WELCOME TO
WORKING PORT
IDEA EXCHANGE

#MAWorkingPort    @BostonHarborNow
CAROLYN A. KIRK
Deputy Secretary
Executive Office of Housing and Economic Development for the Commonwealth of Massachusetts

#MAWorkingPort  @BostonHarborNow
BRUCE CARLISLE
Director
Massachusetts Office of Coastal Zone Management

#MAWorkingPort    @BostonHarborNow
Massachusetts
Port and Harbor Planning Program

Working Port Symposium
January 24, 2018
Port and Harbor Planning Program

Work with municipalities, agencies and stakeholders to:

• Balance development and growth of waterfront areas while protecting and promoting public interest

• Protect Designated Port Areas (DPA) as geographic areas of particular state, regional, and national significance for water-dependent industrial uses
DPA Regulatory Background

• 1978 – Formal establishment of Massachusetts Coastal Management Program
  – Policies to protect marine dependent industrial uses
  – DPAs are finite resources
  – Consistent with National statutory goals

• 1979 – Waterways Regulations include DPA provisions protecting water-dependent industrial uses for waterways

• 1984 – Legislature expanded Chapter 91 licensing authority (including DPA rules) to filled tidelands

• 1994 – Regulations codifying procedure and criteria for establishing and modifying DPA boundaries
• Gloucester Inner Harbor
• Salem Harbor
• Lynn
• Mystic River
• Chelsea Creek
• East Boston
• South Boston
• Weymouth Fore River
• New Bedford-Fairhaven
• Mount Hope Bay
Boston Harbor DPAs

• Working waterfront is major economic driver:
  – $4.6 billion annual impact
  – 50,000 total jobs

• Water-dependent industrial uses include:
  – marine terminals
  – bulk shipping
  – commercial passenger vessel operations
  – boatyards, dry docks, and port operations
  – commercial fishing and processing …

• Four DPA areas comprise the Boston Inner Harbor DPA
South Boston DPA
Waterways Program

• Administered by MassDEP, the Public Waterfront Act (MGL Chapter 91) is the public trust statute and protects the public’s rights in waterways and filled tidelands

• C. 91 regulations promote the preservation of tidelands for water-dependent uses and provide for public use and enjoyment when privately developed

• Projects seeking license must ensure that they:
  – do not unreasonably interfere with navigation,
  – provide a proper public purpose,
  – do not interfere with public rights or rights of adjacent property owners,
  – will not adversely affect natural resources, and
  – preserve DPAs for maritime industrial use
Port and Harbor Planning

• Municipal Harbor Plans
  – Establish a community’s objectives, standards, and policies for public and private use of tidelands under Public Waterfront Act (Chapter 91)
  – Plans may include alternative siting and design criteria for projects or amplify certain c. 91 provisions

• DPA Master Plans
  – Identify measures to preserve and enhance capacity to accommodate water-dependent industrial use
  – Municipality may request flexibility for certain use standards but must balance that flexibility with elements that ensure that DPA interests are still protected
DPA Boundary Reviews

- CZM regulations containing procedure and criteria for establishing and modifying the boundaries of DPAs
- Reviews may be initiated by:
  - CZM
  - Request of municipality
  - State or regional agency with authority over proposed area
  - Owner of proposed area
  - Any ten citizens of the Commonwealth
- Process includes public hearings, comments, meetings and consultations, review of available plans, permits, and licenses
- Two step process: eligibility and application of criteria
- CZM looks at groups of parcels that form coherent planning units rather than individual parcels or project sites
www.mass.gov/port-and-harbor-planning-program
Through conversations with expert stakeholders, we are convinced that viable public policy and collaborative investment opportunities exist to increase innovation and profitability in Boston’s maritime industrial waterfront.
WORKING PORT:

A 21ST-CENTURY HARBOR

A two-day idea exchange on Boston’s working port
JAMIE FAY
Founder & President
Fort Point Associates

#MAWorkingPort    @BostonHarborNow
ANDREW HARGENS
Deputy Director
Real Estate Development
Massachusetts Port Authority
Massport’s Maritime Business Lines

Andrew Hargens, AICP | LEED AP
Deputy Director, Real Estate Development
Real Estate & Asset Management Department
Massachusetts Port Authority
January 2018
The Port of Boston: A Major Contributor to the Regional Economy

- $4.6B economic impact
- 50,000 total jobs (7,000 direct jobs)
- Federal tax revenues of $203M
- State & local tax revenues of $136M
- 1,600 NE businesses use the port

<table>
<thead>
<tr>
<th>Entity</th>
<th>Employees</th>
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<tbody>
<tr>
<td>Mass. General</td>
<td>14,752</td>
</tr>
<tr>
<td>Brigham &amp; Women’s</td>
<td>11,229</td>
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<tr>
<td>Boston University</td>
<td>9,783</td>
</tr>
<tr>
<td>Children’s Hospital</td>
<td>7,903</td>
</tr>
<tr>
<td>State Street</td>
<td>7,800</td>
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<tr>
<td>Port of Boston</td>
<td>7,091</td>
</tr>
<tr>
<td>Beth Israel</td>
<td>6,695</td>
</tr>
<tr>
<td>Fidelity</td>
<td>5,500</td>
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<tr>
<td>Harvard Graduate Schools</td>
<td>5,132</td>
</tr>
<tr>
<td>Northeastern</td>
<td>4,484</td>
</tr>
</tbody>
</table>

The Port Compared to Boston’s Largest Employers

Port Owners
Conley Terminal Keeps MA Businesses Competitive

2017 Marked Conley’s 3rd Straight Record-Setting Year for the Volume of TEUs* Processed

*TEUs or twenty-foot equivalent units are the shipping industry standard for measuring container volumes.
Sloop Ships
17th Century

Clipper Ships
19th Century

Steamships
19th Century

Converted
WWII Tankers
Mid-20th Century

Panamax
21st Century

New Panamax
21st Century
Conley Terminal Revitalization and Modernization

- Harbor Dredging ($350M)
- New Berth With 3 New Cranes ($215M with $107.5M from Economic Development Bill)
- Existing Terminal ($103M with $42M FASTLANE Grant)
- Butler Dedicated Freight Corridor and Buffer Park ($75M) Opened in fall 2017
CRUISE ship call bookings predict record-breaking volumes ahead

**Cruise Passenger Volume by Year, 2015-2019E**

- 2015: 328,305
- 2016: 309,027
- 2017: 388,222
- 2018E: 402,000
- 2019E: 435,000

**New Itineraries in 2018 Season**

- **Cuba**
  - Holland America
- **Caribbean**
  - Norwegian
- **Bermuda**
  - Royal Caribbean
Growth and Investment at Boston Autoport

- More than 80,000 autos processed in 2017
- Nearly 250,000 metric tons of salt imported
- Supports 10 different maritime industrial businesses
- 500 employees
- Significant investment by tenant in infrastructure and facilities
A thriving and growing seafood industry cluster exists in South Boston

100% Leased at the Boston Fish Pier
Truck Routes and Truck-Generating Facilities and Businesses in South Boston
8 x 40
ROSEANN BONGIOVANNI
Executive Director
GreenRoots
Chelsea
- 45,000+ residents
- 1.8 sq. miles
- 75% ethnic/racial minorities
- 24% live below the poverty level

East Boston
- 55,000+ residents
- 2 sq. miles
- 53% Latino
- 17% live below the poverty level
8 x 40
JAKE CITRIN
Chief Executive Officer
Cargo Ventures
To “preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation’s coastal zone for this and succeeding generations”
Thou Shall Not Allow:

- Uses except for compatible public access and certain industrial, commercial and transportation activities on an interim basis.

- Supporting Uses to exceed 25% of the total DPA area.

- Residential units, hotels and motels.

- Recreational boating facilities and large sport/amusement complexes.
Average Price per foot of FAR (floor area ratio):

- Multi-Family: $140+
- Office: $75-125
- General Industrial: $25-$50
The Most Profitable Industries In 2015

Health Technology
Finance
Technology Services
Electronic Technology
Consumer Non-Durables
Transportation
Consumer Services
Utilities
Producer Manufacturing
Communications
Process Industries
Commercial Services
Consumer Durables
Industrial Services
Health Services
Retail Trade
Energy Minerals
Distribution Services
Non-Energy Minerals

Net Margin
0% 2% 4% 6% 8% 10% 12% 14% 16% 18% 20%
1 Story Industrial Building
70,000 sq. ft.

9 Story Office Building
70,000 sq. ft. per floor
for 630,000 sq. ft.
## Building Square Footage

<table>
<thead>
<tr>
<th></th>
<th>70,000</th>
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<th></th>
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<tbody>
<tr>
<td><strong>COSTS</strong></td>
<td>Costs</td>
<td>PSF</td>
<td>% of Total</td>
<td></td>
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<tr>
<td>Site Work/Foundations</td>
<td>10,220,000</td>
<td>146.00</td>
<td>26.1%</td>
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<tr>
<td>Hard Costs</td>
<td>23,100,000</td>
<td>330.00</td>
<td>58.9%</td>
<td></td>
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<tr>
<td>Soft Costs</td>
<td>4,000,000</td>
<td>57.14</td>
<td>10.2%</td>
<td></td>
</tr>
<tr>
<td>Contingency</td>
<td>1,866,000</td>
<td>26.66</td>
<td>4.8%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>39,186,000</td>
<td>559.80</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

|                |       |       |       |       |
| **CAPITAL**    | Equity |       |       |       |
|                | 25,326,000 |       |       |       |
|                | Debt   |       |       |       |
|                | 13,860,000 |       |       |       |
| **Total Sources** | 39,186,000 |       |       |       |

|                |       |       |       |       |
| **INCOME**     | Net Operating Income | $18.00 |       |       |
| Net Operating Income | 1,260,000 |       |       |       |
| Return on Cost  | 3.2%  |       |       |       |
| Debt Service    | 884,000 |       |       |       |
| **Net Cash Flow** | 376,000 |       |       |       |
| Return on Equity| 1.5%  |       |       |       |

## Building Square Footage

|                | 630,000 |       |       |       |
| **COSTS**      | Costs  | PSF   | % of Total |
| Site Work/Foundations | 15,300,000 | 24.29 | 5.4% |
| Hard Costs      | 201,600,000 | 320.00 | 71.0% |
| Soft Costs      | 53,550,000 | 85.00 | 18.9% |
| Contingency     | 13,522,500 | 21.46 | 4.8%  |
| **Total Costs** | 283,972,500 | 450.75 | 100.0% |

|                |       |       |       |       |
| **CAPITAL**    | Equity |       |       |       |
|                | 113,589,000 |       |       |       |
|                | Debt   |       |       |       |
|                | 170,383,500 |       |       |       |
| **Total Sources** | 283,972,500 |       |       |       |

|                |       |       |       |       |
| **INCOME**     | Net Operating Income | $50.00 |       |       |
| Net Operating Income | 31,500,000 |       |       |       |
| Return on Cost  | 11.1% |       |       |       |
| Debt Service    | 22,098,000 |       |       |       |
| **Net Cash Flow** | 9,402,000 |       |       |       |
| Return on Equity| 8.3%  |       |       |       |
New Economic Model:

- Odor?
- Fumes?
- Vibration?
8 x 40
A CARBON FREE, CLIMATE READY BOSTON
IMPACTS ARE HAPPENING

INCREASED RAINFALL FROM STORMS

TODAY
5+ INCHES

2035
5.5+ INCHES

2060
5.5 - 6+ INCHES

2100
AVERAGE CITY CURB
(6 INCHES)

DAYS ABOVE 90° F
(per year)

TODAY
25 TO 90 DAYS

UP TO
33 DAYS ABOVE
100°

GREATER AMOUNTS
OF SEA LEVEL RISE

NOW
11 DAYS

2030
20 TO 40 DAYS

2070

2030
8" 4" 7" 1.5'

2050
1.3'

2070
3.1'

2100
7.4'

1.5'

2.4'
DISTRICT-SCALE FLOOD PROTECTION

36 INCHES SLR (2070s OR LATER)
At 1% ANNUAL CHANCE FLOOD
COASTAL RESILIENCE
SOLUTIONS FOR EAST BOSTON AND CHARLESTOWN
Boston.gov/climate-ready
LONG TERM COASTAL RESILIENCE VISION
FT. POINT CHANNEL
AND SOUTH BOSTON WATERFRONT
FALL 2017- SPRING 2018
8 x 40

#MAWorkingPort  @BostonHarborNow
TIFFANY SKOGSTROM
Outreach and Policy Coordinator
Massachusetts Office of Technical Assistance (OTA)
Chemical Safety and Climate Change Risks

Tiffany Skogstrom, MPH
Outreach & Policy, Massachusetts Office of Technical Assistance (OTA)
tiffany.skogstrom@state.ma.us
617-626-1086
Program Goal

Toxics Use Reduction + Climate Change Preparedness = Reduced Risks of Industrial Accidents
Floods
- Chemical Releases & Spills
- Emergency Shutdowns

Extreme Heat
- Chemical Temperature
- Explosion Risks

Climate Change & Chemical Releases

Extreme Cold
- Power Outages
- Frozen pipes
- HVAC Failure

Storms
- Power Outages
- HVAC Failure
- Infrastructure Failure
Dangerous Chemical?

Human / Environmental Contact?

Potential for Hazard?
<table>
<thead>
<tr>
<th>Location</th>
<th>Training Dates and Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lowell</strong></td>
<td><strong>Northern Middlesex Council of Governments (NMCOG)</strong>&lt;br&gt;Thursday, March 1, 2018&lt;br&gt;8:30am – 11:30am</td>
</tr>
<tr>
<td><strong>Taunton</strong></td>
<td><strong>Southeastern Regional Planning and Economic Development District (SRPEDD)</strong>&lt;br&gt;Friday, March 2, 2018&lt;br&gt;9 a.m. - 12:30 p.m.</td>
</tr>
<tr>
<td><strong>Leominster</strong></td>
<td><strong>Montachusett Regional Planning Commission (MRPC)</strong>&lt;br&gt;Tuesday, March 13, 2018&lt;br&gt;9 a.m. - 12 p.m.</td>
</tr>
<tr>
<td><strong>Haverhill</strong></td>
<td><strong>Merrimack Valley Planning Commission (MVPC)</strong>&lt;br&gt;Tuesday, March 27, 2018&lt;br&gt;8 a.m. - 12 p.m.</td>
</tr>
<tr>
<td><strong>Holyoke</strong></td>
<td><strong>Pioneer Valley Planning Commission (PVPC)</strong>&lt;br&gt;Tuesday, March 27, 2018&lt;br&gt;8:30am – 11:30am</td>
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<tr>
<td><strong>Greenfield</strong></td>
<td><strong>Franklin Regional Council of Governments (FRCOG)</strong>&lt;br&gt;Tuesday, April 3, 2018&lt;br&gt;4 p.m. - 6 p.m.</td>
</tr>
<tr>
<td></td>
<td><strong>Central Massachusetts Regional Planning Commission (CMRPC)</strong>&lt;br&gt;TBA</td>
</tr>
</tbody>
</table>

[www.mass.gov/eea/ota-climate](http://www.mass.gov/eea/ota-climate)
Recommendations & Opportunities

Unite Chemical Safety & Emergency Preparedness

- Refer Businesses to OTA
- Refer Businesses to Spring Trainings
- Incorporate Trainings Into L/REPC Culture
- Form Govt. Agency Alliances

Tiffany Skogstrom
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617-626-1086
mass.gov/eea/ota-climate
8 x 40
Eastern Salt + Coastal Oil + Chelsea
Seasonal P.O.R.T. Area + Rock Chapel Marine Plan + Memorandum of Agreement (MOA)

Marginal Street Corridor Improvement Project
and Memorandum of Agreement

This Memorandum of Agreement ("MOA") is made this 9th day of July, 2007 between and among Eastern Minerals, Inc., Eastern Salt Company Inc., Rock Chapel Marine LLC (sometimes collectively "Eastern"), and the City of Chelsea, a Massachusetts municipal corporation (the "City").

The purpose of this MOA is to establish a framework for mutual cooperation in achieving the following goals:

1. Increase the opportunities for public access to the City’s waterfront in a manner that is safe, compatible, and harmonious with the commercial cargo operations and other water-dependent marine industrial uses of the Chelsea Creek Designated Port Area ("DPA"); and with the port security and public safety requirements established under the United States Coast Guard’s Homeland Security regulations.

2. Increase the capacity for public recreation and meeting space on the City’s waterfront neighborhood in a manner that promotes understanding and cooperation between local businesses and residents; improves understanding and knowledge of the City’s ongoing maritime heritage; and improves and benefits from the scenic opportunities of the harbor and the City’s working waterfront.

3. Investigate and remediate historical environmental contamination at the marine petroleum terminal located at 90 Marginal Street.

4. Coordinate the aesthetic appearance of the Marginal Street Promenade, as that term is used in this MOA, in order to improve the scenic vitality of the streetscape and establish a satisfying visual linkage between the neighborhood’s industrial, commercial, residential and recreational land uses, as shown on the Revised Landscape Plan, Sheet 13, stamped by Marshall Gray, LLC, dated January 26, 2007, revised April 13, 2007 (the "Landscape Plan"), which is attached hereto as ANNEX A.

5. Reduce the risk of traffic congestion on Marginal Street, a state designated truck route.
Loaders + Pile Building + P.O.R.T.
Salt + Plants + Birds + Butterflies + Hamlet
INTERMISSION
Please take your seats.
Program to commence shortly.
BRUCE MOHL
Editor
Commonwealth Magazine

#MAWorkingPort  @BostonHarborNow
JEFF PORTER
Chair, Board of Trustees
Boston Harbor Now
RECEPTION & NETWORKING