BLRB architects

Madison High School • Portland Public Schools

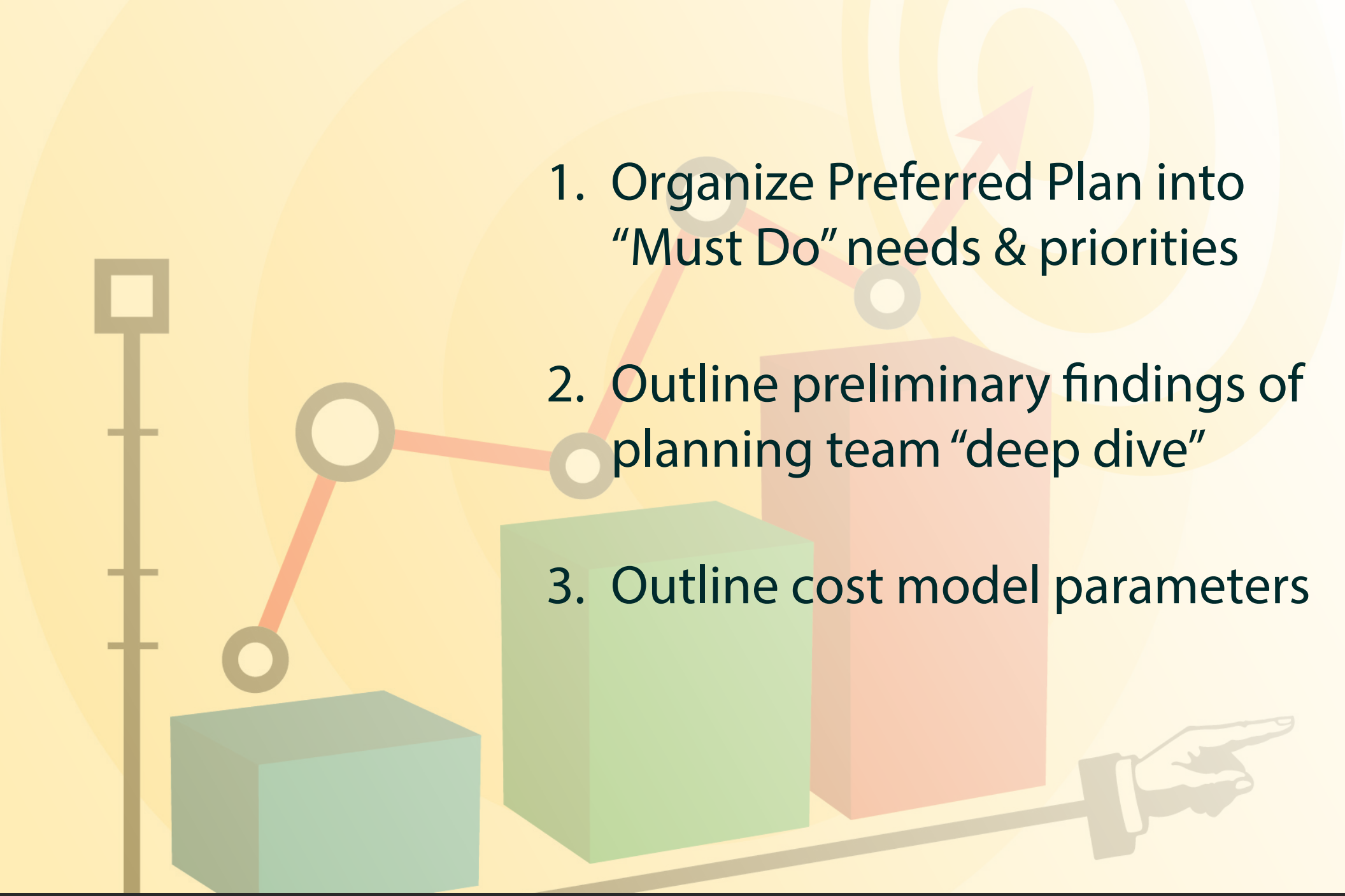
MADISON HIGH SCHOOL MASTER PLANNING COMMITTEE

DUE DILIGENCE PLANNING

MEETING #8

Monday, December 12, 2016

6:00 p.m.



1. Organize Preferred Plan into "Must Do" needs & priorities

2. Outline preliminary findings of planning team "deep dive"

3. Outline cost model parameters

MEETING OUTCOMES

AGENDA

1. “Deep Dive” on Preferred Plan

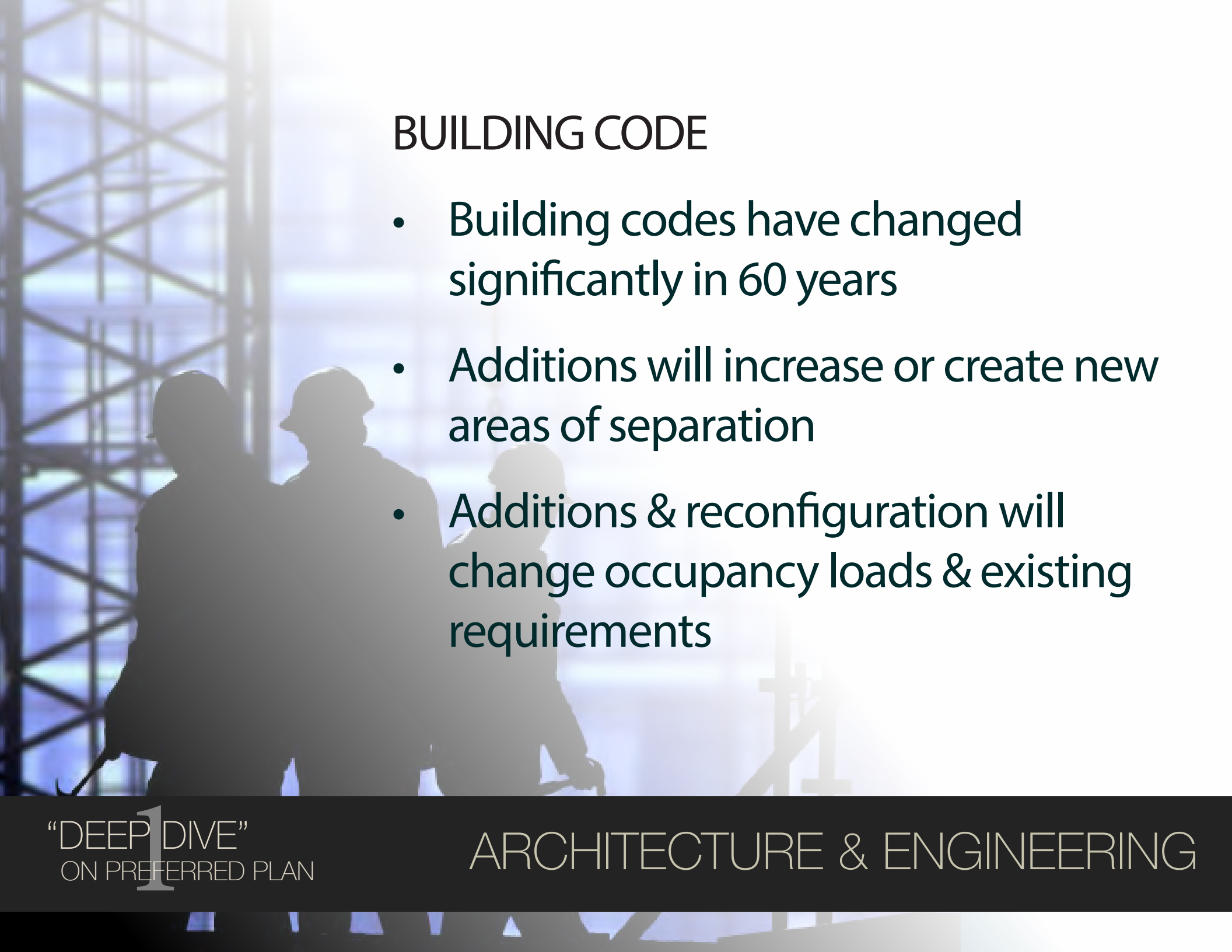
2. Space Allocation & Program Summary

3. Group Activity: Preferred Plan Preferences

4. Budget Modeling Parameters

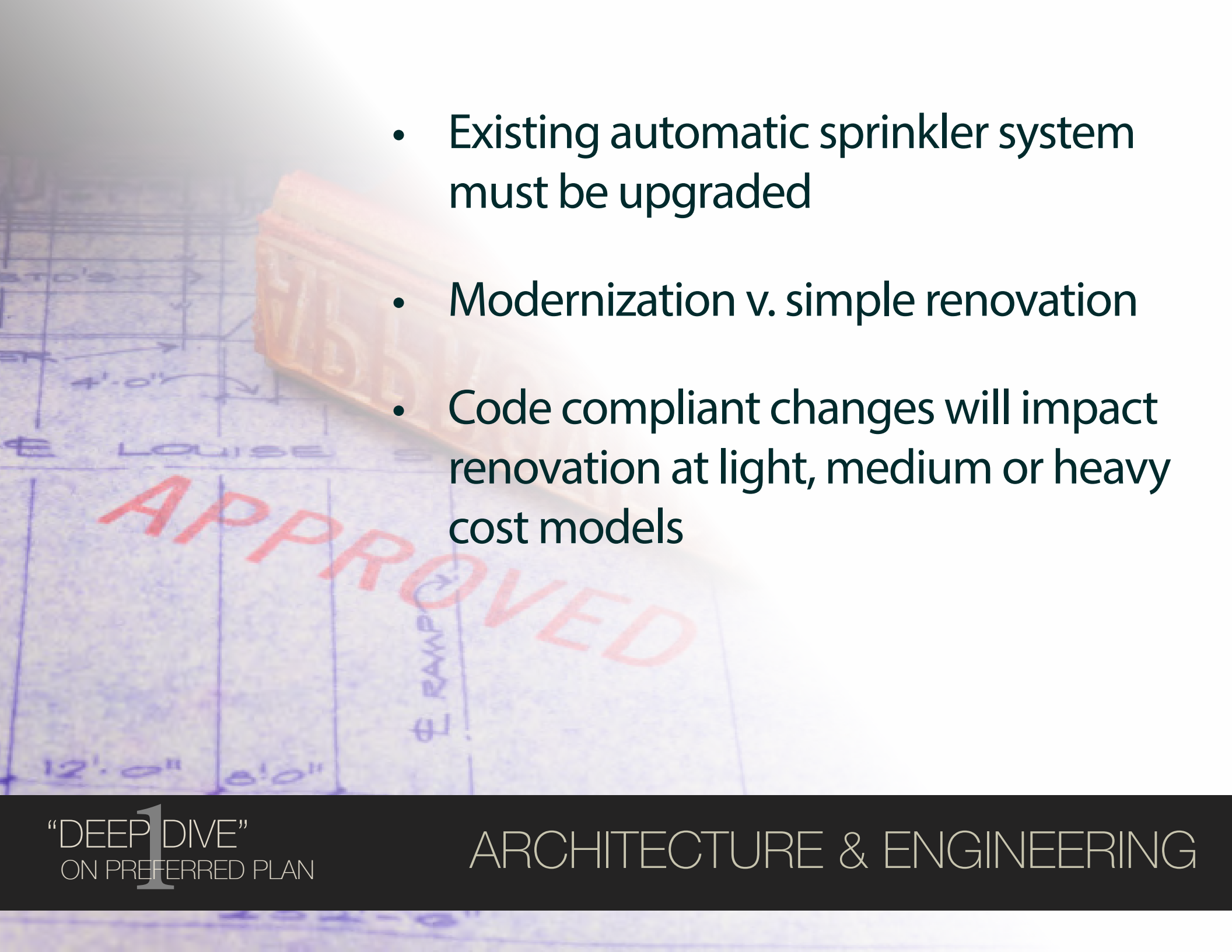
5. Wrap Up/ Next Steps

1 "DEEP DIVE" ON PREFERRED PLAN

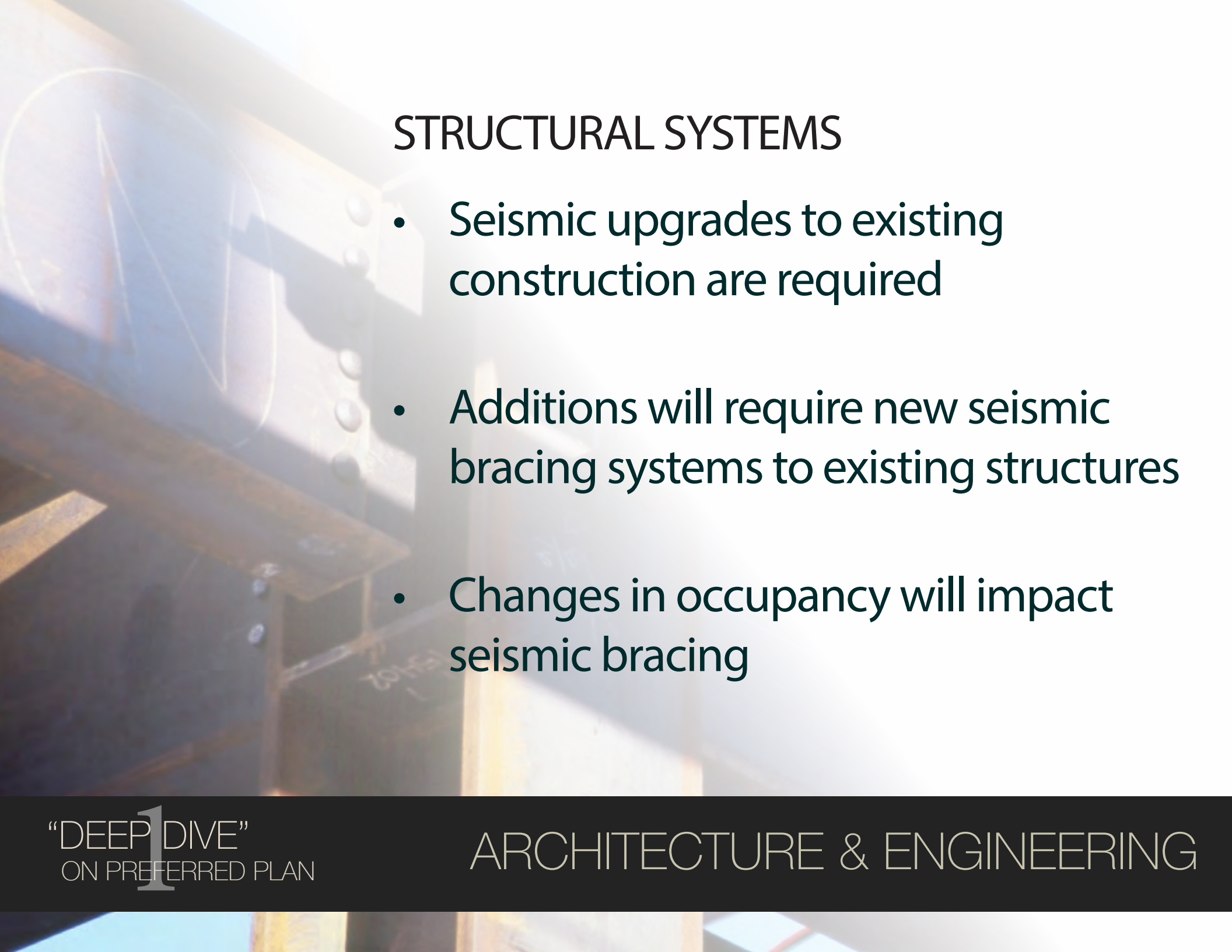


BUILDING CODE

- Building codes have changed significantly in 60 years
- Additions will increase or create new areas of separation
- Additions & reconfiguration will change occupancy loads & existing requirements

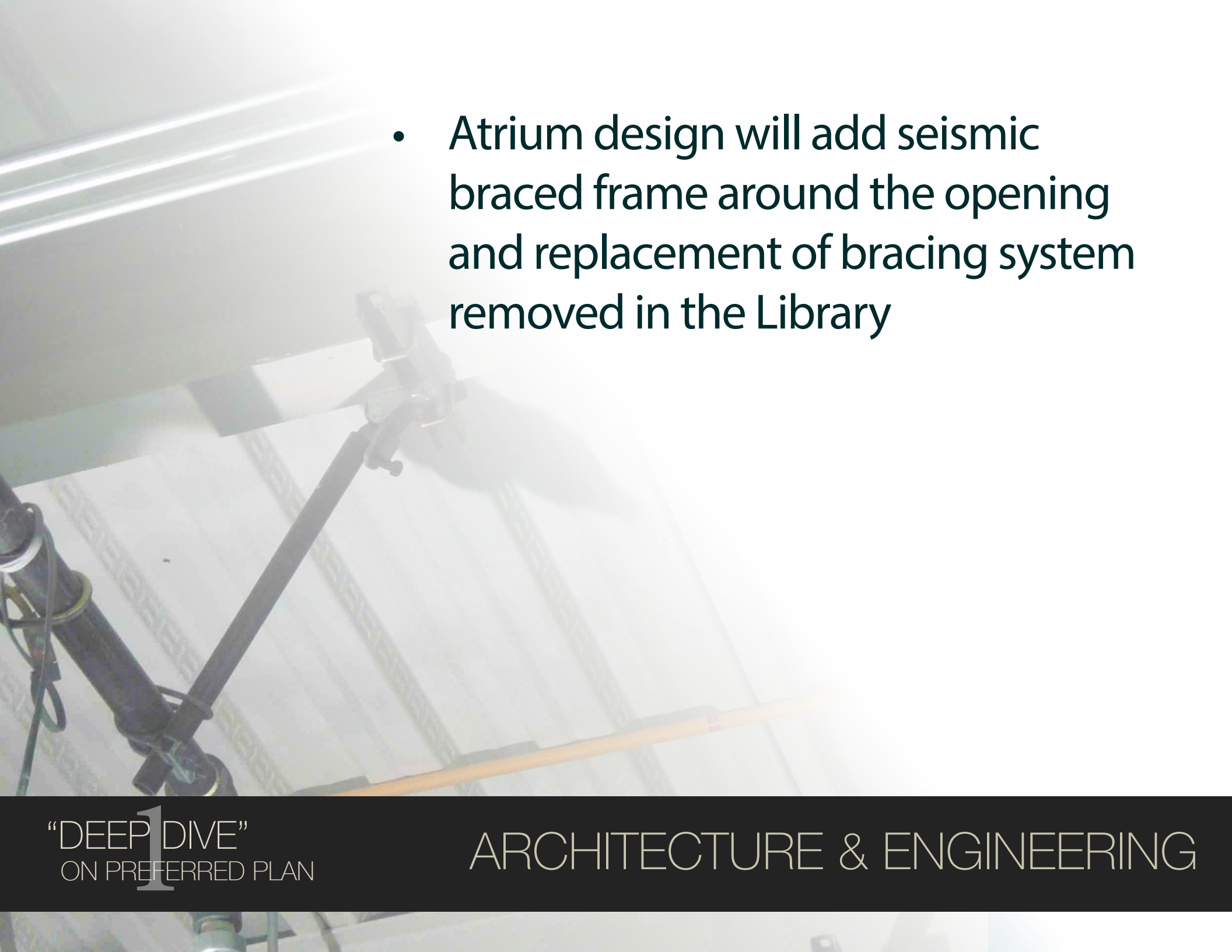


- Existing automatic sprinkler system must be upgraded
- Modernization v. simple renovation
- Code compliant changes will impact renovation at light, medium or heavy cost models

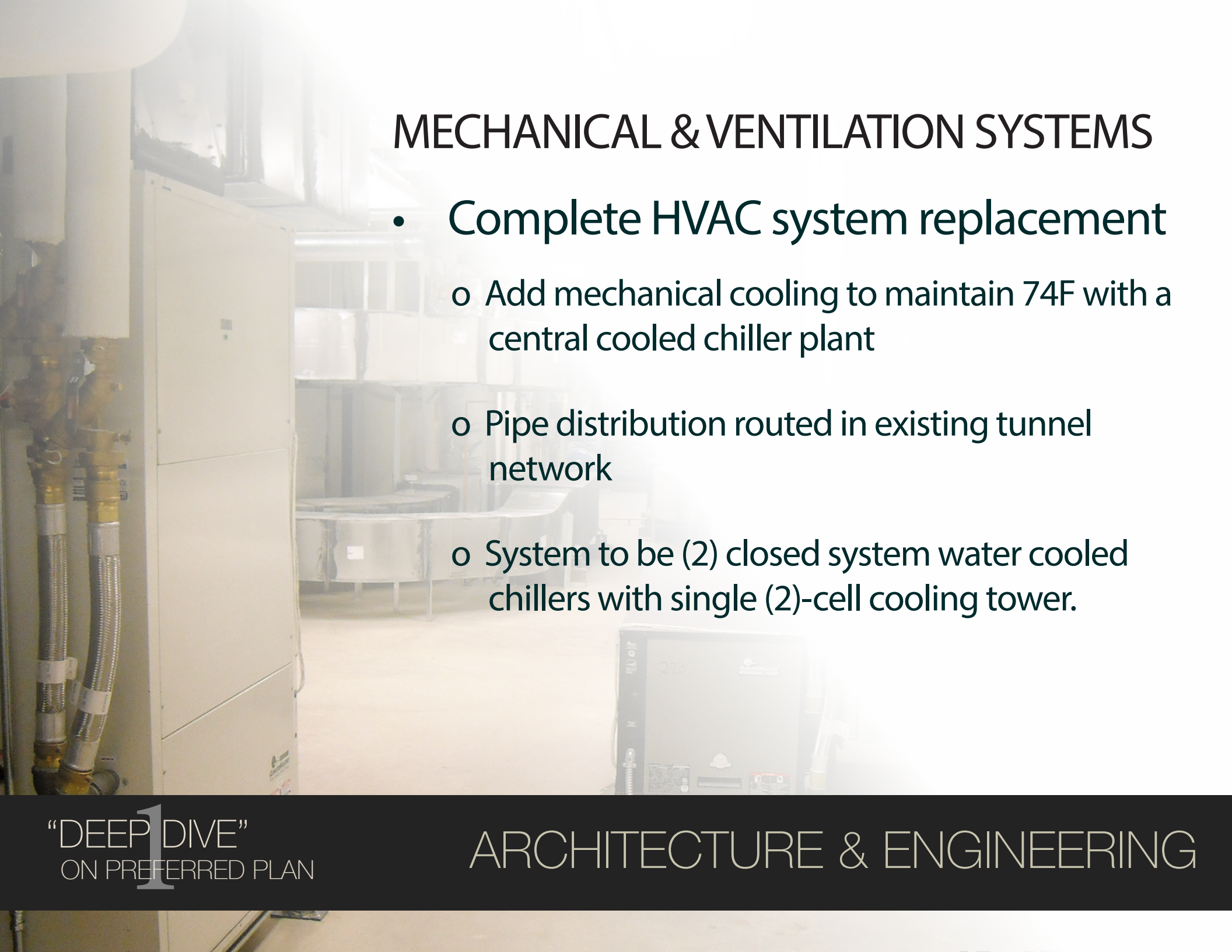


STRUCTURAL SYSTEMS

- Seismic upgrades to existing construction are required
- Additions will require new seismic bracing systems to existing structures
- Changes in occupancy will impact seismic bracing

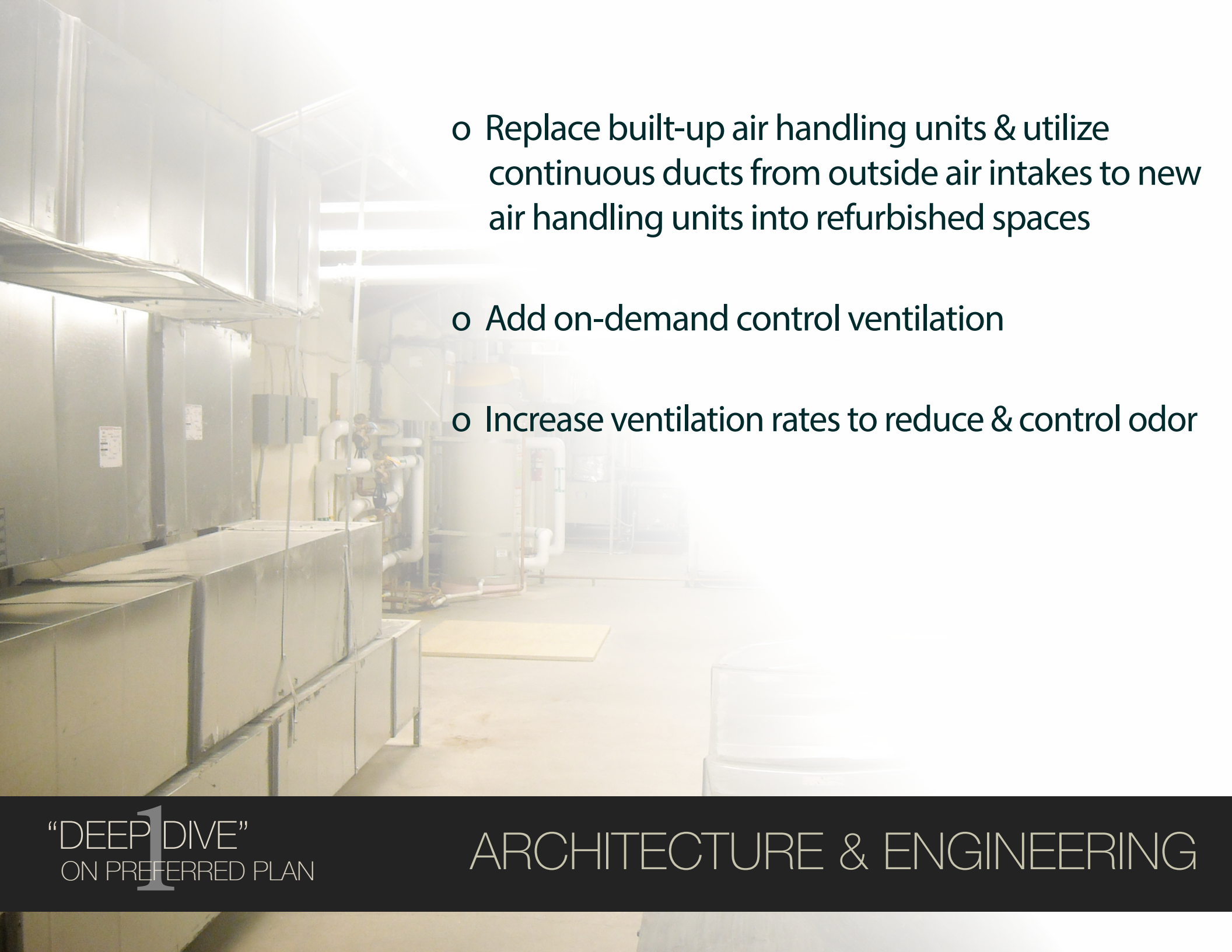


- Atrium design will add seismic braced frame around the opening and replacement of bracing system removed in the Library



MECHANICAL & VENTILATION SYSTEMS

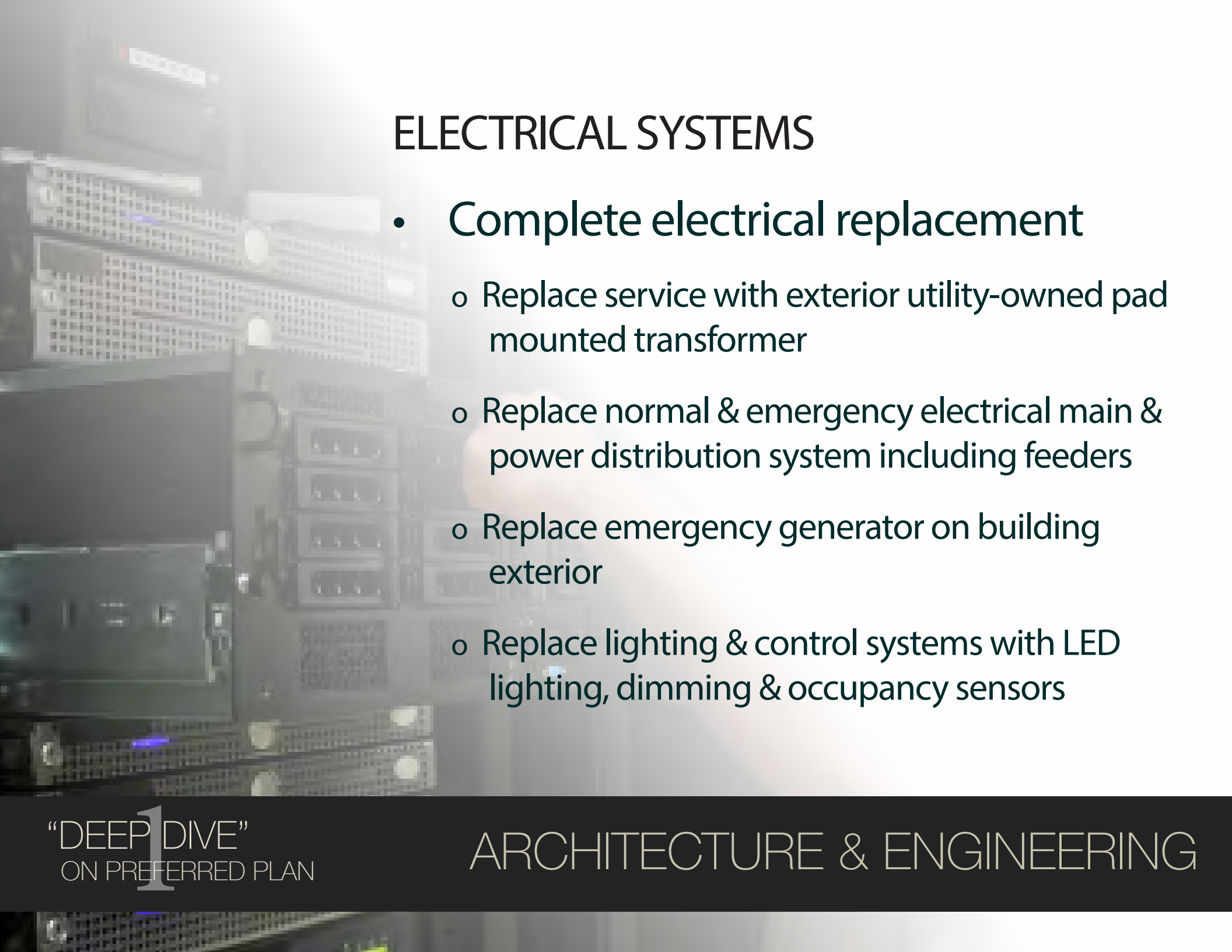
- Complete HVAC system replacement
  - o Add mechanical cooling to maintain 74F with a central cooled chiller plant
  - o Pipe distribution routed in existing tunnel network
  - o System to be (2) closed system water cooled chillers with single (2)-cell cooling tower.



- Replace built-up air handling units & utilize continuous ducts from outside air intakes to new air handling units into refurbished spaces
- Add on-demand control ventilation
- Increase ventilation rates to reduce & control odor

"DEEP DIVE" ON PREFERRED PLAN 1

ARCHITECTURE & ENGINEERING



ELECTRICAL SYSTEMS

- Complete electrical replacement
  - Replace service with exterior utility-owned pad mounted transformer
  - Replace normal & emergency electrical main & power distribution system including feeders
  - Replace emergency generator on building exterior
  - Replace lighting & control systems with LED lighting, dimming & occupancy sensors

- Consider reusing fire alarm system control & power supply; replace batteries, devices and wiring
- Provide emergency responder radio coverage

- **Upgrade systems in auditorium**
  - Replace theatrical lighting with LED
  - Replace A/V system
- **Replace athletic field lighting**
- **Consider install PV array with local utility net metering**

TECHNOLOGY SYSTEMS

- Relocate telecom room to adequately sized space
- Replace telecommunication cabling infrastructure
- Replace clock, paging system & security
- Add integrated control system with remote smart monitoring – clocks, paging & security
-

HISTORIC RESOURCE ASSESSMENT

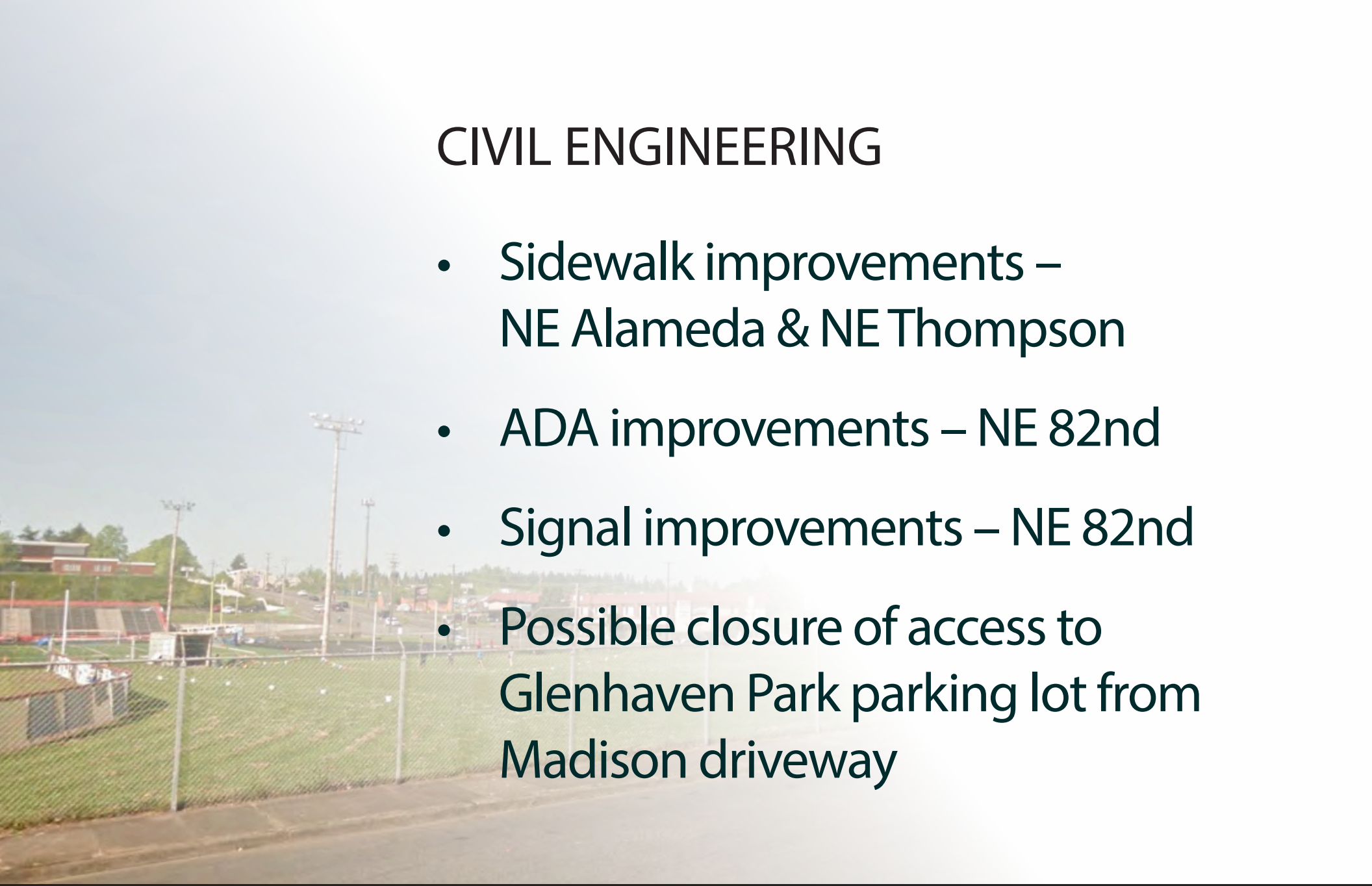
- Review and approval by Portland Historic Landmark not required; courtesy review advisable
- MHS eligible for National Register of Historic Places; consultation with SHPO will be required.

- SHPO consultation may require the following Preferred Plan modifications:
  - Main entry demolition & replacement
  - Cafeteria demolition
  - Exterior window replacement

ENERGY CONSERVATION

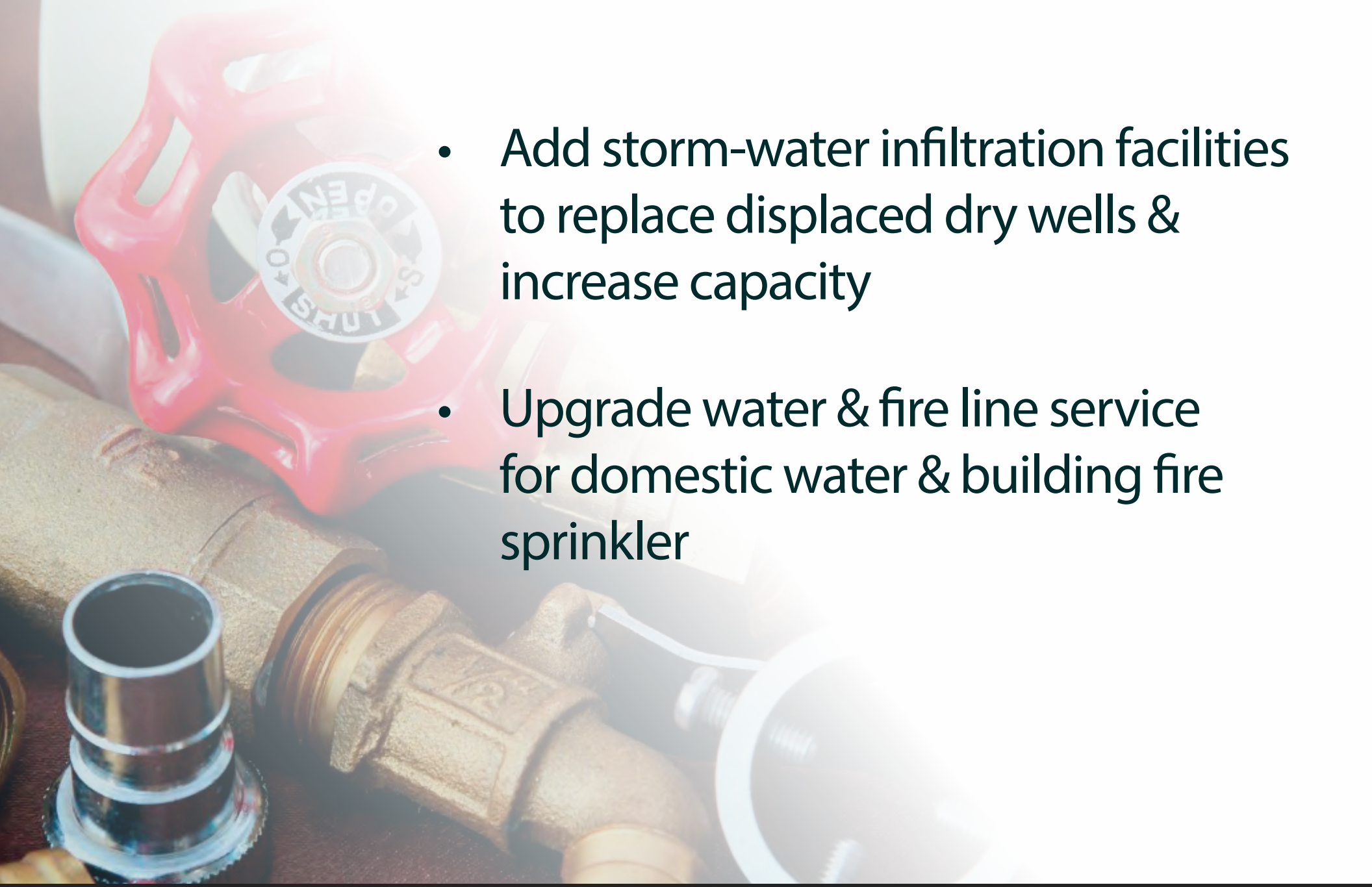
- Typical energy conservation measures can increase initial cost by 1.7% or $3/sf
- Potential savings from those measures can be $74/sf over a 20-year period
- Water savings can be 34% over conventional buildings

- Studies show students & teachers benefit from enhanced learning environments:
  - o better test scores with access to day-lighting
  - o health benefits with improved IAQ (reduced student illness and absenteeism)
- Building enhancements to conserve energy/improve environmental quality will include:
  - o exterior envelope improvements, HVAC upgrades, low flow plumbing fixtures, efficient lighting & integrated EMS systems



CIVIL ENGINEERING

- Sidewalk improvements – NE Alameda & NE Thompson
- ADA improvements – NE 82nd
- Signal improvements – NE 82nd
- Possible closure of access to Glenhaven Park parking lot from Madison driveway



- Add storm-water infiltration facilities to replace displaced dry wells & increase capacity
- Upgrade water & fire line service for domestic water & building fire sprinkler

ENVIRONMENTAL

- Testing & decommissioning of underground oil tanks
- Review & testing old transformers for oil leakage

LANDSCAPE

- (1) of the (2) protected oak trees can be removed due to poor health; the other is very close to the existing building and proposed construction.
- Preferred Plan locates the service entrance adjacent to front entry; not a desirable location.

- Review & investigate integrity of the retaining wall adjacent to golf course
- Baseball field fencing should be taller due to proximity to the track & football field

"DEEP DIVE" ON PREFERRED PLAN 1

SITE DEVELOPMENT & PLANNING

SAFETY, SECURITY & ACCESS

- Maintain landscape to preserve sightlines
- Move community garden away from campus or prohibit access during non-school hours
- Add access controls and monitoring equipment at entrance points

- Organize community & wrap-around services in NW corner that can be isolated from main campus access.
- Add security film to windows & doors at main entry points
- Create a campus camera map & room identification tool for emergency responder use

"DEEP DIVE" ON PREFERRED PLAN 1

SAFETY, SECURITY & ACCESS

HAZARDOUS MATERIALS

- PPS has had an AHERA management plan in place since 1992
- Additional sampling & testing of flooring, ceilings & other plaster surfaces should be conducted to determine scope of hazmat mitigation

- Additional testing for presence of PCB & lead in water are on-going
- Hazmat mitigation could be a significant budgetary cost

2 SPACE ALLOCATION & PROGRAM SUMMARY

LEARNING ENVIRONMENT
DUE DILIGENCE

PROGRAM UPDATE

GENERAL EDUCATION CLASSROOMS

- Ed. Spec. Req'd .....(41) classrooms
- Madison Concept .....(42) classrooms

(1) ADDITIONAL GEN. ED. CLASSROOM PROVIDED

PROGRAM UPDATE

SCIENCE LABS

- Ed. Spec. Req'd.....(11) labs @ 1,500 SF/ea.
- Madison Concept .....(11) labs @ 1,100 SF/ea.

INCREASE LABS TO 1,500 SF/EA – +4,400 SF

LEARNING ENVIRONMENT
DUE DILIGENCE

PROGRAM UPDATE

FINE & PERFORMING ARTS

- Ed. Spec. Req'd .....(5) teaching stations
  - 2-D ART CLASSROOM
  - 3-D ART CLASSROOM
  - BAND ROOM
  - DRAMA/BLACK BOX
  - SCENE SHOP
- Madison Concept .....(6) teaching stations
  - 2-D ART CLASSROOM
  - 3-D ART CLASSROOM
  - BAND ROOM
  - DRAMA/BLACK BOX
  - SCENE SHOP
  - CHOIR ROOM

NO PROGRAM ADJUSTMENTS RECOMMENDED –
SCENE SHOP COULD BE USED AS A CTE SPACE

PROGRAM UPDATE

CAREER PREP/CTE

- Ed. Spec. Req'd
  - (1) maker space @1,200 SF
  - Specialized class/labs – 4,800 SF (TBD/site)
- Madison Concept
  - (1) maker space @ 2,190 SF
  - (4) CTE classrooms – 4,410 SF

LEARNING ENVIRONMENT
DUE DILIGENCE

PROGRAM UPDATE

CAREER PREP/CTE

- Madison High School current program
  - Computer Science
  - 3D Design
  - Graphic/Digital Design
  - Engineering
  - Bio-Medical
  - Agricultural Science

- MINIMUM OF (2) ADDITIONAL CTE CLASSROOMS/ LABS NEED TO BE PROVIDED
- CTE CLASSROOMS/LABS SHOULD BE INCREASED IN SIZE FROM 1,100 SF/EA TO 1,500 SF/EA

PROGRAM UPDATE

PHYSICAL EDUCATION

- Ed. Spec. Req'd .....(5) teaching stations
- Madison Concept .....(5) teaching stations
  - > MAIN GYM .....(2) teaching stations
  - > AUX. GYM .....(1) teaching station
  - > WEIGHT ROOM/AEROBICS.....(1) teaching station
  - > MAT/WRESTLING/DANCE.....(1) teaching station

NO PROGRAM ADJUSTMENTS RECOMMENDED

PROGRAM UPDATE

SPECIAL EDUCATION

- Ed. Spec. Req'd .....(7) teaching stations
- Madison Concept .....(7) teaching stations

(4) TEACHING STATIONS ARE CURRENTLY USED FOR SPECIAL EDUCATION PROGRAMS

PROGRAM UPDATE

EDUCATIONAL SUPPORT – COMPUTER LABS

- Ed. Spec. Req'd .....(5) labs @ 1,100 SF/ea
- Madison Concept .....(3) labs @ 1,100 SF/ea

Computer labs are becoming obsolete in 21st century schools

CONSIDER UTILIZING THESE SPACES TO AUGMENT CTE PROGRAM REQUIREMENTS

LEARNING ENVIRONMENT
DUE DILIGENCE

PROGRAM UPDATE

SMALL GROUP/INSTRUCTIONAL SPACES

- Ed. Spec. Req'd .....(10) @ 500 SF/ea
- Madison Concept .....(14) @ 250-500 SF/ea

EXTENDED LEARNING (LEARNING COMMONS)

- Ed. Spec. Req'd .....(8) @ 1,000 SF/ea
- Madison Concept .....(8) @ 700-2,160 SF/ea

PROGRAM UPDATE

TEACHING STATION SUMMARY

Teaching Station Summary	Quantity
General Education Classrooms	42
Science Labs	11
Fine and Performing Arts	6
Career Prep / CTE	5
Physical Education	5
Education Support	
♦ Special Education	7
♦ Computer Labs	3
Total Teaching Stations	***79***

PROGRAM UPDATE

TEACHING STATION SUMMARY

Student Capacity				
Teaching Station	*Quantity*	*Students/TS*	*Utilization*	*Student Capacity*
General Education	42	28	75% [2]	882
Science Labs	11	28	75% [2]	231
Fine and Performing Arts	6	30	75% [2]	135
Career Prep/CTE	5	24	75% [2]	90
Physical Education	5	32	75% [2]	120
Special Education	7	16	75% [2]	84
Computer Labs	3	30	75% [2]	67
Total Student Capacity [1]				***1,609***

NOTES

1. The student capacity calculation excludes the (14) small group instruction spaces.
2. The 75% utilization rate is based on the teaching station being utilized (6) out of (8) periods per day.

GROUP ACTIVITY: PREFERRED PLAN PREFERENCES

3

- Safety & security
- Hazardous materials mitigation
- Seismic
- Code compliance
- Energy conservation

- Learning environment upgrades
- Infrastructure upgrades
- Wrap around/community services provisions

PREFERRED PLAN PREFERENCES 3

MUST DO

PREFERRED

SITE PLAN

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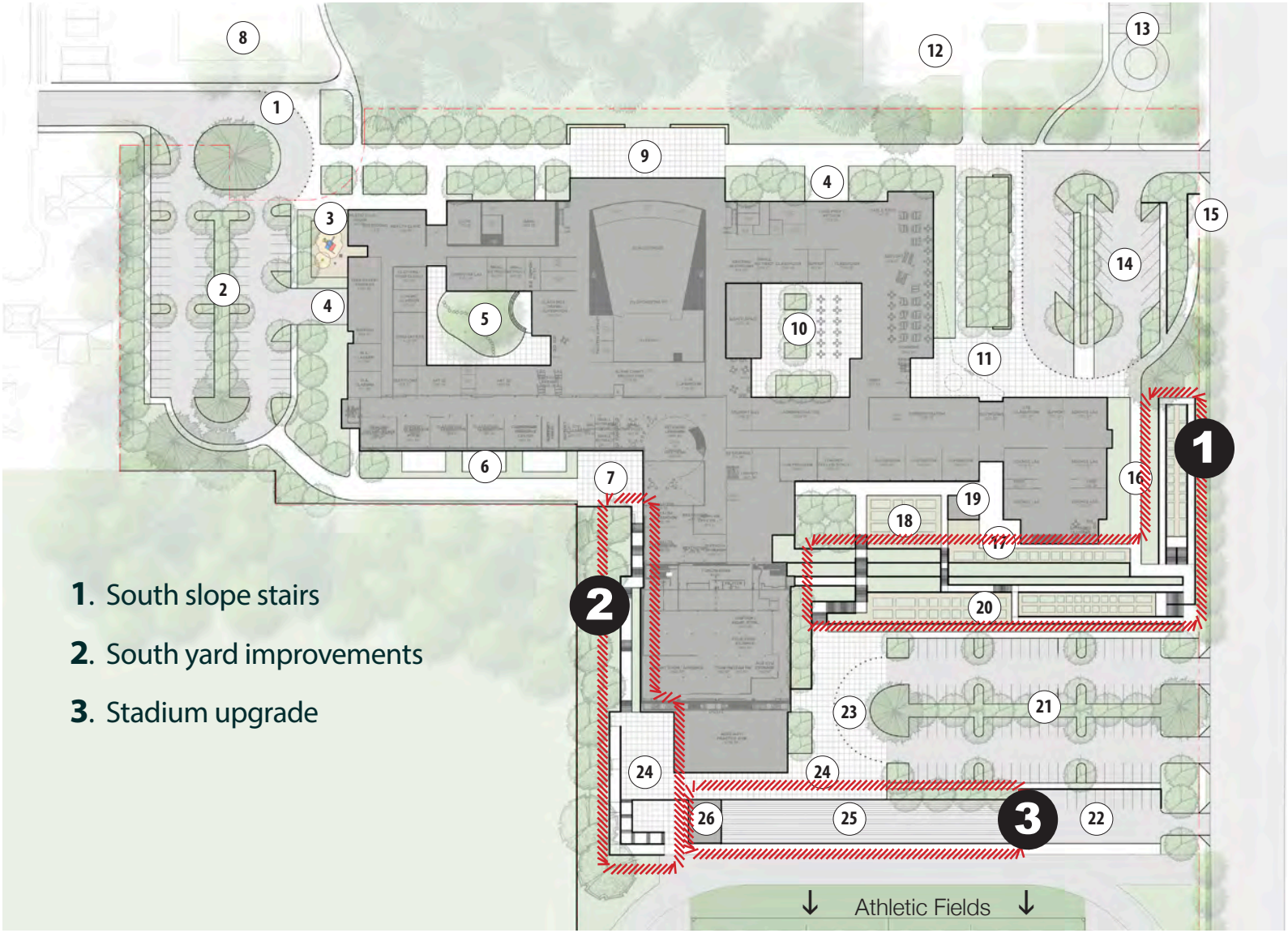
KEY

SPED Bus Drop-Off // **1**
West Parking Area // **2**
Childcare Play Area // **3**
Service Access // **4**
Arts Courtyard // **5**
Outdoor Learning // **6**
Crossroads Plaza // **7**
Existing Tennis Courts // **8**
Theater Plaza // **9**
Commons Plaza // **10**
Main Entry Plaza & Drop Off // **11**
Existing Skate Park // **12**
Existing Parking Area // **13**
East Parking Area // **14**
Transit Stop // **15**
ADA Access from NE 82nd // **16**
Science Plaza // **17**
Learning Garden // **18**
Greenhouse // **19**
Community Gardens // **20**
South Parking Area // **21**
Van Parking & Service Access // **22**
Athletics Bus Drop-Off // **23**
Athletics Plaza // **24**
Grandstands // **25**
Restroom & Concessions Bldg. // **26**



PREFERRED PLAN PREFERENCES 3

OPTIONAL PRIORITIES

PREFERRED
SITE PLAN

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KEY

Van Parking & Service Access // **22**

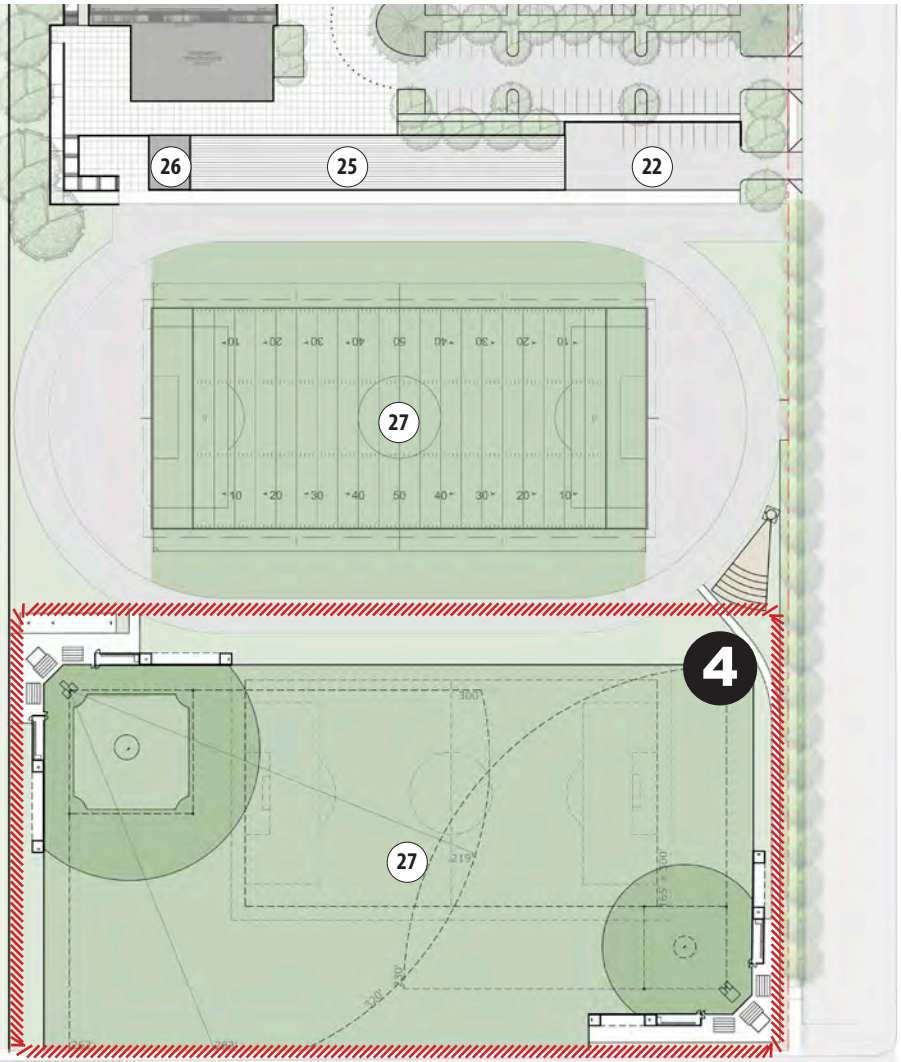
Grandstands // **25**

Restroom & Concessions Bldg. // **26**

Synthetic Turf Fields // **27**

Rose City Golf Course

4. Field upgrades



PREFERRED PLAN PREFERENCES 3

OPTIONAL PRIORITIES

PREFERRED

FLOOR PLAN MAIN FLOOR

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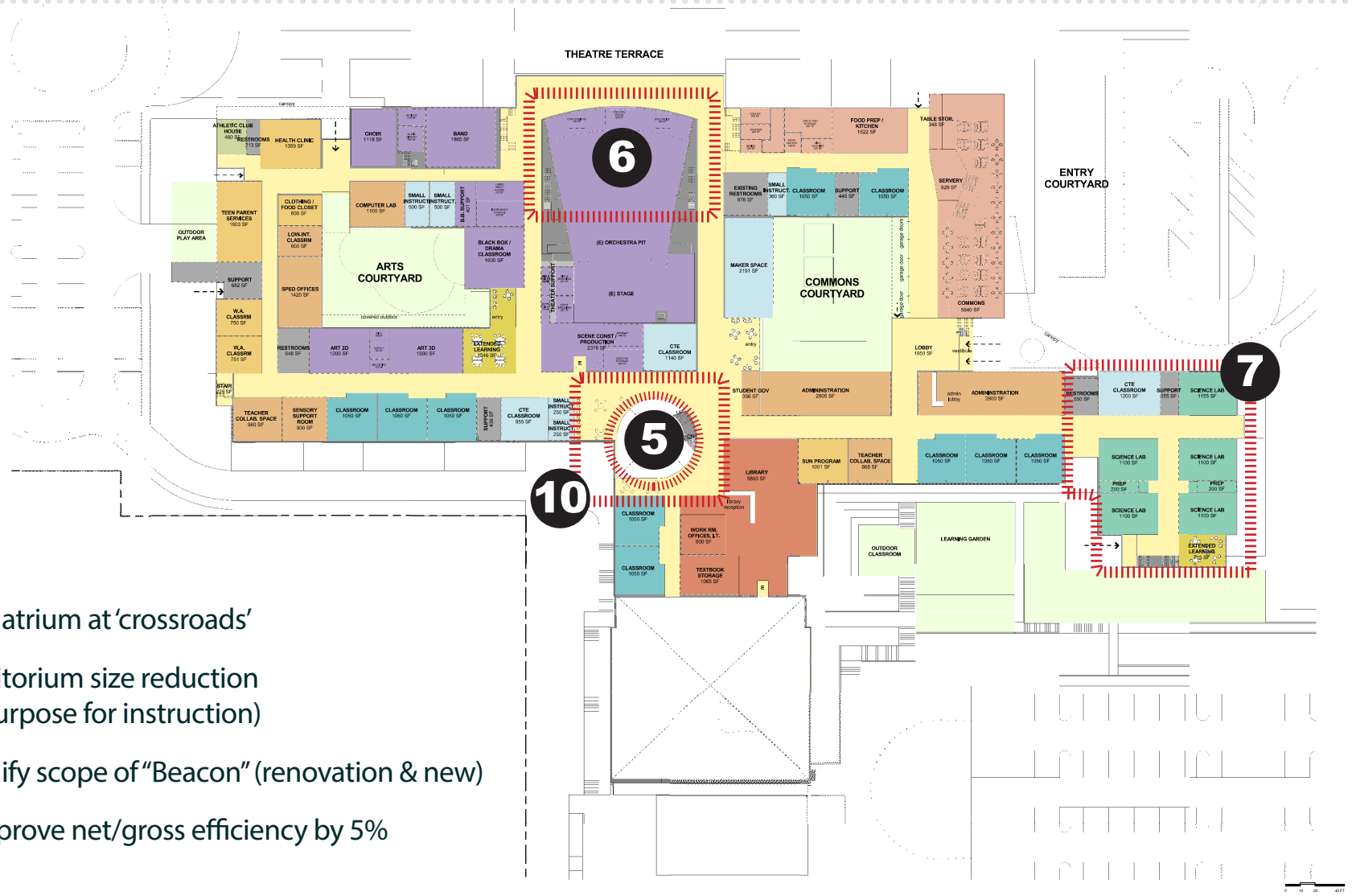

5. Add atrium at 'crossroads'

6. Auditorium size reduction (repurpose for instruction)

7. Modify scope of "Beacon" (renovation & new)

10. Improve net/gross efficiency by 5%

PREFERRED

FLOOR PLAN UPPER LEVEL

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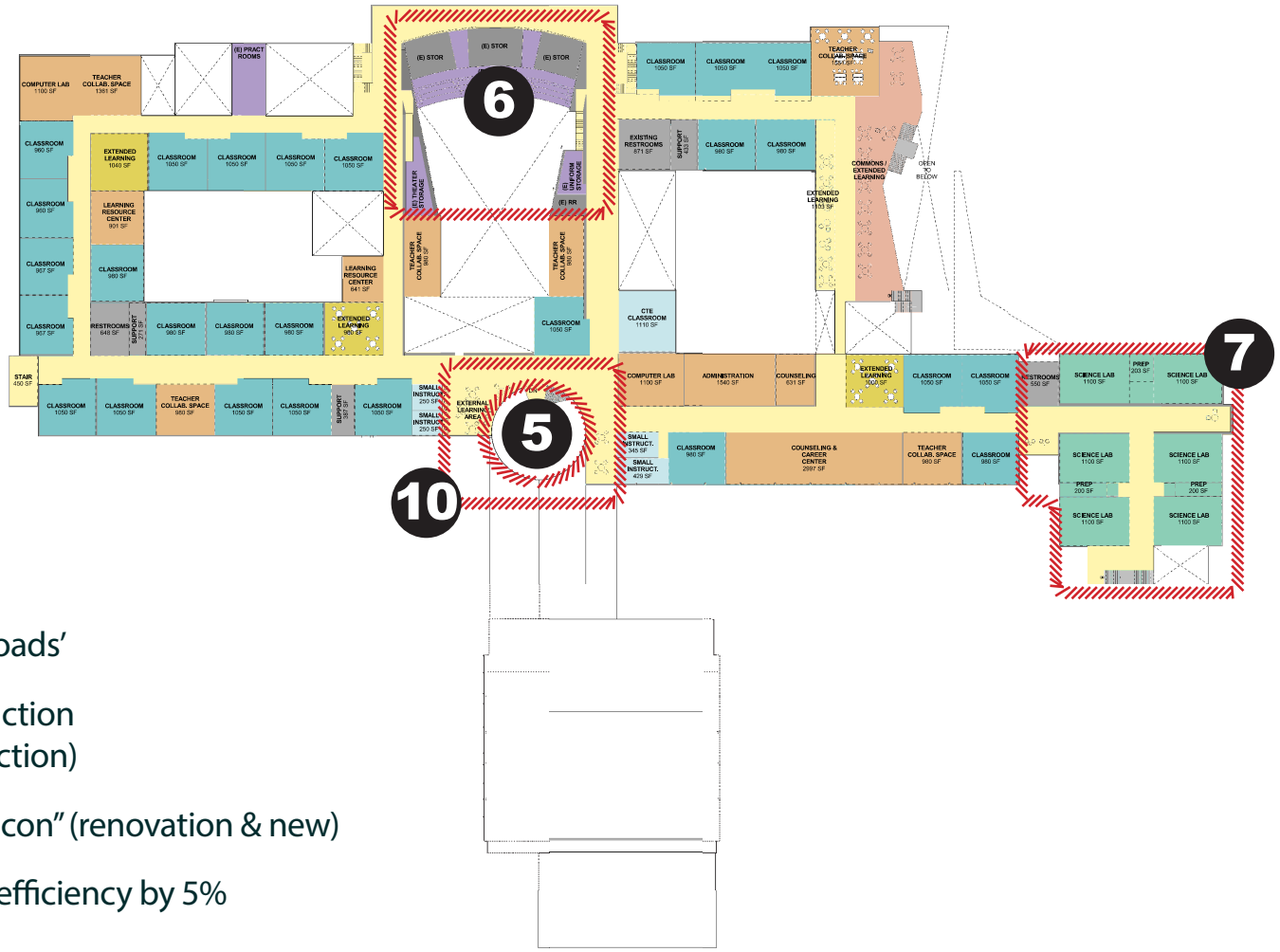

5. Add atrium at 'crossroads'

6. Auditorium size reduction (repurpose for instruction)

7. Modify scope of "Beacon" (renovation & new)

10. Improve net/gross efficiency by 5%

PREFERRED

FLOOR PLAN LOWER LEVEL

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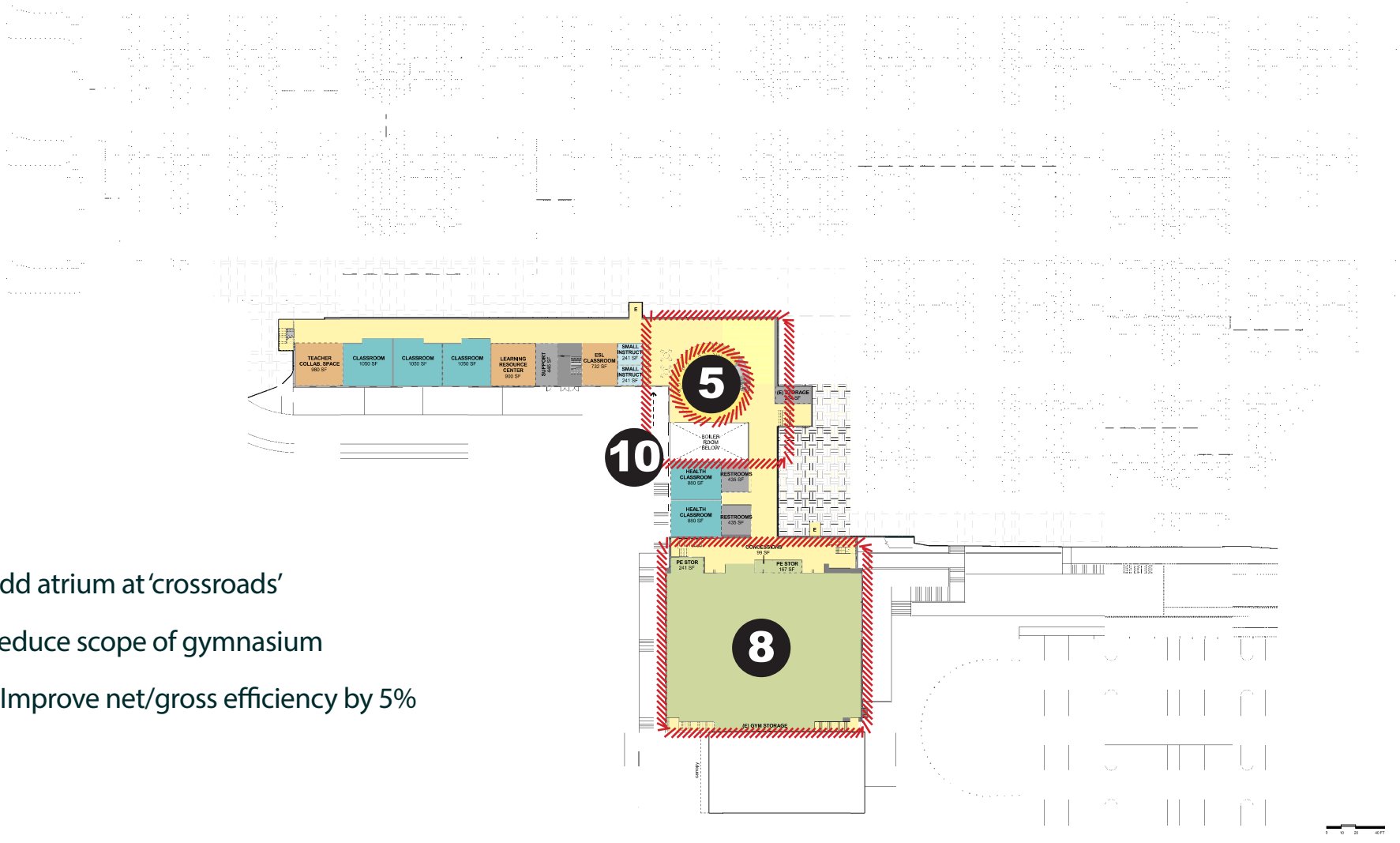

5. Add atrium at 'crossroads'

8. Reduce scope of gymnasium

10. Improve net/gross efficiency by 5%

FLOOR PLAN BASEMENT

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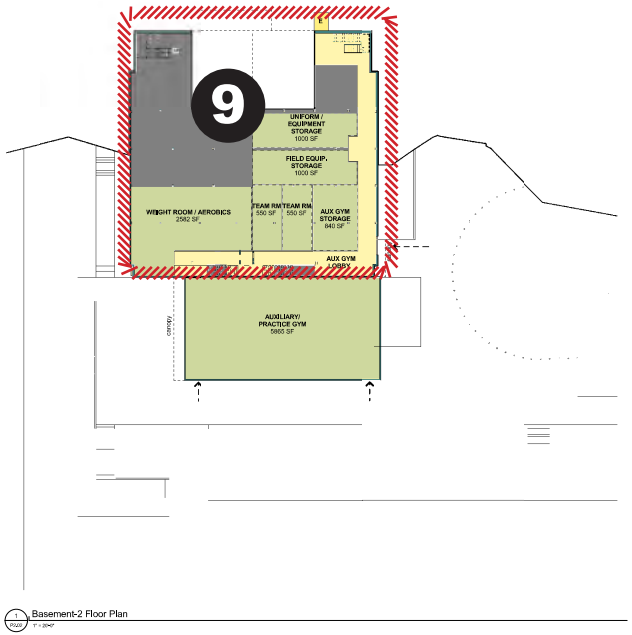
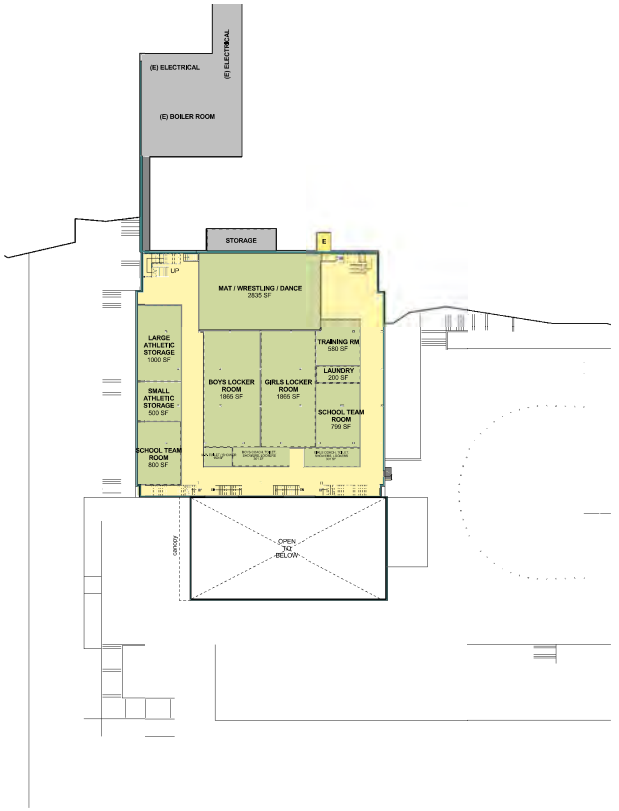
9. Reduce scope of improvements to basement lease space



Basement-2 Floor Plan



Basement-1 Floor Plan

1. **Review** optional priorities & add/subtract/modify

2. **Prioritize** based on functional and emotional value to the project

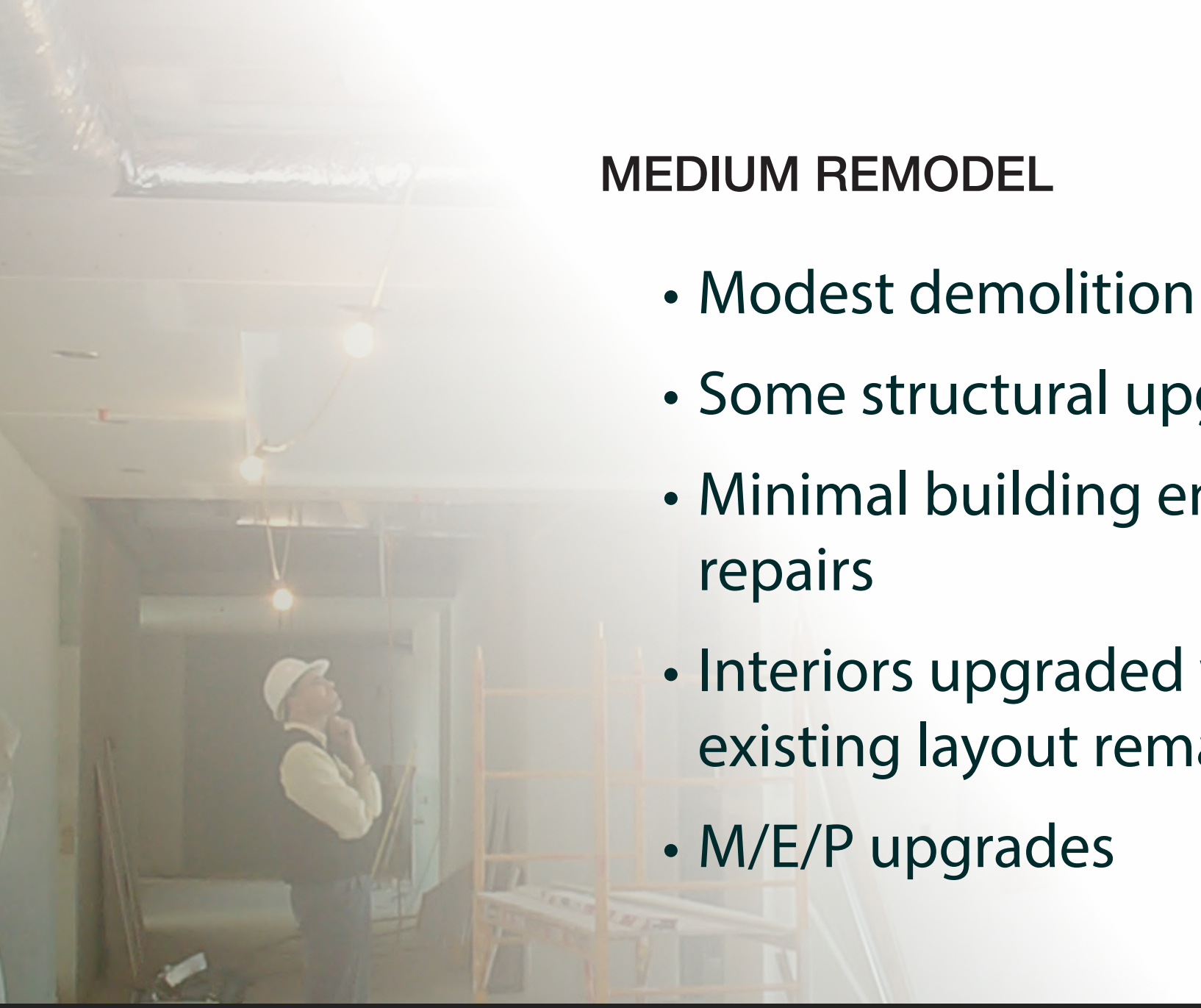
3. **Report Out**

4. **Conclusions**

4 BUDGET MODELING PARAMETERS

HEAVY REMODEL

- Partial interior demolition
- Seismic & structural upgrades
- Building envelope upgrades
- Interiors reconfiguration
- New finishes
- M/E/P - mostly new



MEDIUM REMODEL

- Modest demolition
- Some structural upgrades
- Minimal building envelope repairs
- Interiors upgraded with some existing layout remaining
- M/E/P upgrades

LIGHT REMODEL

- Primarily finish upgrades
- Some drywall work
- Some door upgrades

LIGHT RENOVATION = 43,495 SF

MEDIUM RENOVATION = 38,847 SF

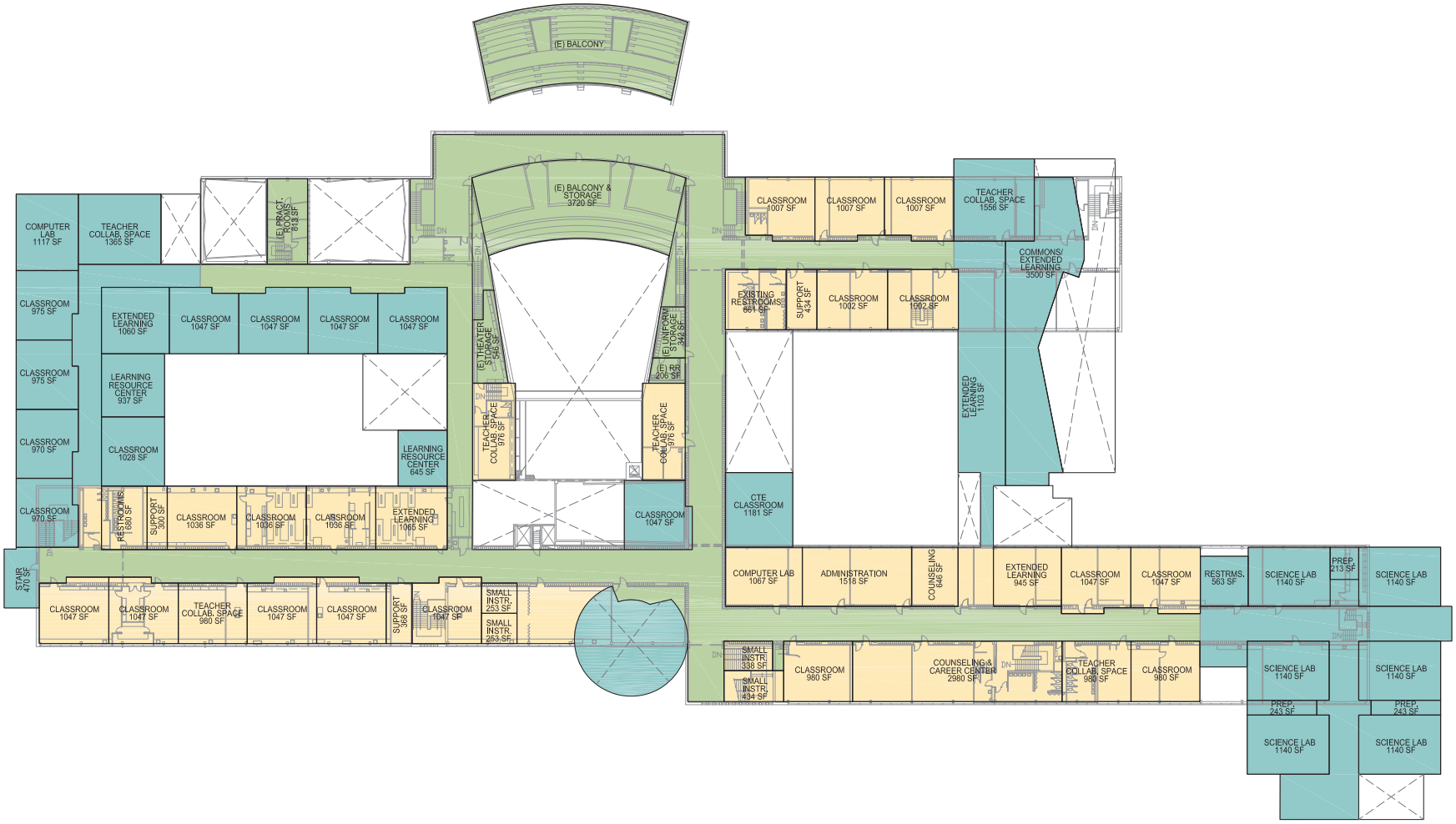
NEW CONSTRUCTION = 53,709 SF

MADISON HIGH SCHOOL
MAIN FLOOR

BUDGET MODELING 4
PARAMETERS

ORIGINAL COST PLAN - PREFERRED

MAIN FLOOR BUDGET PLAN



LIGHT RENOVATION = 28,870 SF

MEDIUM RENOVATION = 35,280 SF

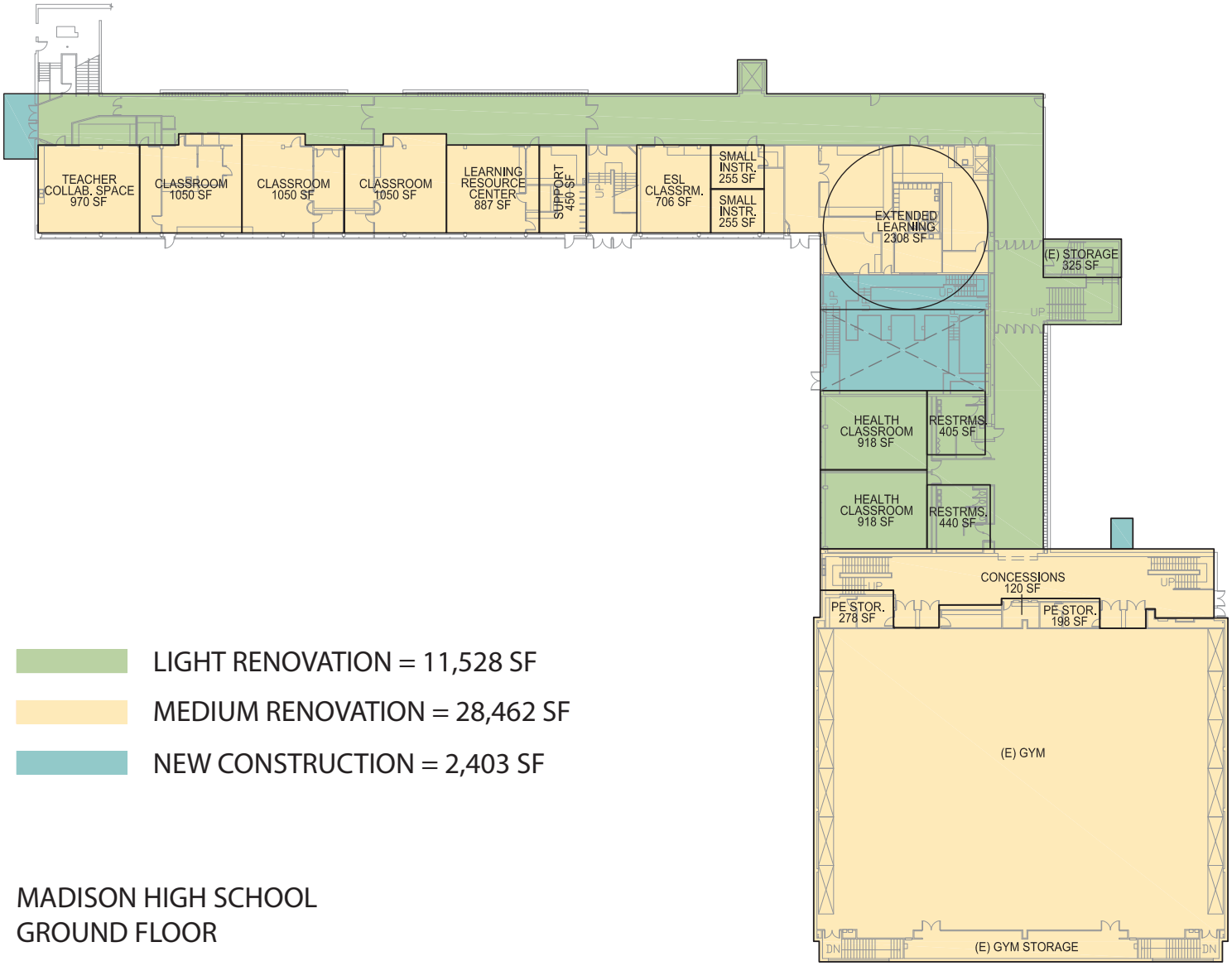
NEW CONSTRUCTION = 39,250 SF

MADISON HIGH SCHOOL
UPPER FLOOR

BUDGET MODELING 4
PARAMETERS

ORIGINAL COST PLAN - PREFERRED

UPPER FLOOR BUDGET PLAN



LIGHT RENOVATION = 11,528 SF

MEDIUM RENOVATION = 28,462 SF

NEW CONSTRUCTION = 2,403 SF

MADISON HIGH SCHOOL
GROUND FLOOR

BUDGET MODELING 4 PARAMETERS

ORIGINAL COST PLAN - PREFERRED

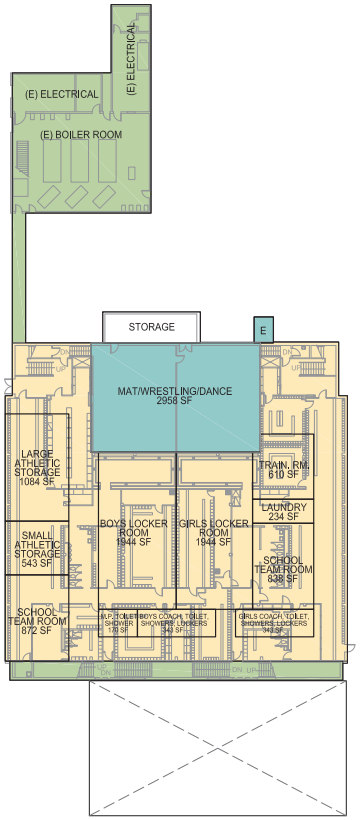
GROUND FLOOR BUDGET PLAN

LIGHT RENOVATION = 4,815 SF

MEDIUM RENOVATION = 14,250 SF

NEW CONSTRUCTION = 3,037 SF

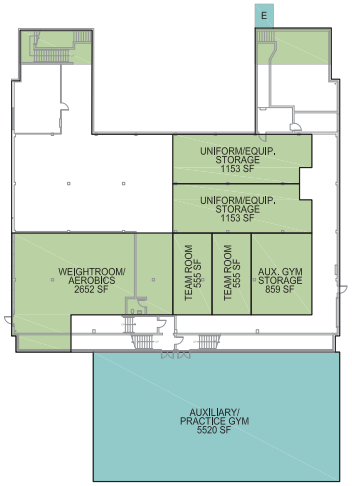
MADISON HIGH SCHOOL
BASEMENT 1



LIGHT RENOVATION = 7,820 SF

NEW CONSTRUCTION = 5,594 SF

MADISON HIGH SCHOOL
BASEMENT 2



BUDGET MODELING 4
PARAMETERS

ORIGINAL COST PLAN - PREFERRED
BASEMENT BUDGET PLAN

5 WRAP UP/ NEXT STEPS

NEXT STEPS

- Student Crossroads

  December 15 • 10:00 am - 1:00 pm

- Community Forum

  December 15 • 3:00 - 5:00 p.m.

NEXT MEETING...

MPC Meeting #9 - January 9, 2017

Priorities by function, emotion & budget