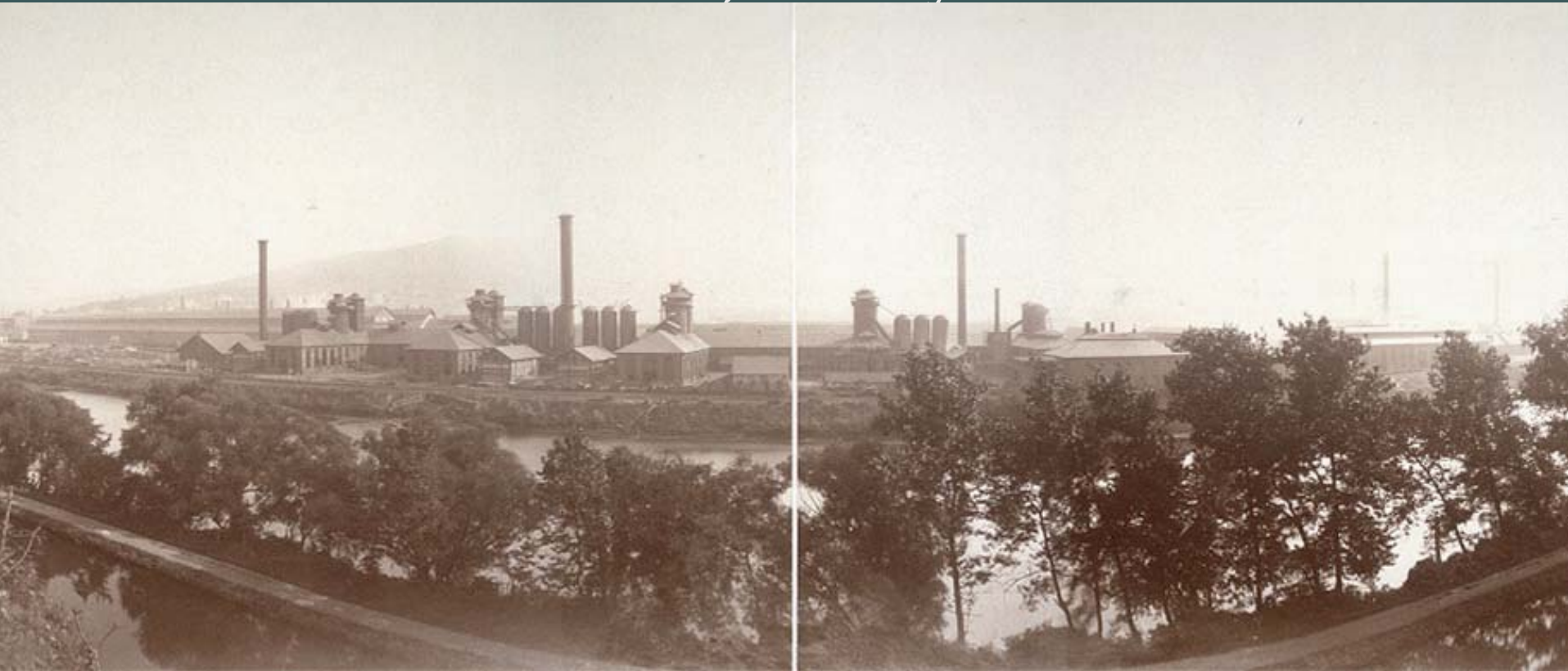


# Environmental Strategies for Redevelopment at the Former Bethlehem Steel Facility Bethlehem, Pennsylvania



Linda Matyskiela – USEPA Region 3, Pennsylvania Operations  
Randy L. Roush - PA. Dept. of Environmental Protection Land  
Recycling Program

A vertical strip on the left side of the slide shows a topographic map of the Bethlehem Steel Facility site. The map features contour lines indicating elevation, a grid of latitude and longitude lines, and a yellow line that likely represents a road or a specific site boundary. The map is partially obscured by the text on the right.

# Bethlehem Steel Facility

## Site History

- Consists of approx. 1800 acres
- Site was used for iron & steel manufacturing since the mid 1800s to late 1990s
- Produced a wide-flanged steel beam
- Created the New York Skyline, Golden Gate Bridge and may other landmarks



## Site History

- BethSteel declared bankruptcy in late 1990s
- Sold its assets to International Steel Group (ISG)
- May 2004, ISG sold approx. 1,000 acres to Lehigh Valley Industrial Park (LVIP).
- Newmark & Co. Real Estate, Inc. owns approx. 160 acres (BethWorks)

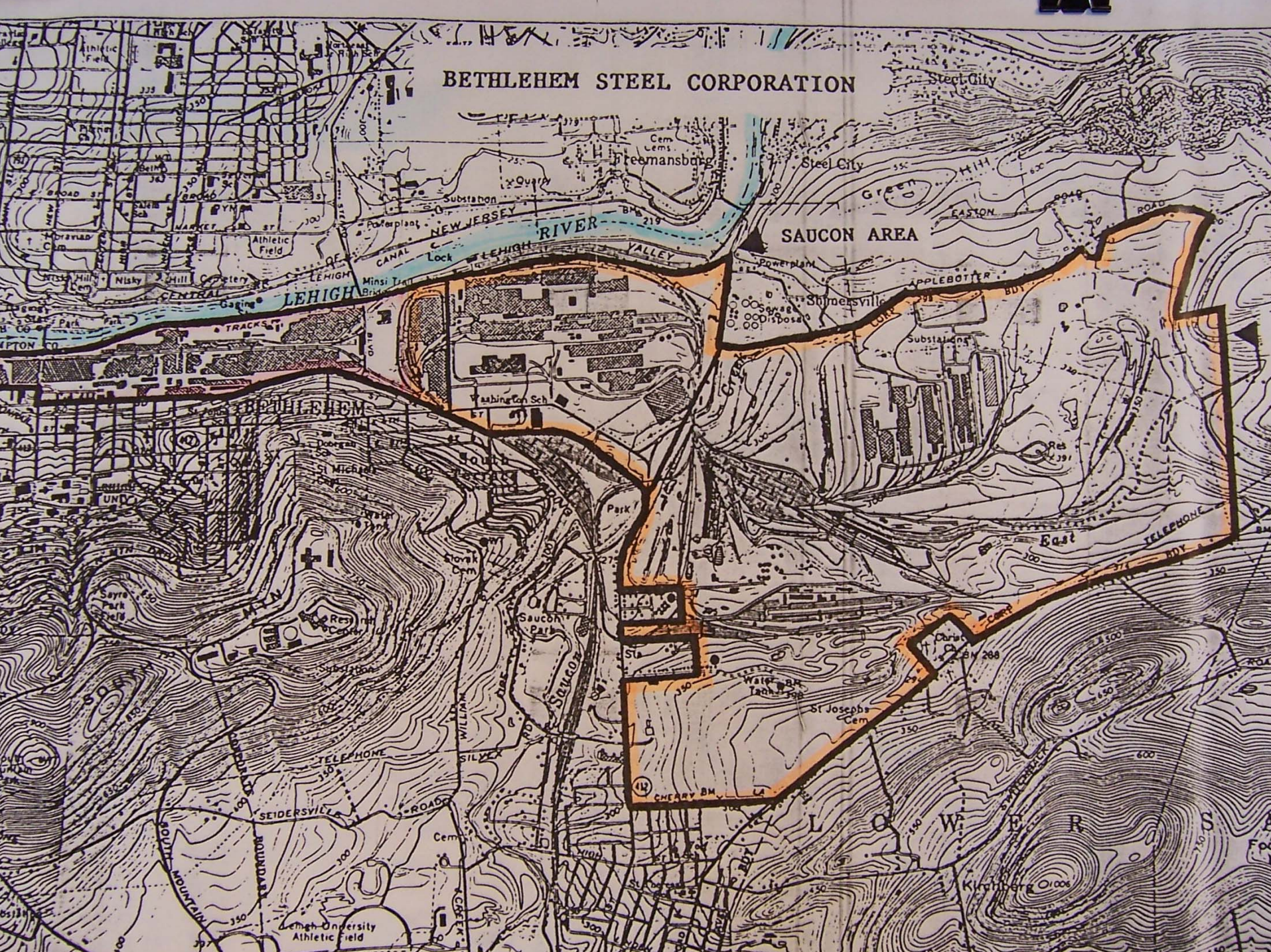
A vertical strip on the left side of the slide shows a topographic map of the Lehigh Valley region. It features contour lines, a grid, and a yellow line indicating a specific path or boundary. The map is partially obscured by the text on the right.

# BethSteel Facility

- Lehigh Plant (BethWorks)
- Former Coke Oven Facility
- Saucon Plant
- East Lehigh Plant



# BETHLEHEM STEEL CORPORATION



A vertical strip on the left side of the slide shows a topographic map of the BethWorks Parcel. The map features contour lines, a grid, and a yellow line indicating a specific path or boundary. The background of the slide is a dark teal color with faint, light blue contour lines.

# BethWorks Parcel

- Site Characterization for soils, groundwater, & surface water completed
- Release of liability granted under Act 2 for site-specific standard
- Exposure pathways are incomplete or have been eliminated
- Deed restrictions will be used to prevent use of groundwater, maintain engineering controls and restrict excavations







1995



# BethWorks Parcel Redevelopment

- Non-Residential (possible land use change)
- National Museum of Industrial History
- Multi-Use – sports, recreation, entertainment, shopping, & dining




















**JOHN M. COOK  
TECHNOLOGY  
CENTER**

**BETHLEHEM TECHNOLOGY  
CENTER #2**

**150 STC TECHNOLOGIES, INC.**

**140 CDO TECHNOLOGY, INC.**

**100 PARALOGIC, INC.**

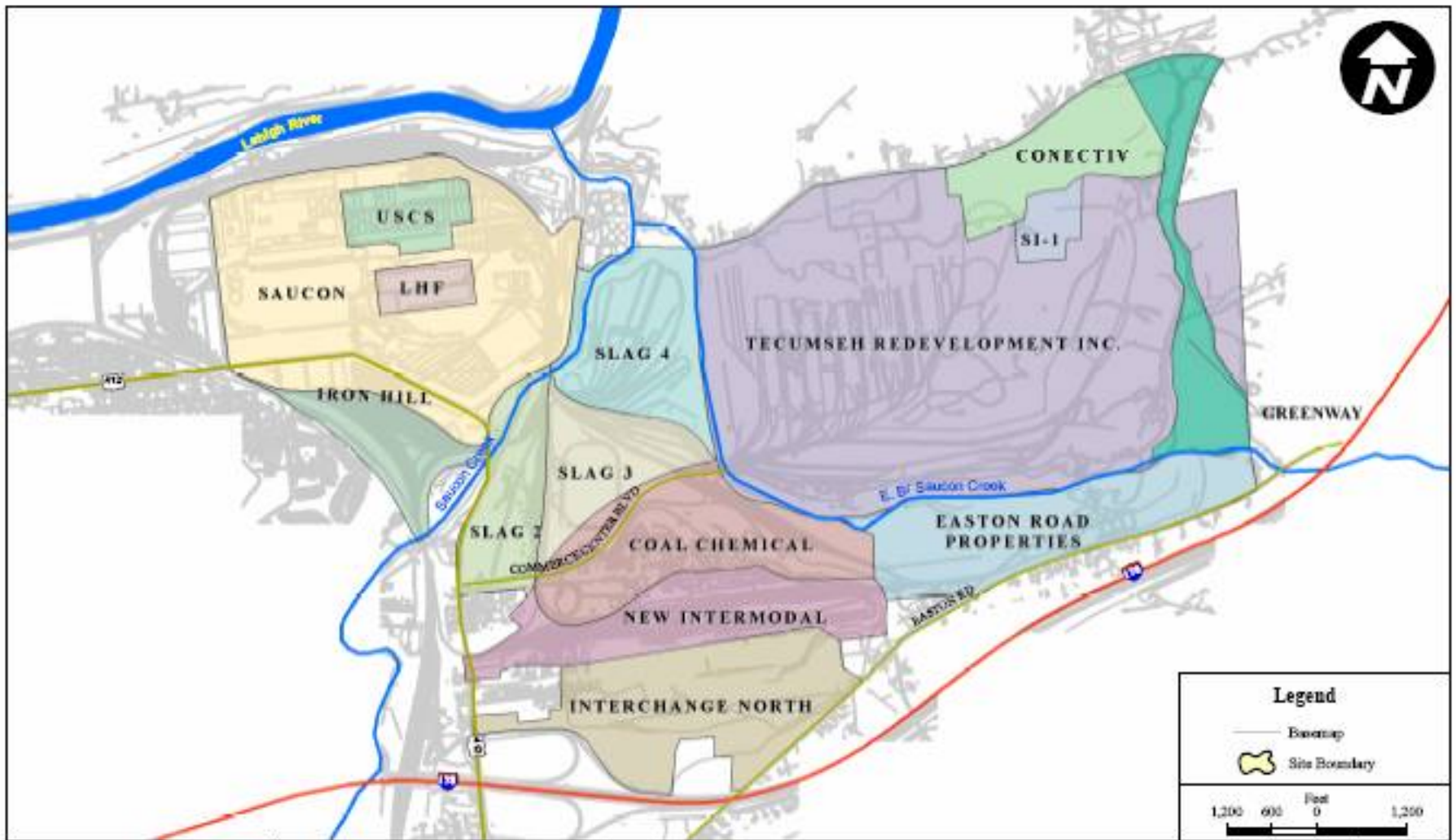
GENERAL OFFICE, BETHLEHEM STEEL CO., BETHLEHEM, PA.





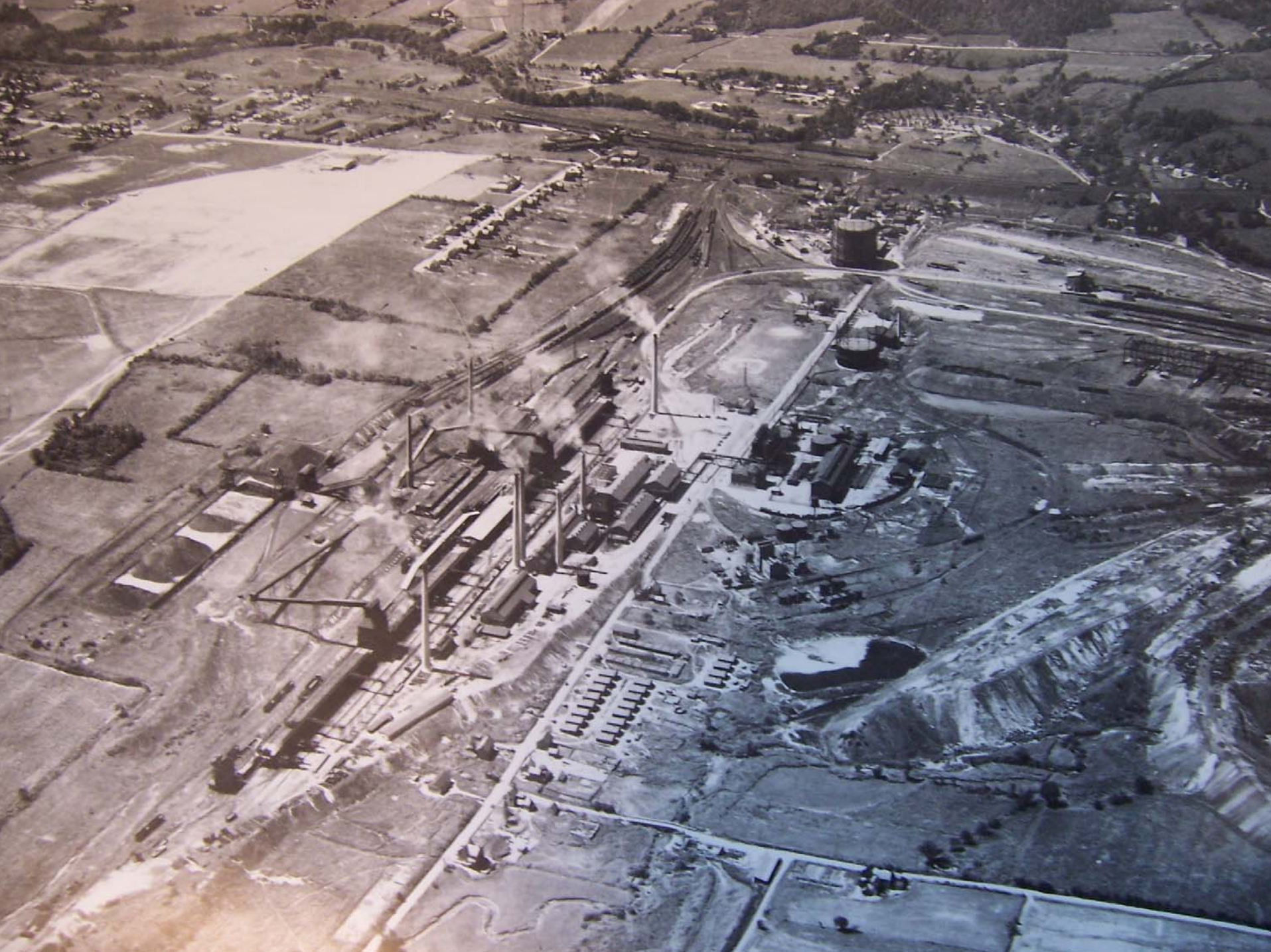
# Former Coke Oven Facility

- Part of Bethlehem Commerce Center
- Site Characterization and Act 2 site-specific standard for soils and groundwater
- Intermodal business operated by Norfolk Southern
- Also commercial/light industrial (warehouse distribution)
- Non-residential with deed restrictions



**UWS** Lawler, Holsky & Skelly Engineers, LLP  
 500 Hamilton Mall, Allentown, Pennsylvania 18101  
 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS

**SITE LOCATION MAP**  
**BETHLEHEM COMMERCE CENTER, BETHLEHEM, PA**







# Intermodal Facility

In order to facilitate redevelopment, LVIP is building a new intermodal truck/rail facility to replace an existing facility. The new intermodal facility will cover approx. 100 acres of the former Coke Works, and will facilitate the transfer of goods between rail and truck transport for nationwide distribution.





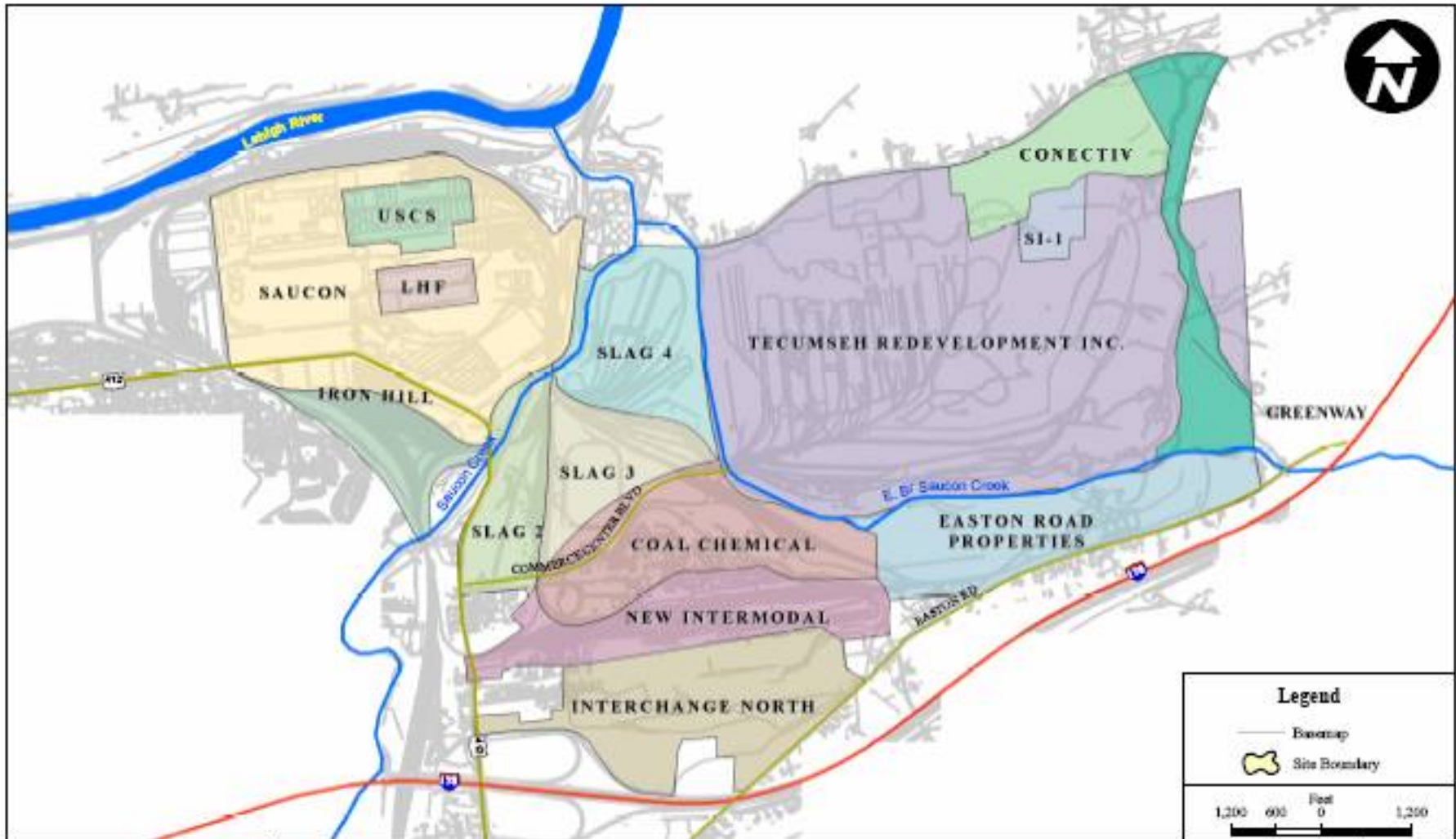


20

A vertical strip on the left side of the slide shows a topographic map of the Saucon Plant area. The map features contour lines, a grid, and a yellow line indicating a specific path or boundary. The terrain appears to be hilly with some water features.

# Saucon Plant

- Part of the Bethlehem Commerce Center
- Site Characterization and site-specific standard for soils and groundwater
- Parcels for commercial/light industrial (warehouse, distribution, manufacturing)
- US Cold Storage operates warehouse
- Brandenburg



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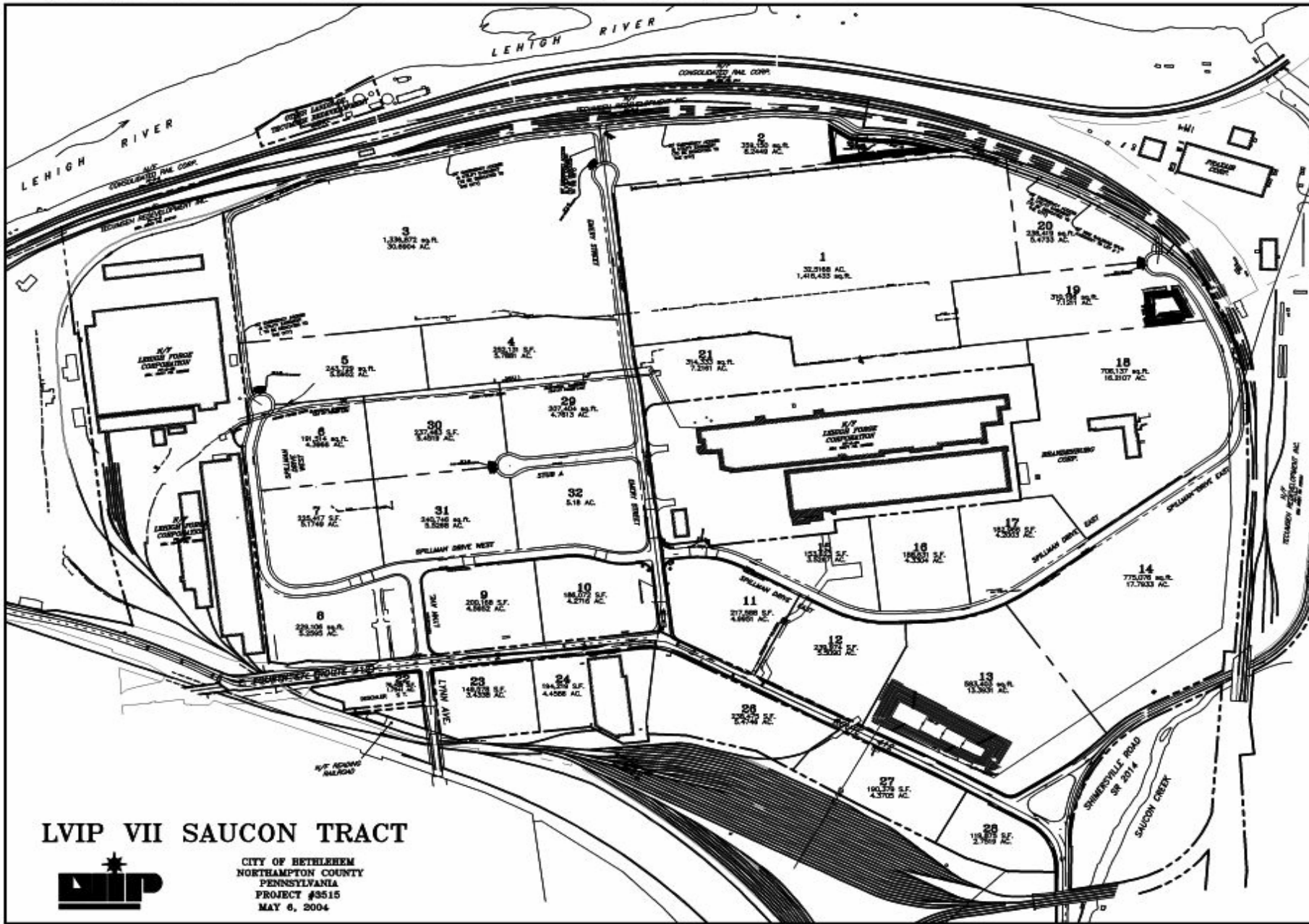
**SITE LOCATION MAP  
 BETHLEHEM COMMERCE CENTER, BETHLEHEM, PA**

Legend		
	Basemap	
	Site Boundary	
1,200    600    Feet    0    1,200 		
<b>Job No.</b>	<b>Date</b>	<b>Figure No.</b>
928-004	05/25/05	1

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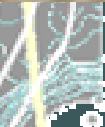




**LVIP VII SAUCON TRACT**



CITY OF BETHLEHEM  
 NORTHAMPTON COUNTY  
 PENNSYLVANIA  
 PROJECT #3515  
 MAY 6, 2004





A vertical strip on the left side of the slide shows a topographic map of the East Lehigh Plant area. The map features contour lines, a grid, and a yellow line indicating a specific path or boundary. The background of the slide is a dark teal color with faint, light blue contour lines.

# East Lehigh Plant

- Part of the Bethlehem Commerce Center
- Site Characterization and site-specific standard for soils and groundwater
- Approx. 55 acres of that parcel sold to Conectiv Mid-Merit
- Also commercial/light industrial (warehouse distribution)

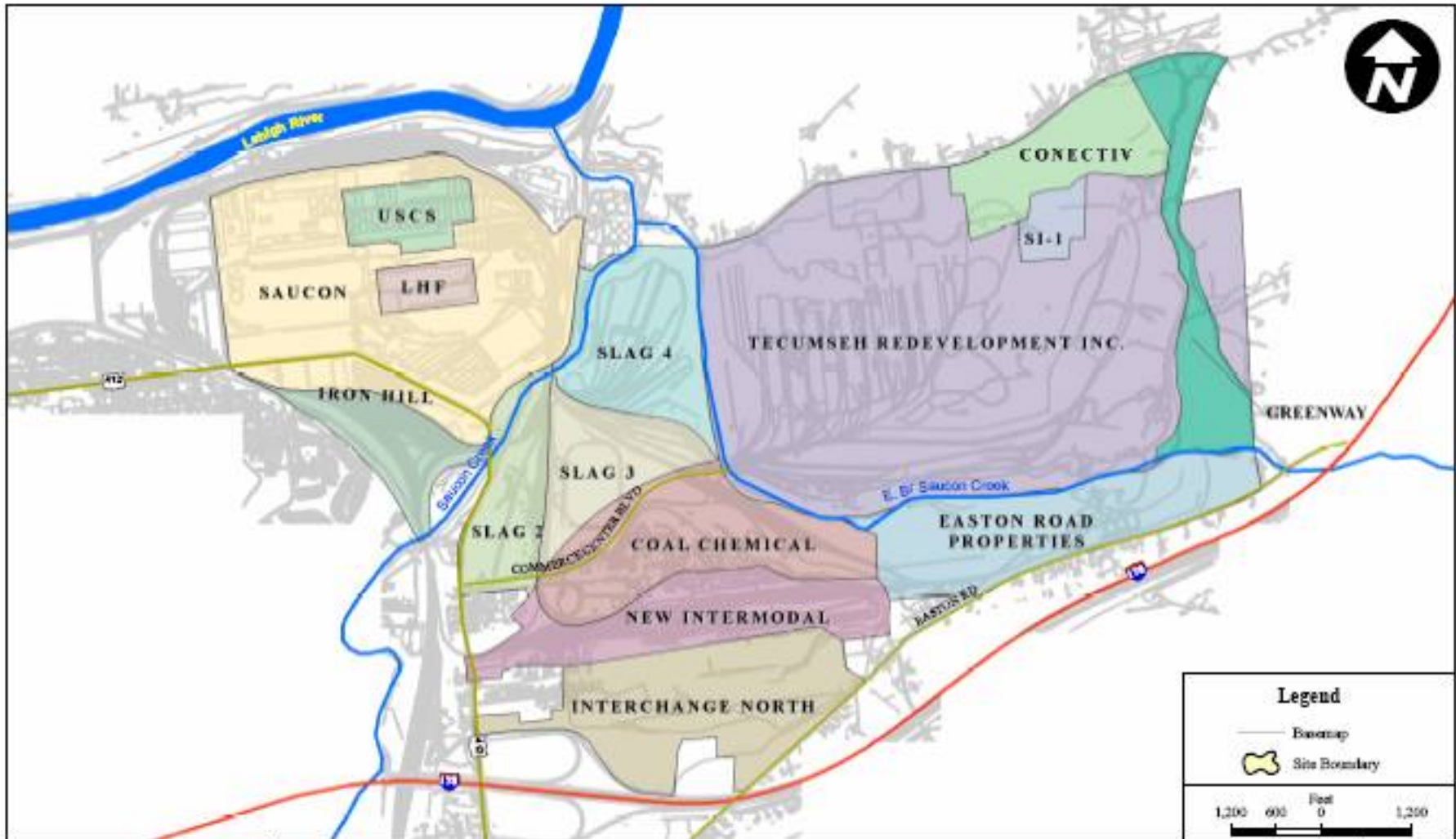


1.14.2003



# Commerce Center Boulevard

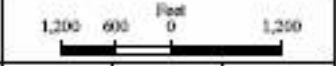
LVIP is constructing approximately 4,200 linear feet of roadway at the site. The road, known as Commerce Center Boulevard, will provide access to approximately 550 acres of the park that is under agreement of sale to Majestic Realty a warehouse distribution company out of California.



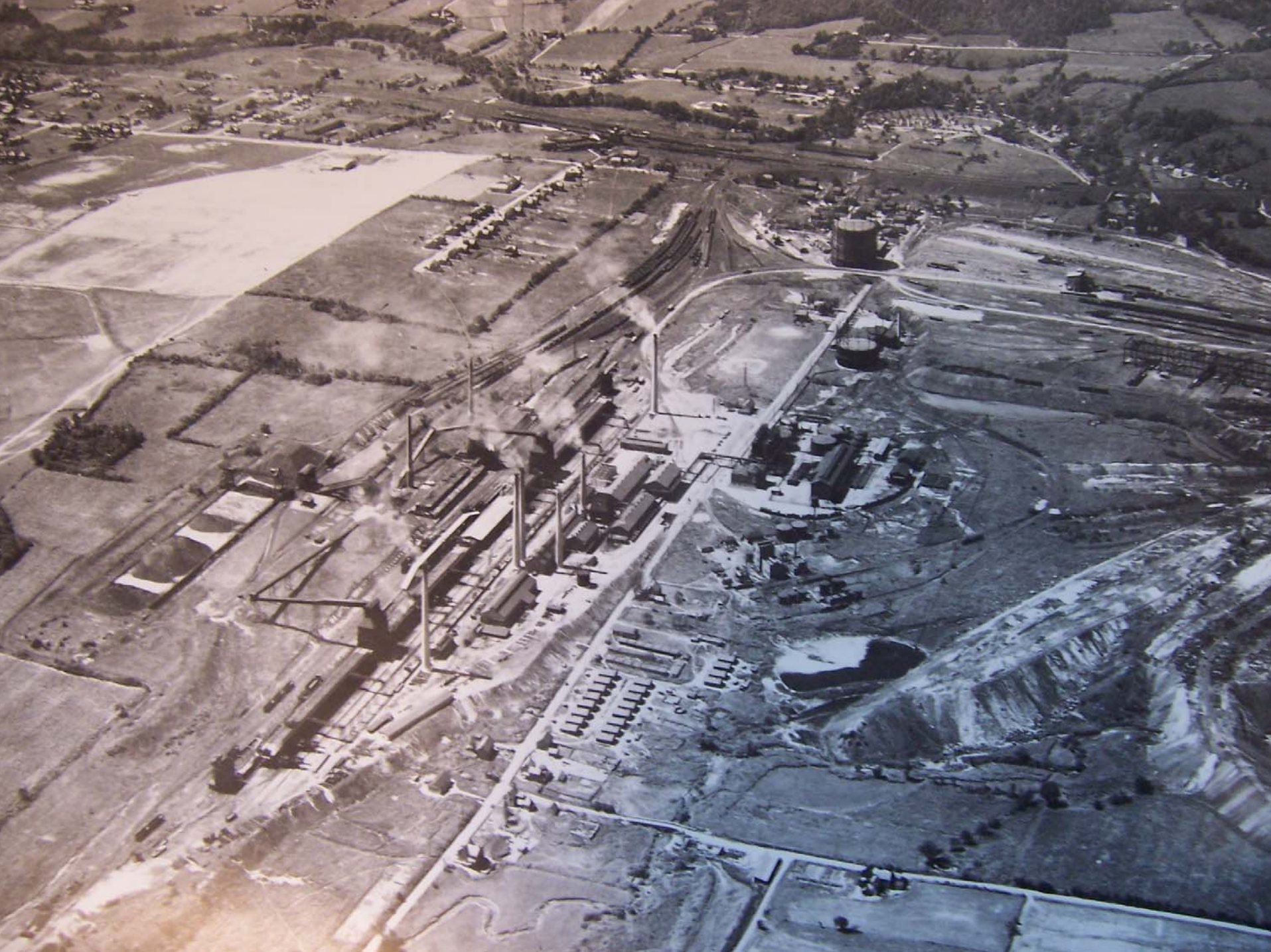
**SITE LOCATION MAP**  
**BETHLEHEM COMMERCE CENTER, BETHLEHEM, PA**

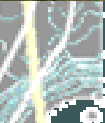
**Legend**

-  Basemap
-  Site Boundary



Job No.	Date	Figure No.
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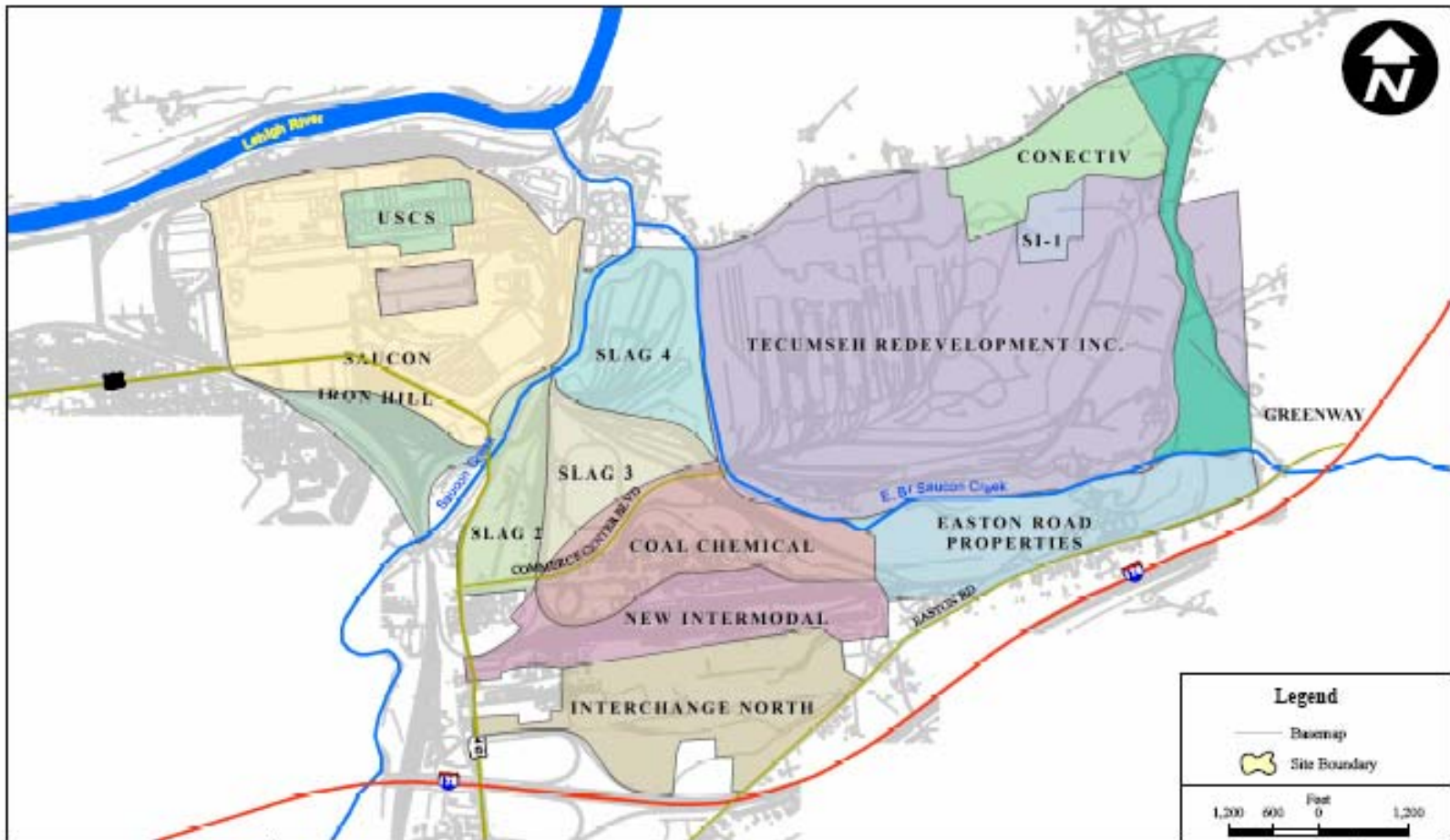






# Characterization Technologies

- Soil Boring / Trenching
- Groundwater / Surface Water Monitoring
- Particle Tracking / Groundwater Modeling
- Borehole Video and Geophysics
- Groundwater Well Use Survey
- Electro-magnetic Imaging
- Direct Push Sampling
- Passive Soil Gas Study



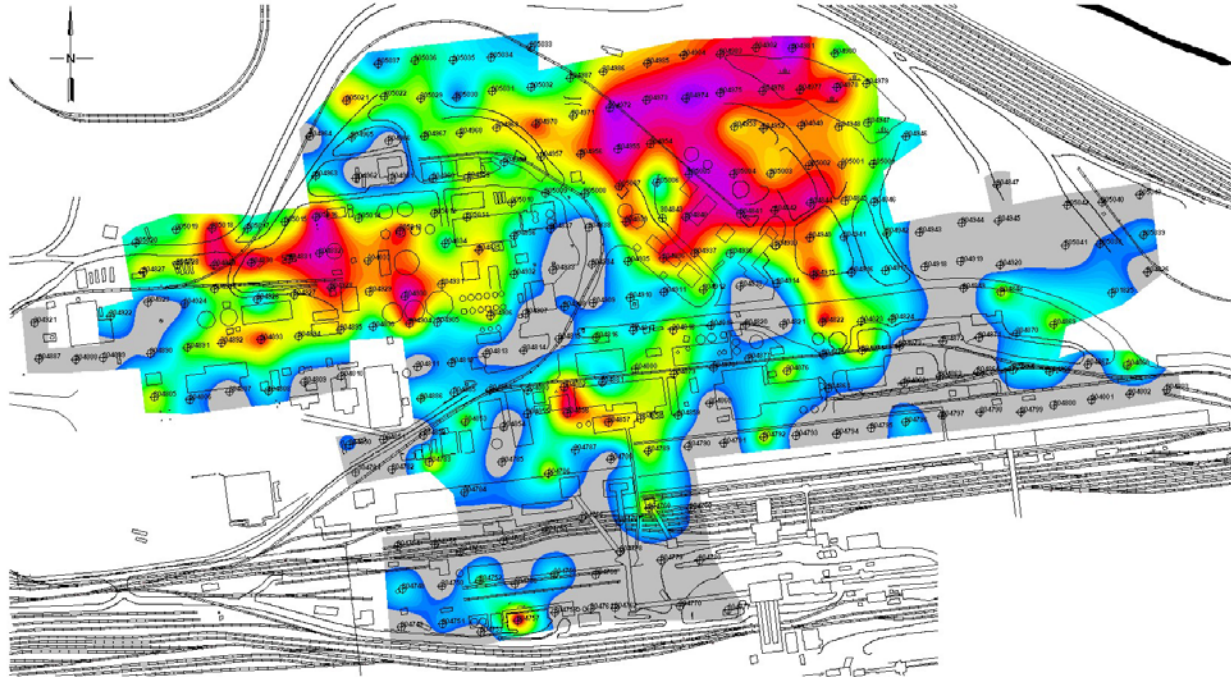
**LMS** Lewis, Matusky & Skelly Engineers LLP  
 800 Hamilton Mall, Allentown, Pennsylvania 18101  
 ENVIRONMENTAL, SCIENCE & ENGINEERING CONSULTANTS

**SITE LOCATION MAP**  
**BETHLEHEM COMMERCE CENTER, BETHLEHEM, PA**

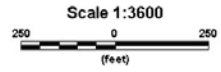
Job No.	Date	Figure No.
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40027 GORE-SORBER Module Location

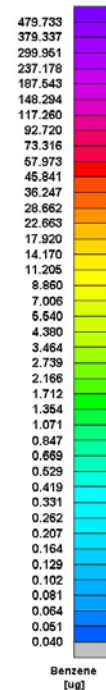
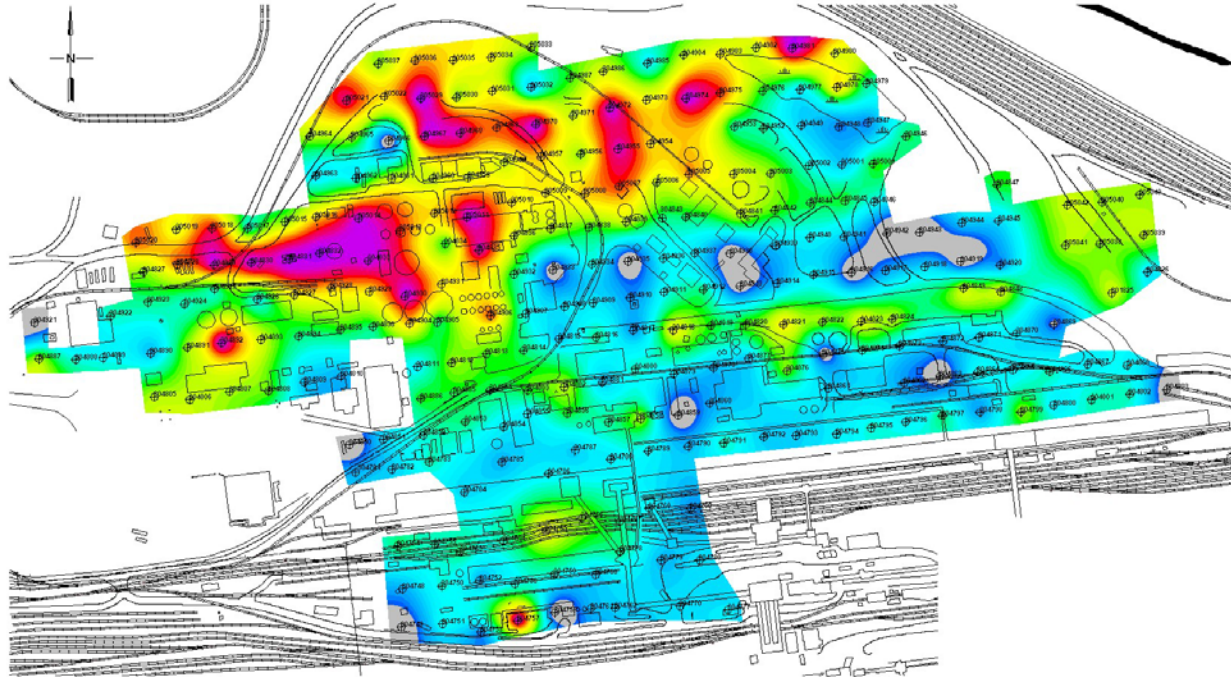


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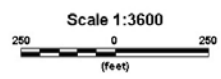
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 GORE-SORBER SCREENING SURVEY  
 GORE-SORBER SCREENING MODULE

<b>GORE-SORBER SCREENING SURVEY</b>			
		<b>W.L. GORE &amp; ASSOCIATES, INC.</b>	
P.O. BOX 1988 181 LEWISVILLE ROAD ELECTON, MD 21228-1988 (410) 292-2000			
FORMER COKE GAS AREA, DETLEHER, PA			
<b>COMBINED PAHs</b>			ADV. #
SAC, DETLEHER, PA			ADV. DATE
DATE DRAWN:	7 APRIL 1999	GRID FILE:	CPC16AD
DRAWN BY:	JH	PLOT FILE:	CPC.PLT
DATE GROOMED:	16 APRIL 1999	PROJECT NUMBER:	9007922
GROOMED BY:	JH	SITE CODE:	XU




☉ 304257 GORE-SORBER Module Location

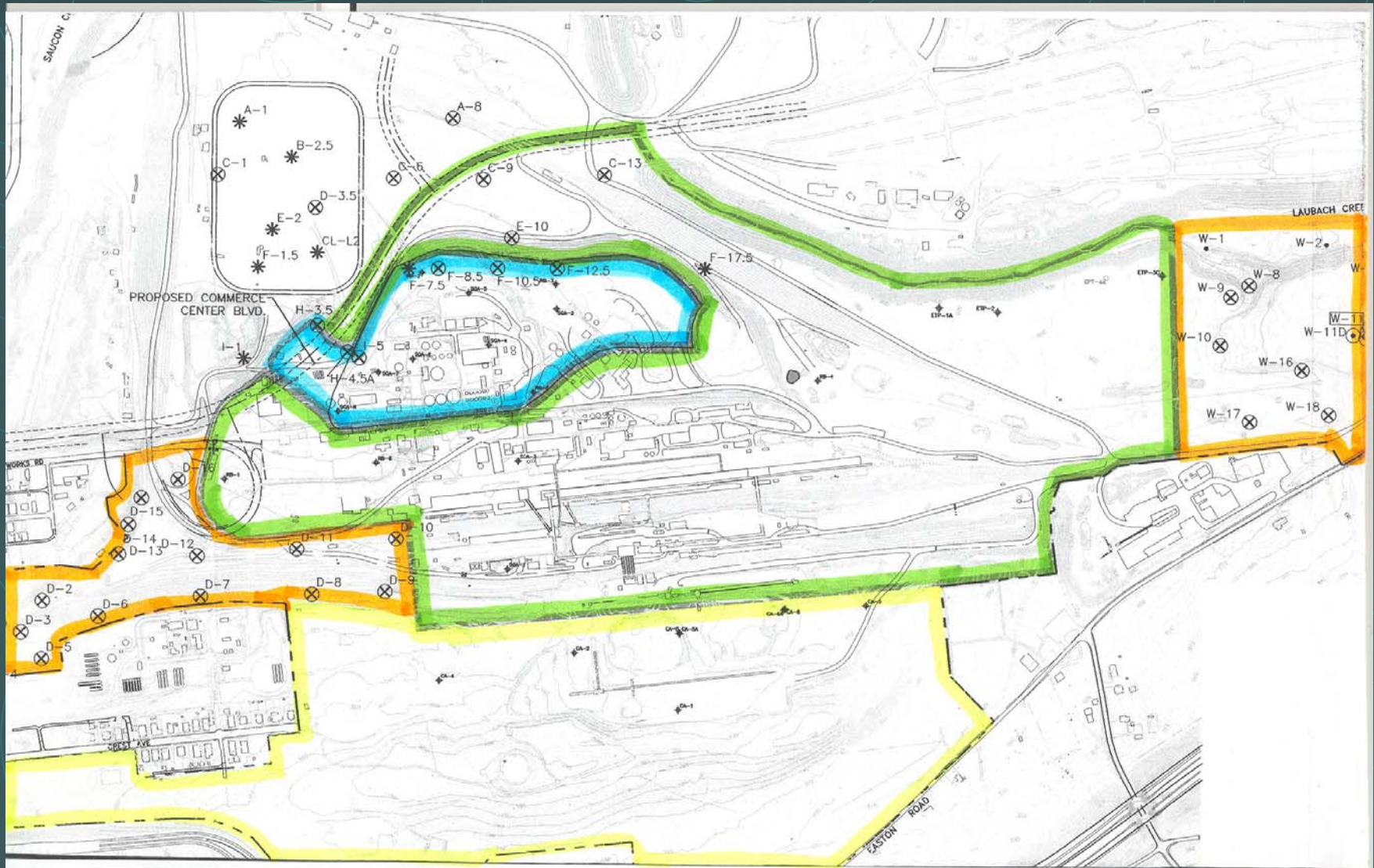


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<b>GORE-SORBER SCREENING SURVEY</b>			
		<b>W. L. GORE &amp; ASSOCIATES, INC.</b>	
P. O. BOX 1988 181 LEWISVILLE ROAD ELECTON, MD 21228-1988 (410) 292-3399			
FORMER COKE GAS AREA, DETLEHER, PA			
		ADV. #	
<b>BENZENE</b>		ADV. DATE	
SAC, DETLEHER, PA			
DATE DRAWN:	7 APRIL 1999	GRID FILE:	EC316AD
DRAWN BY:	JH	PLOT FILE:	ECC.PLT
DATE RECORDED:	16 APRIL 1999	PROJECT NUMBER:	9007922
GRIDDED BY:	JH	SITE CODE:	XU



# Environmental Cleanup Approach

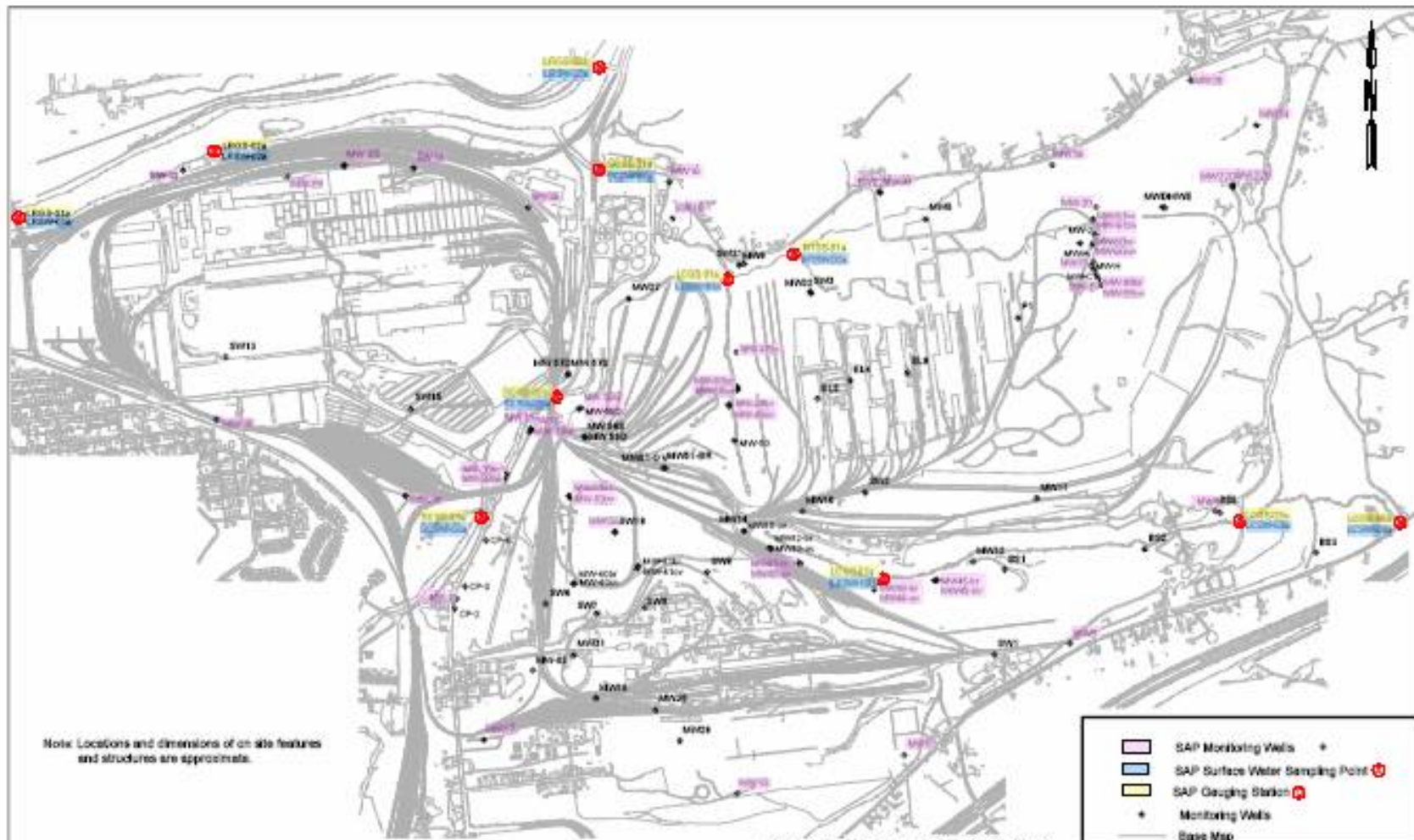
## Soil

- Soil is being characterized on a parcel-by-parcel basis concurrent with redevelopment.
- "Hot spot" excavation
- Capping
- Pathway elimination / Exposure reduction
- Institutional controls
- EPA Region 3 Risk Based Concentration levels
- PADEP Act 2 Site Specific Standard

# Environmental Cleanup Approach

## Groundwater

- Groundwater is addressed on a site-wide basis
  - monitored natural attenuation
  - institutional controls
  - source control
  - Benzene – 1600 ppm at source
  - Naphthalene – 300 ppm at source
- >100 monitoring wells used to characterize and monitor groundwater site-wide



Note: Locations and dimensions of on site features and structures are approximate.



**LEI** Luster, Nakaszy & Savely Engineers, P.C.  
 2214 Lehigh Valley Blvd., Allentown, Pennsylvania 18103  
 610.261.8271 • 610.261.8272 • 610.261.8273 • 610.261.8274



**Bethlehem Commerce Center**  
 Former Bethlehem Steel Site, Bethlehem, PA

**SITE-WIDE GROUNDWATER & SURFACE WATER SAMPLING LOCATIONS**

Figure

# Environmental Cleanup Approach

## Other Issues

- Demolition of buildings (Generic Cleanup Plan)
- Waste Handling Areas (Generic Cleanup Plan)
- Hazardous Waste Landfill (containment)
- Materials used as fill for regrading (slag, refractory brick, foundry sand, etc.)
- Coke Oven Gas Lines (removal)
- Soil Vapor (no new basements)

# Strategies Used to Accelerate Redevelopment

- Regular Work Team meetings
- Agency Comfort Letters
- Sharing Characterization Data
- Land Use Designation
- Site-Wide Soil Management Plan
- EPA RCRA Reforms
- Act 2 Process
- Fill (General Permit for Beneficial Use)
- Brownfield Action Team (BAT, permitting)
- Memorandum of Agreement (MOA)



# Funding

- Commonwealth of PA is contributing approx. \$7.5 million for environmental investigation and cleanup work
- Northampton County is contributing approx. \$13 million towards the construction of Commerce Center Boulevard
- Federal Government contributing \$2 million for redevelopment infrastructure

# Looking Ahead

## Environmental Work

- Continued remediation of soil at Saucon Tract.
- Continued assessment and remediation of soil
  - Coke Works
  - Easton Road Properties
  - East Lehigh Properties
- Continued assessment and remediation of groundwater on a site-wide basis

# Looking Ahead

## Redevelopment

- Leasing and/or sale of parcels in Saucon Tract to new owners/tenants
- Investigation and clearance of other areas of the site for lease and/or sale
- Anticipate \$1 billion of new investment and 5,000 new jobs

# Links

## Speakers

matyskiela.linda@epa.gov

raroush@state.pa.us

## Web Sites

EPA Region 3 Corrective Action Homepage

<http://www.epa.gov/reg3wcmd/correctiveaction.htm>

Pennsylvania Land Recycling Homepage

<http://www.dep.state.pa.us/dep/deputate/airwaste/wm/landrecy/default.htm>

Lehigh Valley Industrial Park

<http://www.lvip.org/>

HDR/LMS

<http://www.hdrinc.com>