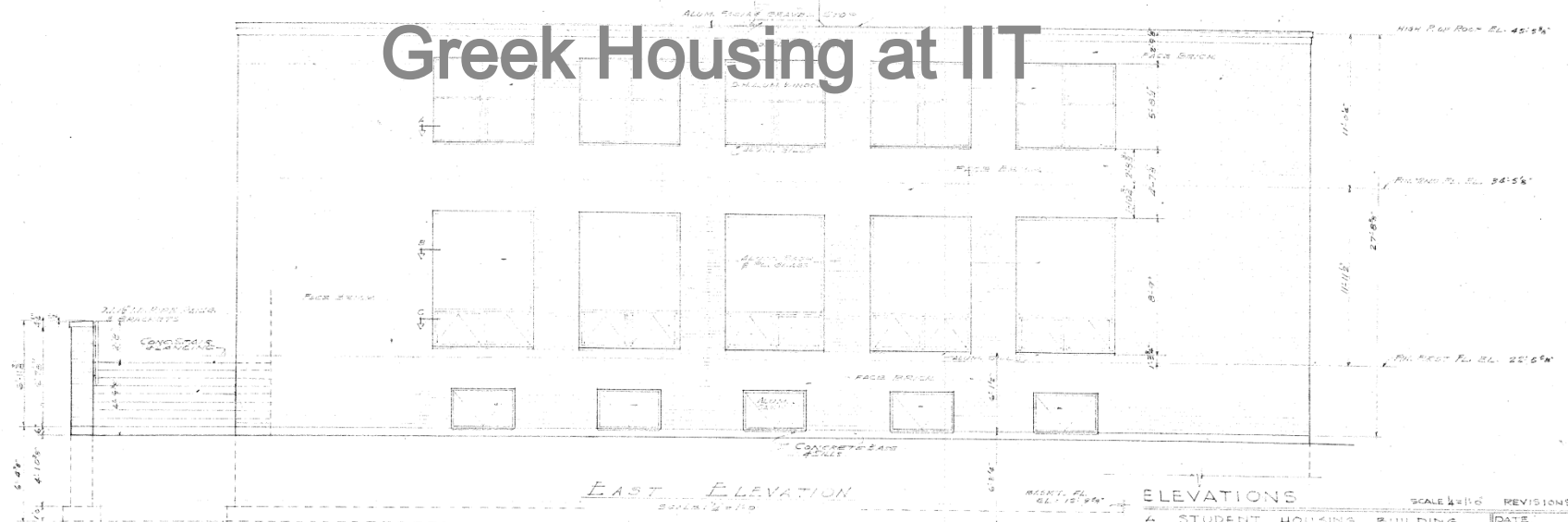


IPRO 311: Delta Shelter

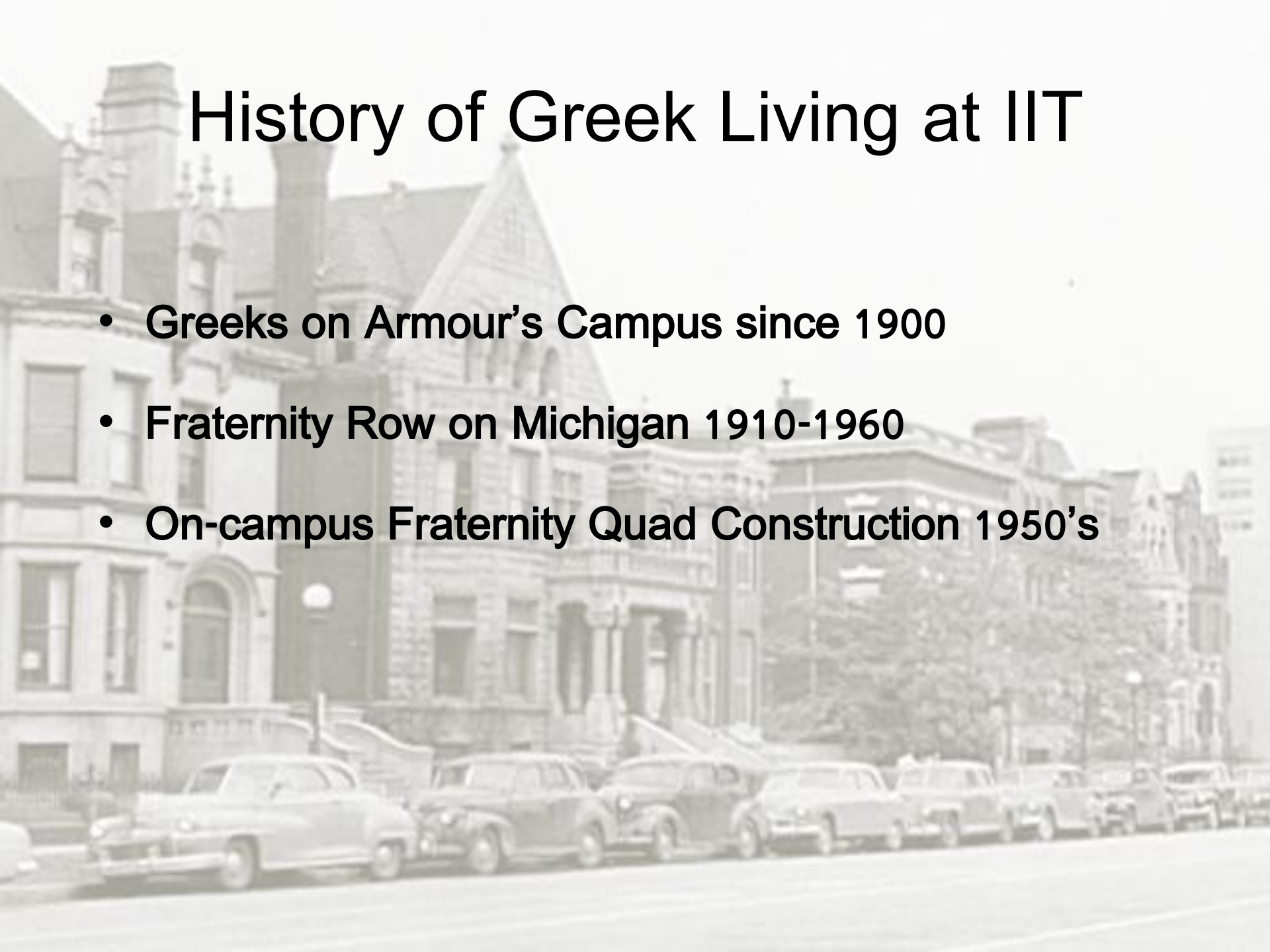
Renovating, Rethinking, and Greening Greek Housing at IIT



ELEVATIONS		SCALE 1/8" = 1'-0"	REVISIONS
A STUDENT HOUSING BUILDING		DATE	10.12.25
FOR		SHEET NO.	5 OF 13
ILLINOIS INSTITUTE OF TECHNOLOGY		JOB NO.	50000
34TH STREET & WABASH AVENUE			
ALFRED L. MELL JOHN JAY FOX JR			
ASSOCIATE ARCHITECTS & ENGINEERS			
30N. LA SALLE STREET			

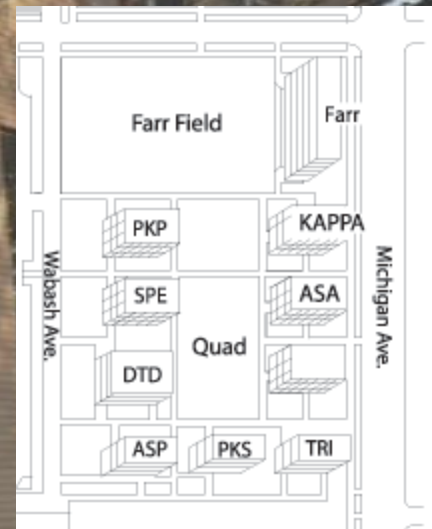
History of Greek Living at IIT

- **Greeks on Armour's Campus since 1900**
- **Fraternity Row on Michigan 1910-1960**
- **On-campus Fraternity Quad Construction 1950's**



Where we are now

- Current $\Delta\Delta$ Shelter is approaching 50 years old
- House maintained by Delt Alumni House Corporation
- Inconsistent House Corporation turnover causes breakdown in facility planning and shelter maintenance
- All chapter houses in similar condition



Map of Quad

Original Project Objectives

- Renovation(s) Proposals
- Facility Planning
- Sustainable Fraternity Living
- Long Term Goal – Planning for the next 50 yrs

I P R O

It takes a team!

INTERPROFESSIONAL PROJECTS PROGRAM

Project Phases

PHASE 1

- Research: Identify problems with existing structure
- Programming: Investigate the current program

PHASE 2

- Research: Generating solutions to problems discovered
- Programming: Evaluate questionnaires, compile data, and begin initial design options

PHASE 3

- Creating Final Proposals
- Looking Forward

Team Breakdown

Programming Team

Creating a program that better fits
the needs of the chapter

Jake Dohm	Architecture, 4 th
Jeff Hallenbeck	Architecture, 4 th
Davyd Jordan	Architecture, 3 rd
Brad Strandquist	Civil E., 3 rd

Research Team

Assessment of all problems of the
existing building

Joshua Bradley	Civil E., 4 th
Noah Cahan	Architecture, 5 th
Daniel Dobbin	Applied Math, 4 th
Kent Hoffman	Architecture, 4 th
Woong-Kyo Lee	Aerospace E., 4 th
Nathan Waisath	Architecture, 5 th

Research Phase 1: Identifying Problems

Mechanical

Envelope

Plumbing

Electrical

Fire Safety

Occupancy Habits

Research Phase 1: Identifying Problems

Mechanical | Envelope | Plumbing | Electrical | Fire Safety | Occupancy Habits

Issues

- Inefficient Boilers
- Poor Control System
- Un-insulated Pipe and Water Tanks
- Problems w/Radiant Fin Tubes

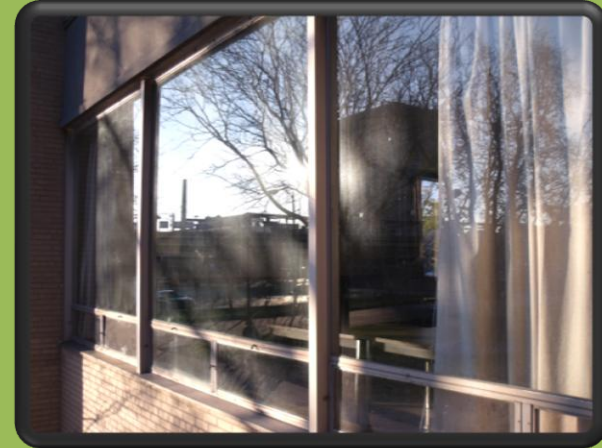


Research Phase 1: Identifying Problems

Mechanical | **Envelope** | Plumbing | Electrical | Fire Safety | Occupancy Habits

Issues

- Windows
- Roof
- Walls
- Doors
- Total R-Value: 3.45



Research Phase 1: Identifying Problems

Mechanical | Envelope | **Plumbing** | Electrical | Fire Safety | Occupancy Habits

Issues

- Excessive Water Usage
 - Toilets
 - Urinals
- Shower Controls

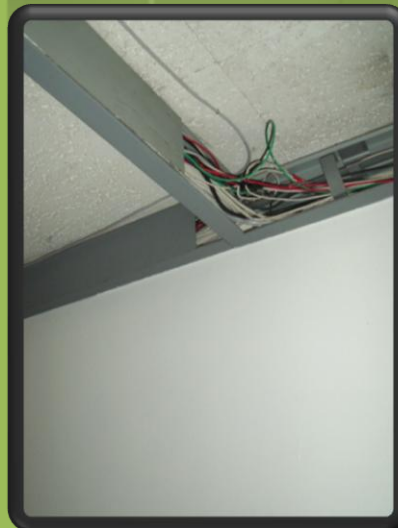


Research Phase 1: Identifying Problems

Mechanical | Envelope | Plumbing | **Electrical** | Fire Safety | Occupancy Habits

Issues

- Lighting
- Appliances
- Wiring



Research Phase 1: Identifying Problems

Mechanical | Envelope | Plumbing | Electrical | **Fire Safety** | Occupancy Habits

Issues

- No centralized alert system
- Minimal Fire Safety

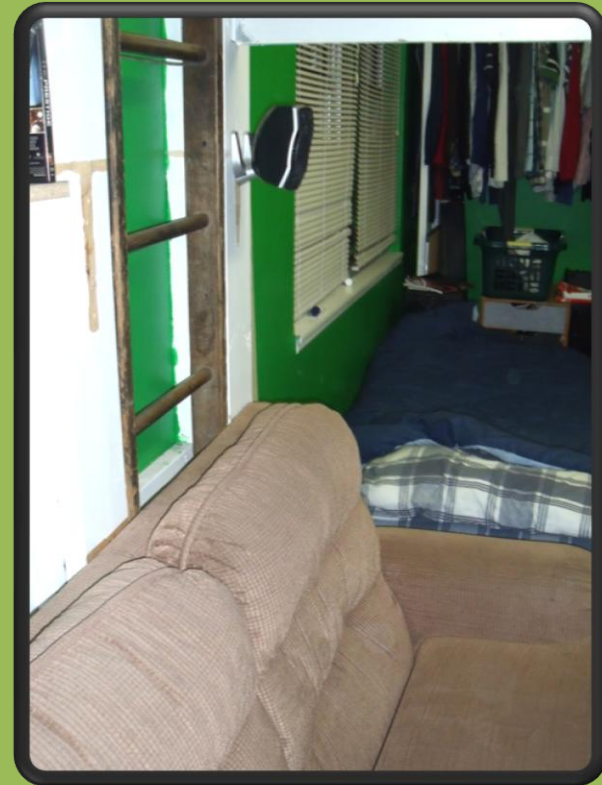


Research Phase 1: Identifying Problems

Mechanical | Envelope | Plumbing | Electrical | Fire Safety | **Occupancy Habits**

Issues

- Electricity
- Recycling
- Heat Distribution



Research Phase 2: Finding Solutions

Mechanical

Envelope

Plumbing

Electrical

Fire Safety

Occupancy Habits

Research Phase 2: Finding Solutions

Mechanical | Envelope | Plumbing | Electrical | Fire Safety | Occupancy Habits

- Replace Boiler
- Preventative Maintenance
- Insulate Pipe
- Improve Control Systems
- Solar Thermal Alternative
- Service Day

Research Phase 2: Finding Solutions

Mechanical | **Envelope** | Plumbing | Electrical | Fire Safety | Occupancy Habits

- Replace Windows
- Weather stripping
- Better Insulate Roof
- Provide Insulation for
Ext. Walls
- Service Day

Research Phase 2: Finding Solutions

Mechanical | Envelope | **Plumbing** | Electrical | Fire Safety | Occupancy Habits

- Introduce Water Saving Technology
- Improve Shower Controls

Research Phase 2: Finding Solutions

Mechanical | Envelope | Plumbing | **Electrical** | Fire Safety | Occupancy Habits

- Lighting Plan
- Occupancy Sensors
- Energy Saving Appliances
- Photovoltaic Cells

Research Phase 2: Finding Solutions

Mechanical | Envelope | Plumbing | Electrical | **Fire Safety** | Occupancy Habits

- Hard Wired Detection and Alert System
- New, up-to-code Exit Signage
- Emergency Lighting

Research Phase 2: Finding Solutions

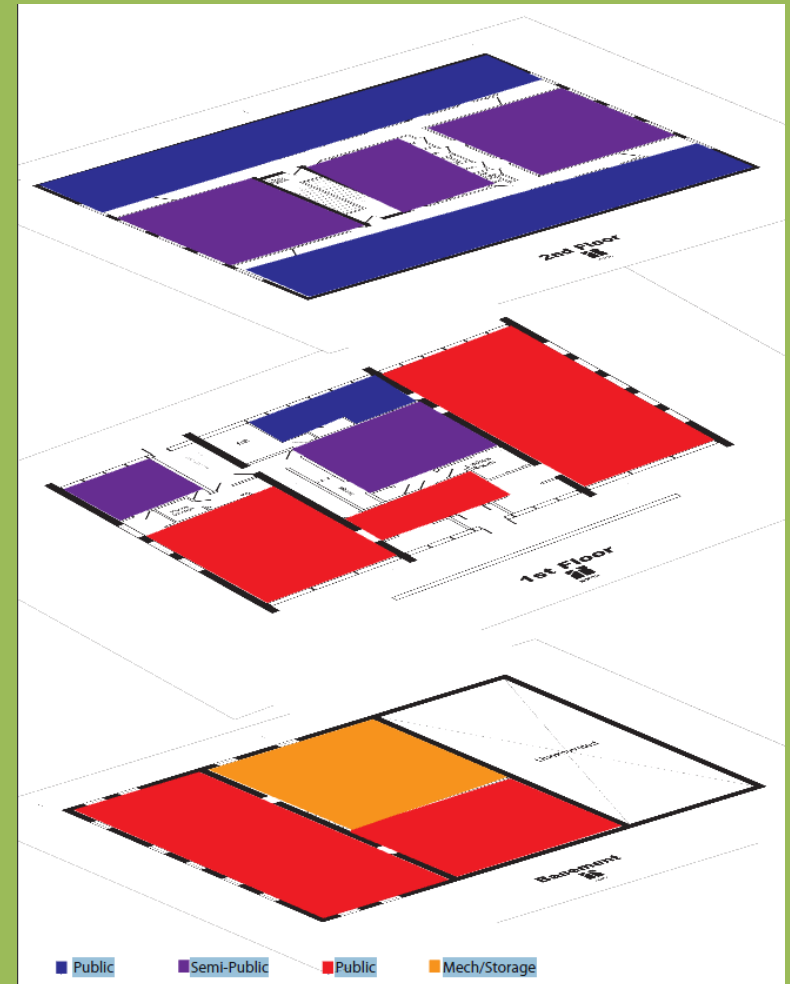
Mechanical | Envelope | Plumbing | Electrical | Fire Safety | **Occupancy Habits**

- Education of Building Residents
- Recycling Program

Programming Phase 1: Study of Current Program

Programming Phase 1: Study of Current Program

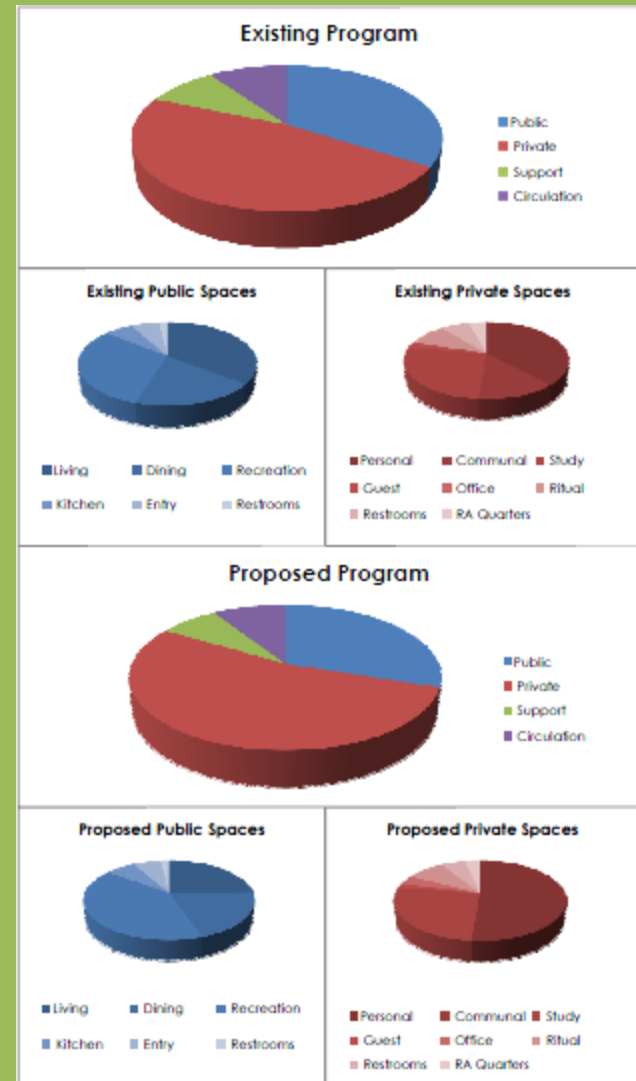
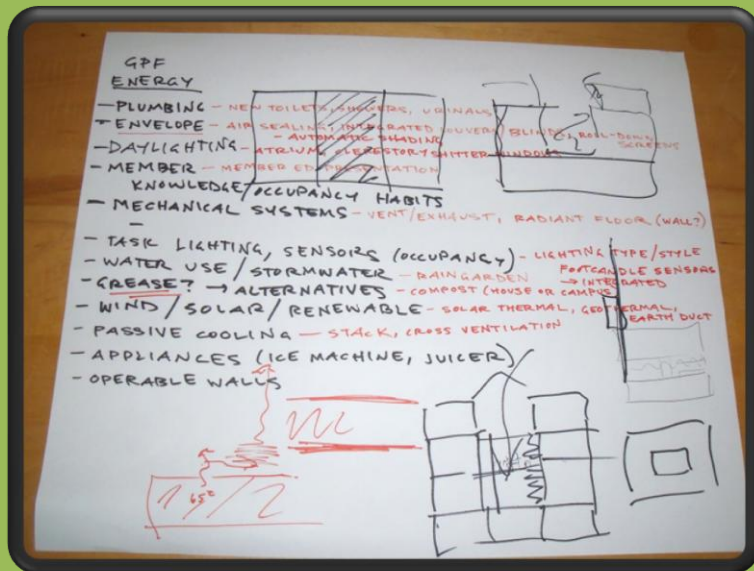
- Questionnaires
- Diagrams
- Study of Current Trends



Programming Phase 2: Redesign Program

Programming Phase 2: Redesign Program

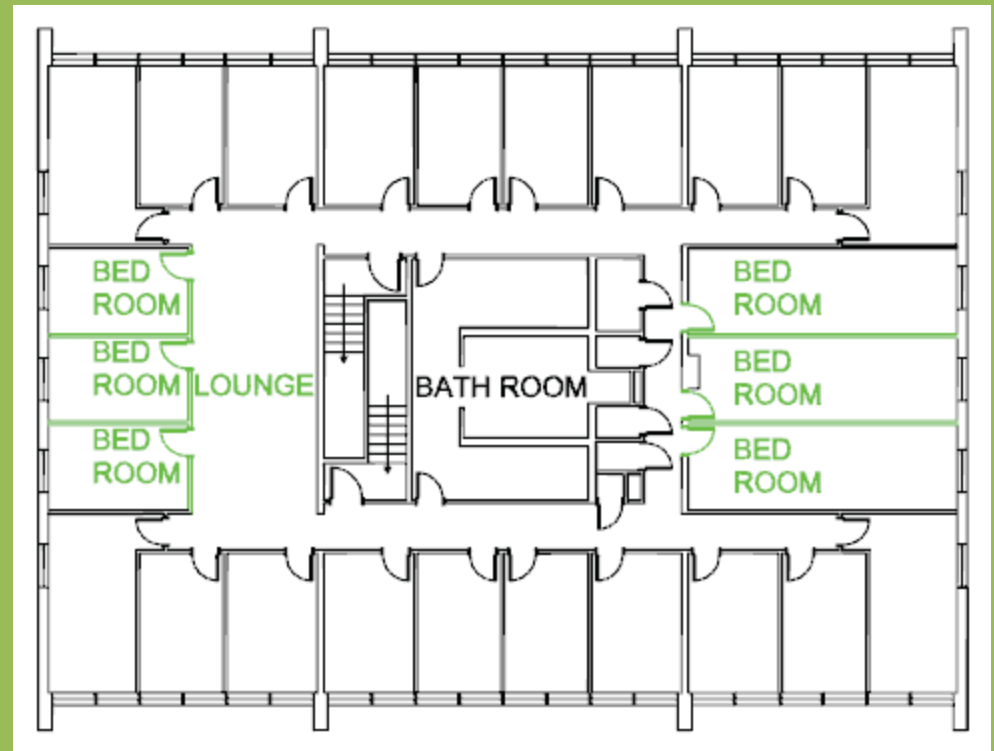
- Design Charette
- Redistribution of Space
- Tiered Proposals



Programming Phase 2: Redesign Program

Proposal One: Minor Renovation

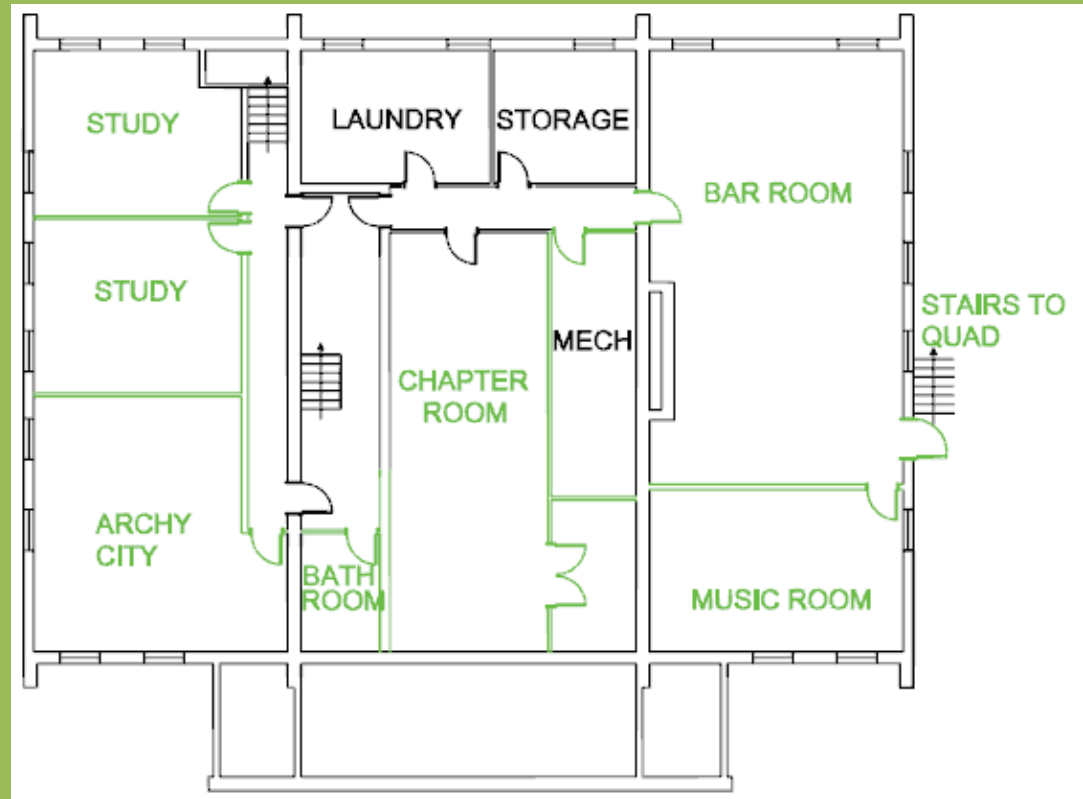
- Second Floor
 - Additional Private Bedrooms
 - More open space



Programming Phase 2: Redesign Program

Proposal Two: Intermediate Renovation

- Basement
 - Excavation Plan
- Quad-side Entrance



Programming Phase 2: Redesign Program

Proposal Three: Major Renovation

- Third Floor Addition
- Central Atrium



Phase 3: Looking Forward

Phase 3: Looking Forward

Service Day

- Clean Refrigerator Coils
- Weather Strip Operable First Floor Windows
- Insulate Hot Water Piping
- Insulate Hot Water Storage Tanks



Phase 3: Looking Forward

Next Steps

- House Corporation Proposals
- Complete Unfinished Initiatives
- Education

Questions

Thank You!