

Property Sustainability – Protecting Municipal Assets

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Resiliency and Preparedness

- June 2011 Tornados
- Winter 2015 "Snowpocalypse"
- Jan. 2018 Boston Cyclone
- Oct. 2019 Boston King Tide











What we will cover

- Resources
- Building Audits/Assessments
- Building Systems / Climate Impact
- Staffing and Operations
- Funding

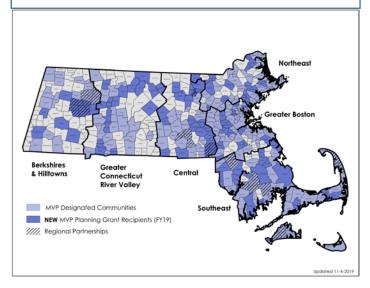


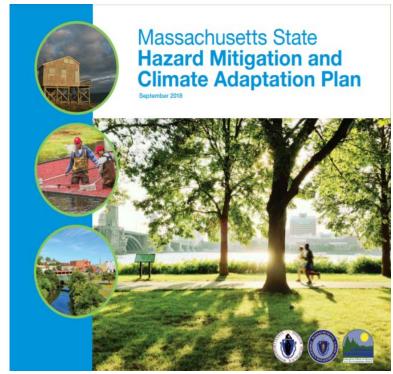


resilient MA

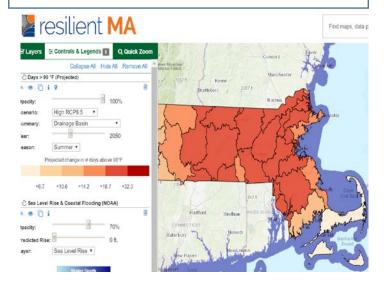
Climate Change Clearinghouse for the Commonwealth

Municipal Vulnerability Preparedness Program





ResilientMA Interactive Map



Statewide Resilience Master Plan (SRMP)

PHASE I: BENCHMARKING AND CRITICALITY ANALYSIS

PHASE II: RISK AND VULNERABILITY ANALYSIS & PILOT SITE WORKSHOPS

PHASE III: COMPILATION
AND DISTRIBUTION OF
GUIDELINES

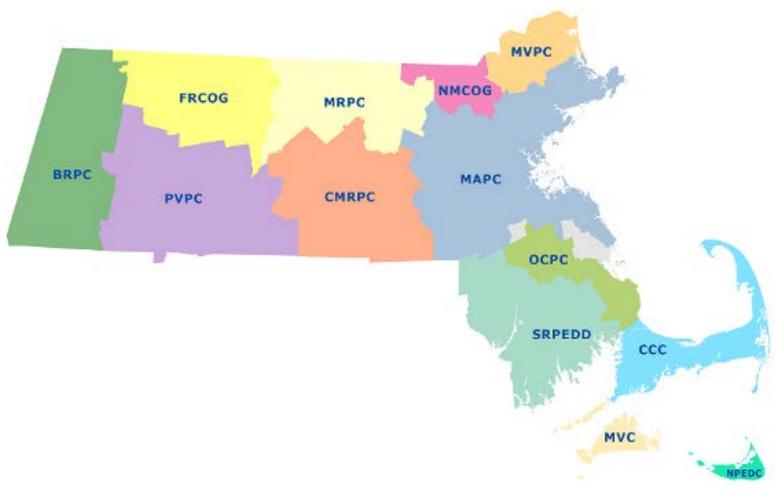
- Task 1 Project Initiation & Workplan
- Task 2 Goal setting/Criticality Analysis

- Task 3 Commonwealth Scale Risk Vulnerability Analysis
- Task 4 Pilot Sites, Matrix / Checklist Development
- Task 5 Vulnerability Scorecard Development

- Task 6 Draft Guidelines
- Task 7 Final Guidelines, CAMIS Integration



Massachusetts Association of Regional Planning Agencies



https://massmarpa.org/

You Don't Know What You Don't Know!



Risk Assessments - Building Audits

Hazards

- Fire
- Explosion
- Natural hazards
- Hazardous materials spill or release
- Terrorism
- Workplace violence
- · Pandemic disease
- Utility outage
- Mechanical breakdown
- Supplier failure
- Cyber attack

Assets at Risk

People

& Magnitude

Probability

- Property including buildings, critical infrastructure
- Supply chain
- Systems/equipment
- Information Technology
- Business operations
- Reputation of or confidence in entity
- Regulatory and contractual obligations
- Environment

Impacts

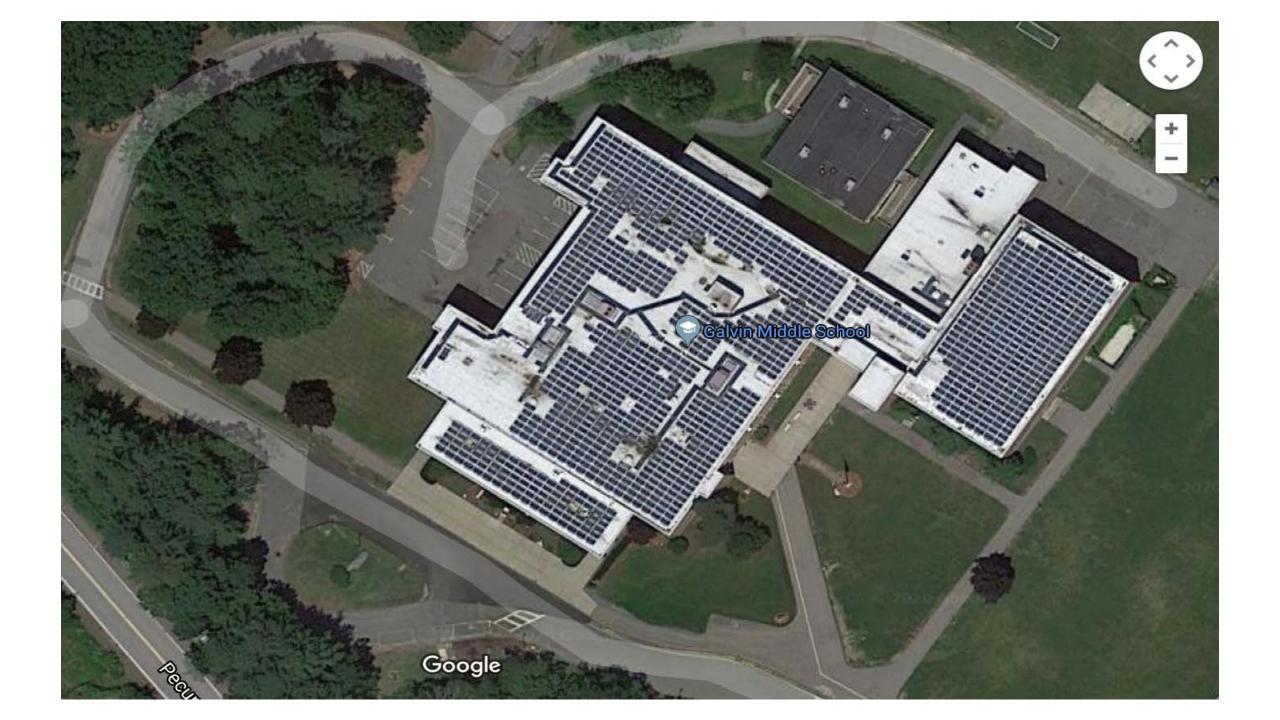
- Casualties
- Property damage
- Business interruption
- Loss of customers
- Financial loss
- Environmental contamination
- Loss of confidence in the organization
- Fines and penalties
- Lawsuits

Hazard Identification

Vulnerability Assessment

Vulnerability

Impact Analysis







Temperature Changes

- Longer Shoulder Months
- Thermal Comfort / IAQ = Work Performance
- Changing Building Codes
 - Green Communities (Stretch Energy Code)



I work harder at getting the office temperature right than I do at my actual job.

som**ee**cards

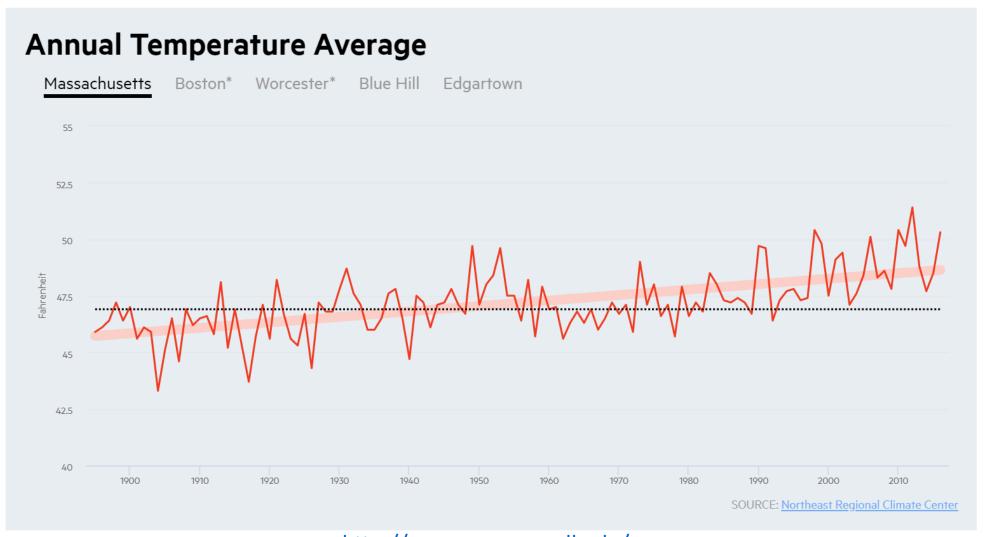




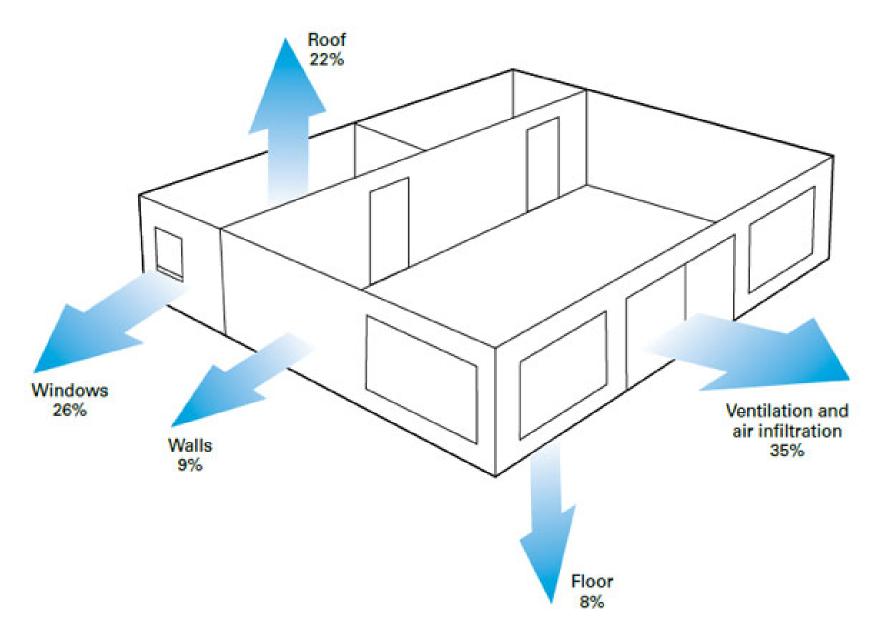


https://schools.forhealth.org/

Design Standards Are Behind...

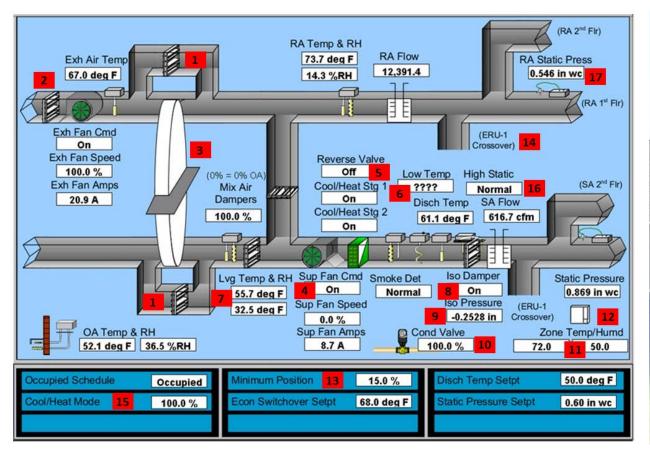


http://www.nrcc.cornell.edu/



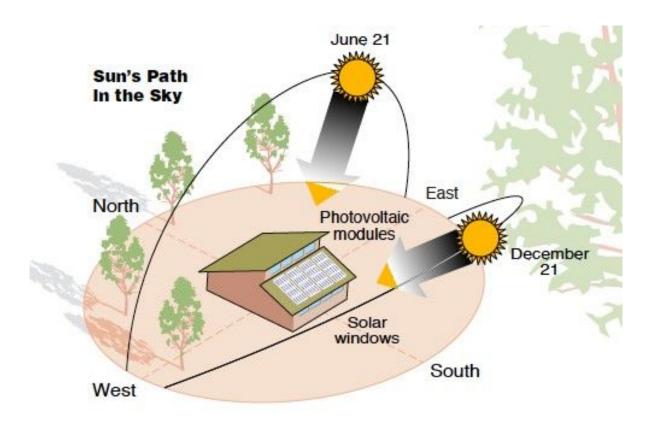
https://www.carbontrust.com/resources/guides/energy-efficiency/buildings-energy-efficiency/

Building Automation Isn't Automatic...

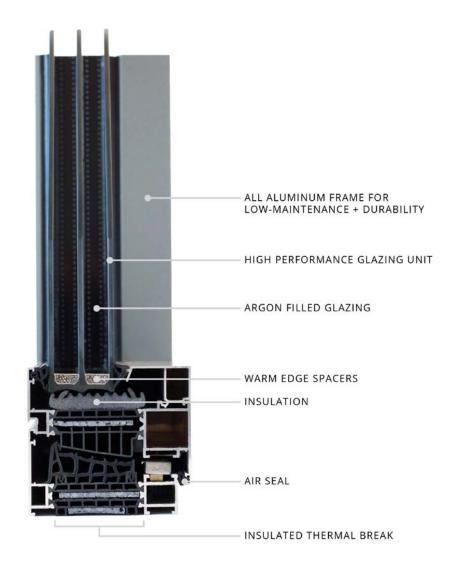


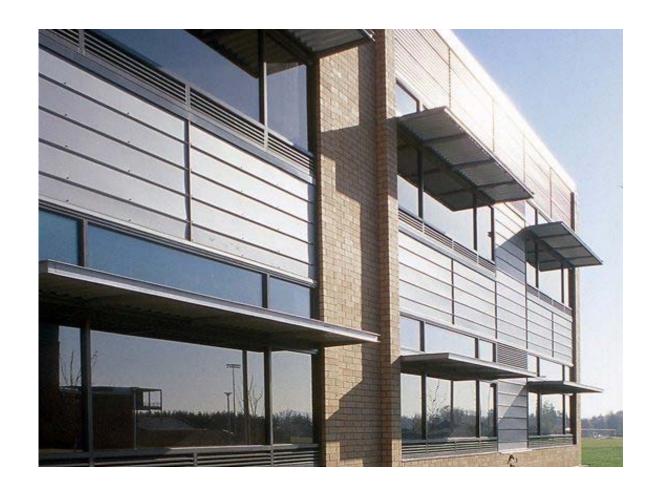


Thermal Gain





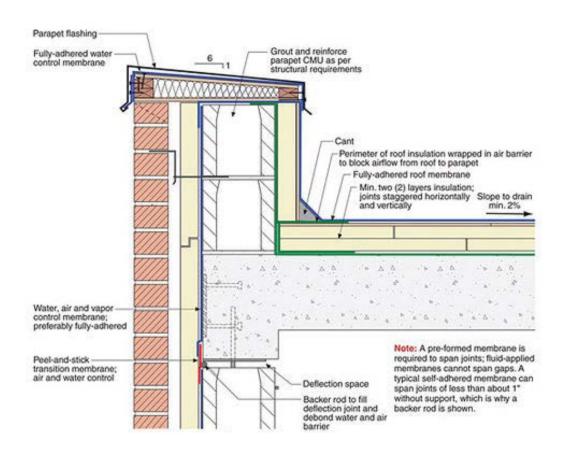




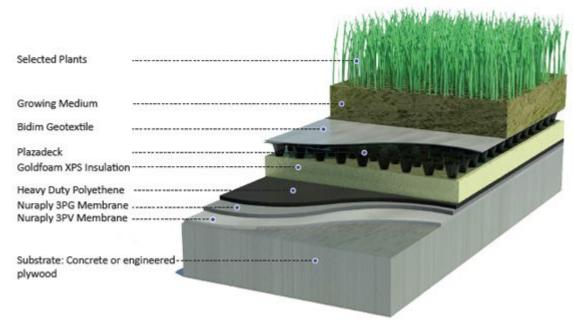
Film

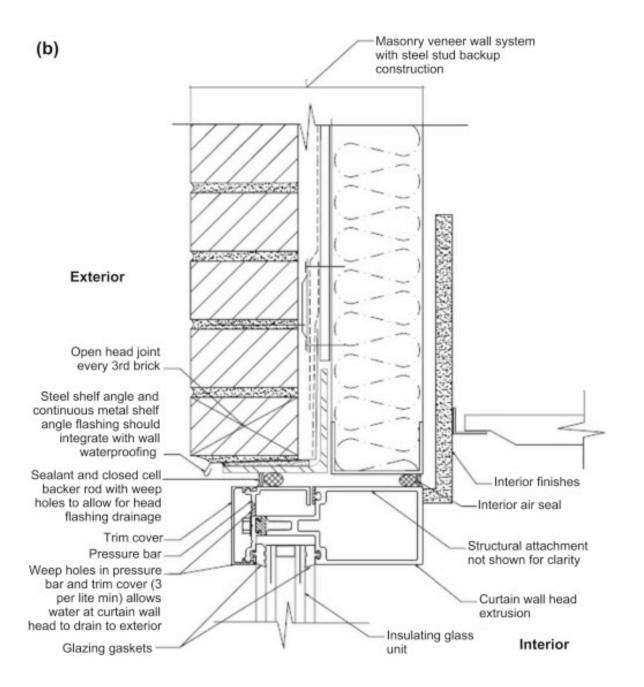
Shades





Protected Membrane Roof System





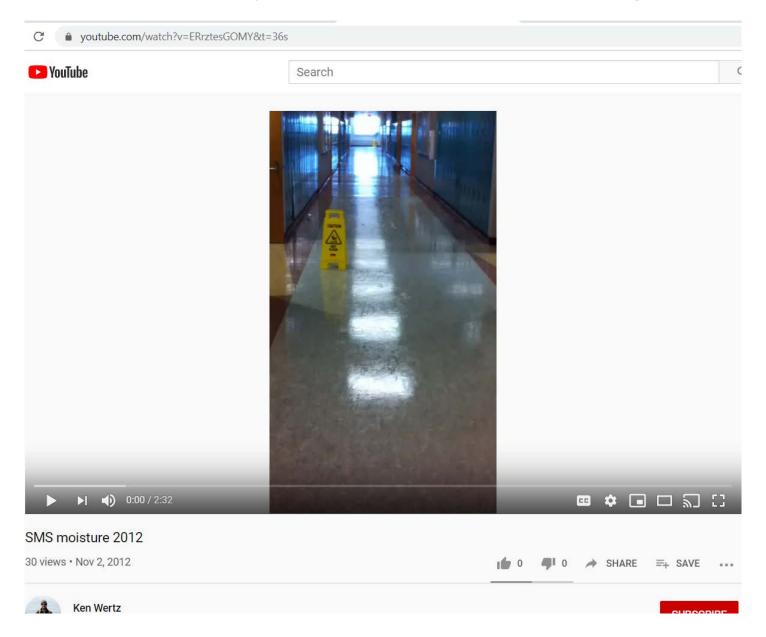


M&O Training and Preparedness

- Part of Community Response Team
- Direct work with facility audit group
- Plan Cross Training for Building Systems
 - Where to shovel
 - How to bypass heat
 - Humidity control
- Contracted Services / Controls



Humidity and New Buildings!





Freeze up Loss Prevention

- Routine Building checks
- Reduce/remove HVAC night setbacks
- Interior doors open allow air flow
- Known problem areas remove ceiling tiles
 - Short term solution as impact fire code
- Heating water treatment (glycol)
 - Good and bad....



Capital Planning

- Data driven decision making
- Project budgets
 - Internal estimates
 - Consultants
 - RS Means
- Prioritized 5-Year Plan
 - Built in escalation
 - Include all Departments in forecast





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