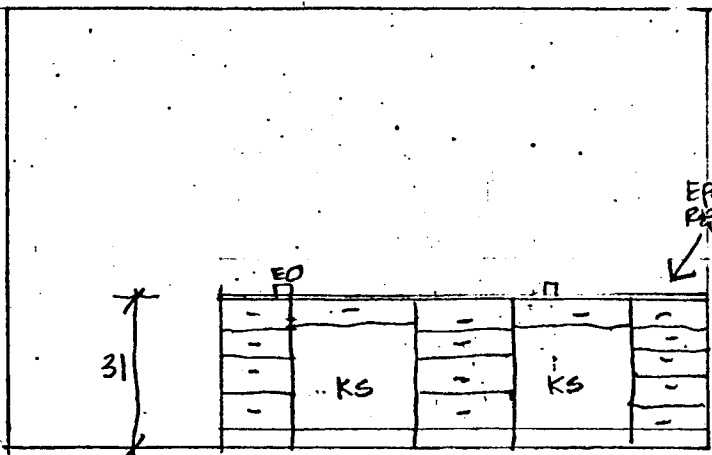


DR HEERE M'EVOT  
 ANATOMY  
 16 JUNE 1976  
 2ND FLE



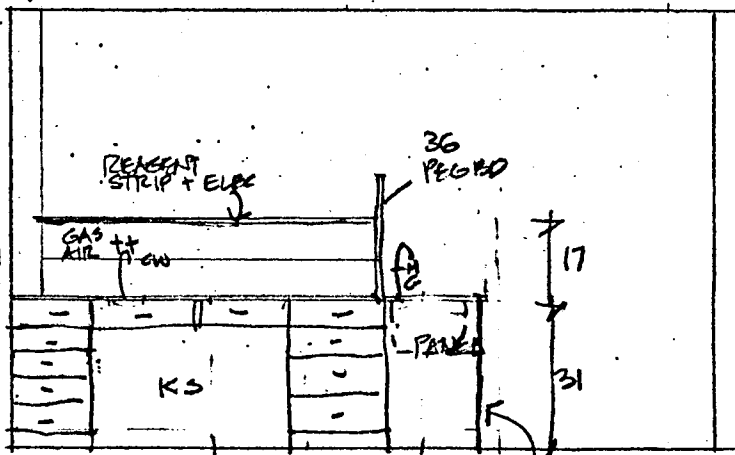
DR HEERE McEVOT  
ANATOMY  
16 JUNE 1976  
2ND FLR





1.12

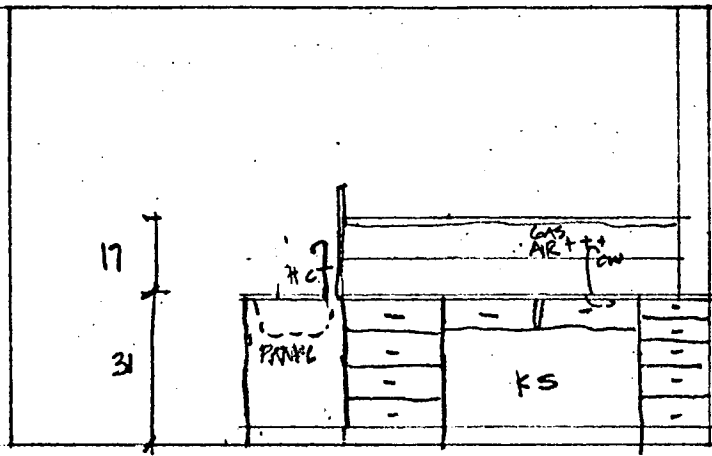
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 30 KS  
 18 4 DRAW UNER  
 30 KS  
 18 6 DRAW EQ



1.13

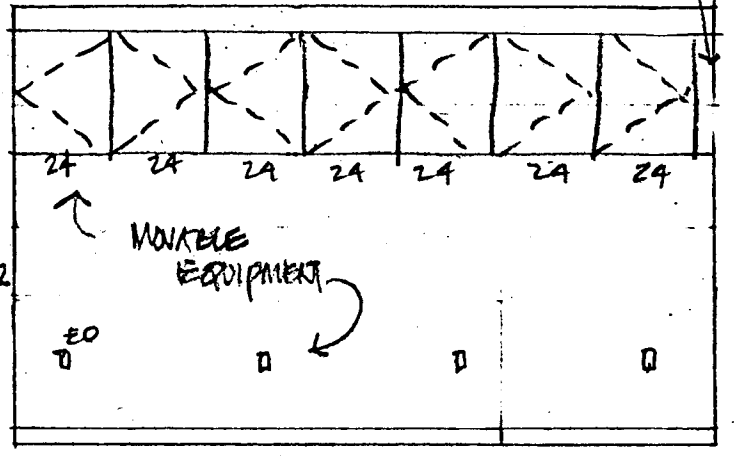
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 48 KS 2 DRAW  
 24 4 DRAW UNER  
 36 PEG RD  
 SASB LAM

16" DEEP - SOLID HINGED



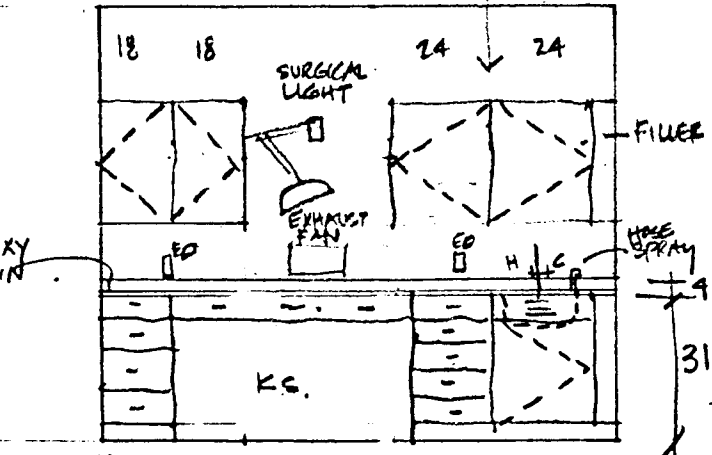
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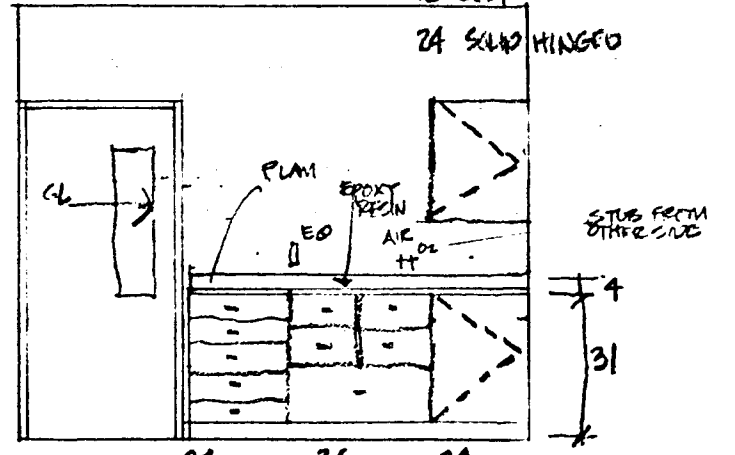
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12" DEEP HINGED GLASS  
 EITHER FUMES



1.16

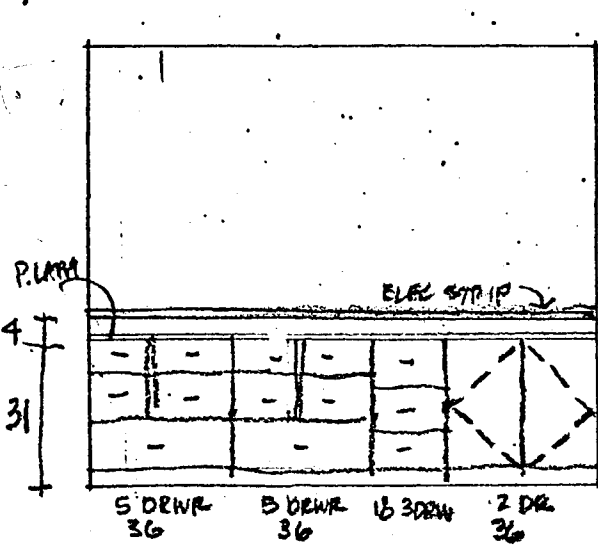
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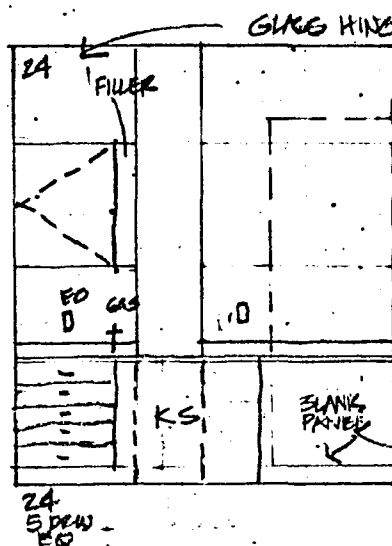
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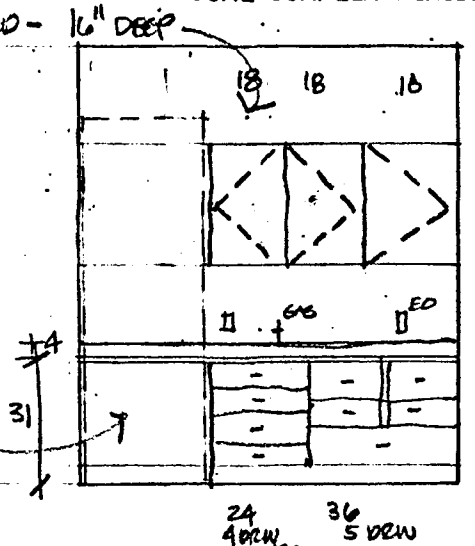
DR HEGRE, McEVOT  
 ANATOMY  
 16 JUNE 1976  
 2ND FLR



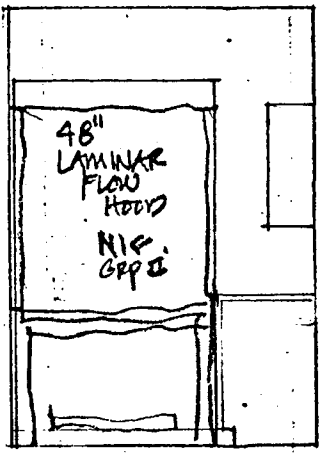
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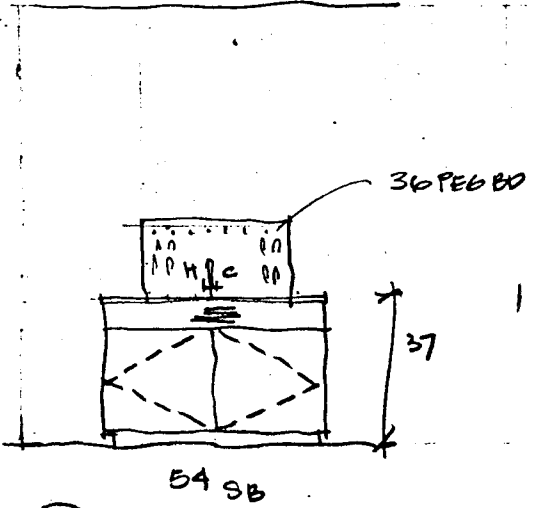
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1.22

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

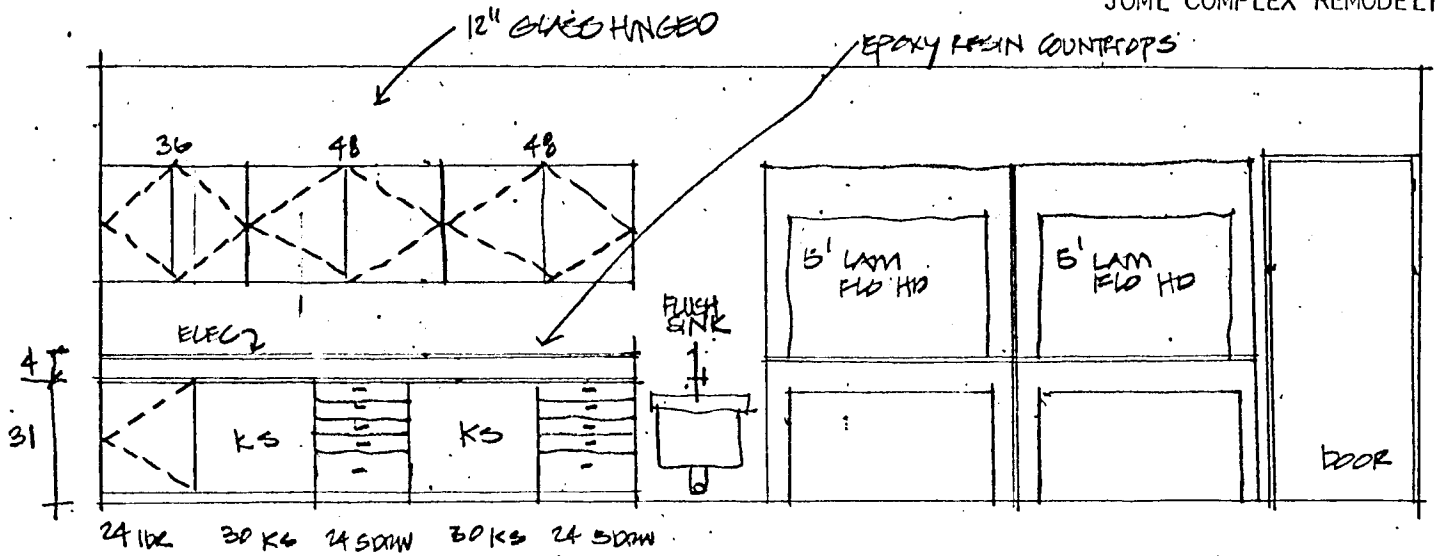
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: June 22, 1976

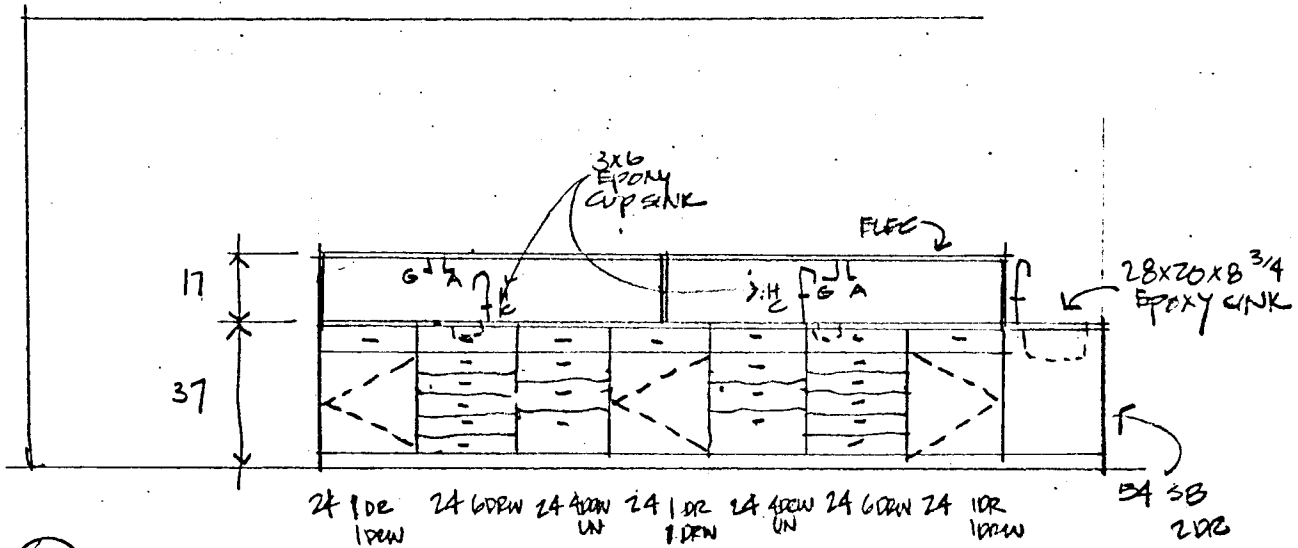
NOTES BY: Bruce Johnson

PRESENT: Dr. Rosenberg, Dr. Barksdale, Pathology Department; Tom Kyle  
and Bruce Johnson

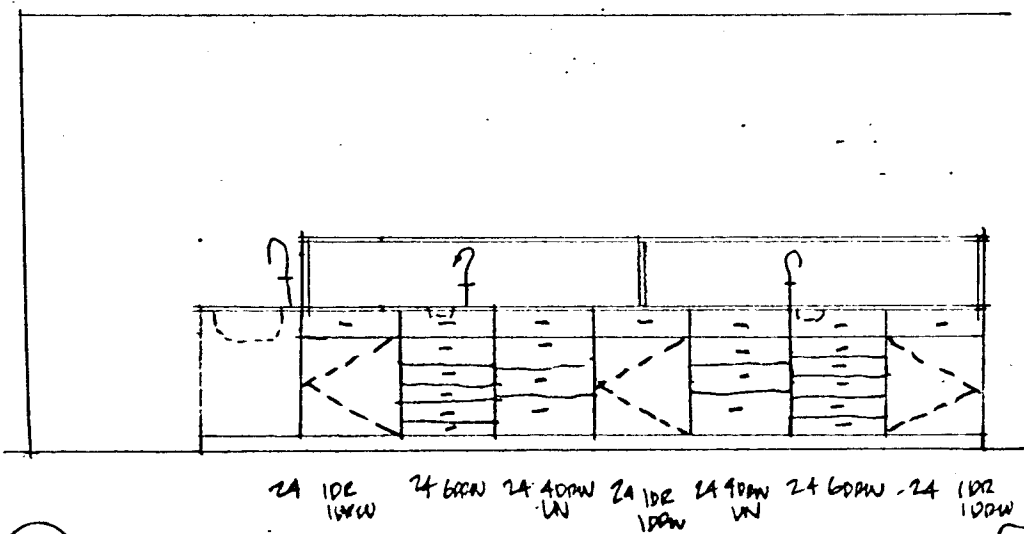
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4.1

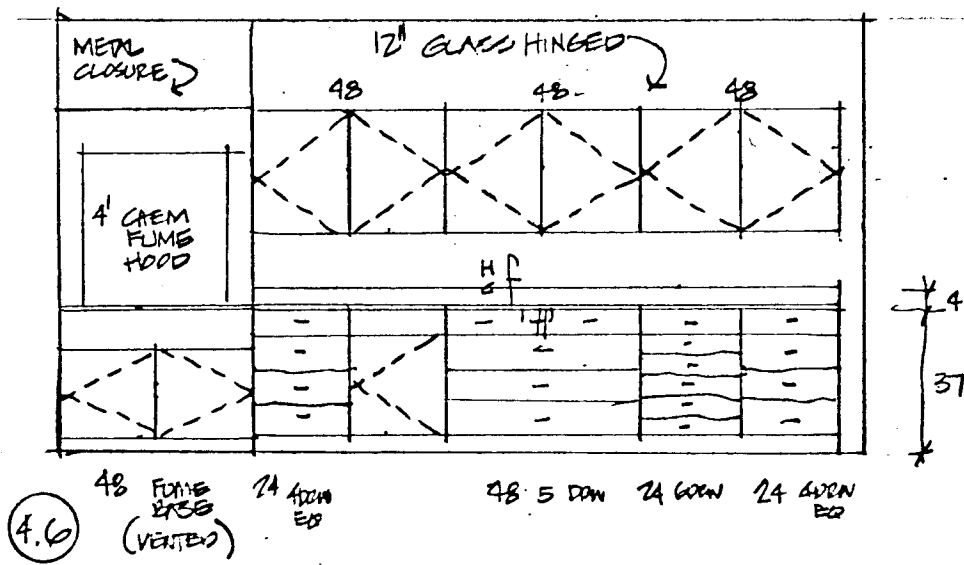
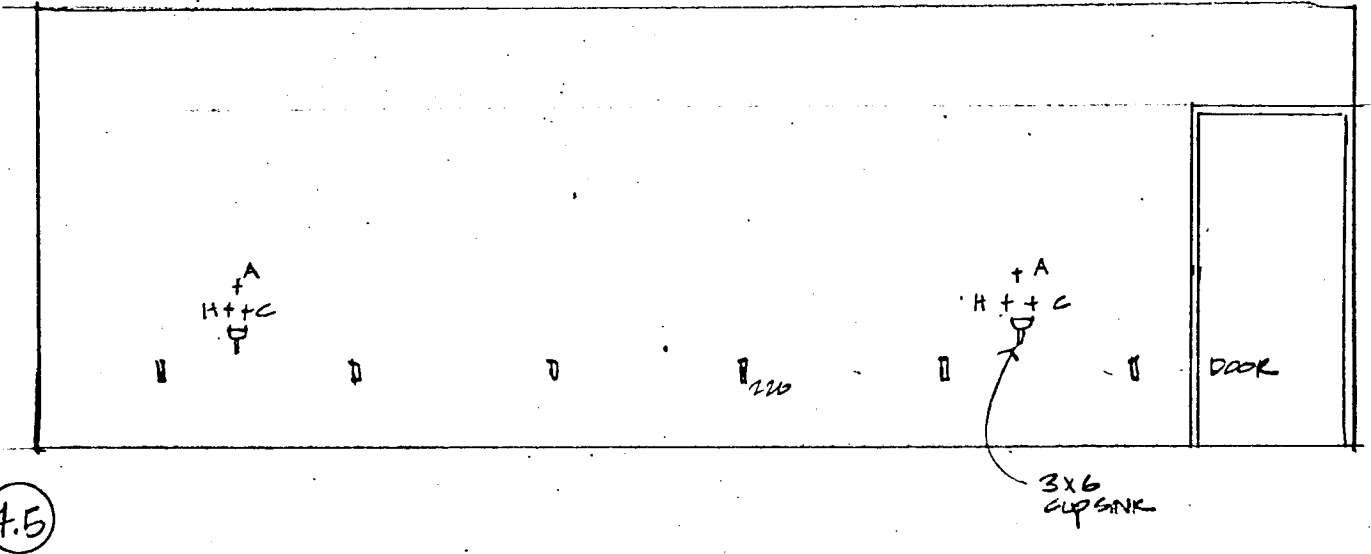
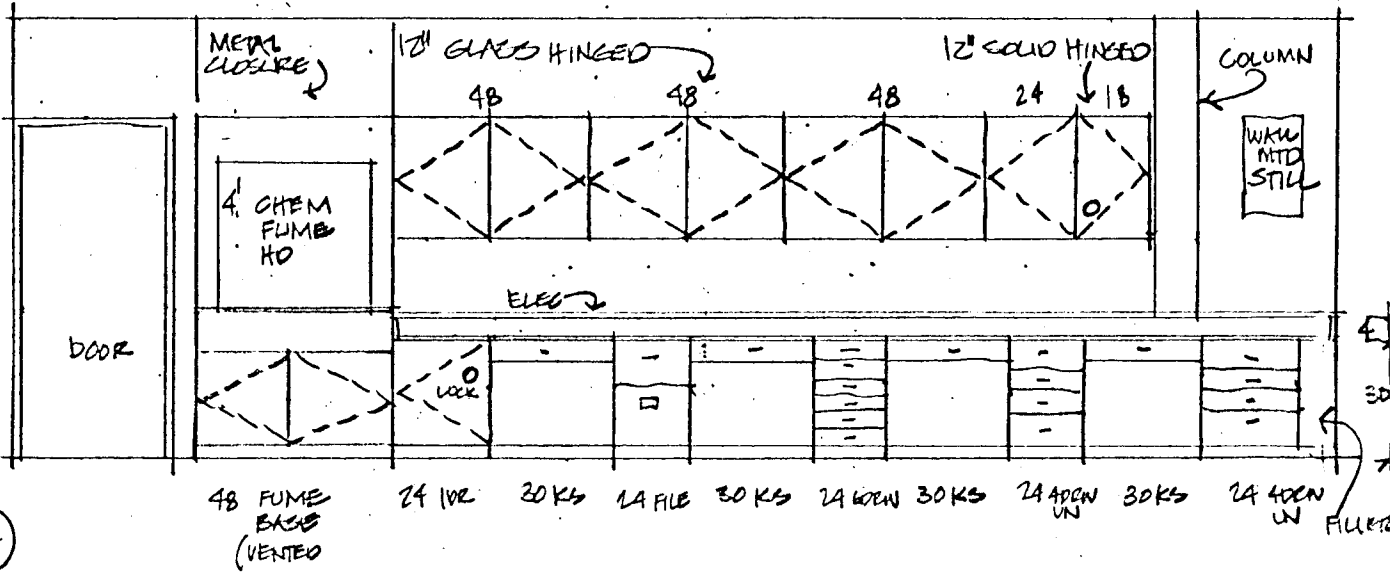


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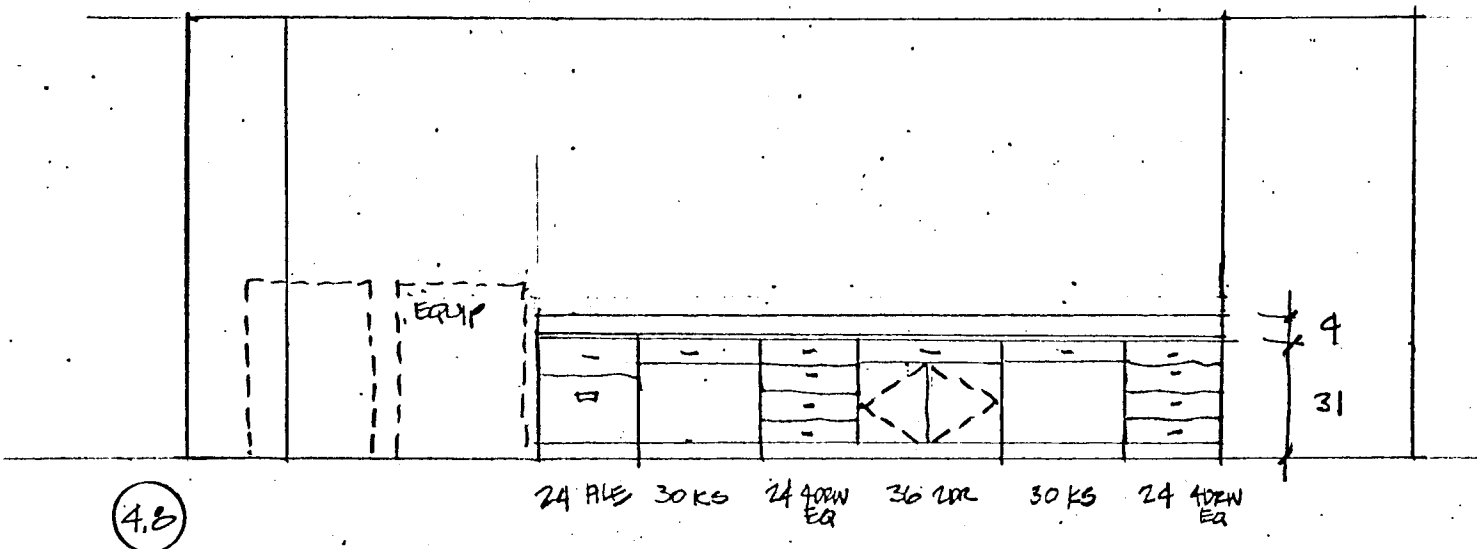
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JUNE 22 (REVISED)  
 DR. BARKSOME/ROSENBERG  
 PATHOLOGY 4TH FLR



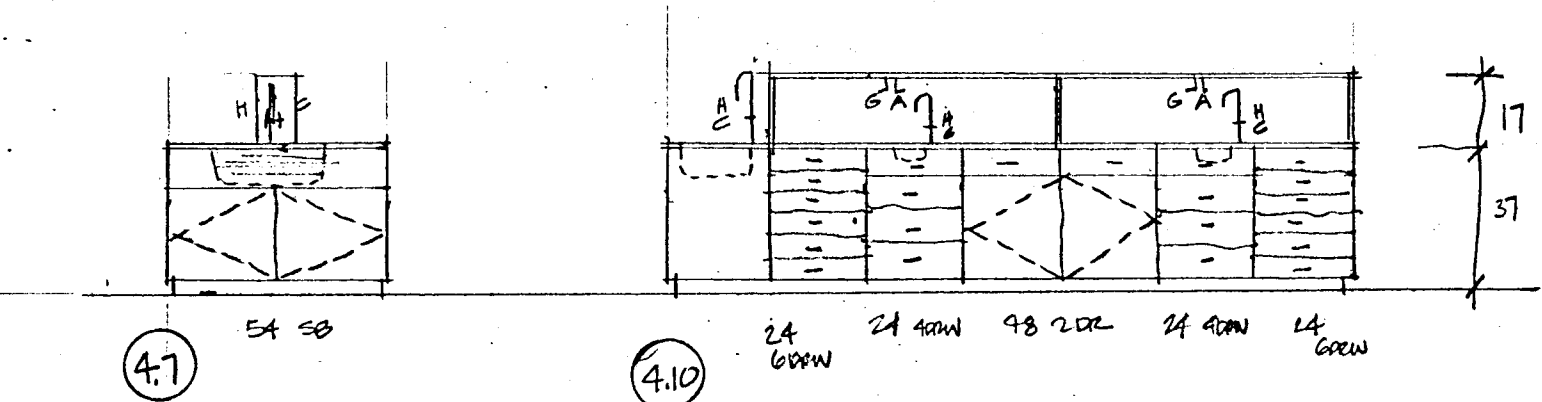
JUNE 22 (REVISED)

DR. BARKSDALE / ROSENBERG  
PATHOLOGY / 4TH FLR



4.8

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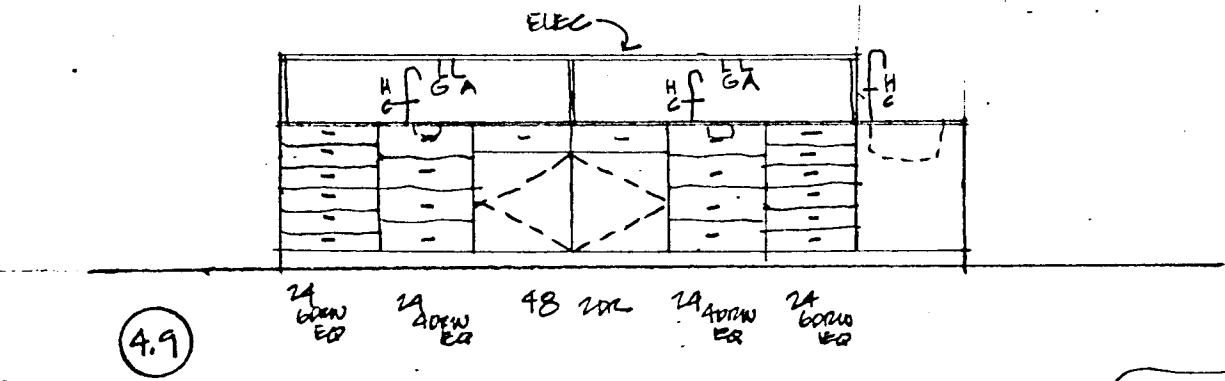


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EA SB

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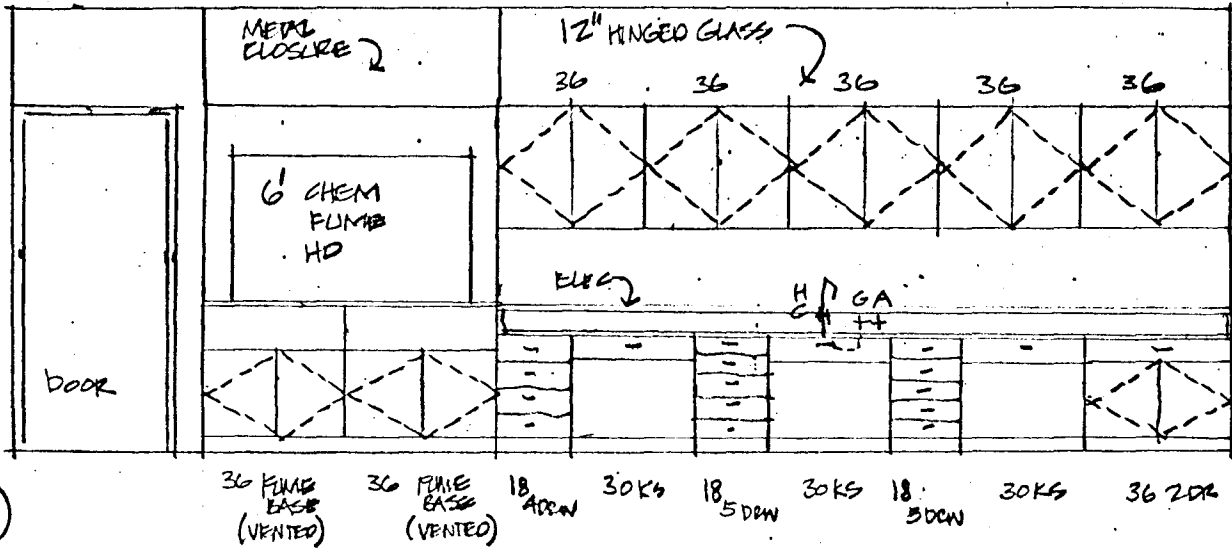


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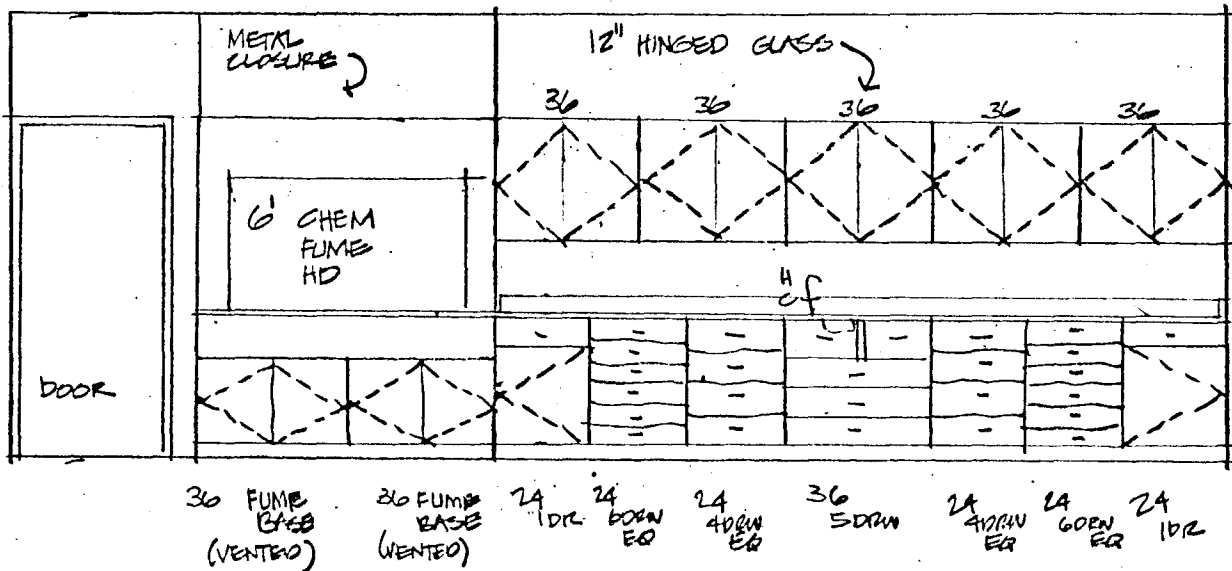
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JUNE 22 (REVISED)

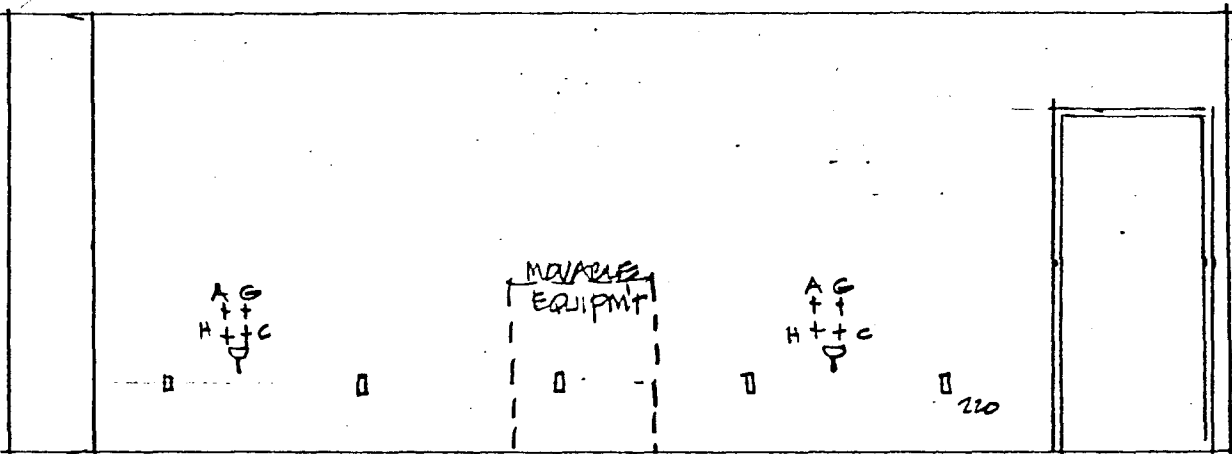
DR. BARKSDALE / ROSENBERG  
 PATHOLOGIST 4TH FLR



4.11

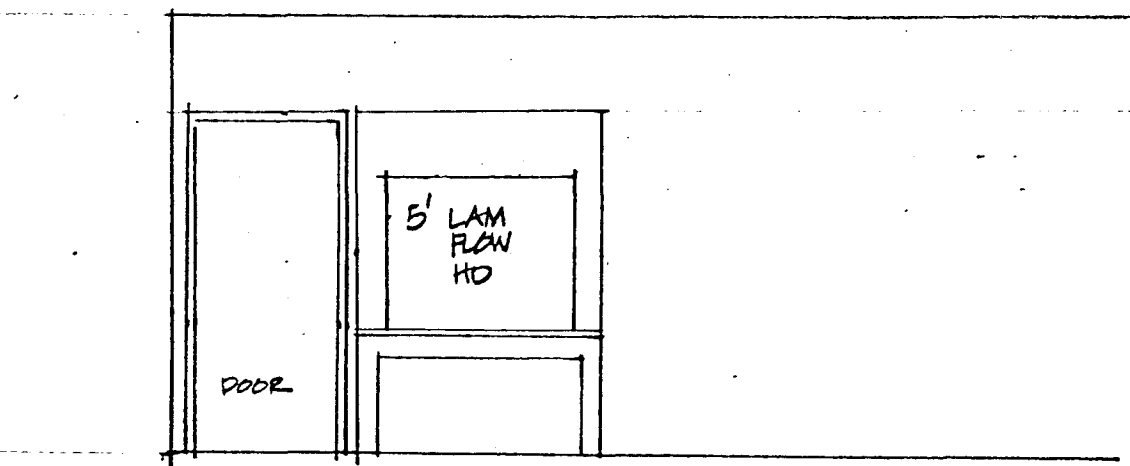
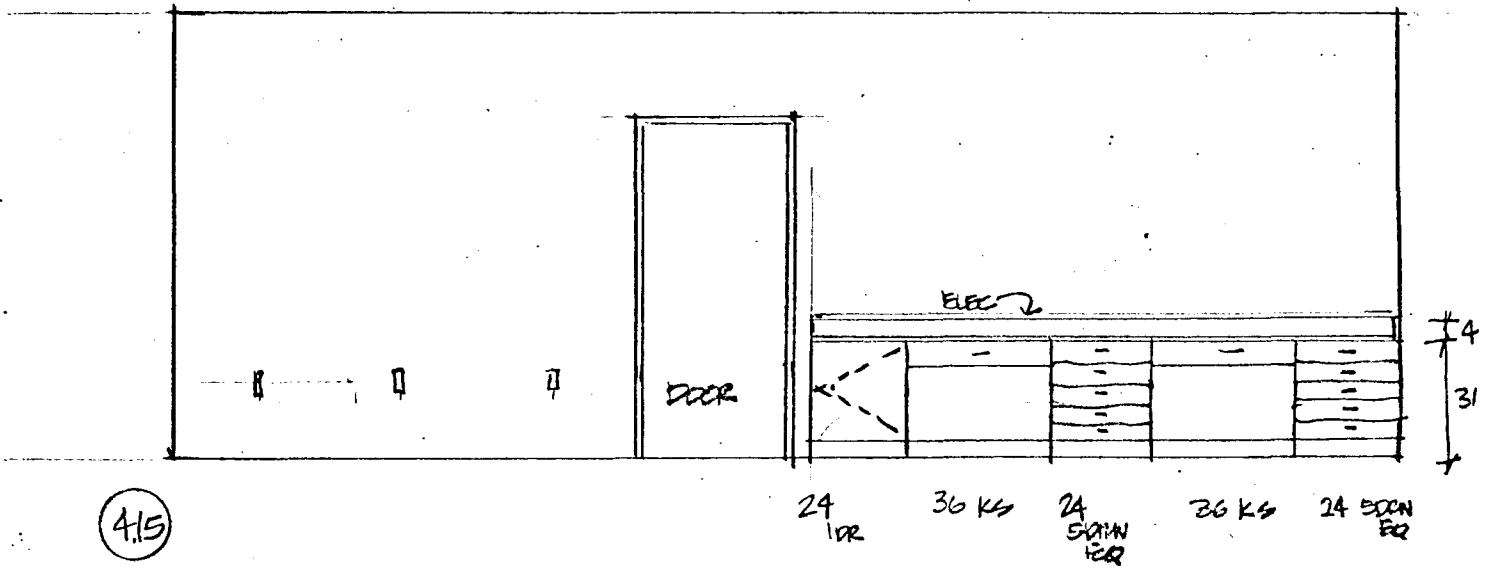
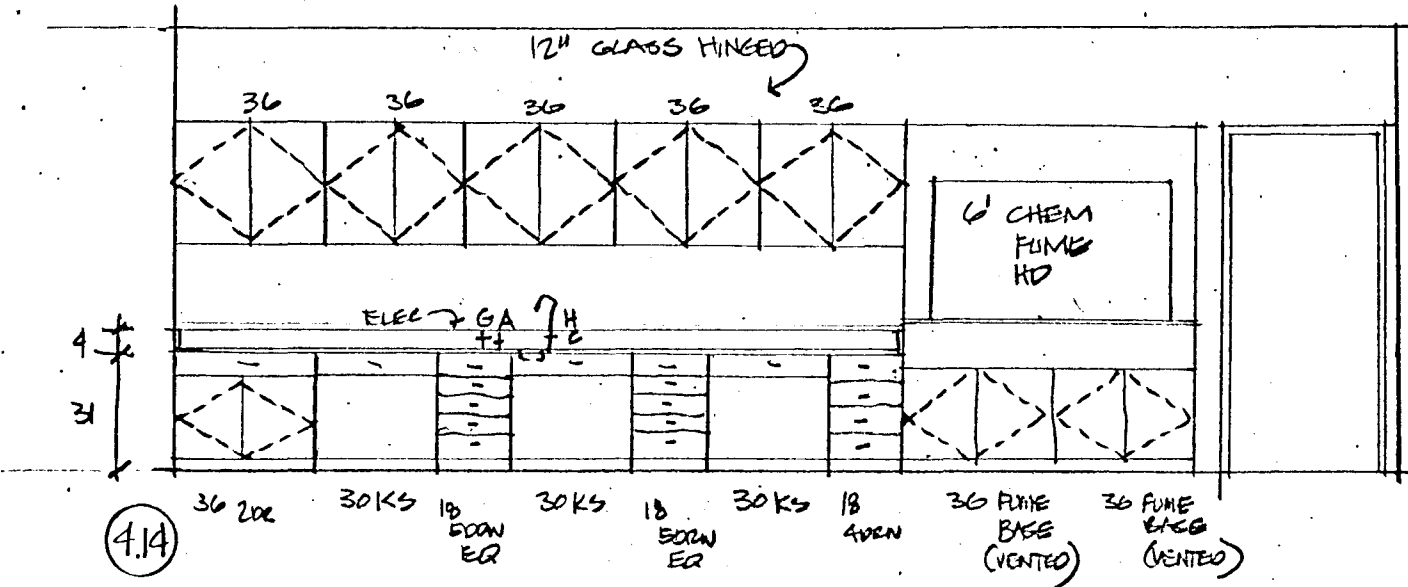


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4.13

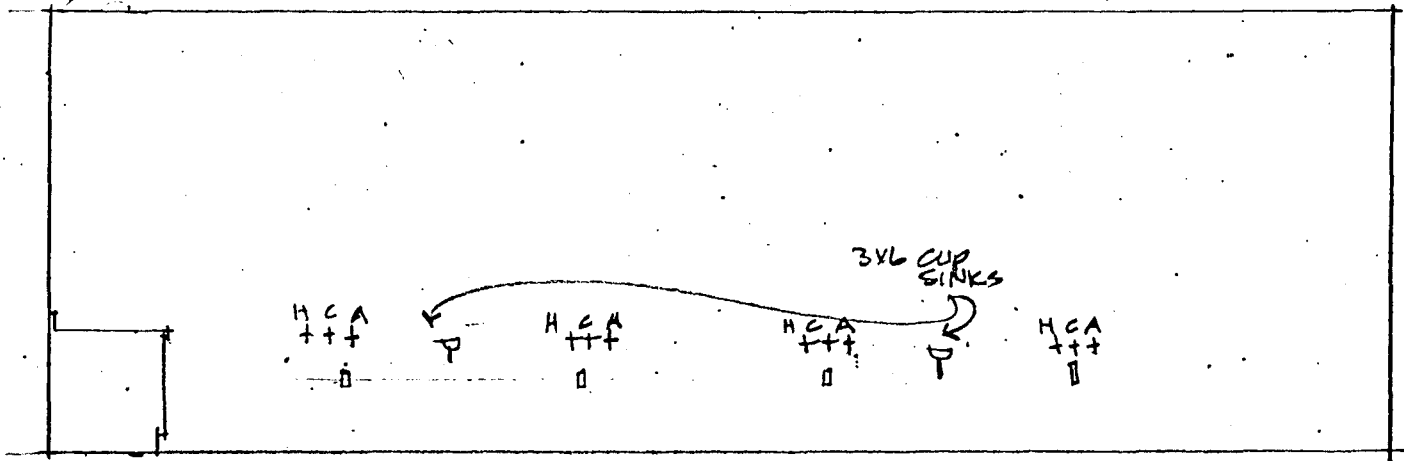
JUNE 22 (REVISED)  
 DR. BARKSDALE / ROSENBERG  
 PATHOLOGY 4TH FLR



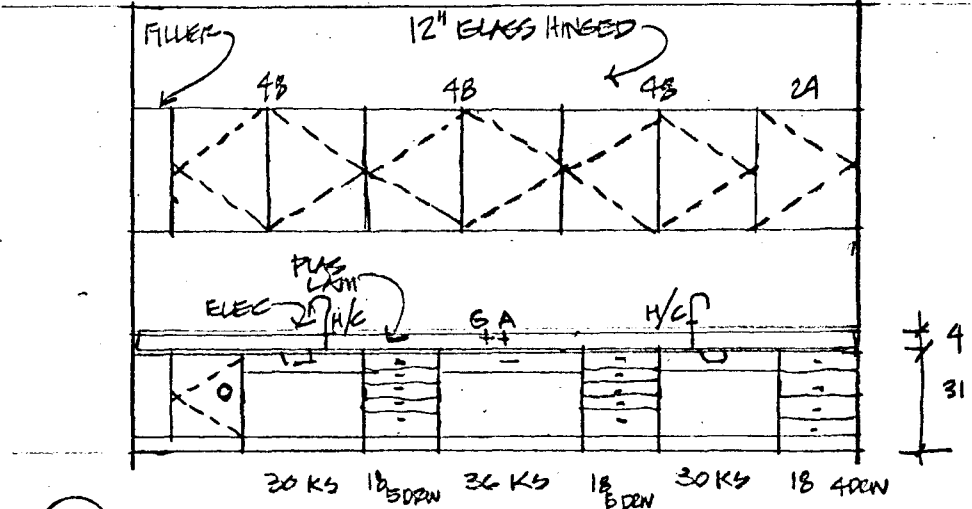
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 PATHOLOGIST 4TH FLR

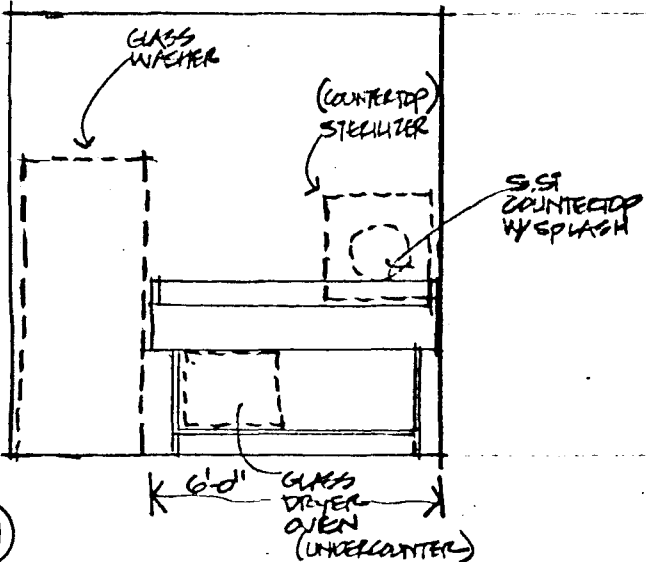




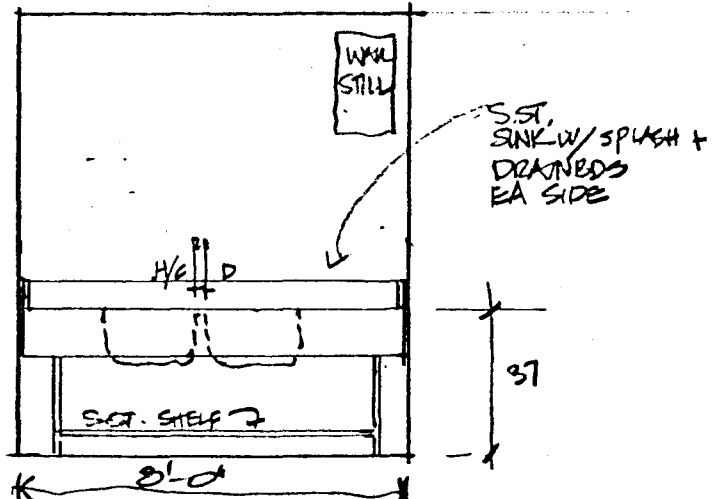
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4.18



4.19



4.20

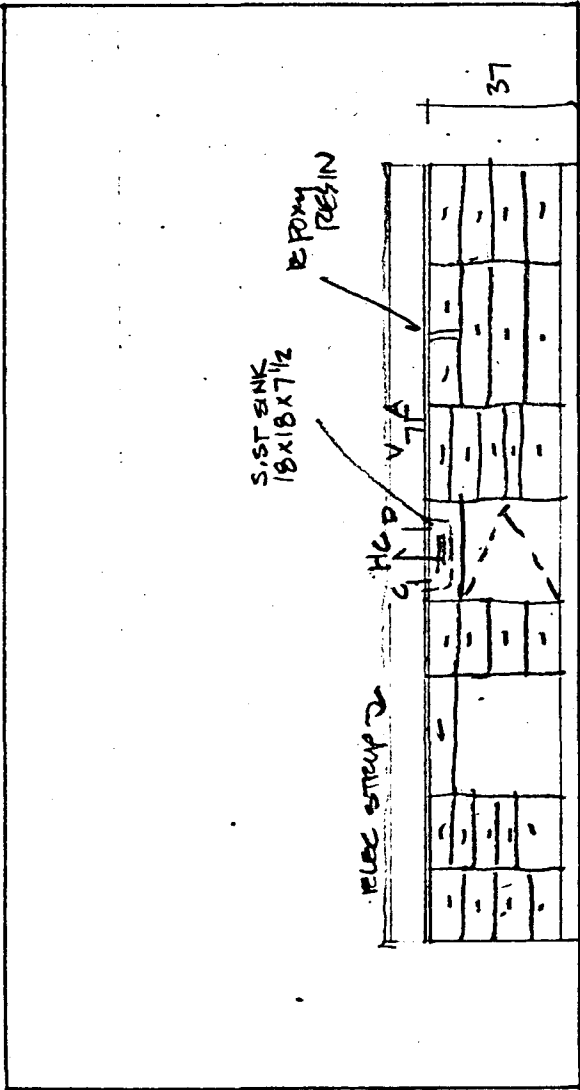
JUNE 22 (REVISED)  
 DR. BARFSKOLE / ROSENBERG  
 PATHOLOGY 4TH FLR







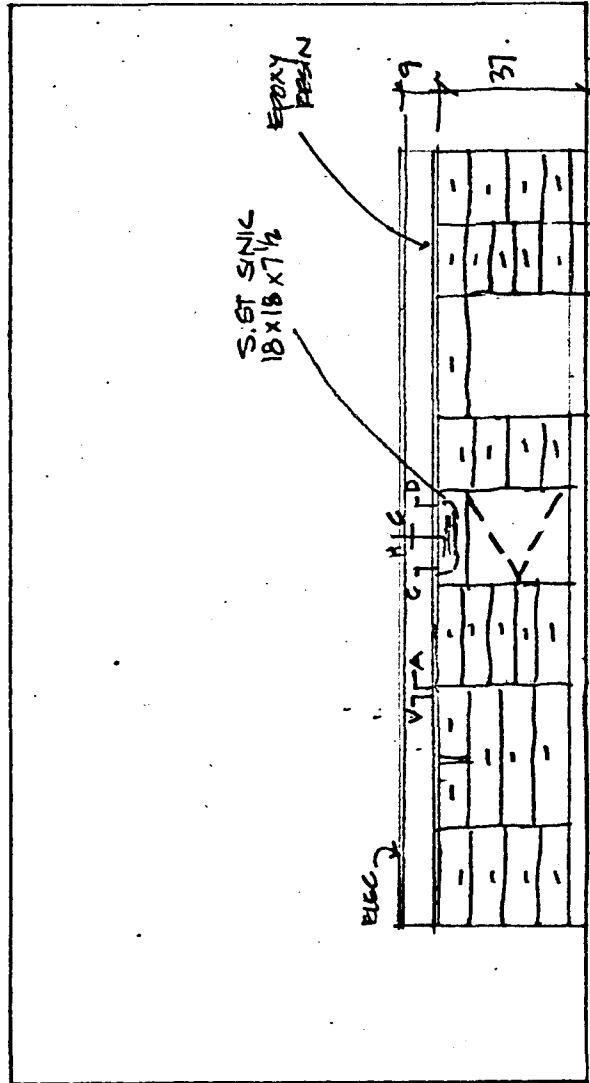




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BIOLOGICAL LAB

6.11



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 4 DRAW 5 DRAW 1 DRAW 1 DRAW 6 DRAW 6 DRAW 6 DRAW 6 DRAW 4 DRAW

JUNE 22, 76  
 PHARMACOLOGY  
 DR. ANDERS

6.12



THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

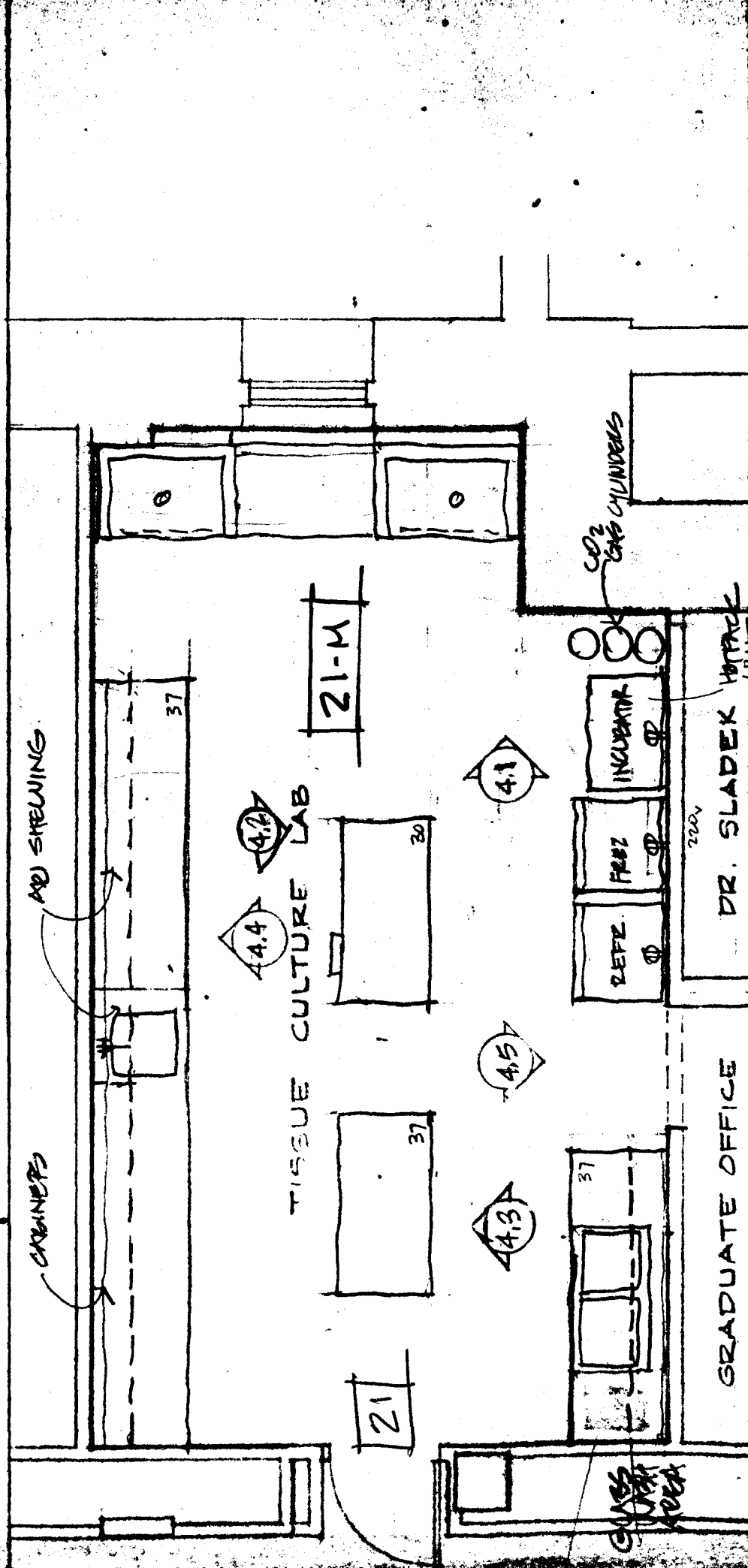
DATE: 24 June 1976

NOTES BY: Bruce Johnson

PRESENT: Dr. Sladek, Pharmacology Dept.; Paul Maupin, HSPO; Bruce Johnson, HSAE

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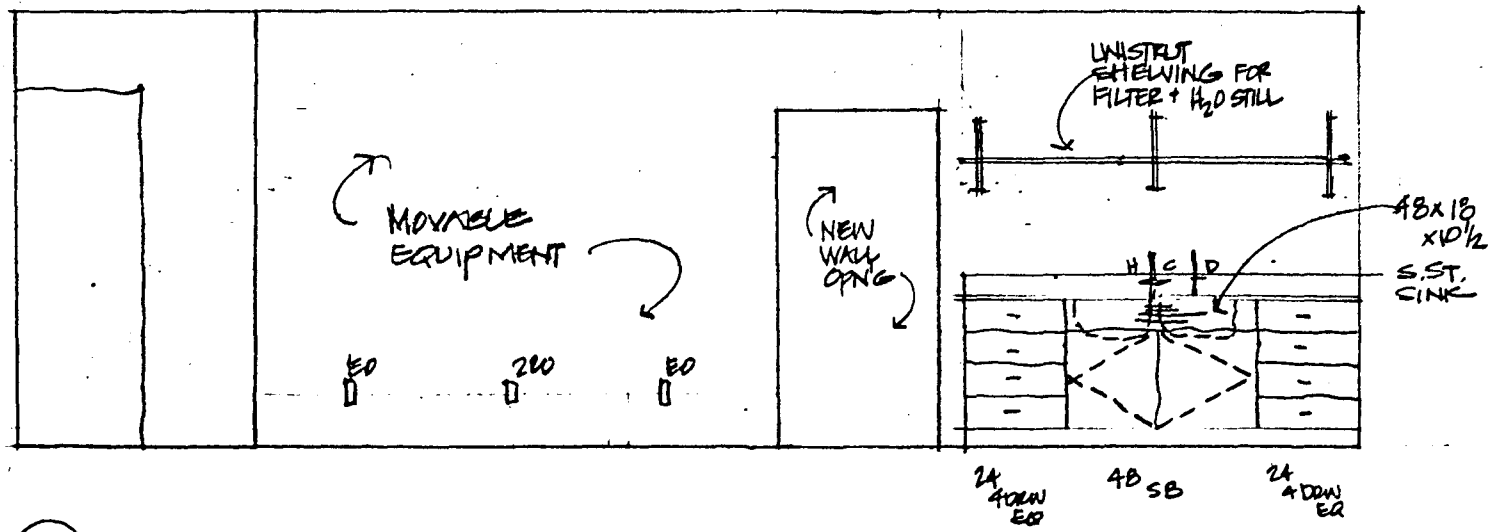
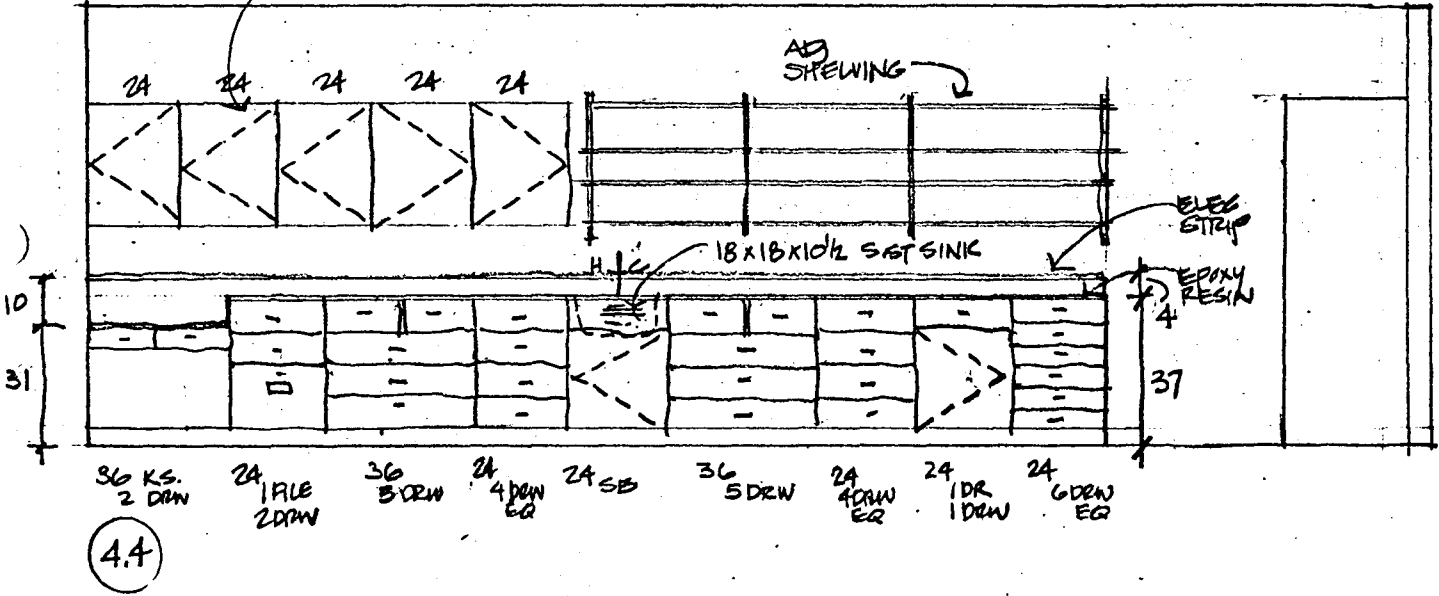
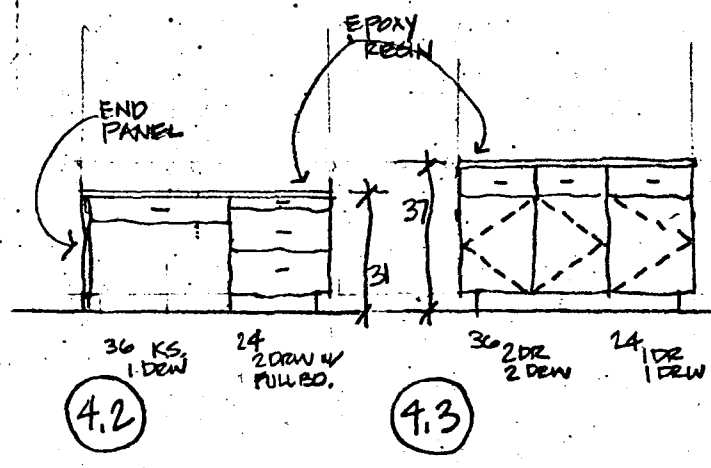
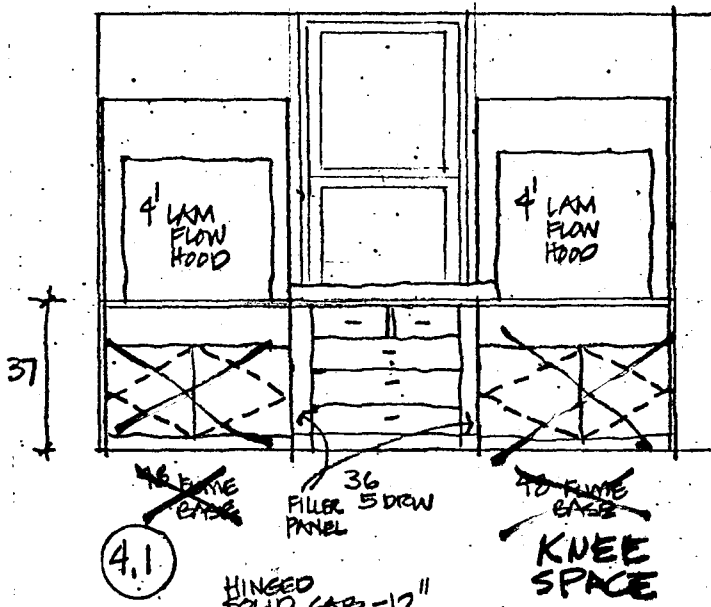




PHARMACOLOGY

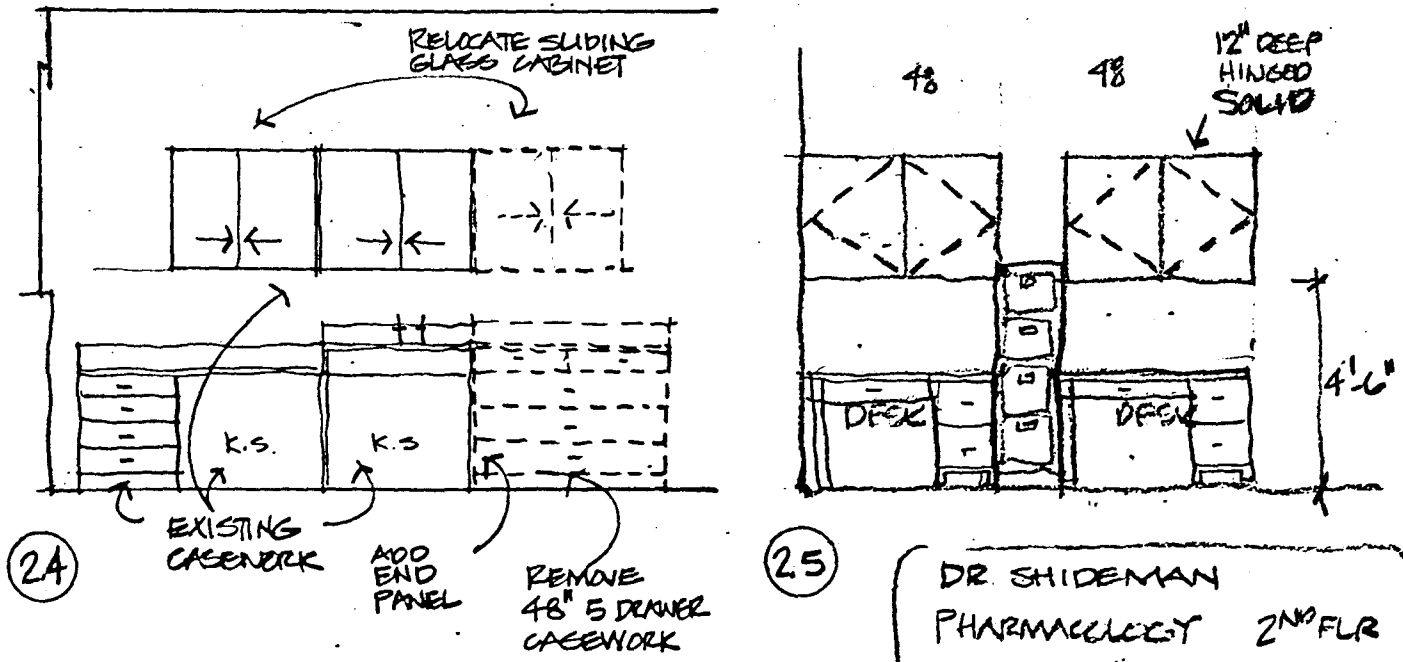
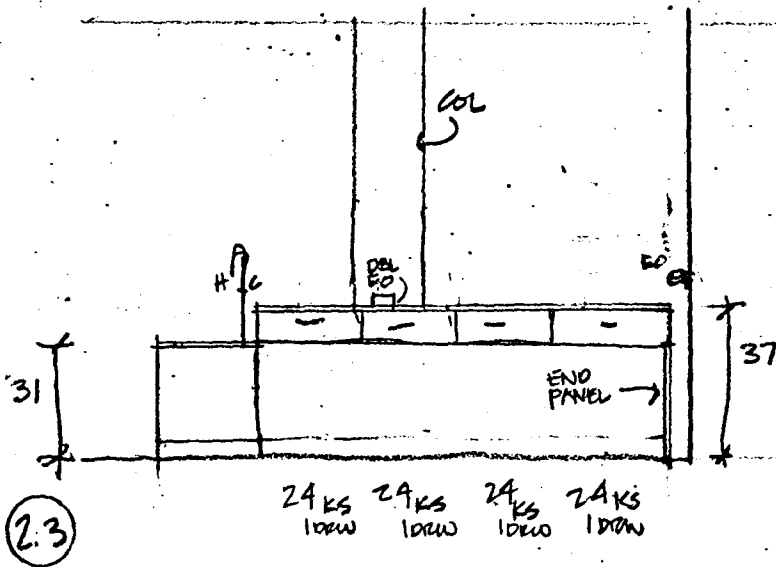
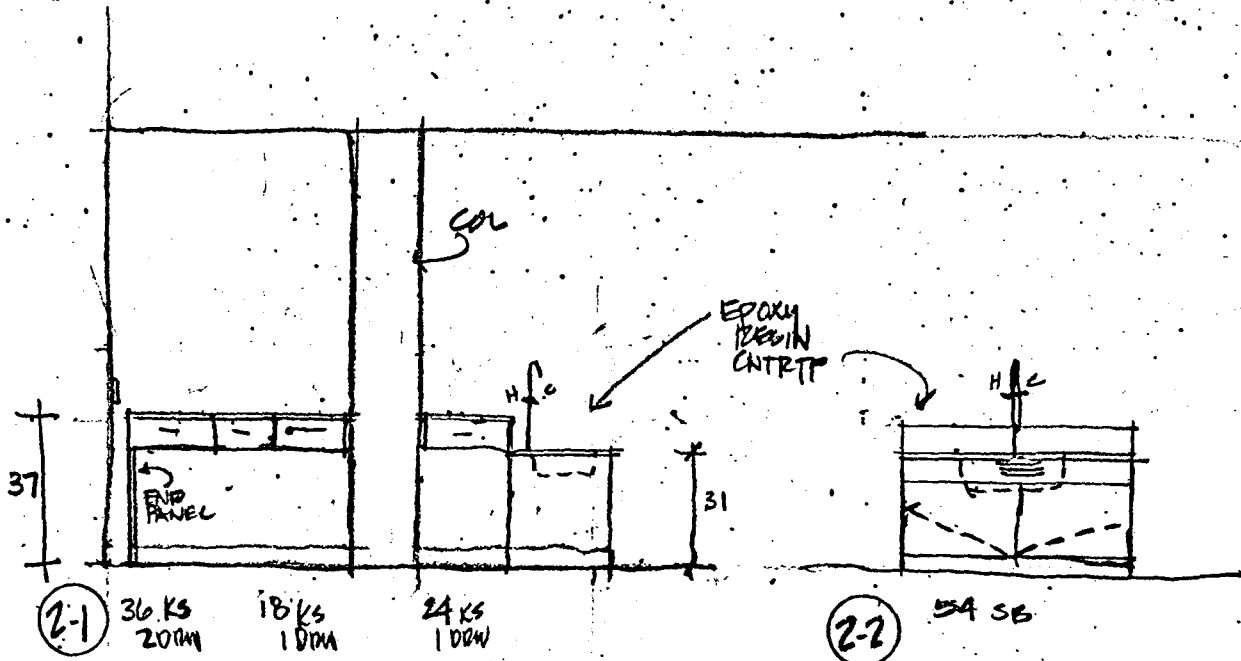
DR. SLADEK  
JUNE 24 1976

OGY

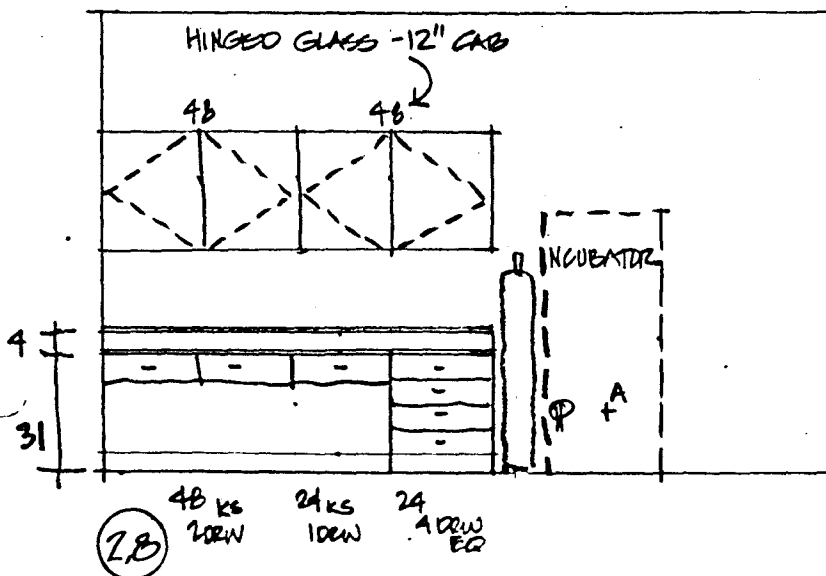
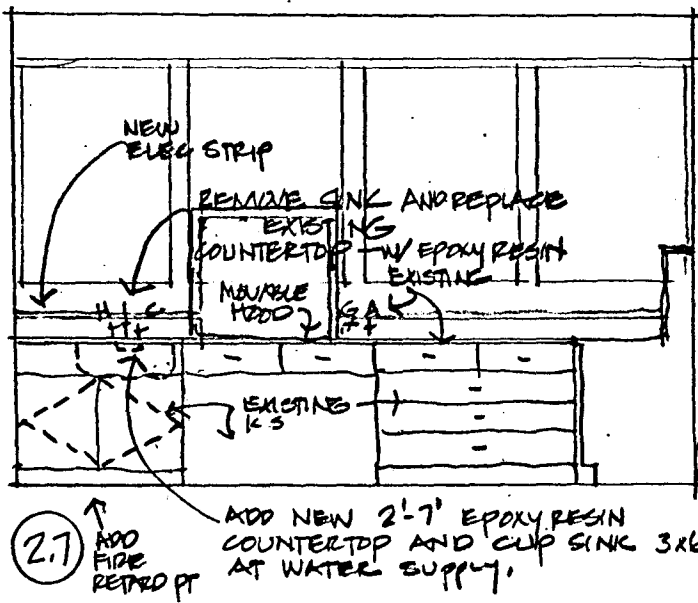
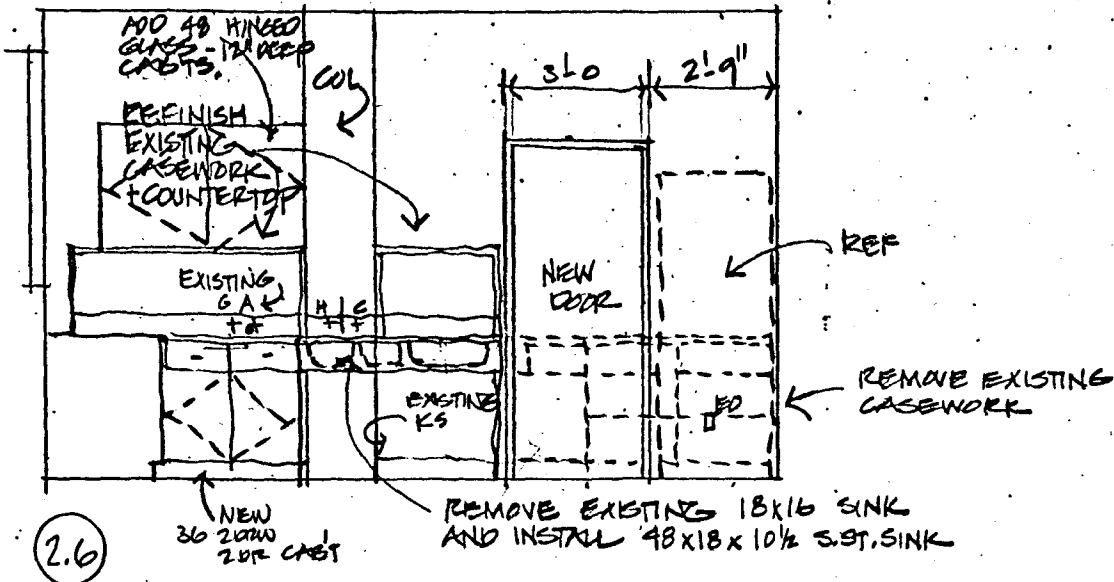


4.5

DR. SLADEK JUNE 24  
PHARMACOLOGY BSM'T.



DR SHIDEMAN  
 PHARMACEUTIST 2ND FLR  
 JUNE 24



DR. SHIDEMAN  
PHARMACOLOGY 2ND FLOOR  
JUNE 24

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

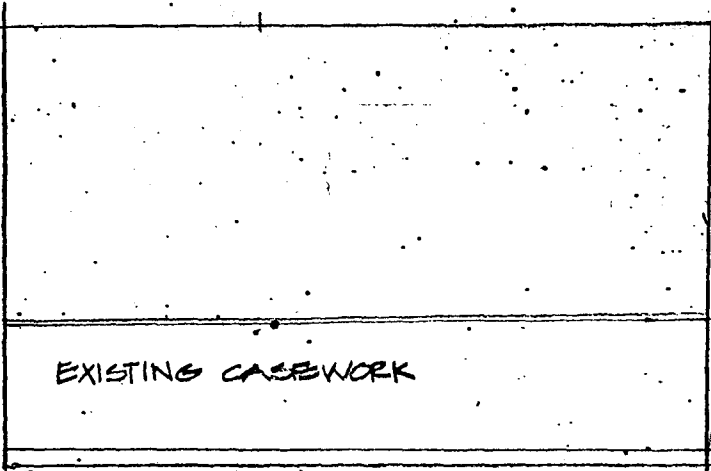
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 29 June 1976

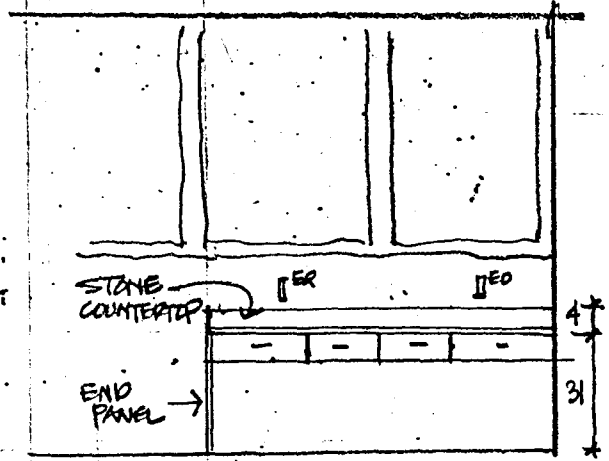
NOTES BY: Bruce Johnson

PRESENT: Dr. Goldberg, Pharmacology Dept.; Tom Kyle, HSPO, Bruce Johnson, HSAE

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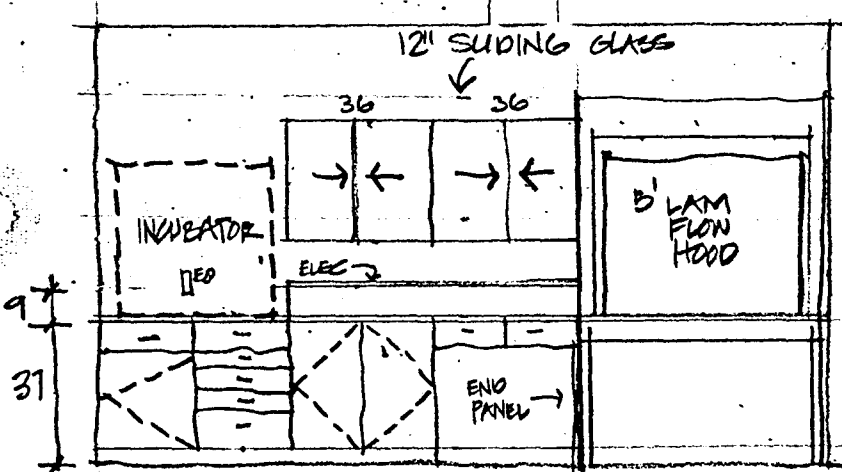


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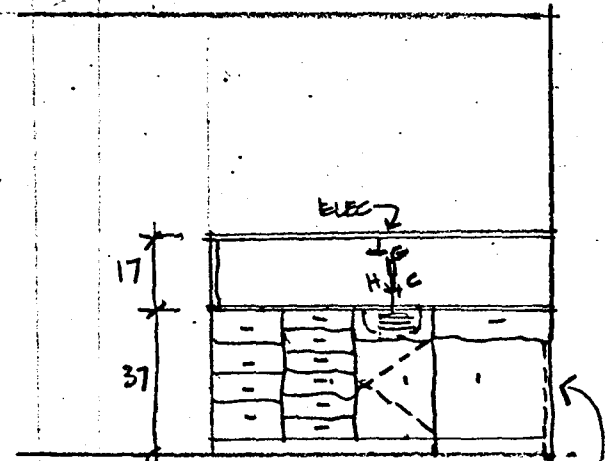
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 36 KS 2DRW  
 24 KS 1DRW



2.10

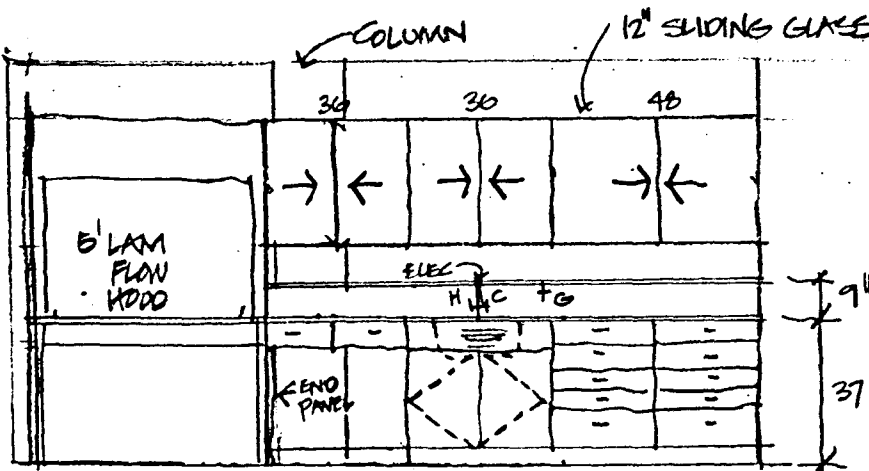
24 1DRW OR  
 24 5DRW  
 36 2DRW  
 36 KS 2DRW



2.13

18 4DRW UNDER  
 18 6DRW OR  
 18 SB 1DR  
 30 KS 1DRW

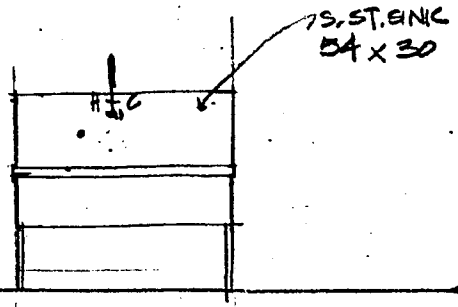
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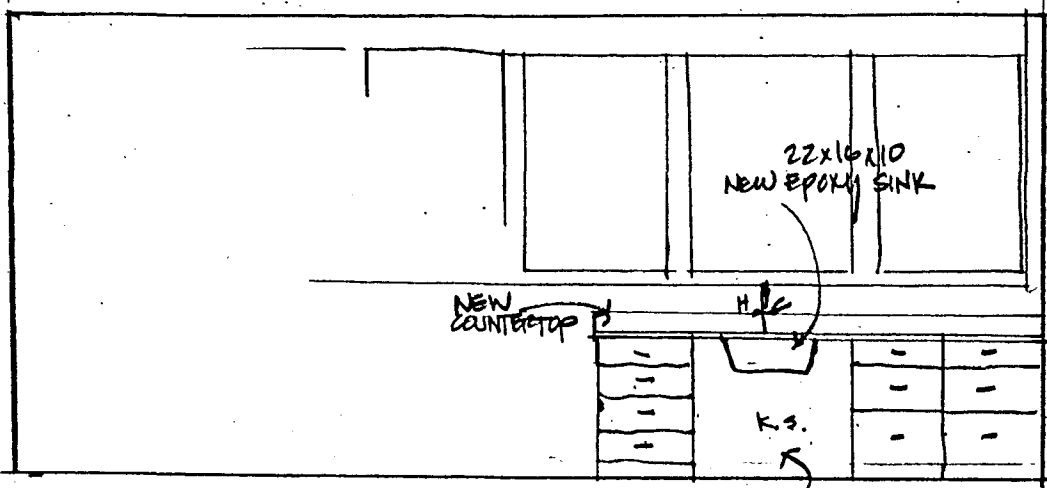
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36 KS 2DRW  
 36 SB 2DR  
 24 5DRW 24 5DRW

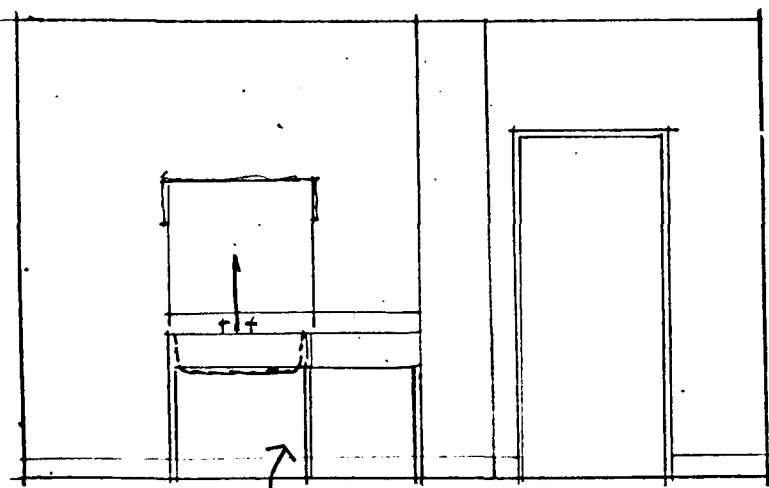
DR GOLDBERG  
 PHARMACOLOGIST 2ND FLR  
 JUNE



214



215



EXISTING SINK + DRAINBO

DR GOLDBERG  
PHARMACOLOGY 2ND FLR  
JUNE 29

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

RECEIVED

JUL 8 1976

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 30 June 1976  
SUBJECT: JOML Complex Remodeling - Engineering Meeting  
NOTES BY: Cliff Olson  
PRESENT: Tom Kyle, ~~Paul W. [redacted]~~, Pete Merz, Dennis Leslie,  
Jerry Olson and Cliff Olson.

A. Review of Previous Meeting Notes

- 1a. To air condition the 7,000 sq. ft. of room area having windows eliminated by construction of the SW and SE equipment towers would cost approximately \$10.00 per sq. ft. plus the pro-rated costs for an anticipated expenditure of \$100,000.00.
- 1c. The cost comparison indicated for air conditioning 4th Floor Jackson Hall has been replaced with the new Schemes "A" thru "D" dated 18 June 1976 with comments included later in this memorandum.
- 1g. The cost data for the Anatomy/Mortuary Science cooler replacement and room remodeling is being prepared and will be presented at the next meeting.
- B2. Mr. Merz will meet with the writer next week to review tower drawings and equipment details.

B. Jackson Hall Penthouse

1. A study was made with sketches indicating four methods of supplying air at the west end of the JOML complex. Each sketch indicated supply unit location, main duct run, air quantity to each quadrant (SW and NW) and approximate cost for the comparative equipment.

Scheme "C" was accepted. This method had supply air units installed in the Basement, 2nd and 3rd Floor levels of the SW equipment tower. Each unit would supply air to it's respective floor only. A factory built unit would be installed in the existing Jackson Penthouse to supply air to the 1st, 2nd and 4th Floors in the NW quadrant. This unit would be of temporary nature and would be replaced when the NW equipment tower is built. Chilled water for the new unit and the existing unit in Jackson Penthouse would be piped from the up-sized risers in the 3rd Floor SW tower. Further study will be made over room usage, loading, location, etc. to determine if two units would better serve the spaces. Diagram included with this memo.



C. Animal Cooler Removal

An existing animal cooler located at basement level of Millard Hall next to Mayo Garage must be relocated before the new SE tower could be built. It was agreed that the JOML - Contract A should include the removing, relocating and reinstalling this cooler at a new permanent location.

D. Site Construction

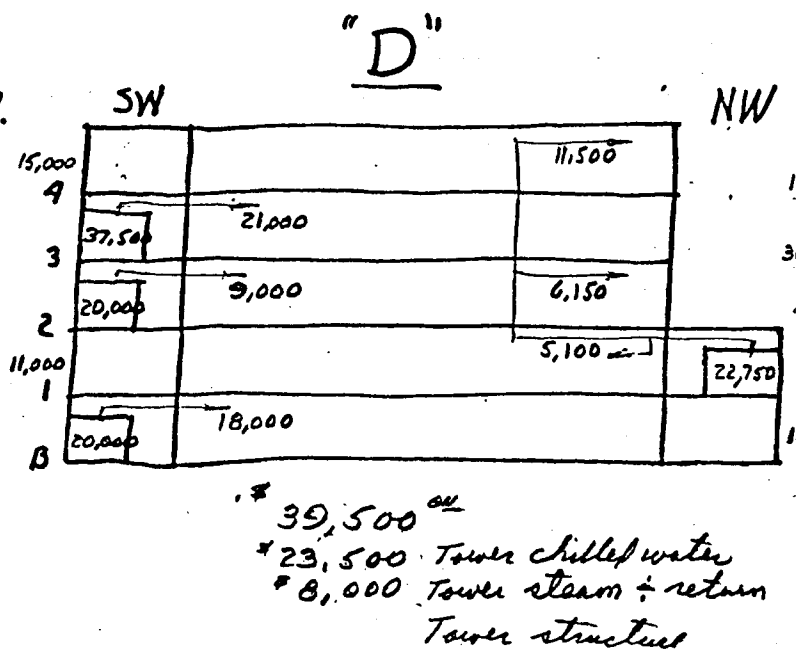
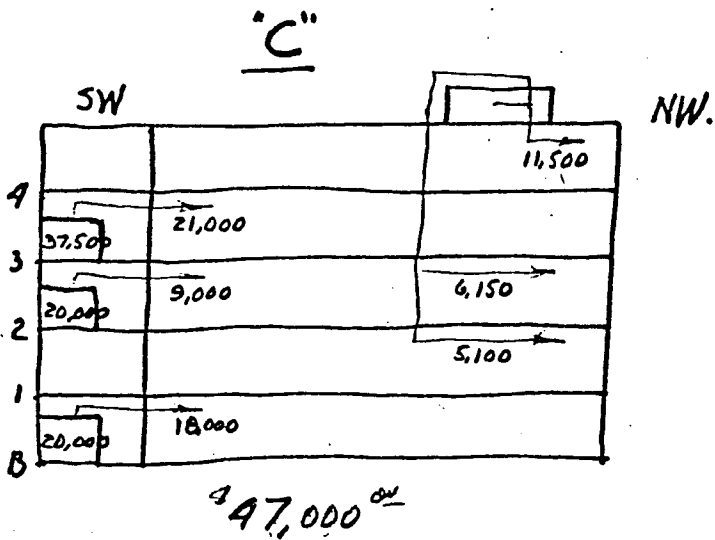
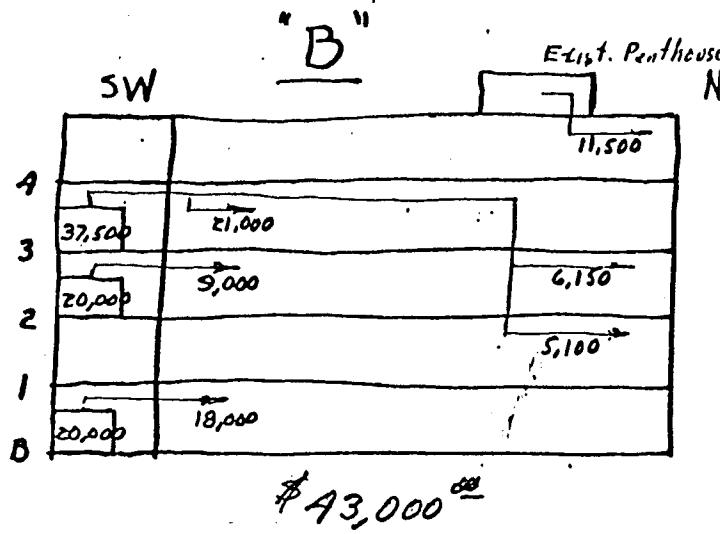
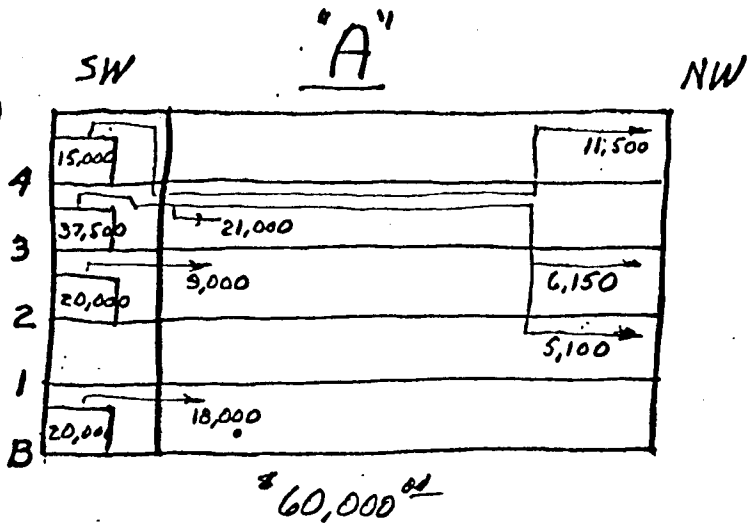
Jerry Olson presented a Site Plan indicating proposed storage areas for each phase of construction contracts: Surgical Pathology, Mortuary Science, JOML, B/C, etc. The construction of the SE tower must be coordinated with the B/C Contractor for access to space, storage of material, etc. All storage areas would be fenced by the affected contractor. Area 3 (SW tower area) would have the fence installed by the Mortuary Science Contractor but removed by the JOML - A Contractor. It is expected that the construction specification would require the use of a traffic director whenever materials are delivered to the site and to assure streets are open to traffic. Diagram included with this memo.

E. Jackson Hall Transformer Vault

Drawings of the revised vault were presented by Dennis Leslie. It was suggested that these drawings be presented to Dave Kerkow for his review and comment. Dennis Leslie will arrange a meeting with Mr. Kerkow to review the new transformer installation.

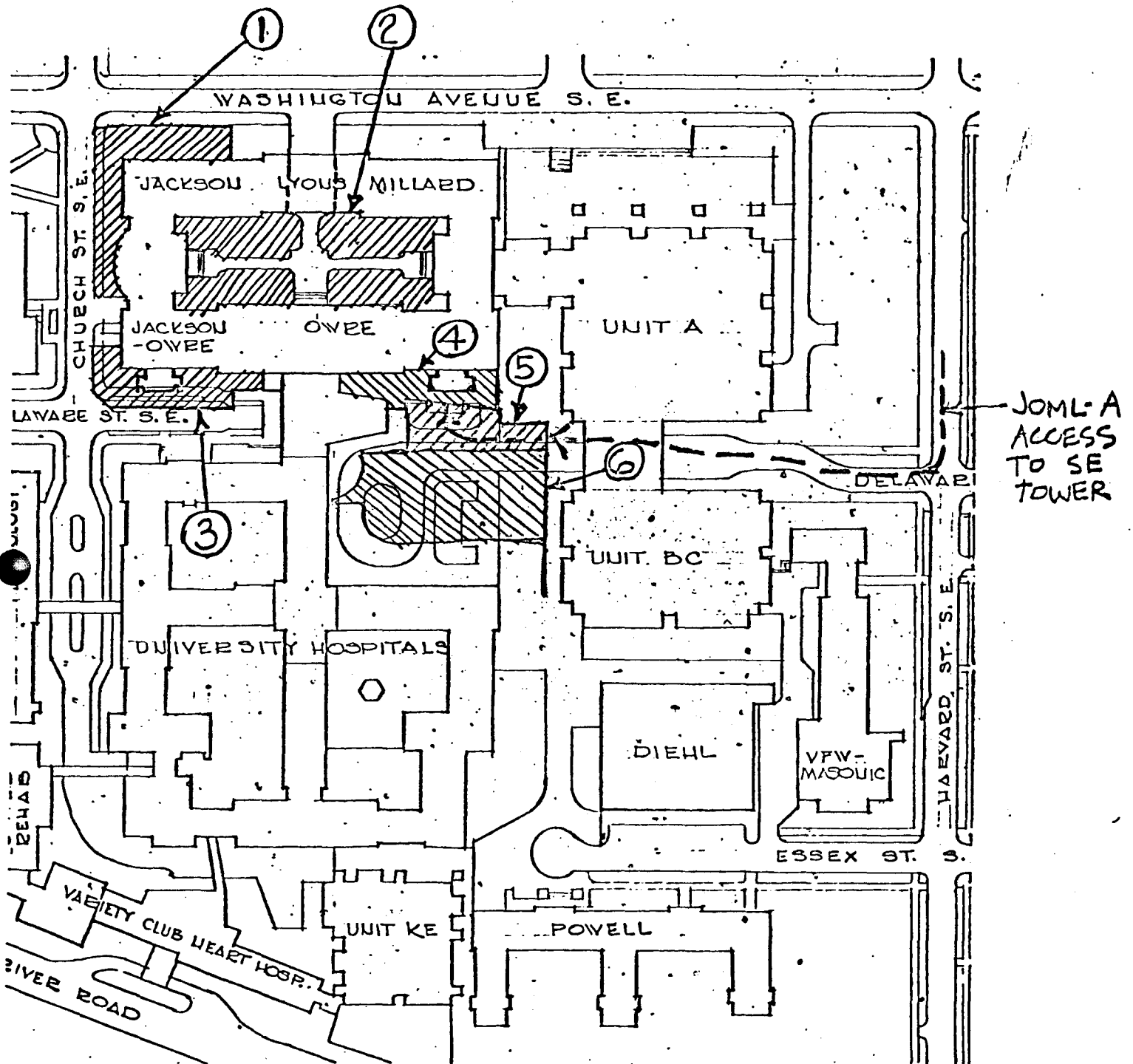
cc: Those Present  
Gus Scheffler  
Paul Kopietz  
Dave Kerkow  
John Scott

# JOML - WEST SIDE 6/18/76



TAC/HSAE  
30 JUNE 1976

# HEALTH SCIENCES SITE STORAGE ZONES



- ZONE 1 - SURG PATH CONTR
- ZONE 2 - JOML-B CONTR
- ZONE 3 - MORT SCI CONTR TILL 10CT 76; JOML-A CONTR THEREAFTER
- ZONE 4 - JOML-A CONTR; UNIT BC CONTR THEREAFTER
- ZONE 5 - UNIT BC CONTR; ACCESS GRANTED TO JOML-A CONTR
- ZONE 6 - UNIT BC CONTR

A uniformed traffic director is to be provided whenever materials are delivered to the sites. The traffic director is to insure that Church Street and Delaware Street are open at all times. Access to Mayo Garage via these streets for Fire Dept., auto and ambulance is to be maintained at all times. The traffic director is to insure that the Mayo Courtyard is accessible to the Fire Dept.

In order to minimize traffic control problems material delivery hours are limited to 1:00 P.M. to 3:30 P.M. Mondays through Fridays.

Material deliveries are to be scheduled appropriately so that trucks are promptly unloaded upon arrival at the site.

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

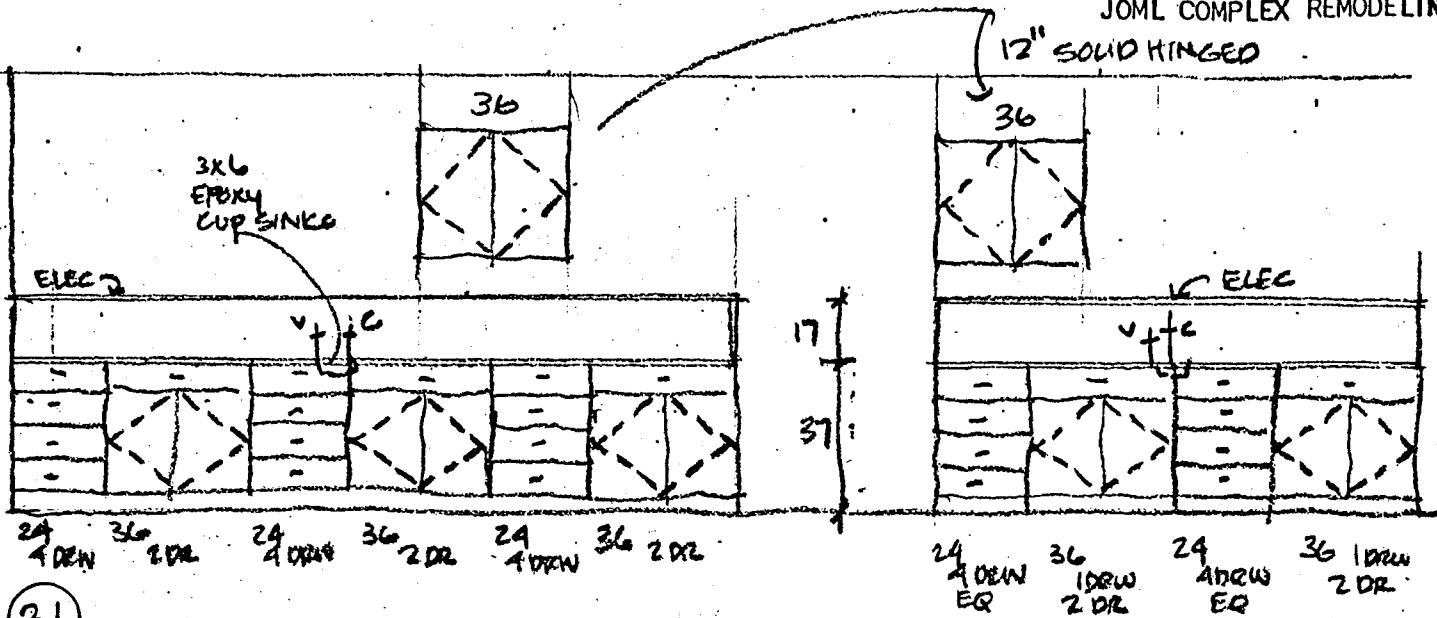
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 30 June 1976

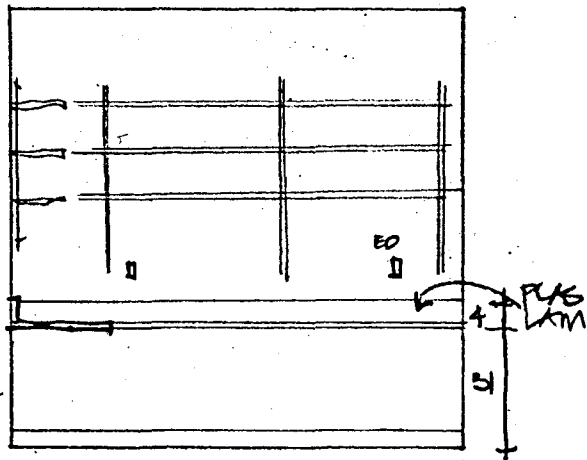
NOTES BY: Bruce Johnson

PRESENT: Dr. Zimmerman, Pharmacology Dept.; Tom Kyle, HSPO; Bruce Johnson, HSAE

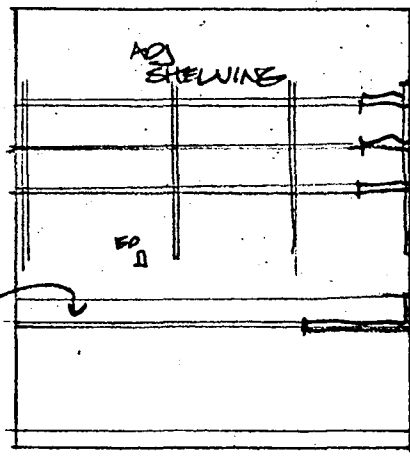
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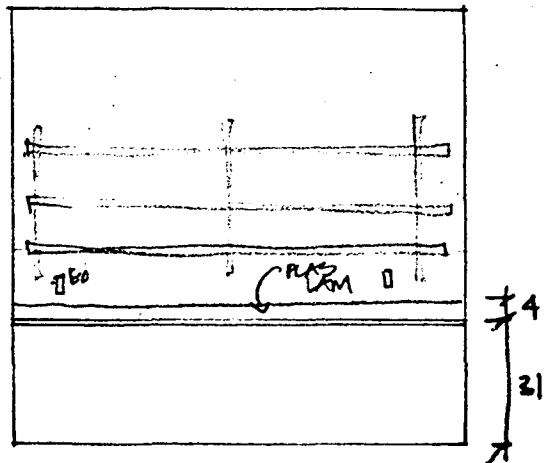
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3.2



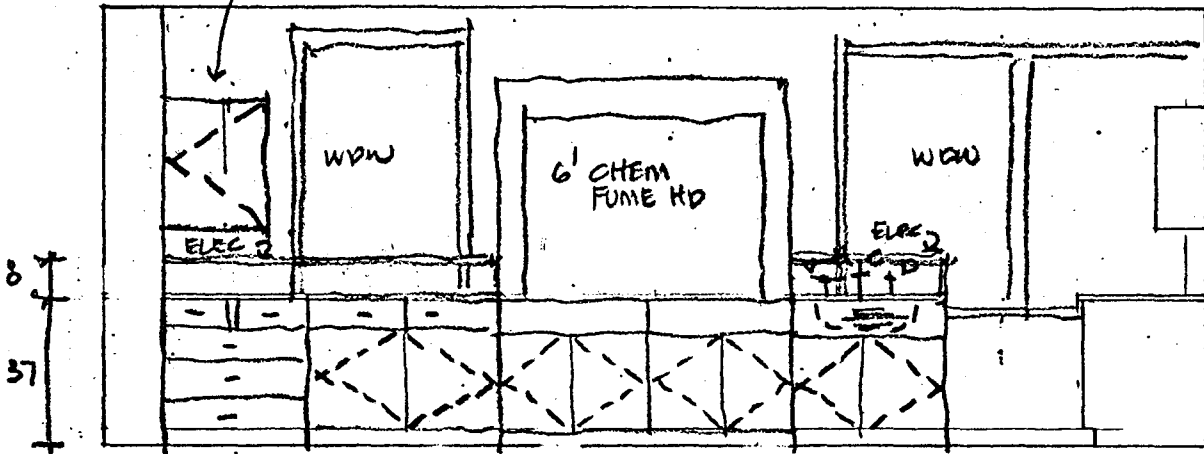
3.3



3.4

DR. ZIMMERMAN 30 JUNE  
PHARMACOLOGY BSM'T.

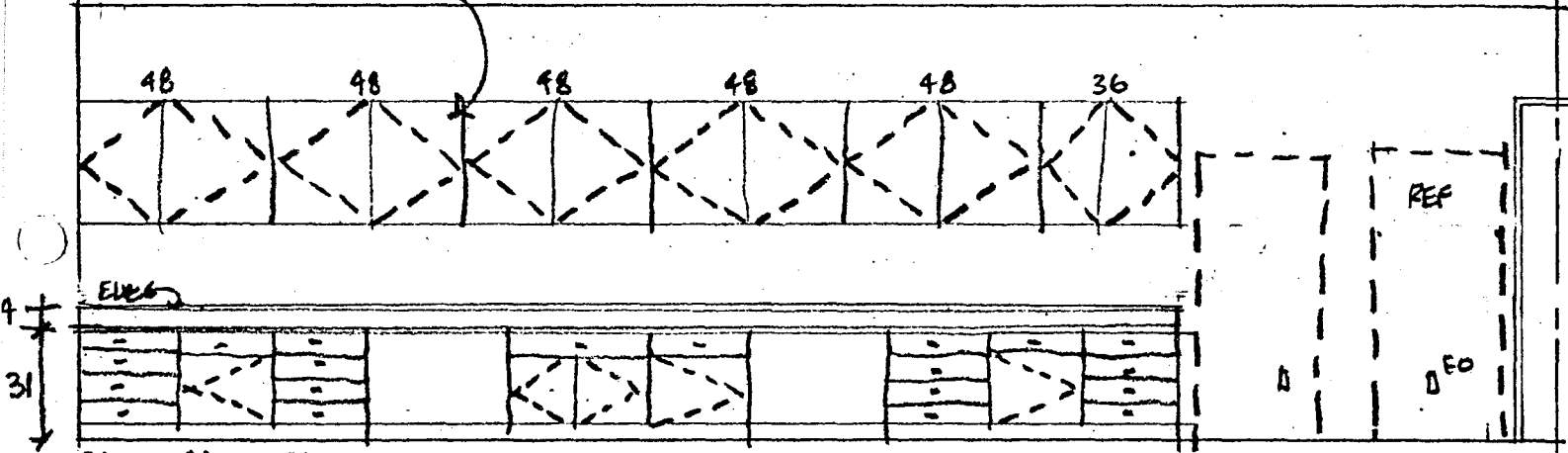
12" SOLID HINGED



36 5 DRW  
 48 2 DR 2 DRW  
 36 FUME BASE (VENTED)  
 36 FUME BASE (VENTED)  
 36 SB 2 DR

3.4

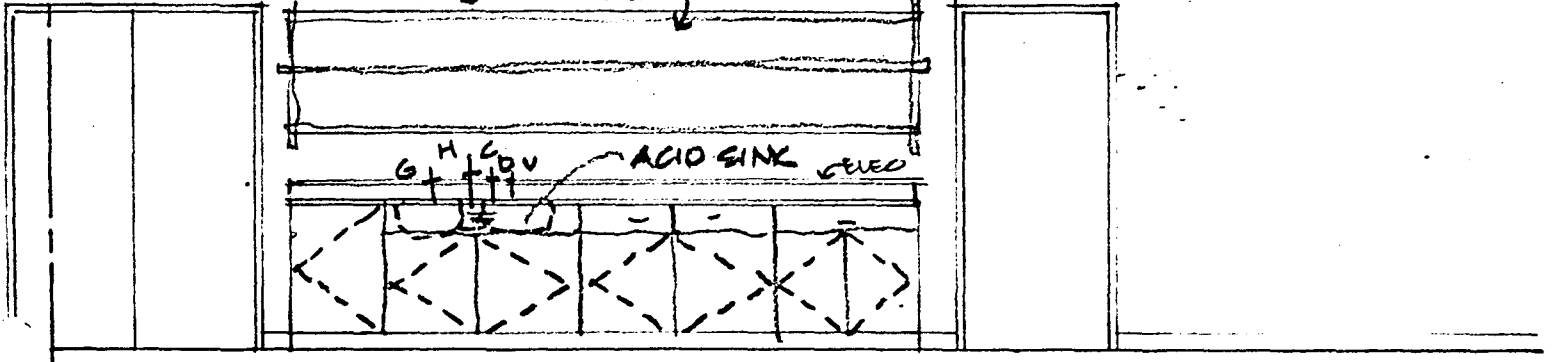
16" SOLID HINGED



24 ADDN UNDER  
 24 1 DR 1 DRW  
 24 ADDN UNDER  
 30 KS  
 36 1 DRW 2 DR  
 24 1 DR 1 DRW  
 30 KS  
 24 ADDN UNDER  
 24 1 DR 1 DRW  
 24 ADDN UNDER

3.5

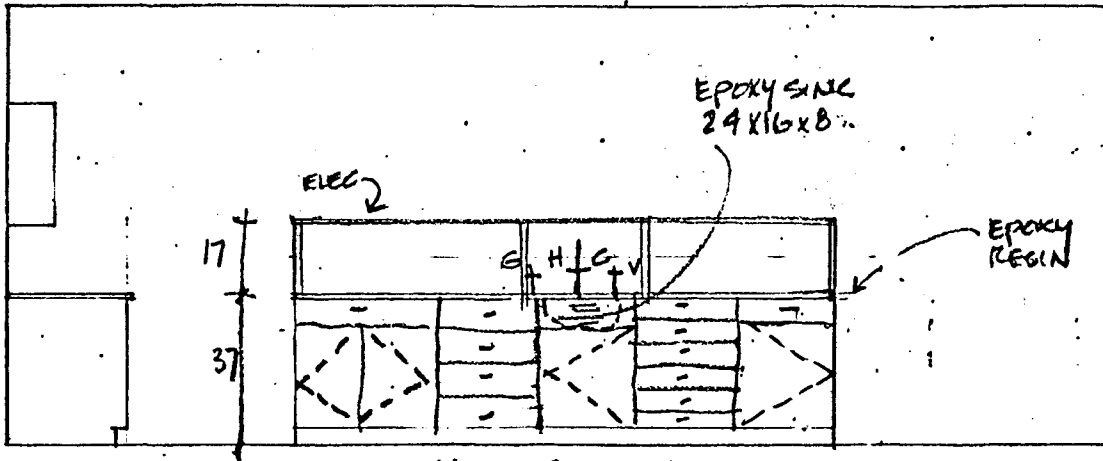
ADJ SHELVING



24 1 DR  
 48 SB  
 48 2 DRW 2 DR  
 36 1 DRW 2 DR

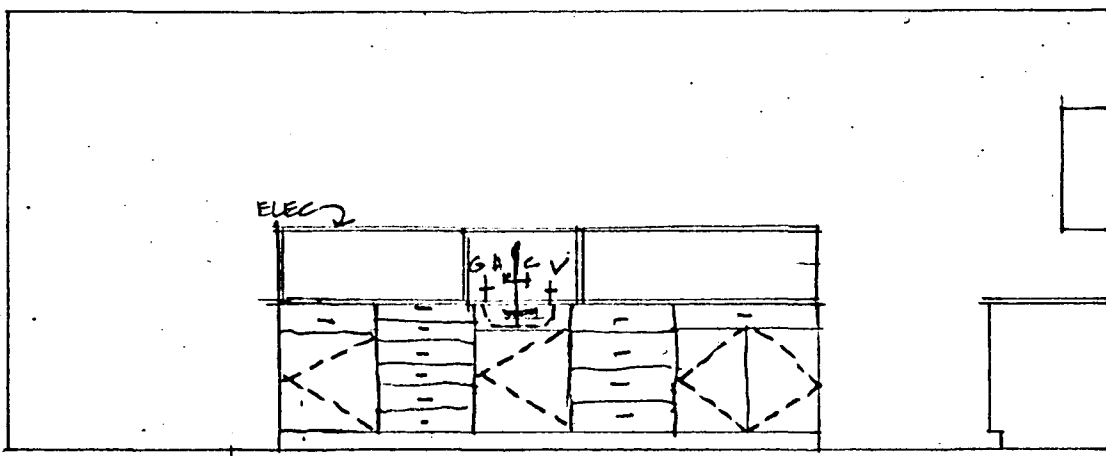
3.6

DR. ZIMMERMAN 30 JUNE  
 PHARMACOLOGY BSM'T.



36 1DRW 2DR  
 24 4DRW ER  
 24 S/S  
 24 6DRW ER  
 24 1DRW 1DR

3.7 3.9



24 1DRW 1DR  
 24 6DRW ER  
 24 S/S  
 24 4DRW ER  
 36 1DRW 2DR

3.8 3.10

DR. ZIMMERMAN 30 JUNE  
 PHARMACOLOGY BSMT.



THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

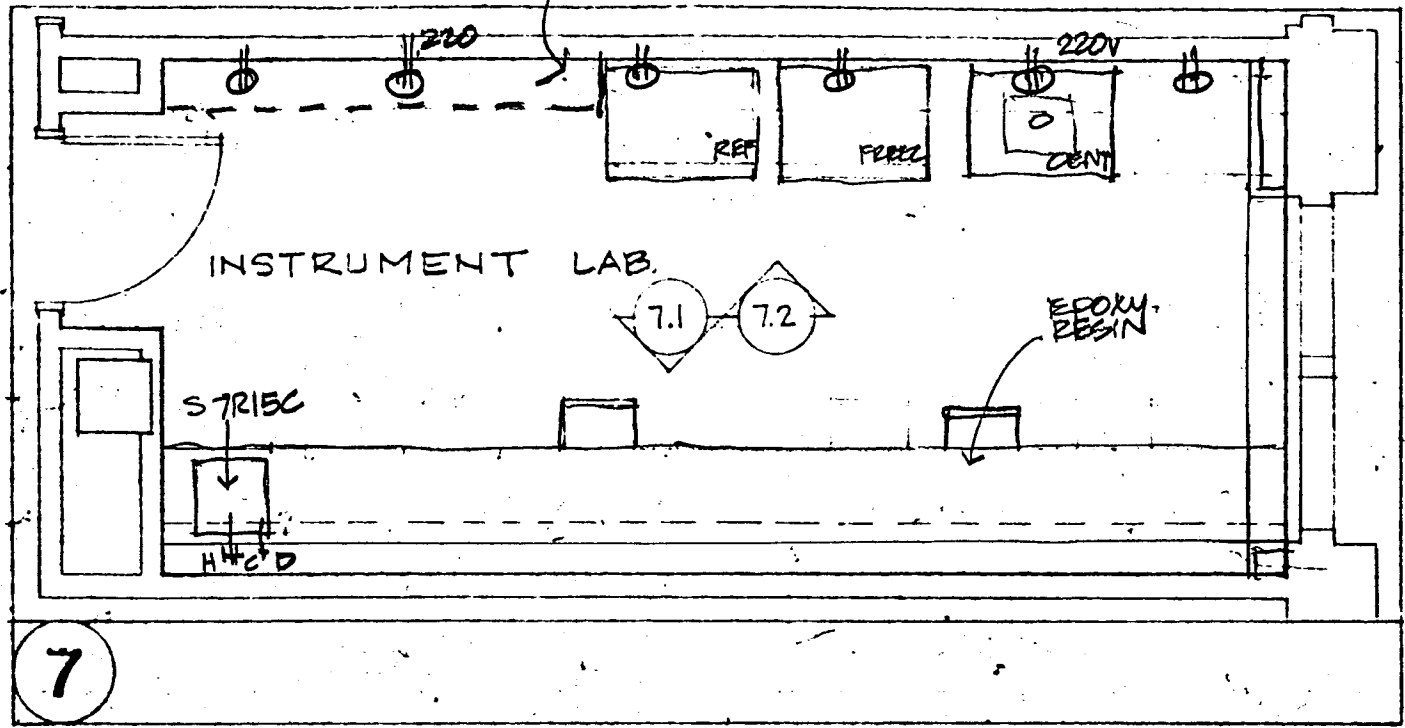
DATE: 2 July 1976

NOTES BY: Bruce Johnson

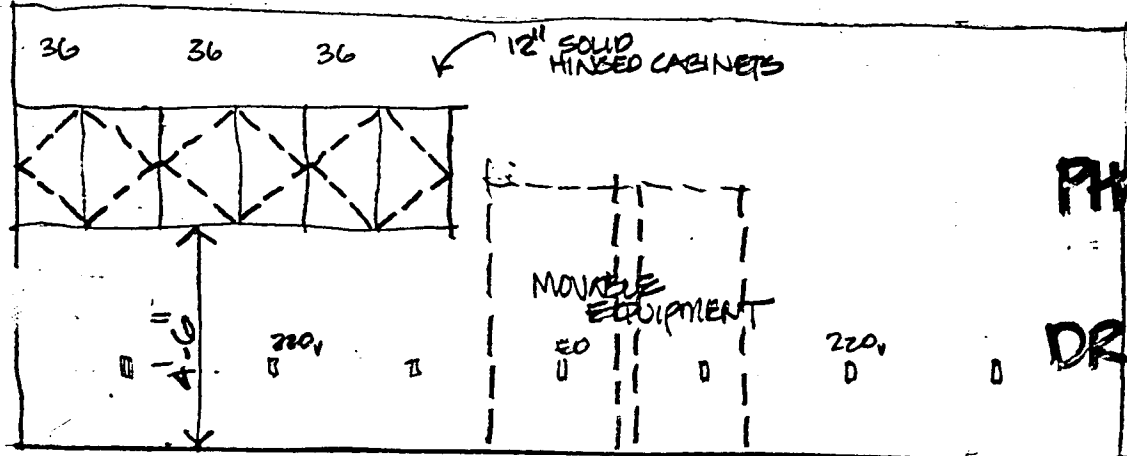
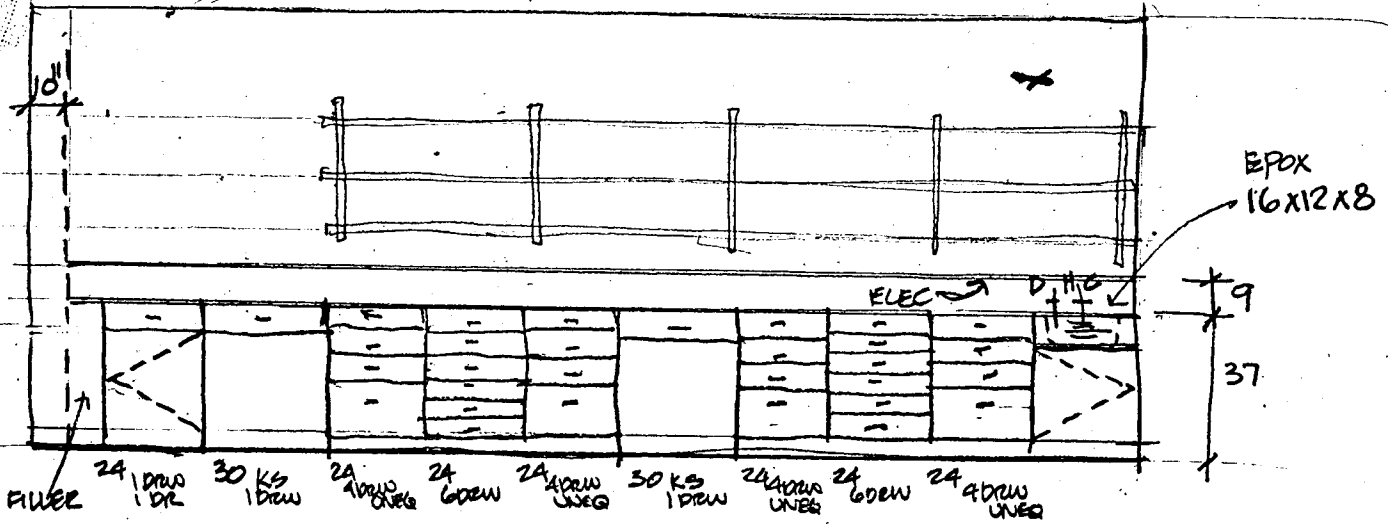
PRESENT: Dr. Hanna, Pharmacology Dept.; Tom Kyle, HSP0; Bruce Johnson, HSAE

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6



7



PHARMACOLOGY  
 1<sup>ST</sup> FLR  
 DR. HANNA  
 2 JULY 1976

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 15 July 1976

NOTES BY: Bruce Johnson

PRESENT: Dr. Dunham, Pharmacology Dept.; Tom Kyle, HSPO; Bruce Johnson, HSAE

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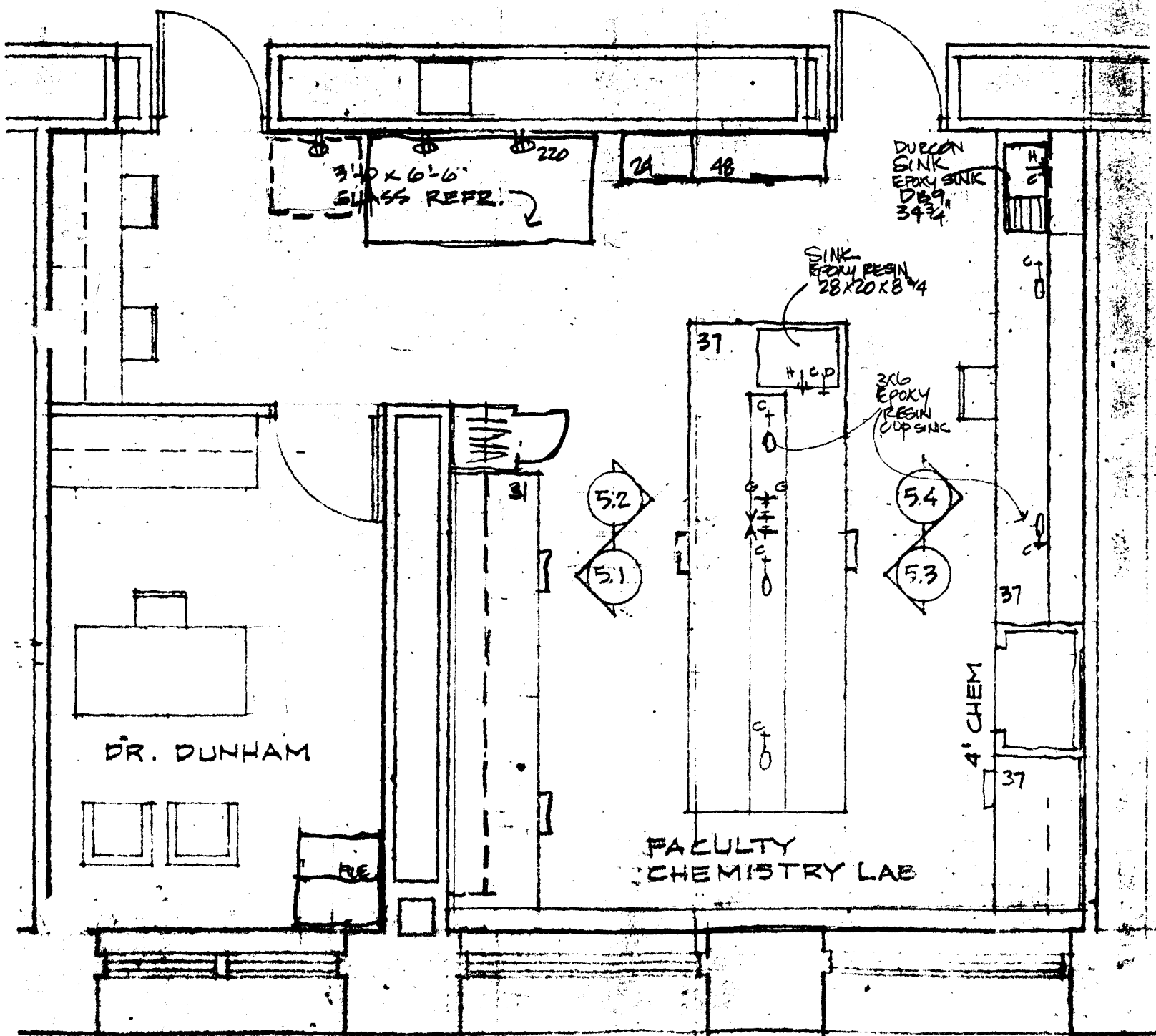
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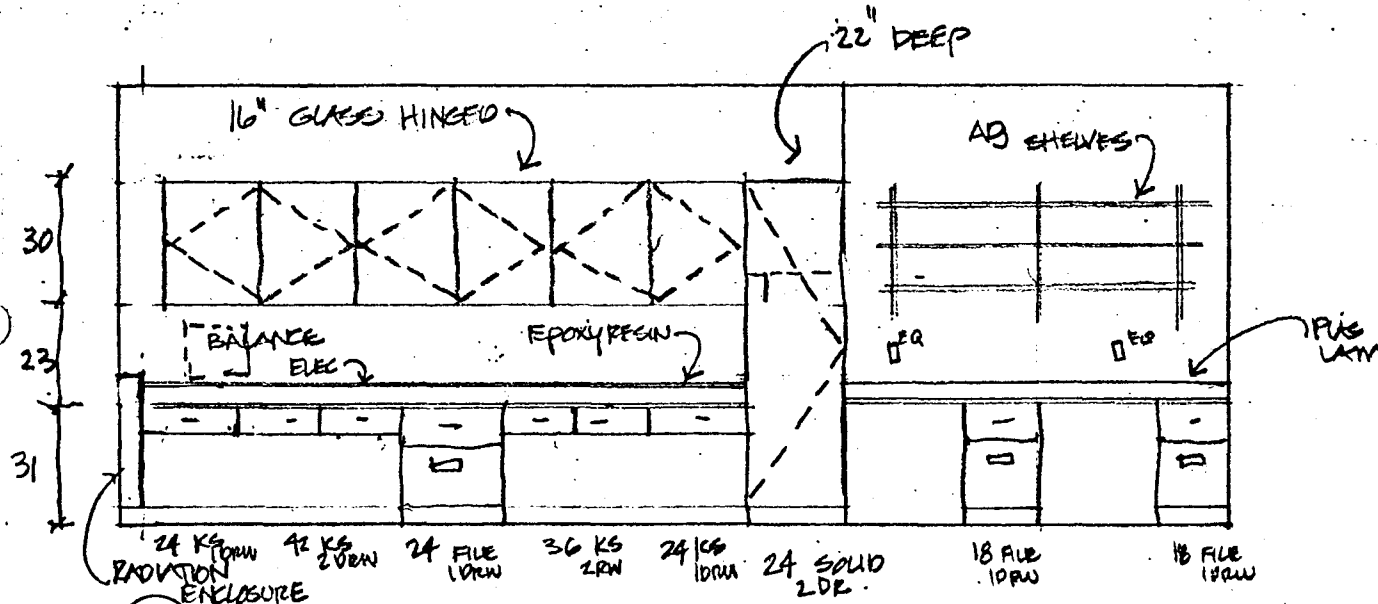
GRADUATE OFFICE

BASEMENT  
PHARMACOLOGY

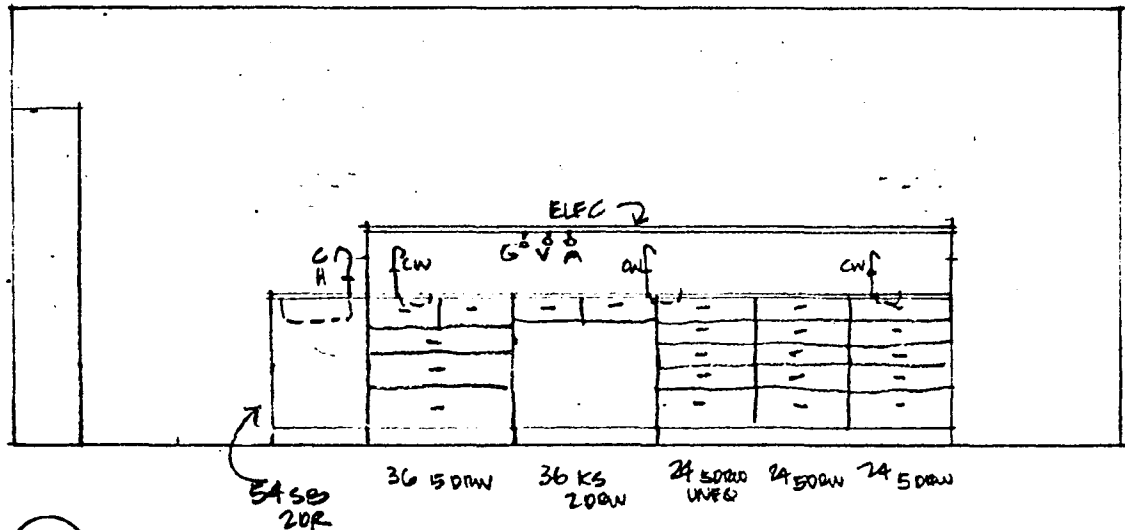
MACOLOGY

DR. DUNHAM  
JULY 15 1976



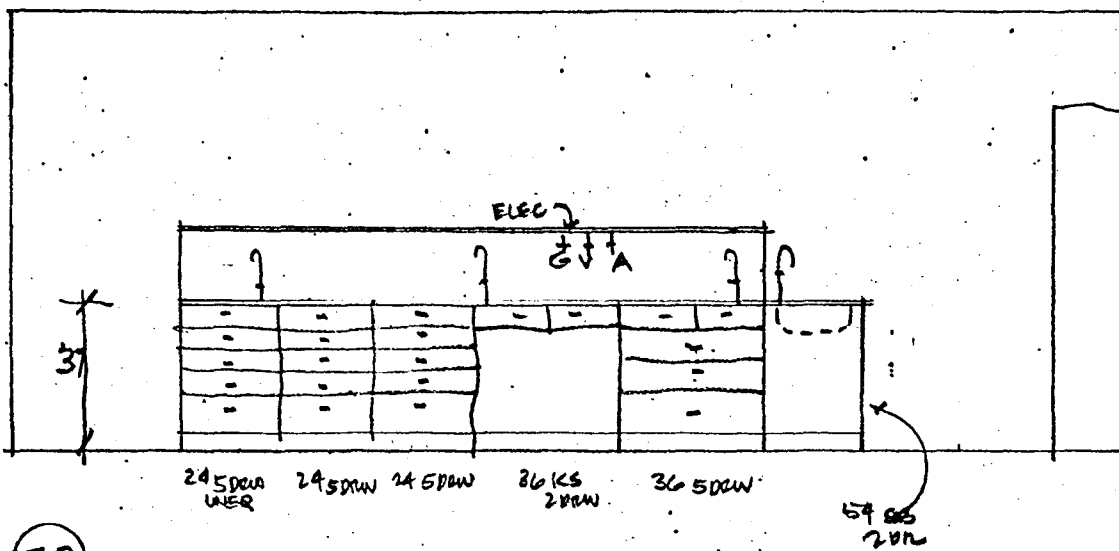


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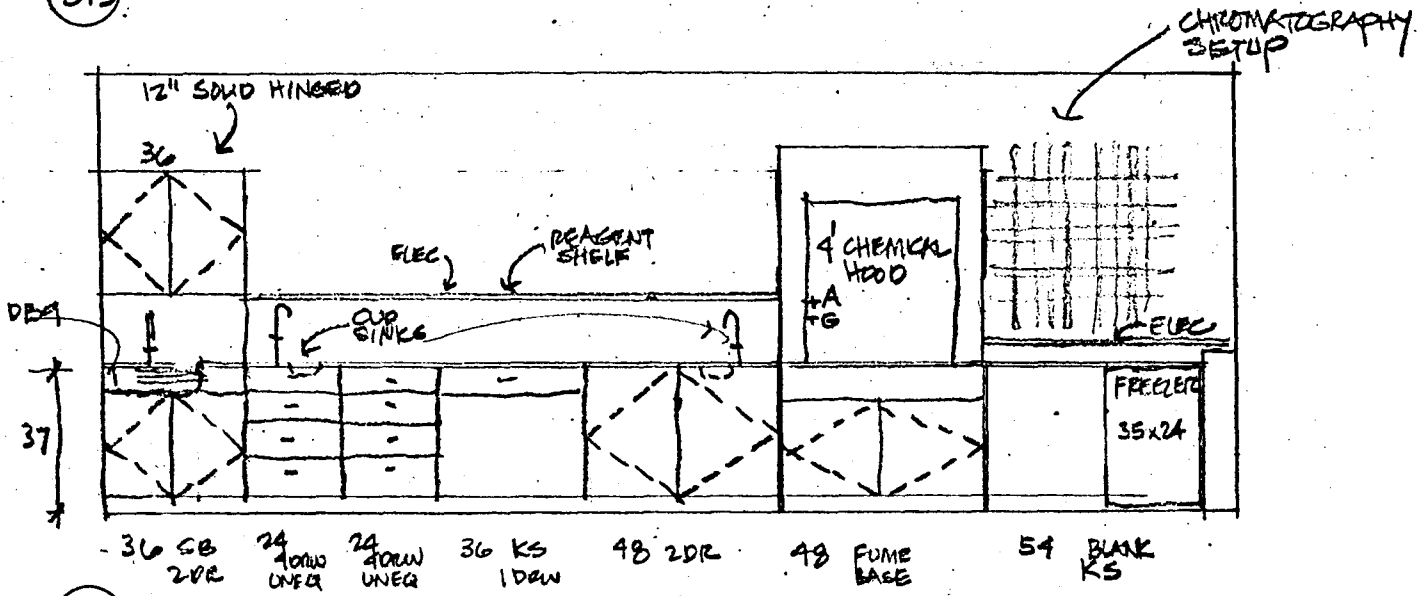


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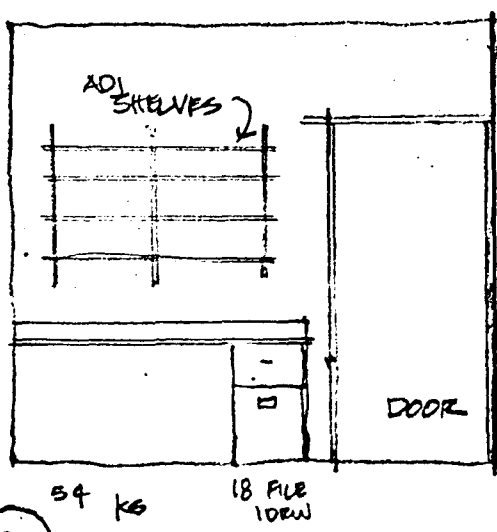
DR. DUNHAM JULY 15  
 PHARMACOLOGY BSM'T.



5.3



5.4



5.5

DR. DUNHAM JULY 15  
 PHARMACOLOGY BSM'T.

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

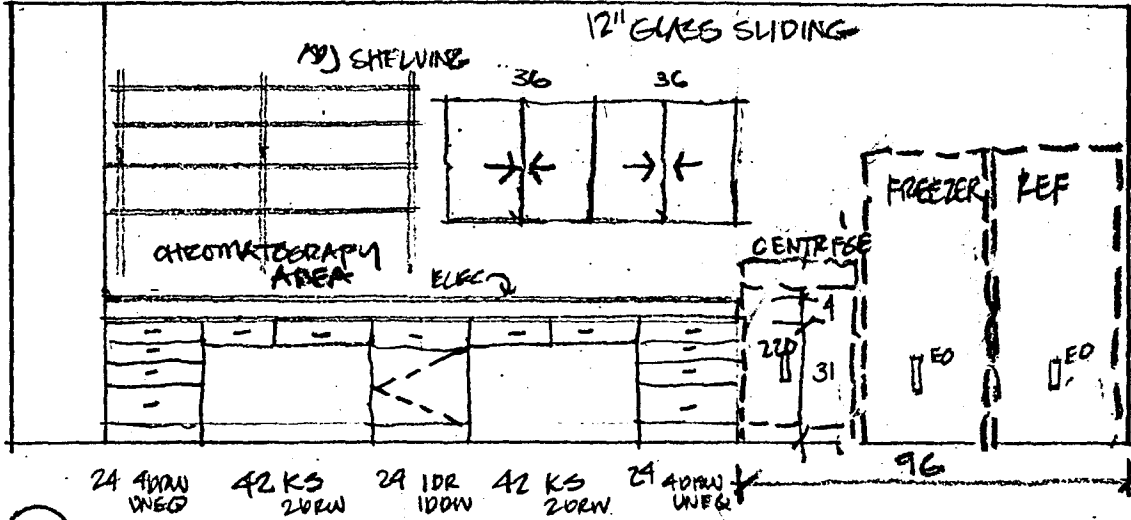
DATE: 19 July 1976

NOTES BY: Bruce Johnson

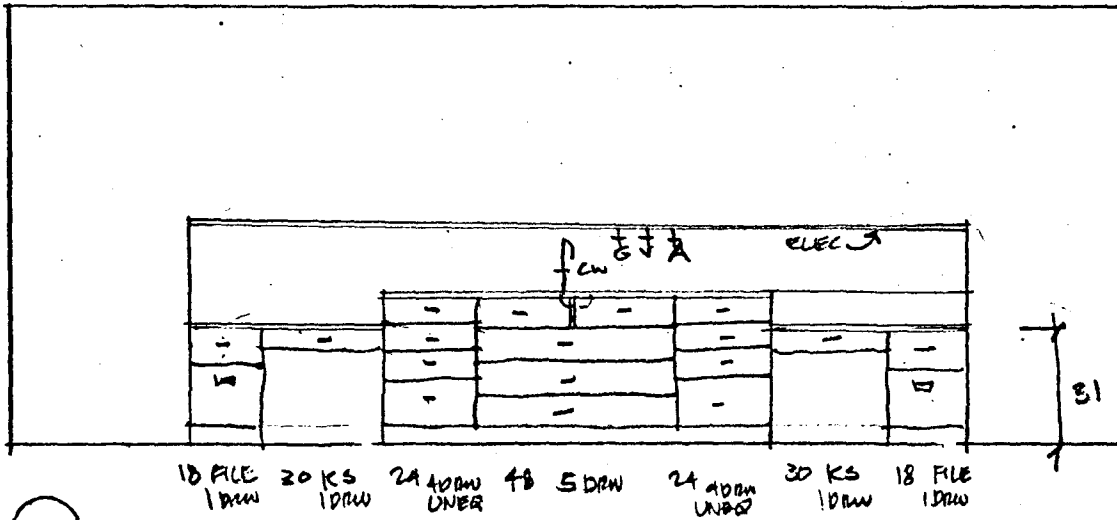
PRESENT: Dr. Bauer, Dr. Sorenson, Anatomy Dept; Tom Kyle, HSP0;  
Bruce Johnson, HSAE

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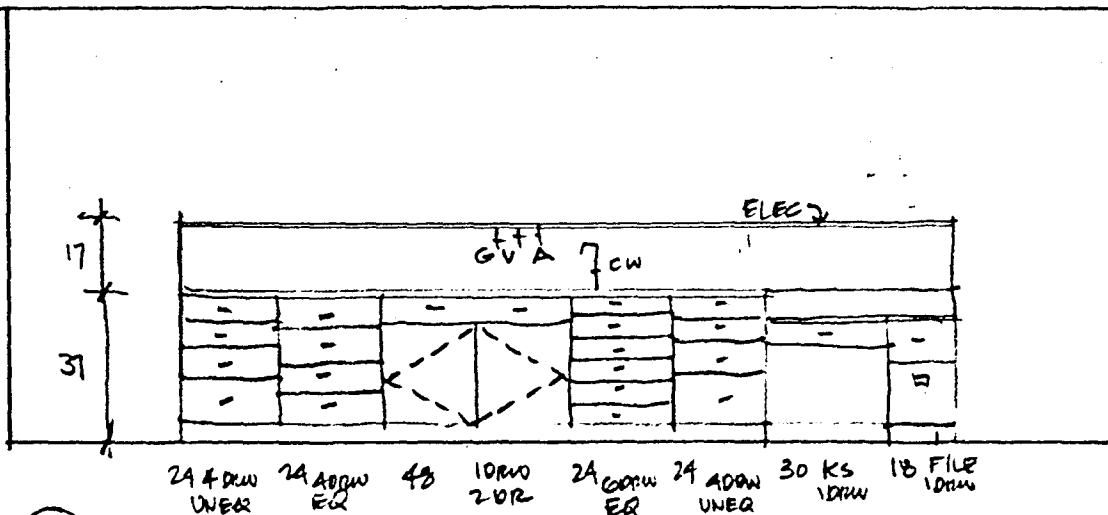
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7.11



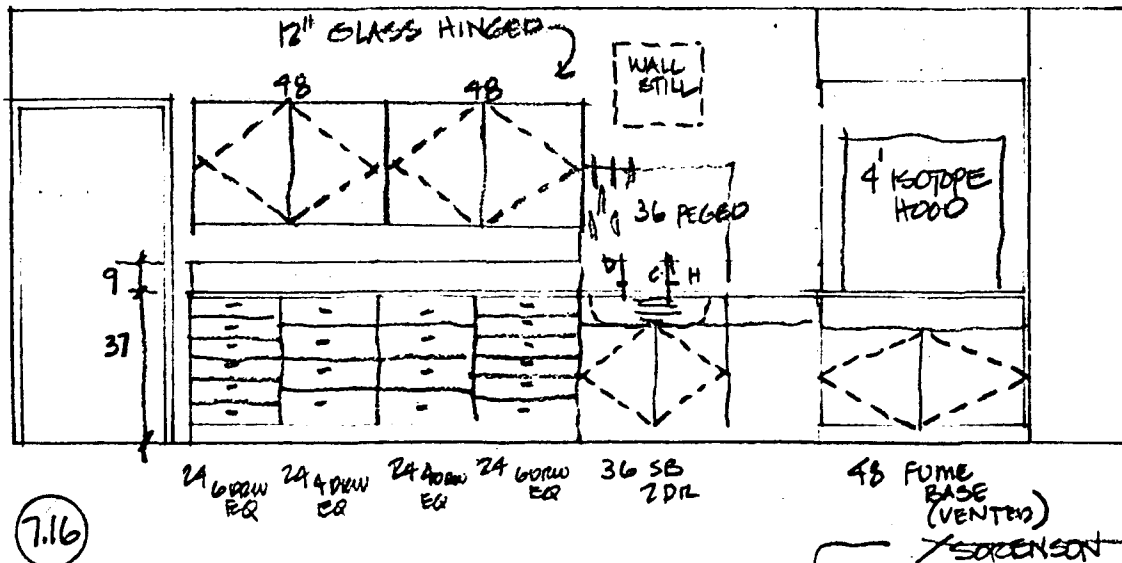
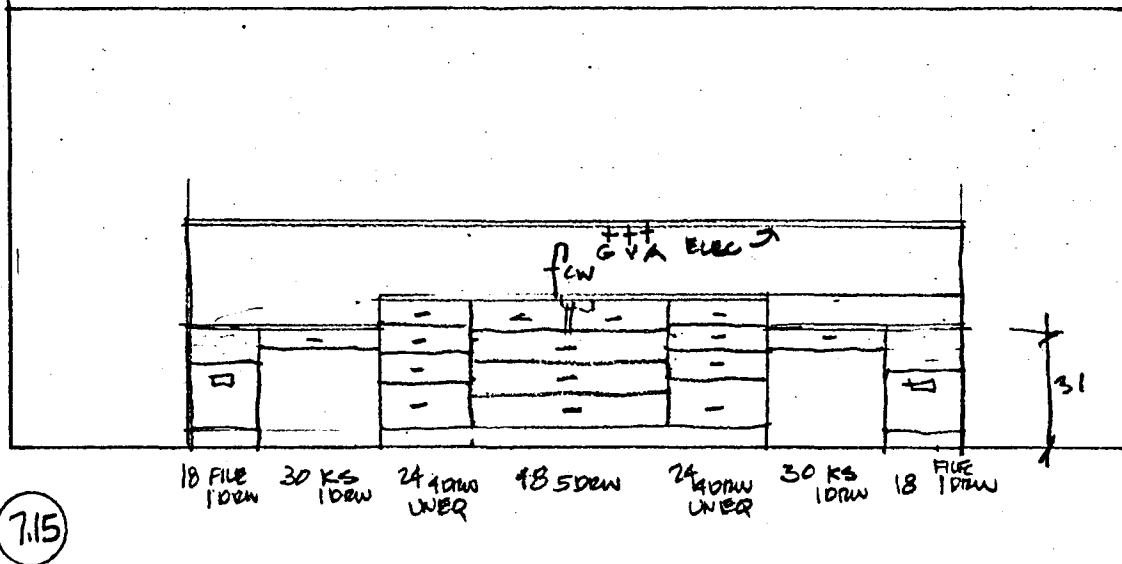
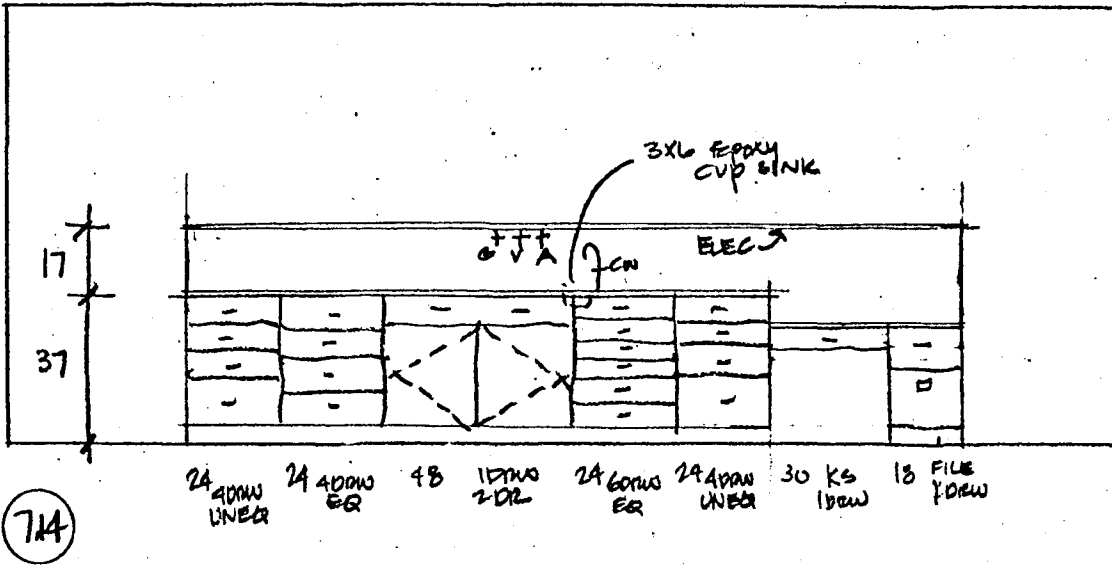
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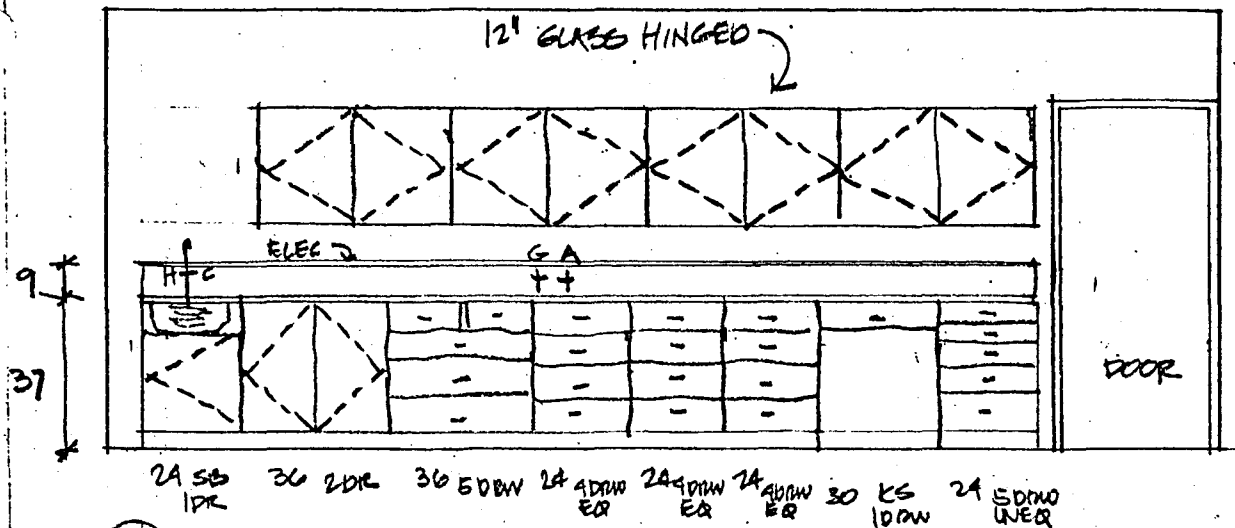
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SORENSEN  
 DR. BAVER  
 ANATOMY  
 JULY 11 1976  
 2ND FLE

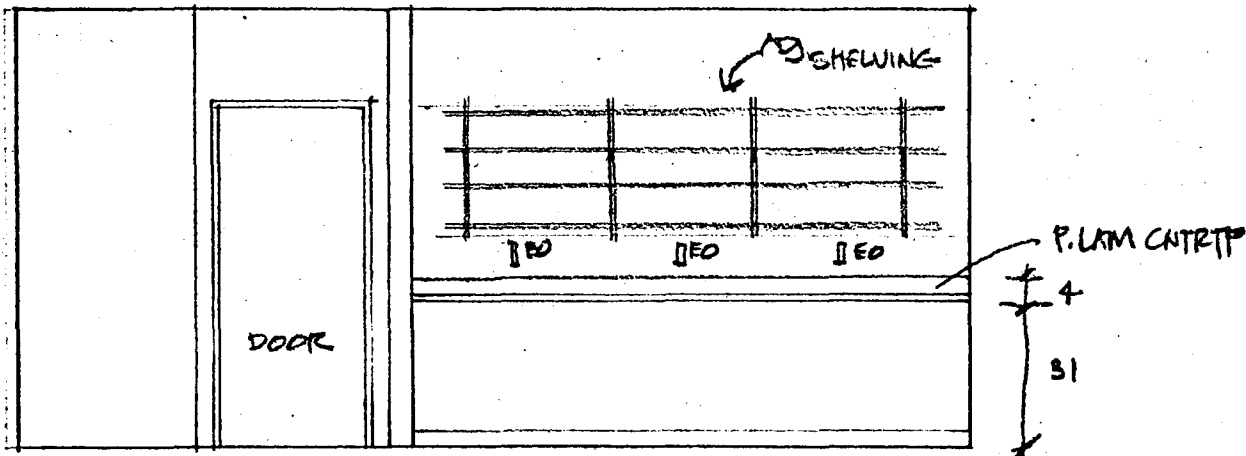




DR BAUER  
 ANATOMY  
 JULY 19 1976  
 2ND FLR.



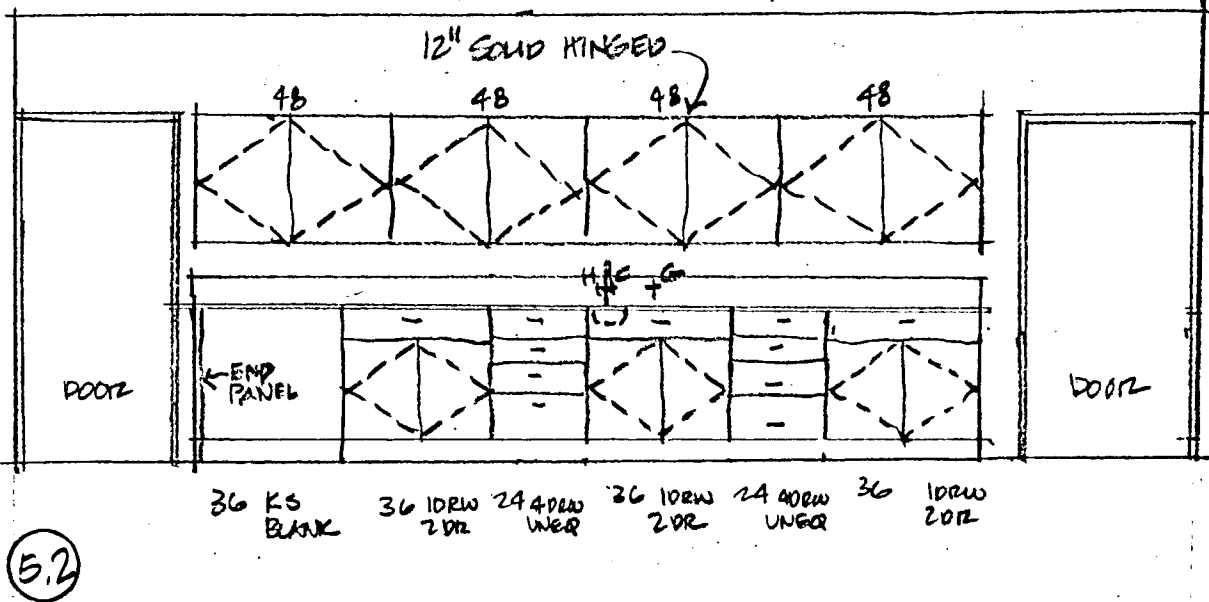
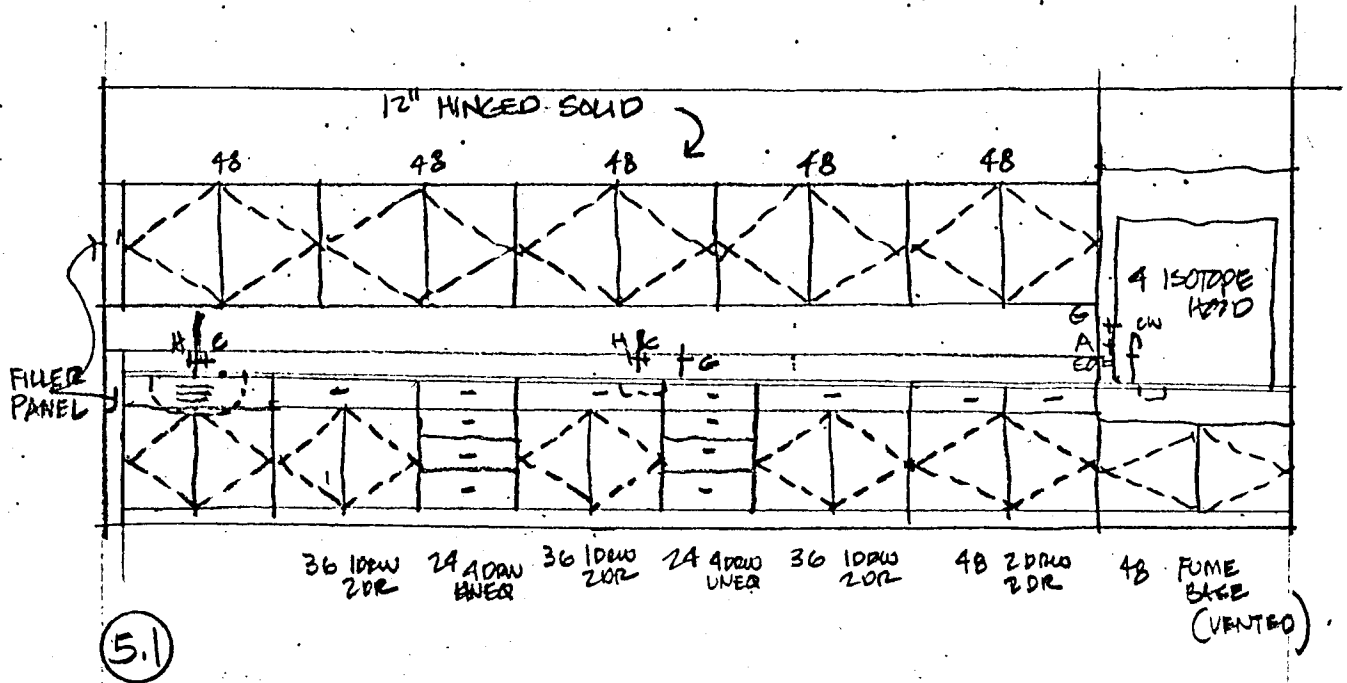
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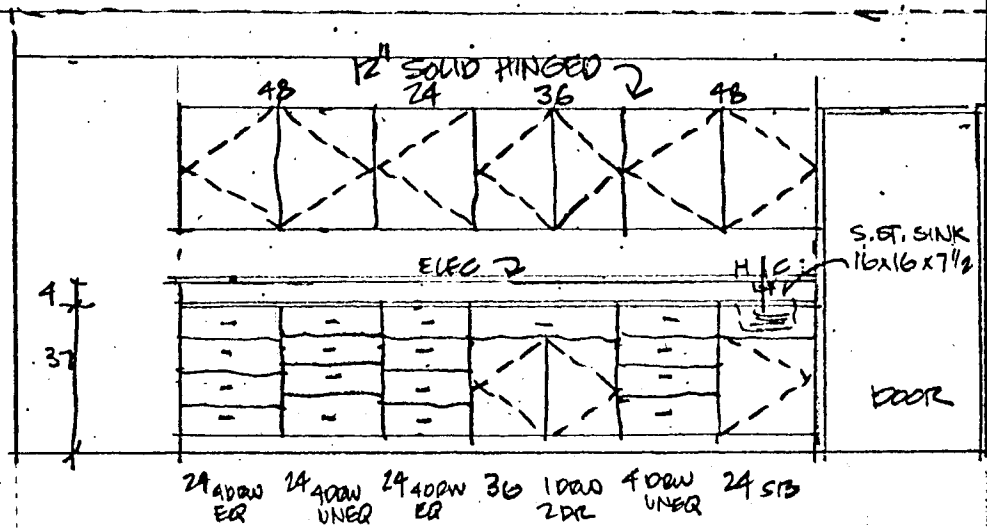
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COHENSON  
 DR. BAUER  
 ANATOMY

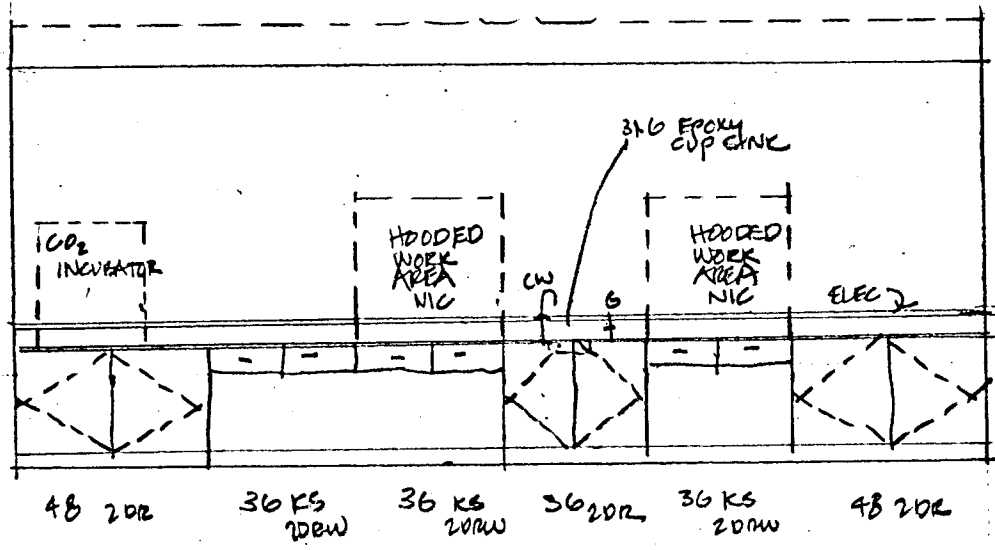
JULY 19 1976  
 2ND FLE.



JULY 19  
 DR. MANNERING  
 1<sup>ST</sup> FLR  
 PHARMACOLOGY

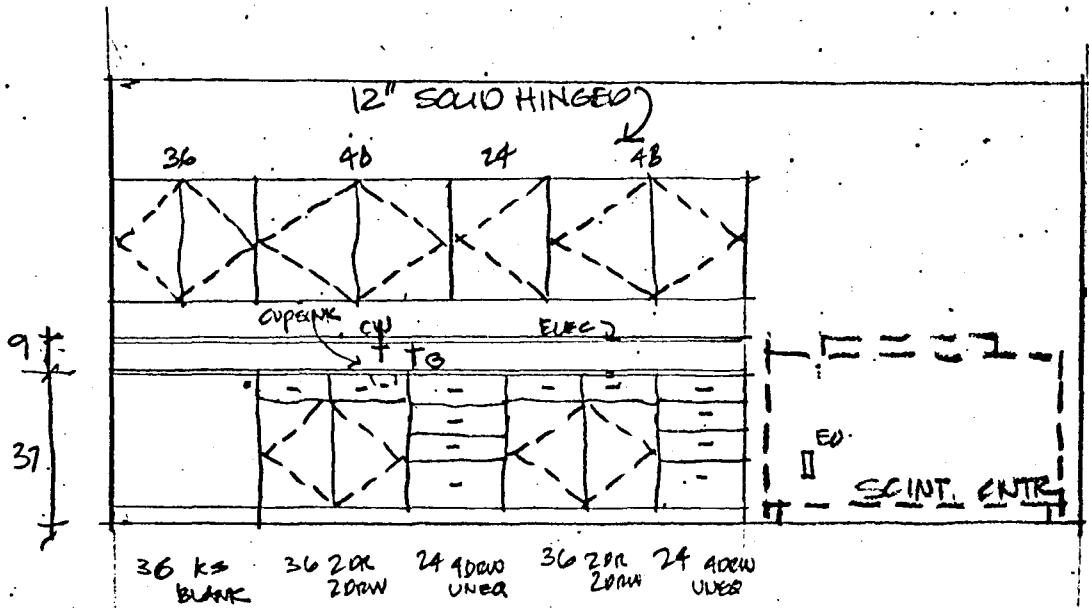


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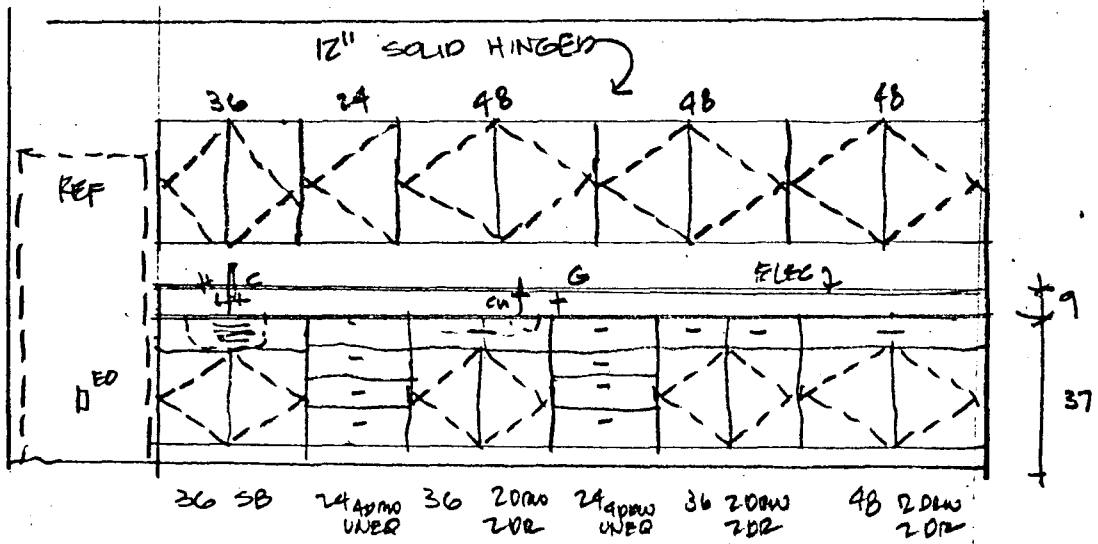


54

JULY 19,  
 DR. MANNERING  
 1ST FLR  
 PHARMACOLOGY

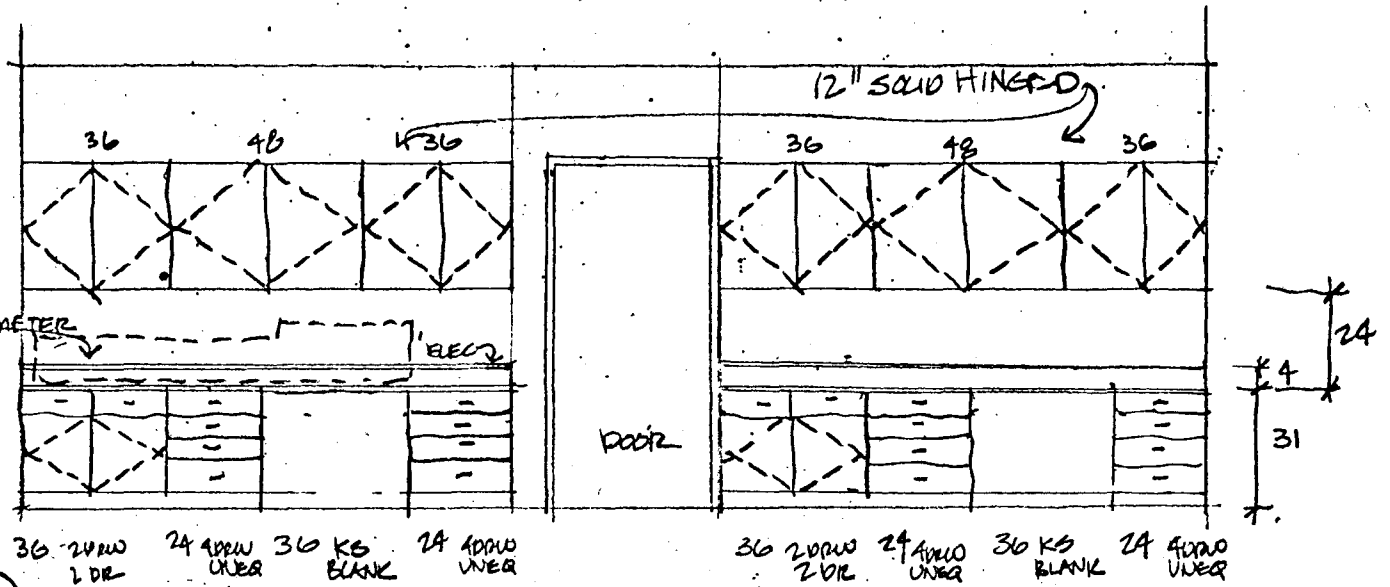


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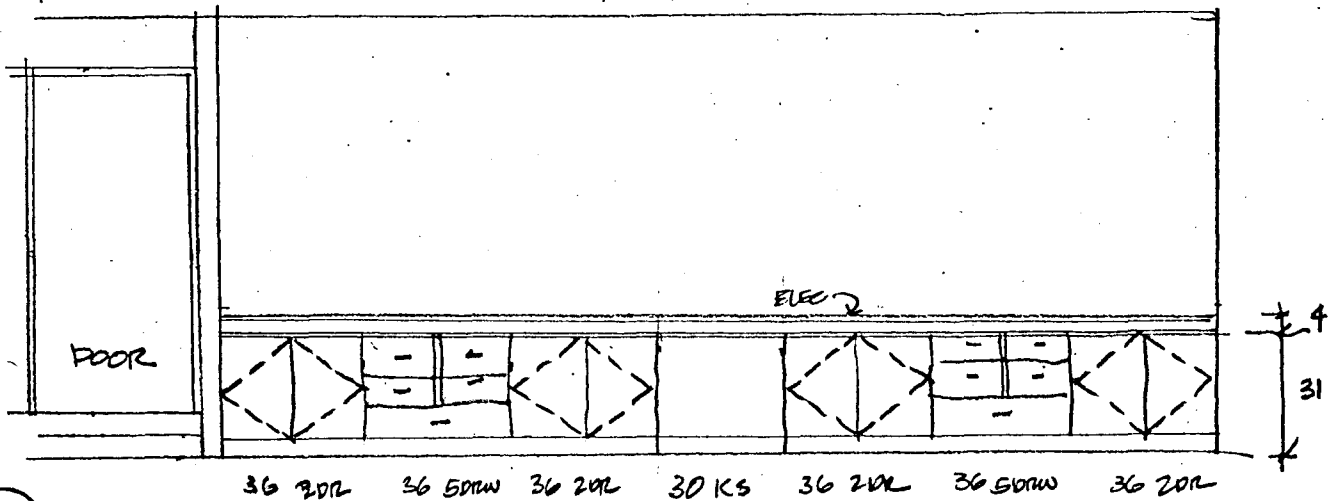


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JULY 19  
 DR. MANNERING  
 1ST FLR  
 PHARMACOLOGY

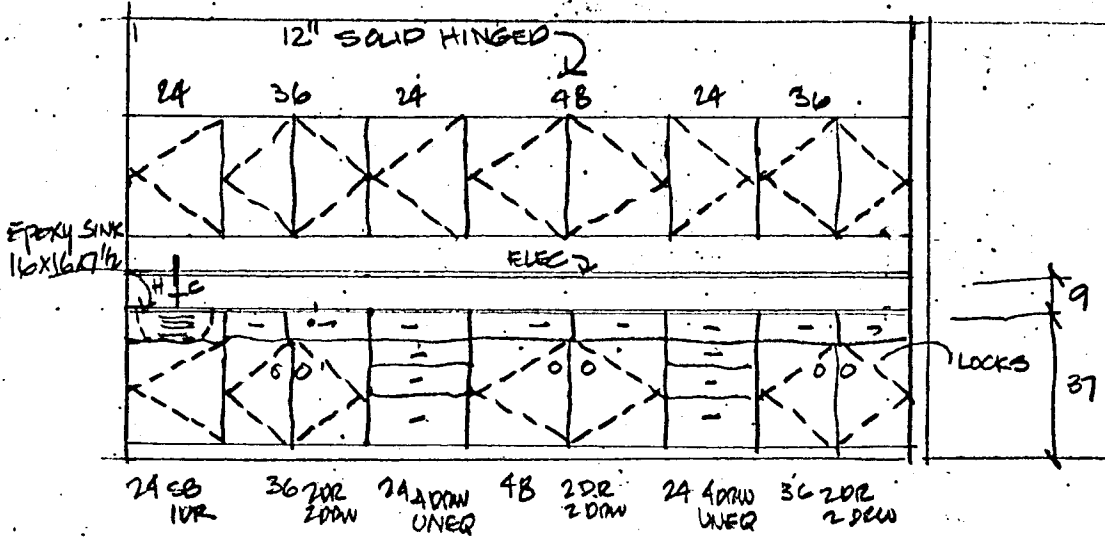


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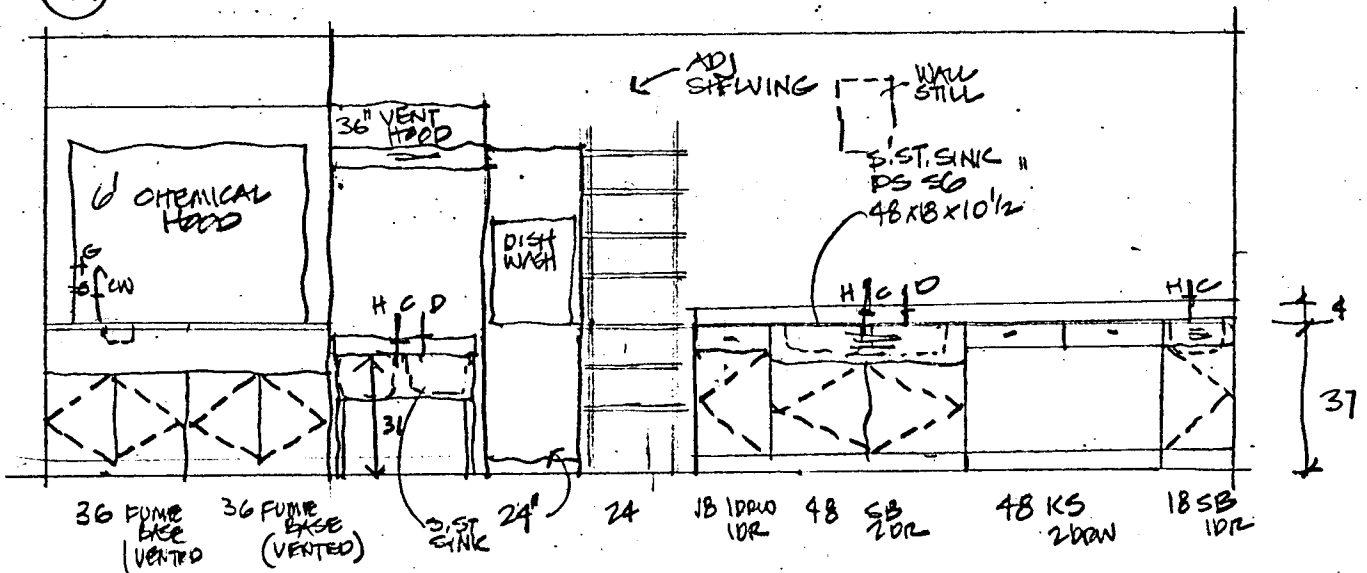


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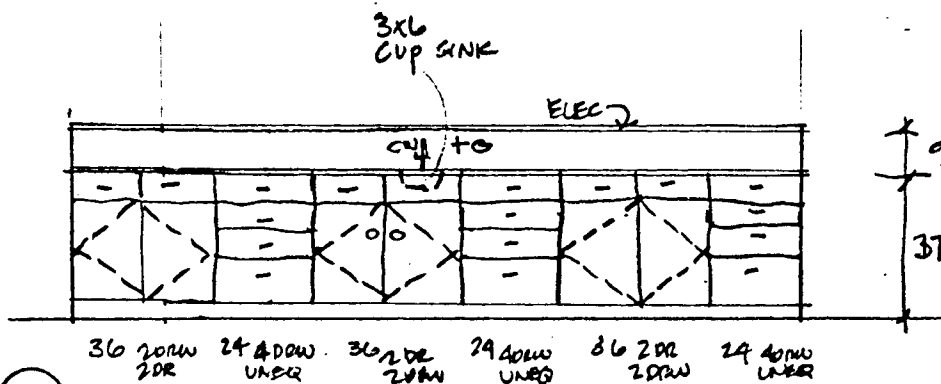
JULY 19  
 DR. MANNING  
 15<sup>TH</sup> FLR  
 PHOTOMA COLOGY



5.9



5.10



5.11

JULY 19  
 DR. MANNERING  
 1ST FLR  
 PHARMACOLOGY

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

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Design Development Review Meeting

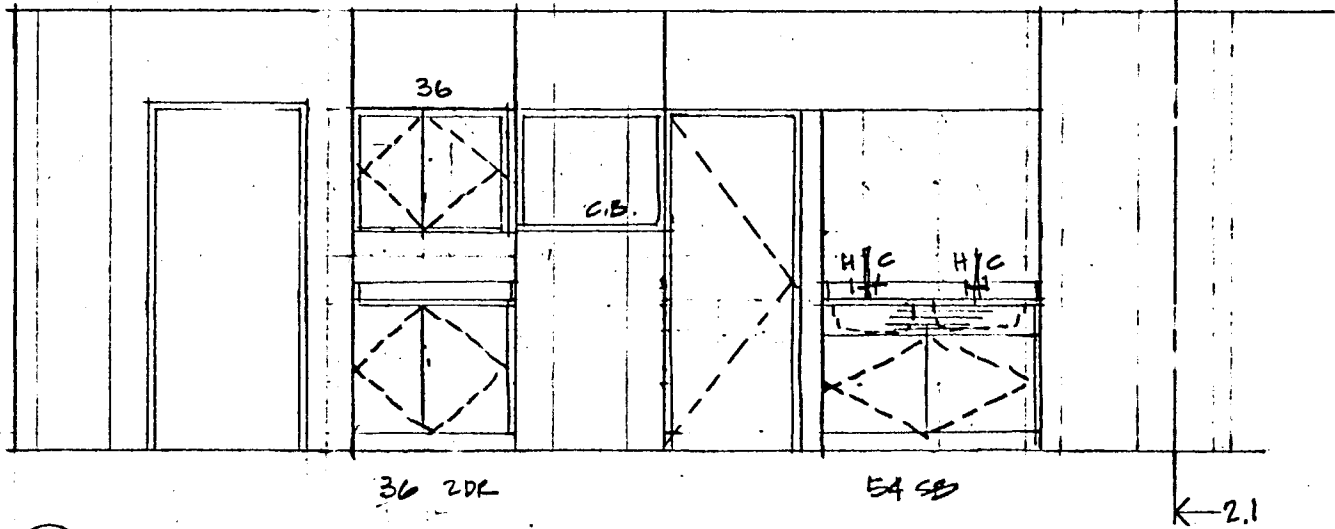
DATE: 20 July 1976

NOTES BY: Bruce Johnson

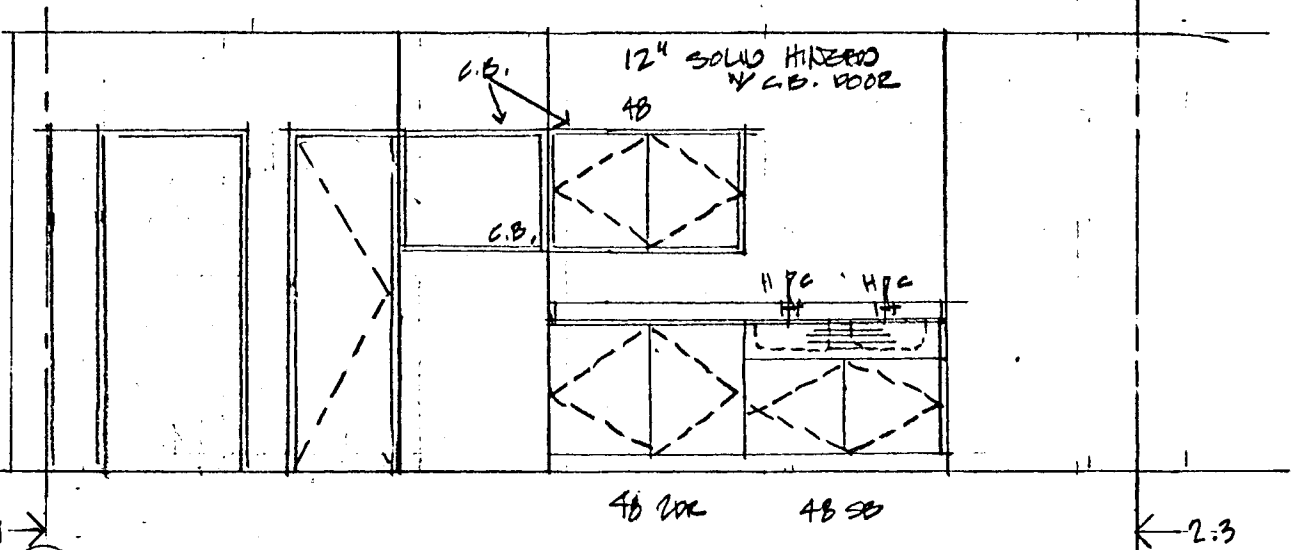
PRESENT: Dr. Smithberg, Dr. Erlindson, Dr. Carpenter, Anatomy Dept.;  
Tom Kyle, HSPO; and Bruce Johnson.

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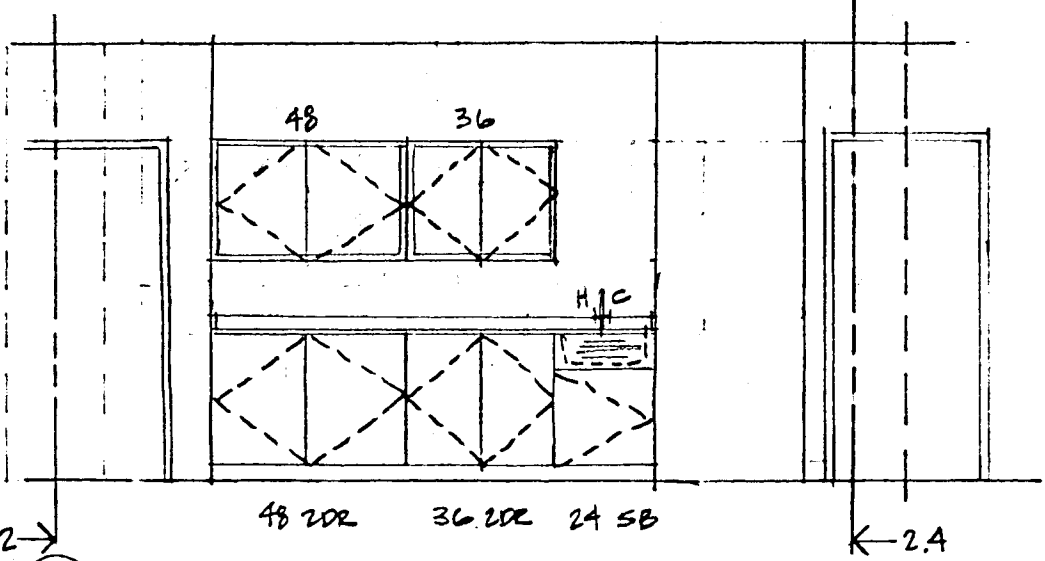




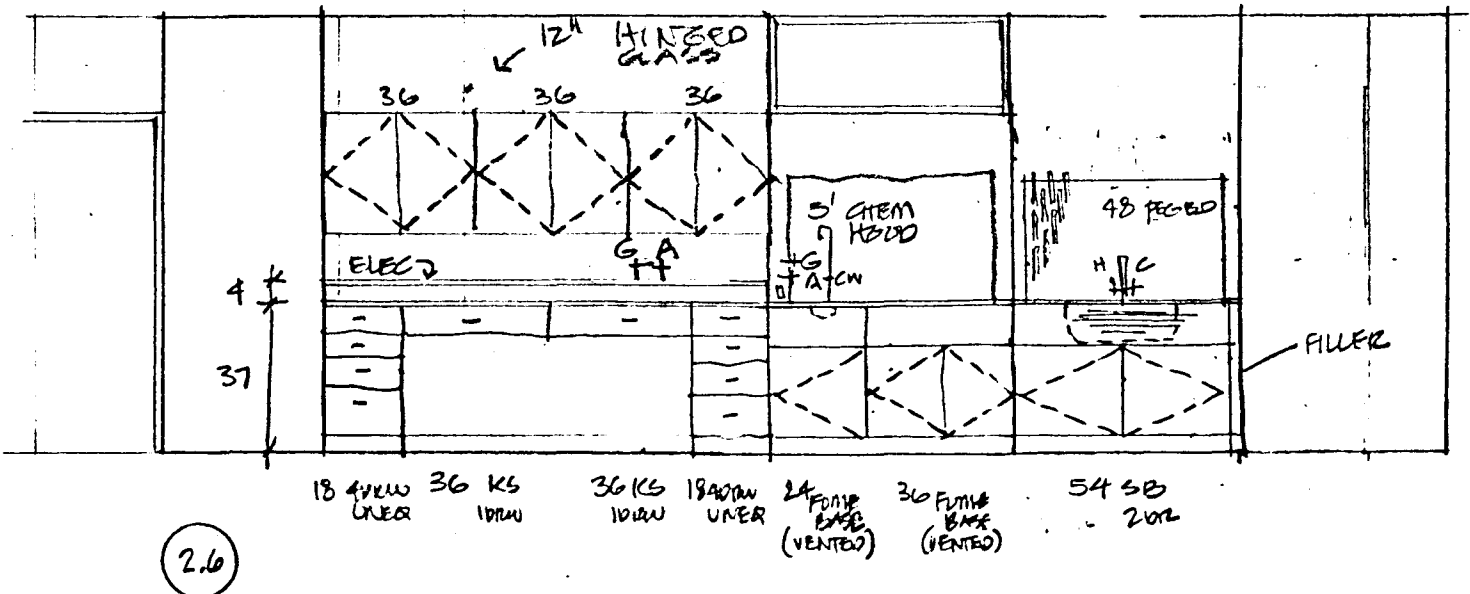
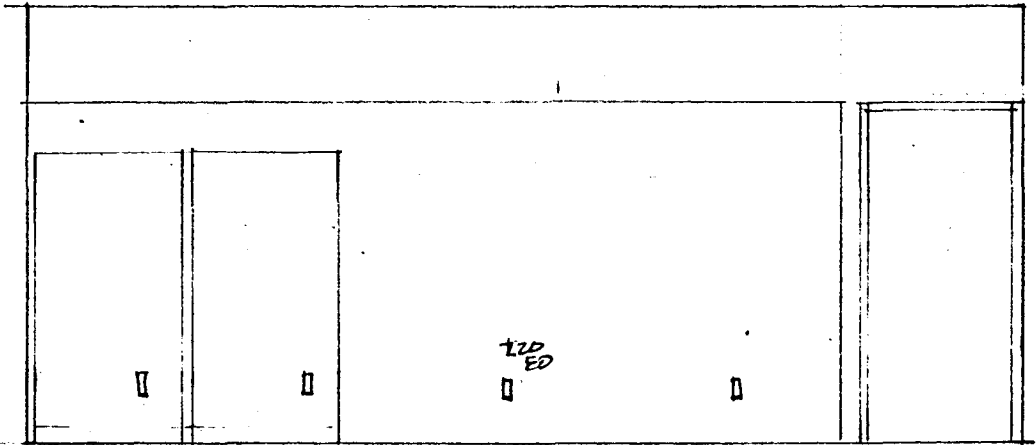
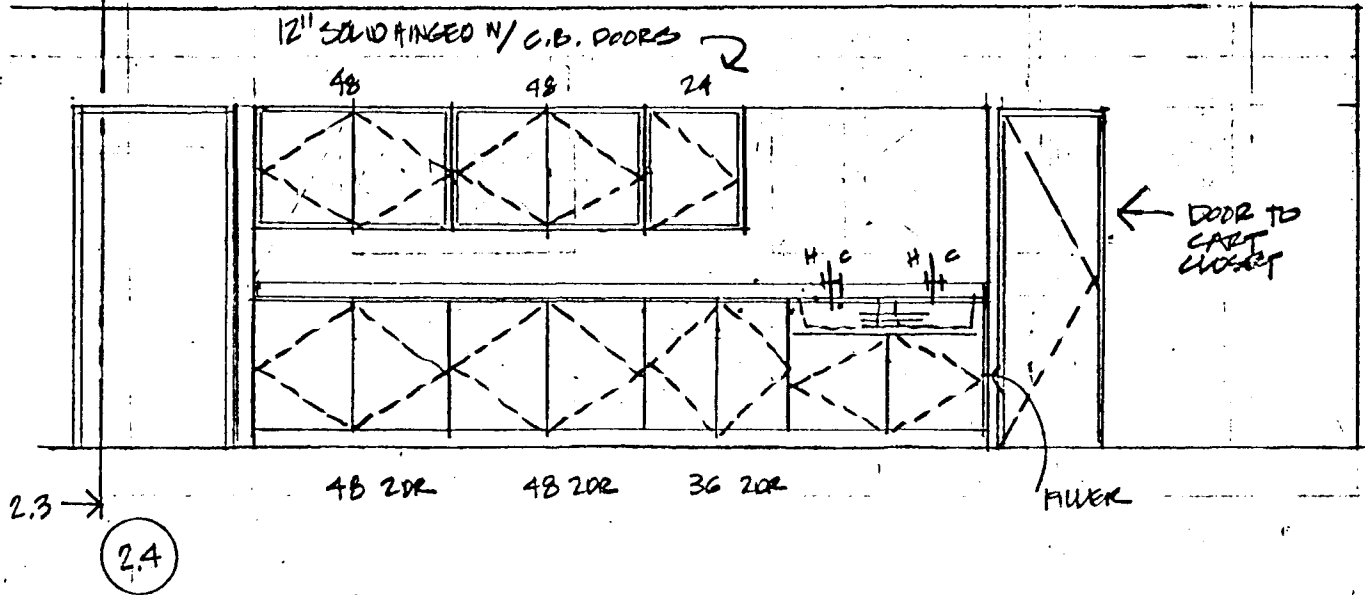
2.1



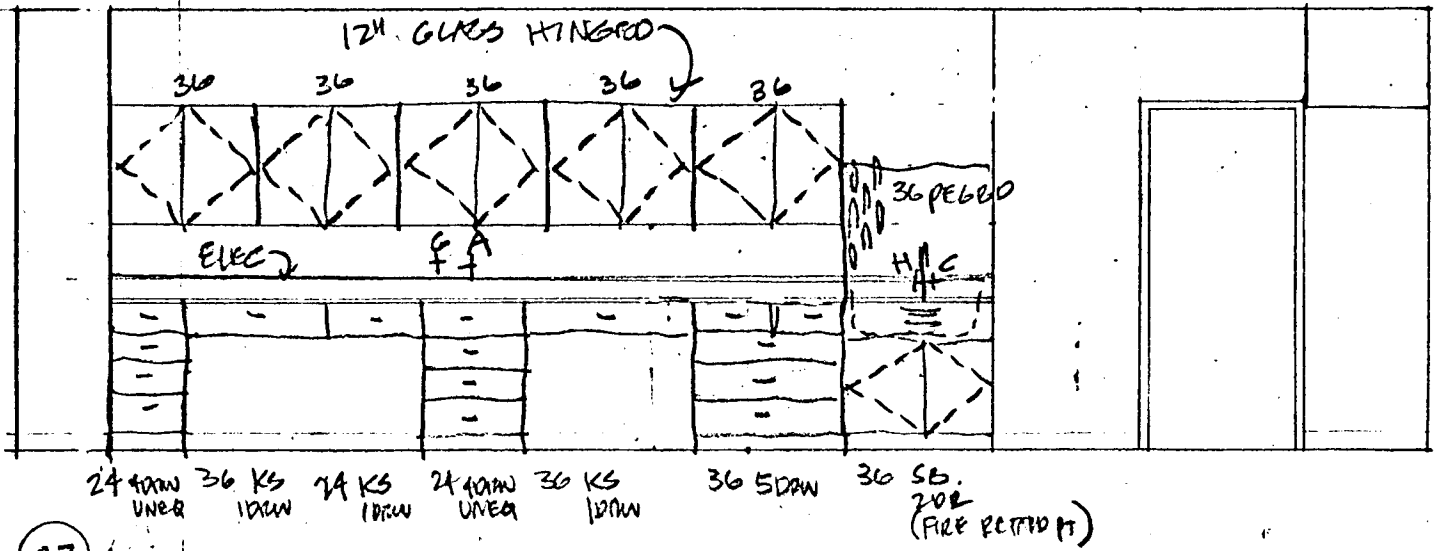
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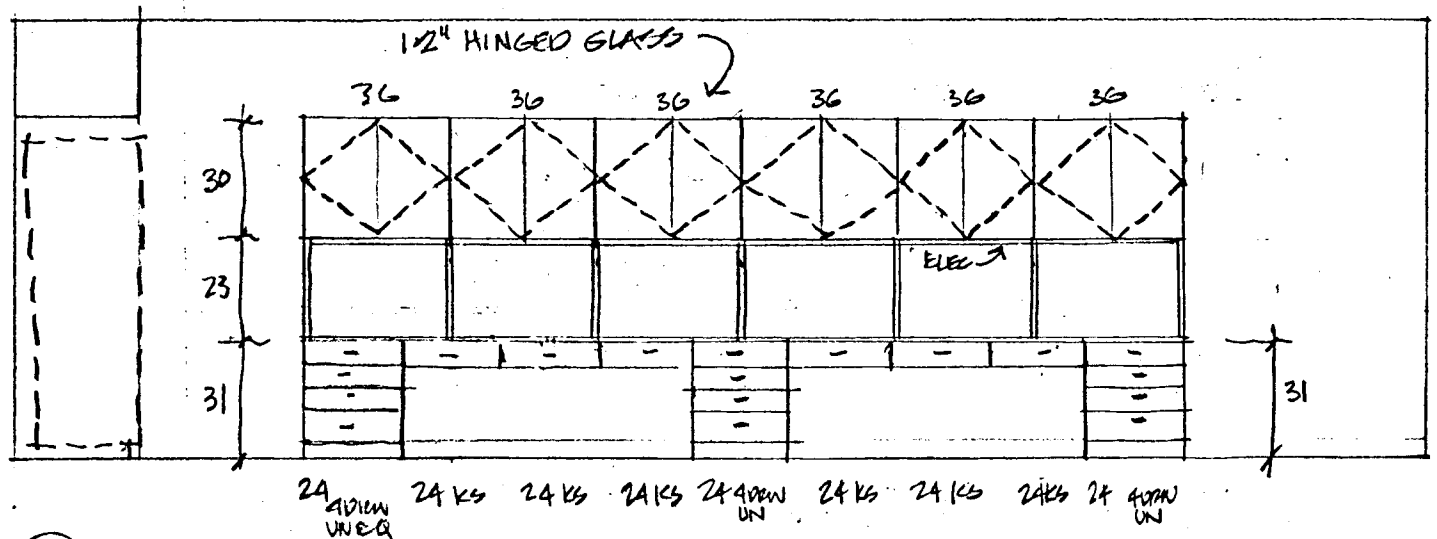
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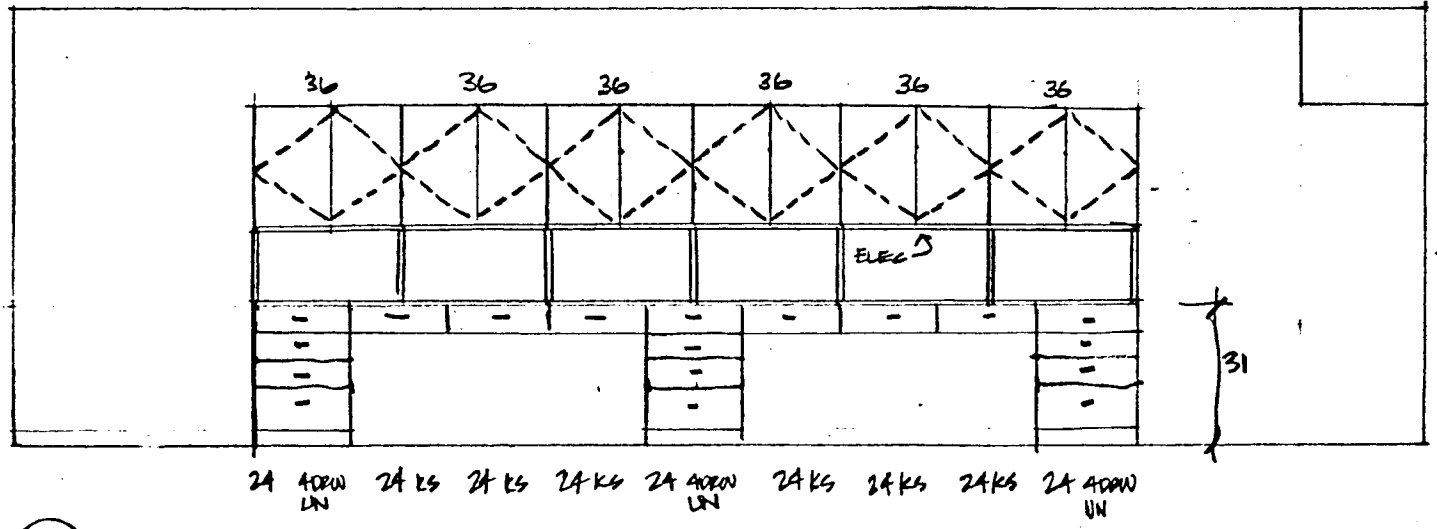
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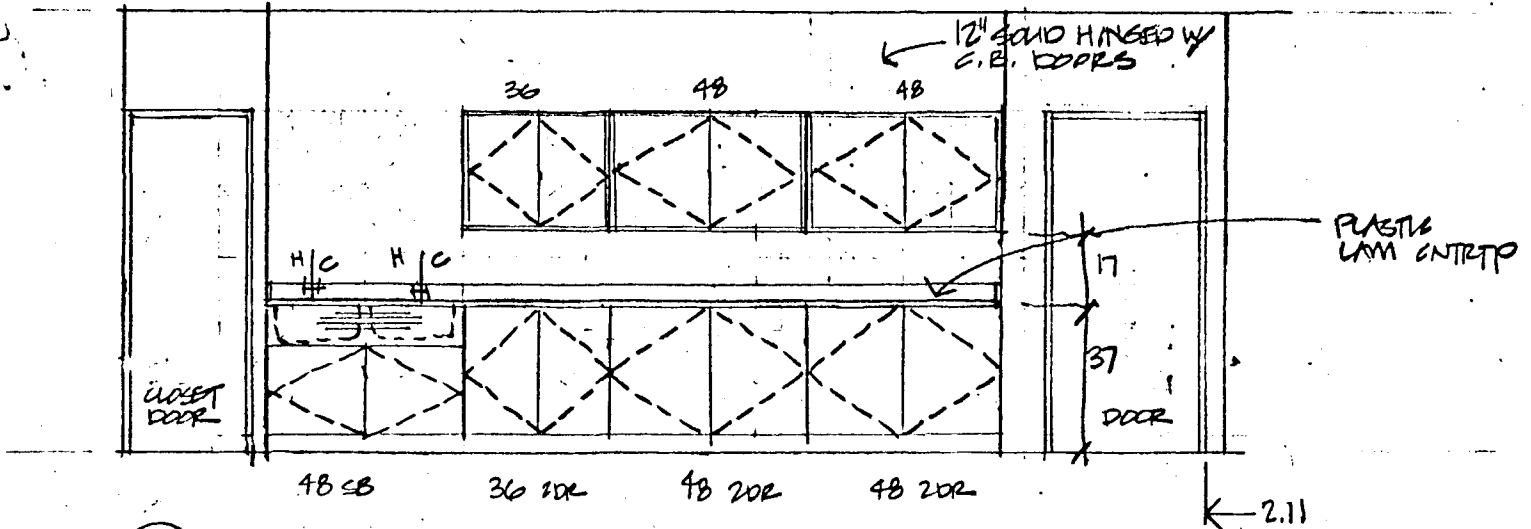
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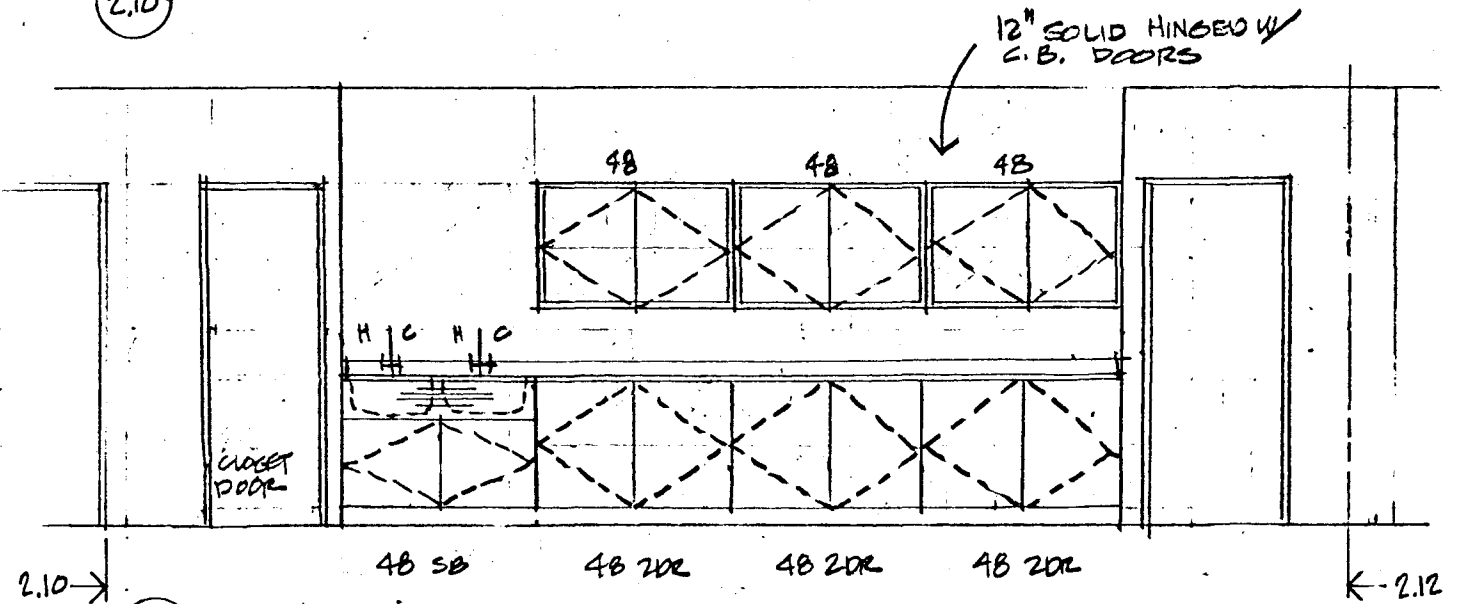
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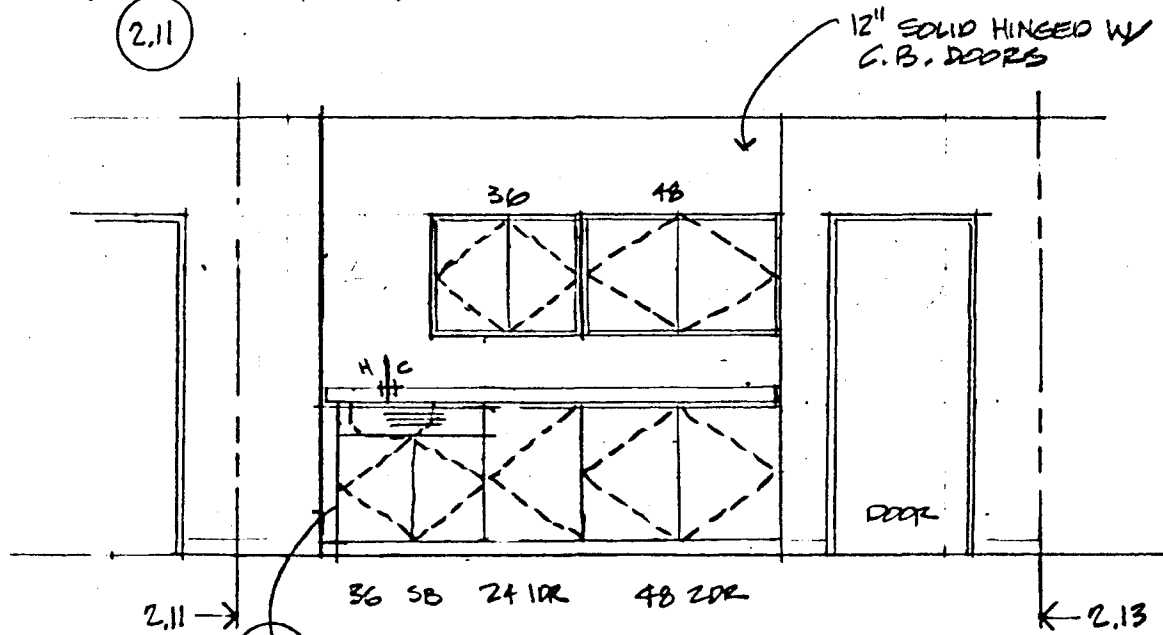
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2.10



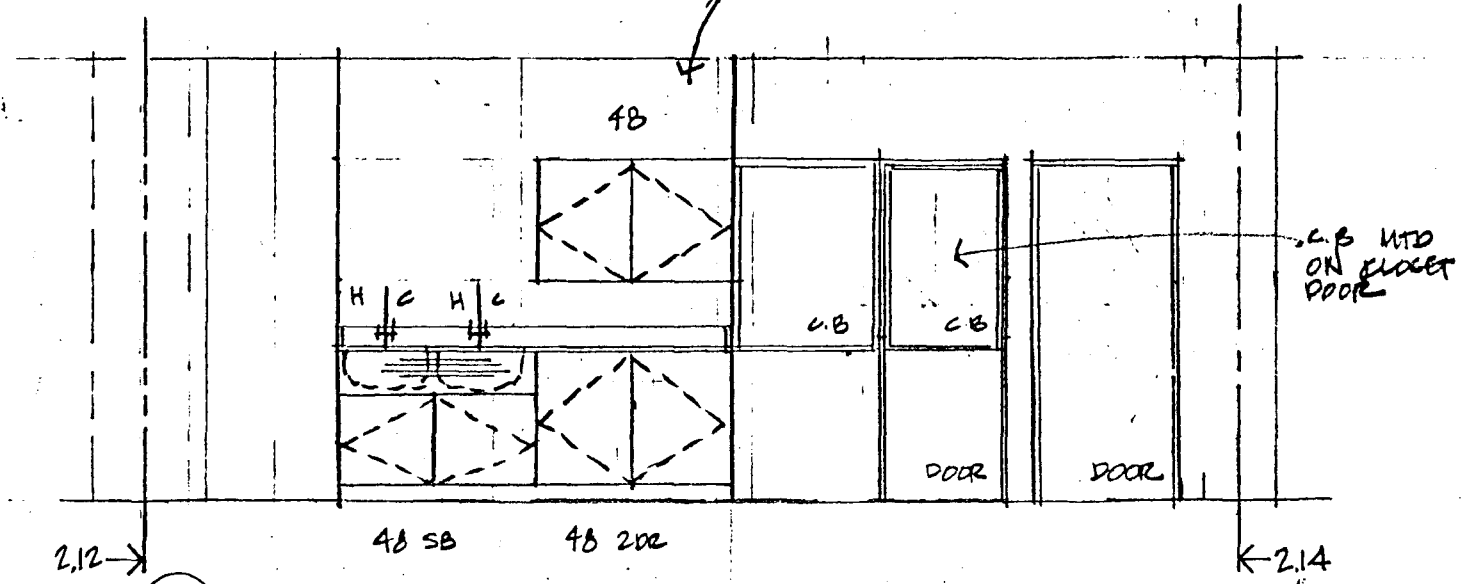
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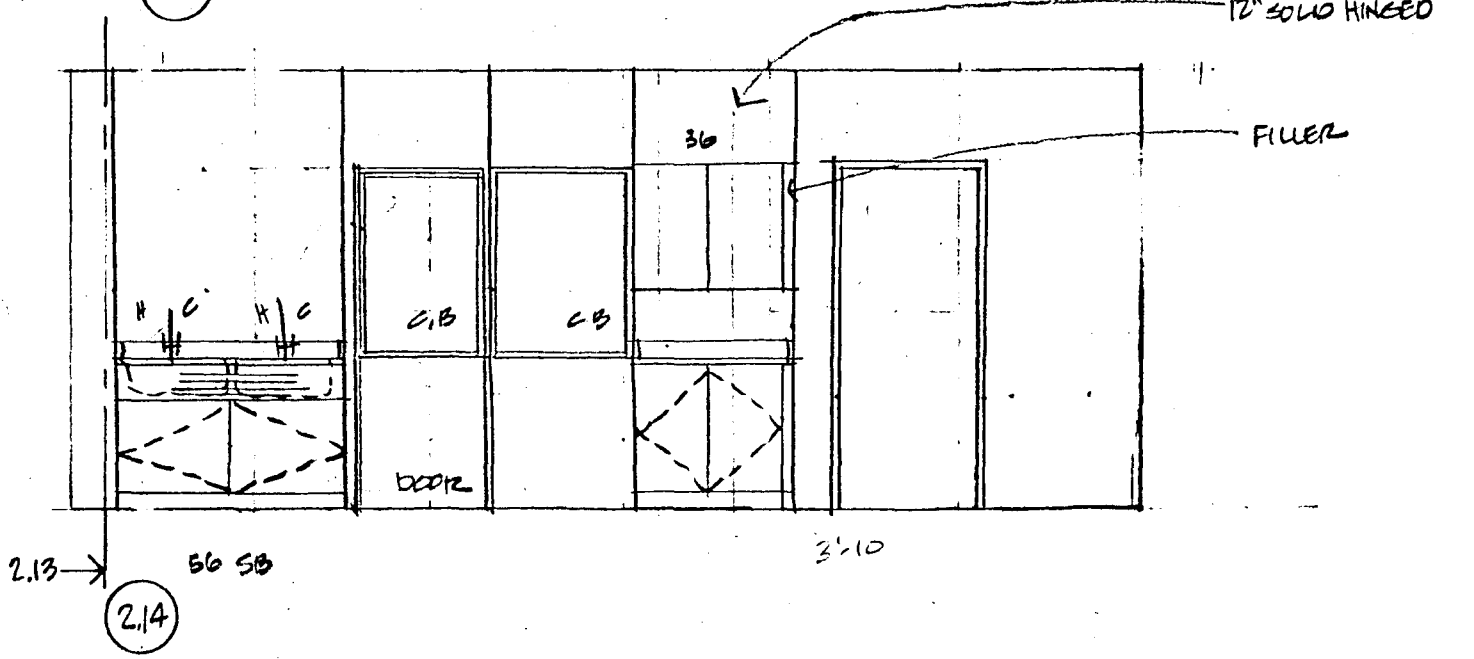
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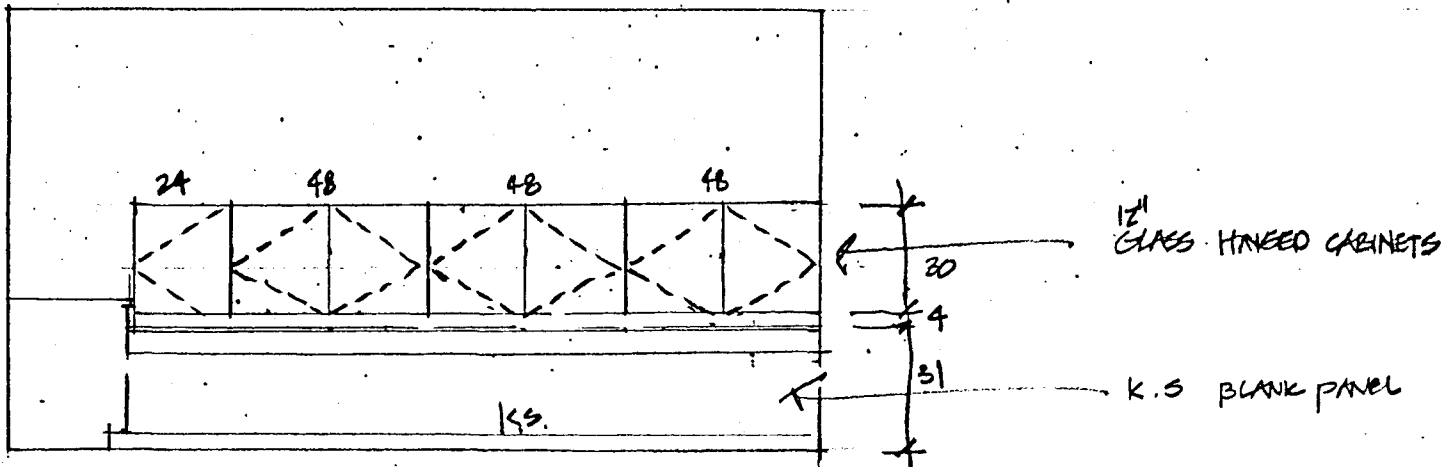
FILLER PANEL

12" SOLID HINGED

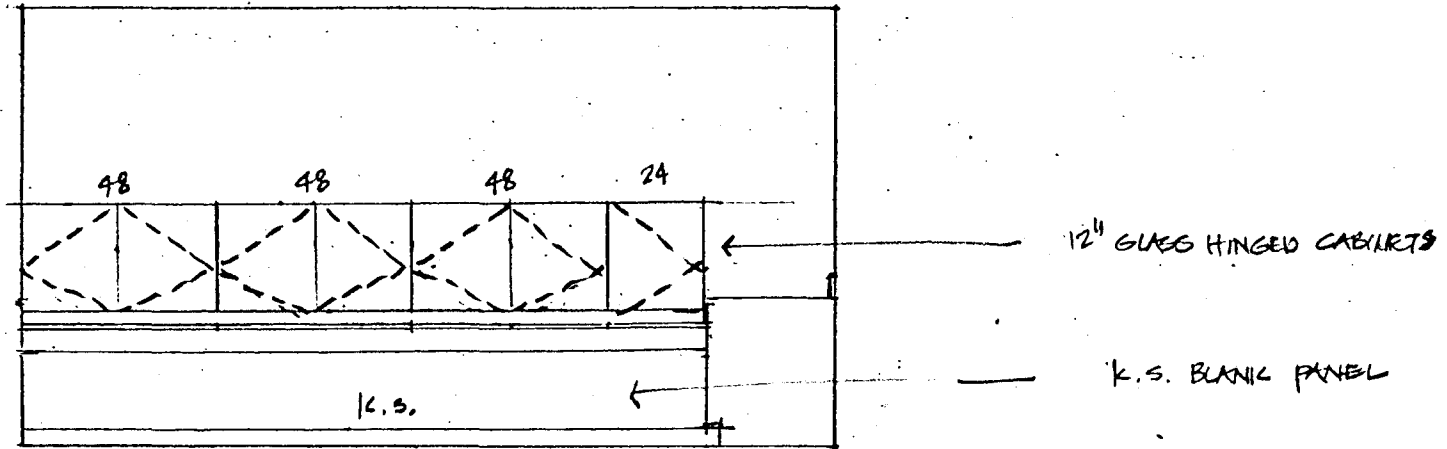


12" SOLID HINGED

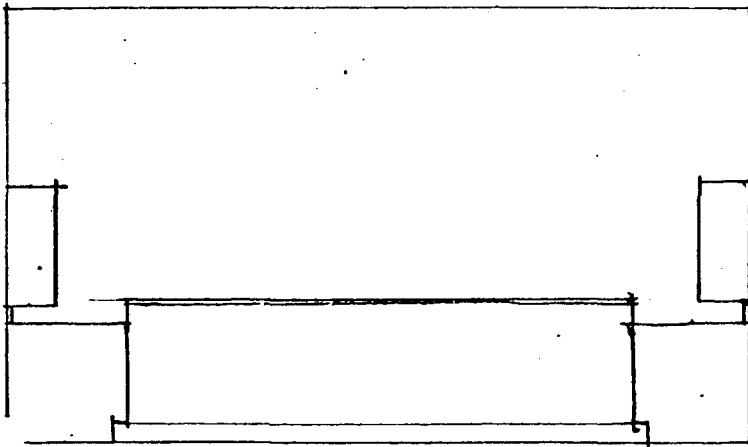




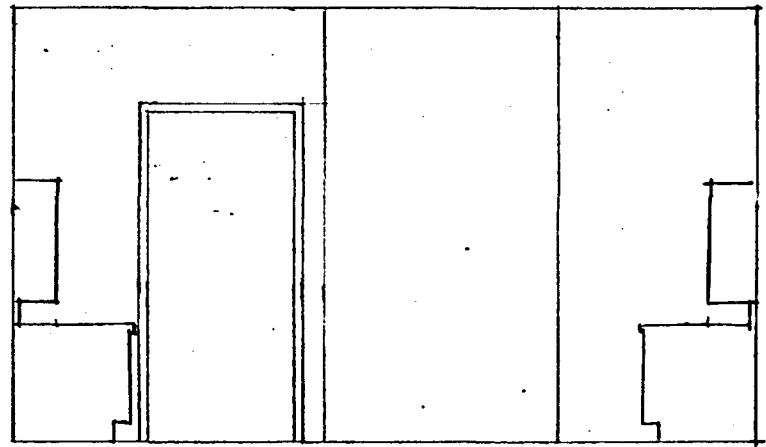
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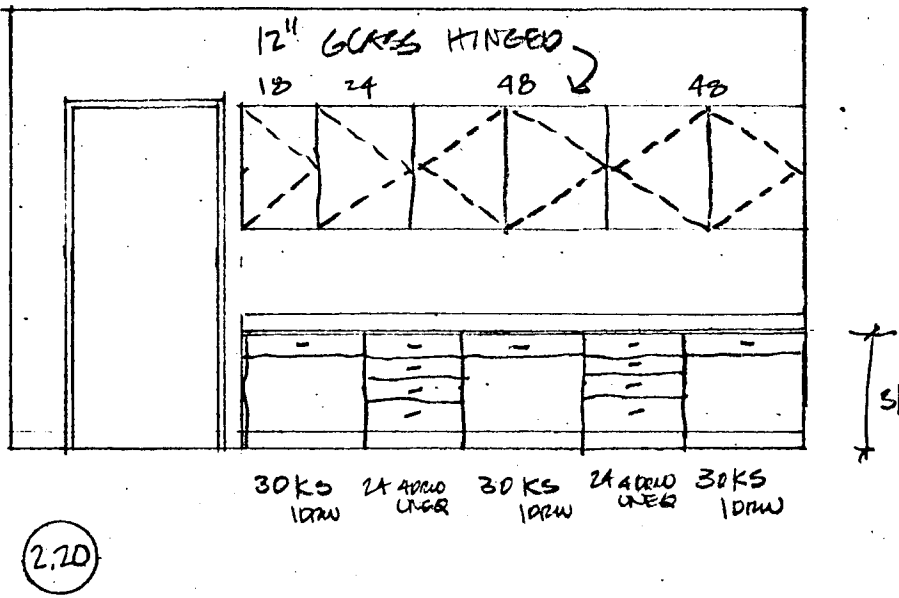
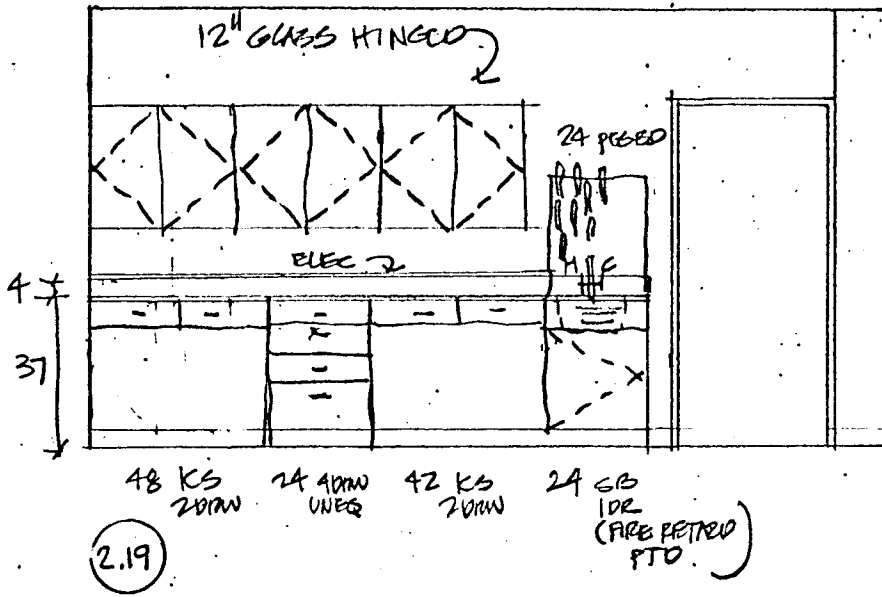
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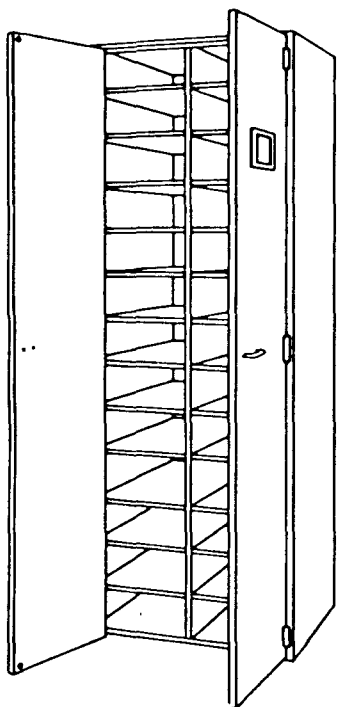


2.17



2.18





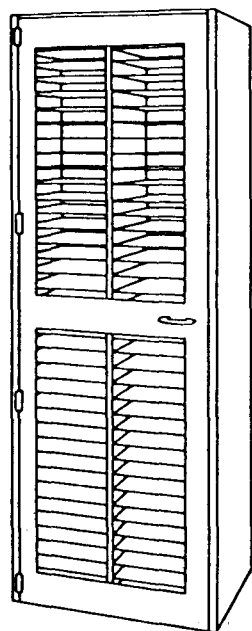
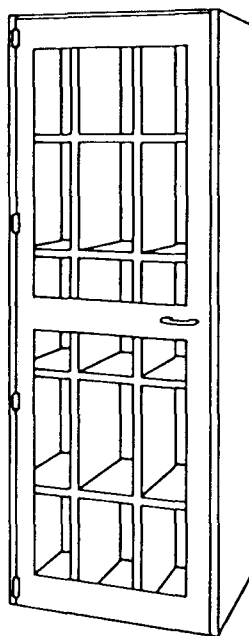
**MICROSCOPE CASE TALL**

Available 18" deep only

**80" HIGH**

WIDTH CODE  
27" H-2780 MCT

The Microscope Case Tall is a single glass door unit containing a wood insert which is divided into fifteen 7 $\frac{3}{8}$ " wide x 15 $\frac{1}{16}$ " high compartments.



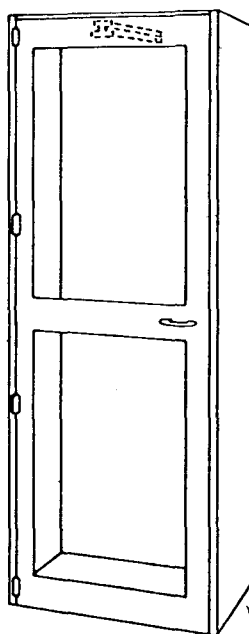
**SKELETON CASE PULL-OUT**

Available 18" deep only

**80" HIGH**

WIDTH CODE  
27" H-2780 SCPO

The Skeleton Case Pull-Out Unit has a single full high glass door. A pull-out bracket is mounted to the top of the unit.

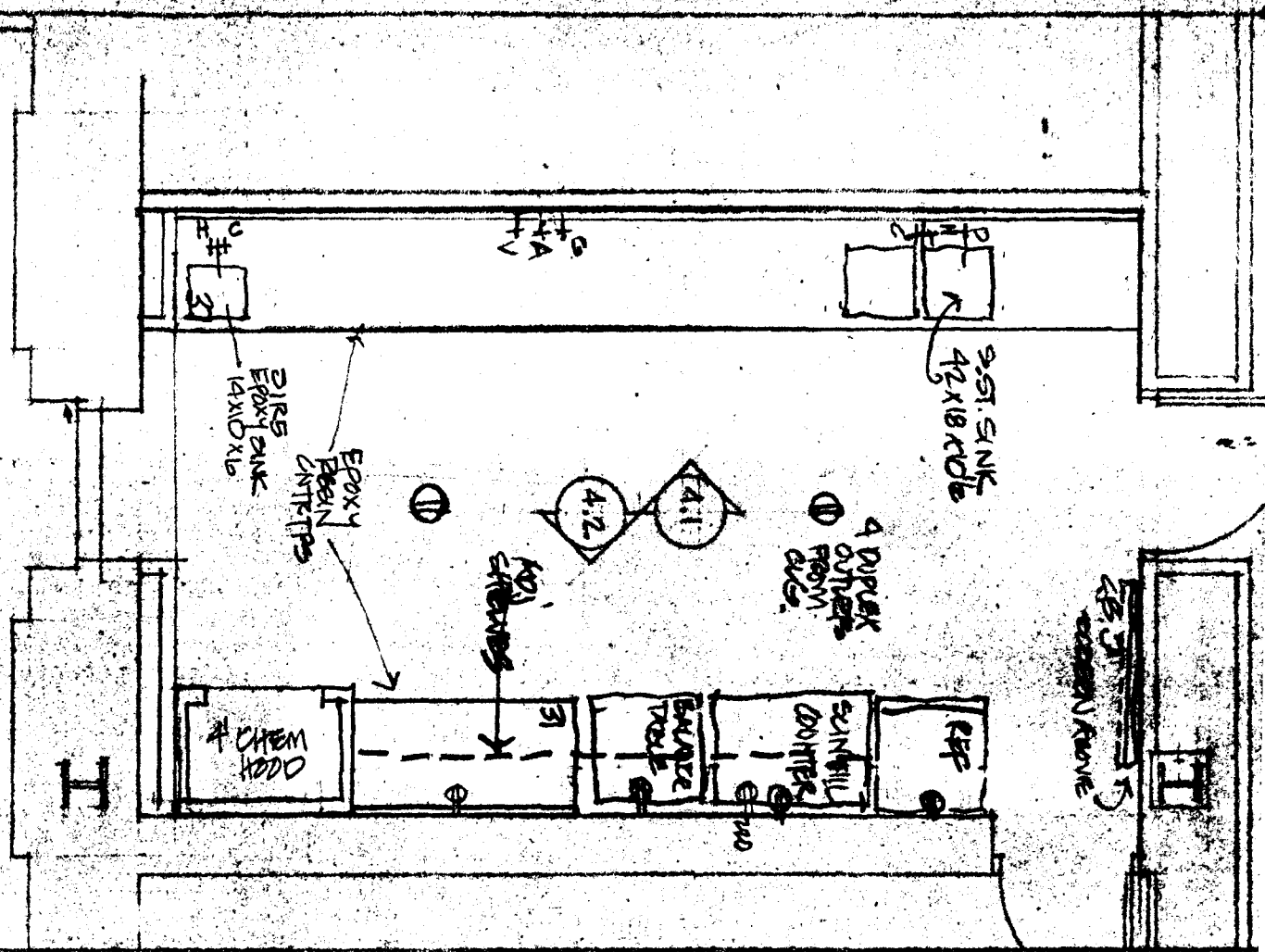


RESIDENTIAL &  
MISCELLANEOUS "E" SERIES

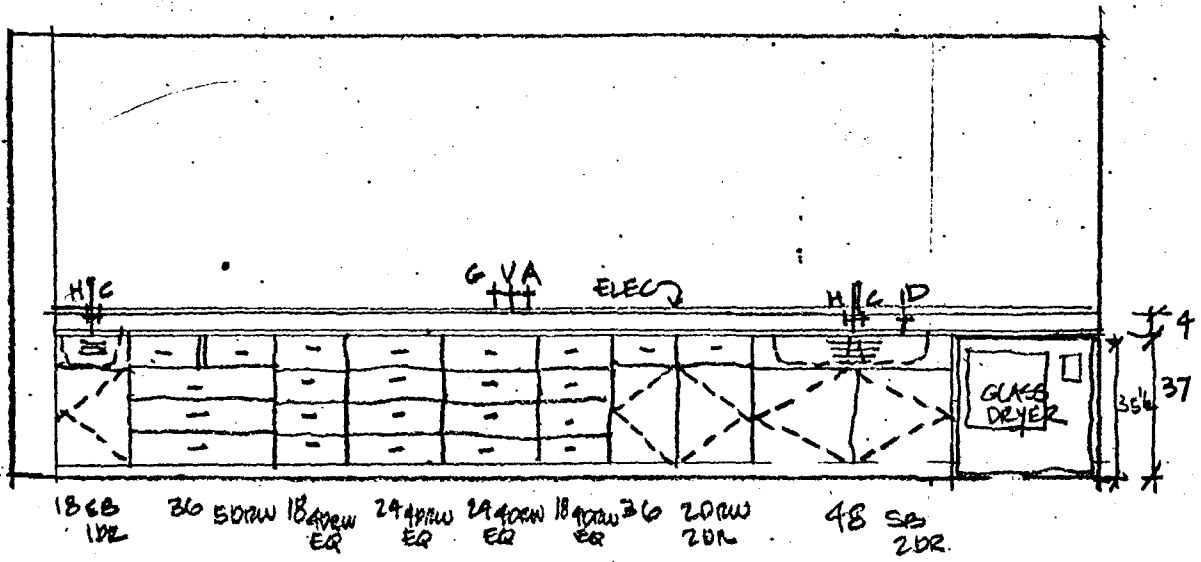
COUNTER & SINK TOPS  
& SERVICE BENCHES



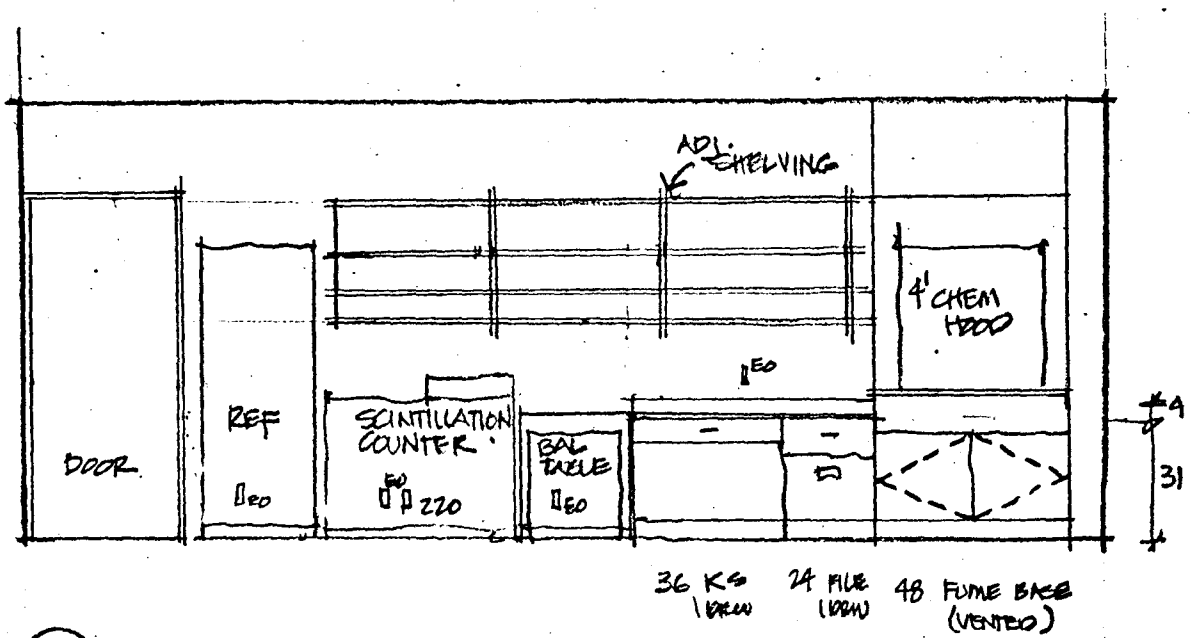
MECH. EQUIP. TOWER



PHARMACOLOGY  
DR. QUEBBEMAN  
JULY 20 1976  
1st FLR



4.1



4.2

1ST FLR  
 DR. QUEBEMAN  
 JULY 20 1976  
 PHARMACOLOGY

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

RECEIVED

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

AUG 4 1976

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 22 July 1976  
SUBJECT: JOML Complex Remodeling - Engineering Meeting  
NOTES BY: Cliff Olson  
PRESENT: Paul Maupin, Paul Kopietz, Tom Kyle, Eugene Kogl, Richard Campbell, Pete Merz, Duane Blanchard, Jerry Olson and Cliff Olson.

A. Review of Previous Meeting Notes

1. Meeting notes were reviewed with no corrections or additional comments.

B. Millard Hall Supply Air Unit

1. The supply air unit located on the Third Floor was replaced under the Unit A construction. The unit handles 18,000 cfm of 100% fresh air. The air is supplied to the following: 8,200 cfm to 1st, 2nd and 3rd Floor corridors, 6,500 cfm to Basement and 4th Floor corridors, 3,300 cfm to 3rd Floor classroom and labs. When the SE tower equipment is installed, the 1st, 2nd and 3rd Floor corridors will be supplied from this equipment, reducing the load on the existing unit. This 8,200 cfm would be available to 3rd or 4th Floor NE quadrant rooms. The unit has space for a cooling coil. A suggestion was made to provide an add Alternate to the Base Bid to cover the installation of a cooling coil, controls and chilled water piping from the SE tower. Mr. Merz didn't feel we should be discharging cooled air into some of the corridors just for make-up air when most of the corridor will be receiving unconditioned outside air. This unit's future application will be studied further.

C. Anatomy/Mortuary Science Cooler Replacement

1. It was estimated that to remodel the space and provide a new cooler would cost \$70 to \$80,000.00. We were advised to review with the Users the need and space requirements and include same in Contract 'B' Documents.

D. Design Development Drawing Review

1. The mechanical drawings and outline spec. of the Design Development Phase were presented and briefly reviewed. Mr. Merz will meet next week with the writer to review the drawings.

E. Energy Code Compliance

1. Mr. Kogl questioned what was being done to bring this building complex into compliance with the new Energy Code. All existing windows are single glazed and of large area. Mr. Maupin said that a request to the Legislature for funds is being prepared to change all the windows in this complex to double glazing at an expected cost of one million dollars. The present contract remodeled area comprises less than 25% of the total building area, so total changes are not mandatory. We will study further the changes necessary for the building complex to be in full Energy Code compliance.

F. Coordination of Construction with B/C

1. Duane Blanchard presented a Site Storage plan and discussed possible problem areas that could develop depending on work schedule proposed by Sheehy Construction Co. for B/C building construction. Also discussed was use of Delaware Street when half of road over Mayo Garage is under repair (60 day period). It is expected that Tower construction will start November 1, 1976 and completed by May 1, 1977. Plans and specifications for Tower Construction have been sent to Sheehy Construction for their comments on multiple use of area, access to area, storage areas, delivery of materials and other co-ordinating items. Comments from Sheehy Construction have been requested by August 1, so that any changes could be incorporated in the next Addenda. Bids for the Tower Construction Contract 'A' are expected on August 18, 1976.

cc: Those Present  
Gus Scheffler  
Dave Kerkow  
John Scott

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

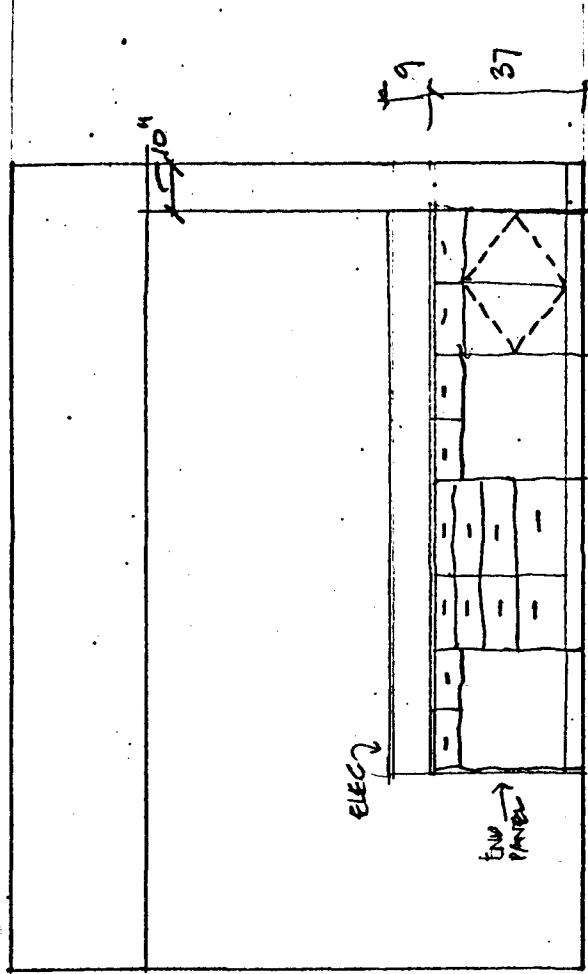
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 26 July 1976

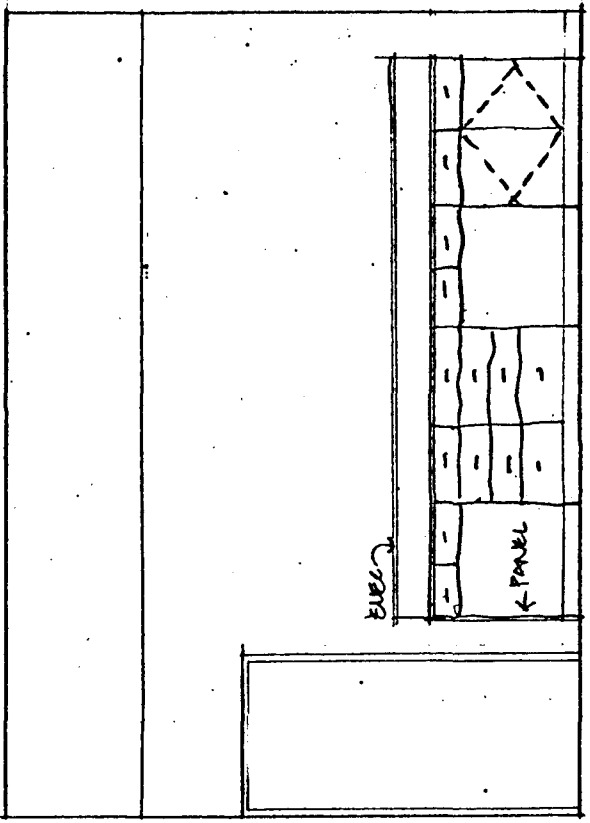
NOTES BY: Bruce Johnson

PRESENT: Dr. Sparber, Karen Burkland, Pharmacology Dept.; Tom Kyle, HSP0;  
Bruce Johnson, HSAE

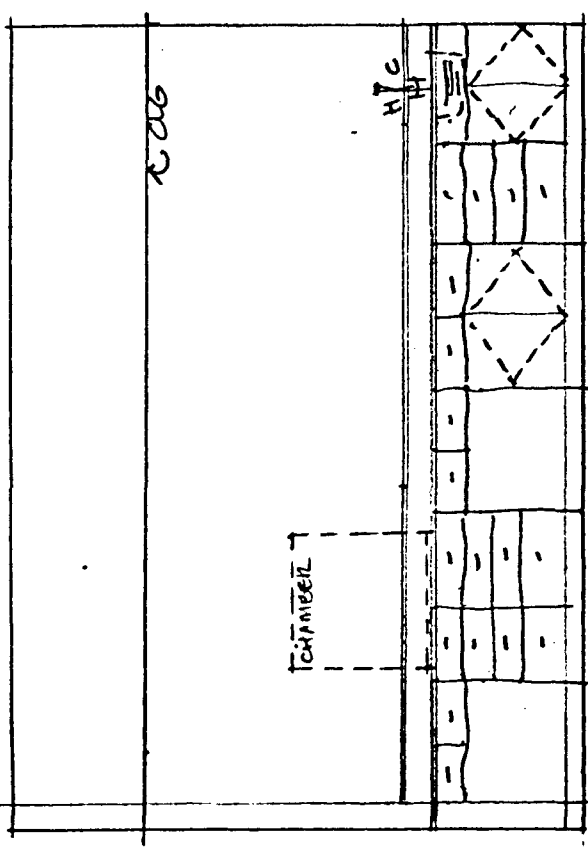
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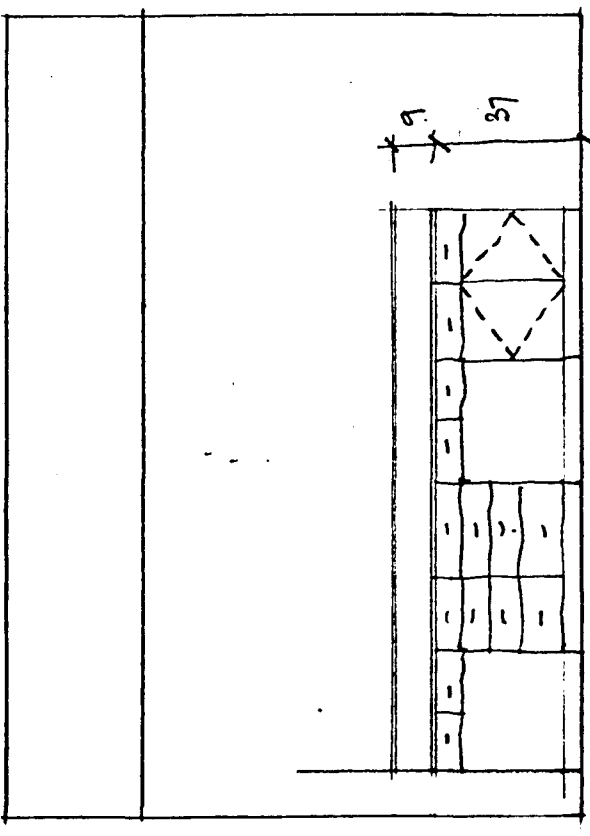
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8.4

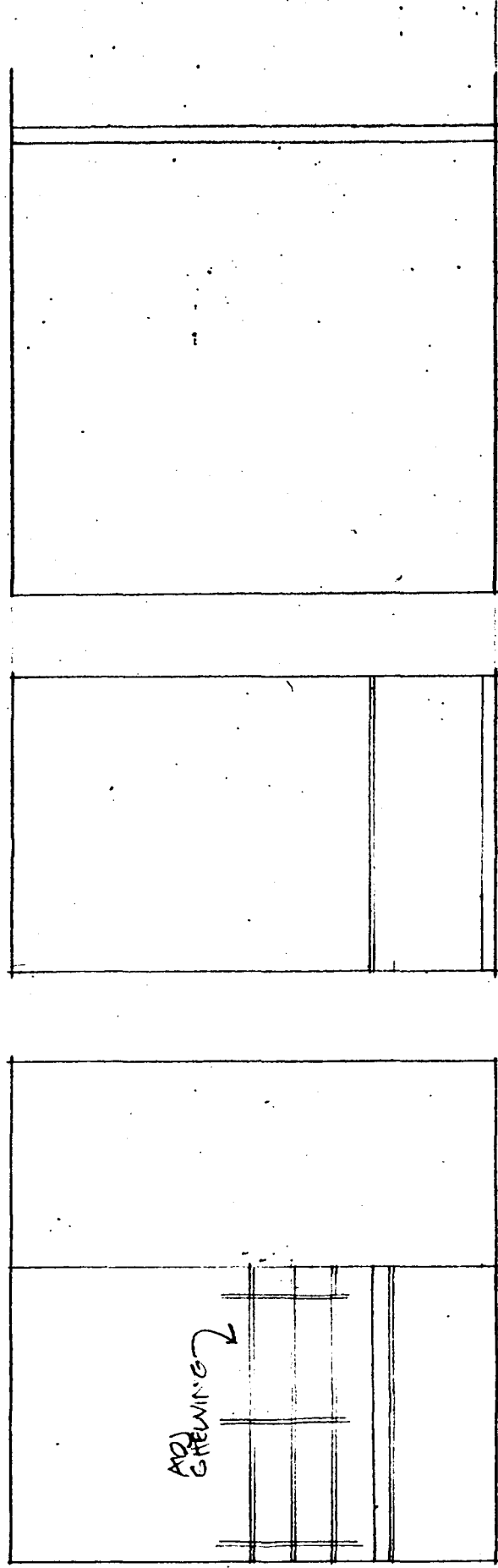
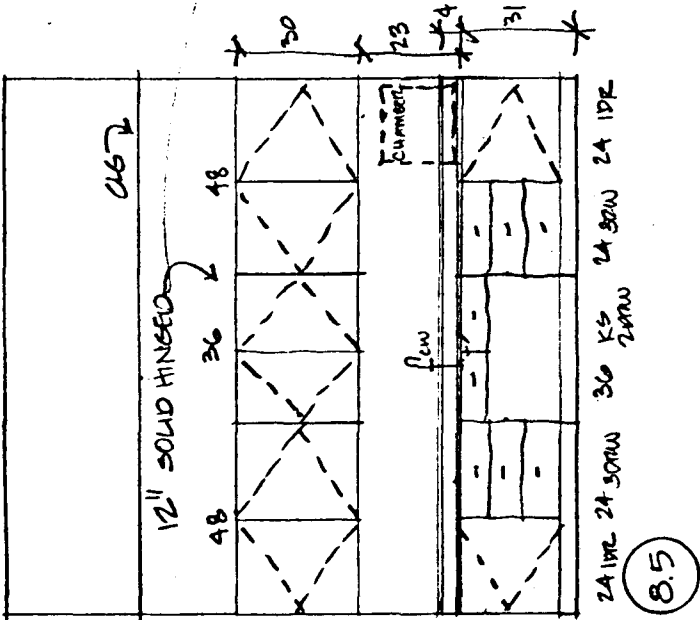
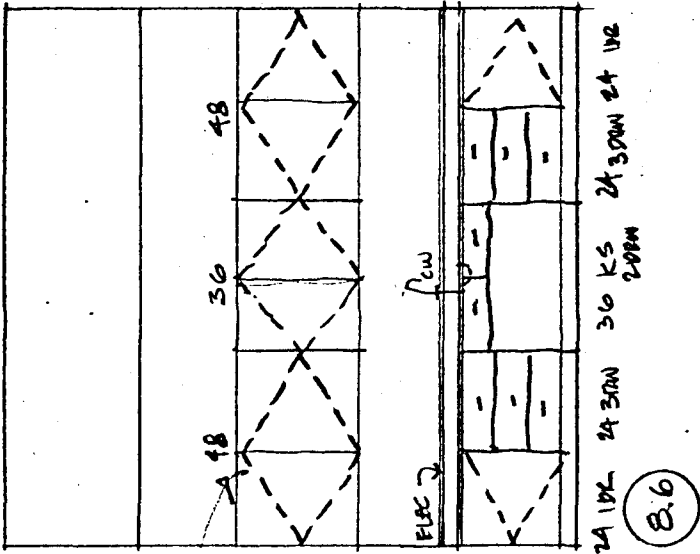
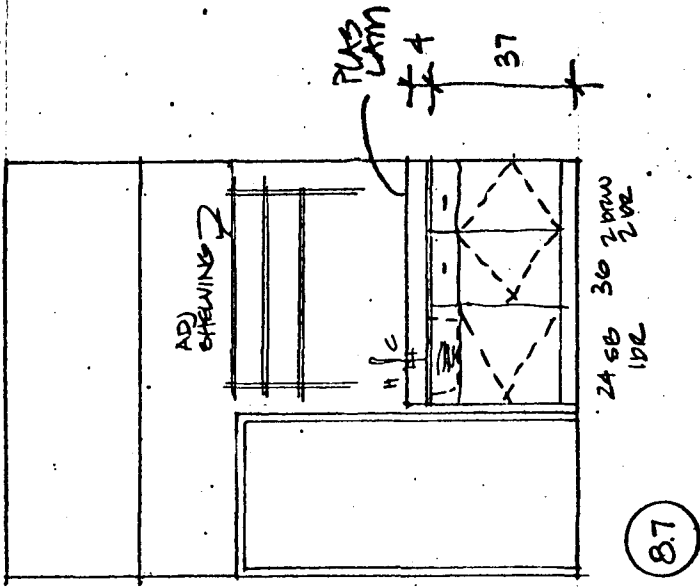


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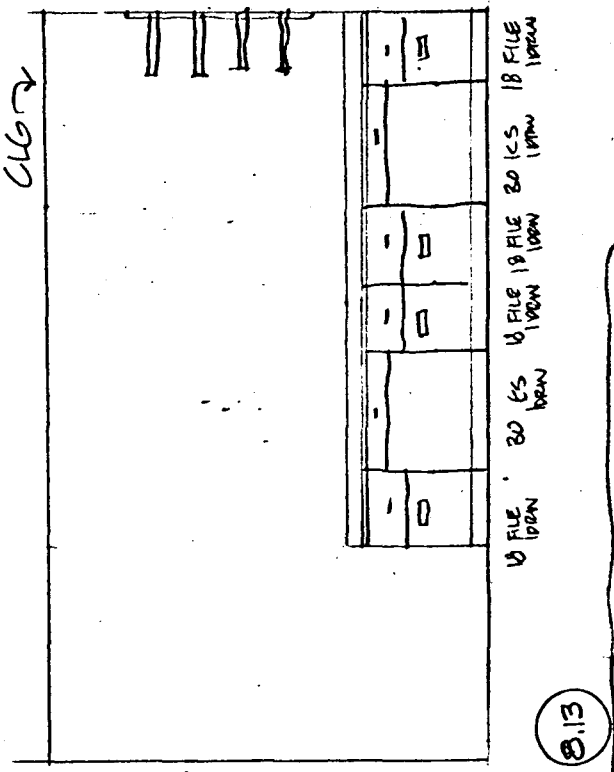
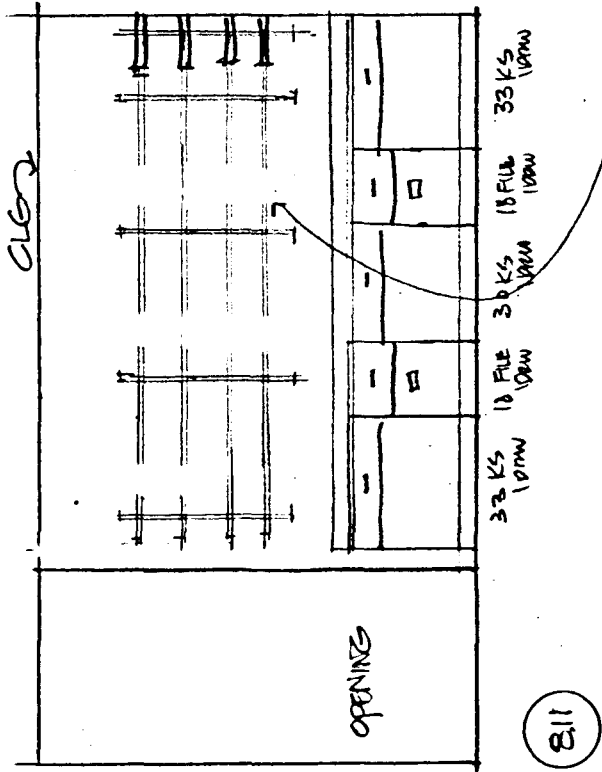
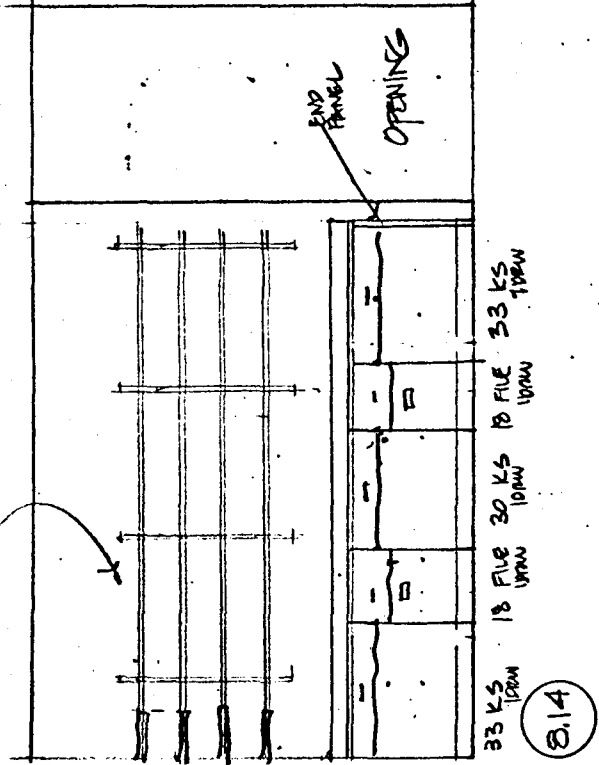
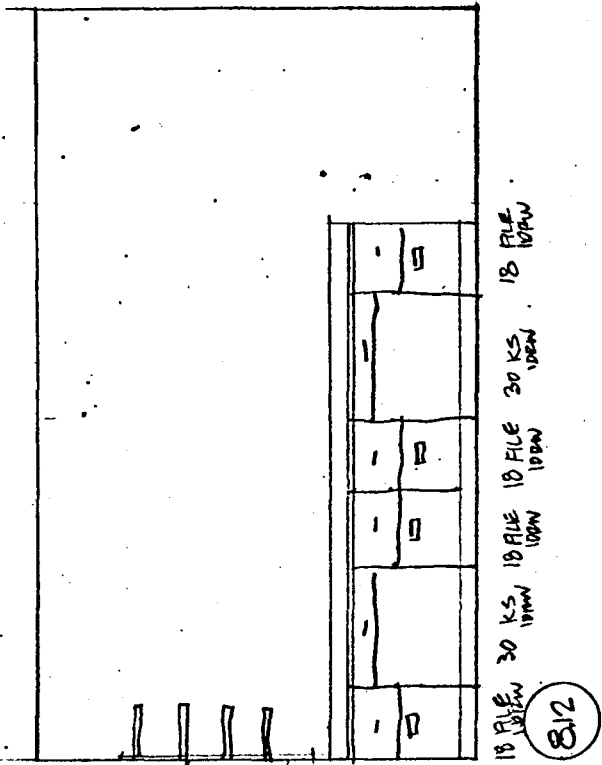
8.3

PHARMACOLOGY



- 8.5 DR. SPARBER
- 8.6 COMPUTER
- 8.7 STORAGE

PHARMACOLOGY  
 DR. SPARBER, JULY 26



ADD SHELVING

PHARMACOLOGY  
DR. SPARKER JULY 26









THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

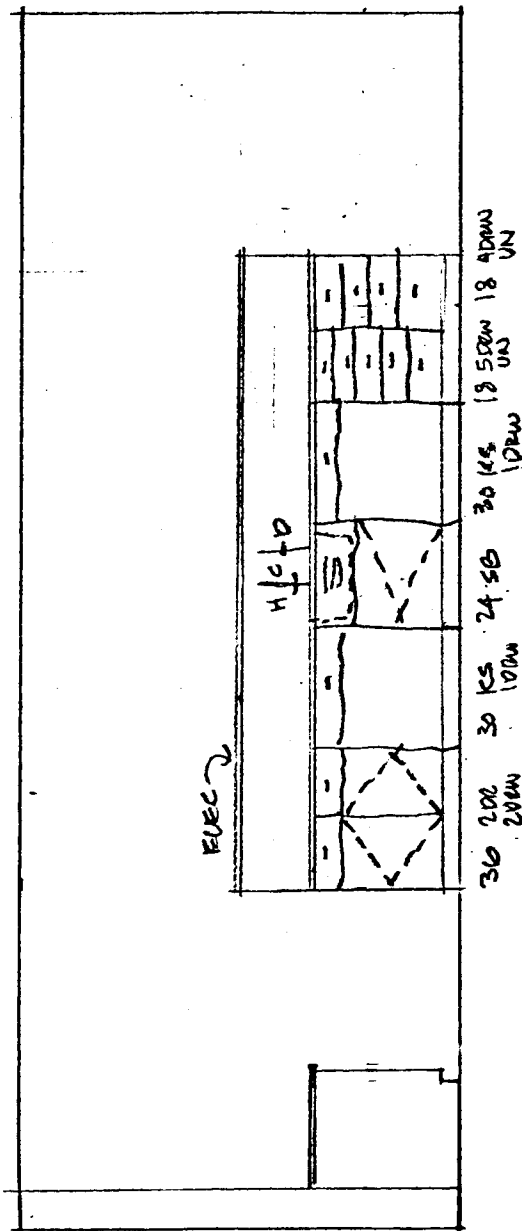
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NOTES BY: Bruce Johnson

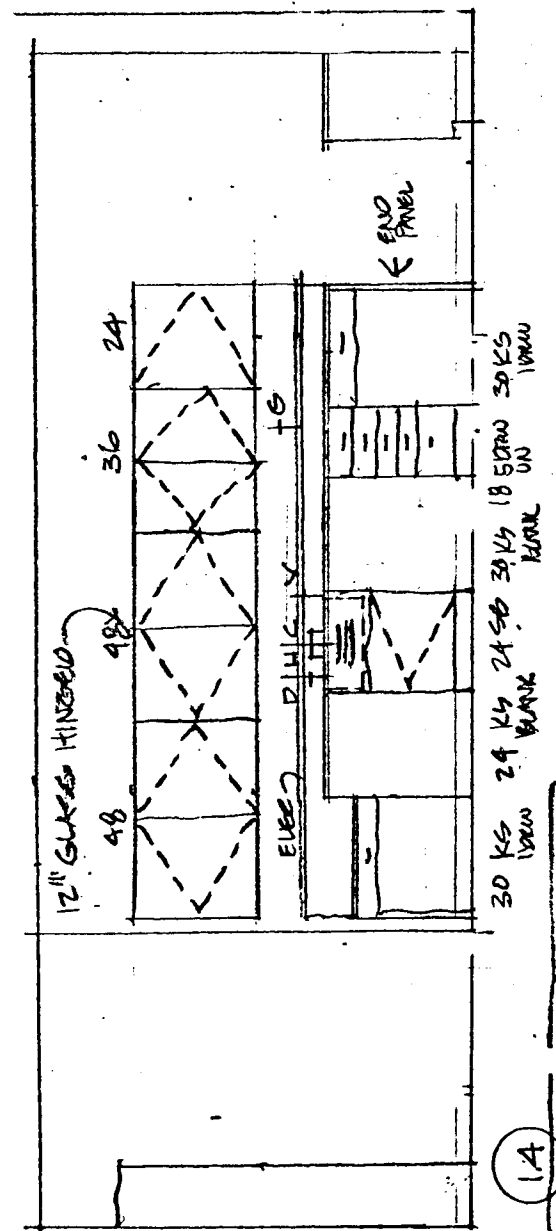
PRESENT: Dr. Takimori, Pharmacology Department; Tom Kyle and Bruce Johnson

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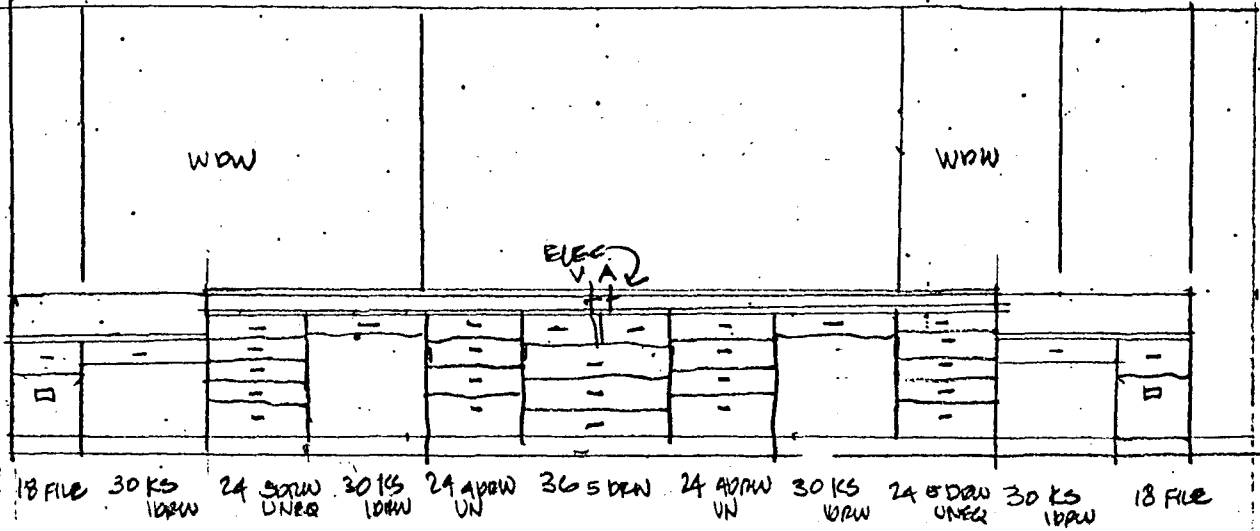


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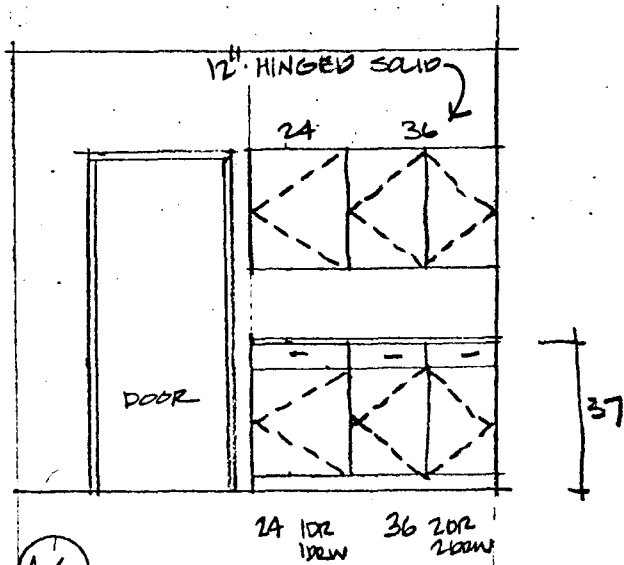


1.4

DR. TAKIMORI 4 AUG  
PHARMACOLOGY

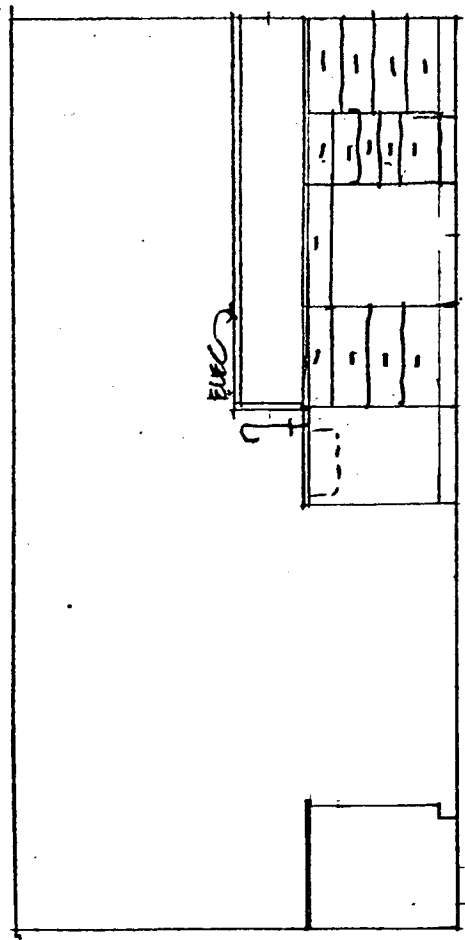


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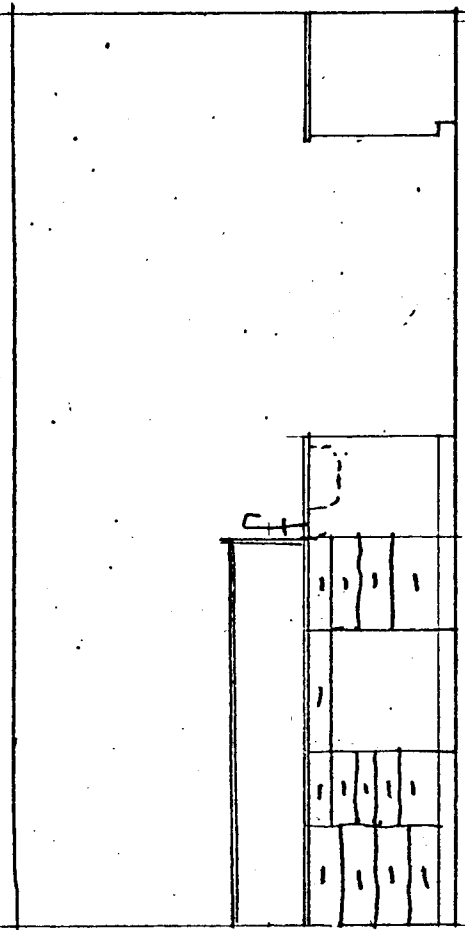
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DR. TAKIMORI 4 AUG  
 PHARMACOLOGIST



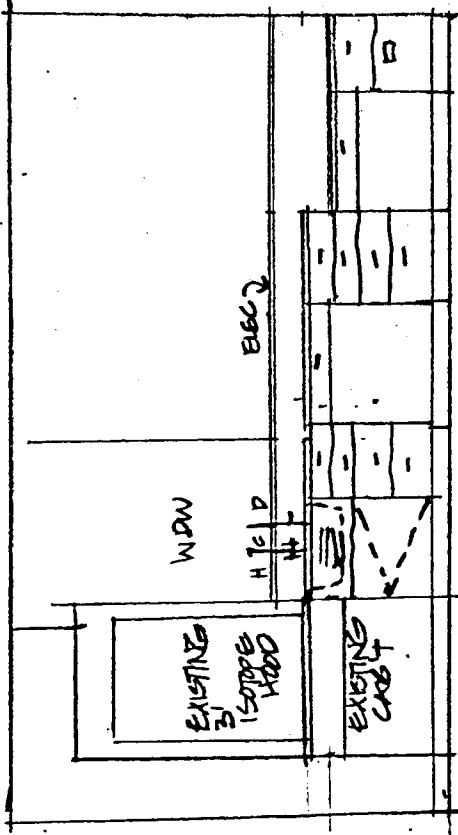
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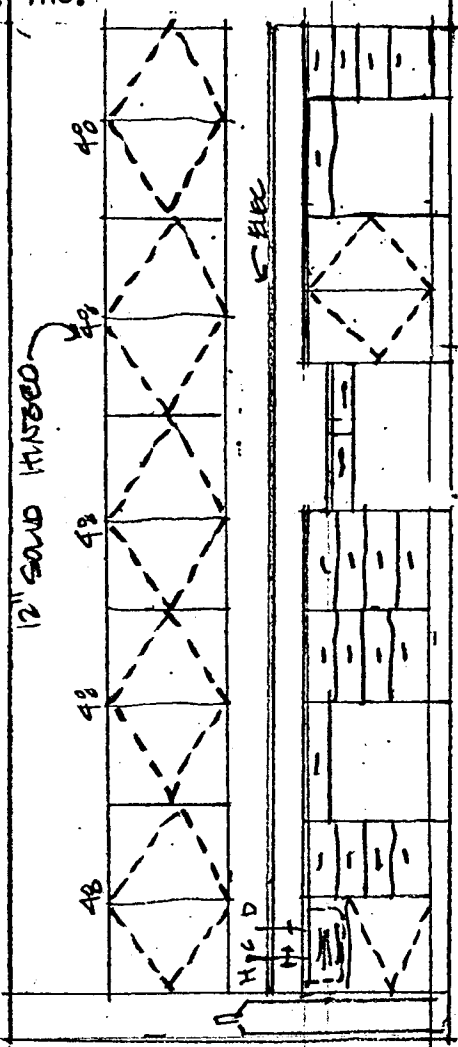
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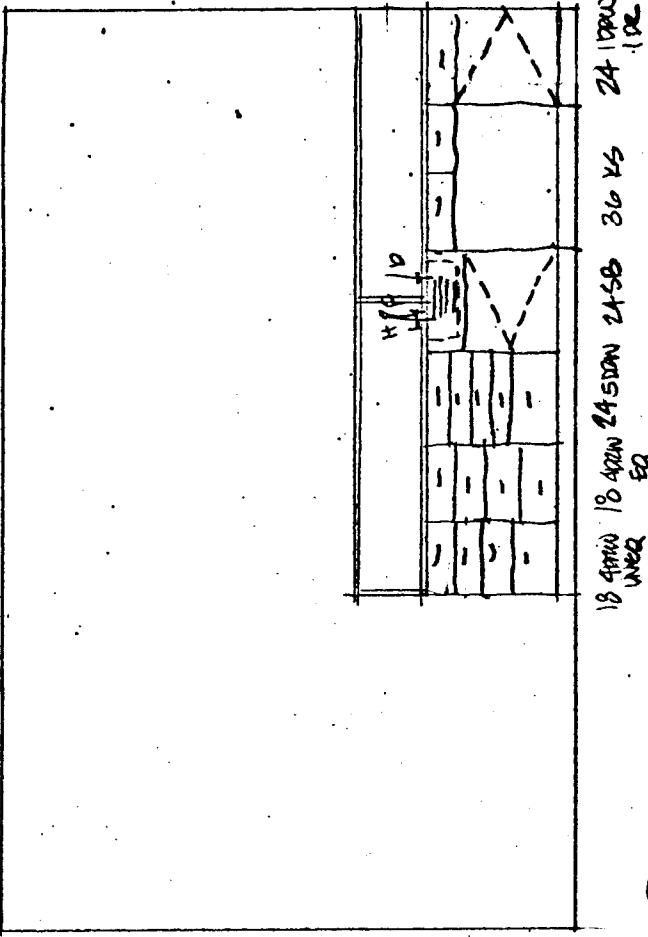


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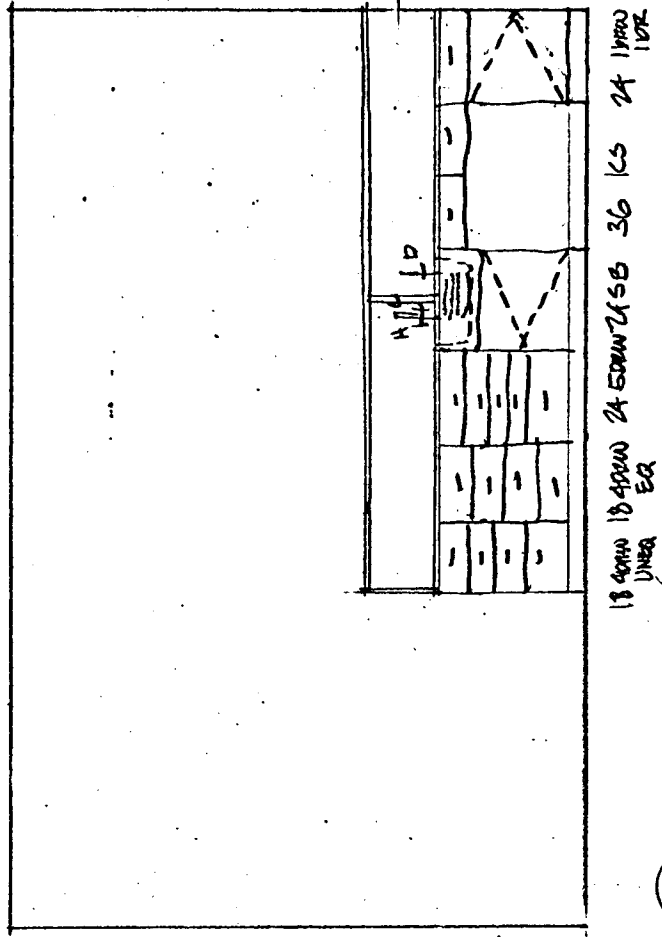
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DR. TAKIMORI 4 AUG  
 PHARMACOLOGY

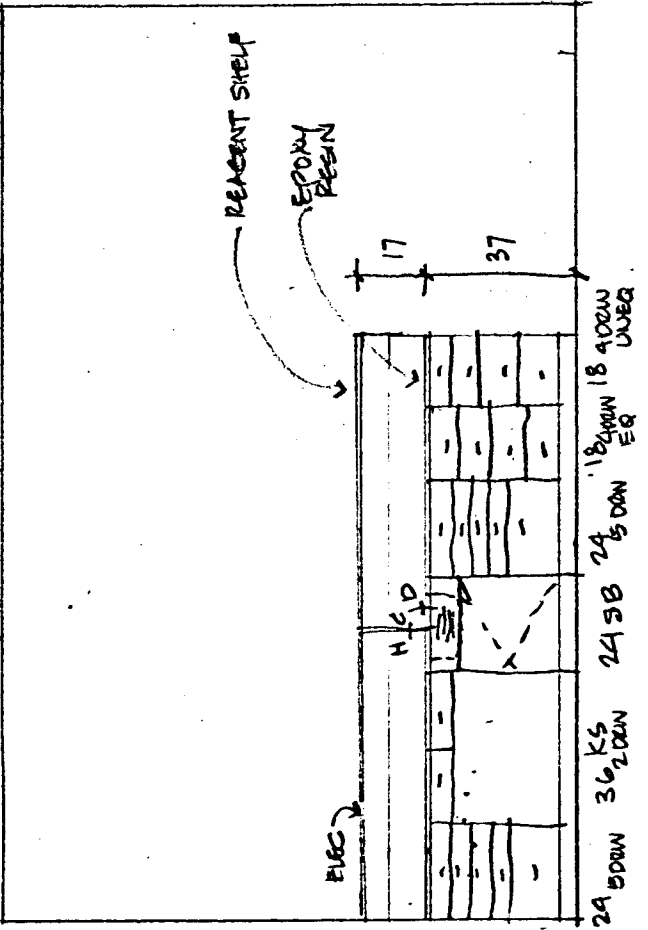




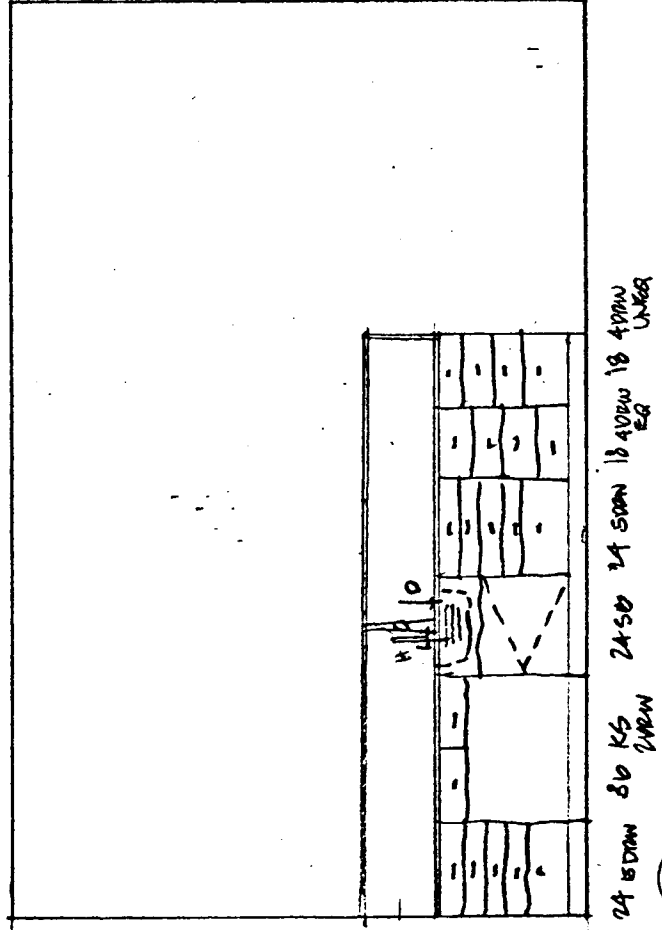
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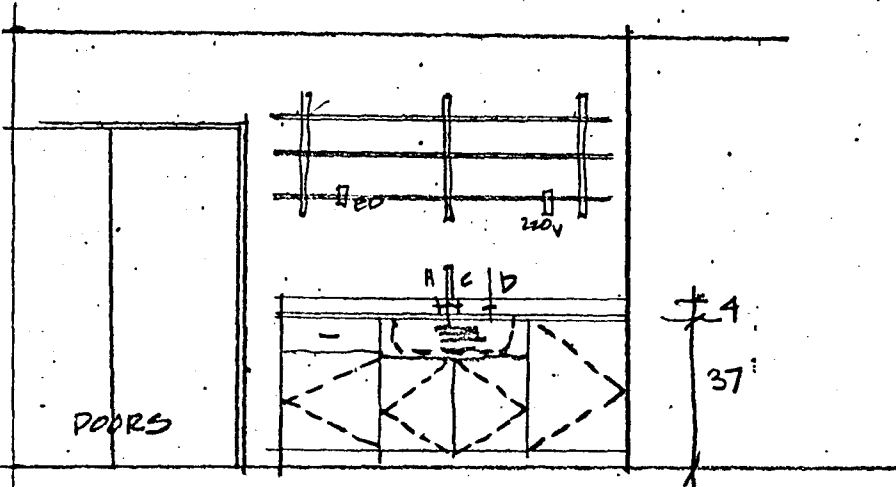
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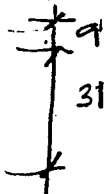
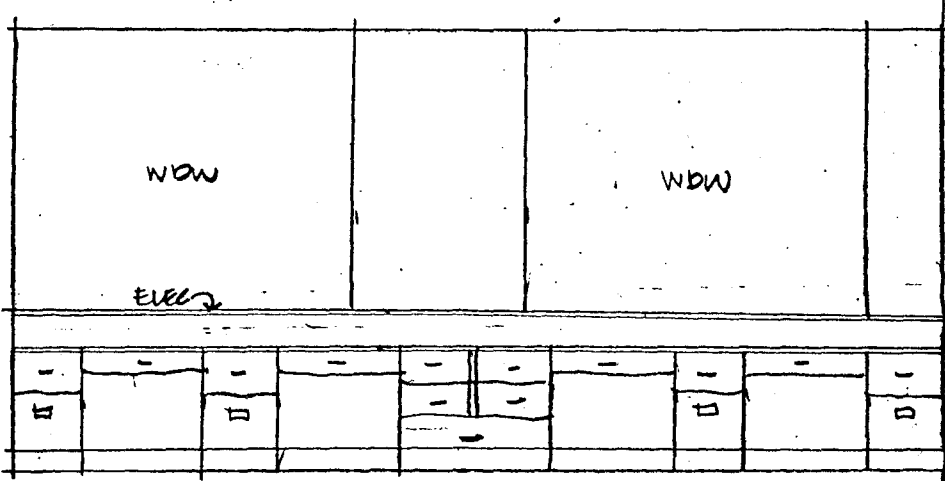
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2.5 DR. TAKIMORI 416  
PHARMACOLOGY



2.7



18 FILE 30 KS 100W 18 FILE 30 KS 100W 30 KS 100W 18 FILE 30 KS 100W 18 FILE

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DR. TAKIMORI 4 AUG  
PHARMACOLOGY

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

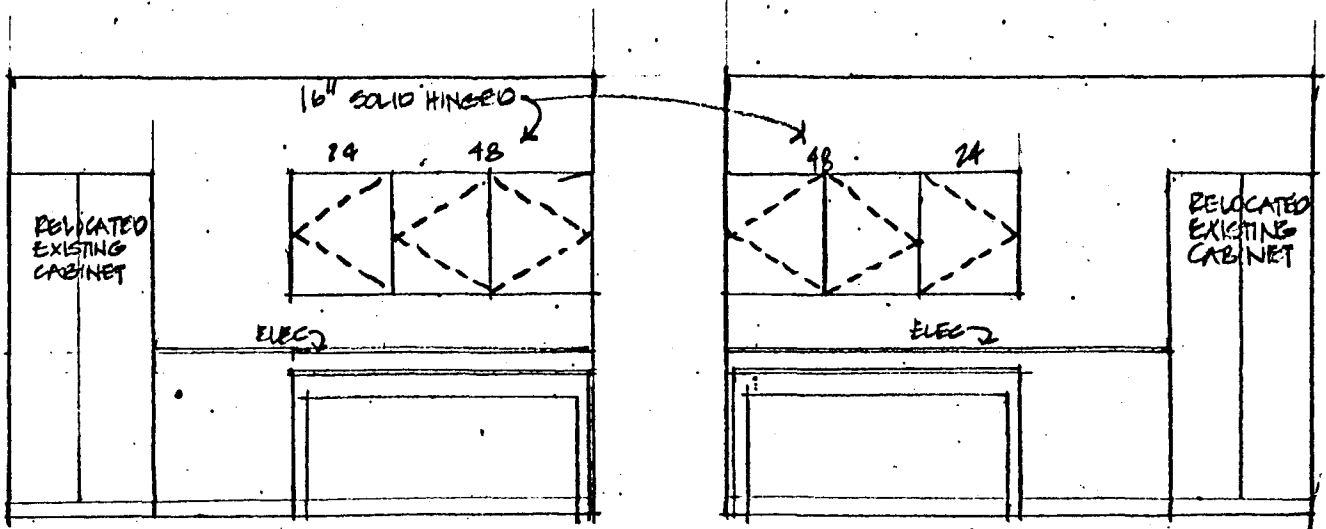
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 5 August 1976

NOTES BY: Bruce Johnson

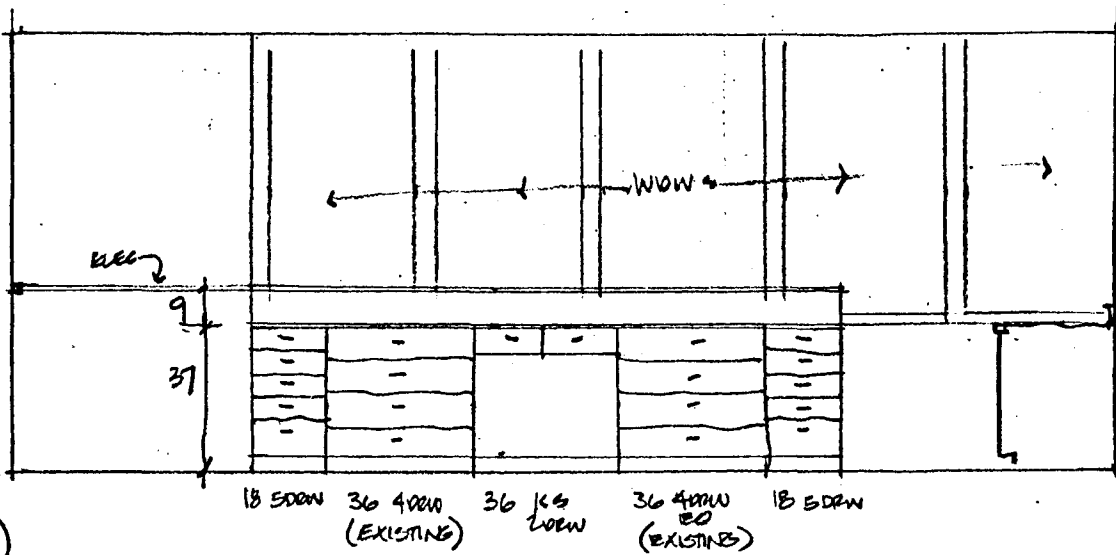
PRESENT: Richard Stish, Physiology Dept.; Tom Kyle, HSP0; Bruce Johnson, HSAE.

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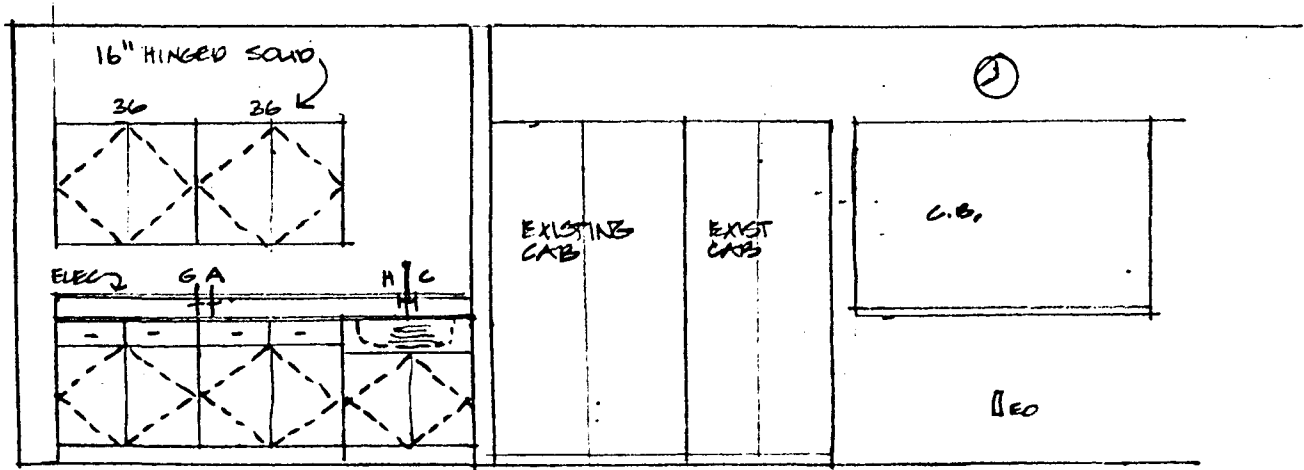


1

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RICHARD STISH - 5 AUG  
 PHYSIOLOGY 4TH FLR

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

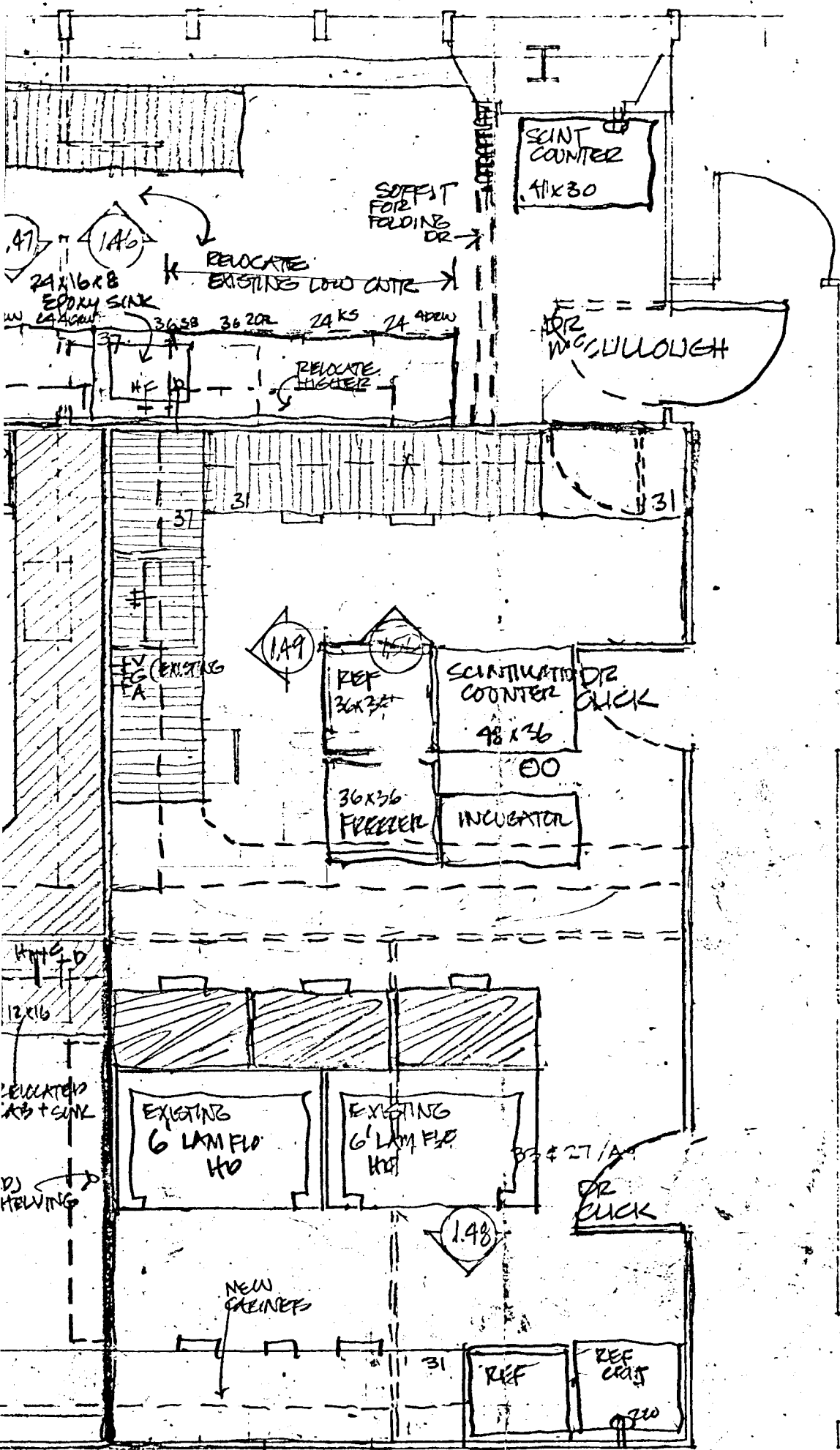
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

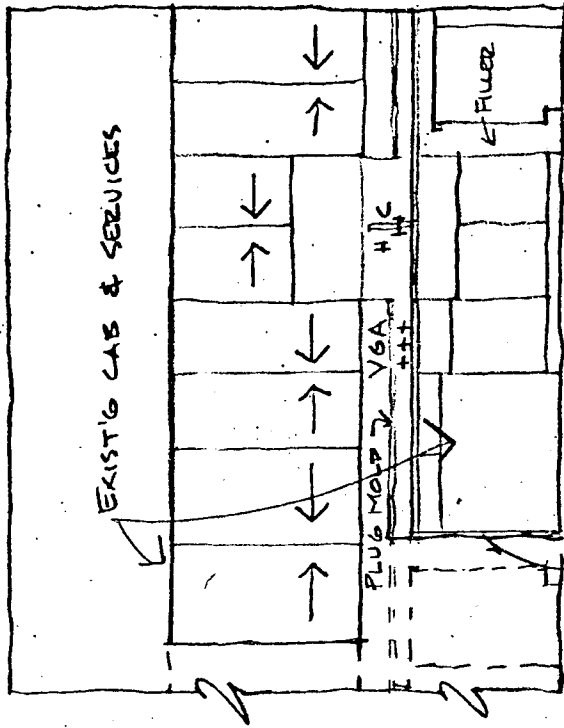
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NOTES BY: Bruce Johnson

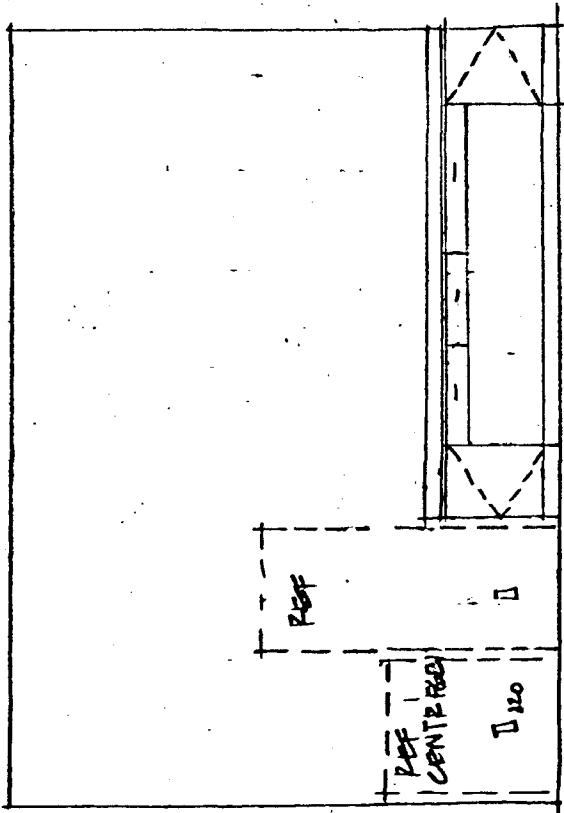
PRESENT: Dr. Barksdale, Dr. Click, Pathology Dept.; Tom Kyle, HSPO;  
Bruce Johnson, HSAE.

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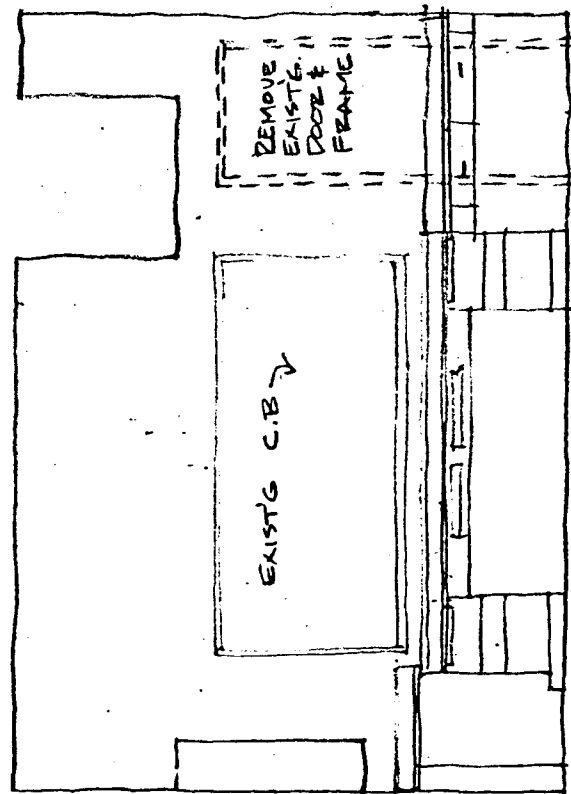




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END PANEL  
 REMOVE EXISTING CORNER CABINET



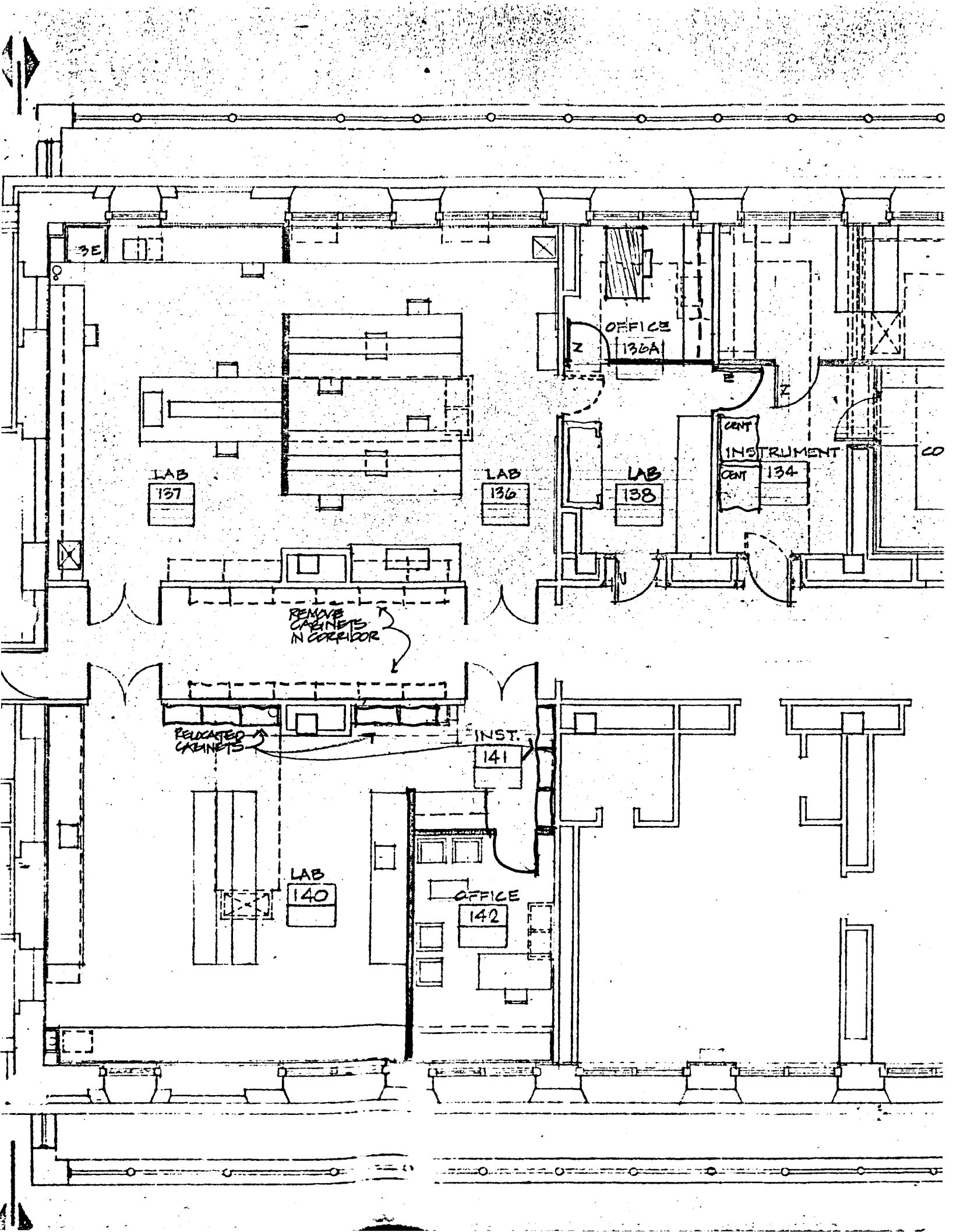
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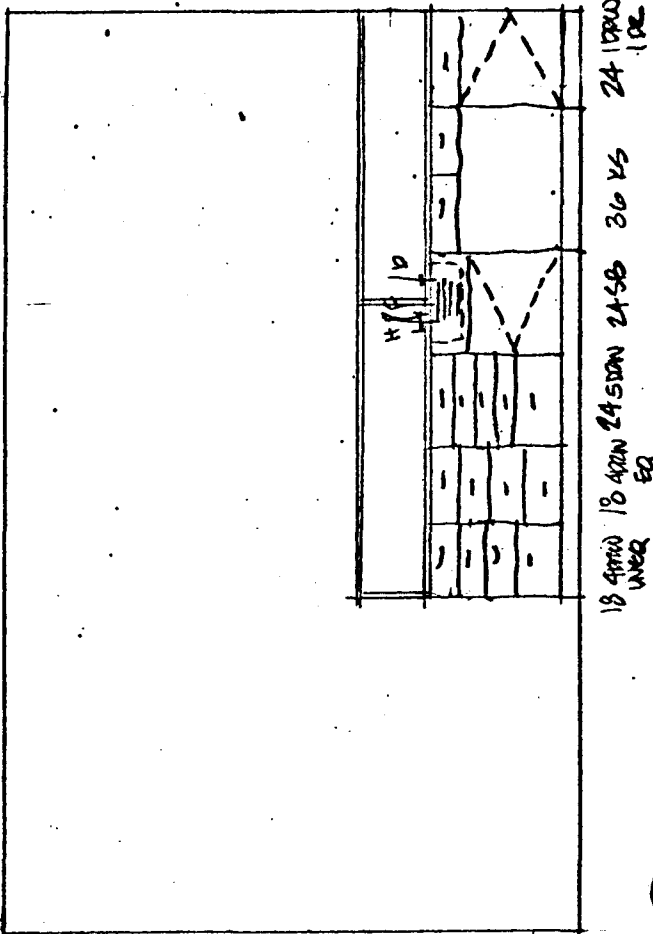
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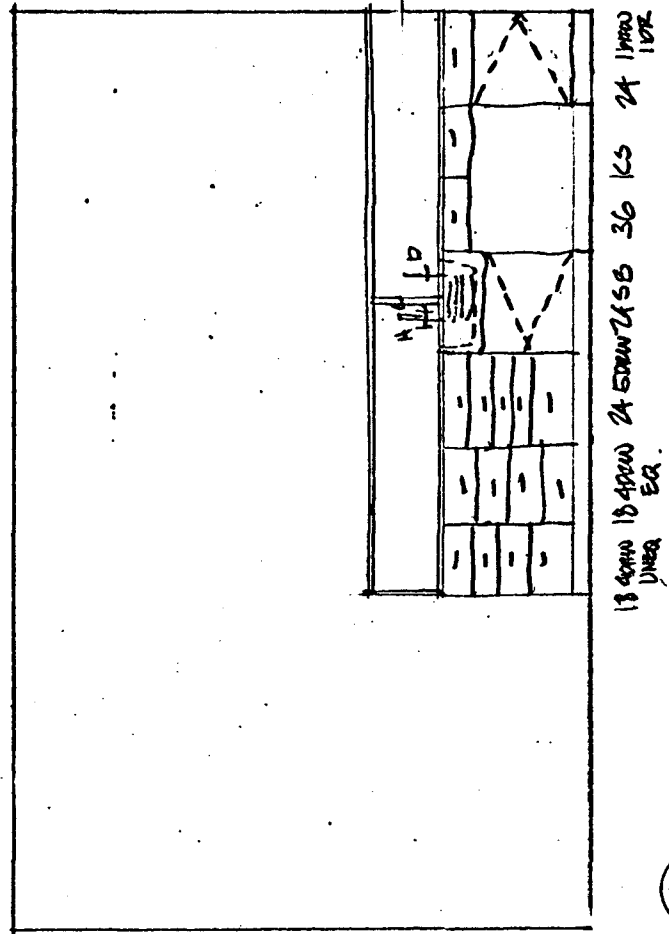
PATHOLOGY  
 DR. CUICK



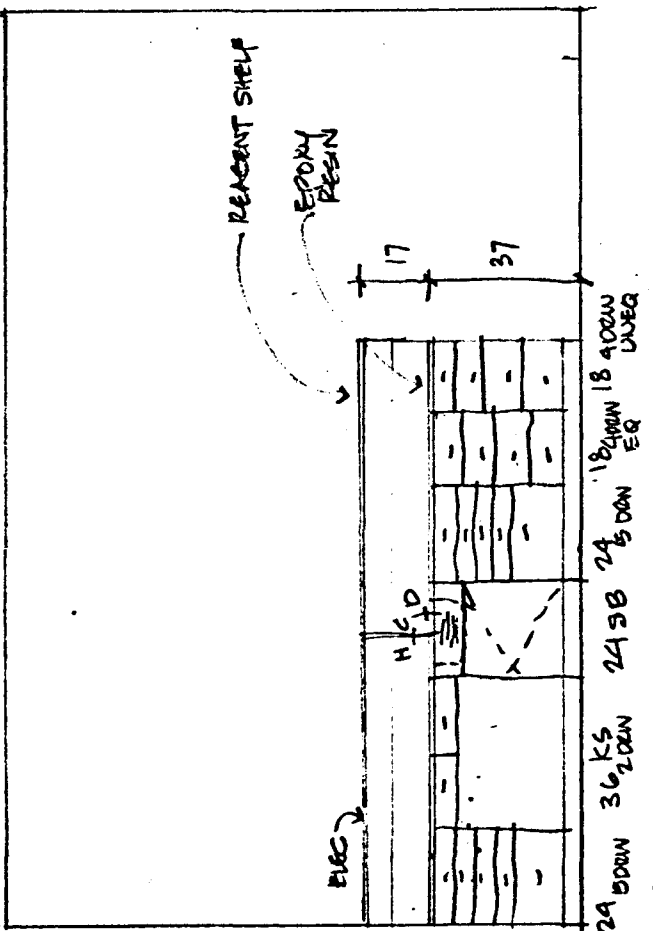




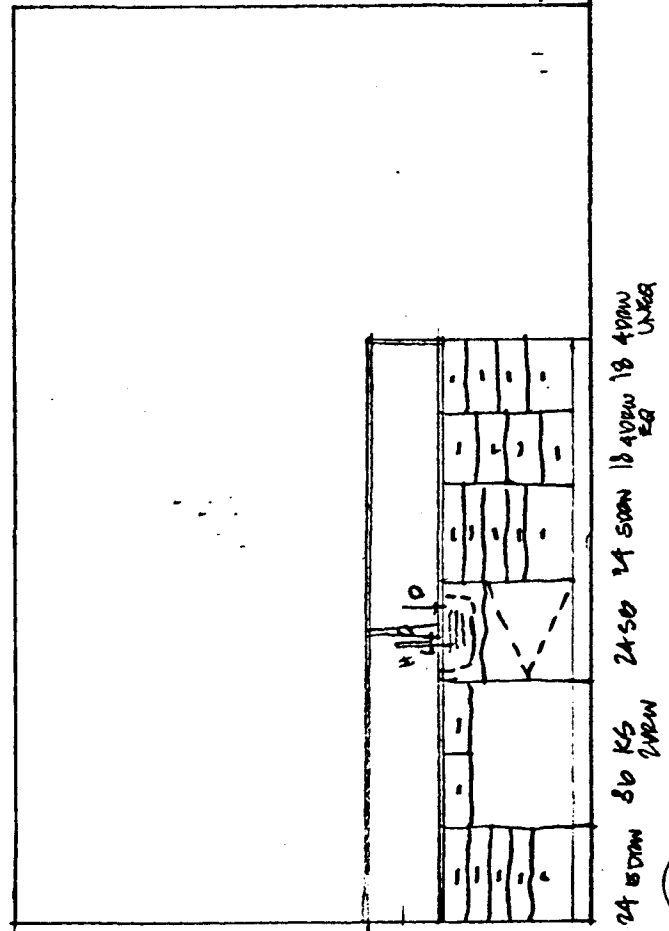
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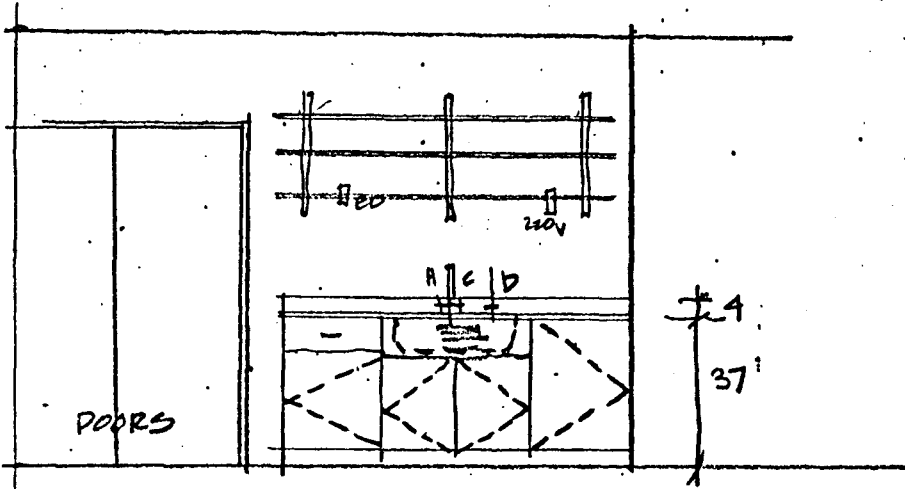


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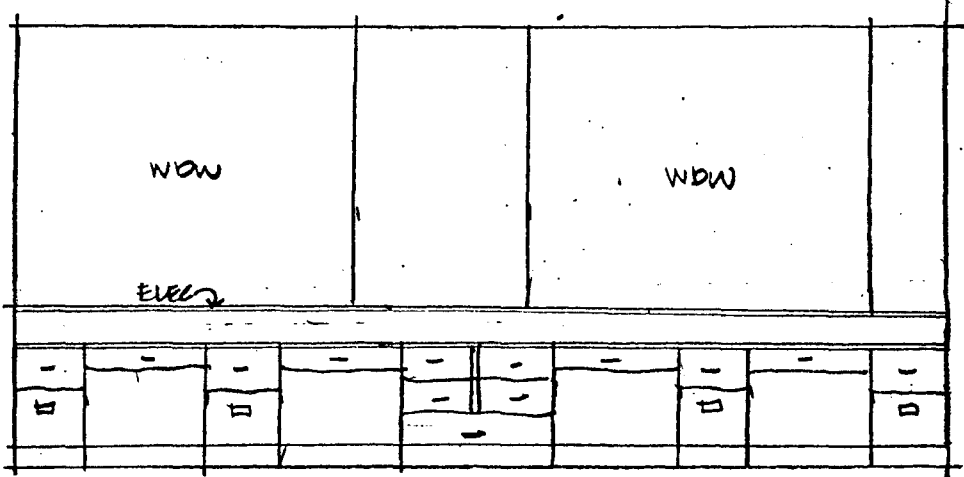


2.5 DR. TAKIMORI 411G  
 PHARMACOLOGY





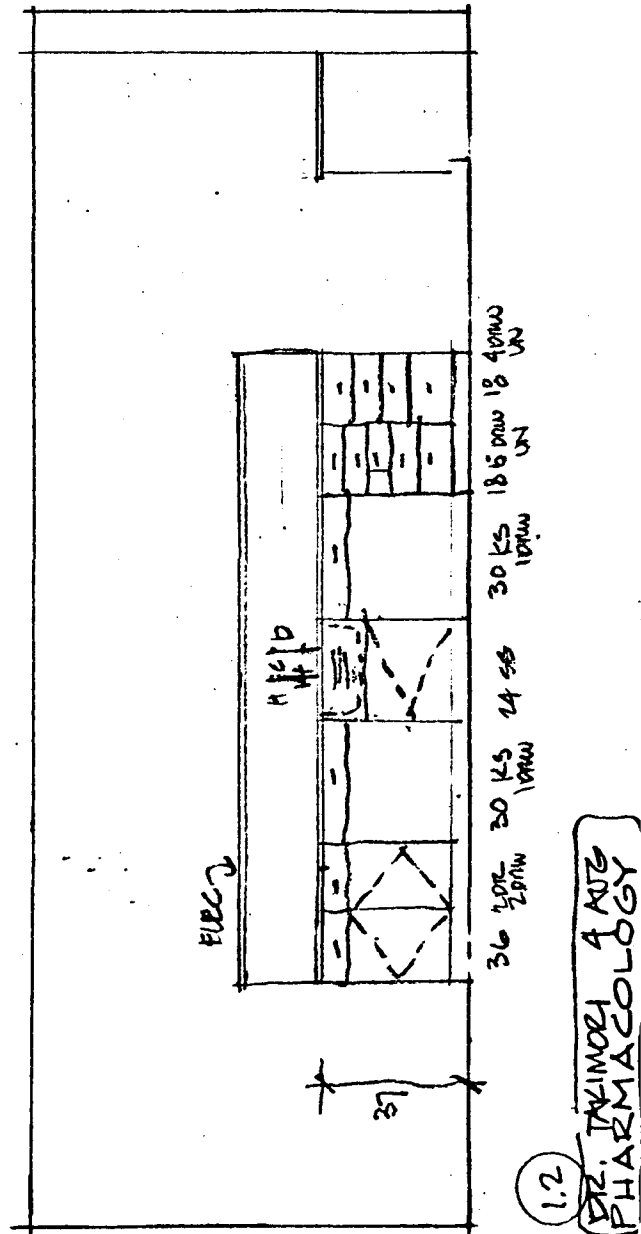
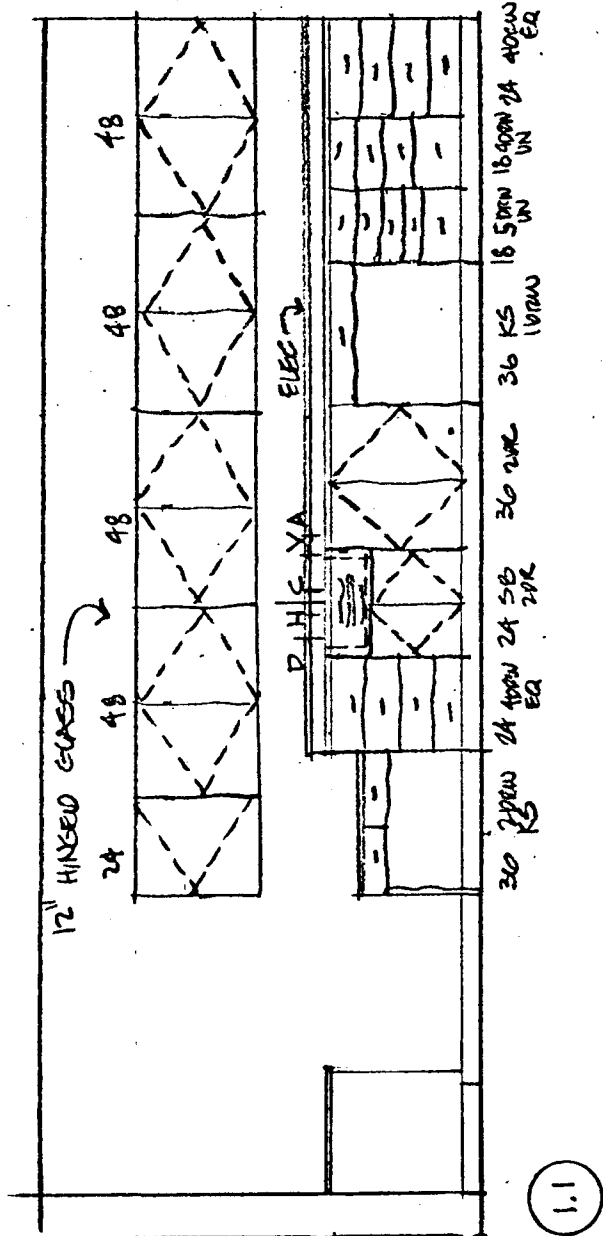
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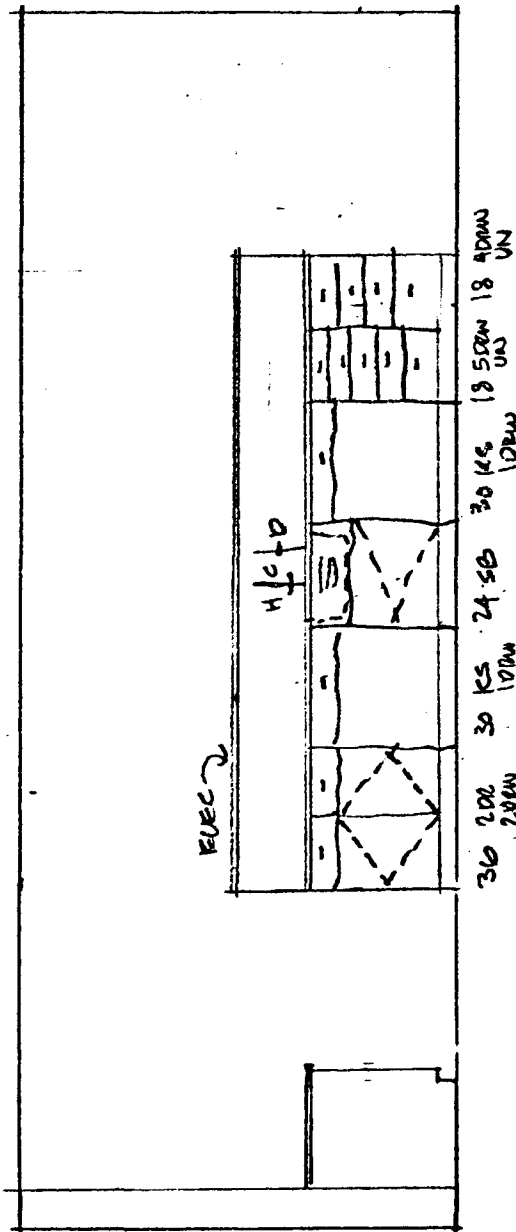
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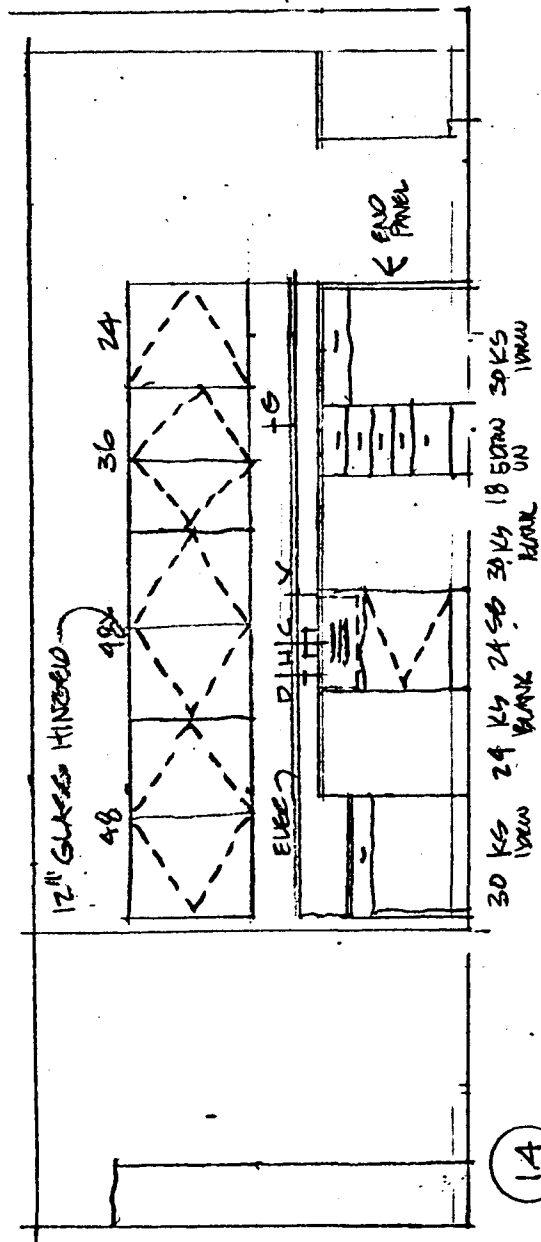
DR. TAKIMORI 4 A16  
PHARMACOLOGY



DR. TAMMORI 4 MIB  
 PHARMACOLOGY

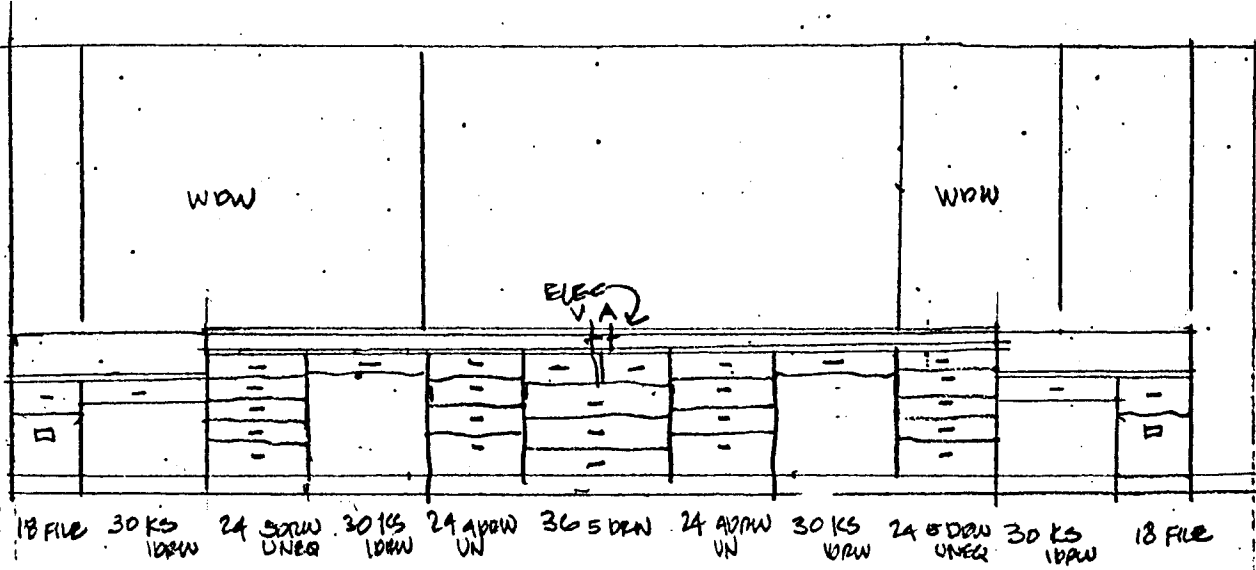


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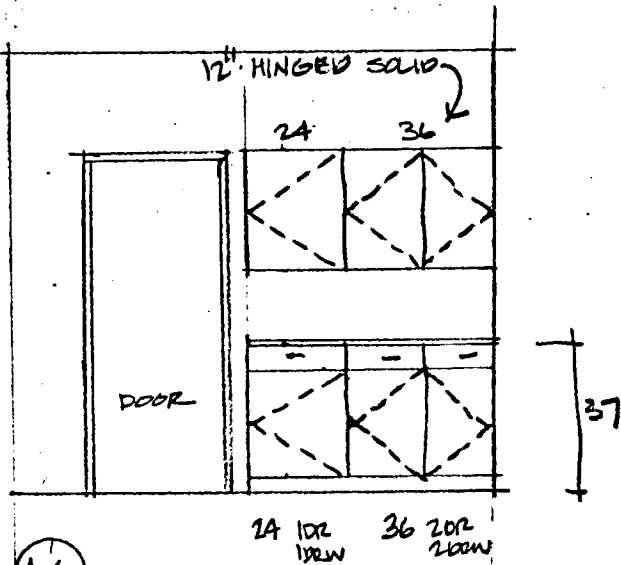


14

DR. TAKIMORI 4 AUG  
 PHARMACOLOGY



1.5



1.6

DR. TAKIMORI 4 AUG  
 PHARMACOLOGIST

REMOVE  
EXISTING  
EXHAUST FAN

FLAM STRG  
CABINET

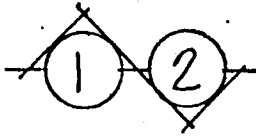
REMOVE EXISTING  
W/O CABINETS

REMOVE EXISTING  
FLR MTD FLUSH SINKS

5'-0"

5'-0"

3'-6"



REMOVE EXISTING  
SINK

FLAM  
STRG CAB

3'-5/2"  
FLIPPED  
LOW WALL

1

S. STEEL  
SCRUB SINK

EYE  
WASH

2

CADAVER PREP / SDR  
ANATOMY  
BASEMENT

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

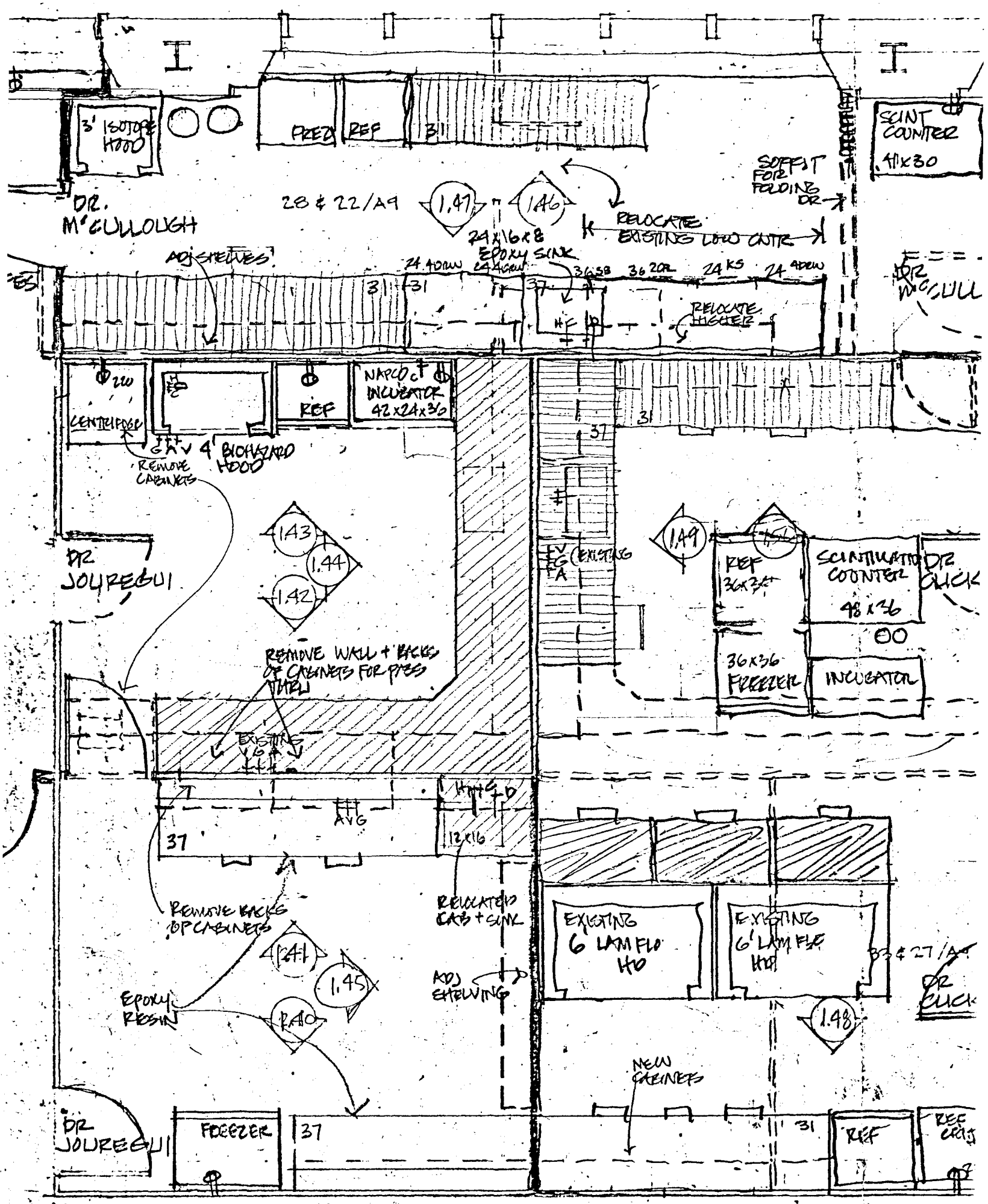
DATE: August 6, 1976

NOTES BY: Bruce Johnson

PRESENT: Dr. Jouregui, Pathology Department; Tom Kyle and Bruce Johnson

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3' BIOWARD HOOD

DR. M' CULLOUGH

28 & 22/A9

1.47

1.46

SCINT COUNTER  
41x30

SUPPORT FOR FOLDING DR

ADJ SHELVES

24x16x8 EPOXY SINK

RELOCATE EXISTING LAB COUNTER

DR WICKLI

CENTRAL HOOD

REF

NAPCO INCUBATOR  
42x24x36

REF

REMOVE CABINETS

DR SOUREGUI

1.43  
1.44  
1.42

REMOVE WALL + BACKS OF CABINETS FOR PRESS

EXISTING TA

1.49

REF  
36x36

SCINTILLATION COUNTER  
48x36

DR CLUCK

36x36 FREEZER

INCUBATOR

EXISTING VENT

AVG

RELOCATED CAB + SINK

REMOVE BACKS OF CABINETS

1.41

1.45

ADJ SHELVING

EPOXY RESIN

PAO

EXISTING G LAMP FLO HO

EXISTING G LAMP FLO HO

28 & 27/A9  
DR CLUCK

1.48

NEW CABINETS

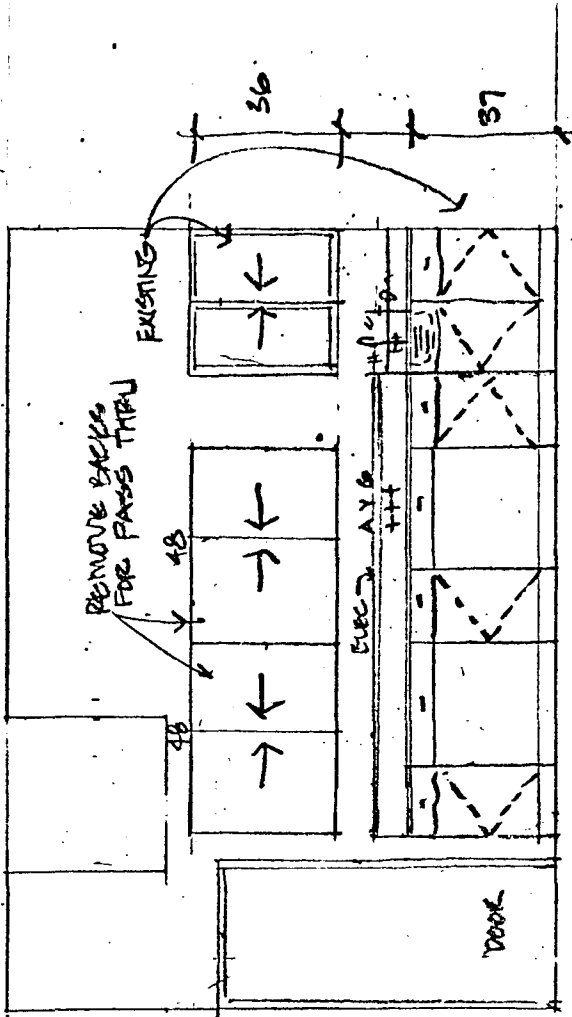
DR SOUREGUI

FREEZER

37

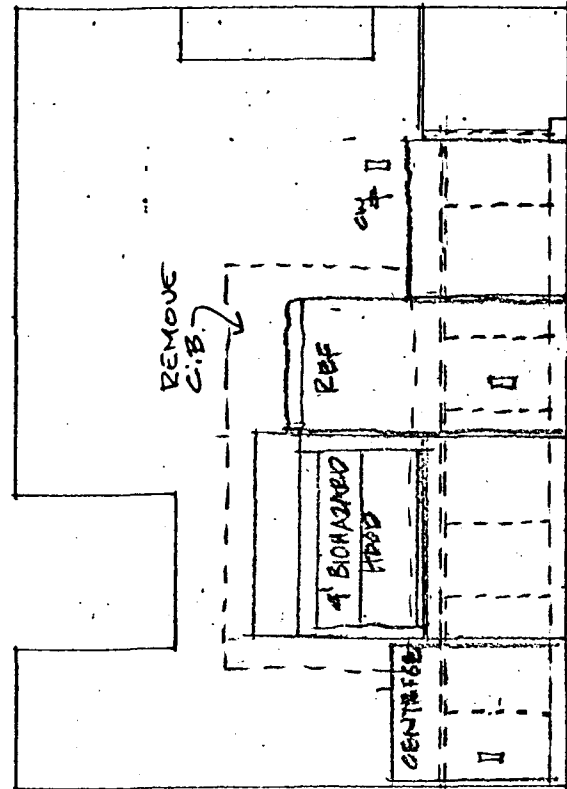
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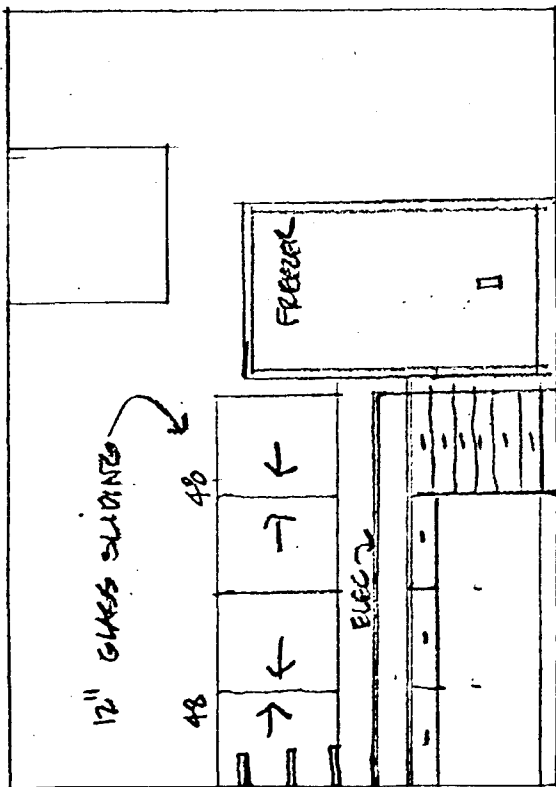


18 1/2 30 Ks 18 1/2 30 Ks 18 1/2

1.41

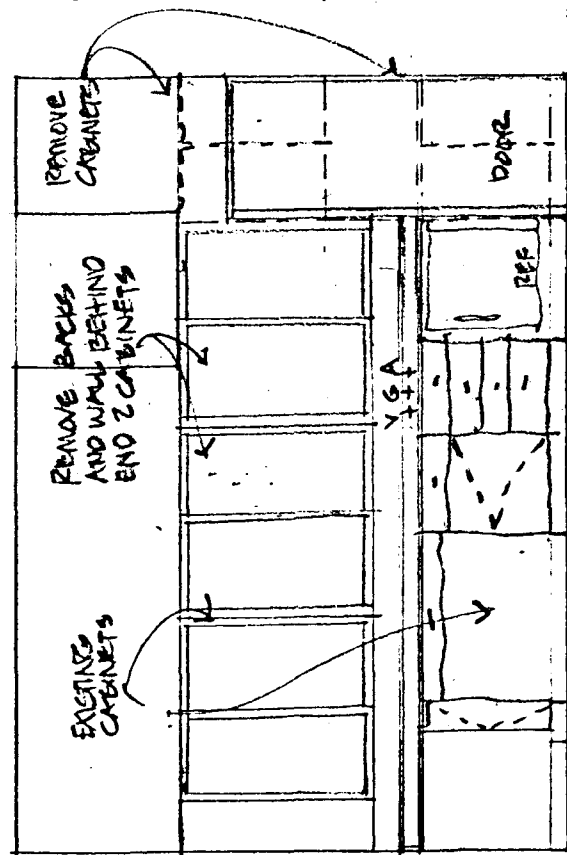


1.43



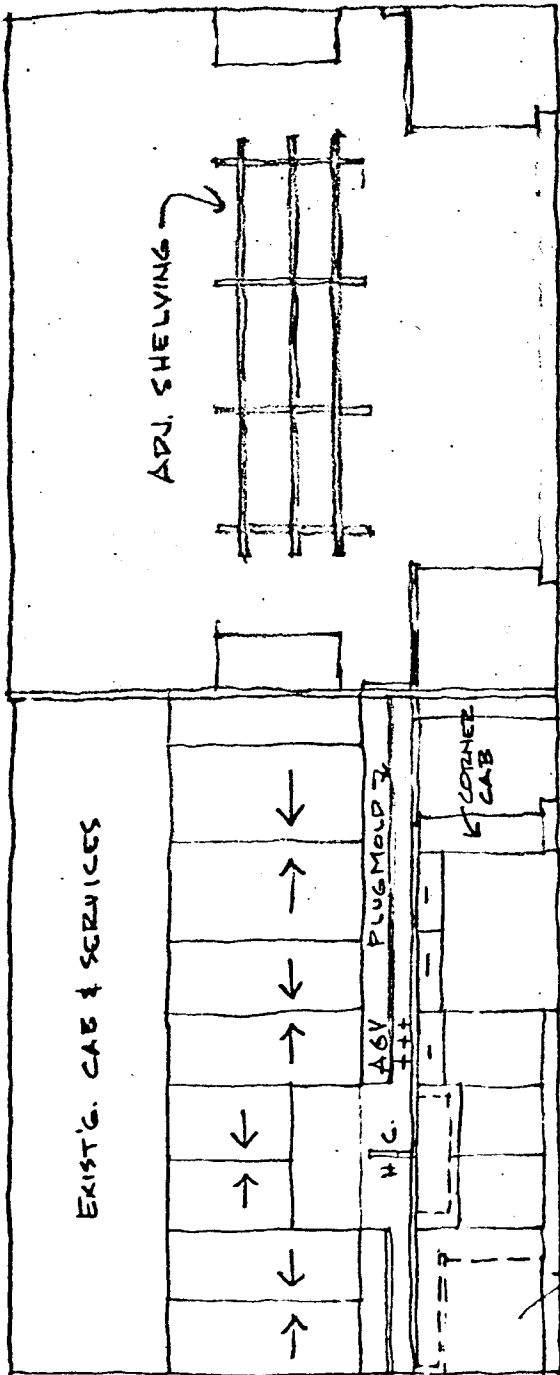
24 1/2 24 1/2 24 1/2 24 60W

1.40



1.42

PATHOLOGY  
DR. JOUREGUI

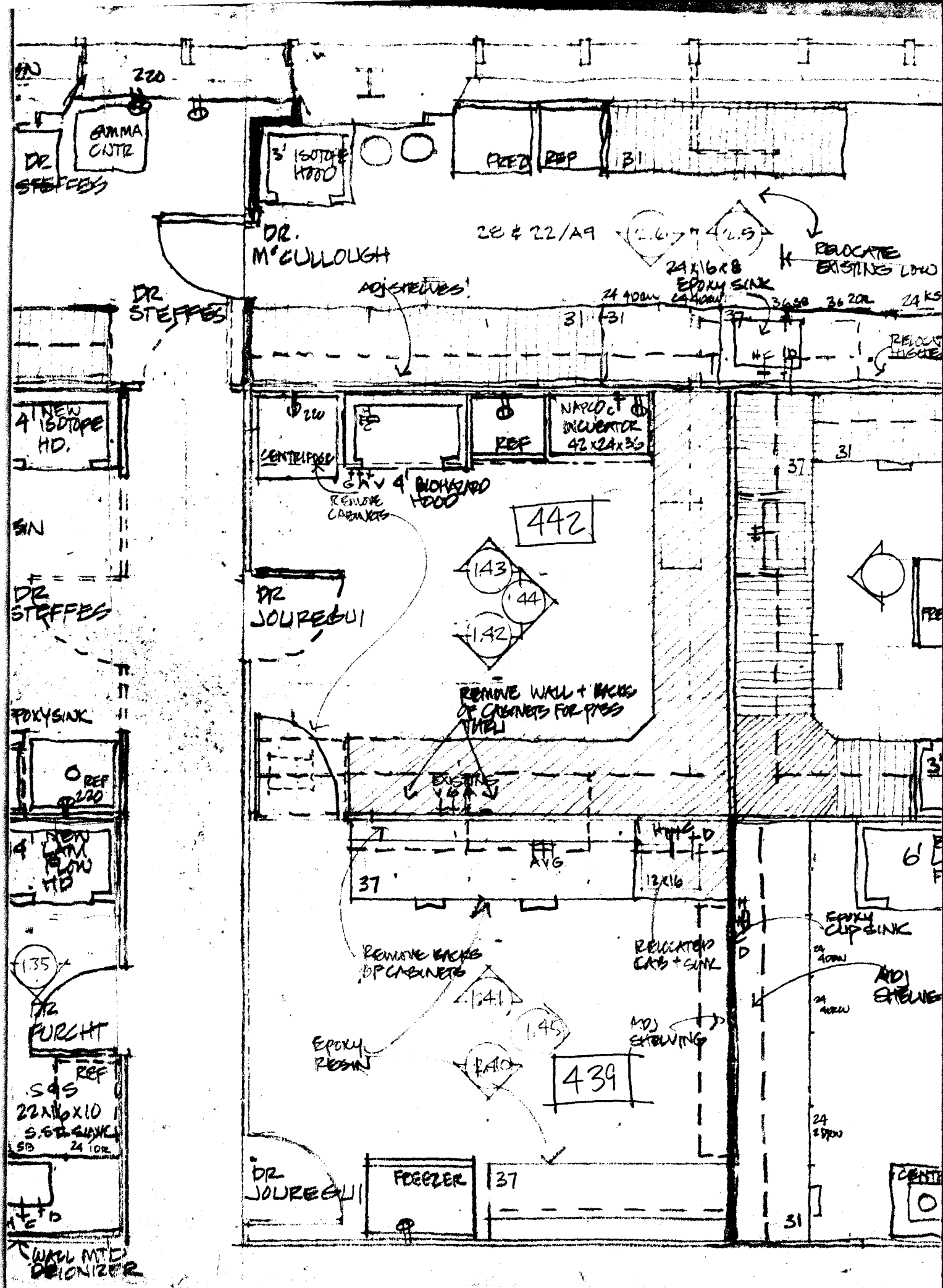


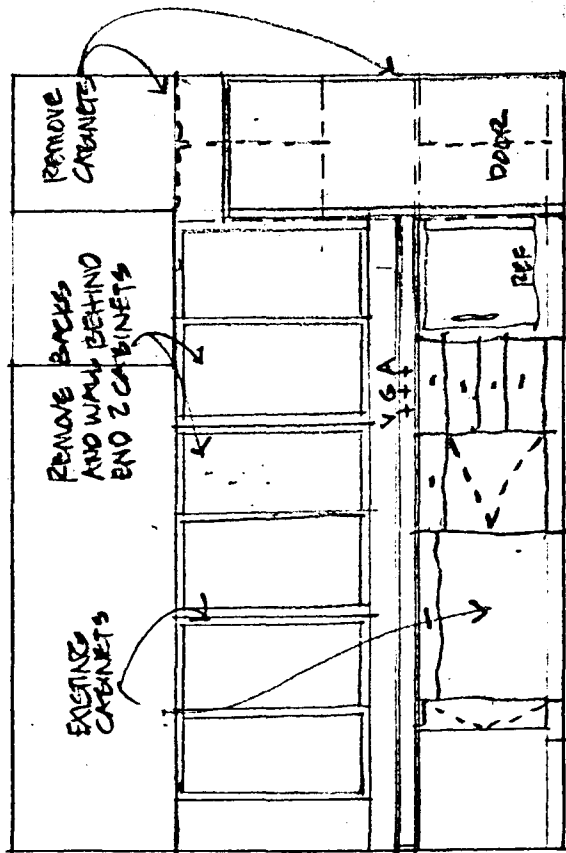
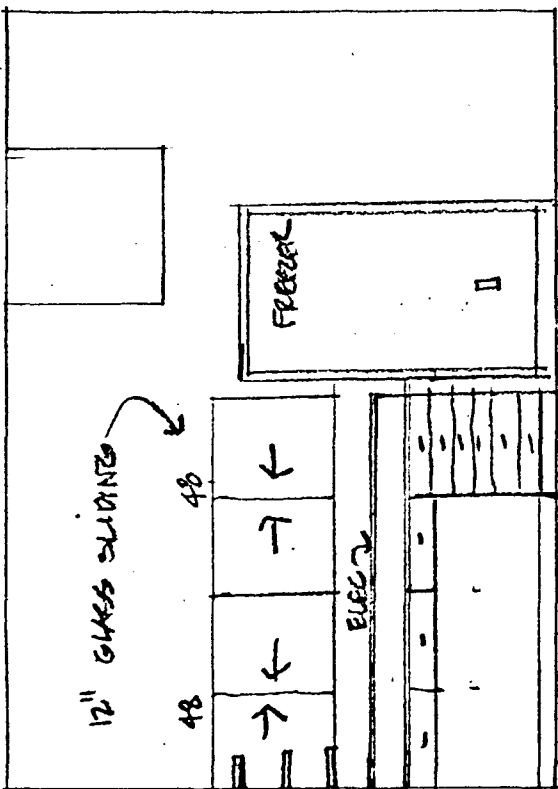
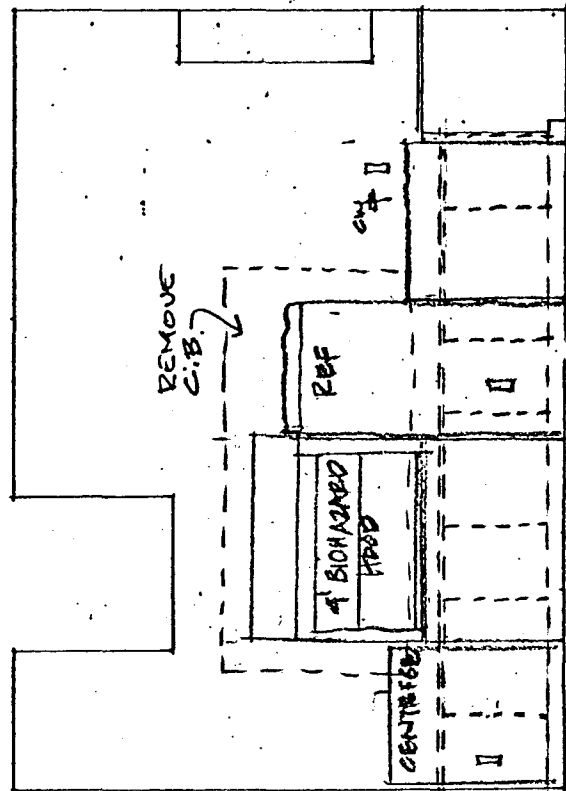
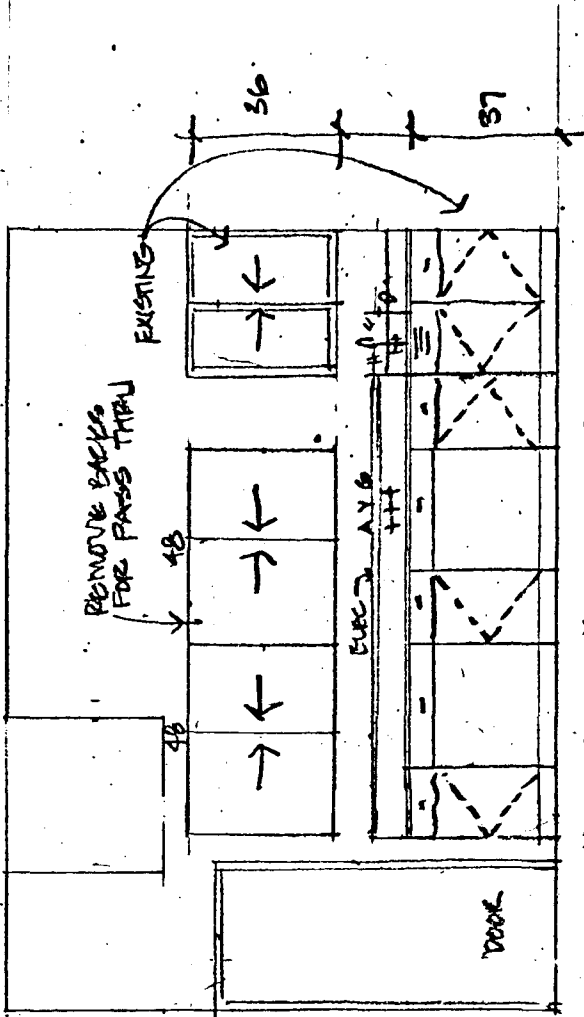
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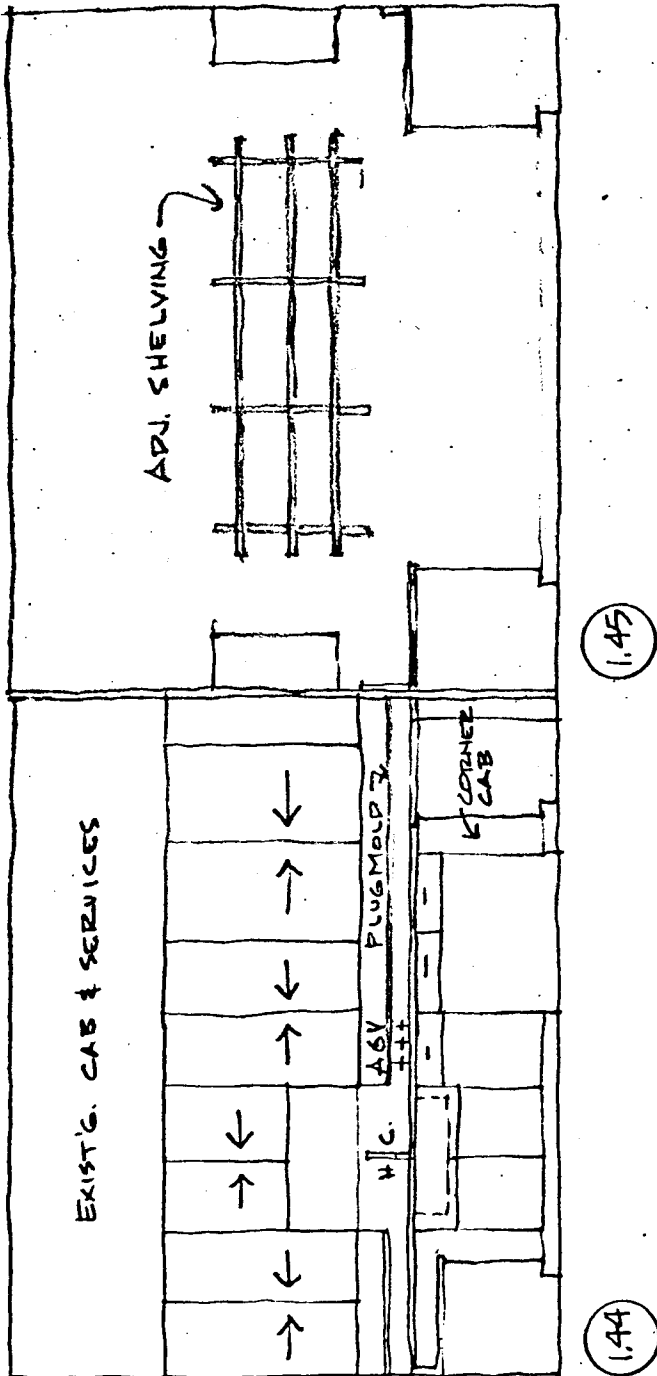
FINISHED END PANEL?

1.44

PATHOLOGY  
DR. YUREGJI







THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

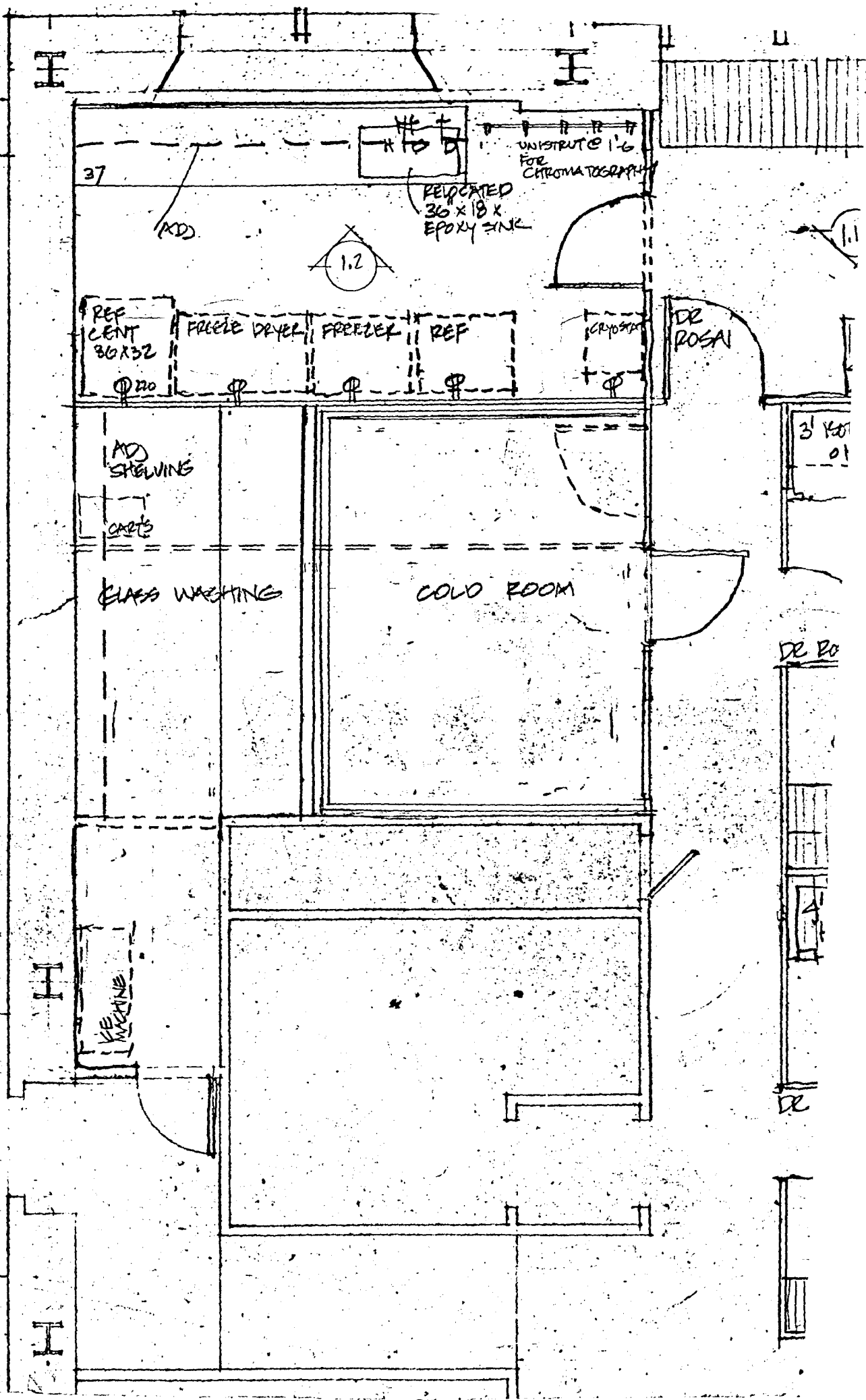
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: August 17, 1976

NOTES BY: Bruce Johnson

PRESENT: Dr. Rosai, Pathology Department; Tom Kyle and Bruce Johnson

1. Design Development Floor Plans were discussed, and elevation drawings of the casework and walls were drawn. Any possible changes in the floor plan were discussed and changes made accordingly.
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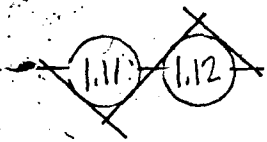
INSTRUMENT 1/6  
ELECTROMETER

AGV  
HT

3' CHEM  
FUME  
HOOD

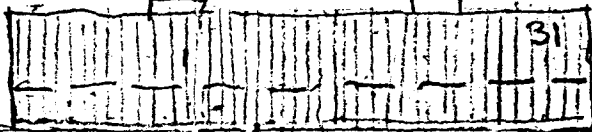
30 KGS  
OR VENT TYPE  
4B & 41/AIO

47 & 40/AIO



REF

DR ROSA



3' ISOTRE  
HOOD

31

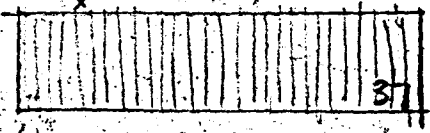
RELOCATED  
EXIST  
7'  
LAM  
FLOW



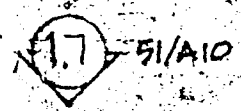
49/AIO

DOM

DR ROSA



UNDER  
COUNTER  
REF



51/AIO

V  
G  
A

V  
G  
A

ADD. N  
PLAM C

4' CHEM  
HOOD  
REPAIR  
EXISTING

37

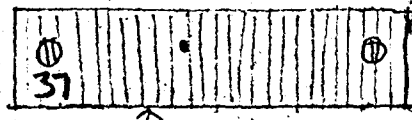


56/AIO

53/AIO

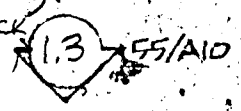
ADD OUTLETS

DR ROSA



OVER  
EXISTIN  
CASE  
WORK

BANK, FIN. BACK



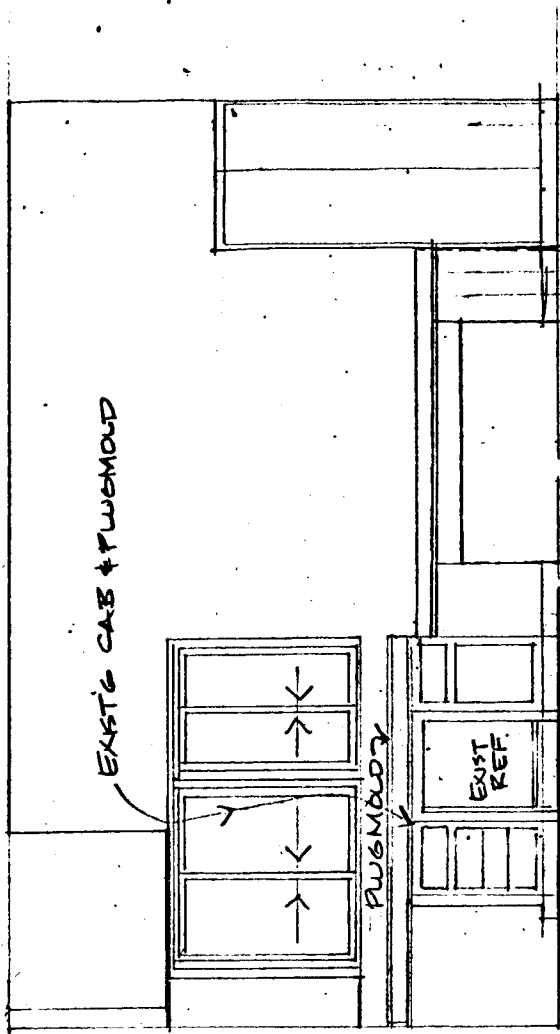
55/AIO

REMOVE  
CABINET

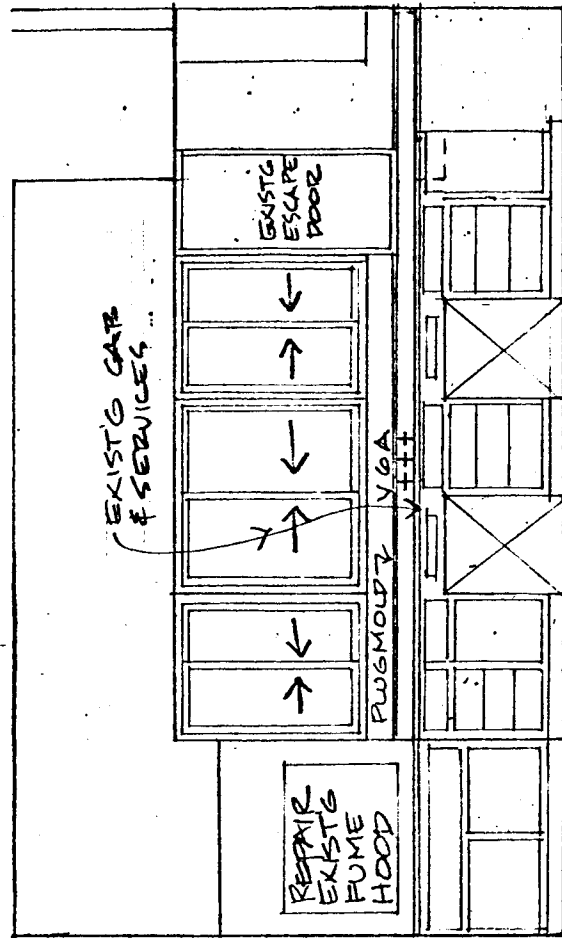
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31

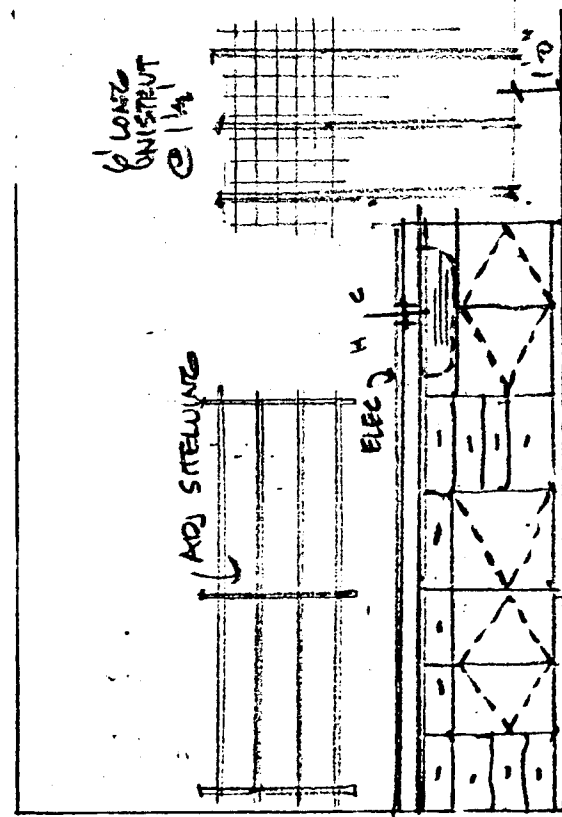
DR



1.3

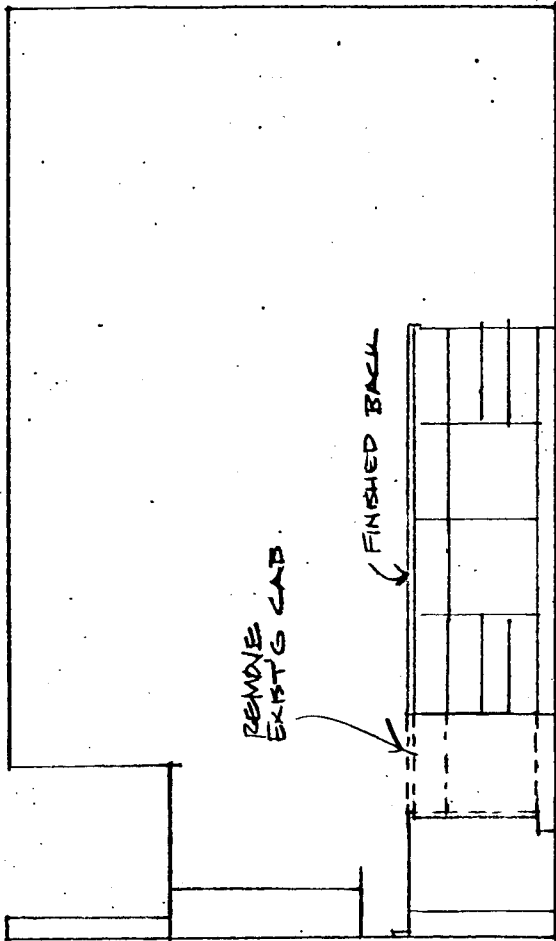


1.4

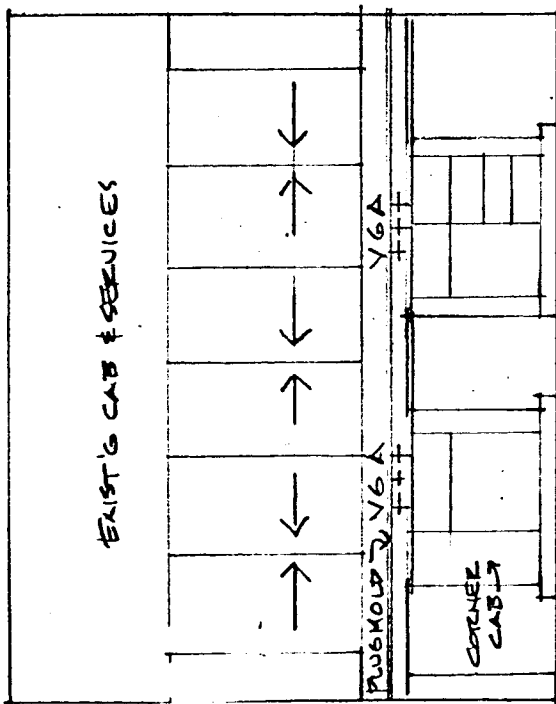


1.2

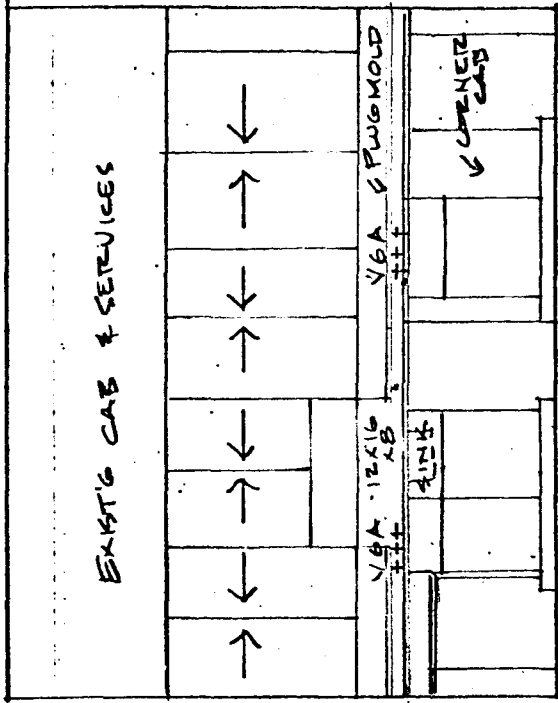
PATHOLOGY



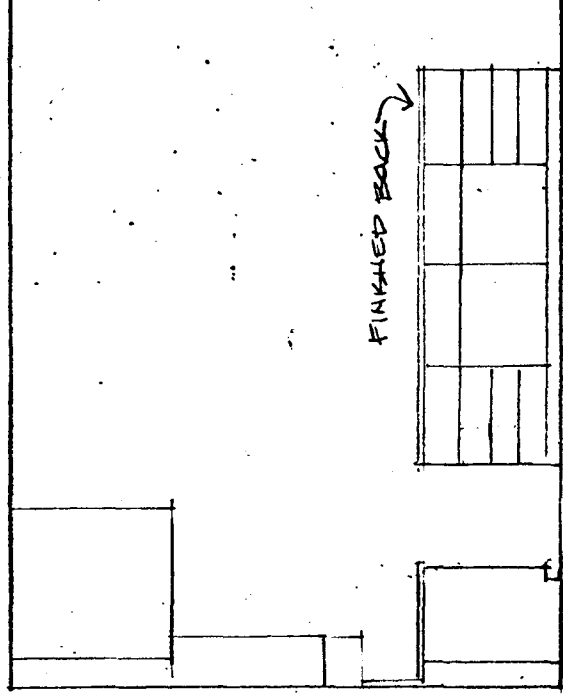
1.6



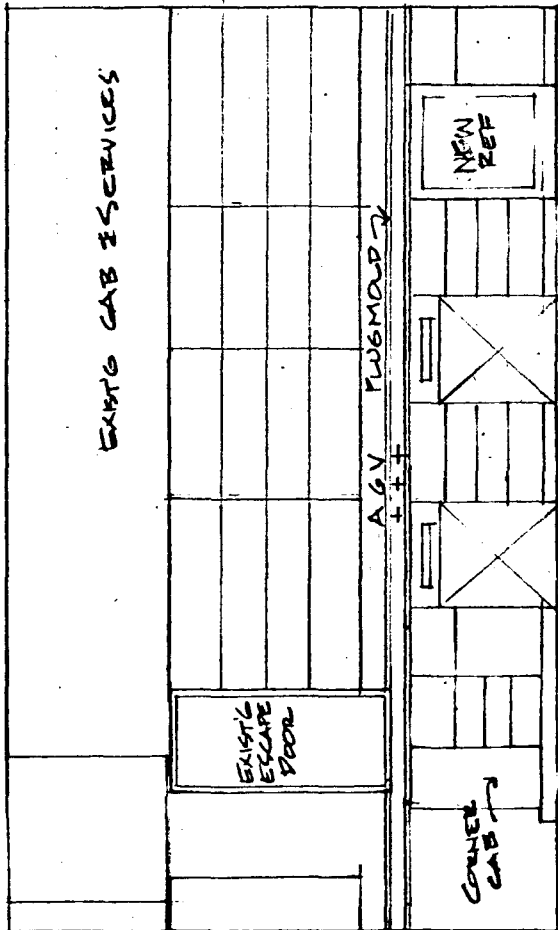
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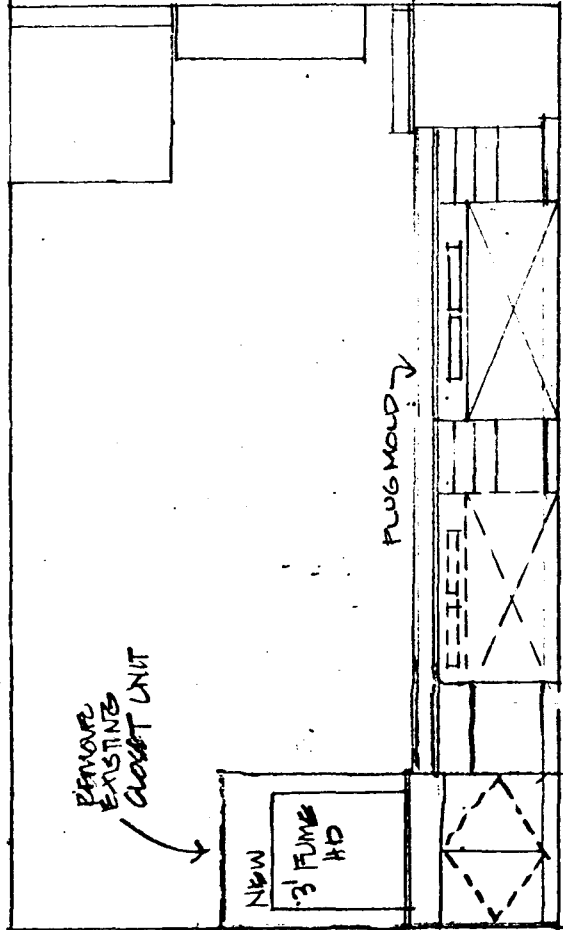
1.8



1.10



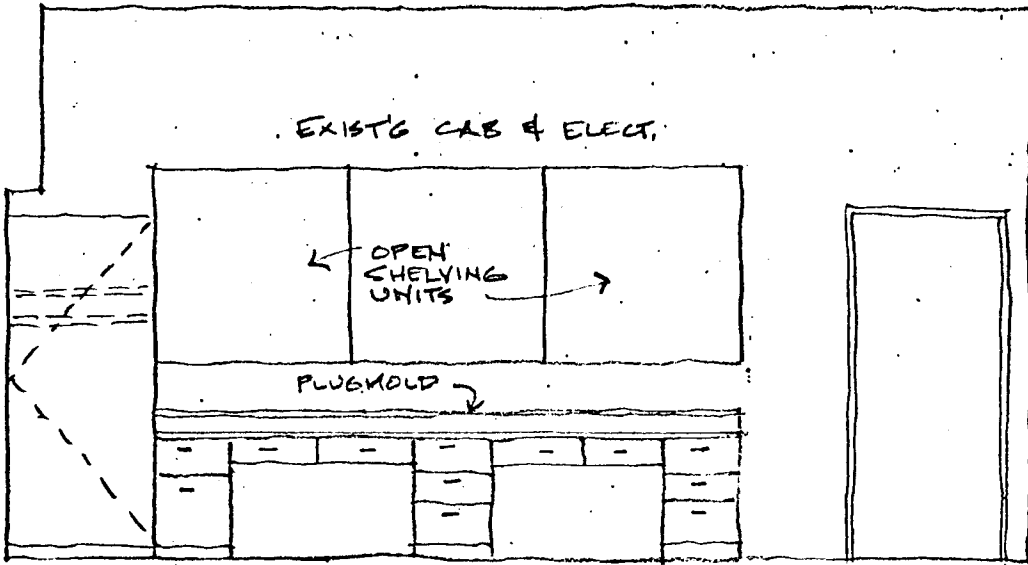
1.7



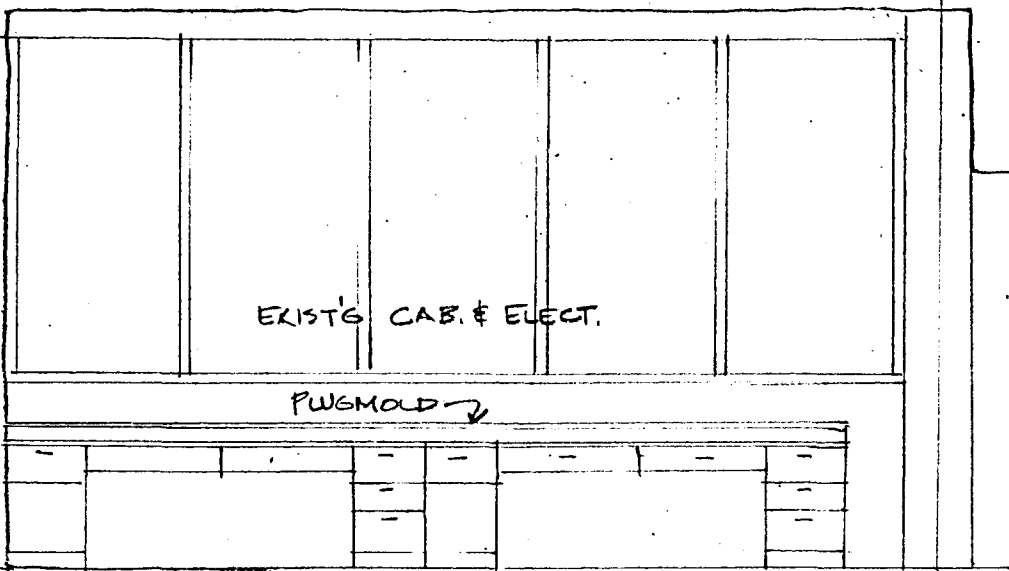
1.9

36 FUMG BASE (VENTED)

PATHOLOGY  
 DR. CASAI

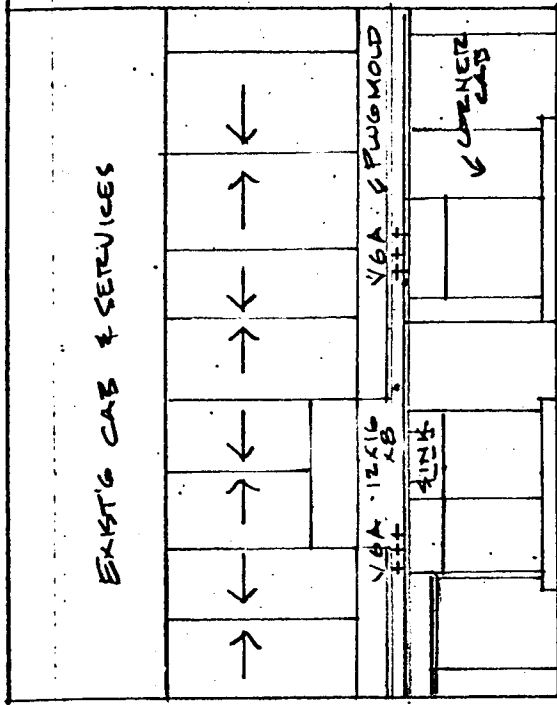


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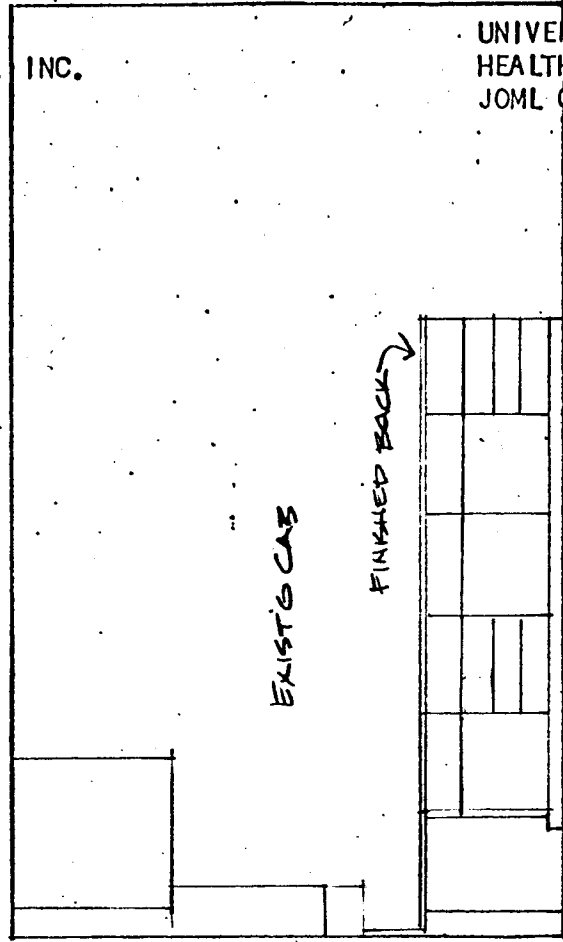


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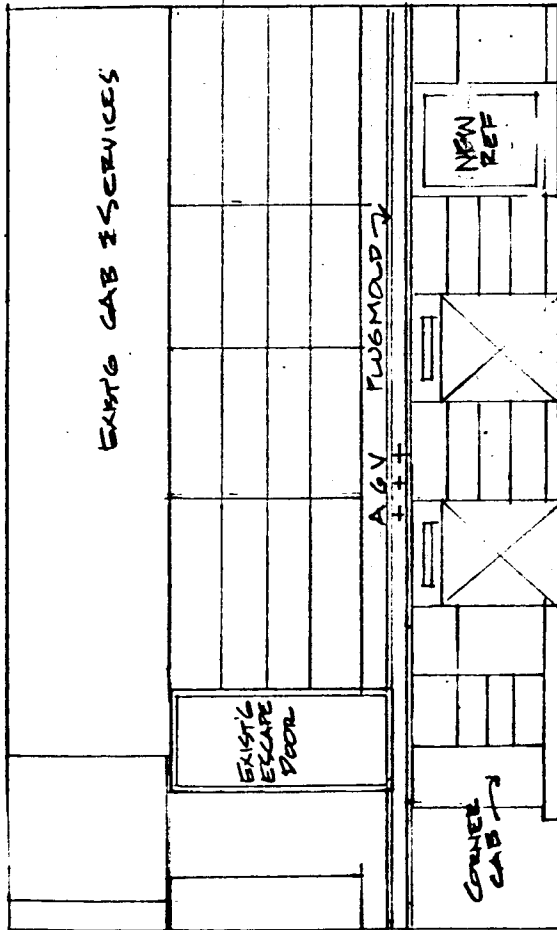
PATHOLOGY  
DR. ROSA



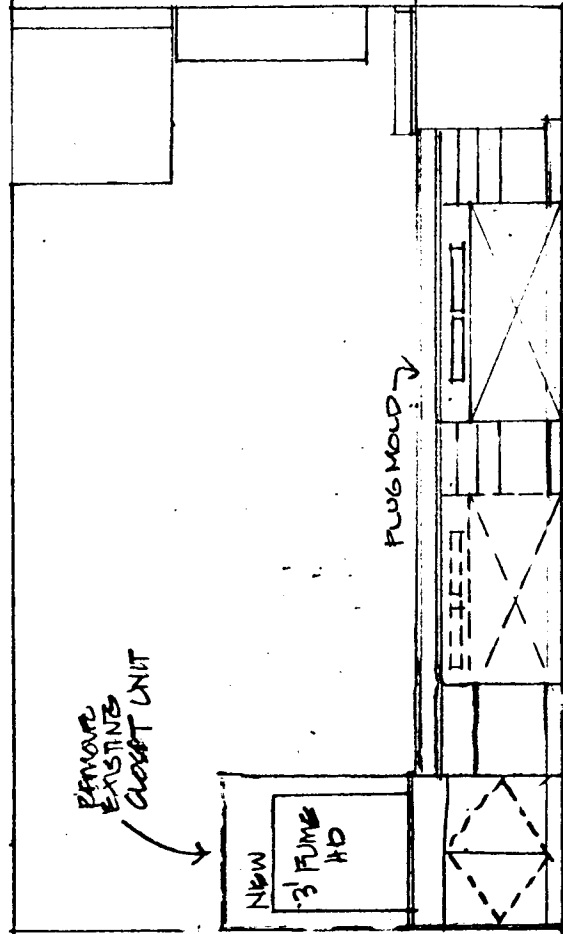
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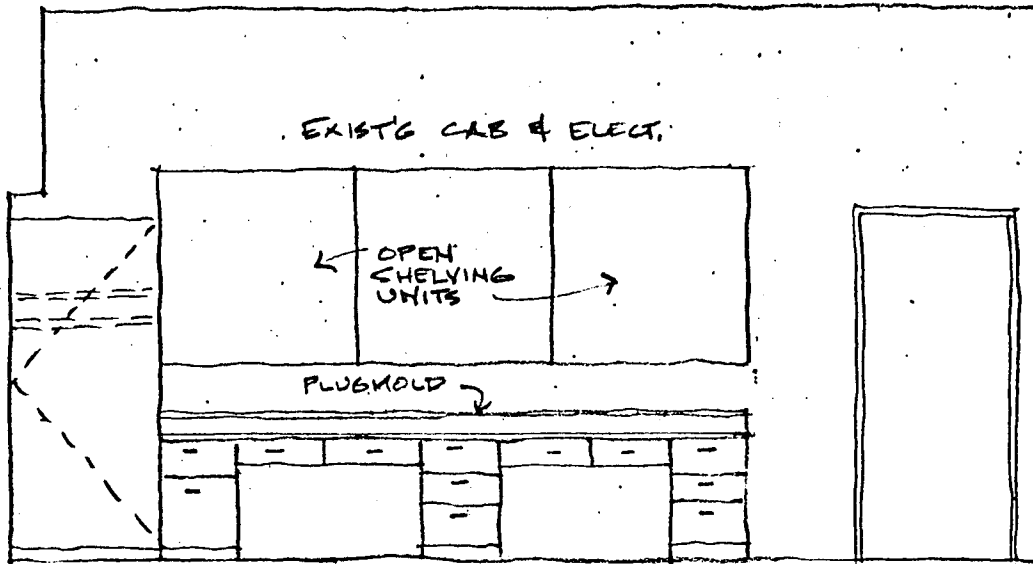
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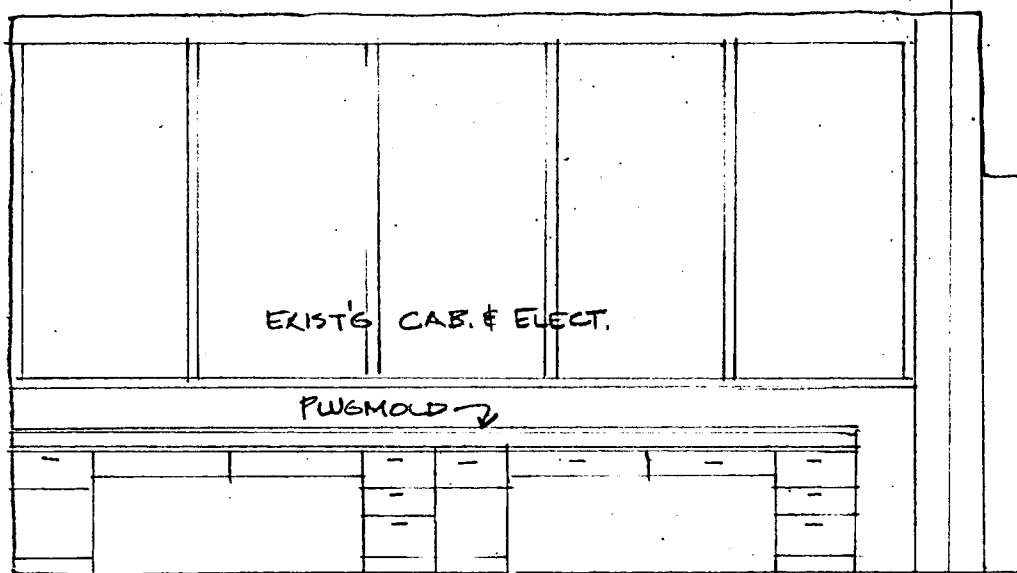
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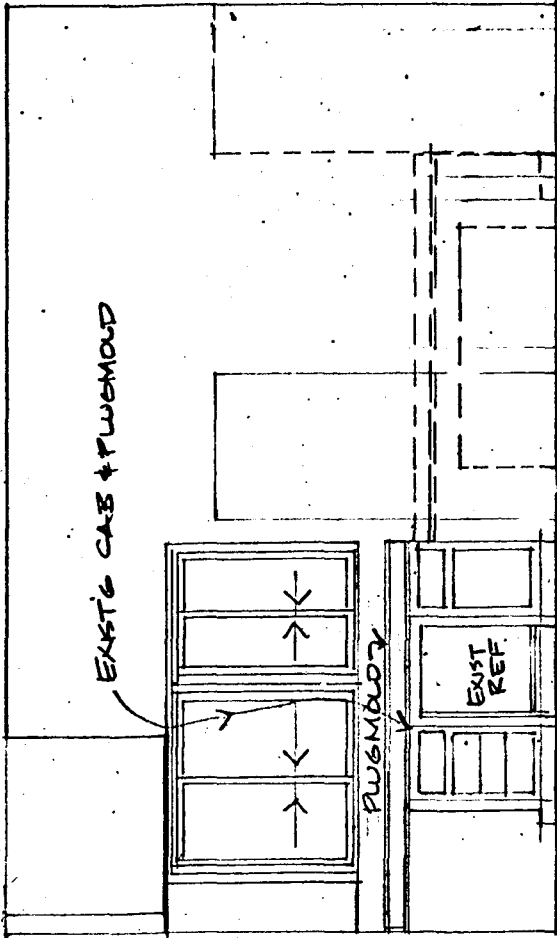
36 PUG MOLD (VERTED)  
1.9



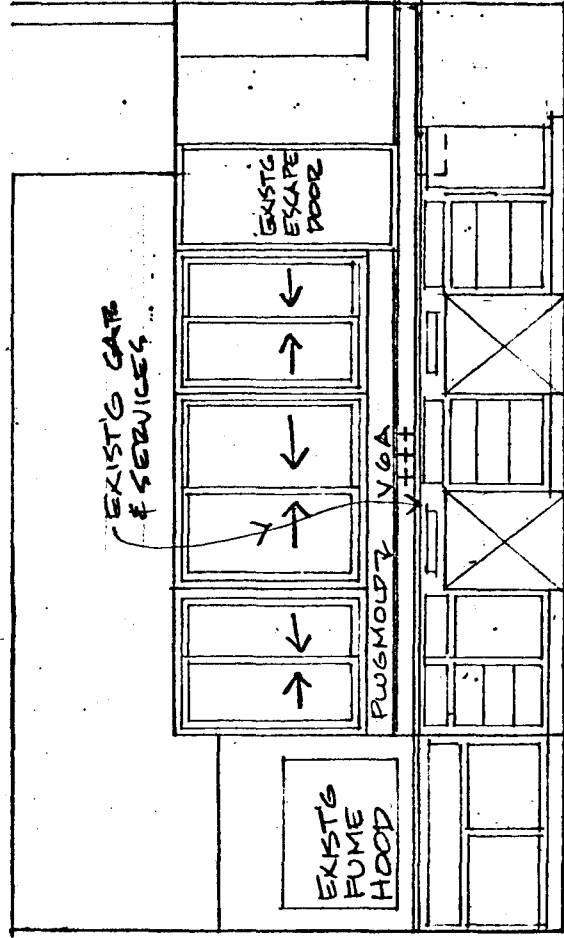
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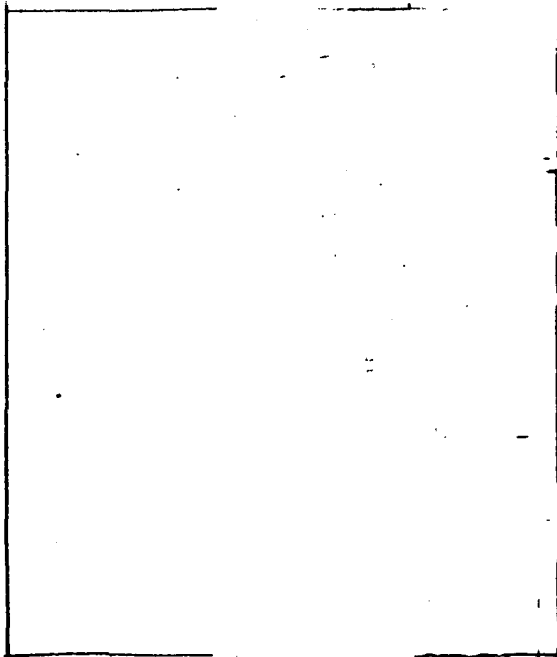
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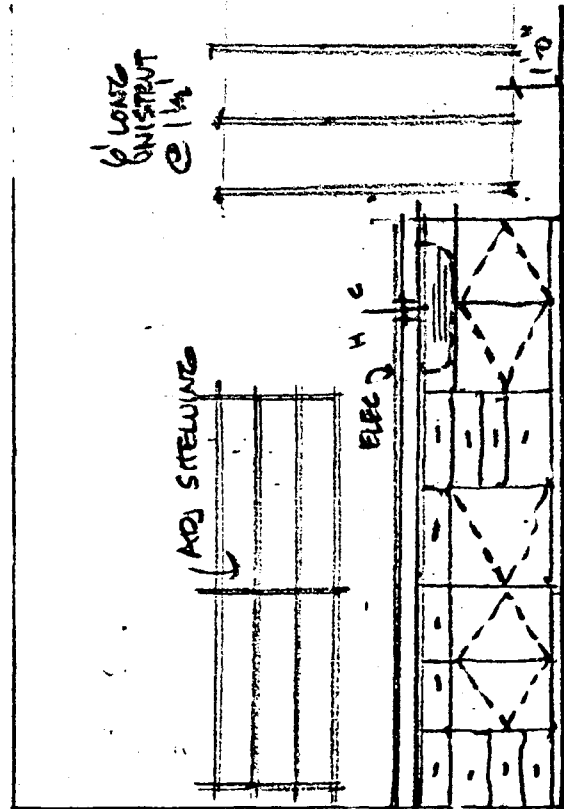
1.3



1.4



1.1

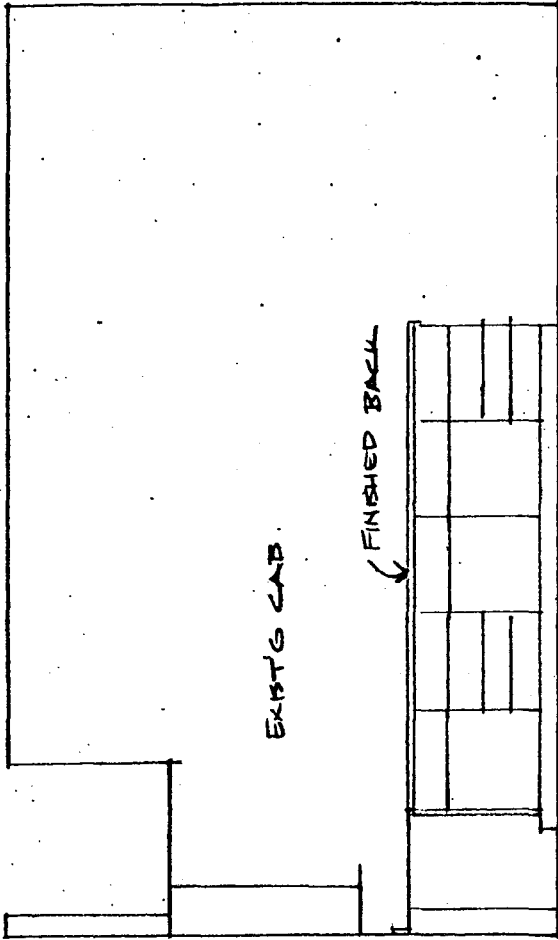


184VW 36 2DR 24 1IN 24 4700 42 SB  
 UN

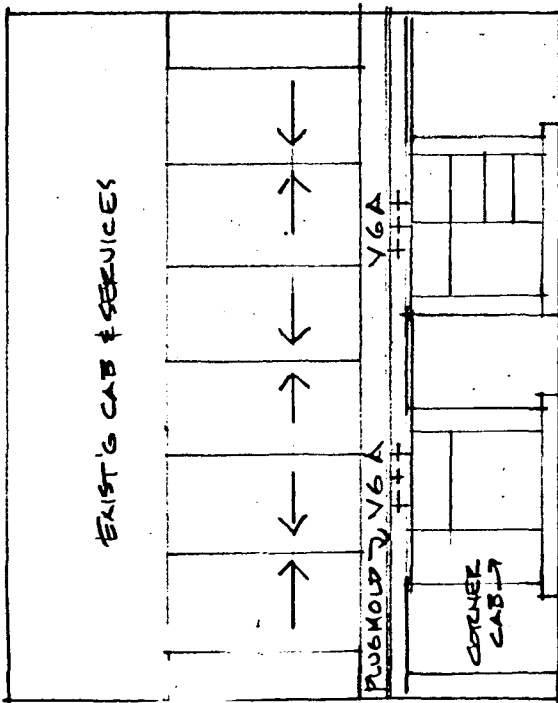
1.2

PATHOLOGY





1.6



1.5

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

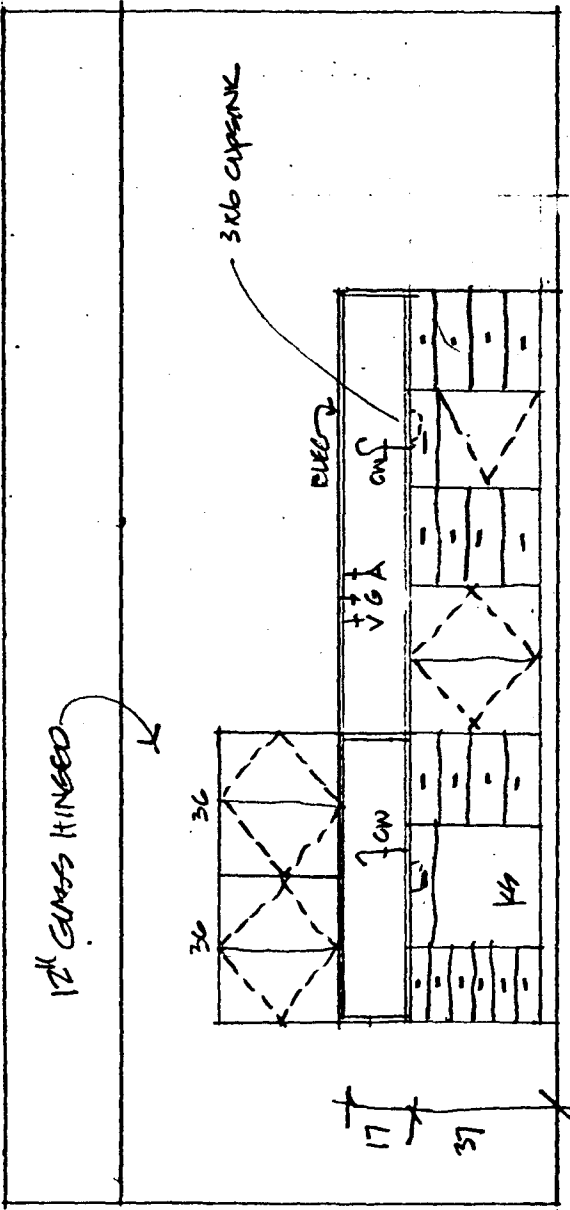
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 19 August 1976

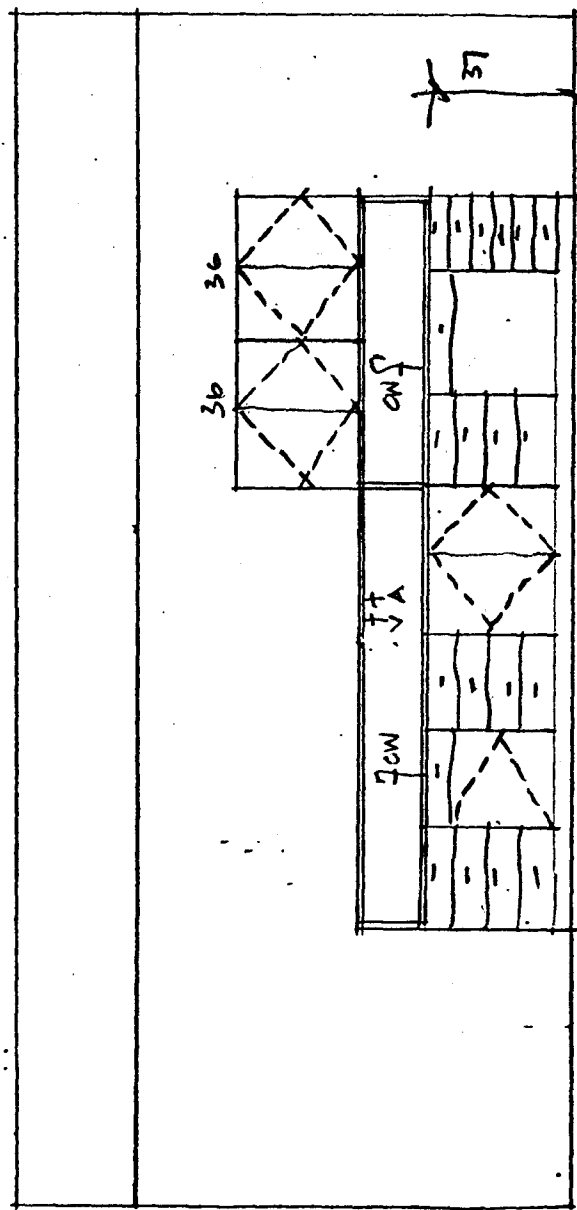
NOTES BY: Bruce Johnson

PRESENT: Dr. Mirkin, Pharmacology Dept.; Tom Kyle, HSP0; Bruce Johnson, HSAE.

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63

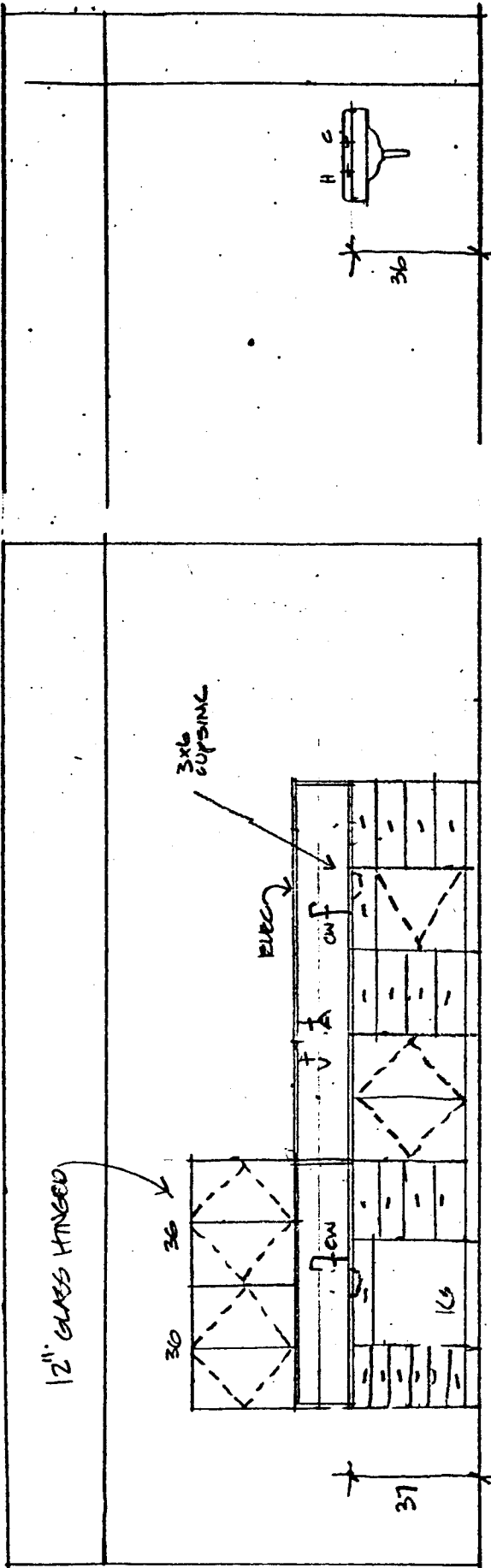


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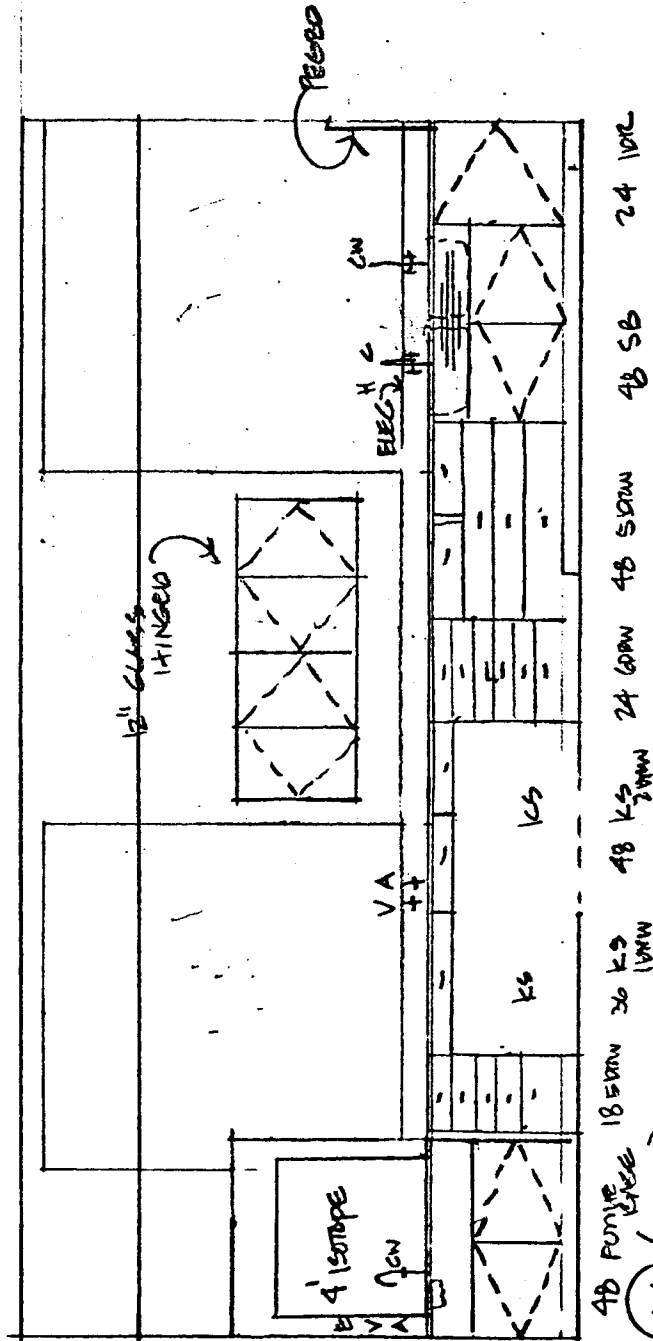
2ND FLR.

PHARMACOLOGY





6.7



6.5

48 PUMP  
 CASE  
 (VENTED)  
 18 5/8\"/>

PHARMACOLOGY

2ND FLR.

# THE NEW MARKET FORGE SERIES SS10-C SCRUB STATION

The SS10-C Scrub Station is the first scrub facility employing the work station design concept to provide maximum convenience, comfort, and assurance of proper technique for the surgeon and the O.R. staff.



**Market Forge**

Hospital Division  
Everett, Massachusetts 02149

W W W  
W W W  
W W W WATROUS  
W W W  
V W W

# Hospital Specialties

& Washroom  
Accessories

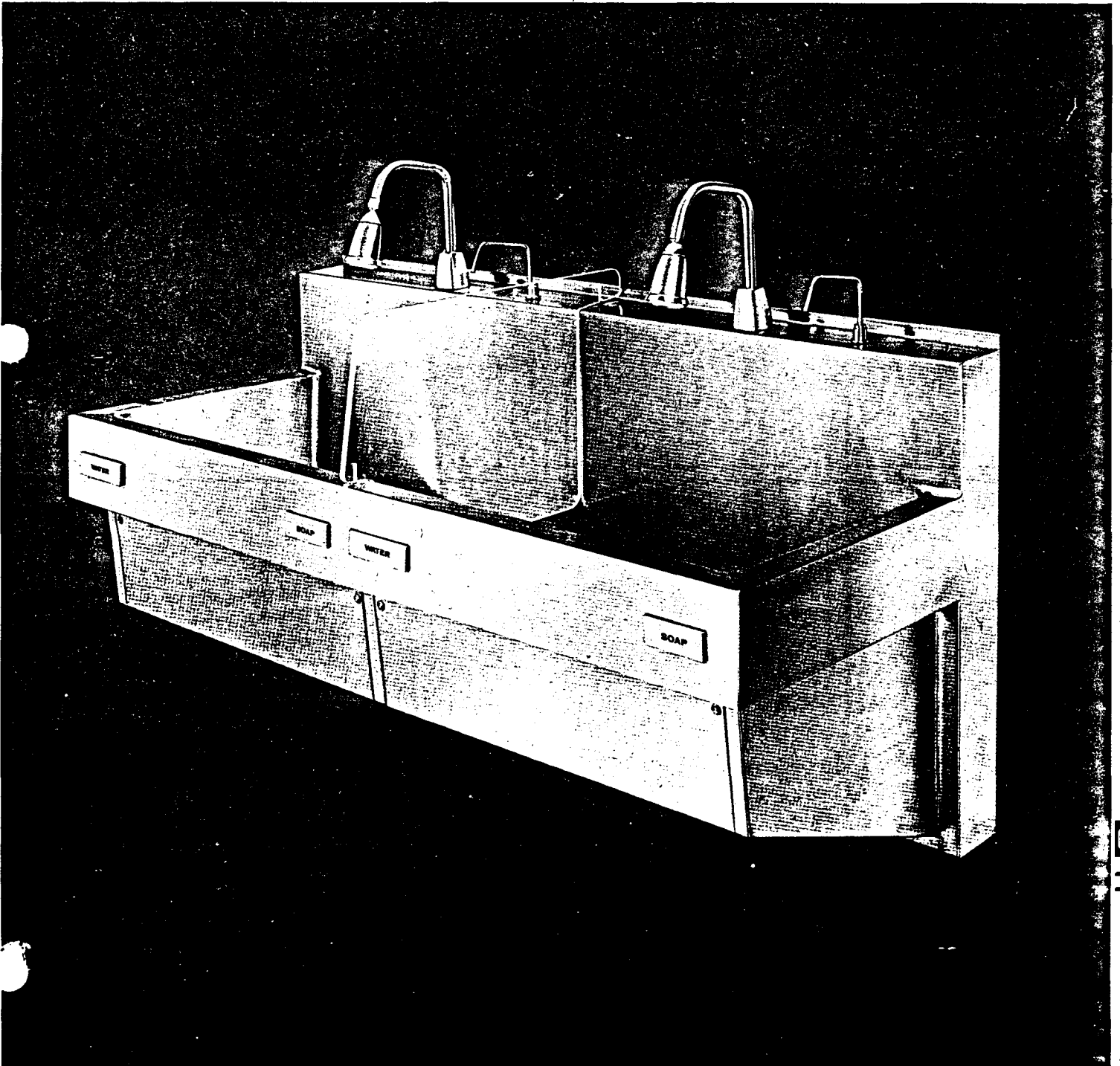
~~P703 I~~  
10.16/Wau  
P702 I  
P701 I

SEE AMSCO  
FOR P703 I

1972

MEDICAL EQUIPMENT

11



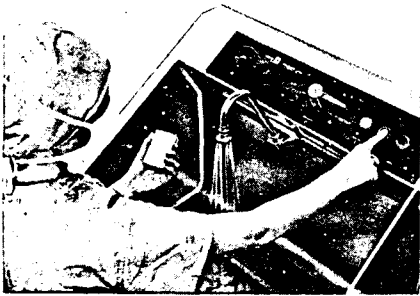
11

MEDICAL EQUIPMENT

1972

AMSCO UNI-MATIC II

completely automatic  
surgical scrub station



**JUST PRESS THE CYCLE BUTTON. THE NEW UNI-MATIC II  
DOES EVERYTHING BUT THE SCRUBBING**

Here is the pace-setter in surgical scrub facilities:  
UNI-MATIC II . . . the station with push-button, automatic  
timing. With UNI-MATIC II, there's no awkward knee  
controls, elbow blades, or hard-to-clean foot pedals.

Simply select the desired water temperature, touch either  
the standard (10 minutes) or short (3, 4 or 5 minutes)  
cycle button . . . and scrub.

A gentle spray of water flows instantly. And a thermostatic  
control prevents water temperature fluctuations.

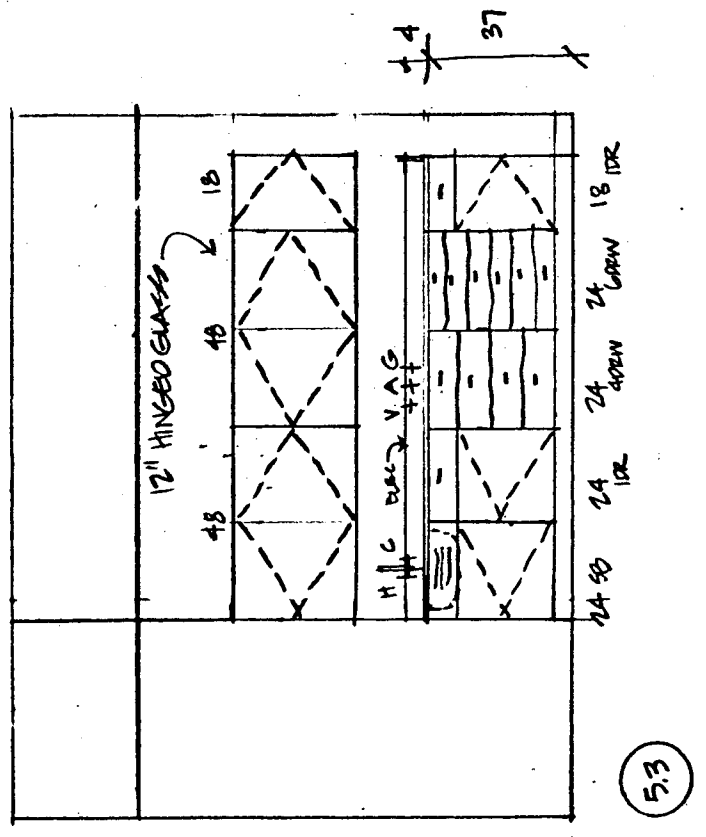
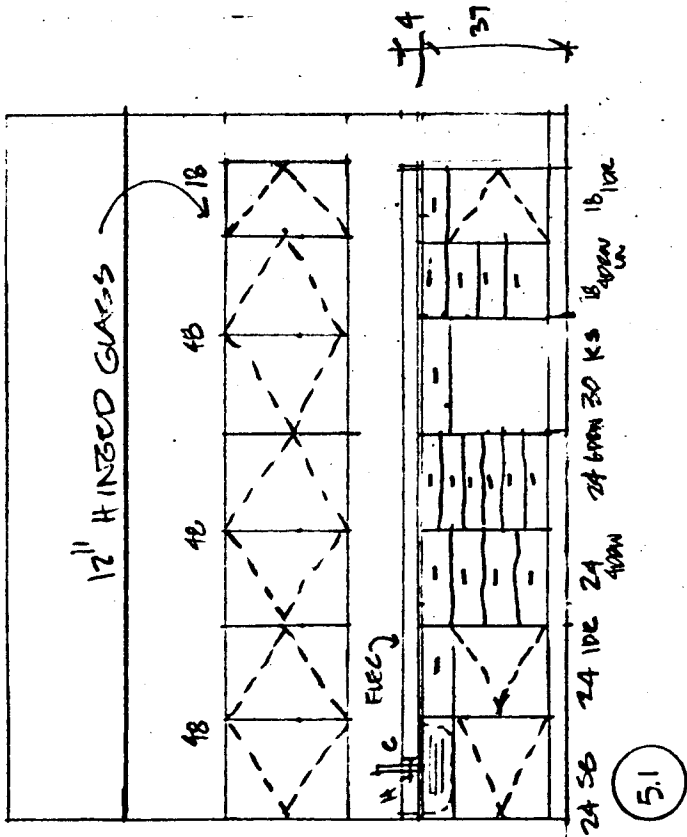
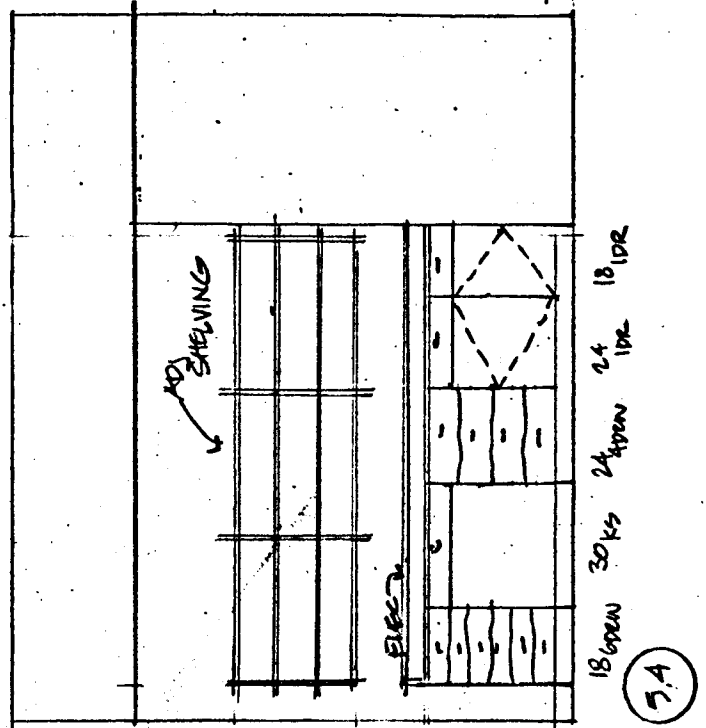
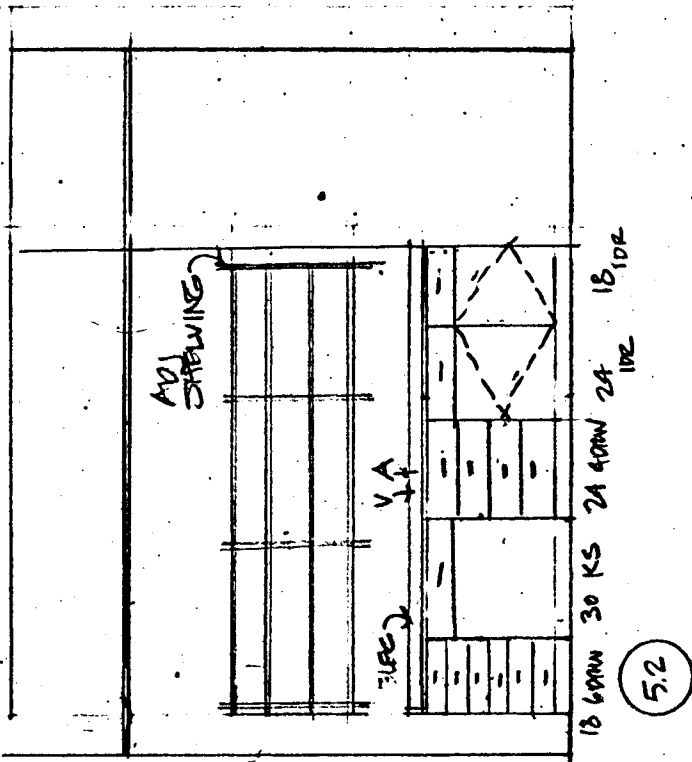
UNI-MATIC II works efficiently on hospital water pressures  
from 20 to 50 psi. A special regulator maintains even flow  
despite input pressure variations.

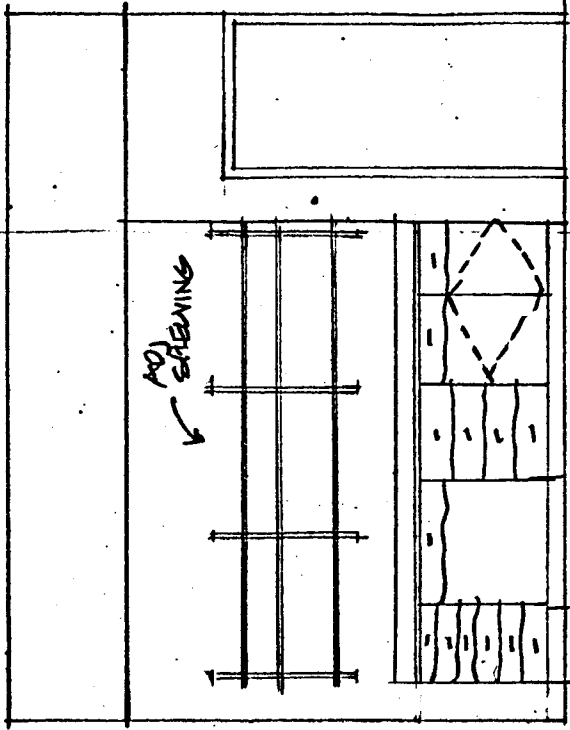
Styling is not only smart but functional. The shadow-free  
sloping basin is easy for anyone to use. And splashing is  
really minimized. An optional plastic divider virtually  
eliminates possible contact with user of adjacent station.

For trouble-free service, all switches and controls are water-  
tight . . . and located on top of unit. A solid state timer is  
inside the control panel . . . where it can't be altered by  
unauthorized personnel. The short scrub period can be  
set for either 3, 4 or 5 minutes scrub period.

Offered in single, double and triple lengths, UNI-MATIC II  
carries U.S. Patent No. 3,298,037 and is Underwriters'  
Laboratories approved.

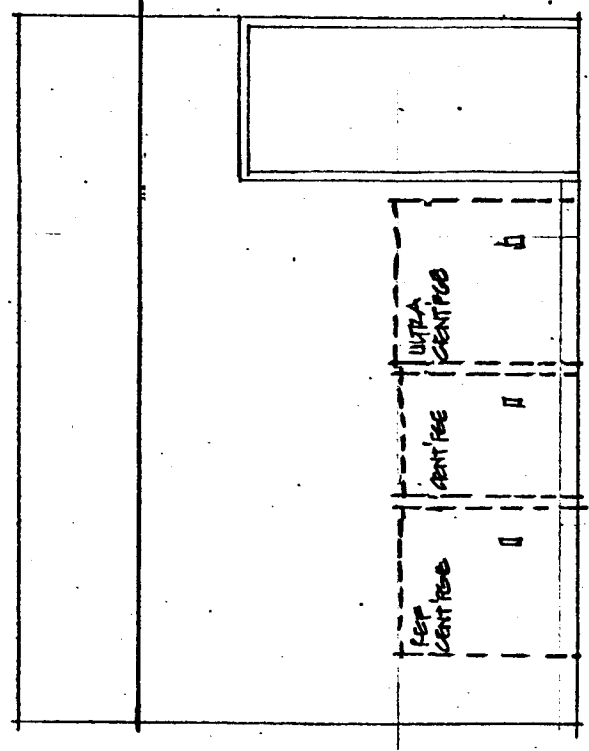




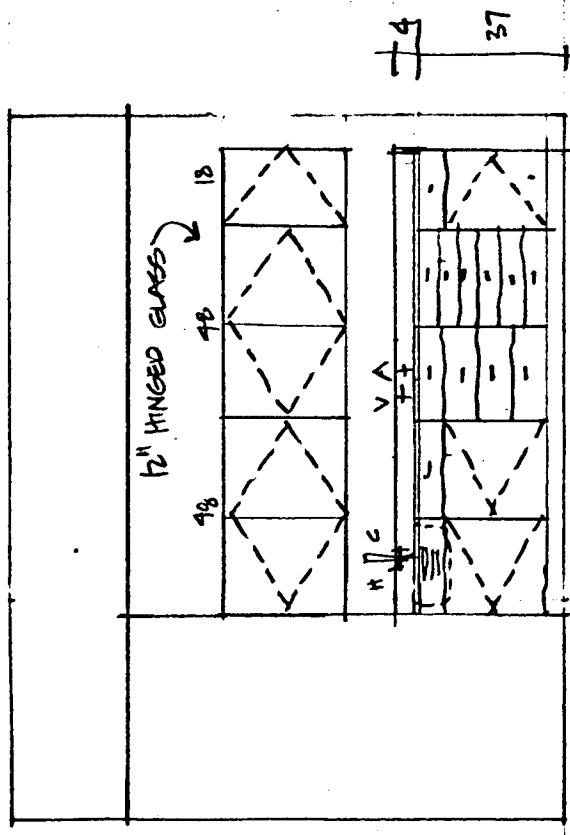


16'00" 30'K5 24' 10" 18' 10" 24' 10" 18' 10"

5.6

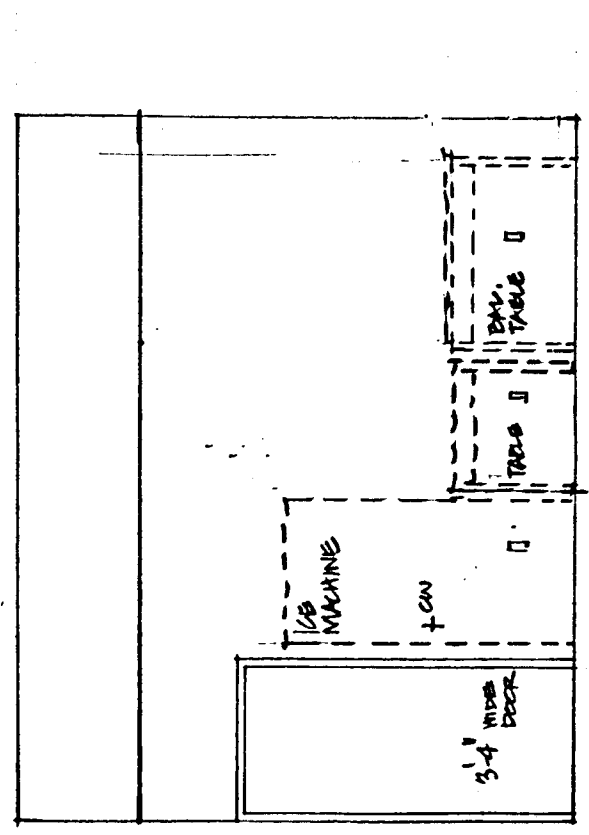


5.8



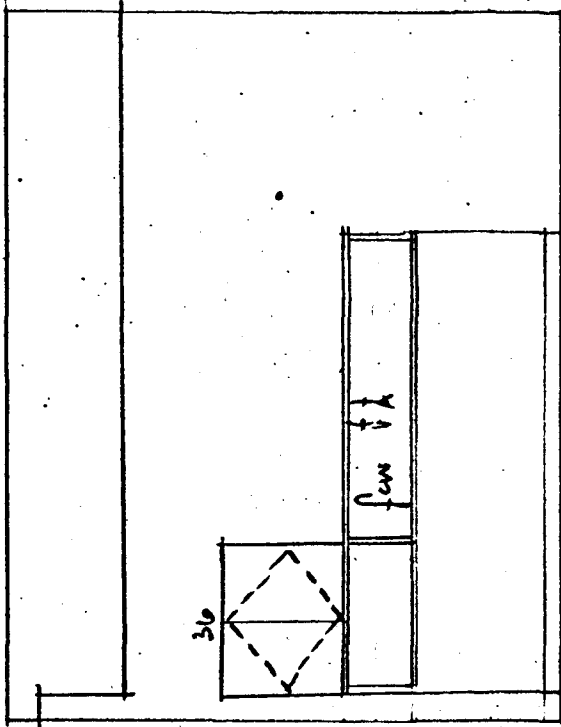
24'00" 24' 10" 24' 10" 24' 10" 24' 10" 18' 10"

5.5

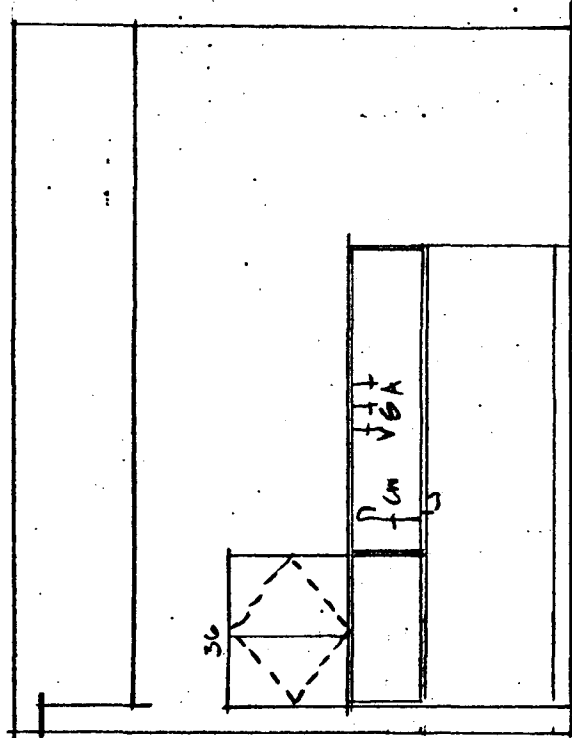


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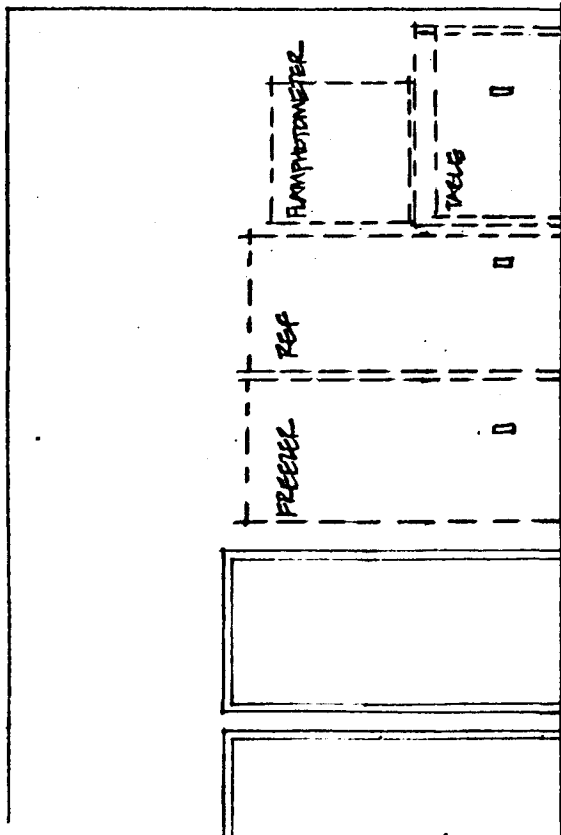
PHARMACOLOGY



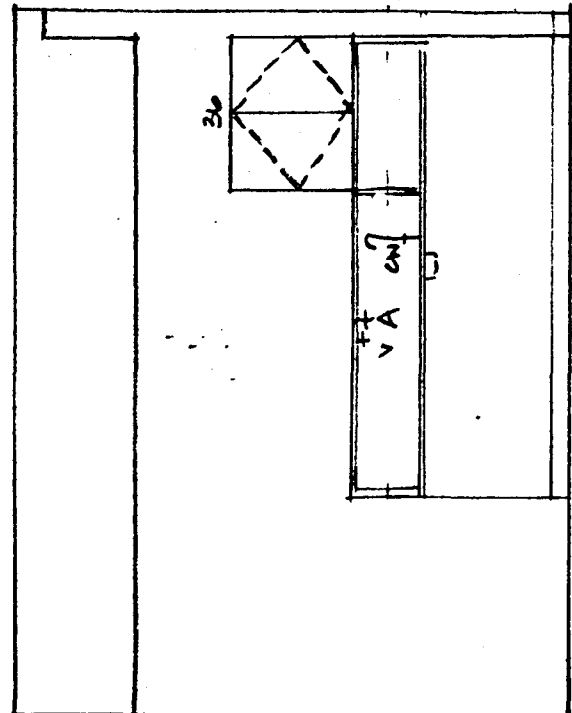
510



512

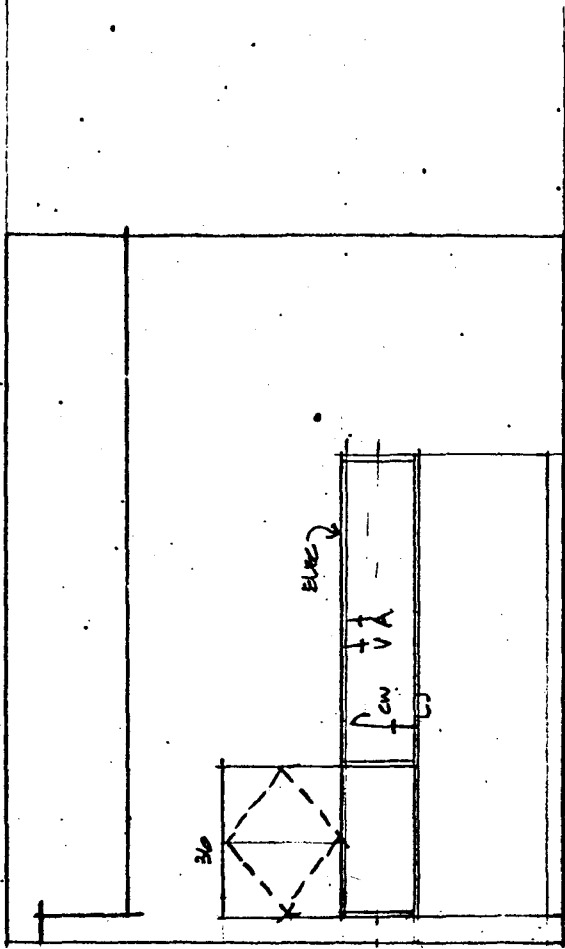


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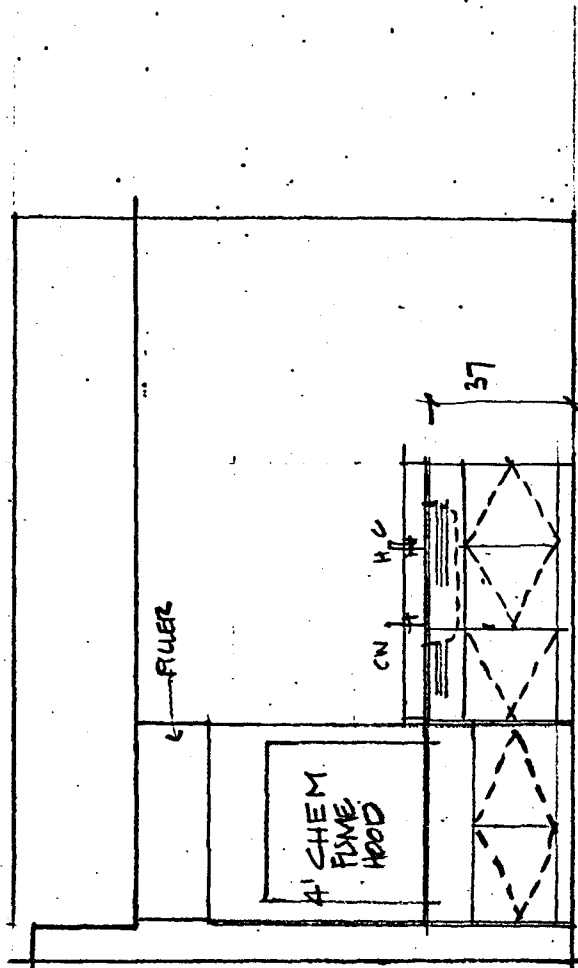


511

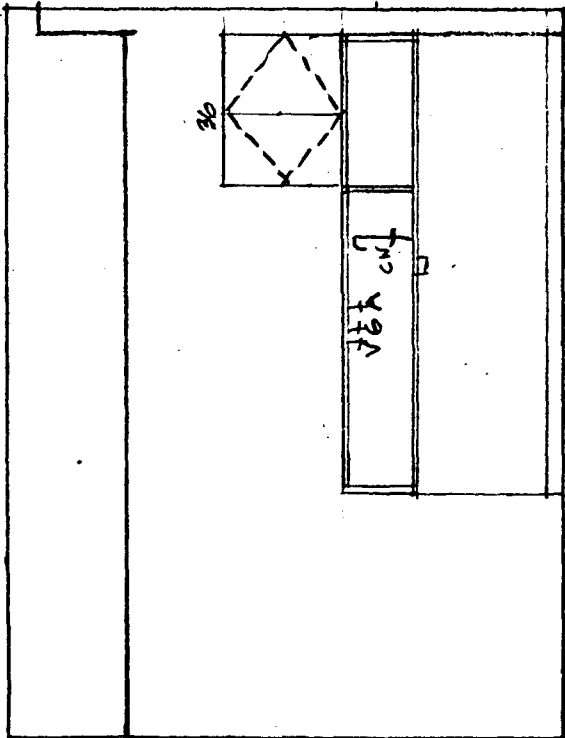
PHARMACOLOGY



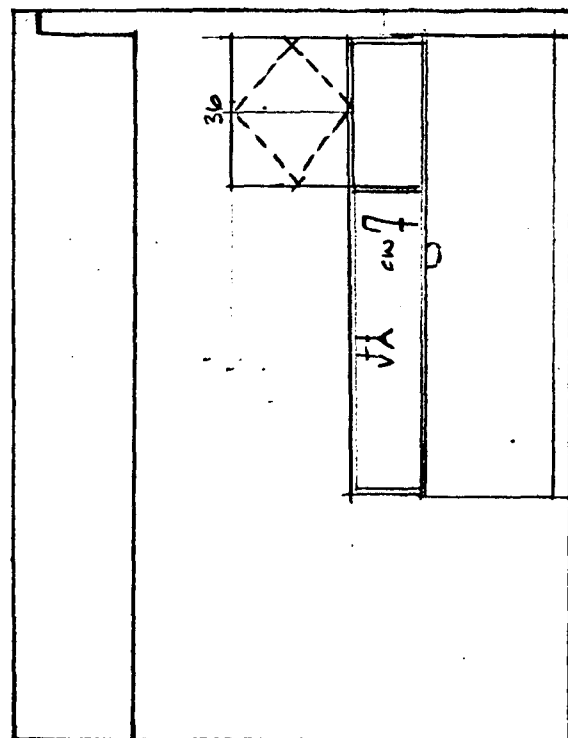
5.14



5.16



5.13



5.15

PHARMACOLOGY





UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

MEETING NOTES:

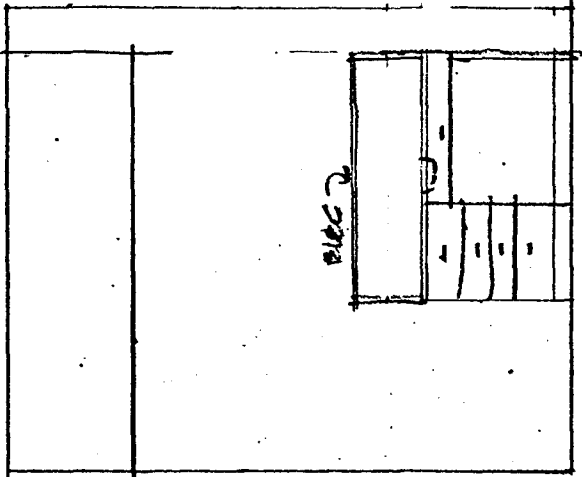
SUBJECT: JOML Complex Remodeling  
Design Development Review Meeting

DATE: 23 August 1976

NOTES BY: Bruce Johnson

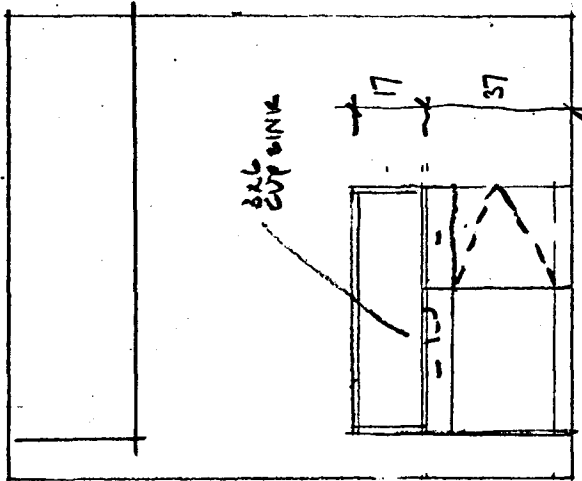
PRESENT: Dr. Miller, Pharmacology Dept.; Tom Kyle, HSPO; Bruce Johnson, HSAE.

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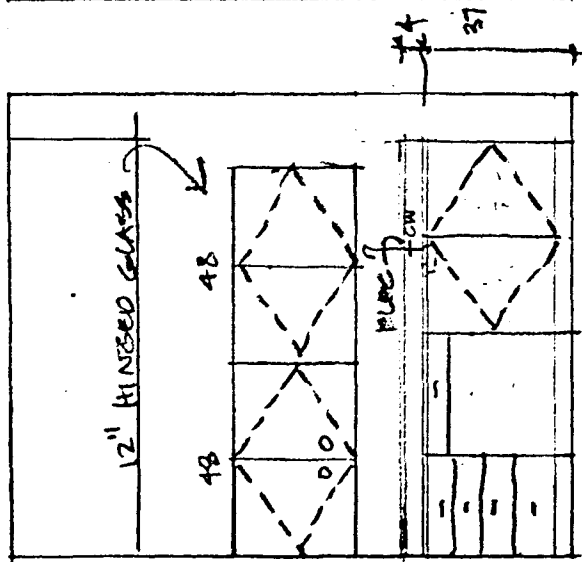
24 400W 36 KS  
 UN

3.3



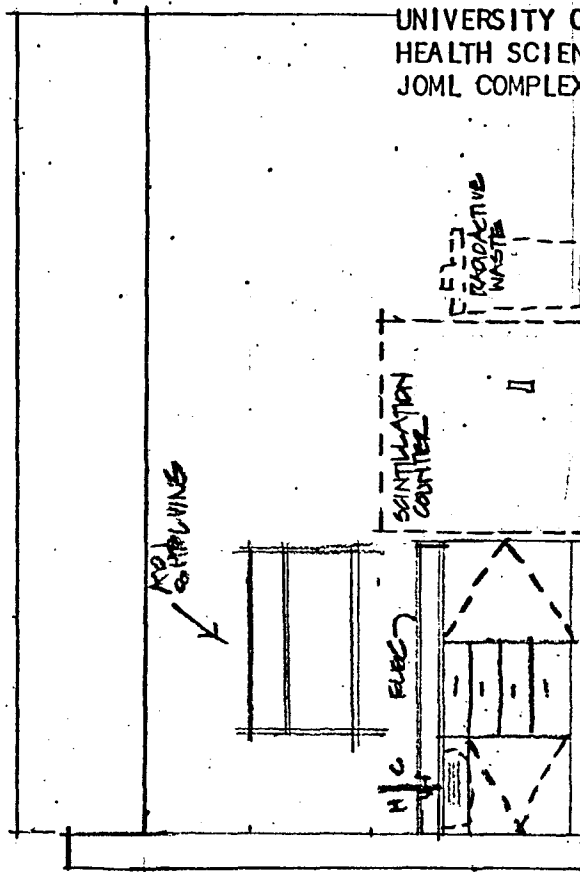
36 KS 24 100W  
 UN

3.2



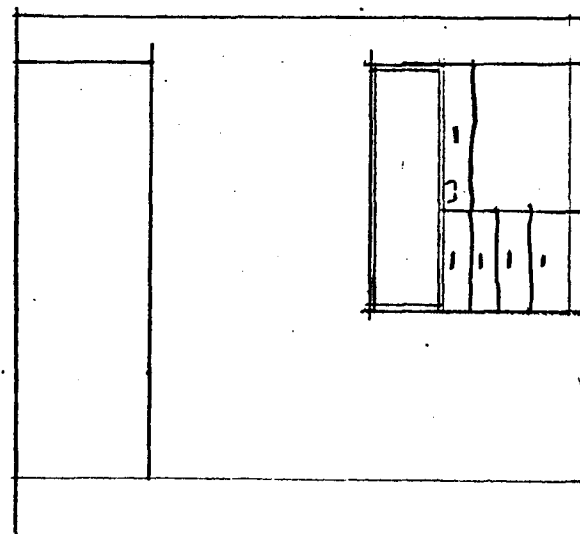
24 400W 30 KS 48 20R  
 UN

3.1



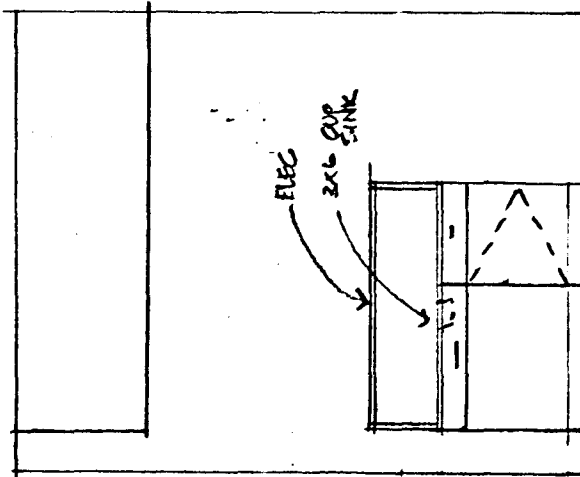
24 50 24 400W 24 20R  
 UN

3.6



24 400W 36 KS  
 UN

3.5

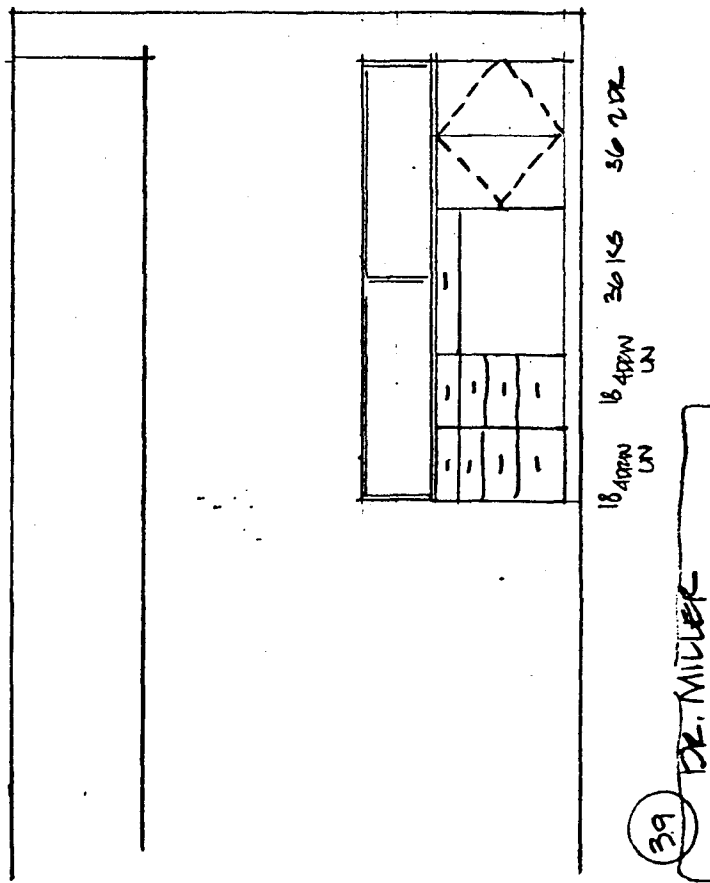
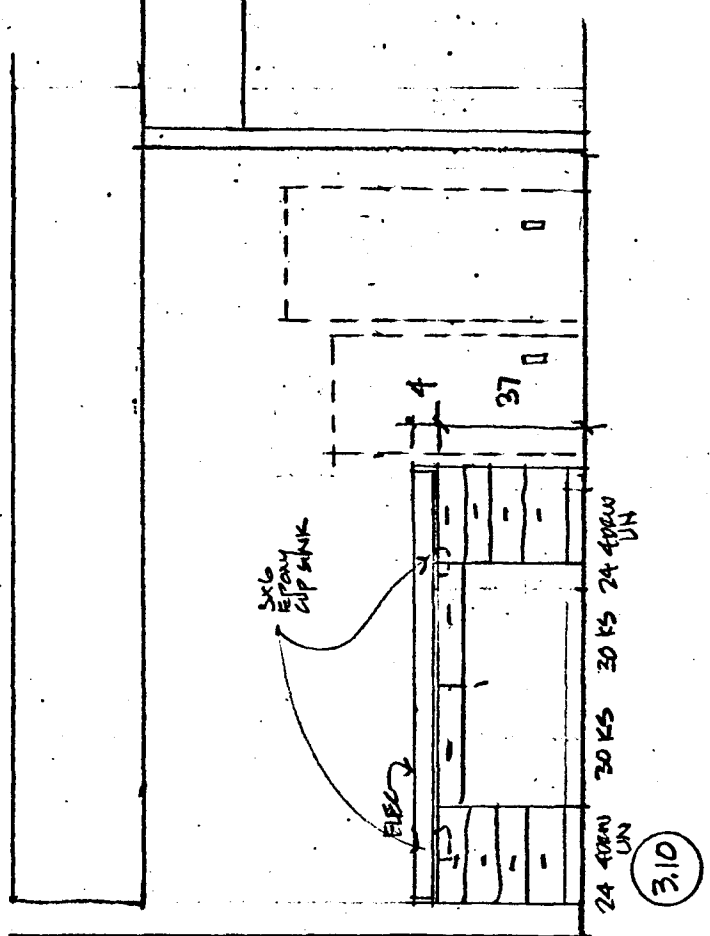
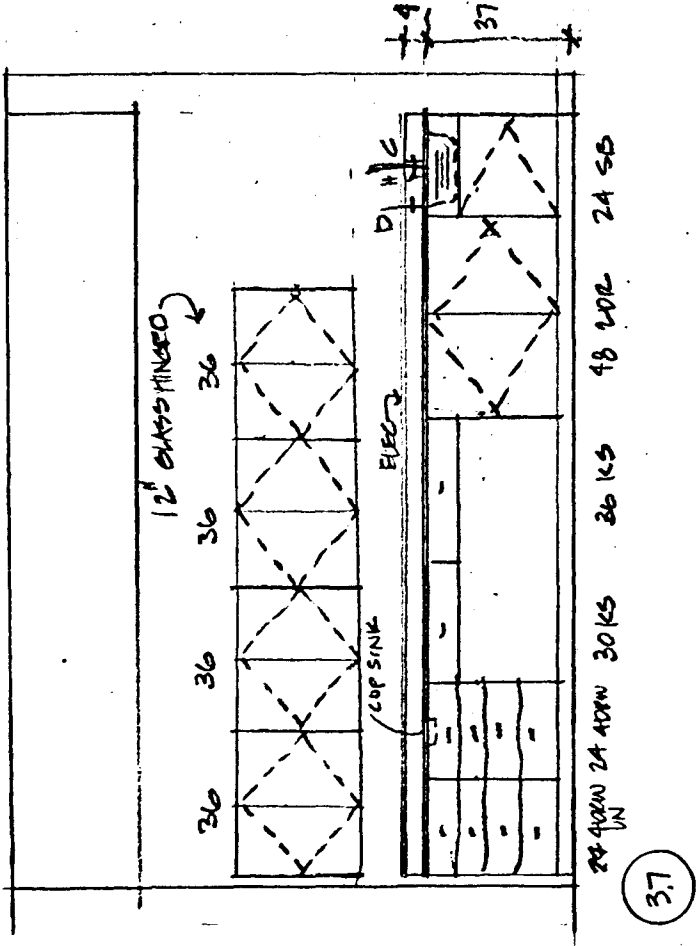
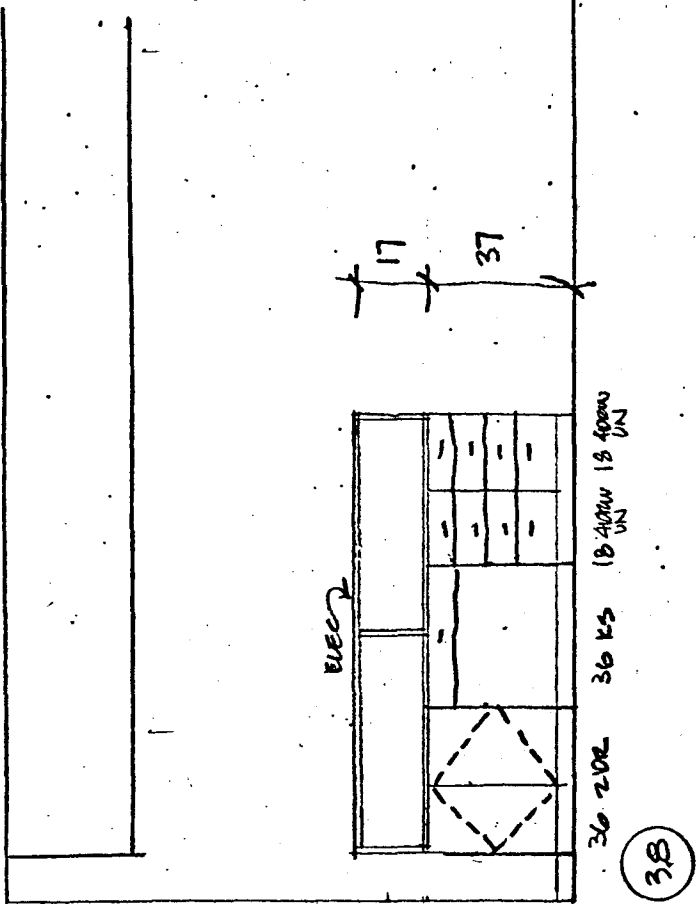


30 KS 24 10R  
 UN

3.4

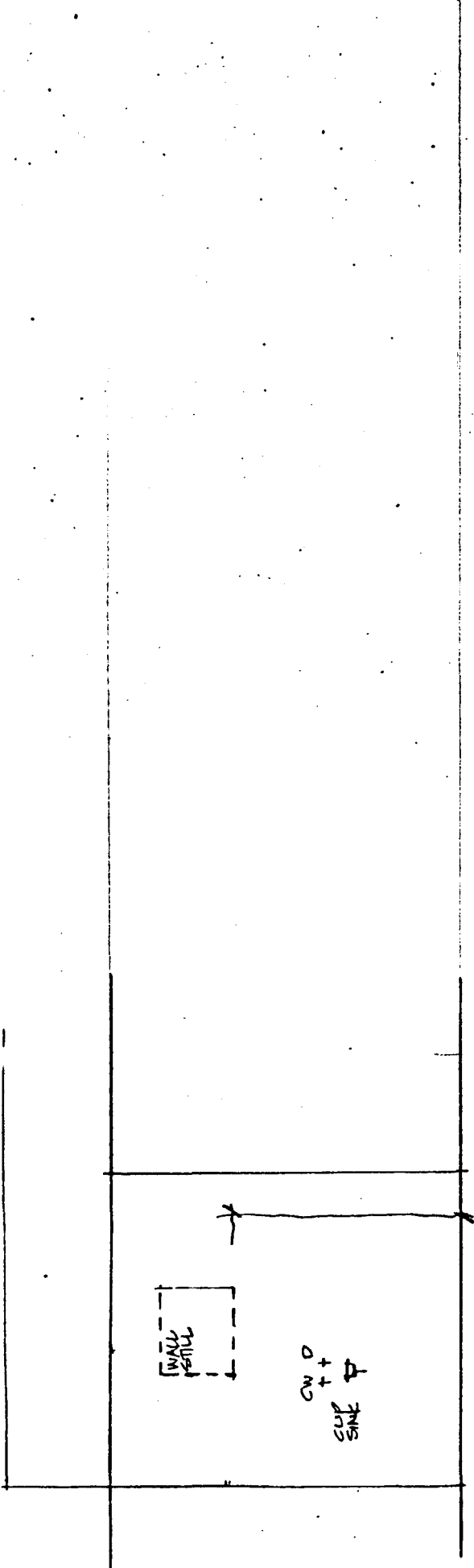
DR. MILLER  
 PHARMACOLOGY



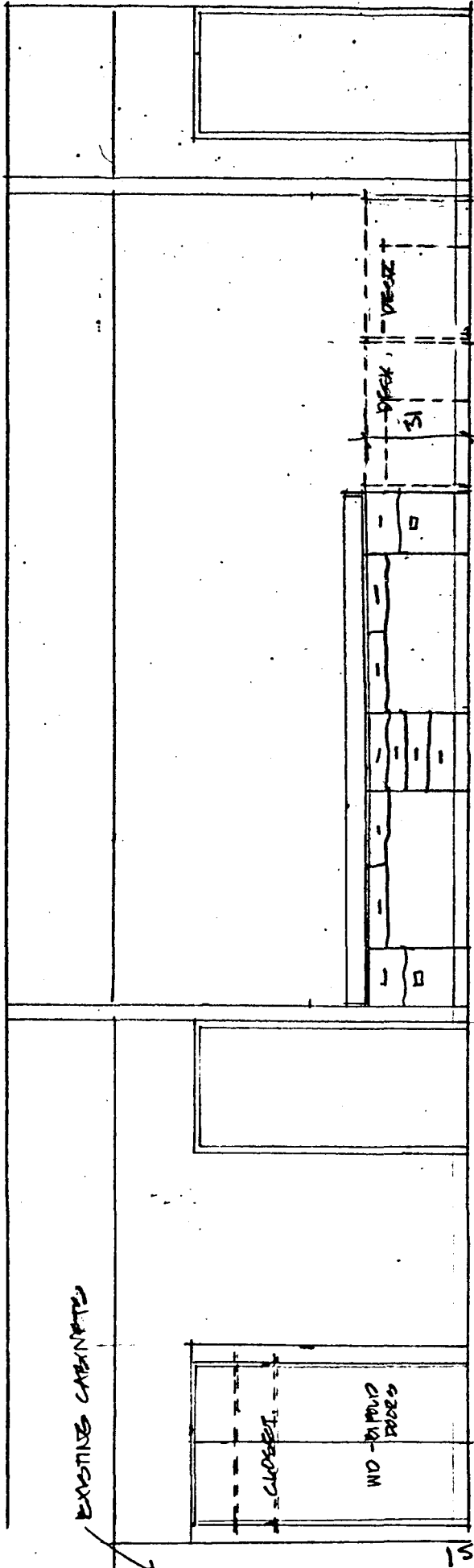


DR. MILLER  
 PHARMACOLOGY





3.17



3.16

3.15

DR. MILLER  
PHARMACOLOGY

1ST FLR

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

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SEP 17 1976

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 13 September 1976  
SUBJECT: JOML Budget Deficit  
NOTES BY: Bruce Johnson  
PRESENT: JOML Building Advisory Committee, Paul Maupin, Gus Scheffler, Pete Merz, Dave Kerkow, Richard Hendrickson, U/M; John Scott, John Patterson, TAC. Jerry Olson, Bruce Johnson, HSAE.

1. The Architects explained the project deficit and presented a list of possible cuts and deduct alternates to eliminate it. Each item was described in detail and discussed.
2. Dr. Poppele questioned the second assumption in the Architects presentation and stressed the need for air conditioning in spaces blocked-off by the new towers. Jim Nelson of the Medical School agreed. The Architects explained that both assumptions were reversible but would then increase the deficit.
3. Mr. Bratt stated that he didn't feel that any definitive decision was possible today. It was agreed that cuts would be identified by Friday after inter- and intra-departmental discussions could take place.
4. The Architects agreed to be available to meet with individual departments throughout the week as required to assist in the deduct identification process.

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UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 13 September 1976  
SUBJECT: Biochemistry Department Deduct Alternates  
NOTES BY: Bruce Johnson  
PRESENT: J. Bratt, Dr. Bodley, Biochemistry Department  
John Scott, John Patterson, TAC  
Bruce Johnson, HSAE

1. Mr. Bratt stated that the 3rd Floor Labs were essential to their program as new faculty were presently being hired who would occupy them.
2. The need for a departmental library was also cited as a high priority.
3. Mr. Bratt cited Items 1, 3, 4 and 18 as the first cuts to take. *J.E.M.*
4. The reduction of front end costs was cited as a possibility for helping make up the construction deficit. The Architects indicated that this decision could only be made by the University.
5. Mr. Bratt identified the following possible deduct alternate as the first one which should be accepted if necessary:

Delete all work North of the '213 Line' on the 2nd Floor of Millard. He requested that the Architects estimate the amount of savings possible here.

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MEETING NOTES:

DATE: 13 September 1976  
SUBJECT: Pharmacology Department Deduct Alternates  
NOTES BY: Bruce Johnson  
PRESENT: Drs. Shideman, Goldberg, Anders and Quebbeman, Pharmacolgy Dept.  
John Scott, John Patterson, TAC.  
Bruce Johnson, HSAE.

1. The Architects explained that cost cuts needed to be established by Friday and deduct alternates established by October 1st.
2. The Drs. explained the importance of the new animal quarters to their program and that they must therefore be kept in the project.
3. The Drs. identified items 1, 3, 4 and 18 as acceptable cost cuts.
4. The Drs. suggested they would favor the transfer of funds from the Group II Equipment budget to the construction budget as a method of compensating for the remainder of the project deficit.
5. No priorities were established on deduct items. Coldrooms were cited as possible deducts. Other partial cutbacks in new areas were cited as possible secondary targets.

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PLANNING OFFICE

MEETING NOTES:

DATE: 13 September 1976  
SUBJECT: Physiology Department Deduct Alternates  
NOTES BY: Bruce Johnson  
PRESENT: Drs. Poppele and Grim, M. Lubanski, Physiology Department.  
John Scott, John Patterson, TAC.  
Bruce Johnson, HSAE.

1. The Drs. stated that the proposed 4th Floor Owre lab deferment was not an acceptable first priority alternative.
2. They emphasized that the air conditioning of the spaces blocked by the new towers was imperative.
3. They agreed that Items 1, 3, 4 and 18 as identified were cuts acceptable to them.
4. They suggested that the use of Group II Equipment funds be the next step taken to fill the construction project deficit.
5. They asked the Architects to identify general costs before they prioritize some deduct alternates.

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UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 14 September 1976  
SUBJECT: Code Correction Deduct Alternates  
NOTES BY: John Patterson  
PRESENT: Gus Scheffler, Dept. of Environmental Health and Safety, U/M.  
John Patterson, TAC.  
Bruce Johnson, HSAE.

1. Mr. Scheffler indicated that Items <sup>3</sup>~~4~~ and 18 were acceptable cuts but that Item ~~4~~<sub>4</sub> was not acceptable. JP
2. He indicated that he would be willing to defer code updating of elevator cabs, but indicated that this item must be reviewed with Mr. Kogl.
3. It was agreed that a meeting should be held next week between Mr. Scheffler, Mr. Kogl and the Architects to discuss this item and certain other code issues in need of immediate resolution.



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UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 14 September 1976  
SUBJECT: Anatomy Department Deduct Alternates  
NOTES BY: Bruce Johnson  
PRESENT: Dr. Smithberg, Dr. Robertson, Anatomy Department.  
John Patterson, TAC.  
Bruce Johnson, HSAE.

Drs. Robertson and Smithberg indicated that the reduction items related to their department were basically acceptable but would best be accepted as deduct alternates (if necessary) in the following order:

- A. Defer Air Conditioning on the 2nd Floor of Owre.
- B. Defer Air Conditioning on the 2nd Floor of Jackson.
- C. Defer the remodeling of the Mortuary Science cadaver preparation and storage area.

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PLANNING OFFICE

MEETING NOTES:

DATE: 13 September 1976  
SUBJECT: Pathology Department Deduct Alternates  
NOTES BY: Bruce Johnson  
PRESENT: Drs. Barksdale and Rosenberg, Pathology Department.  
John Scott, John Patterson, TAC.  
Bruce Johnson, HSAE.

1. The Drs. explained the value they placed on Jackson 496 and their desire to identify other alternatives as deducts.
2. They agreed that Items 1, 3, 4 and 18 should be cut first.
3. They suggested that Group II Equipment Funds should be used to fill the project deficit before the remodeling of space was deferred.
4. They identified the following items as possible deduct alternates in the order in which they should be accepted if necessary. They asked that the Architects estimate their value:
  - A. Defer remodeling of offices 4th Floor Owre.
  - B. Reduce the lab renovation work on the 4th Floor of Owre.
  - C. The omission of the cold room and glass washing area on the 4th Floor of Owre.

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UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

15 September 1976

JOML COMPLEX REMODELING  
DEDUCT ALTERNATE IDENTIFICATION

The attached list of possible deduct alternates and their associated values is being transmitted to assist you in arriving at your departmental and interdepartmental priorities.

It should be noted that the values listed have, by necessity, been prepared in great haste and will probably undergo adjustment in the future as the work is more precisely defined.

We would suggest that it might be beneficial for the JOML Building Advisory Committee to schedule a meeting with the Architects during the week of September 27th. It would be hoped that at this time your tentative list of prioritized deduct alternates could be discussed. During that, and subsequent meetings on a regular interval during the Contract Document Phase, the list should be refined to reflect your priorities along with more accurate estimates of value and a logic appropriate to the bidding and construction processes.

In your discussions of project costs it should be noted that the phasing limitations presently anticipated to accommodate the movement of personnel during construction may well adversely affect contractors' pricing. A preferable alternative would be to require that the contractor present the University with a schedule of construction by area upon the award of the contract and to rely on his good will to avoid interference with the requirements of on-going programs.

As we meet to review the progress of the project and its budget, we hope that you will assist us in identifying any areas of excessive costs. It would certainly be in the interests of all to avoid the necessity of accepting any of the deduct alternates that we are in the process of defining.

We appreciate your immediate response to the project deficit problem and will always be available to provide further assistance in this process if the need arises.

John Patterson

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UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

September 15, 1976

DEDUCT ALTERNATES - DEPARTMENT OF ANATOMY

1. Defer Air Conditioning unit, ductwork and corridor ceilings from 2nd Floor Owre Laboratories of Drs. Parsons, Hegre, and McEvoy. Window air conditioners could be used in the interim until more remodeling is done on the 2nd Floor to utilize more fully the Air Conditioning System. .... \$ 75,000
  2. Defer Air Conditioning unit, ductwork and corridor ceilings from 2nd Floor Jackson Laboratories of Drs. Yououzai, and Bauer. Window air conditioners could be used in the interim until the N.W. Mechanical Tower is built and hookup to air conditioning would be a less significant cost. .... \$ 25,000
  3. Defer Mortuary Science cadaver preparation and storage remodeling. This space could more easily be remodeled and ventilated with the addition on the N.W. Tower. .... \$ 20,000
- TOTAL ..... \$120,000

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HEALTH SCIENCES EXPANSION

September 15, 1976

DEDUCT ALTERNATES - DEPARTMENT OF BIOCHEMISTRY

1. Defer installation of Air Conditioning ductwork, and corridor ceilings on Millard Hall North of a line along the South end of Stairwell J. ....	\$ 28,000
2. Defer all remodeling to be done in 2nd Floor Millard Hall Laboratories. (Dr. Ungar) .....	\$ 25,000
3. Defer all remodeling to be done in 2nd Floor Millard Hall Laboratory and Instrument Rooms (Dr. Hogankamp) .....	\$ 75,000
4. Defer installation of new coldroom from 2nd Floor Millard Hall. ....	\$ 31,000
TOTAL .....	\$159,000

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HEALTH SCIENCES EXPANSION

September 15, 1976

DEDUCT ALTERNATES - DEPARTMENT OF PATHOLOGY

1. Defer all remodeling to be done to Office and Conference Rooms South of 4th Floor Owre Corridor. Stairwell to be erected only. .... \$ 40,000
  2. Defer all remodeling to be done to Laboratories North of corridor 4th Floor Owre Hall. Five new fume hoods will be installed. .... \$ 50,000
  3. Defer installation of the five new fume hoods to 4th Floor Owre Hall Laboratories. .... \$ 30,000
  4. Defer Central Air Conditioning of Jackson Hall 496 Penthouse Laboratories. Ventilation and Air Conditioning could be accomplished with window units cut into and installed in the Metal Wall Panels. .... \$ 45,000
- TOTAL ..... \$165,000

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September 15, 1976

DEDUCT ALTERNATES - DEPARTMENT OF PHARMACOLOGY

1. Defer installation of new Coldroom in  
Basement Millard Hall ..... \$ 25,000
  2. Defer installation of new Coldroom on  
First Floor Millard Hall ..... \$ 25,000
  3. Defer installation of new Coldroom on  
Second Floor Owre Hall ..... \$ 20,000
  4. Defer renovation of Deep Coldroom on  
Second Floor Lyons Lab ..... \$ 8,000
  5. Defer all remodeling to be done in 2nd Floor  
of Lyon Laboratories (Drs. Goldberg, Shideman).  
Minimal remodeling is presently planned for this space. .... \$ 15,000
  6. Defer all remodeling to be done in Basement  
Millard Hall Laboratory (Dr. Zimmerman). This space  
is typical laboratory remodeling without central  
Air Conditioning. .... \$ 50,000
  7. Defer all remodeling to be done in First Floor Owre  
Hall Laboratories North of corridor (Dr. Mannering).  
This space is more difficult construction due to sloped  
structural concrete floors and includes central Air  
Conditioning. .... \$100,000
  8. Defer 60 lin. ft. of base cabinets from each of 13 Labs  
being remodeled to come up with a total of \$100,000 deducts.... Not Recommended
- TOTAL ..... \$243,000

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UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

September 15, 1976

DEDUCT ALTERNATES - DEPARTMENT OF PHYSIOLOGY

1. Defer remodeling of Conference Room 3rd Floor Millard (Rm 311) .....	\$ 7,000
2. Defer remodeling of 2 Storage Rooms 3rd Floor Millard (Rm 312 and 313) .....	\$ 5,000
3. Defer remodeling of Laboratory 3rd Floor Millard (Rm 339) .....	\$ 3,000
4. Defer remodeling of Darkroom 3rd Floor Millard (Rm 364) .....	\$ 4,000
5. Defer remodeling of Cold Rooms on 3rd and 4th Floor Millard Hall (Rm 336B and 420) .....	\$ 20,000
6. Defer remodeling of Shop Area on 4th Floor Millard Hall (Rm 458 and 456) .....	\$ 15,000
7. Defer remodeling of Office 4th Floor Millard (Rm 424F) .....	\$ 4,000
8. Defer remodeling of Lab 4th Floor Millard (Rm 409) .....	\$ 4,000
9. Defer remodeling of Lab 4th Floor Lyon Lab (Rm 467) .....	\$ 18,000
10. Defer remodeling of Lab 4th Floor Lyon Lab (Rm 468) .....	\$ 7,000
11. Defer remodeling of Laboratory and Faculty Office 4th Floor Owre Hall (Rm 411) .....	\$ 40,000
12. Defer remodeling of Laboratories 4th Floor Owre Hall (Rm 432 and 434) .....	\$ 10,000
TOTAL .....	\$137,000



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NOV 18 1976

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HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES

DATE: 12 November 1976  
SUBJECT: JOML Complex Remodeling - Engineering Meeting  
NOTES BY: Cliff Olson, Dennis Leslie  
PRESENT: Tom Kyle, Paul Kopietz, Pete Merz, Dick Hendricks, Ed Ehlenz, Bruce Johnson, Dennis Leslie and Cliff Olson.

A. JOML BUDGET

1. The present budget for JOML remodeling indicates a cost figure of \$40,000.00 for Control Center Wiring. Some of the space users questioned if alarm wiring from their respective space to the control center would be included in the \$40,000.00. Dick Hendricks and Pete Merz both agreed that the budget allotment covered only control wiring from the control panels in the new equipment towers back to the console of the Control Center. Each User must stand the additional expense for wiring etc. from their respective space to a control panel in the new equipment towers.

B. COLD ROOM EQUIPMENT

1. A system must be provided to remove heat generated by the refrigeration units for all the new cold rooms provided in the remodeled areas. The Owner will be providing the equipment and installation required for each unit. Tom Kyle will be assembling all the User's requirements as to size, capacity, etc. of the boxes required. After all the data is completed we will be informed if a central water circulating system with cooling tower is required or if each unit will have its own air cooled condenser located on the roof.

C. JOML WEST SIDE

1. A review of Meeting Notes of June 30, 1976 and the decision to install air handling equipment in Jackson Hall was discussed. It was pointed out that the differential cost for the Jackson Penthouse air handling addition did not include electrical costs to upgrade Jackson main switchboard. The Jackson switchboard was scheduled to be upgraded with the addition of the North West mechanical tower.

An alternative to upgrading Jackson main switchboard was presented. The alternative consisted of installing 2(4" - 4 #600 MCM ea.) parallel to Jackson existing main service from Jackson Owre switchboard and temporarily connect the service to the Jackson Penthouse motor control center using these conductors.

This would apply the load of Jackson motor control center from the heavily loaded Jackson switch board to the new Jackson Owre switchboard. When the Jackson switchboard is upgraded the new 600 MCM would be paralleled with the existing Jackson service. The MCC service would be again connected to the Jackson switchboard. The 2 (4" - 4 #600 MCM ea.) is estimated at \$6,200. This should be added to the cost of Plan C.

It was agreed that the University would meter the Jackson motor control center and determine the actual load to be transfer and get back with a decision.

cc: Those present  
~~Paul~~ Maupin  
Dave Kerkow  
John Scott  
Gus Scheffler

January 12, 1977

*J.O.M.C.*

Minutes of Progress Meeting of January 4, 1977.

Those Present

Gerhart Buehrer - Health Science Architects Engineers  
Dick Hendricks - U of M  
Erv Merklng - U of M  
A. Walter Johnson - U of M  
John Nelson - Adolfson & Peterson

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Copies also to:

Emil Ranallo - U of M  
R. R. Anderson - U of M  
Harvey Jaeger - U of M  
Jack Geretz - U of M  
✓ Tom Kyle - U of M  
Bruce Young - Cy Courture  
Jim Gustafson - Sun Mechanical

JAN 21 1977  
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HEALTH SCIENCE  
PLANNING OFFICE

Items Discussed:

1. Erv reviewed the minutes of the previous meeting.
  - a. Item 2B - Limestone will be carefully removed and reused as practicable by Adolfson & Peterson in remodeling. Any remaining stone will be turned over to the U of M at the completion of the project.
  - b. Water service for the cooler wash down will be installed in Contract B.
  
2. John gave a progress report.
  - a. Brick sample is ready for approval.
  - b. Gerhart requested that an additional quantity of brick be ordered for Phase B. A Change order will be written for this in the near future.
  - c. Revised shop drawings still have not been received for the metal panels. Adolfson & Peterson will stay on this item.
  - d. Structural steel work is being completed and forms are being installed for floor slabs and beam and column fireproofing.
  - e. It was requested that the progress schedule be updated. This will be done in the near future.
  
3. Next meeting will be at 1:30 at 4112 Powell Hall. Please plan to attend.

ADOLFSON & PETERSON, INC.

*Robert J. Coruzzi*

Robert J. Coruzzi, P.E.  
Project Manager  
RJC/mb

Minutes of Progress Meeting of January 18, 1977 for U of M JOML - A Building

*JOML-Progress Meeting Notes*

Those Present:

- Jack Geretz - U of M
- A. Walter Johnson - U of M
- Dick Hendricks - U of M
- Tom Kyle - U of M
- Gerhart Buehrer - Health Science Architects Engineers
- John Nelson - Adolfsen & Peterson
- Bob Coruzzi - Adolfsen & Peterson

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HEALTH SCIENCE  
PLANNING CENTER

Copies Also To:

- Emil Ranallo - U of M
- R. R. Anderson - U of M
- Irv Merklin - U of M
- Harvey Jaeger - U of M
- Bruce Young - Cy Courture Electric
- Jim Gustafson - Sun Mechanical

Items Discussed:

1. A. Walter Johnson read the minutes of the previous meeting.
  - a. Item 2-A-Brick sample has been approved and brick has been ordered.
  - b. Item 2-B-Gerhart noted that additional brick will not be required for future Phase B work.
  - c. Item 2-C-Metal panel incorrect. Leo Shields attended the meeting and saw no problem in achieving the installation Gerhart requires. Leo and his draftsman will meet with Gerhart Wednesday morning to resolve the matter. This must be done immediately to keep on schedule.
  - d. Formwork on the Southwest tower has been halted due to the cold weather.
  - e. Progress Schedule will be revised as soon as there is a break in the weather so that we can determine how long a delay the weather has caused.
  
2. John gave a progress report.
  - a. Steel erection on the southeast tower will be substantially complete by Thursday of this week.
  - b. Steel on southwest tower is substantially complete. Scaffold is being erected and stairs are being installed.
  - c. Mechanical and electrical will be back on the job this week.
  - d. Waterproofing has been suspended due to the cold weather.
  - e. There is a small amount of jackhammering remaining to be done.
  - f. Mechanical and electrical contractors should be represented at the next meeting.
  
3. The next meeting will be on February 1, 1977 at 1:30 p.m. in Room 4112 Powell Hall. Please plan to attend.

Very truly yours,

ADOLFSON & PETERSON, INC.

*Robert J. Coruzzi*  
Robert Coruzzi, P.E.  
Project Manager

Minutes of the Progress Meeting of February 1, 1977 for the U of M JOML-A Building.

JOML

Engineering Review

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FEB 1 1977

Those present:

A. Walter Johnson - U of M  
Tom Kyle - U of M  
Dick Hendricks - U of M  
Emil Ranallo - U of M  
Gerhart Bueher - Health Science Architects & Engineers  
Cec Olson - Courture Electric  
Charles Meitzner - Sun Mechanical  
John Nelson - Adolfson & Peterson  
Bob Coruzzi - Adolfson & Peterson

Copies also to:

Jack Geretz - U of M  
Irv Merkling - U of M  
Harvey Jaeger - U of M  
R. R. Anderson - U of M

Items Discussed:

1. A. Walter Johnson read the minutes of the previous meeting.
  - a. Item 1-C Gerhart met with the Inland representative and agreed on the details for the metal paneling.
  
2. John Nelson gave a progress report.
  - a. Structural steel on the southeast tower is substantially complete and the stairway is going in.
  - b. The ramp on the southeast tower was poured this morning and the balance of the slab on grad will be poured Wednesday.
  - c. The ground floor in the southwest tower will be poured Thursday.
  - d. Mechanical underground work in both towers is complete.
  - e. The electrician has the service panels and is working on the service.
  - f. Gerhart will check on the rain leader cover to the mechanical piping and write a letter. \*
  - g. The 12"  $\emptyset$  sleeves on the southwest tower remain as shown on the original drawings - disregard the addendum. On the southeast tower move the sleeve 1'-0" toward grid 8 from position shown on original drawings - disregard the addendum. Gerhart will confirm this in a letter. \*
  - h. Gerhart will verify elevation of sump in sub basement of southwest tower and verify in a letter. \*
  - i. Gerhart and A. Walter clarified the position of the drain cleanout relative to the 10" line and manhole.
  - j. Emil Ranallo noted that the cooler still was not wired properly. Electrical contractor will rectify this immediately if not sooner.
  - k. Fresh air duct opening is presently restricted by formwork. John assured all that this would be removed as quickly as possible.
  - l. John stated that additional temporary power facilities were required. This will be done by the electrical contractor this week.

\* Copies of this letter are attached and made a part of these minutes.

3. Next meeting will be on February 15, 1977 at 1:30 p.m. in room 4112 Powell Hall. Please plan to attend.

*Robert J. Coruzzi*  
Robert J. Coruzzi, P.E.  
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FEB 3 8 35 AM '77

HEALTH SCIENCES ARCHITECTS AND ENGINEERS INC  
UNIVERSITY PARK PLAZA SUITE 704 2829 UNIVERSITY AVENUE MINNEAPOLIS, MINNESOTA 55414 (612) 378-3833  
ADOLFSON & PETERSON  
MINNEAPOLIS, MINN.

2 February 1977

Mr. Robert Coruzzi  
Adolfson & Peterson, Inc.  
6701 West 23rd Street  
Minneapolis, Minnesota 55426

Re: JOML-A Mechanical Towers  
University of Minnesota

Dear Mr. Coruzzi:

The following comments relate to questions raised at todays (1 February 1977) progress meeting:

1. Cap the 3" rain water leader in the Mayo Graage near column C-9. This pipe will connect to an 8" drain furnished and installed under another contract. See attached drawing.
2. Specification Section 15130/2.1 requires that the mechanical subcontractor furnish all pipe sleeves.  
  
Specification Section 03300/3.4 requires the General Contractor to install pipe sleeves furnished by others.
3. Locate 12"  $\emptyset$  pipe sleeves through floors as follows:
  - a. S.W. Tower: Locate pipe sleeve as shown on floor plans - Disregard Addendum #1.
  - b. S.E. Tower: Move pipe sleeve 1'-0-1/2" toward grid 8 instead of grid 9 as indicated in Addendum #1.
4. Locate top of sump flange (in the sub-basement of the S.W. Tower) flush with the concrete floor finish. Keep threaded holes clear of concrete to allow fastening of cover to flange.

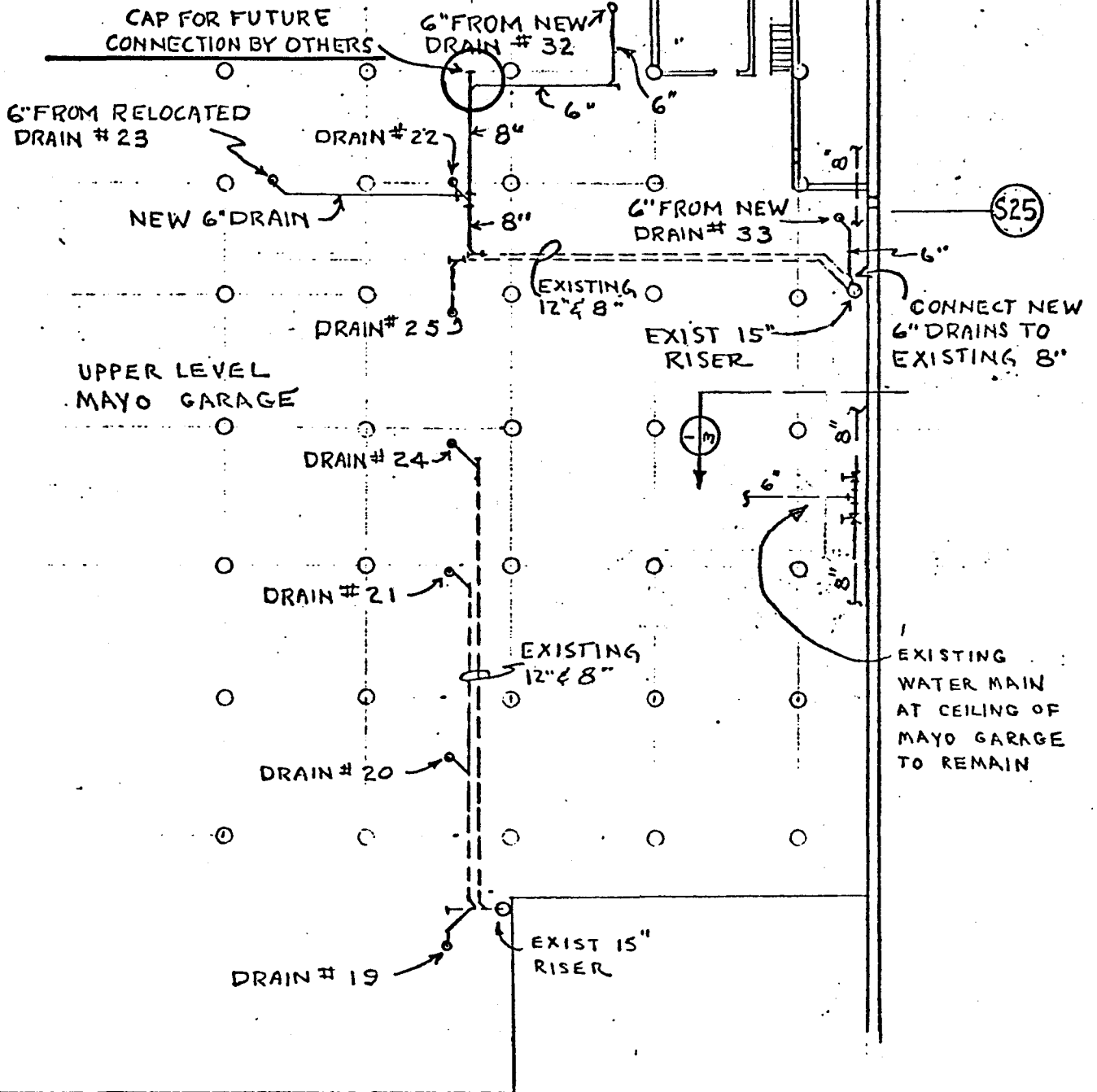
Sincerely,

HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

  
Gerhart Buehler

enclosure

EXISTING JACKSON-OWRE-  
MILLARD-LYONS HALLS.



EW

S25

SEE SHEET M-4 FOR PIPING LAYOUT.

**PRELIMINARY**  
NOT FOR CONSTRUCTION



REVISED NOV. 4, 1976  
REVISED 3 SEPT 76

<p>UNIVERSITY OF MINNESOTA HEALTH SCIENCES EXPANSION</p> <p>THE ARCHITECTS COLLABORATIVE, INC CAMBRIDGE MASS &amp; THE HEALTH SCIENCES ARCHITECTS &amp; ENGINEERS, INC</p> <p>THE CERNEY ASSOCIATES INC MINNEAPOLIS MINNESOTA HAWTEL, GREEN &amp; APTHEIMANN INC SEATTLE WASH &amp; MINNEAPOLIS MINN</p>	<p>JOB NO UNIT B/C</p>	<p>MODIFICATION NO. 47-P</p> <p>REVISED PLAN OF DRAIN PIPING AT MAYO GARAGE CEILING</p>	<p>SHEET NO 2</p>
	<p>DRAWN D.I.O.</p>		
	<p>CHECK REN</p>		
	<p>SCALE 1/32" = 1'-0"</p> <p>DATE 13 AUG 76</p>		

# JOML - Engineering Review

THE ARCHITECTS COLLABORATIVE, INC.  
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MAR 30 1977

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HEALTH SCIENCE  
PLANNING OFFICE

## MEETING NOTES

DATE : 28 March 1977

SUBJECT : JOML-B - Mechanical Review

NOTES BY: Bruce Johnson

PRESENT :  Paul Maupin, Tom Kyle, H.S.P.O.; Bob Hudalla, U of M Engineering and Construction; Terry Tillman, Bruce Johnson, HSAE

1. Bob Hudalla discussed recent requests from the Medical School Administration for air conditioning. Various options were discussed relating to the JOML-B plans. He recommended that fan S-1 in Owre-7 be abandoned and that those areas shown on JOML-B plans to be served by S-1 be served by Unit S-2 in Owre-7. This will require that return ductwork be added from the first floor to S-2. A portion of the ductwork for this service may be installed by the University for immediate computer cooling. Bob Hudalla will advise HSAE by April 15 if this portion is to be deleted from the JOML-B plans.

Bob Hudalla requested that ductwork connecting to Units S-1 and S-2 in Jackson, Owre-6 shown on JOML-B plans to be removed, instead be left in place for future air conditioning of first floor. HSAE will investigate this proposal.

2. Cold rooms in JOML-B were discussed. Terry Tillman indicated no unit cooling requirements have been planned or asked for by the University. Paul Maupin agreed this was present plan and University engineering must provide all cooling requirements for the cold rooms.
3. Tom Kyle mentioned use of 5th floor Owre space would not pass code. Bruce Johnson said previous approved planning has been to leave 5th floor as mechanical use until future remodeling of corridor, stairs, and fire code requirements are completed. Bruce also said the code states if less than 10 occupants are in a space, the 44" corridor does not apply. Paul Maupin planned on having letter written to Gus Scheffler indicating 5th floor would have less than 10 occupants.
4. U of M Mechanical engineering was to have review comments back to HSAE Monday April 4, 1977.

enclosure

cc: w/encl to all present



used as required exits. Power operated doors complying with U.B.C. Standard No. 33-1 may be used for exit purposes.

(g) **Egress from Door.** Every exit door required by this Section shall give immediate access to an approved means of egress from the building.

(h) **Change in Floor Level at Doors.** Regardless of the occupant load, there shall be a floor or landing on each side of a door. The floor or landing shall be not more than 1 inch lower than the threshold of the doorway. Where doors open over landings, the landing shall have a length of not less than 5 feet.

**EXCEPTIONS:** 1. Where the door opens into a stair of a smokeproof enclosure, the landing need not have a length of 5 feet.

2. In Group R, Division 3 Occupancies and within individual units of Group R, Division 1 Occupancies, a door may open on the top step of a flight of stairs or on an exterior landing provided the door does not swing over the top step or exterior landing and the landing is not more than 7½ inches below the floor level.

3. In Group R, Division 3 Occupancies, screen doors and storm doors may swing over stairs or steps.

4. In Group R, Division 3 Occupancies and private garages and sheds, where a door opens over a landing, the landing shall have a length equal to the width of the door.

(i) **Door Identification.** Glass doors shall conform to the requirements specified in Section 5406.

Exit doors shall be so marked that they are readily distinguishable from the adjacent construction.

(j) **Additional Doors.** When additional doors are provided for egress purposes, they shall conform to all provisions of this Chapter.

**EXCEPTION:** Approved revolving doors having leaves which will collapse under opposing pressures may be used in exit situations provided:

1. Such doors have a minimum width of 6 feet 6 inches.
2. They are not used in occupancies where exits are required to be equipped with panic hardware.
3. At least one conforming exit door is located adjacent to each revolving door installed in a building.
4. The revolving door shall not be considered to provide any exit width.

### \* **Corridors and Exterior Exit Balconies**

Sec. 3304. (a) **General.** This Section shall apply to every corridor serving as a required exit for an occupant load of 10 or more persons. For the purposes of this Section the term "corridor" shall include "exterior exit balcony" and any covered or enclosed exit passageway including walkways, tunnels and malls.

Foyers, lobbies and reception rooms meeting the construction requirements of corridors as specified in this Section may be classed as corridors.

Partitions, rails, counters and similar space dividers not over 5 feet in height above the floor shall not be construed to form corridors.

FOR 10 OR MORE OCCUPANTS

(b) **Width.** Every corridor shall be not less in width than 44 inches. For special requirements for Groups E and I Occupancies, see Sections 3317 and 3318.

(c) **Height.** Corridors and exterior exit balconies shall have a clear height of not less than 7 feet measured to the lowest projection from the ceiling.

(d) **Projections.** The required width of corridors shall be unobstructed.

**EXCEPTION:** Trim, handrails, and doors when fully opened, shall not reduce the required width by more than 7 inches. Doors in any position shall not reduce the required width by more than one-half.

(e) **Access to Exits.** When more than one exit is required, they shall be so arranged that it is possible to go in either direction from any point in a corridor to a separate exit, except for dead ends not exceeding 20 feet in length.

(f) **Changes in Elevation.** When a corridor or exterior exit balcony is accessible to an elevator, changes in elevation of the floor shall be made by means of a ramp.

(g) **Construction.** Walls of corridors serving an occupant load of 30 or more shall be of not less than one-hour fire-resistive construction and the ceilings shall be not less than that required for a one-hour fire-resistive floor or roof system.

**EXCEPTIONS:** 1. One-story buildings housing Group B, Division 4 Occupancies.

2. Corridors more than 30 feet in width where occupancies served by such corridors have at least one exit independent from the corridor.

3. Exterior sides of exterior exit balconies.

When the ceiling of the entire story is an element of a one-hour fire-resistive floor or roof system, the corridor wall may terminate at the ceiling. When the room side fire-resistive membrane of the corridor wall is carried through to the underside of a fire-resistive floor or roof above, the corridor side of the ceiling may be protected by the use of ceiling materials as required for one-hour floor or roof system construction or the corridor ceiling may be of the same construction as the corridor walls.

Ceilings of noncombustible construction may be suspended below the fire-resistive ceiling.

(h) **Openings.** Where corridor walls are required to be of one-hour fire-resistive construction by subsection (g) above, every door opening shall be protected by a tight-fitting smoke and draft control door assembly having a fire-protection rating of not less than 20 minutes when tested in accordance with U.B.C. Standard No. 43-2 without the hose stream test. The door and frame shall bear an approved label or other identification showing the rating thereof, the name of the manufacturer, and the identification of the service conducting the inspection of materials and workmanship at the factory during fabrication and assembly. Doors shall be maintained self-closing or shall be automatic closing in accordance with

JOML - H. E. W.

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

RECEIVED

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

APR 23 1977

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 19 April 1977  
SUBJECT: ROFEC Review - JOML-B Contract Drawings  
NOTES BY: Bruce Johnson  
PRESENT: ROFEC - Henry Ray, Bill Barclay  
U/M - Vic Scott, Paul Kopletz, Tom Kyle, Gus Scheffler  
HSAE - Duane Blanchard, Bruce Johnson, Cliff Olson, Dennis Leslie

Meeting started at 9:30.

A. Review of the JOML-B Project.

- 1. Project history was discussed.
- 2. Scope of project and orientation to the contract drawings were discussed.

B. Discussed ROFEC approval procedures.

- 1. Verbal approval will be followed by letter.
- 2. Discussed Federal general conditions requirements, but decided to use the U/M standard previously used.
- 3. Recommended that local approval of code enforcement be obtained in writing.

C. Reviewed contract document plans for code related items.

- 1. Compartmentation between stair smoke enclosures was discussed.
- 2. Pocketing detail of stair doors was discussed.
- 3. Discussed stair doors and hold open devices.
- 4. Recommended additional detectors in south corridor between stair doors.
- 5. General fire alarm set off by any smoke detector must close all magnetically held open doors.
- 6. Discussed fire and smoke separation between 2 hour building exterior and new towers.
- 7. Elevator shafts should not be fire proofed until total elevator door and cab is brought up to fire code.

Meeting adjourned for a lunch break and resumed at 1:30 into 2 groups.

D. Architectural Review Session.

- 1. Review set of plans to be sent with final copy of specifications referencing it to the 19 April 1977 Review Meeting. Vic Scott will handle this item.
- 2. Clarification of existing fences on site plan is required.
- 3. Clarification of work separation between JOML-A and JOML-B is required.
- 4. A general note should be added to indicate symbols for existing demolition and new work.

5. Henry will send a ANSI HPCD requirement check list for response by Owner and Architect. Where conflicting with state code indicate on check list.
6. Sheet A-6 should add note to remove wall below "window sill".
7. Clarification on the removal of removable floor on 3rd Floor is recommended.
8. Apparent conflict of electrical closet doors and stair doors on Sheet A-17 should be resolved.
9. Recommended that rooms titled "unassigned" have some other designation.
10. Henry needs project cost information from HSPO and Vic Scott. Some budget cost data was given for the 81,000 S.F. assignable area.
11. Meeting adjourned until 9:30 next morning.

cc: ~~Paul~~ Maupin  
All Present

THE ARCHITECTS COLLABORATIVE, INC.  
HEALTH SCIENCES ARCHITECTS AND ENGINEERS, INC.

UNIVERSITY OF MINNESOTA  
HEALTH SCIENCES EXPANSION

RECEIVED

APR 28 1977

UNIV. OF MINN.  
HEALTH SCIENCE  
PLANNING OFFICE

MEETING NOTES:

DATE: 20 April 1977  
SUBJECT: ROFEC Review JOML-B Contract Drawings  
NOTES BY: Bruce Johnson, Cliff Olson, Dennis Leslie  
PRESENT: ROFEC - Henry Ray, Bill Barclay  
U/M - Paul Kopietz, Vic Scott, Tom Kyle  
HSAE - Bruce Johnson, Cliff Olson, Dennis Leslie

Meeting schedule was 9:30 to 11:30 with lunch break following and resumed from 1:30 to 2:30 before Henry Ray and Bill Barclay left for Chicago. Those present divided into 2 rooms with the following comments being raised:

Architectural Review Comments

1. It was recommended that window soffit detail be studied for any support blocking required when determination of blinds (N.I.C.) is made by U/M.
2. Recommended that a detail be drawn through head section of magnetically held smoke doors in stairwells.
3. Also recommended that completion schedule in Specification Section 1200 be written in calander days.
4. Verbal approval was given to proceed with a bid advertisement on May 5th for contract drawings, to be followed by a formal letter from ROFEC.

Mechanical Review Comments

Mr. Barclay examined the mechanical and electrical drawings and specifications for the JOML Complex. The following data was discussed:

1. Ventilation ducts penetrating fire rated corridor walls should have fire dampers noted more clearly. Specific notation where ducts pass through stair tower walls above held open doors in N-S corridor. Combination smoke-fire dampers will be installed in wall penetration between equipment towers and existing building.
2. All new piping installed under this contract will be sized in the drawings. Most of the existing piping risers will be retained with new runouts connected to new equipment as required. Existing horizontal piping that is no longer in use will be removed back to the vertical stacks with stacks capped at connection. Some new acid risers will be installed and connected to horizontal sanitary sewer in crawl space. No acid dilution tanks are required on system as acid is not too concentrated.

3. New standpipes will be installed in all stairtowers with a 2½" hose valve provided at each floor level. All standpipes will be connected to a new horizontal loop in the crawl space. The fire department siamese and the existing 4" fire water service from the street will all connect into this new horizontal loop. New hose cabinets with 75 feet of hose will be installed in the corridors in the remodeled areas only.
4. Supply, return and exhaust air units will be installed in the new equipment towers and connected to newly remodeled rooms with ducts, etc. New systems will be of the variable volume type with individual room controls.
5. Each fume hood in remodeled areas shall be ducted to an exhaust fan located in an equipment room in the roof penthouse. Exhaust fan discharge shall be up through roof. Exhaust fan motors shall be two speeds as system must separate continuously to remove flammable fumes from storage cabinets under hoods.
6. Existing heating system will be retained but any cast iron radiation in the remodeled areas will be changed to finned tube with cover. All rooms in the remodeled areas will have individual room control for the radiation and ventilation air.

Electrical Review Comments

1. Delete from Symbol Schedule all symbols not used on plan.
2. Emergency panels should be shown on the riser.
3. Show the emergency circuit for the O.R. Light.
4. Review fixtures in cadaver preparation room to determine if return fixtures are appropriate.

cc: ~~Paul~~ Maupin  
Gus Scheffler  
All Present