Sustainability and Green Port Initiatives – Changing the Way Ports Operate.

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Why this matters

• Growing Perception about Seaports seems to be:

  At best: Growth brings problems
  
  At worst: Ports are problems

  – The California experience.
  – EPA’s growing focus on seaports.
  – Spotlight on our industry.
  – New regulatory frontier.
  – Environmental justice issues.
Specific Environmental Issues

- **Air Quality**
  - National Ambient Air Quality Standards
    - Ground level ozone
    - Fine particles (PM 2.5)
  - Health based

- **Water Quality**
  - Related to dredging activities
    - Nutrients
    - Toxics
    - Dissolved oxygen
  - New discharge requirements for ships are possible
    - Engine cooling water
    - Grey water
    - Ballast water

- **Environmental Justice**
EPA Perspective:
National Mobile Emission Estimates by Source

Note: Year 2030 projections for marine sources are estimated using “pre-clean diesel” technologies.

Source: Judith Katz, EPA Region 3, presentation to BPA, July 18, 2008.
EPA’s Perspective on Ports and Air Quality

The Ports of Los Angeles and Long Beach lie within the largest PM and ozone non-attainment area.

The Port of Baltimore lies within the second largest PM and ozone non-attainment area.

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Source: Judith Katz, EPA Region 3, presentation to BPA, July 18, 2008.
Air Quality

• EPA actions
  – New rulemaking for heavy duty diesel engines
    • Ocean vessels
    • Harbor craft
    • Locomotives
  – Incentives for voluntary actions to achieve early emission reductions

• IMO Action
  – New low sulfur fuel standards
    • Late 2008 adoption
Water Quality

• Big, visible issues for Chesapeake Bay
  – Invasive aquatic species
    • Ballast water discharge
  – Nutrients
    • Dredging
  – Low dissolved oxygen
    • Dredging
Smaller issues count

• Noise, Congestion, and Safety
• Trash and litter
• Recycling
• Energy - conservation and alternatives
• Storm water, groundwater, USTs
• Legacy contaminants
• Compliance actions
• Other...
Who Cares about these issues?

• Port Stakeholders
  – Environmental Organizations
  – Larger Community and Local Neighbors
  – Recreational Waterway Users
  – Elected Officials
  – Regulatory Community
  – MPA Customers and Tenants
  – Private Port Community
How are we measured?

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  – **Customers and Tenants**
  – **Private Sector Port Community**

  – **Tonnage and Jobs**
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Those who issue or deny us a “Social License to Operate”

- Tonnage and Jobs
  - Environmental Performance (and Security)
Understanding how we are measured... drives how we need to respond.

• Variables in a “sustainability” approach for addressing individual or unique environmental challenges.
  – Port of Baltimore Approach.
    • Responding to a need.
    • Reinventing past reinvention.
  – The key is the process, not the project.
Baltimore

Inner Harbor

Masonville Project Area
Masonville Project Site Is Environmentally Degraded

- Site of MARYLAND SHIPBUILDING AND DRYDOCK COMPANY
- Site of Kurt Iron and Metal facility, Coral Sea aircraft carrier ship-breaking
- Derelict vessels and barges (25)
- Contaminated bottom sediments; elevated concentrations of metals (including mercury), organic compounds (including polychlorinated biphenyls, polyaromatic hydrocarbons, and dioxins
Masonville Cove

54 Acres Land
70 Acres Water
Cove Existing Conditions
Masonville Cove

54 Acres Land
70 Acres Water
Community Requests

• Limited Public Access
• Clean Shoreline
• Shoreline Trails
• Observation Towers
• Habitat Enhancement
• Passive Recreation
• Bird Sanctuary
• Education Center
• Canoe/Kayak Launch
• Wetlands
• Community Stewardship
Education Center Project Goals

• Provide a focal point for the Masonville Cove Restoration

• Provide a Community Resource
  – Environmental Education Center
  – Community Meeting Room
  – Programs for Community Youth

• Demonstrate “Green Building” Techniques
Design Features

• “Near Zero Net Energy” Building
• Ground Source (Geothermal) HVAC System
• Solar Energy Generation for Thermal and Electric Energy
• Emphasis on the Building Envelope:
  • Insulation and Air Sealing
  • Passive Solar Maximization
• Fresh Air Energy Recovery
• Maximizes Siting & Placement Benefits
• Minimize Stormwater Runoff
• Local, Recycled and Recyclable Materials
• Extremely Productive Building with Minimal Energy Input
Liberty Reservoir
(fish ladder)

Damiels Dam
(fish ladder)

Simkins Dam
(fish ladder)

Bloede Dam
(fish ladder)

Stream Restoration

Middle Branch
5 Trash Interceptors

Masonville Cove

Masonville Mitigation
and Enhancement
Masonville Community Benefits

- Urban environmental education experience for hundreds of students
- Habitat restoration projects for community volunteers
- Protection of Cove through a conservation easement held by Shores of Baltimore Land Trust (community-based)
- Community revitalization:
  - Reconnects Brooklyn and Curtis Bay residents to shoreline
  - Educational Center showcases green building technologies, provides environmental education classroom and community meeting space
  - Unique urban migratory bird sanctuary
  - Pedestrian friendly traffic improvements
  - Gwynns Falls Trail extended into Cove natural area
  - Passive recreation
  - Community stewardship
Dredged Material Placement Site
Proposed, Future Terminal
Sustainability

- Masonville illustrates the outcome of a sustainability model.
  - Engaged stakeholders in an entirely different way.
  - Blank-sheet / Hands-off principle.
  - True empowerment of external stakeholders.
  - Neutral party engaged on behalf of external stakeholders.

- “Masonville is a national model for how to engage stakeholders” source: U.S. EPA
Sustainability

• It’s not the project that matters.
• What matters is that seaports have an effective process for dealing with increasingly complex issues.
• Sends an important signal to investors... ...that investment will be productive.
What best suits our industry?

- A written plan ...

- ...or flexible and adaptable thinkers in the management structure of seaports.
Comments and Questions

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