



HOUSING | BROWNFIELDS  
POTENTIAL & PITFALLS

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## Presentation outline

- Brownfields challenges
- Residential brownfields
- Case Studies
- Common brownfields solutions
- Residential solutions




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## Brownfields Challenges

- Regulatory
  - ▣ Environmental
  - ▣ Local planning and building
- Financing
  - ▣ Assessment, cleanup, redevelopment, unknowns
- Liability Concerns
  - ▣ To any current or past property operator/owner, regardless of responsibility for pollution; the city; state; lender
- Time
- Community

## Residential Challenges

- “Love Canal”
  - Unclear cleanup standards
  - Lack of Institutional Controls and Long Term Stewardship
  - Community process
  - Stigma, NIMBY, gentrification
  - Zoning – Density and Infill
  - Incremental cost
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- Cities not staffed to redevelop or regulate
  - Infrastructure & services

## Despite these challenges...

- Thousands of sites redeveloped across nation
- Lessons learned
- Benefit from more scientific information and remedial approaches
- Many models
  - ▣ Multi-family
  - ▣ Medium Density
  - ▣ Single Family
  - ▣ Adaptive reuse
  - ▣ Mixed use



- Bakery affected by off-site contamination
- 41 Lofts
- Historic rehab



- Fruit processing affected by off-site contamination
- 140 Lofts
- Ground floor commercial spaces
- Rehab and new addition

- Explosives/fertilizer
- 167 acres
- 1,000 new jobs
- 207 single-family homes
- 840 multi-family
- Commercial, retail, R&D
- Wildlife restoration





- Tank farm
- 100 units on 1.5 acres
- Garage for transit hub



- Oil refinery
- 748 single family
- 138 multi-family
- 38 acres of parks/wetlands
- Retail and commercial





- Rail yard
- 220 multi-family
- 4 acres
- Podium parking and retail, and adjacent shopping center
- 2<sup>nd</sup> phase - Redevelopment of parking lots



- Airport
- 4700 acres
- 25-year buildout
- Asbestos, hydrocarbons
- New community
  - ▣ Housing
  - ▣ Schools
  - ▣ Retail and commercial
  - ▣ 1000 acres open space

- Pigment plant and pesticide manufacturing
- City and developer immunity
- Cost recovery
- 400 residential units over retail and parking podium, plus entertainment



## Common brownfield solutions

- Leaders' support for brownfield redevelopment
- Stakeholder involvement and concerns
- Determine nature and extent of contamination
- Presumptive cures for certain types of substances and uses
- Separate soil and groundwater issues
  - ▣ Groundwater and vapor pathways
  - ▣ Soils management
- Incorporate reuse in remedial design
- Use of Institutional Controls
  - ▣ Run with the land
  - ▣ Long term monitoring cost and considerations

## Redevelopment strategy - general

- Formulate and implement strategies
  - ▣ Site assessments and inventories
  - ▣ Adaptive reuse
- Consider mixed land uses and density
  - ▣ Densities range from 10 – 40 units/acre (average)
- Assess transportation and infrastructure requirements
- Provide and seek financial and other incentives
- Determine acceptability of residual contamination
- Incorporate into documents - Housing Element, master and specific plans
- Determine staff redevelopment capacity

## Strategies for housing

- Development Team
  - ▣ Developer
  - ▣ Planning and redevelopment authority
  - ▣ Environmental consultant
  - ▣ Legal Counsel
- Site access and acquisition plan
- Funds
  - ▣ Assessment
  - ▣ Remediation
  - ▣ Redevelopment
- Design strategies
  - ▣ Low/medium/high density
  - ▣ Mixed use and podiums
  - ▣ Rental or ownership



## Strategies for housing

- Regulatory
  - ▣ Contingency for further vapor intrusion mitigation
  - ▣ Regulatory agency notification
  - ▣ Deed restriction
  - ▣ Groundwater use
  - ▣ Access for future mitigation
  - ▣ Five year review
  - ▣ Information to future residents
  - ▣ Long term monitoring?
  - ▣ Single-family homes?

## Strategies for housing

- Design
  - ▣ Capping
  - ▣ Podium construction (parking or non-residential)
  - ▣ Mechanical ventilation
  - ▣ Sub slab monitoring for air sampling
- Other considerations
  - ▣ Future monitoring
  - ▣ Financial assurance
  - ▣ Condo associations
  - ▣ Capacity