



Utilities Overcoming the Split Incentive to Reach Office Tenant Spaces

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Barriers to Efficiency in Office Tenant Spaces

Financial

Market

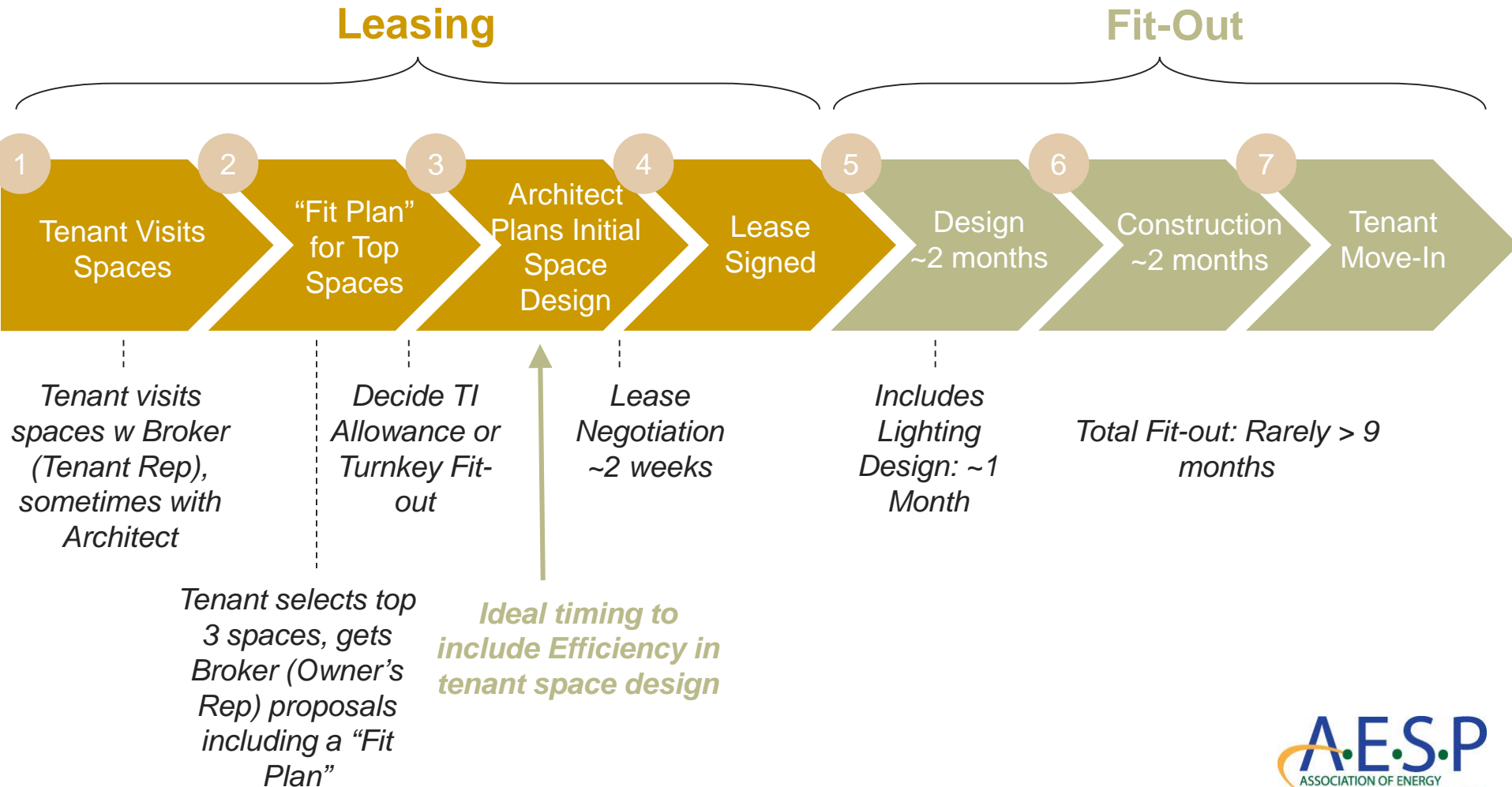
*Info &
Knowledge*

*Physical
Building*

Commercial Real Estate Building Life Cycle



What is a Tenant Improvement Fit-Out?



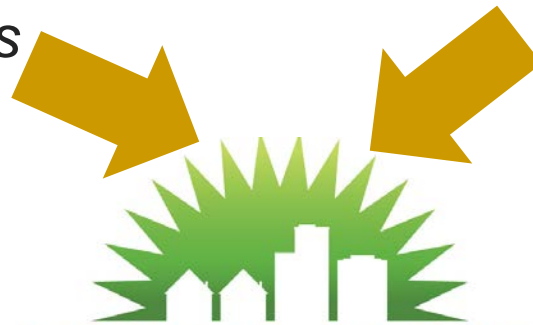
Cross-Utility Energy Efficiency Collaboration

nationalgrid

Electric and natural gas utility serving customers in MA, RI and NY and the United Kingdom

EVERSOURCE

Electric and gas utility serving customers in 3 New England states



mass save
Savings through energy efficiency



*Commonwealth of
Massachusetts*



Sustainable Office Design Program Incentive

Offers a \$1/sqft incentive

- Incentive paid to building owner or tenant
- Offers Lighting Designer Incentive of 20% of tenant incentive, cap at \$15,000
- Encourages collaboration between design teams and utilities

Sustainable Office Design Program Criteria

1. Minimum Space Requirement 7,500 sqft
2. Open Office Component >40%
3. Partition Heights <48 inches
4. Lighting Power Density <.675 W/sqft
5. Control Density <290 sqft/control

*Compliance with these requirements
assures availability of program incentives*

Program Status

- Program launched Spring 2015
- 13 projects complete so far representing 930,000 sqft and 1.8 million kwh saved annually
- Projects range in size 10,000 - 200,000 sqft
- 12+ additional projects in the pipeline
- More targeted outreach needed but general feedback is positive

Market Outreach



ARC/Architectural Resources Cambridge

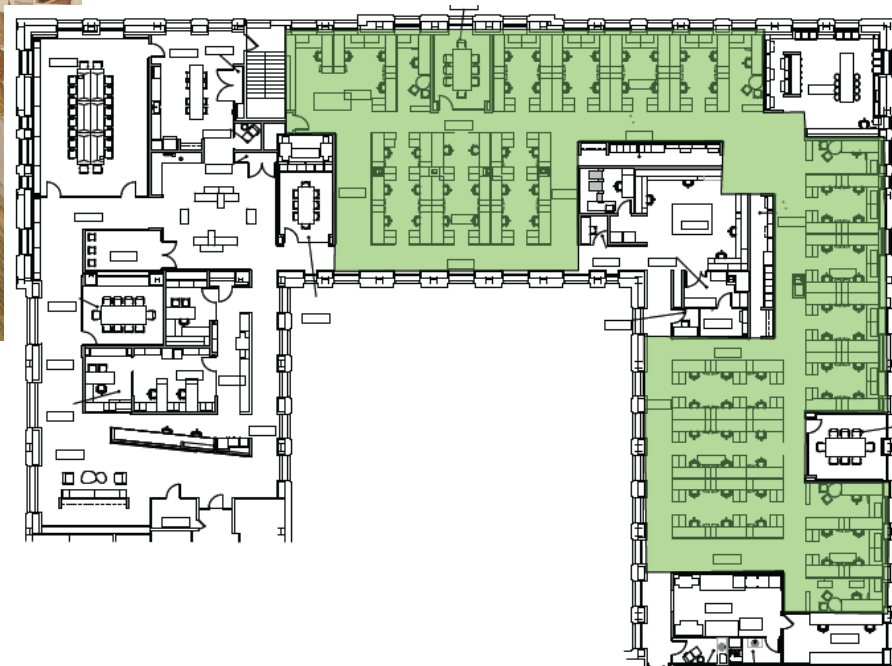
- 80-person Architecture Office
- AIA 2030 Challenge, 40+ LEED Accredited Professionals
- 19,200 sqft
- Completed June 2015
- LEED ID+C -2009 GOLD



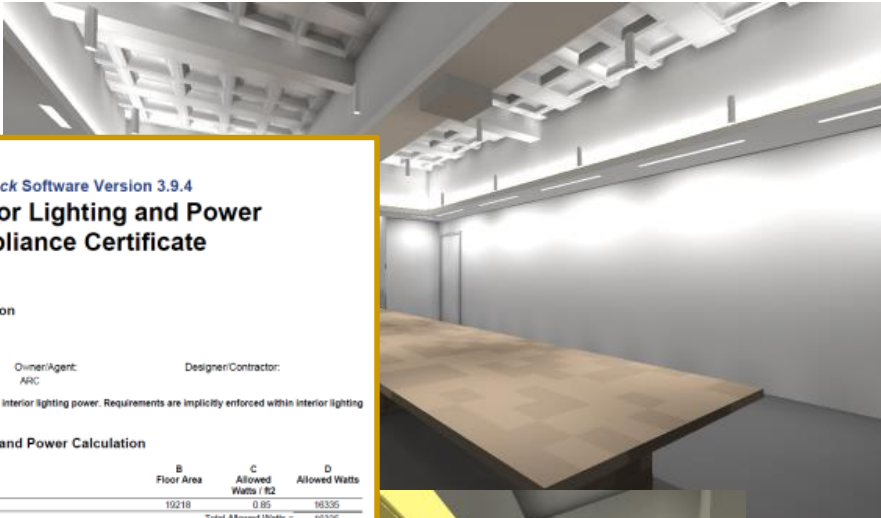
Design Criteria



- 54% Open Office
- Low Partition Heights



Lighting Power Density (LPD)



COMcheck Software Version 3.9.4
Interior Lighting and Power
Compliance Certificate

2012 IECC

Section 1: Project Information

Project Type: New Construction
Project Title: ARC Office COMcheck

Construction Site: 5011 Boylston Boston, MA
Owner/Agent: ARC Designer/Contractor:

Additional Efficiency Package: Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

Section 2: Interior Lighting and Power Calculation

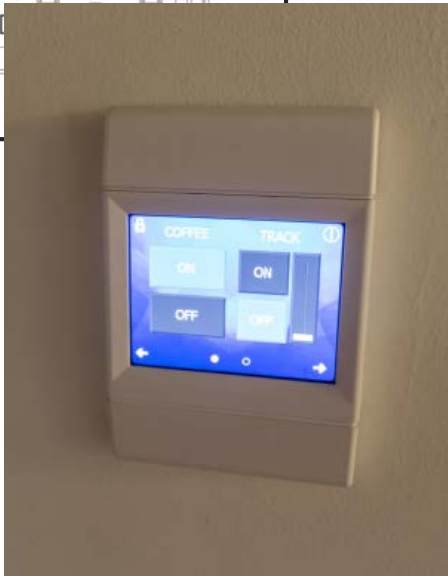
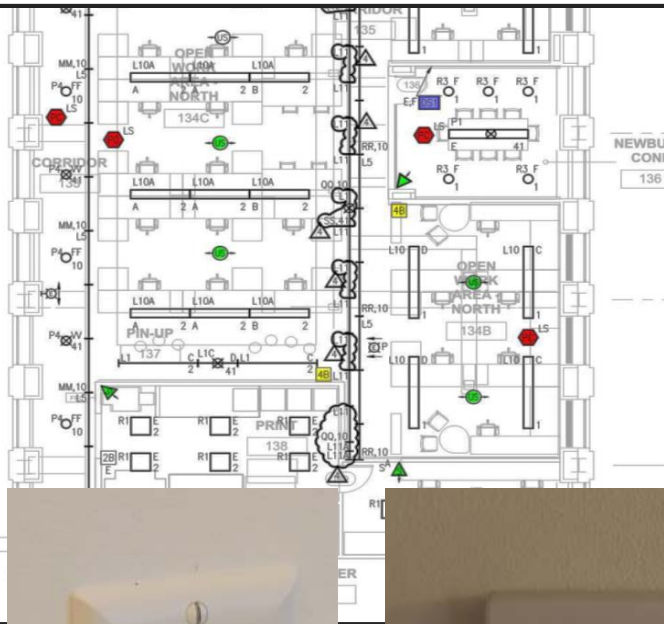
A	B Floor Area	C Allowed Watts / ft ²	D Allowed Watts
Office	19218	0.95	18336
Total Allowed Watts =			18336

- LED Fixtures
- Careful Design
- Test and Retest
- LPD 0.65 watt/sqft



Lighting Controls

- Avg area/control point = 274 sqft
 - 42 occupancy sensors
 - 17 daylight sensors
 - 11 manual dimming controls





Costs and Savings

- Fixture Cost = \$170,000 (\$9/sqft)
- Controls Cost = \$31,000 (\$1.60/sqft)
- Incentive = \$19,218
- Estimated Energy Savings
 - \$5,200/yr (\$0.27/sqft)
 - 34,600 kwh/yr (1.8 kwh/sqft/yr)
 - 17 tons CO2/yr

Sustainable Tenant Office Design for All

- Office Tenant Fit-Outs don't have to miss out on efficiency opportunities!
- For more info on design guidelines, application details, or case studies, visit www.masssave.com/SOD

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Save The Dates

May 2-4, 2017

AESP's Spring Conference
Salt Lake City, UT

August 29-31, 2017

AESP's Summer Conference
Toronto, ON

February 19-22, 2018

AESP's National Conference
New Orleans, LA

For more information - www.aesp.org