

Sustainable Madison Committee



project guiding principles.

transform

propel

link

leverage

honor & innovate

inspire

sustain

equity

adapt

lighten

existing



existing



Sustainability

- Light pollution reduction
- Increase daylight
- Historical Landscaping
- Storm water quantity control
- Energy use target: SEG modeling, AIA 2030
- On-site energy generation
- Materials re-use
- Pre-occupancy IAQ management
- Low-emitting furnishings
- Interior wall insulation

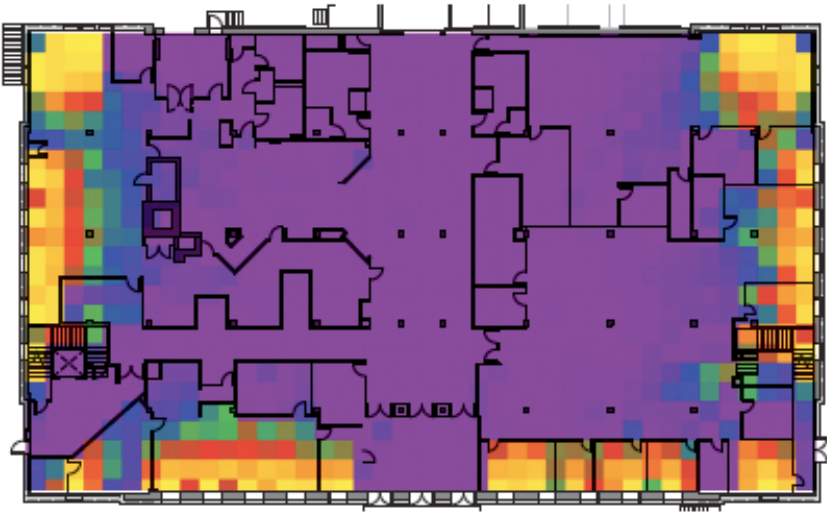
Increase daylight in building



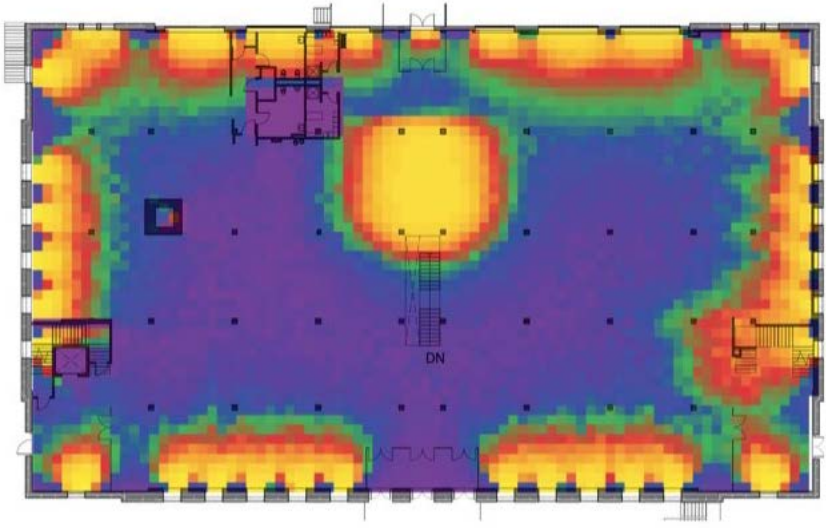
Increase daylight in building



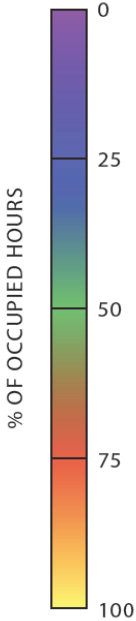
daylight penetration study



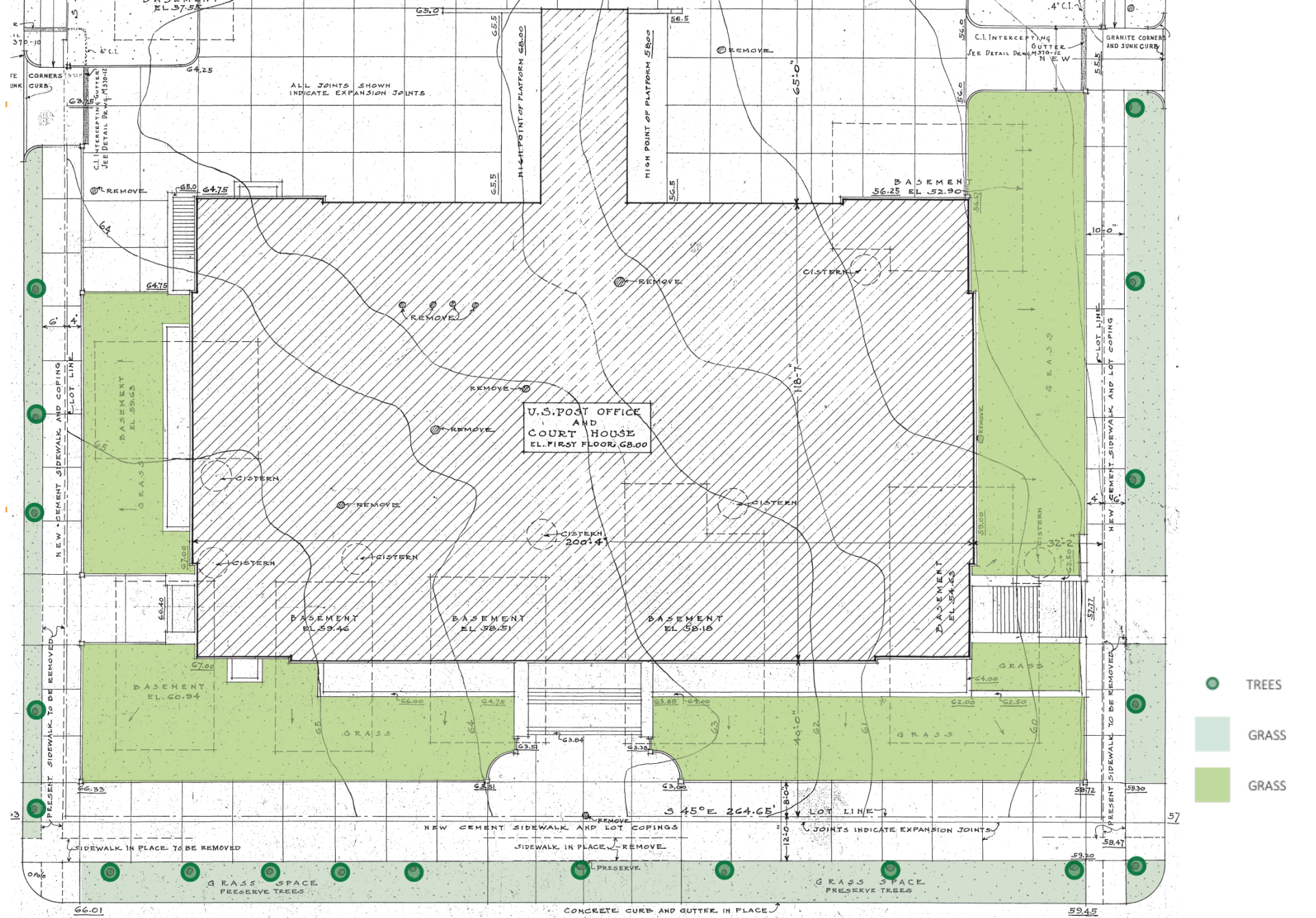
first floor - existing



first floor - with new windows + skylight



(legend shows annual average % time with 300 lux at desktop)



original site design

Exterior Lighting



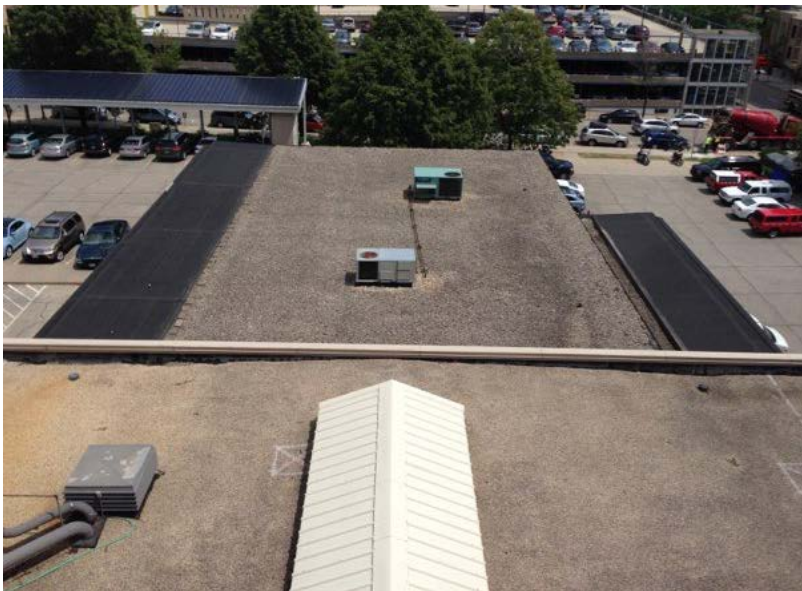
VERY NARROW
10 DEGREE LED SPOT

ONE PER COLUMN

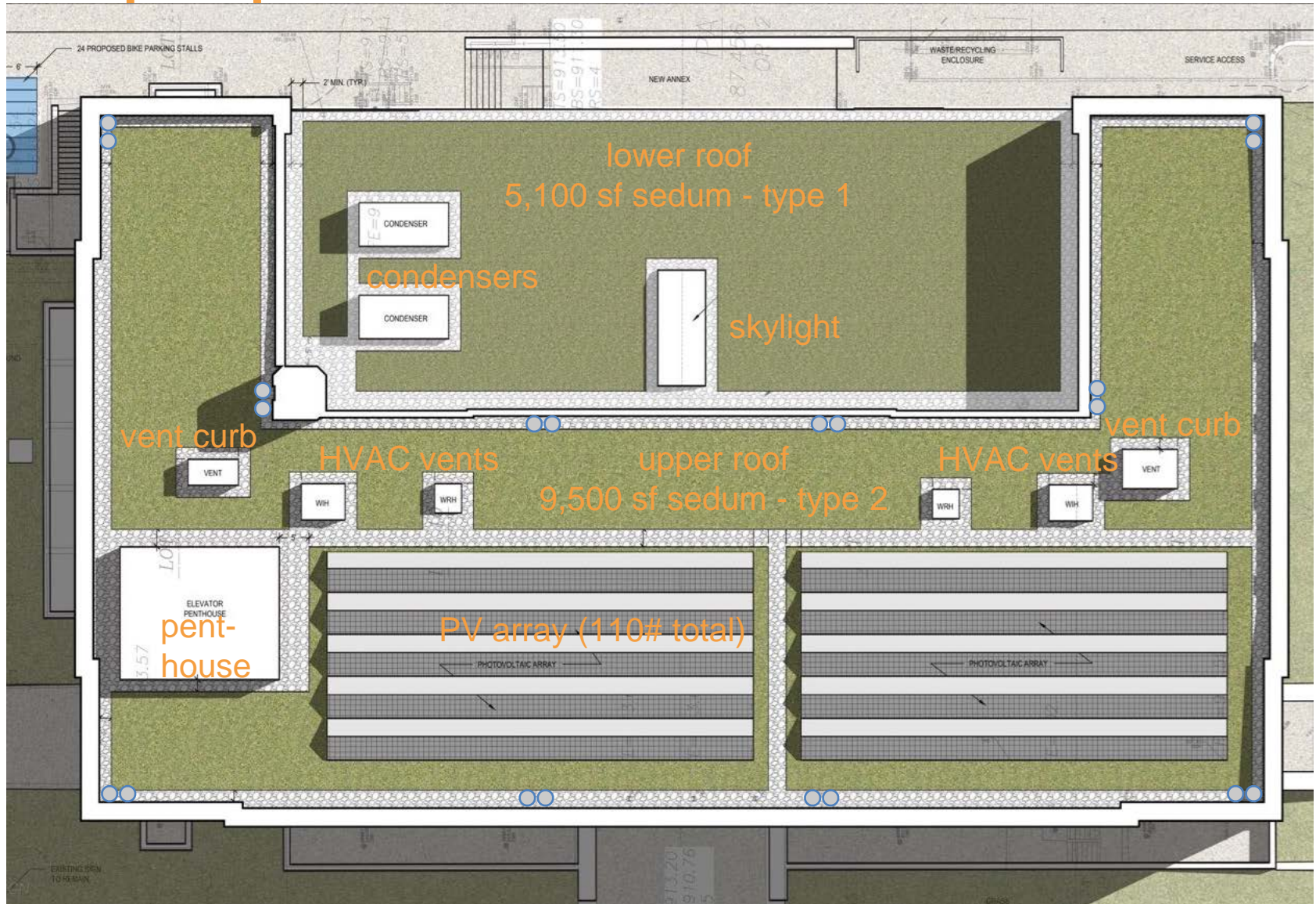


facade lighting - proposed - option b

existing roofs



roof proposals



roof plan

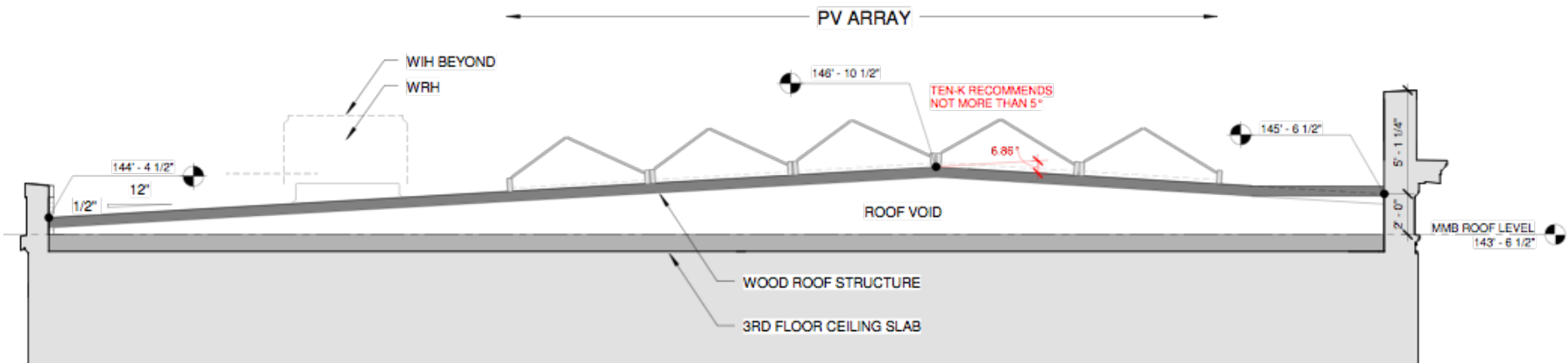
roof concepts



Dejope Residence
Hall at UW-Madison
pre-vegetated mat,
interplanted with
perennial plugs

extensive green roof

roof concepts



photovoltaic array geometry

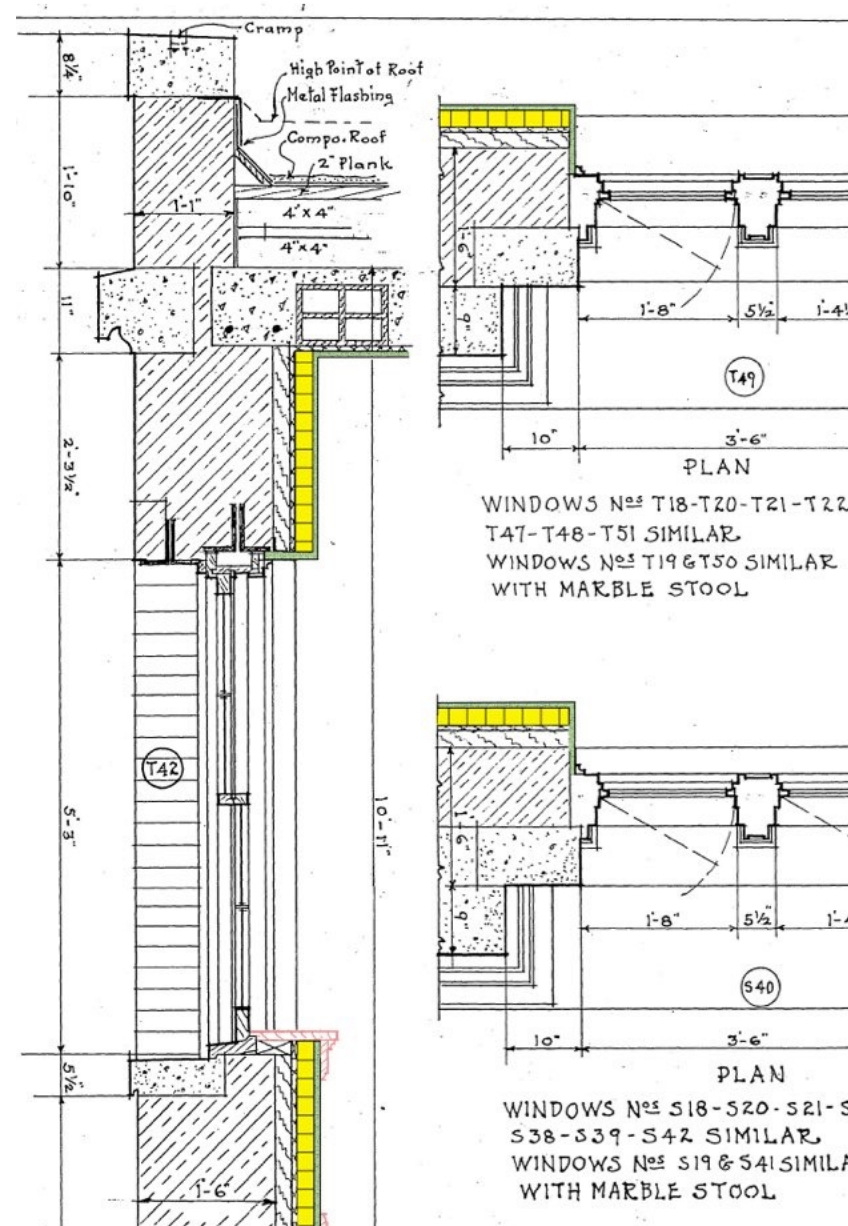
building envelope: wall options

Option A:

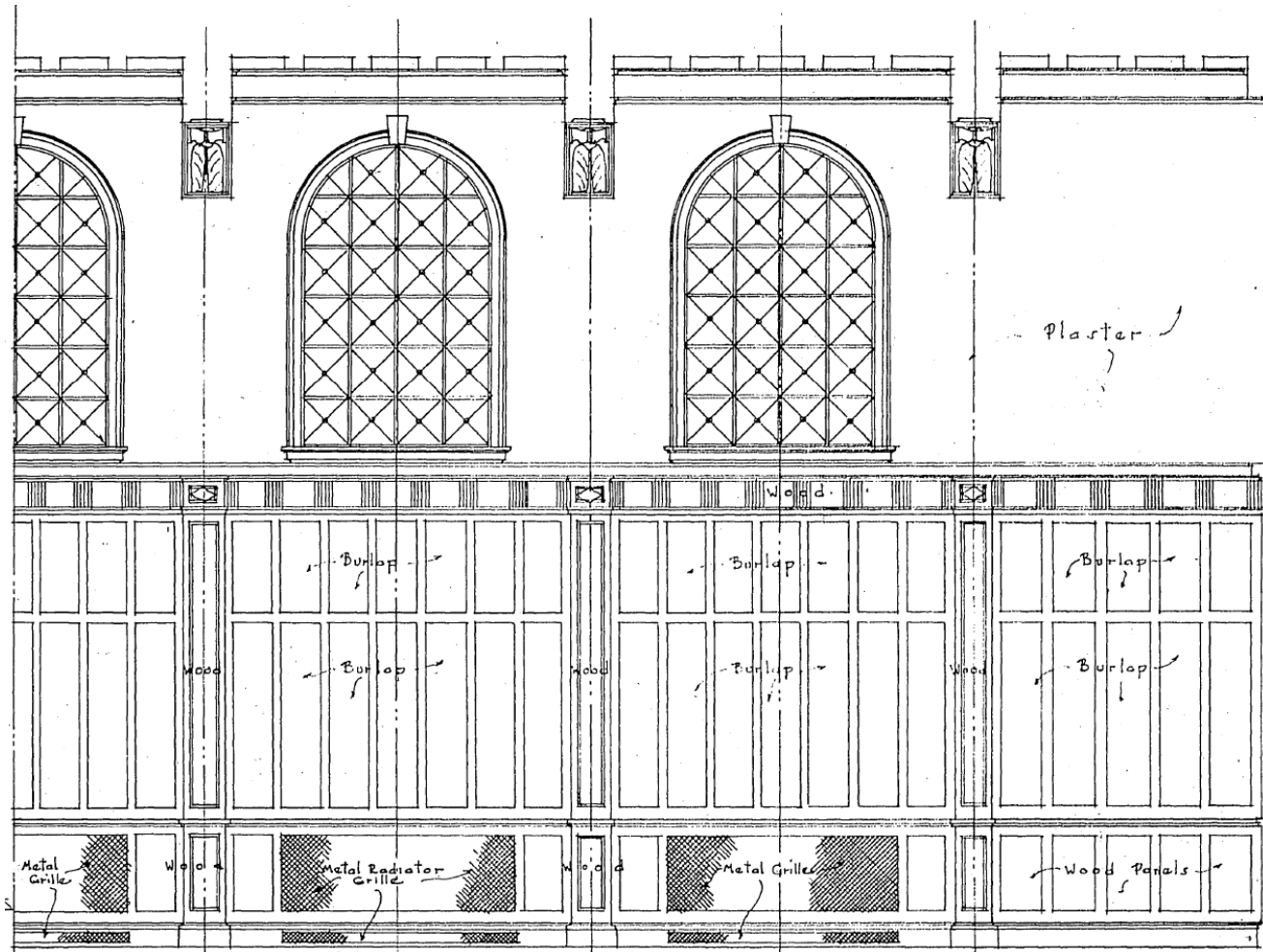
- leave existing as is.
- Achieves approx. R-5.

Option B:

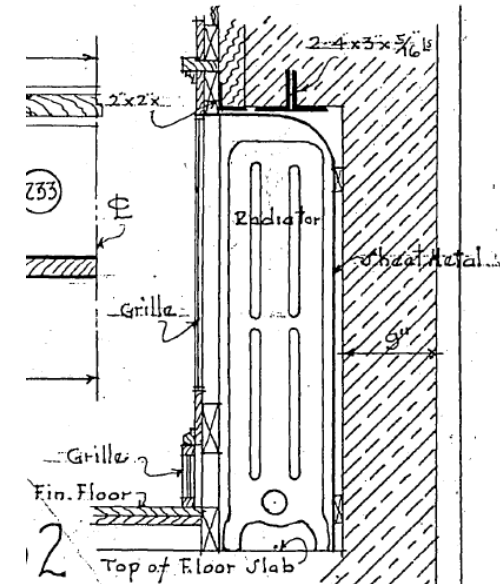
- leave existing as is.
- add 3"-4" furring and drywall to capture 2" max. new rigid insulation. Any thicker insulation adversely affect moisture content in the wall.
- Achieves approx. R-10.
- also captures limited thickness piping and most wiring for power and data.
- do not use oil-based paints or finishes that could act as a vapor barrier on these walls



HVAC treatment - Room 260



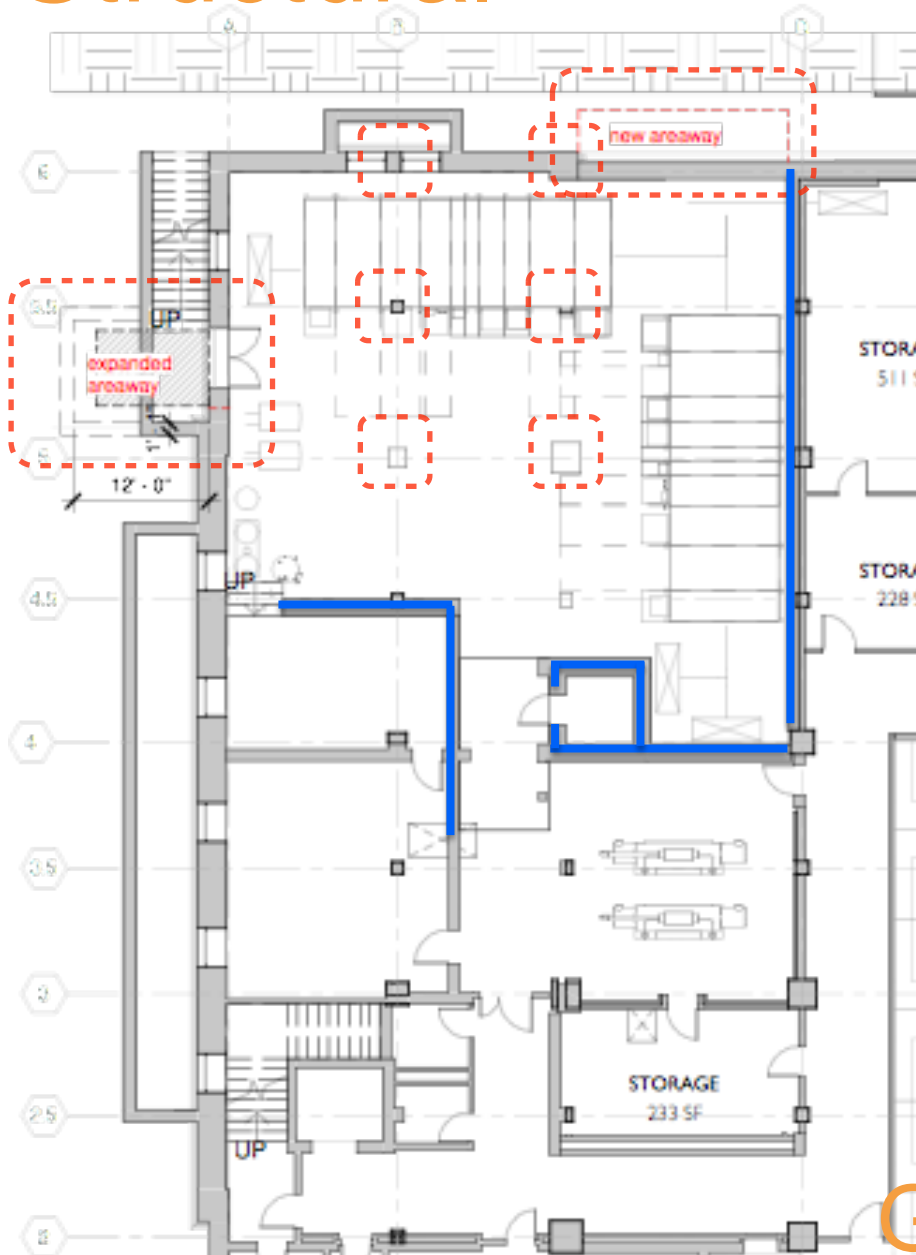
· HALF ELEVATION LOOKING TOWARDS REAR ·
 scale $\frac{1}{4}'' = 1'-0''$



· DETAIL SECTION THRU RADIATOR RECESS ·
 scale $\frac{3}{4}'' = 1'-0''$

Room 260 - original treatment

Structural



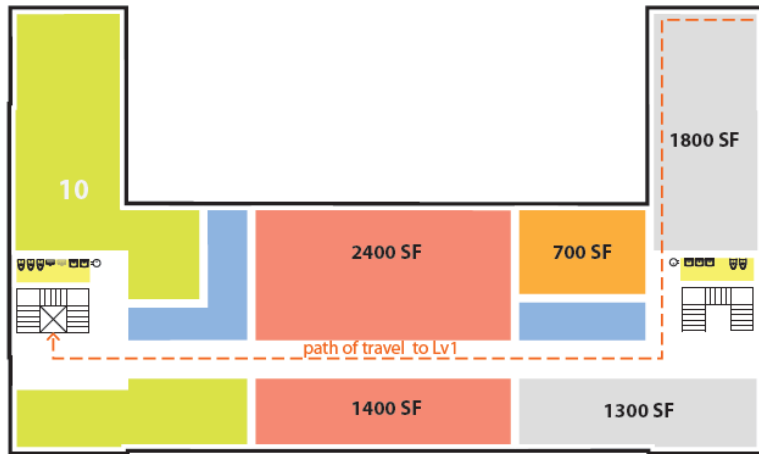
Requirements for mechanical equipment fit:

- remove two existing columns along grid 5.5.
- Expand existing areaway at west side.
- add new areaway to achieve approx. 200 sf ventilation louver along north facade.

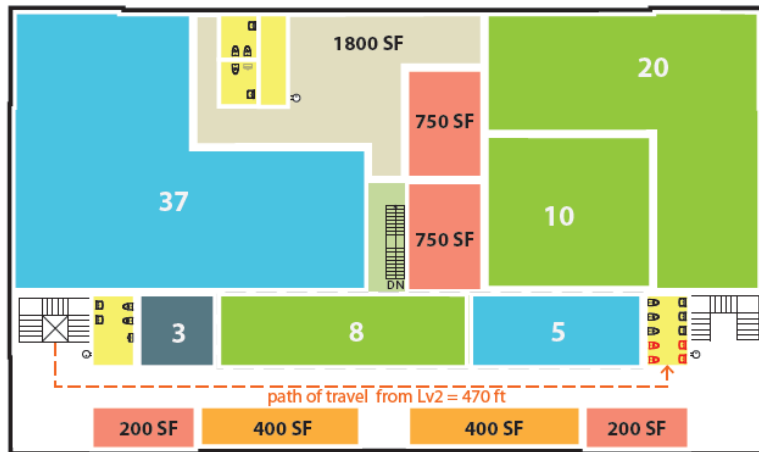
- structural walls to remain
- - - area of structural adjustment

Ground floor mechanical

D4 Plumbing fixture study



SECOND FLOOR (staff in public zone) 10 = 10



FIRST FLOOR (staff in public zone) 37+20+10+3+8+5 = 83

2400sf 1400sf 1800sf 700sf 1300sf

business (1/100)		18	7	13
classes (1/20)		90	35	65
meeting (1/15)	160	94		
assembly (1/7)	343			

lv 1 + lv 2 shared

		required → exg + new			
option 1	occ	WC	LAV	DF	
Lv2 A-3 + B:	254 + (38 + 10)	♂ 5 → 4 + 2	3 → 3 + 2	2 → 2	
		♀ 7 → 4 + 3	3 → 4 + 3		
Lv1 A-3 + B:	199 + 83				

		required → exg + new			
option 2	occ	WC	LAV	DF	
Lv2 A-3 + E + B:	437 + 190 + 10	♂ 7 → 5 + 3	5 → 3 + 2	5 → 5	
		♀ 9 → 4 + 5	5 → 4 + 5		
Lv1 A-3 + B:	199 + 83				

750sf 750sf 1800sf (2)* 400 = 800sf (2)* 200 = 400sf

meeting (1/15)	50	50	54	27
business (1/100)			18	

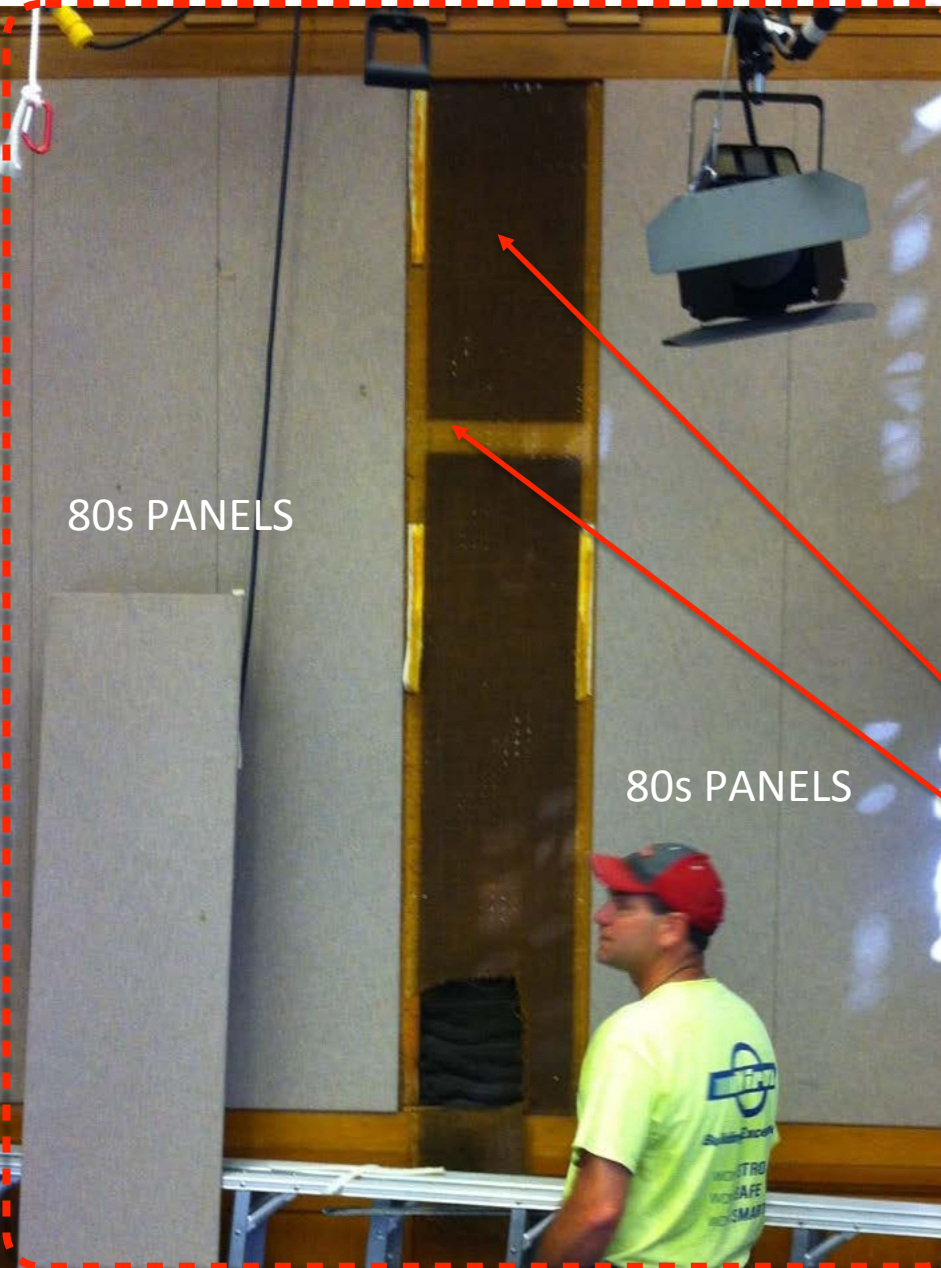
first and second floors



ROOM 260 - Acoustics

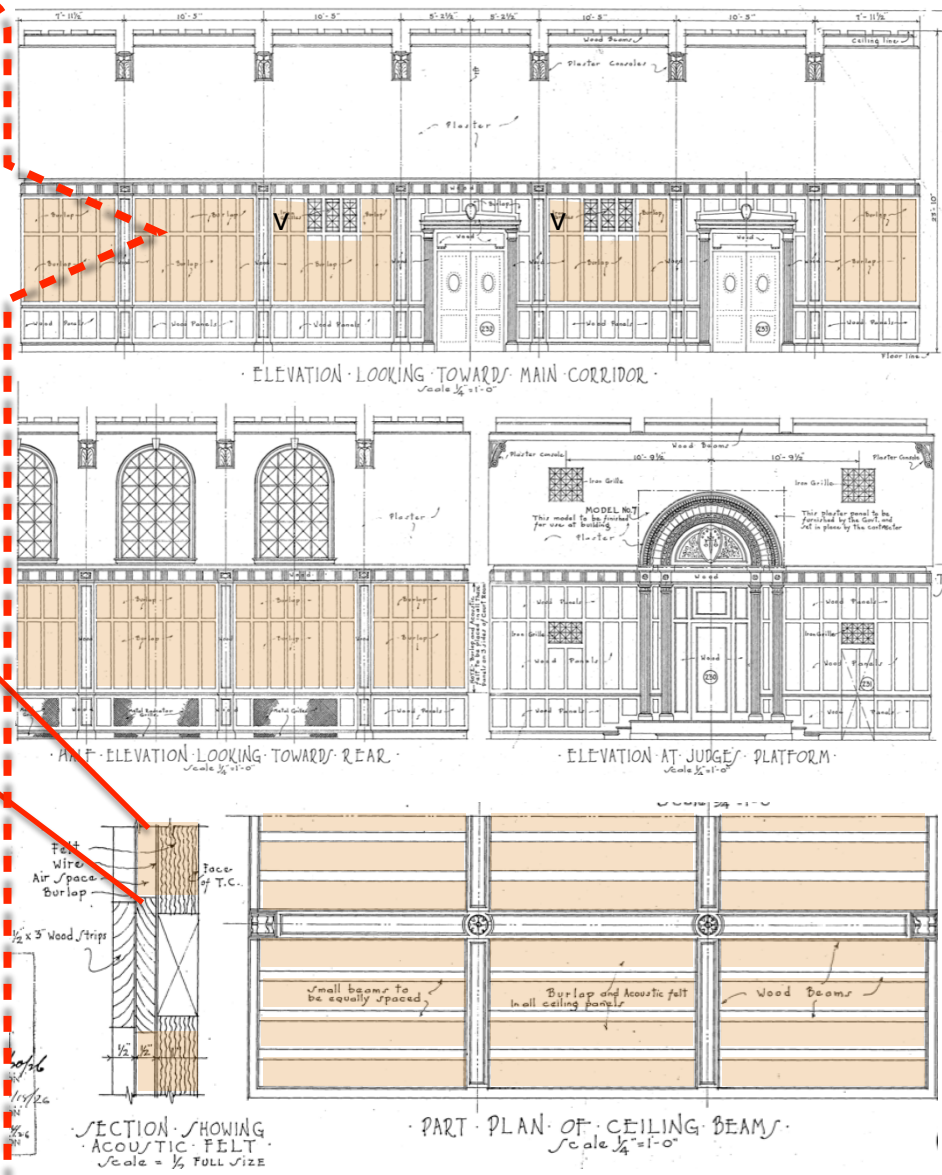


ROOM 260 - Acoustics



80s PANELS

80s PANELS



ROOM 260 - Acoustics



Existing panels are 1/2" thick so likely fiberboard, not fiberglass, so not very effective acoustically.

Achieves approx. NRC 0.15.

Recommendation:
Stretch fabric system, such as Fabritrak.



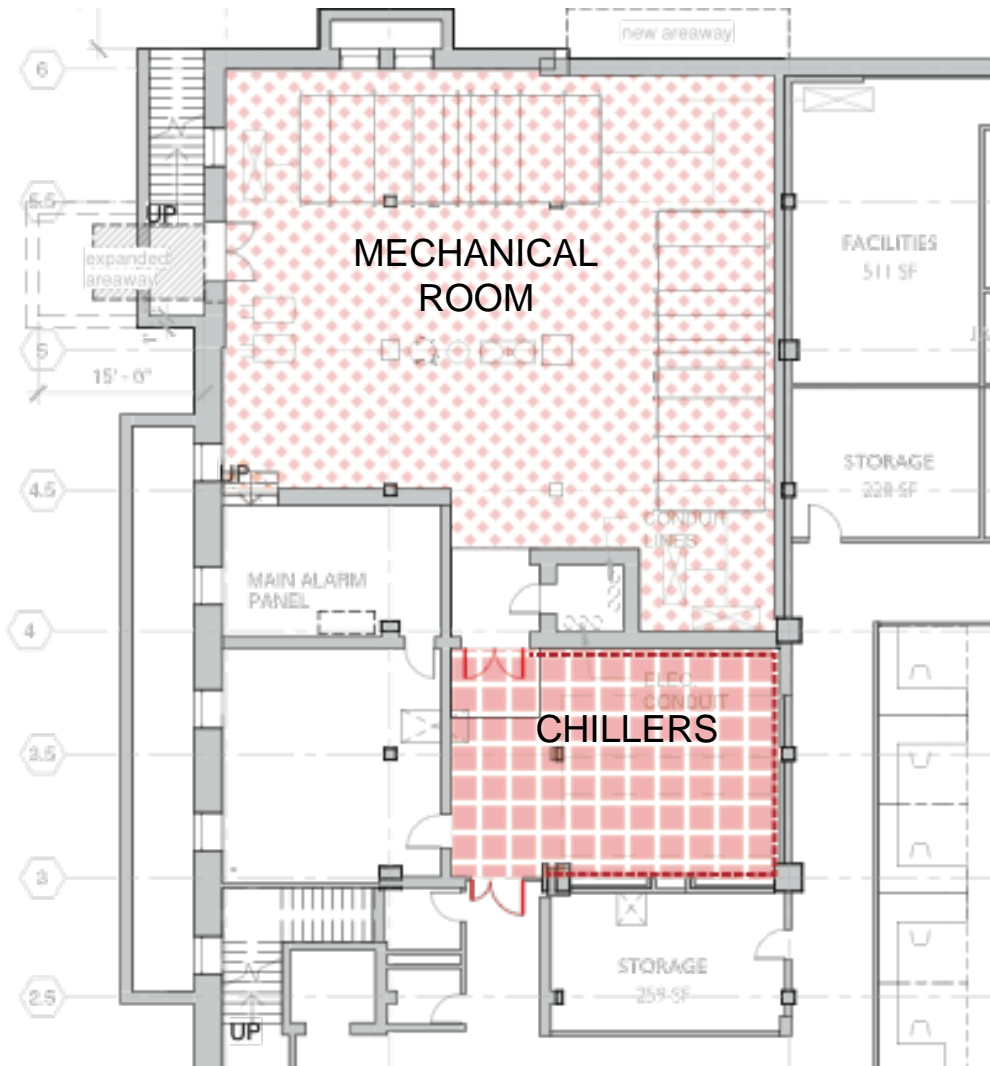
Use burlap-looking fabric to resemble the original.

Remove felt from the cavity and fill the 1" deep space with with glass fiber.

Would be more effective acoustically due to material performance and thickness.

Examples of Fabritrak installation for commercial and public spaces.

Acoustics - Mechanical



Recommendations:

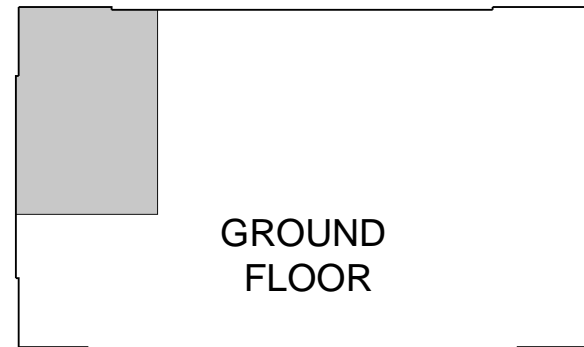
mechanical room:

acoustical spray-on treatment for ceiling.

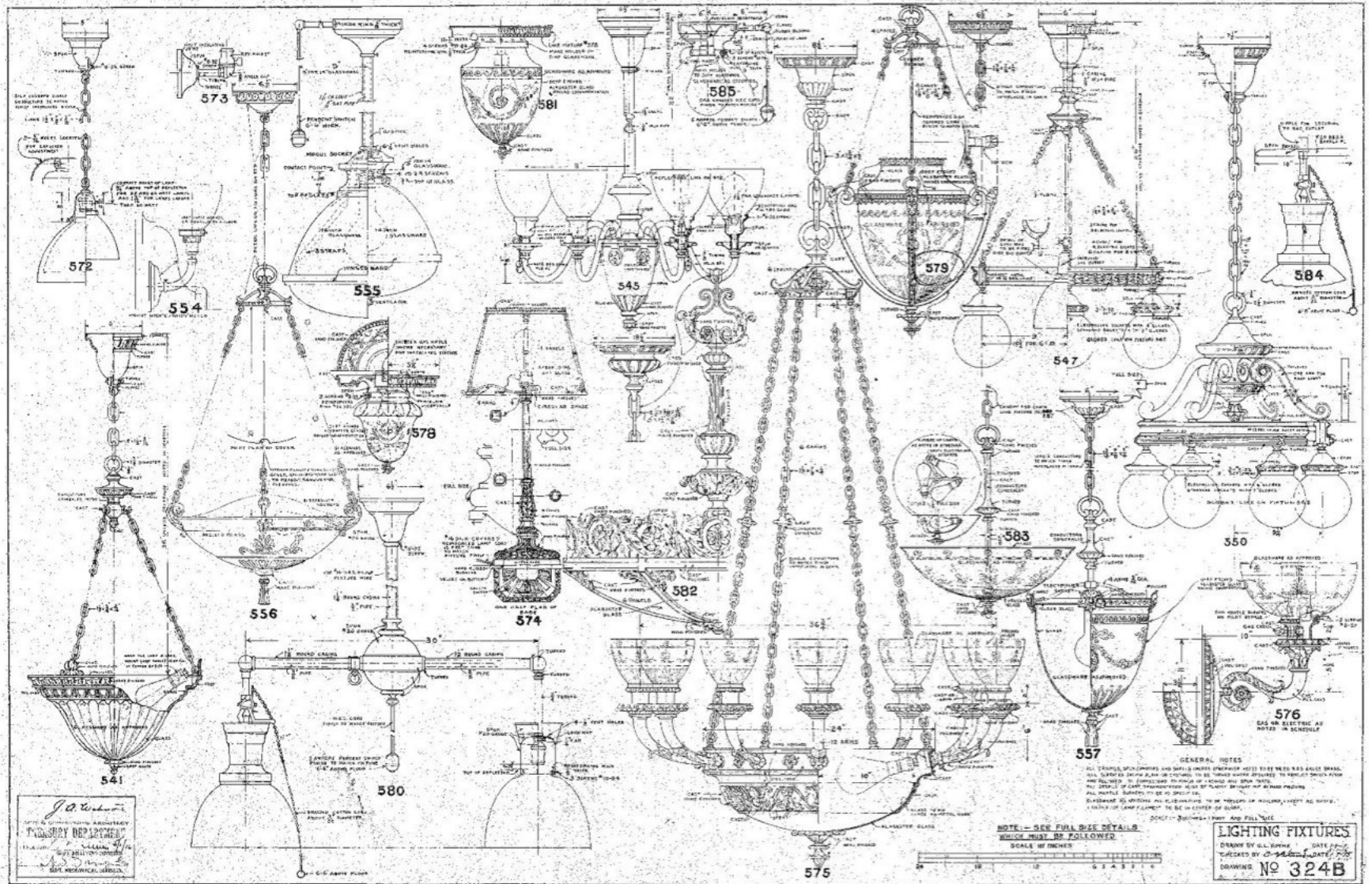
chiller room:

additional gyp walls and resiliently hung ceiling

STC 50 rated doors



Lighting



historic lighting - original

Lighting



ROOM 260 - PLASTER MOLD

LEVEL I CORRIDOR
GLASS
GLASS ETCHED
OPAL ACRYLIC



historic lighting

Lighting

RATED SERVICE LIFE

SOLID STATE LED	50,000 hr L70
T5 FLUORESCENT	30,000 hr / 36,000 hr
T5HO FLUORESCENT	45,000 hr / 60,000 hr
T8 FLUORESCENT	65,000 hr / 67,000 hr



TYPE A T5
TYPE A SOLED

3" RECESSED LINEAR

TYPE B T8

1X4 VOLUMETRIC

TYPE C T5HO
TYPE C SOLED
TYPE D T8

2" X 2" SUSPENDED
INDIRECT

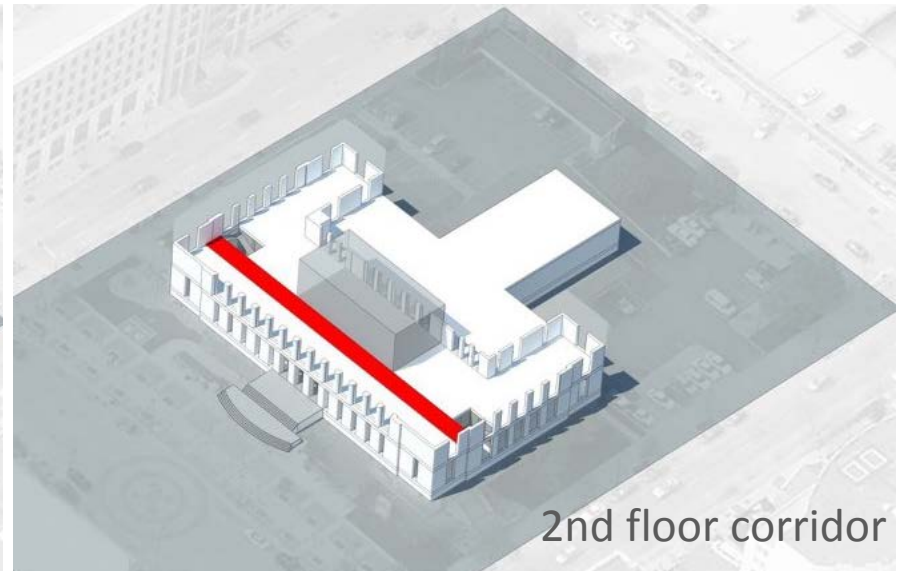
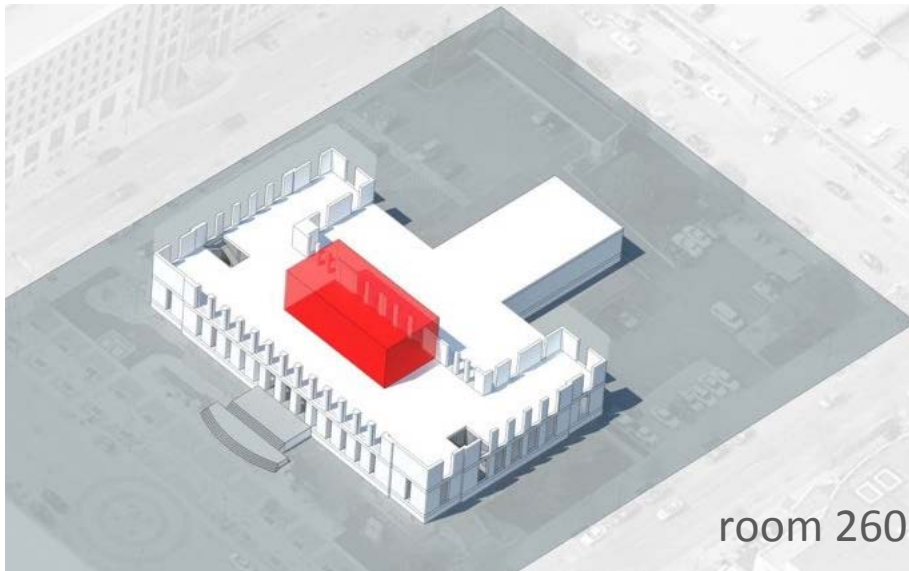
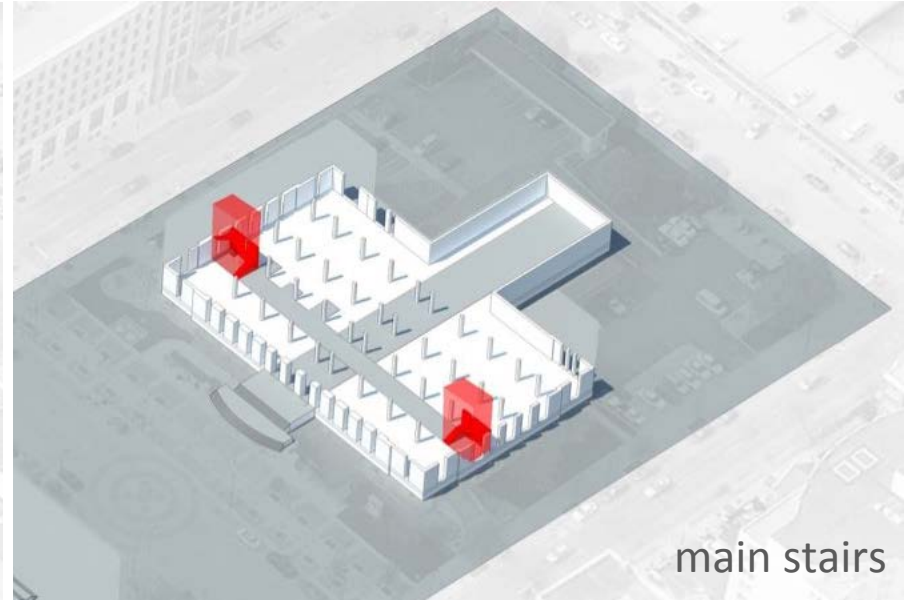
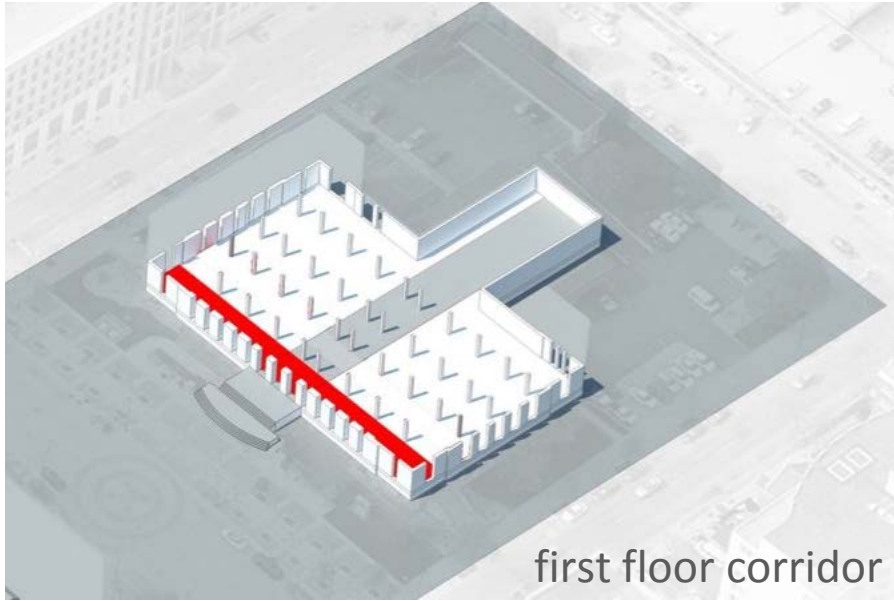
TYPE E T5HO
TYPE E SOLED
TYPE F T8

2" X 4" SUSPENDED
DIRECT + INDIRECT

workplace lighting

Project Driver: History.

historic spaces



opportunities



Project Driver: Quality Workspace.

reorganize floors for efficiency/flexibility

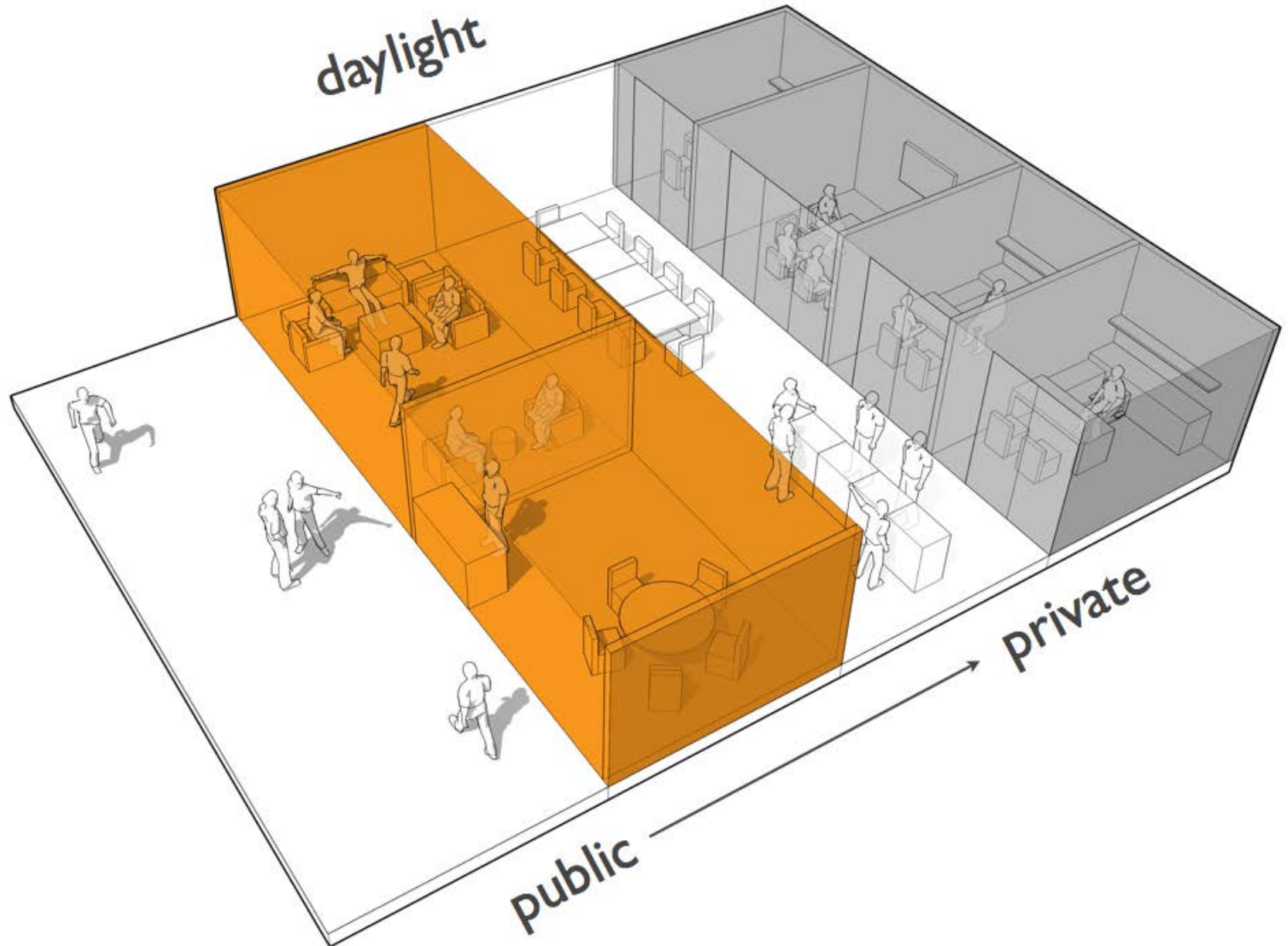
improve daylight

provide spaces to support daily work

existing staff workspaces.



zoned public to private.



opportunities



westlake reed leskosky

opportunities



opportunities



hathaway dinwiddie

Program test fits.

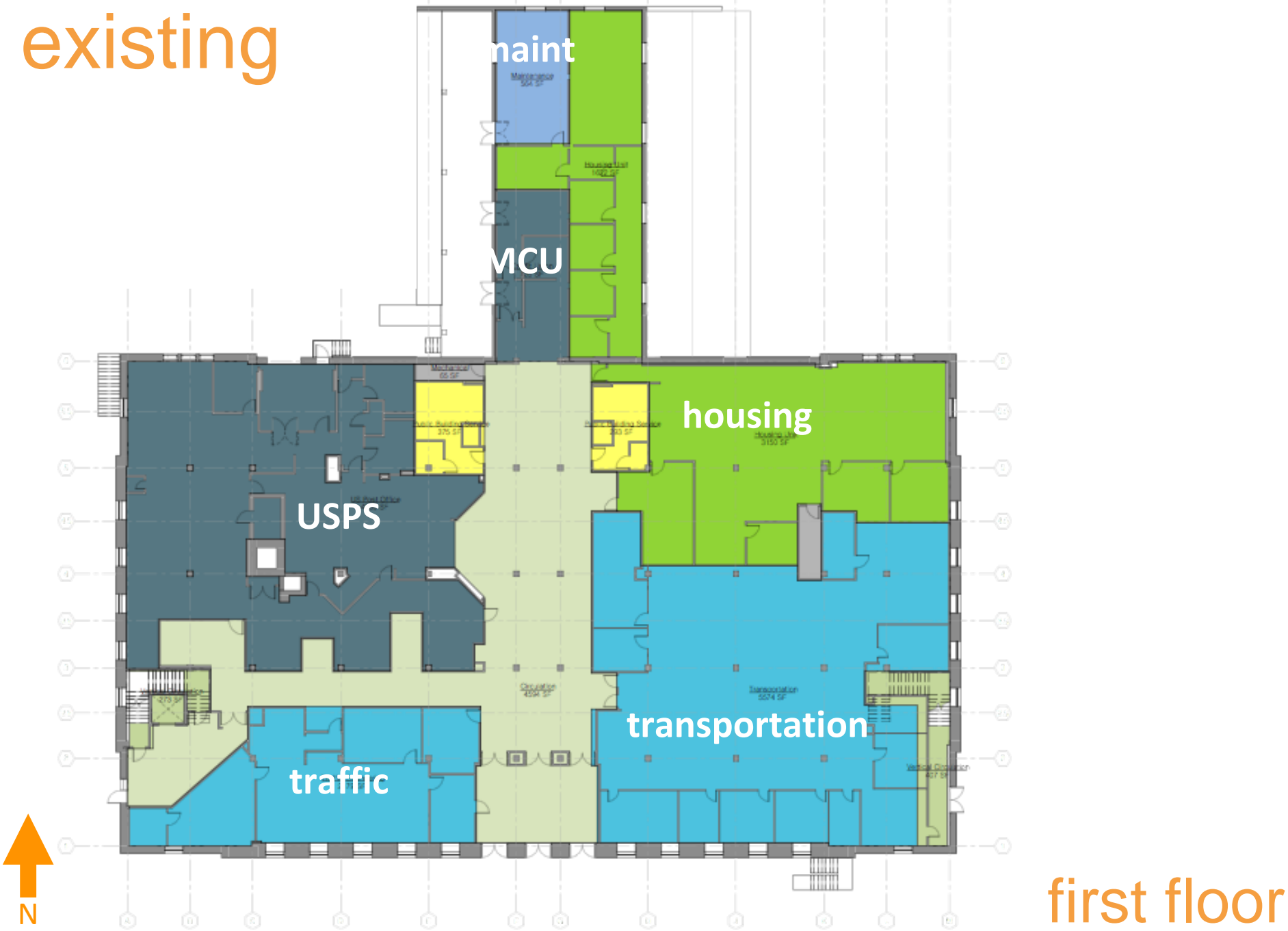
existing



ground floor

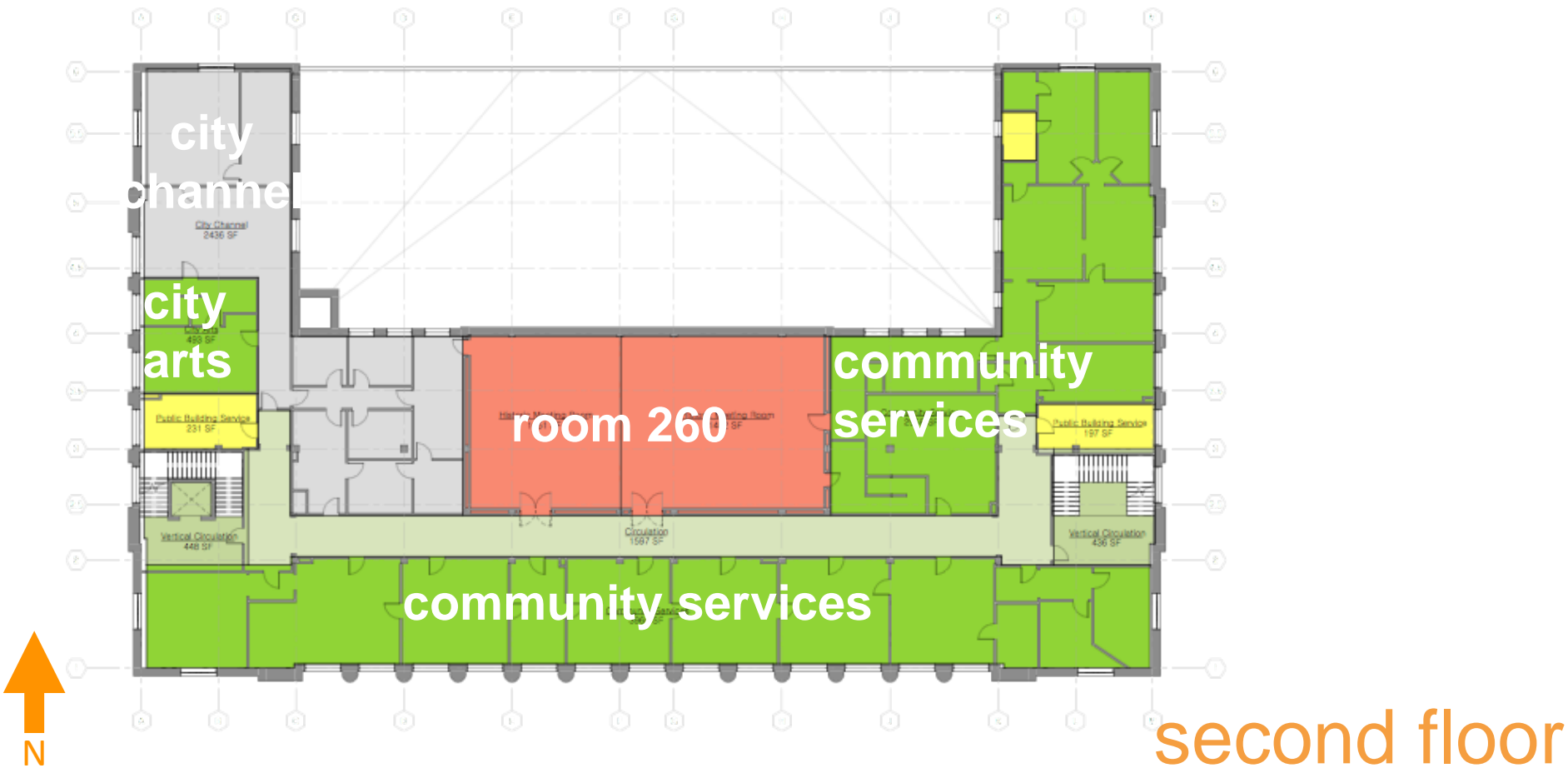


existing

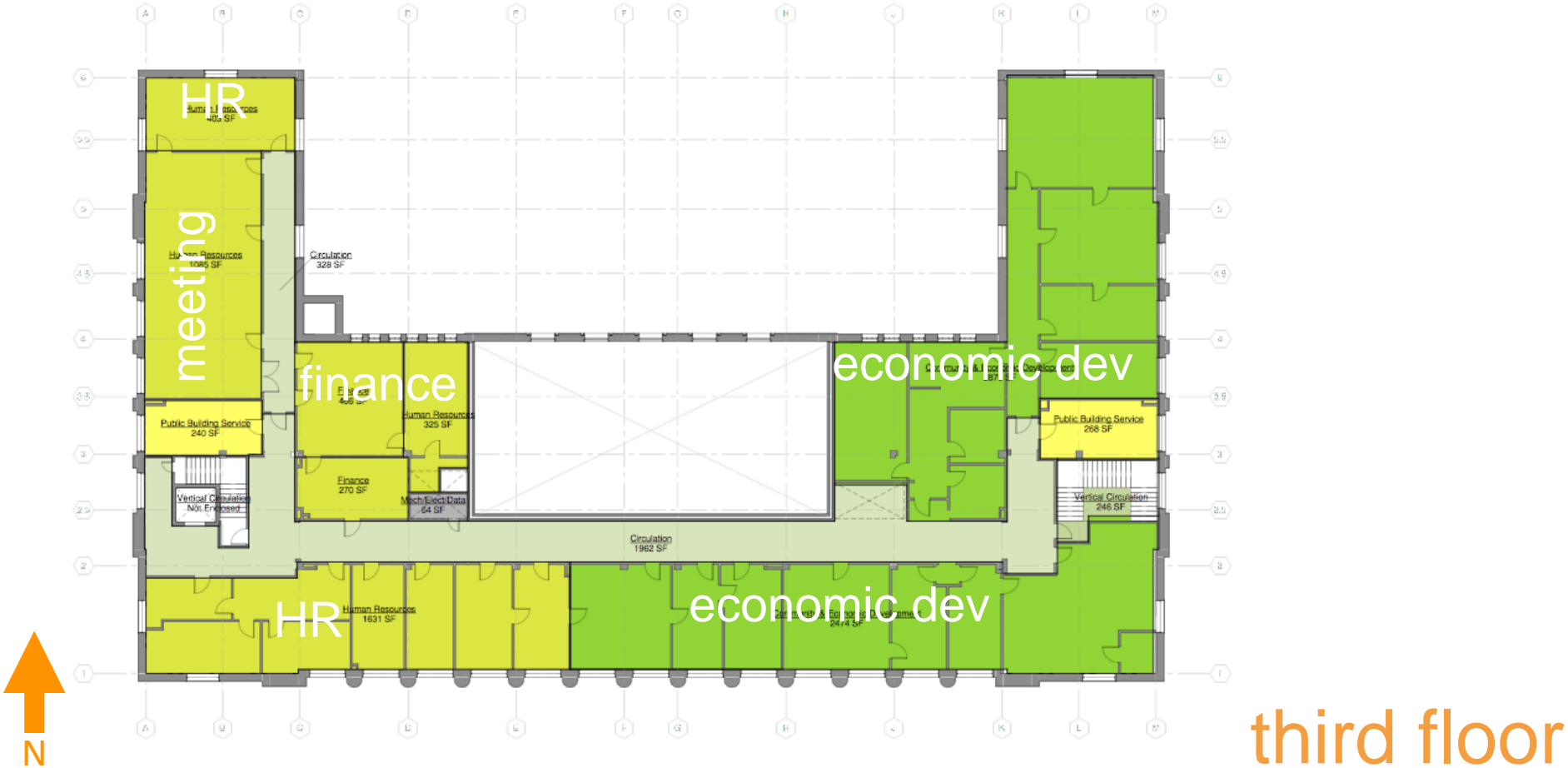


first floor

existing

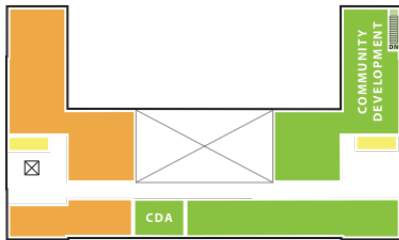


existing

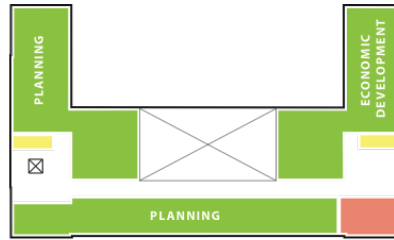


third floor

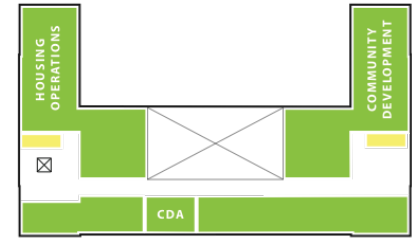
Option D Test Fit Studies



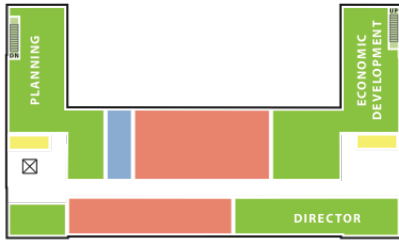
THIRD FLOOR



THIRD FLOOR



THIRD FLOOR



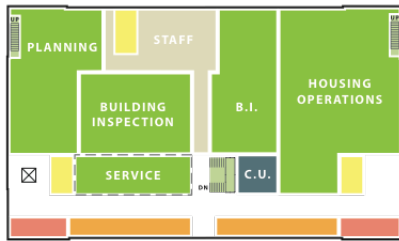
SECOND FLOOR



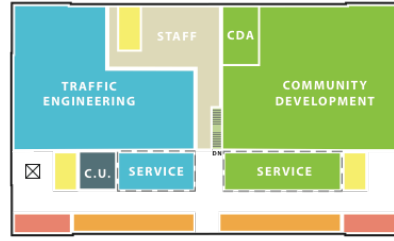
SECOND FLOOR



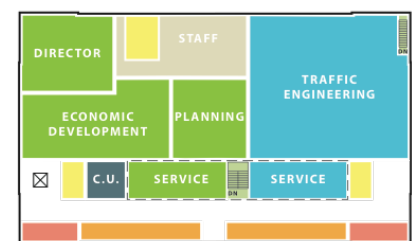
SECOND FLOOR



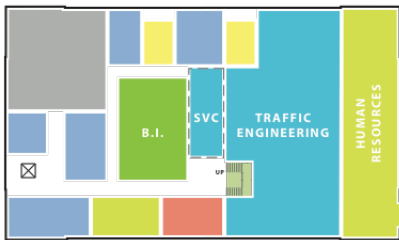
FIRST FLOOR



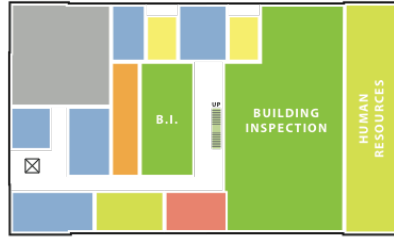
FIRST FLOOR



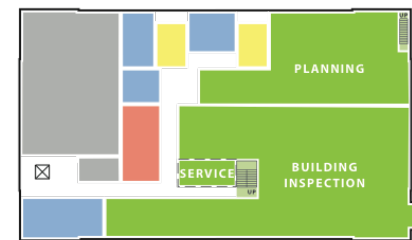
FIRST FLOOR



GROUND FLOOR



GROUND FLOOR



GROUND FLOOR

D1

D2

D3

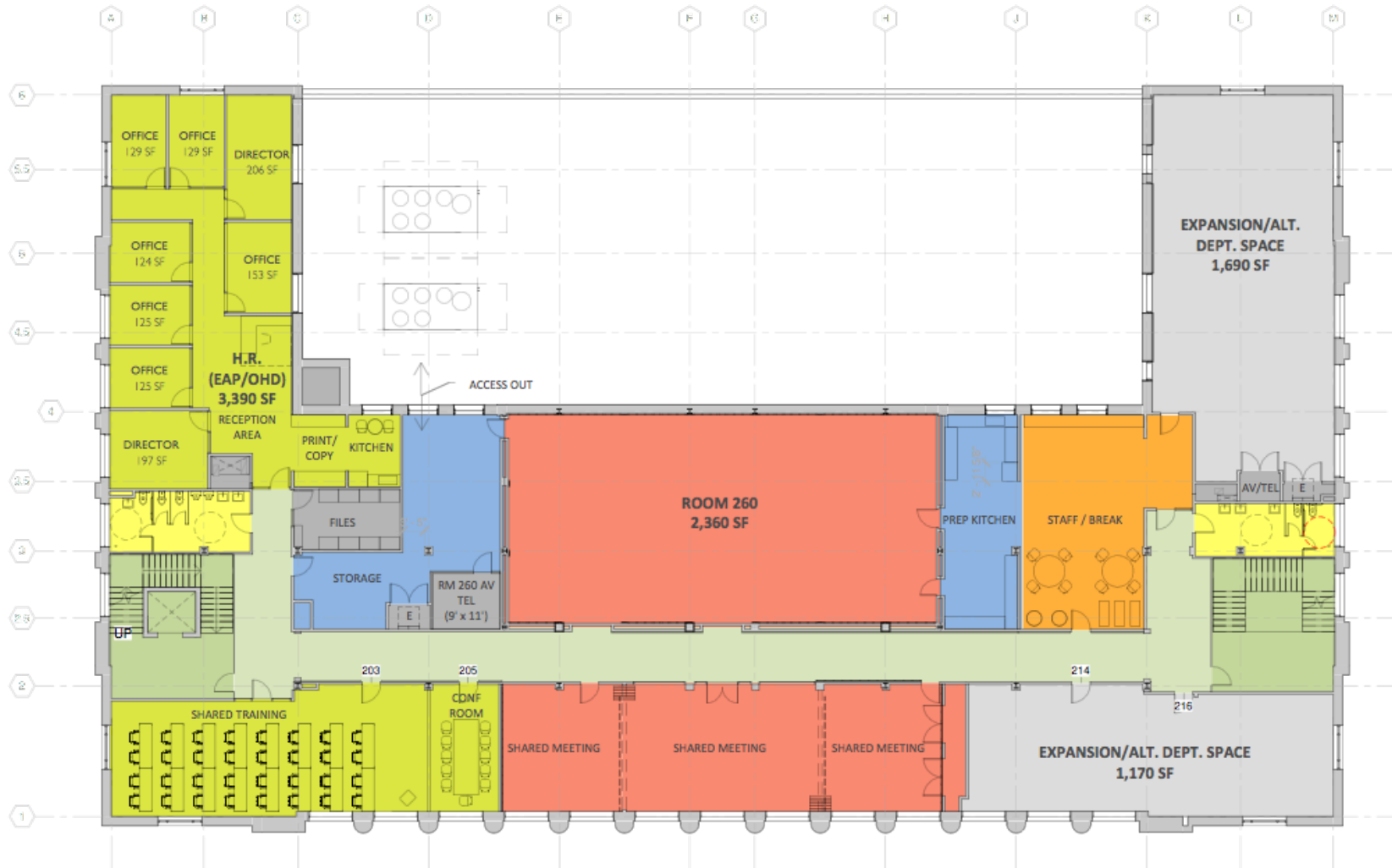


D4 Schematic Layout



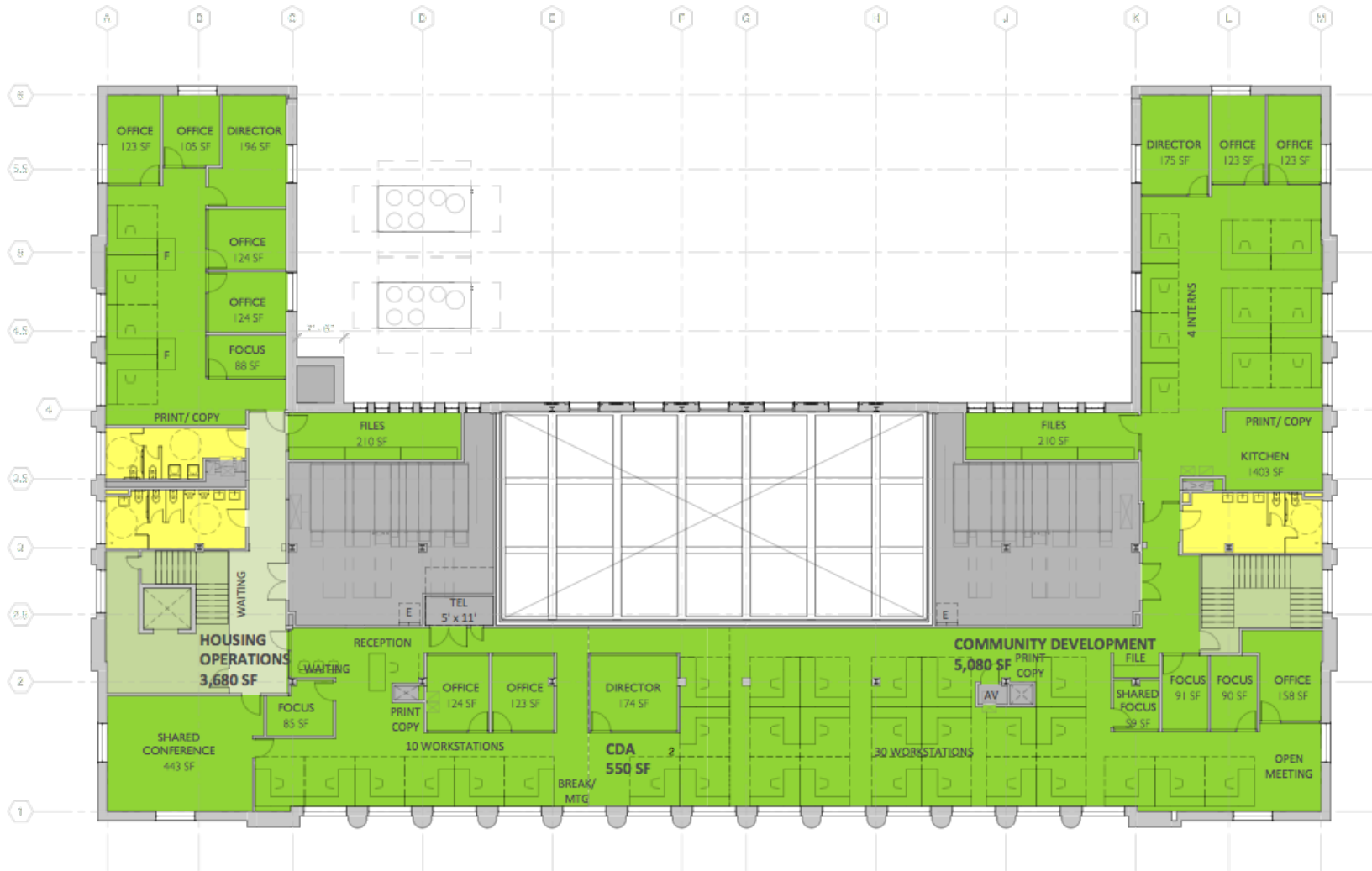
ground floor - option c

D4 Schematic Layout



second floor

D4 Schematic Layout



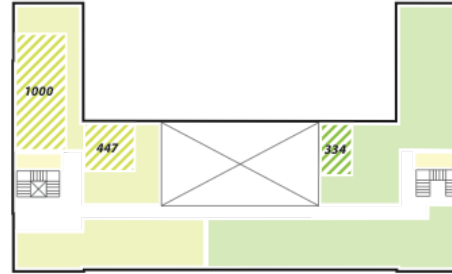
third floor

D4 meeting rooms statistics



- (6) 542 sf
- (7) 110 sf
- (8) 80 sf
- (9) 321 sf
- (10) 240 sf
- (11) 181 sf

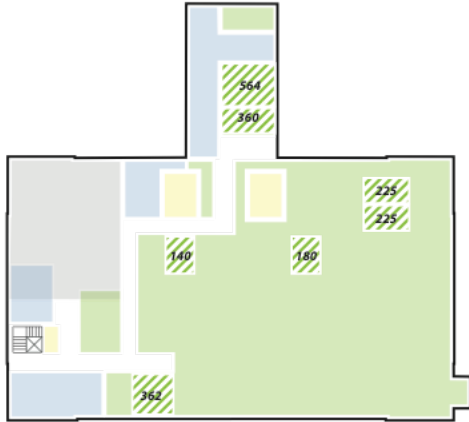
1474 sf x 1.1 x 1.25 = 2027 gsf



existing meeting spaces

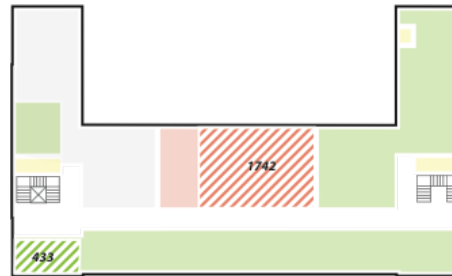
- (1) 1000 sf
- (2) 447 sf
- (3) 334 sf

1781 sf x 1.1 x 1.25 = 2449 gsf



- (12) 564 sf
- (13) 360sf
- (14) 140 sf
- (15) 180 sf
- (16) 225 sf
- (17) 225 sf
- (18) 362 sf

2056 sf x 1.1 x 1.25 = 2827 gsf



- (4) 1742 sf
- (5) 433 sf

2175 sf x 1.1 x 1.25 = 2990 gsf

18 meeting spaces

total = 10 293 gsf



existing meeting spaces

D4 meeting rooms statistics



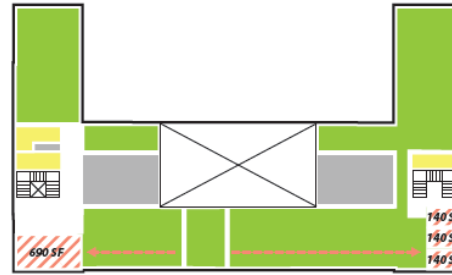
FIRST FLOOR

available:

(5) 200 sf		6 person
(6) 200 sf		6 person
(6) 750 sf:	traffic + b.i. + planning	20 person
(7) 750 sf:	traffic + b.i. + planning	20 person

dept shared:

(8) 410 sf:	director + econ dev.	12 person
(9) 275 sf:	econ dev.	8 person

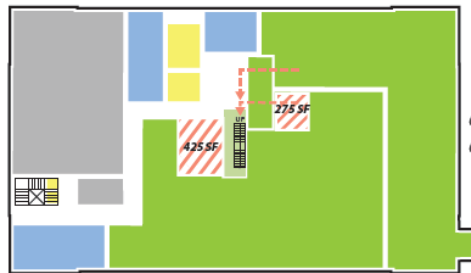


THIRD FLOOR

shared meeting spaces

dept shared:

(1) 690 sf:	housing + CDA	20 person
(2) 140 sf:	CDD + CDA	4 person
(3) 140 sf:	CDD	4 person
(4) 140 sf:	CDD	4 person



GROUND FLOOR

dept shared:

(10) 425 sf:	b.i.	10 person
(11) 275 sf:	b.i.	4 person

9 shared meeting spaces in depts	3520 gsf	18 spaces = 9 275 gsf
2 shared meeting spaces claimed	1500 gsf	
6 shared meeting spaces available	4200 gsf	



SECOND FLOOR

k meeting spaces:

(1) 2400 sf	room 260	varies
(2) 700 sf	prefunction	20 person
1060 sf	storage	

available:

(3) 350 sf		10 person
(4) 350 sf		10 person

dept shared:

(5) 1100sf:	HR	30 person
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proposed meeting spaces

breakout spaces



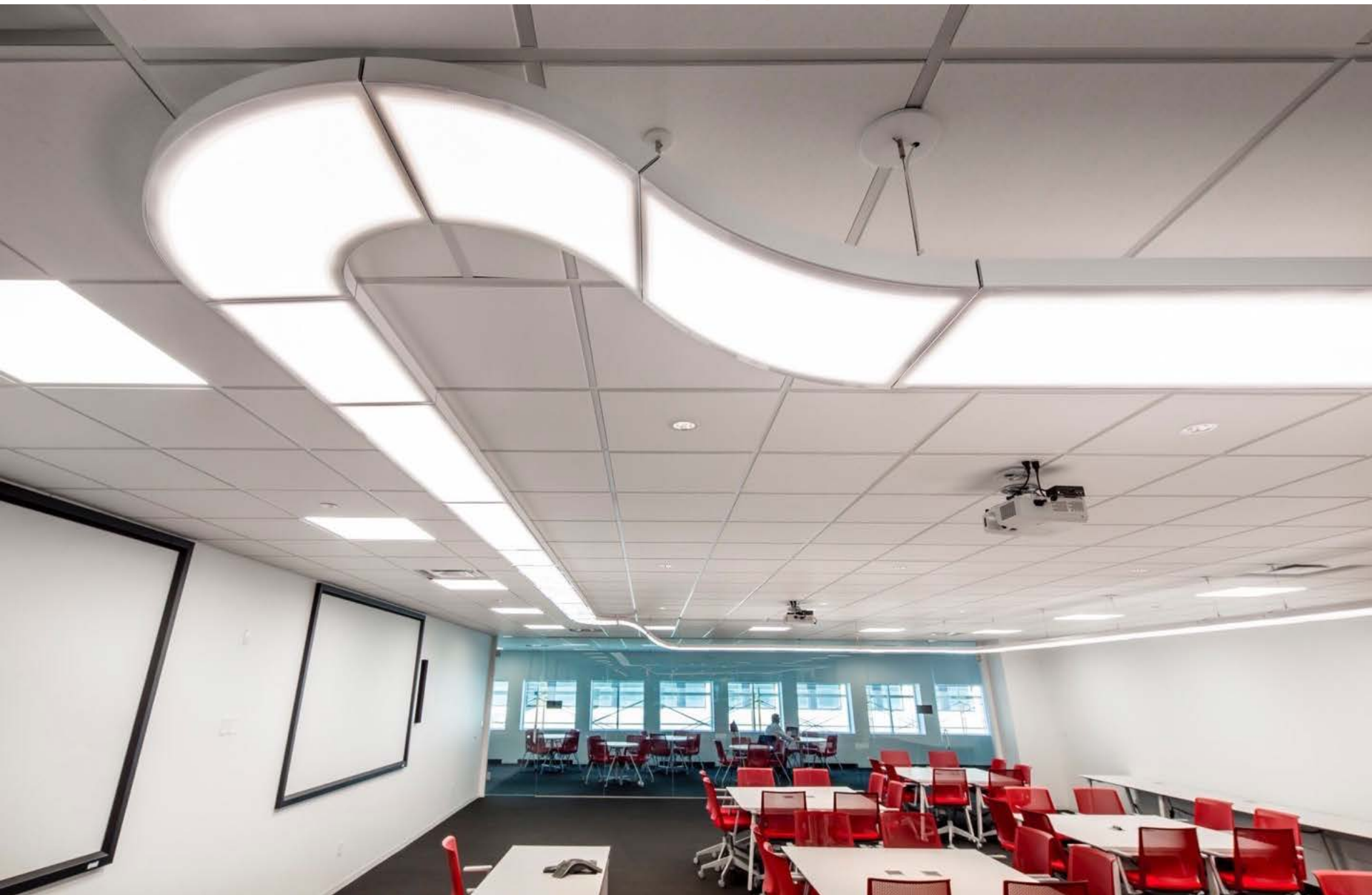
small meeting



small meeting



large flexible meeting room



Questions?

