

# Can't Remove All Your Source Material?

## *Does it Matter?*

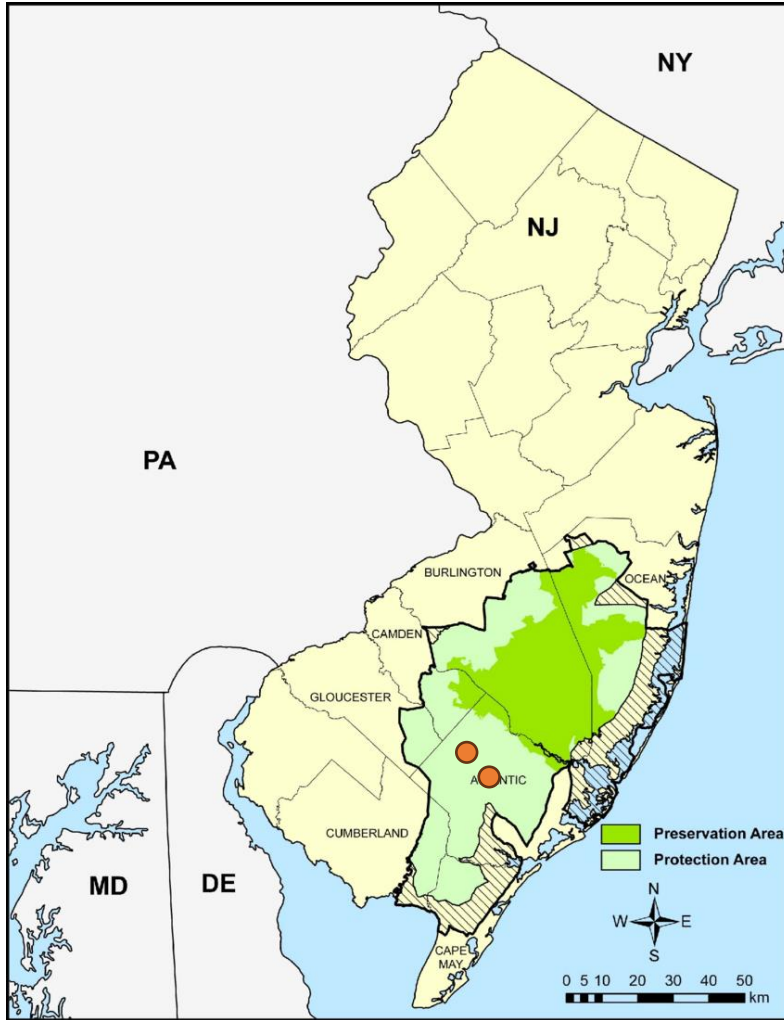
Gregory Fischer

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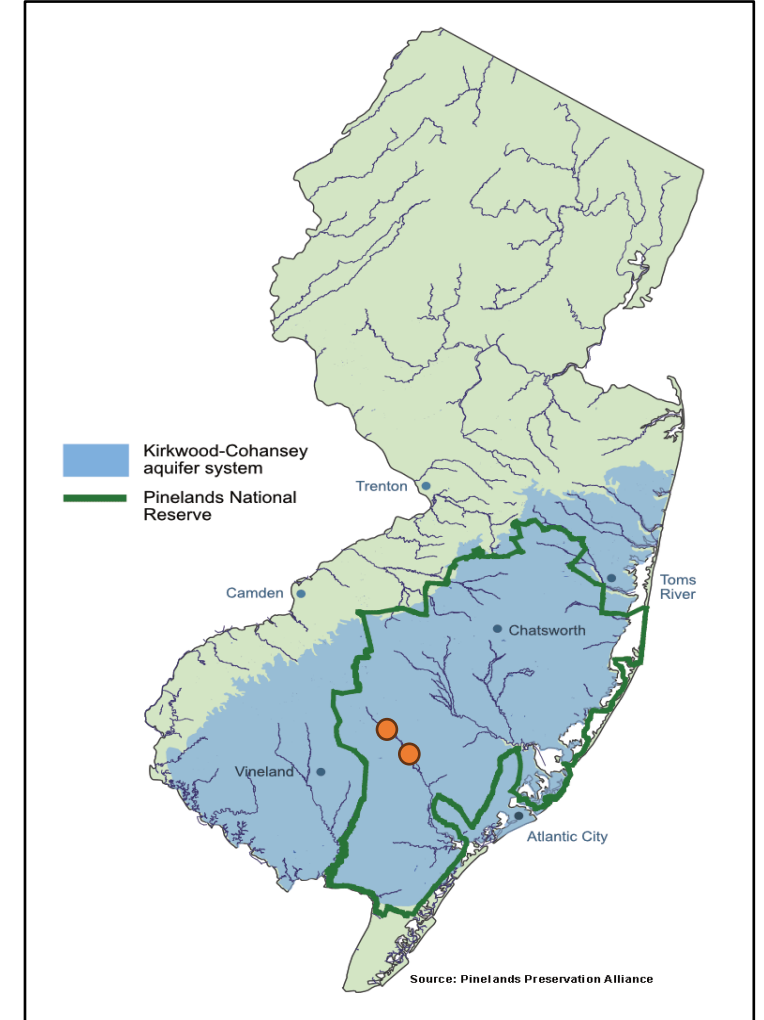


# PINELANDS NATIONAL RESERVE

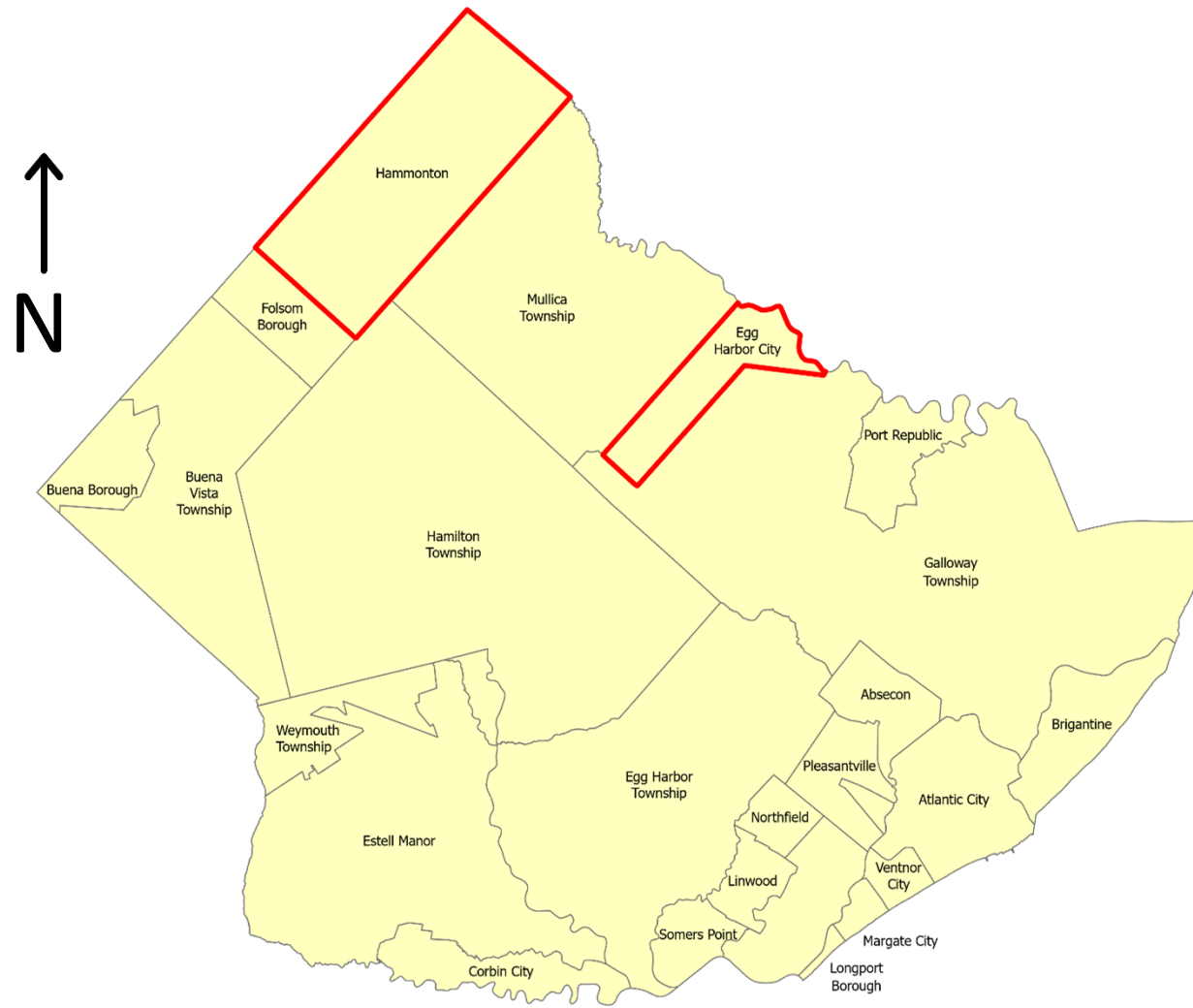


Source: New Jersey Pinelands Commission

- Approximately 1.1 Million acres or 22% of New Jersey's land area
- Lies above the Kirkwood-Cohansey aquifer
- Groundwater is designated Class 1-PL
- Soils primarily sand with varying amounts of silt and clay



# HAMMONTON & EGG HARBOR CITY





# FORMER MGP SITES c.1926



## Former Egg Harbor City MGP Site

- Approximately 1.5 acres in size
- Operated from 1904 to 1927
- Coal & Water Gas production
- 10,000-gallon underground oil storage tank
- 99,000 ft<sup>3</sup> gas holder capacity
- Gas holders remained on-site until ~1961

Source: Library of Congress



[illegible]

- **Approximately 0.6 acres in size**
- **Operated from 1903 to 1927**
- **Water Gas production facility**
- **120,000 ft<sup>3</sup> gas holder capacity**
- **Gas holders remained on-site until ~1965**

**SAME**  **DCHWS**  
Design and Construction Issues at Hazardous Waste Sites

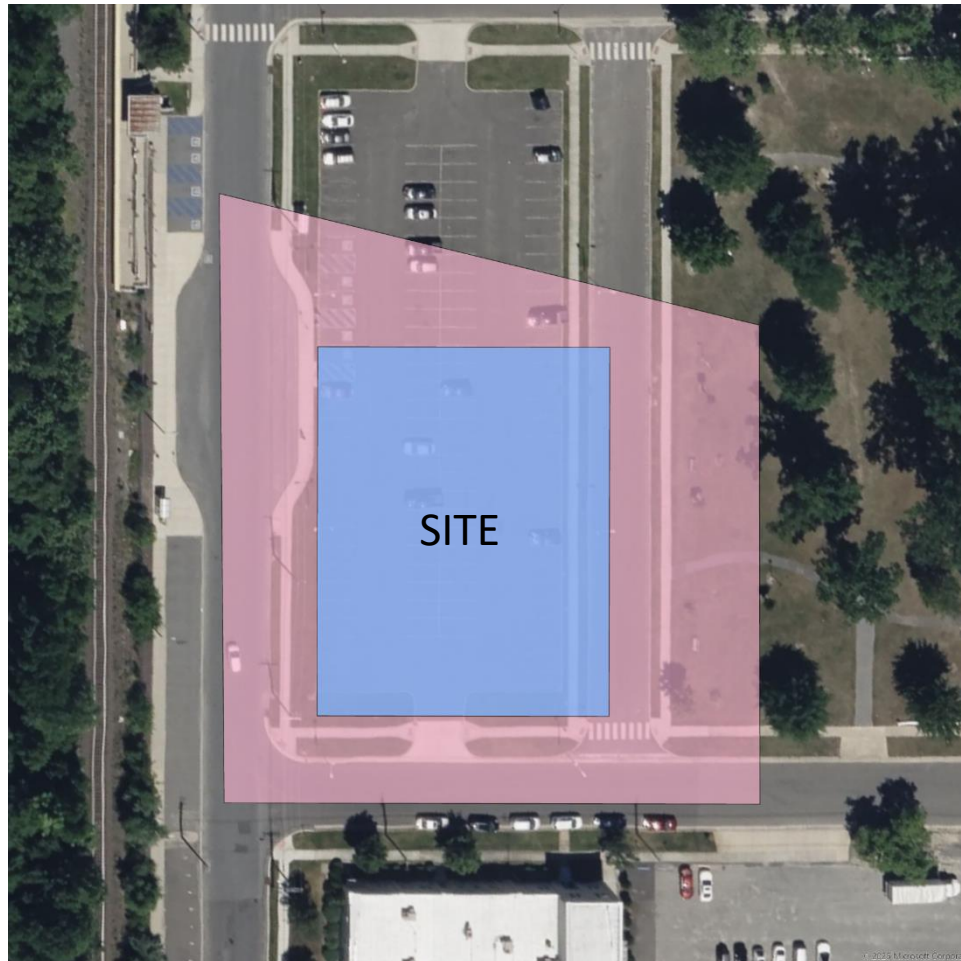
**April 2 – April 4, 2025**

# COMPARISON OF IMPACTS

Site	Egg Harbor City	Hammonton
<b>COCs</b>	BTEX, Naphthalene, 2-Methyl Naphthalene, PAHs	
<b>DNAPL</b>	Present in Saturated & Unsaturated Zones	
<b>Plume Length</b>	3,000 ft	2,800 ft
<b>DTW</b>	14 ft bgs	28 ft bgs
<b>Impacted Soil</b>	65,000 tons	100,000 tons
<b>Depth of Impacted Soil</b>	25 ft bgs	65 ft bgs



# SOIL IMPACT & REMEDIAL DESIGN CONSIDERATIONS



Egg Harbor City



Hammonton

Imagery Source: Bing Aerials



# REMEDIAL DESIGN DECISION



EGG HARBOR CITY:  
**REMOVAL** VIA EXCAVATION AND  
THERMAL DESORPTION TREATMENT

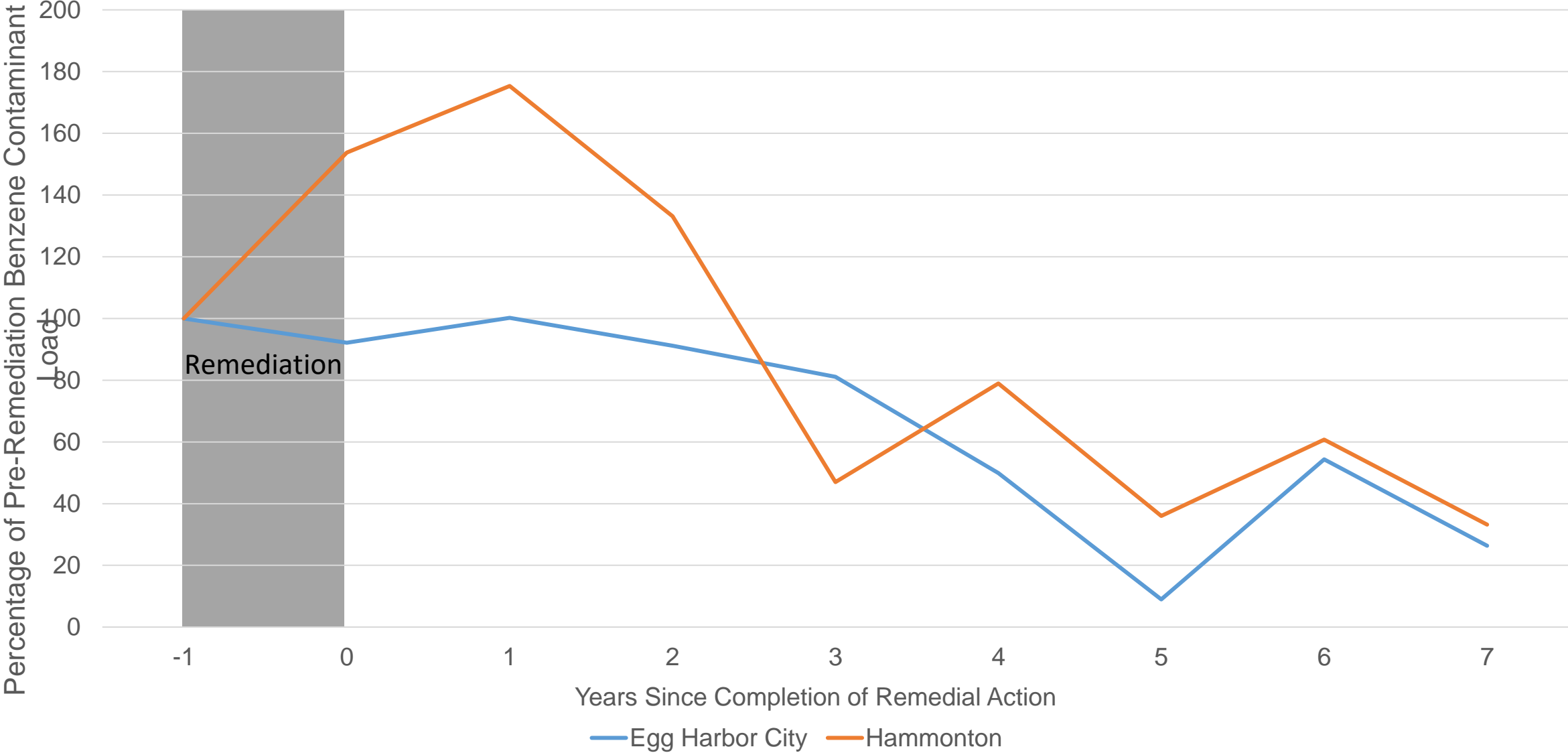


HAMMONTON:  
**TREATMENT** VIA IN-SITU  
SOIL SOLIDIFICATION / STABILIZATION (ISS)



SO...  
DID IT  
MATTER?

# Egg Harbor City vs Hammonton - Average Benzene Concentrations in Centerline Wells

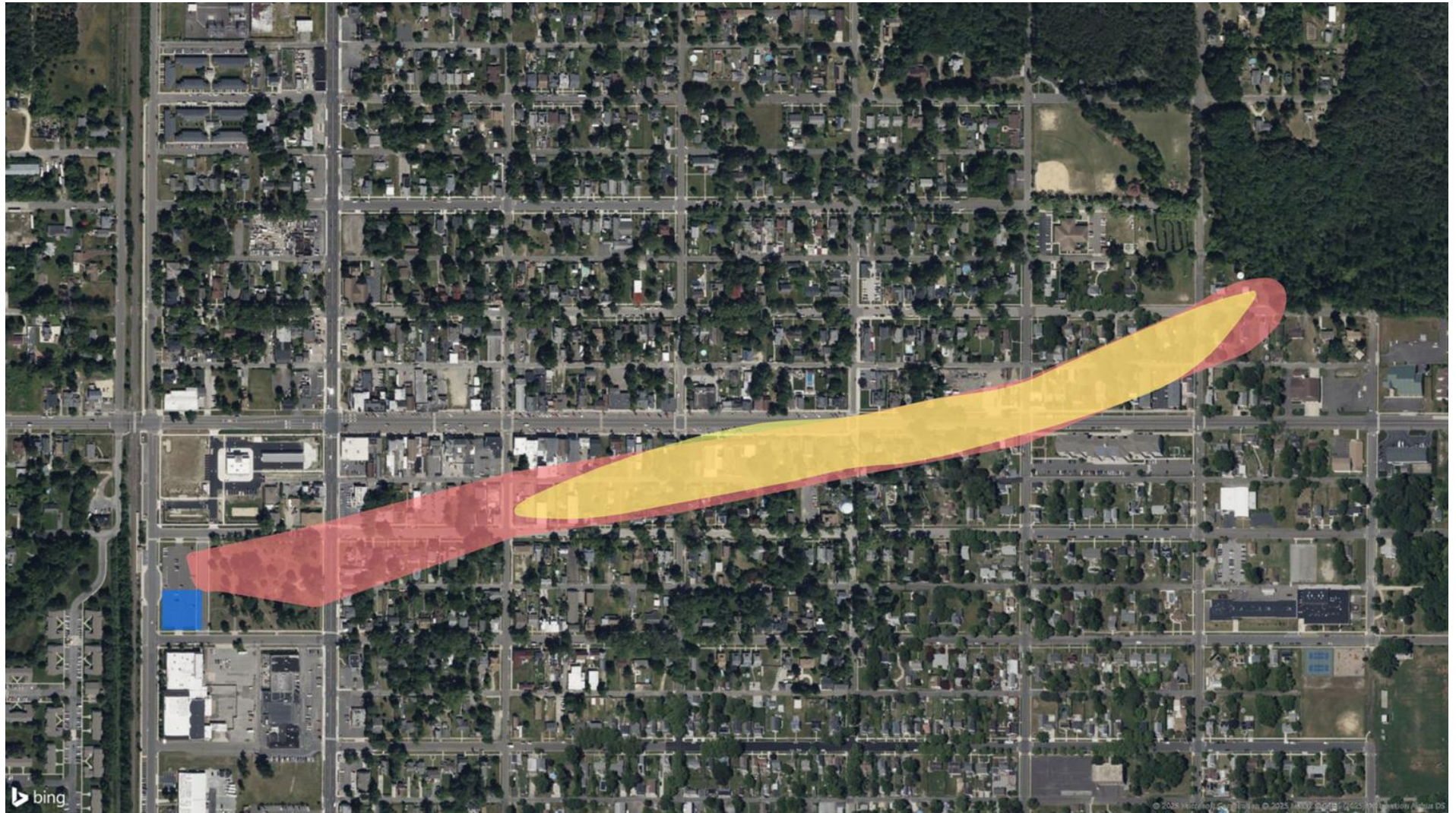




# Egg Harbor City

Red = Year 0  
Plume Extent  
(1 ppb Benzene)

Yellow = Year 7  
Plume Extent  
(1 ppb Benzene)





# Hammonton

Red = Year 0  
Plume Extent  
(1 ppb Benzene)

Yellow = Year 7  
Plume Extent  
(1 ppb Benzene)

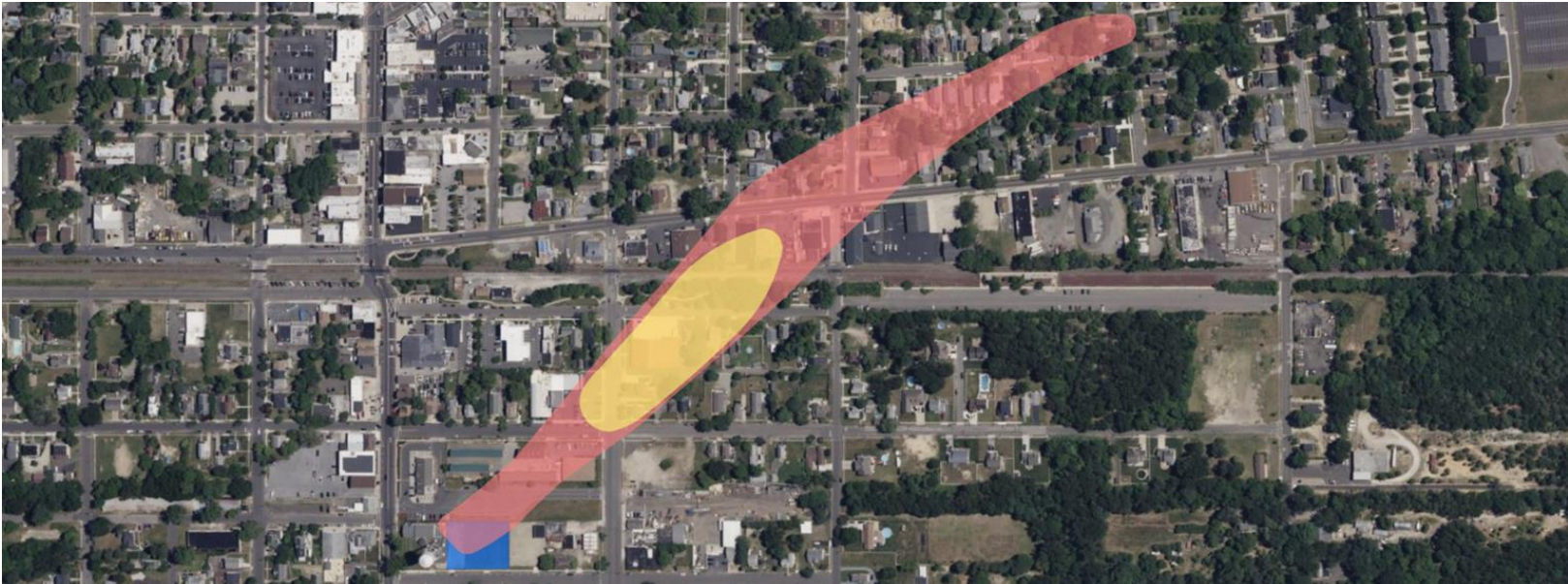






Egg Harbor City

Hammonton







**Egg Harbor City – \$21M (\$320/ton)**

**Hammonton – \$25M (\$250/ton)**



# Acknowledgements

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## Additional Contributors

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Dan Amate, PE – *Associate Principal*

Richard Beck – *Senior Project Manager*



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