

# Great Lakes Environmental Remediation & Redevelopment Conference

## Revitalizing a Contaminated Former Production Facility in a Rust Belt City

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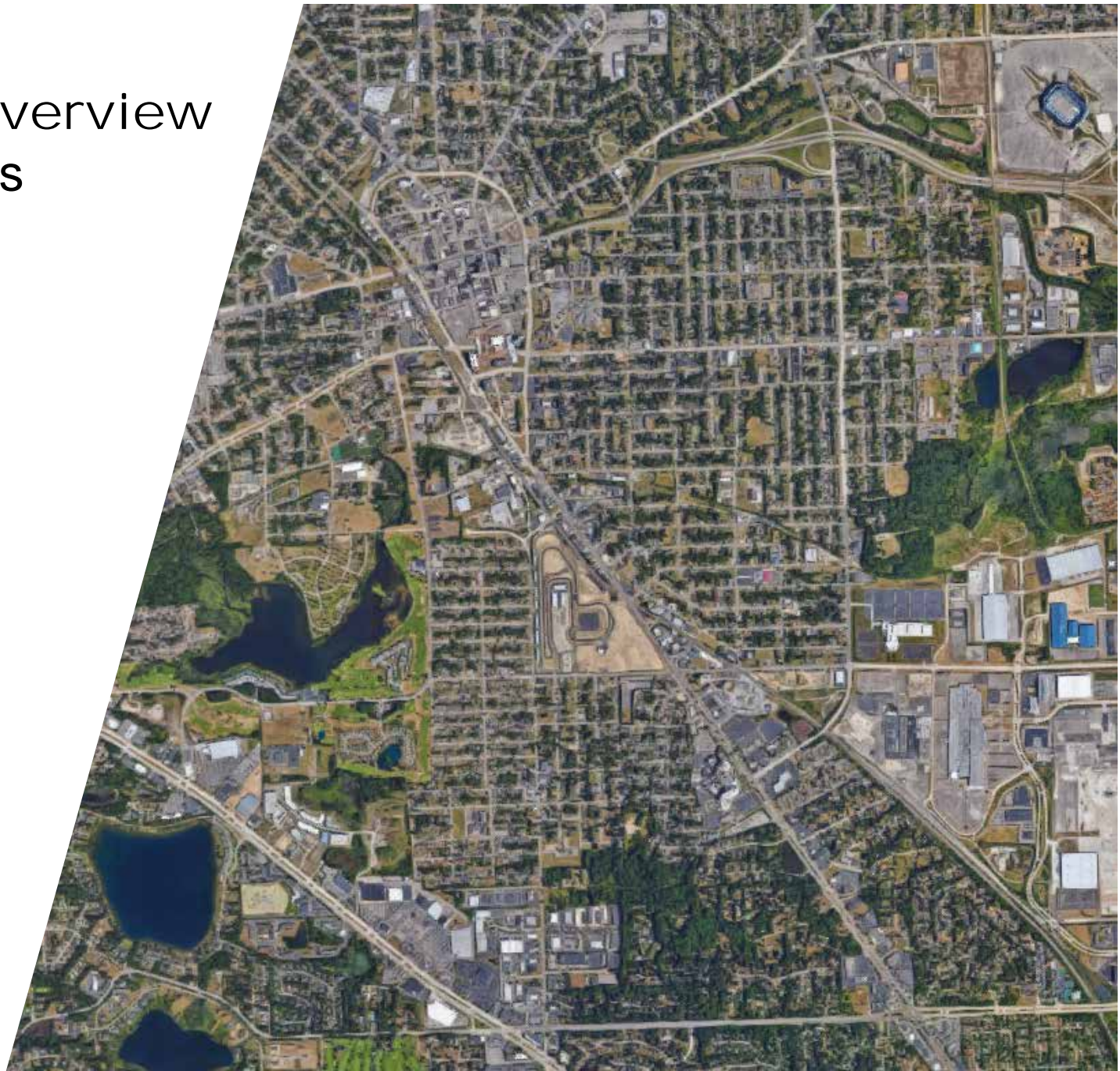
Grant Trigger, PE, JD | RACER Trust, Detroit, MI

Dave Favero | RACER Trust, Detroit, MI



Lansing, Michigan  
October 2019

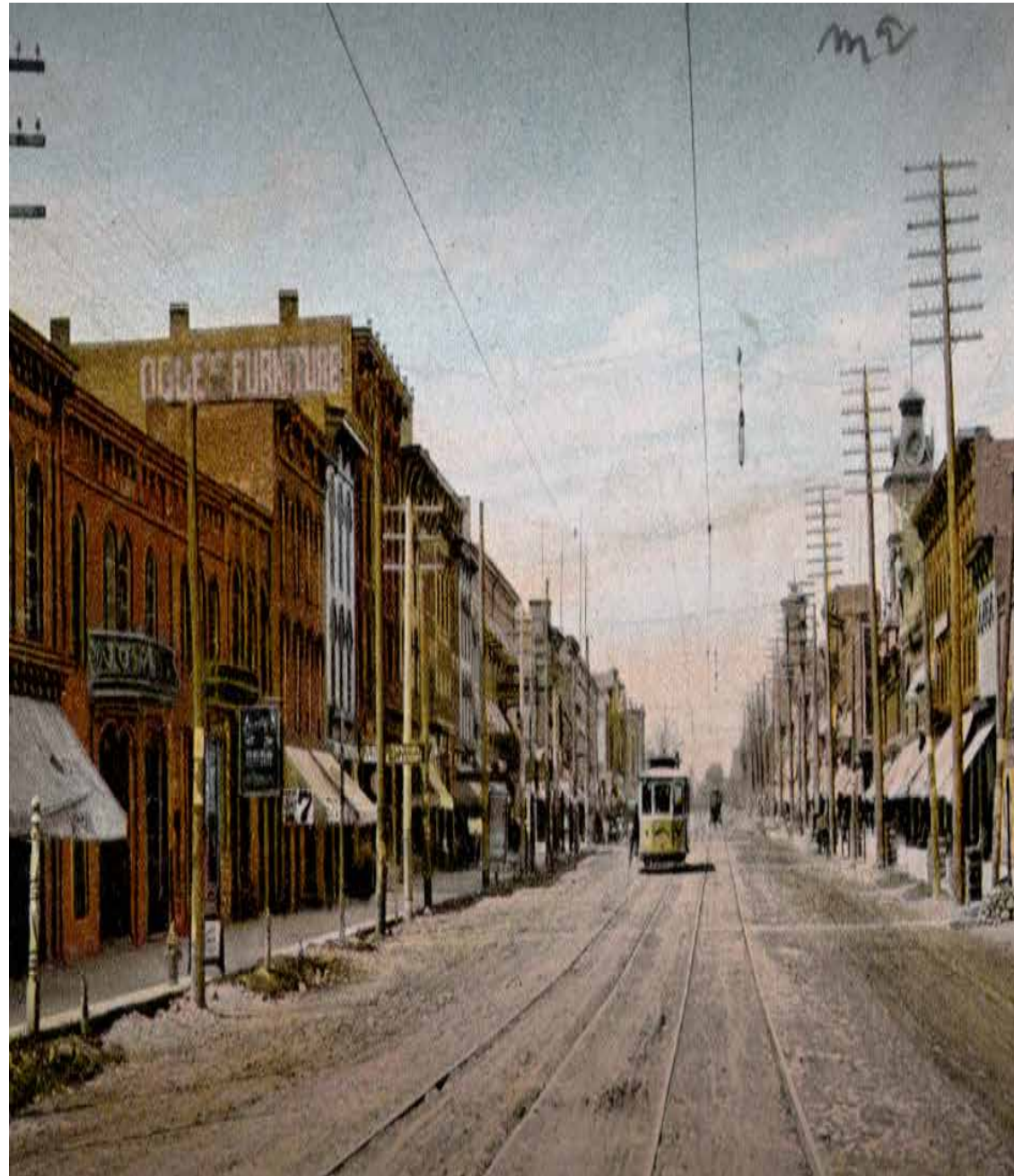
# Regional Overview Demographics



# Regional Overview

## Demographics

- Settled in 1818
- Maximum Population was in 1970 – 85,000
- In 2010 population had dropped to 60,000
- Automotive Industry was key to growth & to rapid loss in population



# Site History

- GMC acquired Site in 1906 from Rapid Motor Vehicle Company
- Historical operations included:
  - Metal Finishing
  - Stamping
  - Machining
  - Grinding
  - Polishing
  - Solvent & Oil Storage

**The Rapid**  
MOTOR VEHICLE CO.

We deliver the goods

**HERE IS A CAR THAT IS NEEDED AT EVERY CLUB, HOTEL OR COUNTRY PLACE**

Our 38 passenger carry-all will be found just the thing as a rapid, comfortable and economical way of affording transportation to guests of clubs, hotels, and country places. It also a model convenience for sight seeing parties, and as a means of rapid transit between villages and rural communities.

**PRICE, \$2,200. EVERY CAR GUARANTEED FOR ONE YEAR**

We also manufacture this car to seat 12 passengers, price \$1,000.  
On both the 38 and 12 seat cars a rear seat may be removed to allow room to store baggage.  
We also make a full line of delivery cars and trucks.

For full particulars address **C. N. HENRY, Sales Manager**  
**RAPID MOTOR VEHICLE CO., PONTIAC, MICH.**

## Site History

- GMC acquired Plants 3, 4 & 5 between 1937 & 1963
- Plants ran prototypes for utility vehicle assembly line and painting process, R&D and engineering
- GMC ceased operations & demolished all Plants by 2006
- RACER Trust took over Site in 2011



# Revitalize Auto Communities Environmental Response (RACER)

- Keynote Speaker this morning – Grant Trigger of RACER Trust Michigan Cleanup Manager
- Legacy GM Manufacturing Sites – part of US Bankruptcy Court agreements
- Cleanups approved by state and/or federal regulatory agencies



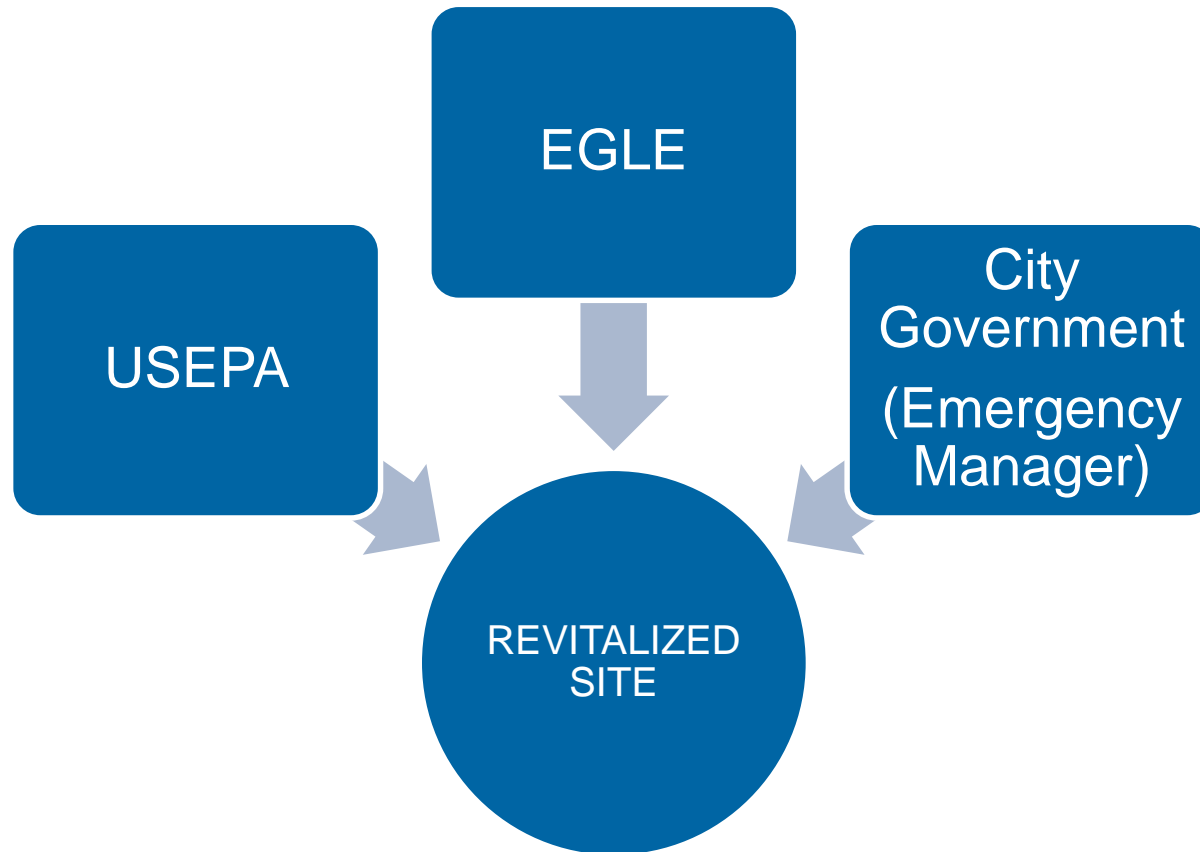
# RACER

- RACER can sell or lease properties even before cleanups begin or are completed, as long as RACER access is guaranteed
- RACER's remediation goal is to obtain "No Further Action" letters from environmental regulators for all locations where cleanups are required
- Revitalize communities in an environmentally responsible way



# Site Sale

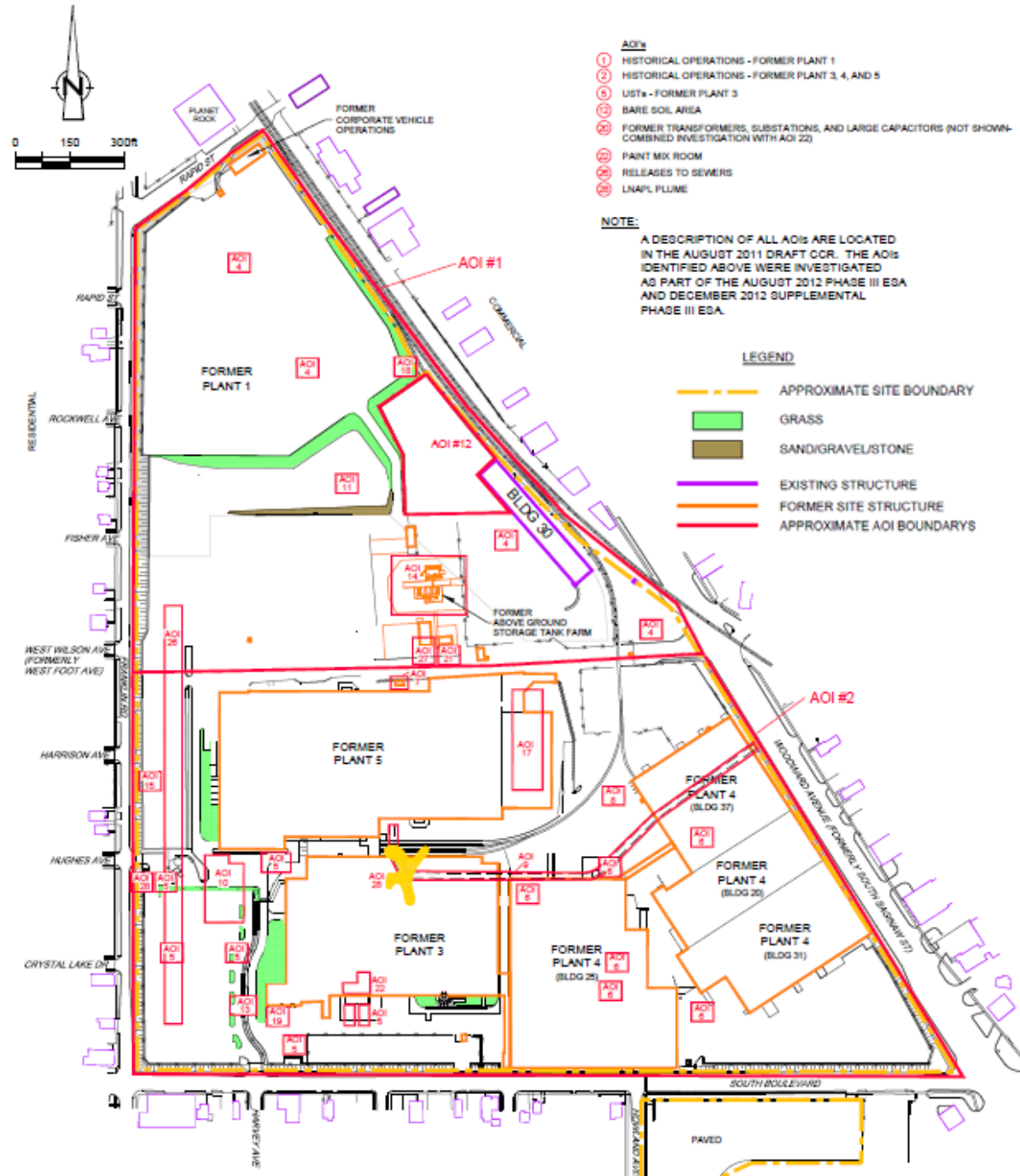
Sale began in 2012 while under USEPA RCRA closure obligations





# Facility Investigations

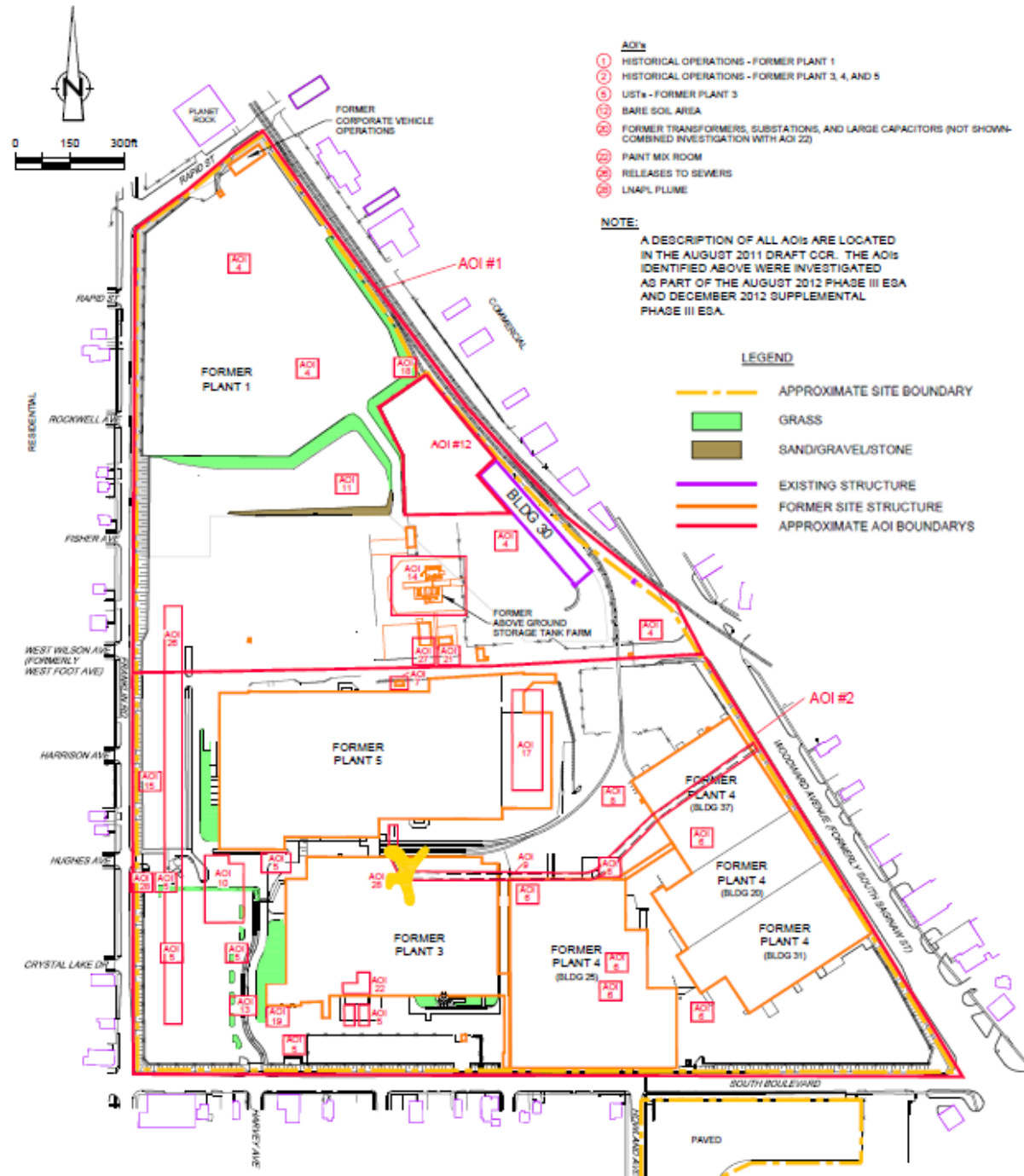
- Phase I ESAs
- Soil Borings
- Monitoring Wells (on & off-site)
- LIF Borings
- Fingerprint Analysis & T-testing
- Sewer Investigations



# Facility Investigations

## *Lessons Learned*

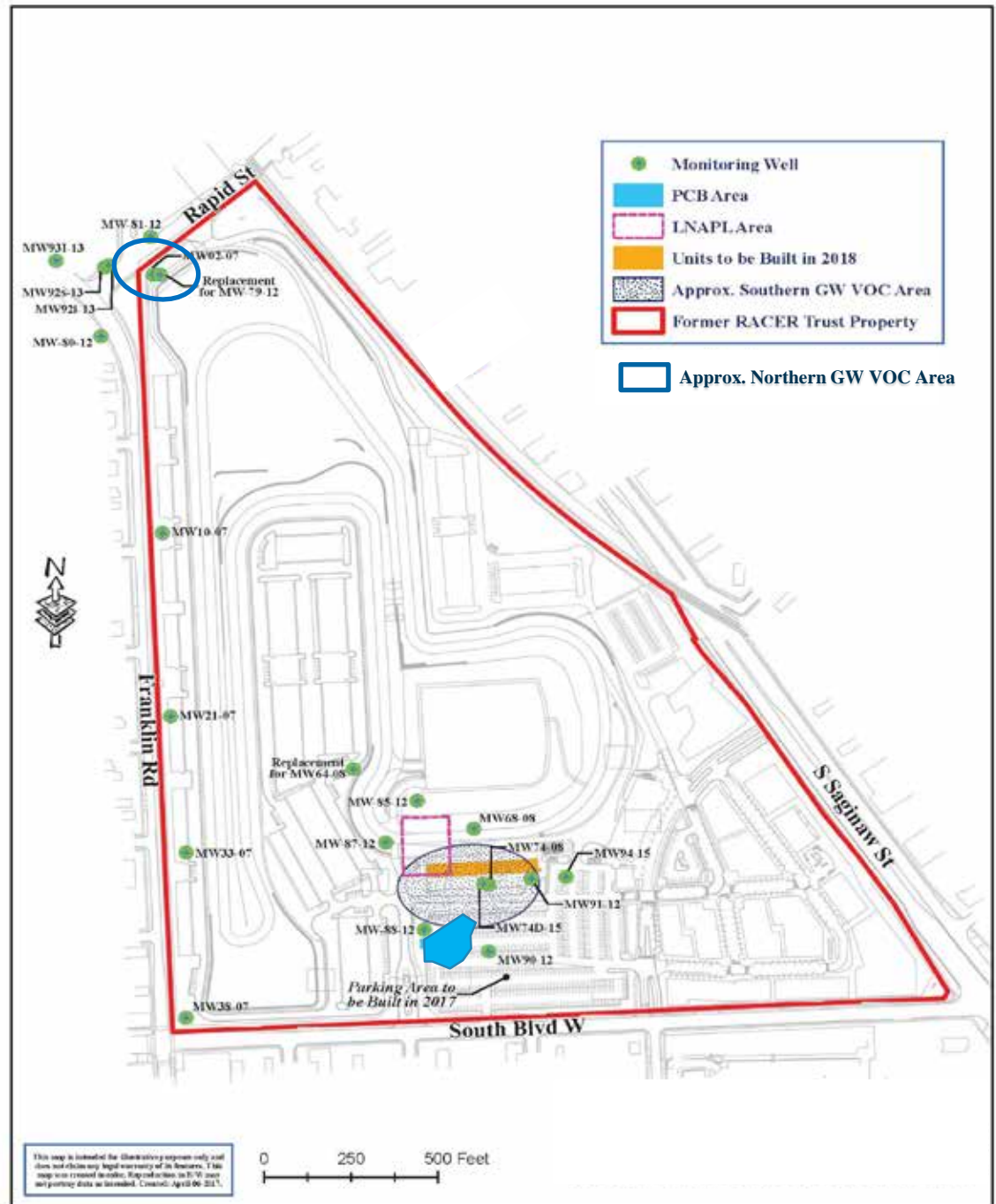
- Obtain utility maps
- Use an experienced private utility locating operator
- Have same geologist oversee utility locating that oversees drilling
- Communicate
- Have site contact approve all staked locations



# Findings

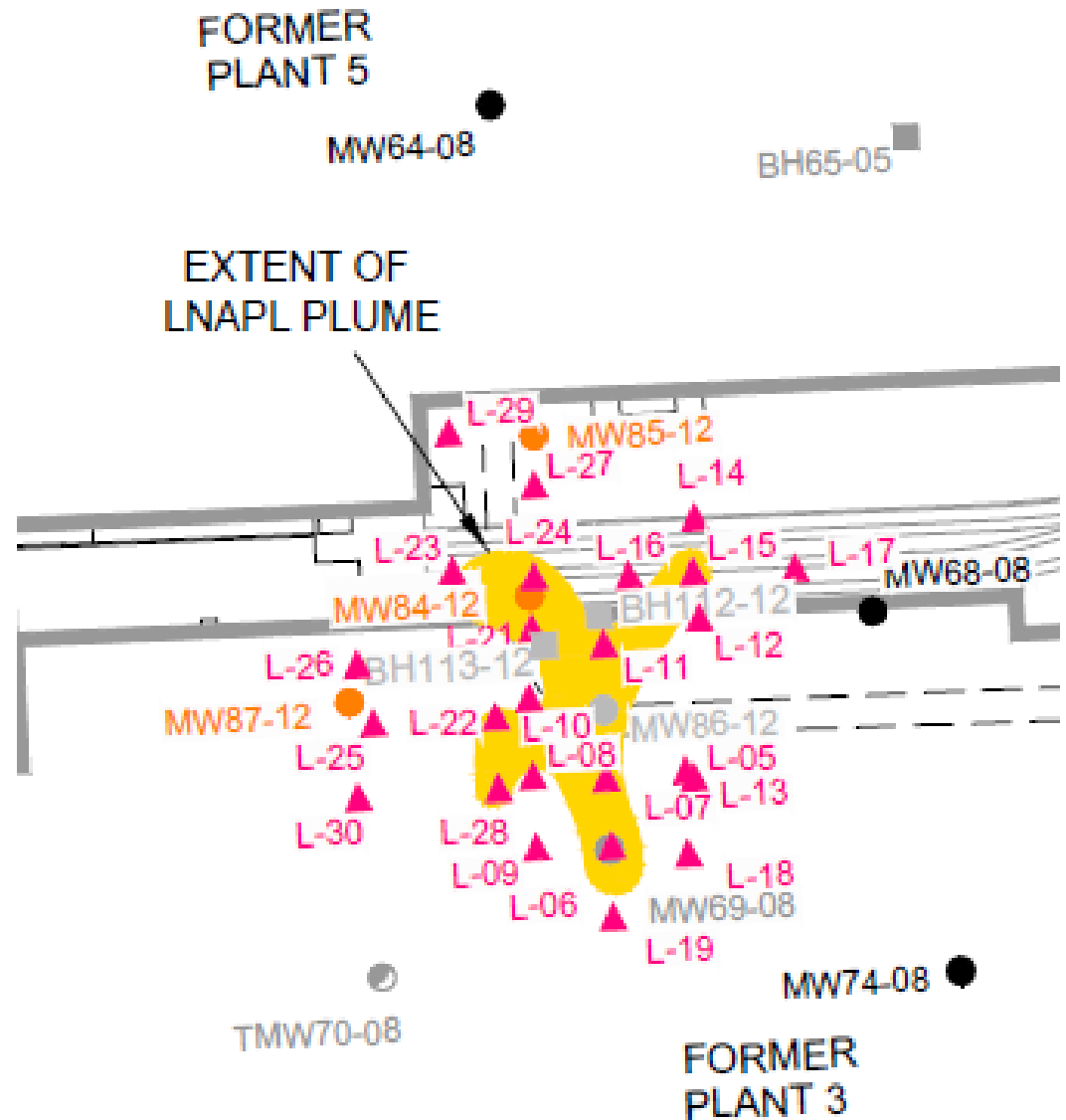
## Primary Environmental Concerns:

- VOCs, PNAs & PCBs in soil
- Dissolved VOCs & PNAs in groundwater
- Off-Site migration of dissolved VOCs
- GW Flow Generally to the NW
- LNAPL

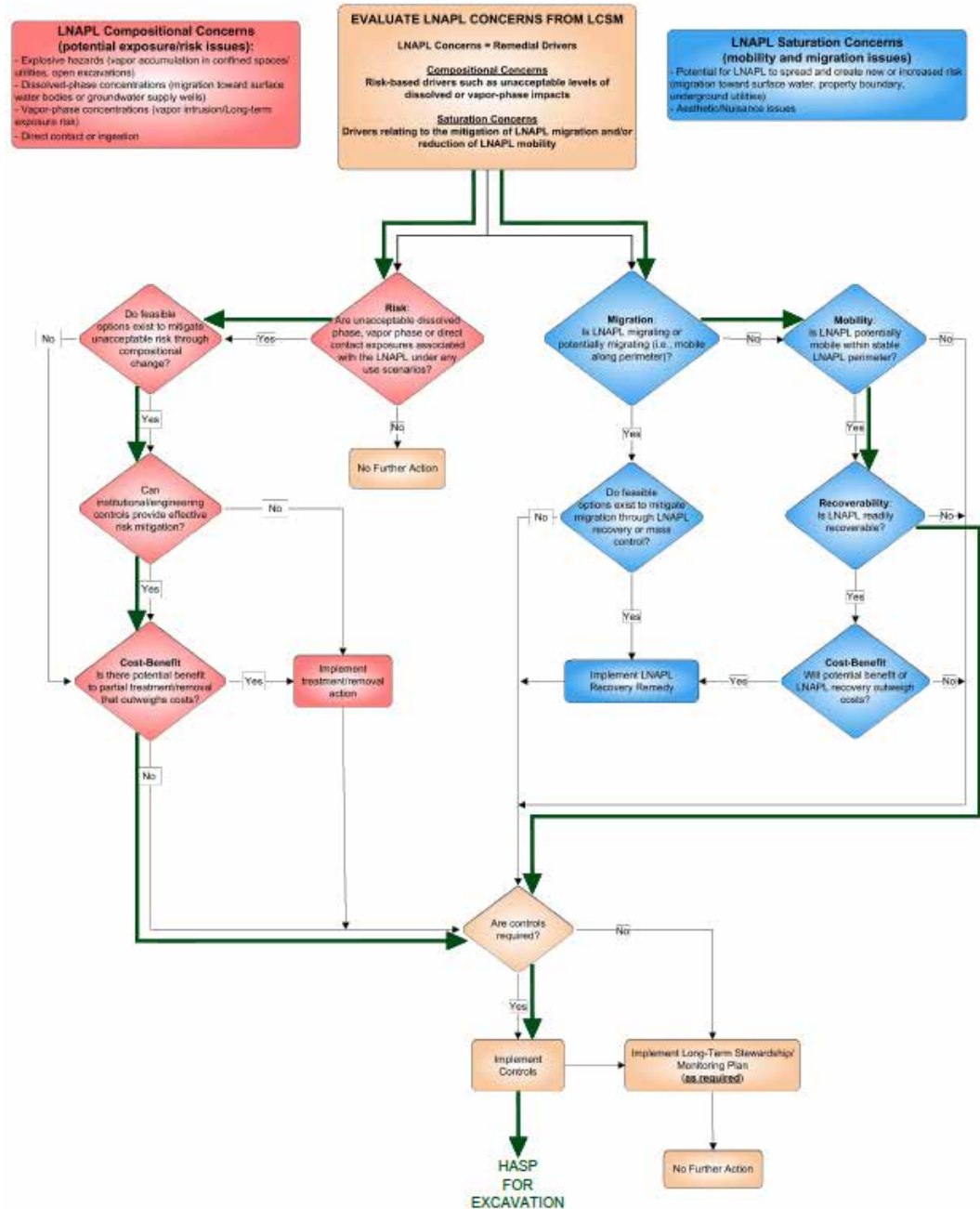


## LNAPL Conceptual Site Model (LCSM)

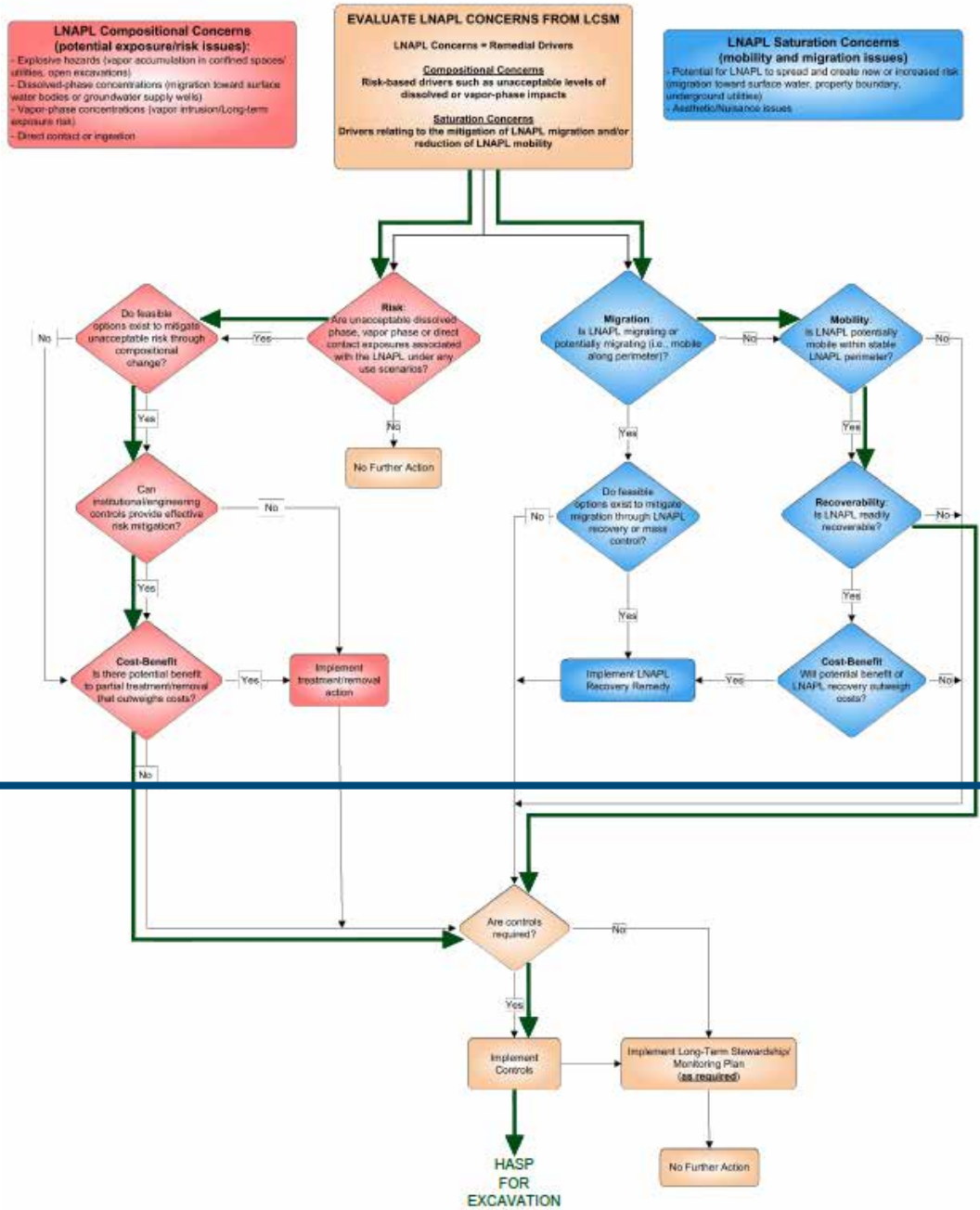
- LNAPL is degraded non-volatile middle distillate fuel type
- LNAPL body is stable & non-migrating
- Fraction of LNAPL that may be mobile or migrating is very low



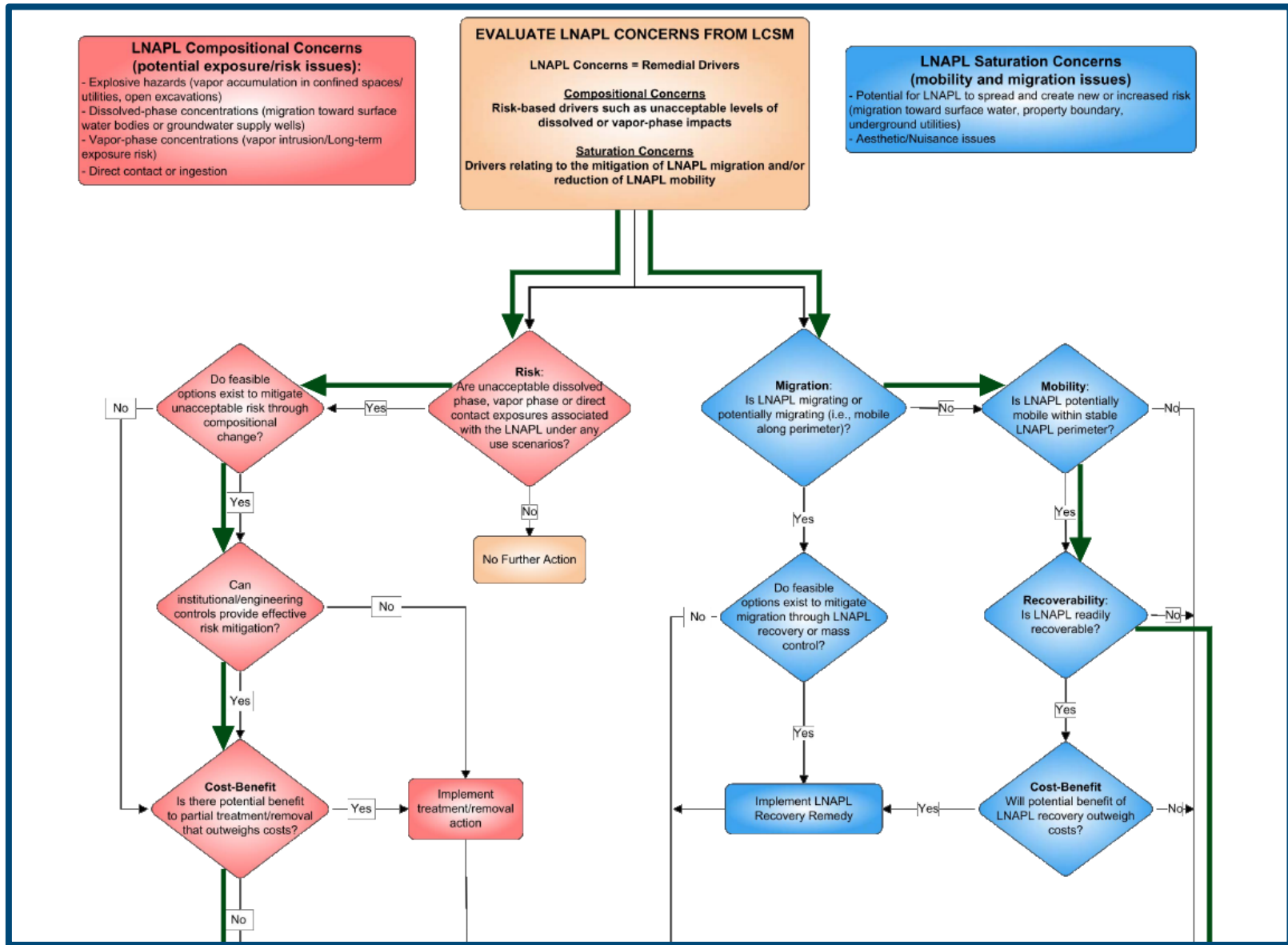
# LCSM Flow Chart



# LCSM Flow Chart



# LCSM Flow Chart



# LCSM Flow Chart

**LNAPL Compositional Concerns (potential exposure/risk issues):**

- Explosive hazards (vapor accumulation in confined spaces/ utilities, open excavations)
- Dissolved-phase concentrations (migration toward surface water bodies or groundwater supply wells)
- Vapor-phase concentrations (vapor intrusion/Long-term exposure risk)
- Direct contact or ingestion

**EVALUATE LNAPL CONCERNS FROM LCSM**

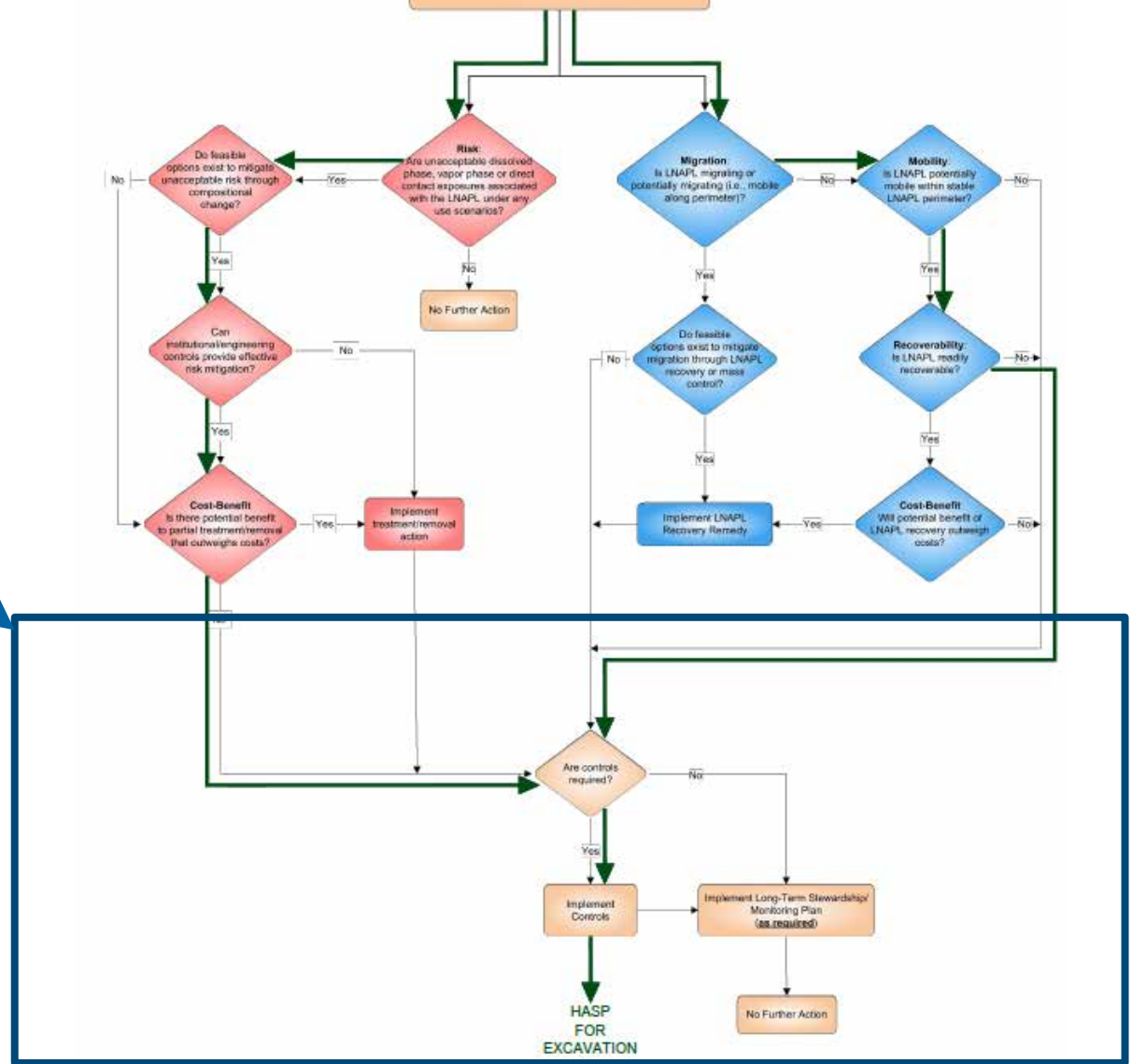
LNAPL Concerns = Remedial Drivers

**Compositional Concerns**  
Risk-based drivers such as unacceptable levels of dissolved or vapor-phase impacts

**Saturation Concerns**  
Drivers relating to the mitigation of LNAPL migration and/or reduction of LNAPL mobility

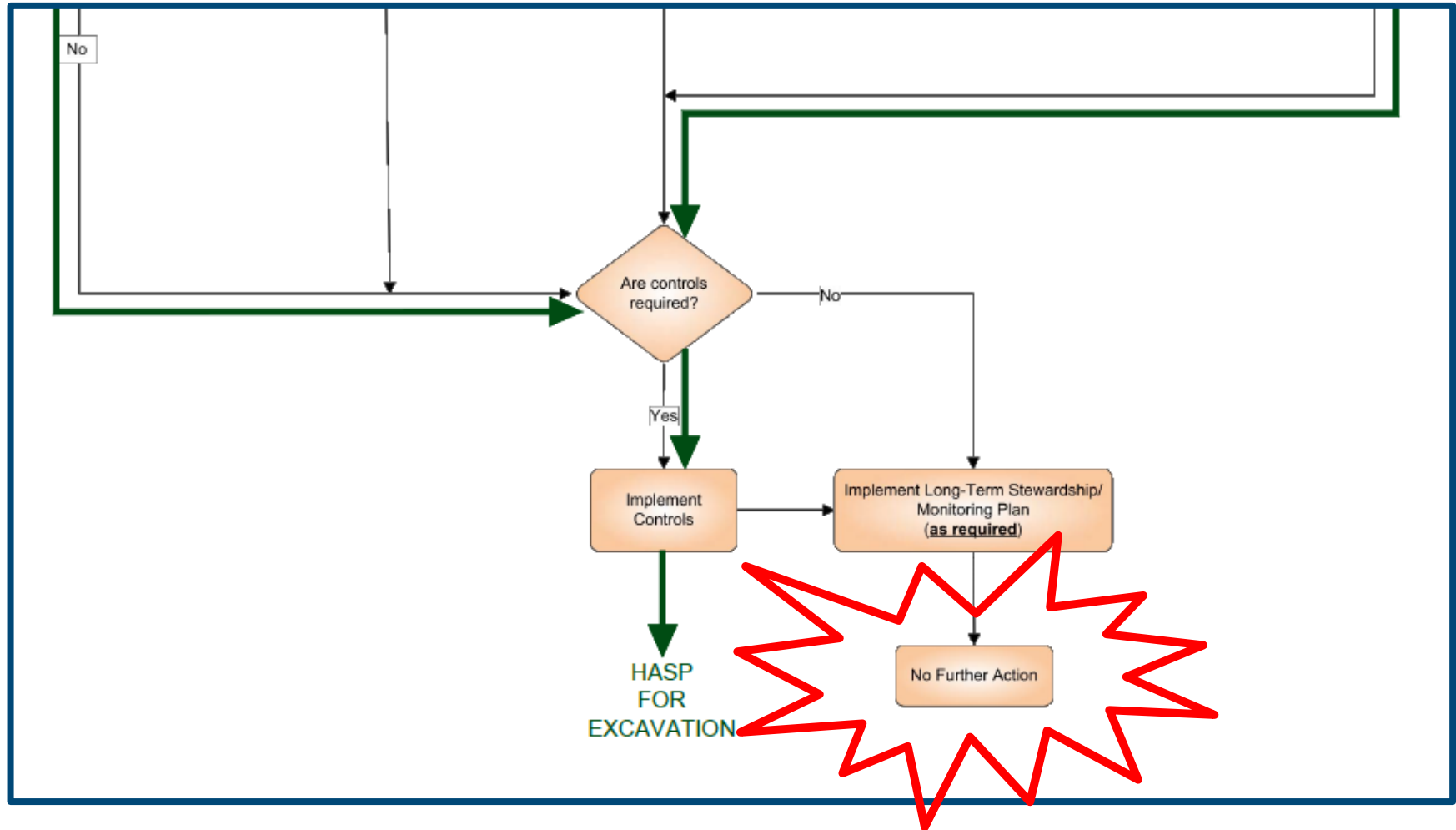
**LNAPL Saturation Concerns (mobility and migration issues)**

- Potential for LNAPL to spread and create new or increased risk (migration toward surface water, property boundary, underground utilities)
- Aesthetic/Nuisance issues

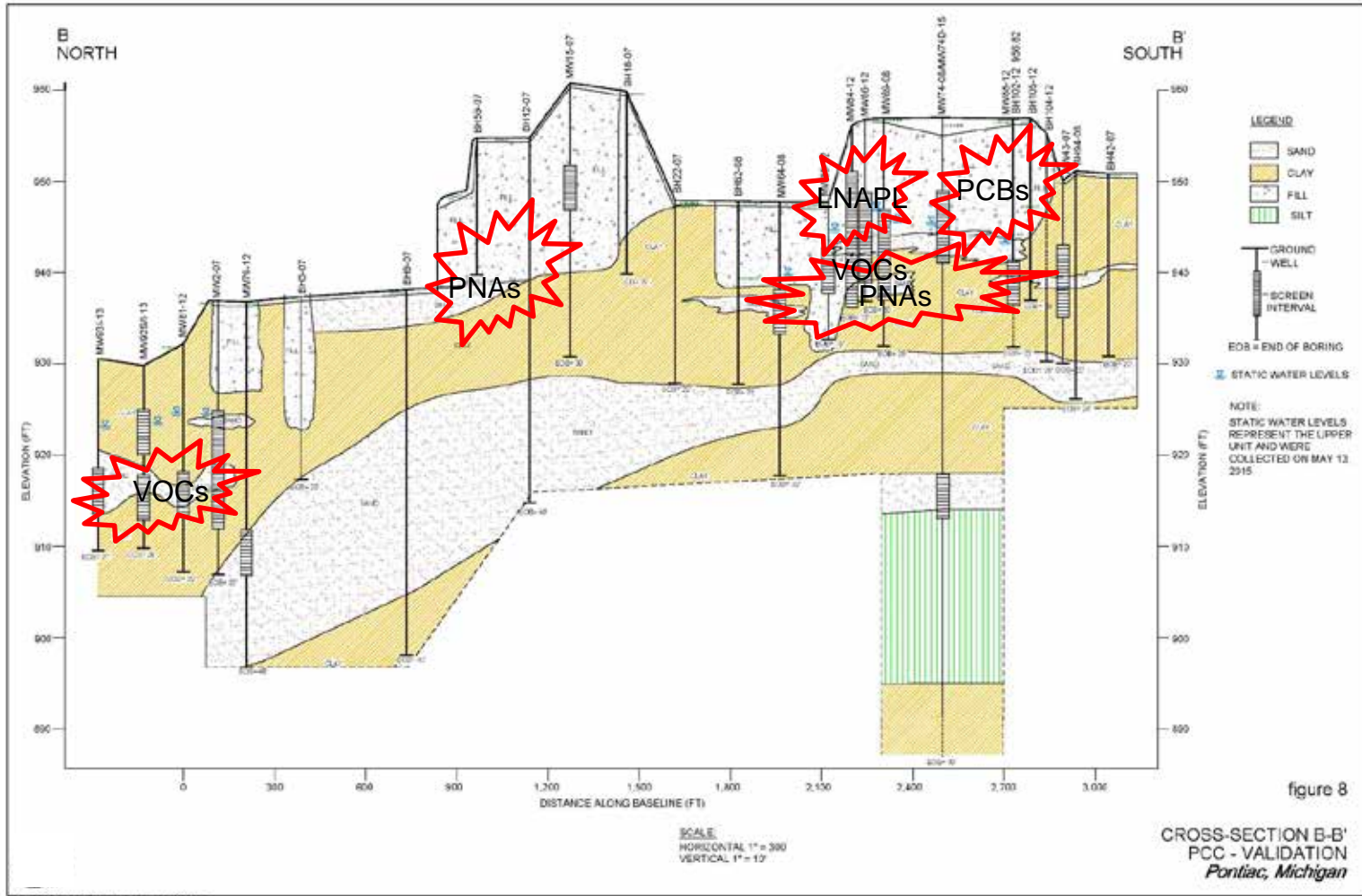




# LCSM Flow Chart



# Conceptual Site Model



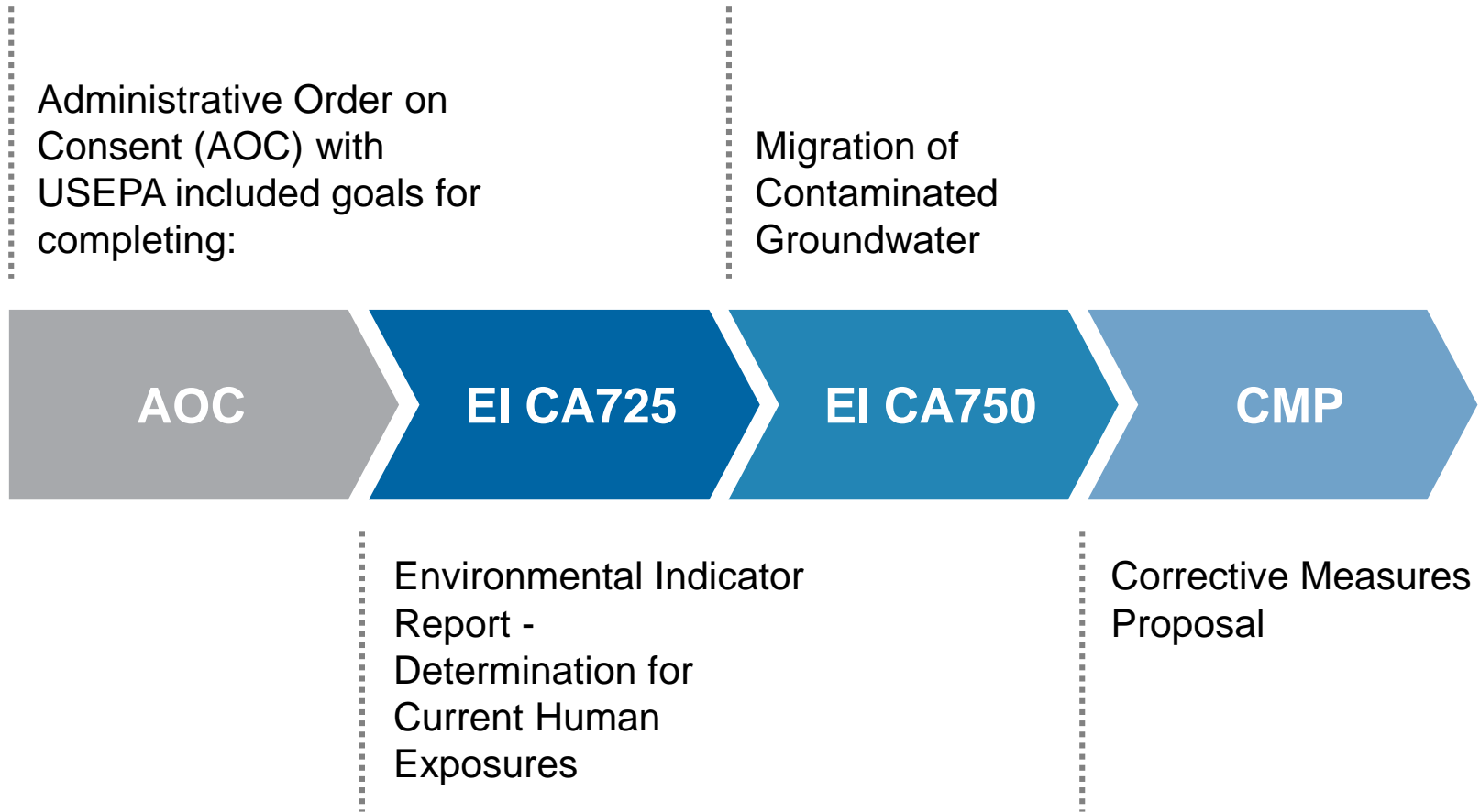
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# CSM - Surrounding Area

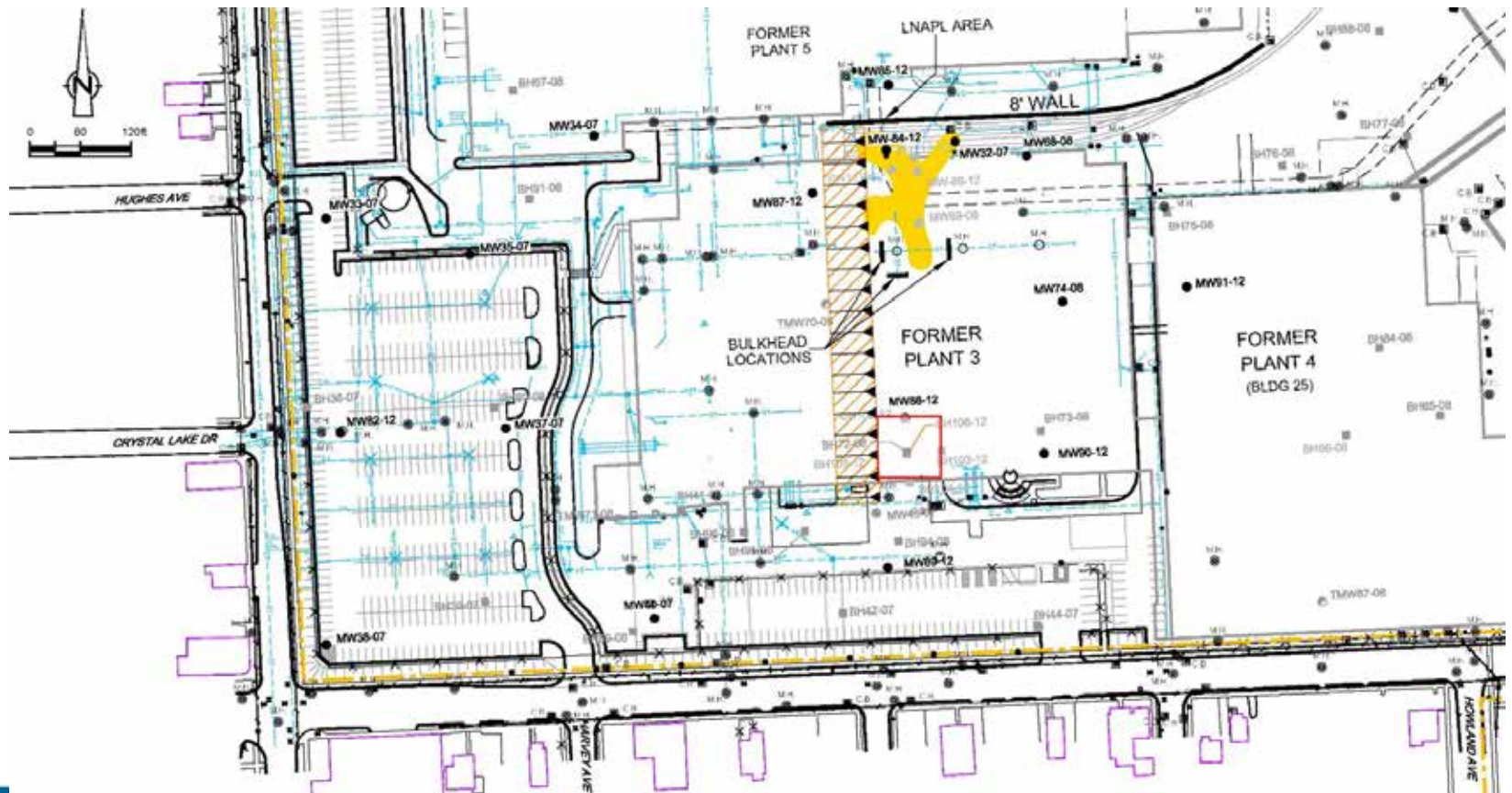


# Fast Track RCRA Reporting : 6 Month Timeline



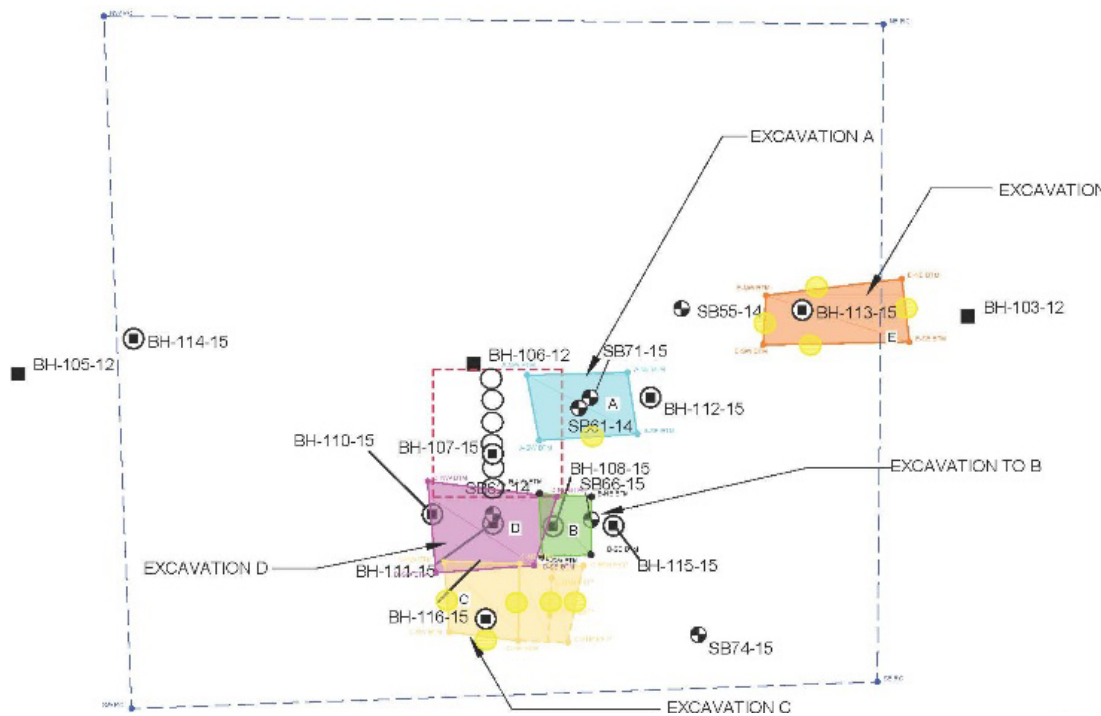
# Interim Measures implemented with EPA's approval

- Elimination of potential pathways for off-site migration of LNAPL and dissolved phase VOC plumes by bulk heading storm sewers within the areas of impact



# Interim Measures implemented with EPA's approval

- Removed PCBs in site soils (greater than 100 ppm)
- Utilized PCB field test kits to improve the project timeline & reduce the number laboratory samples



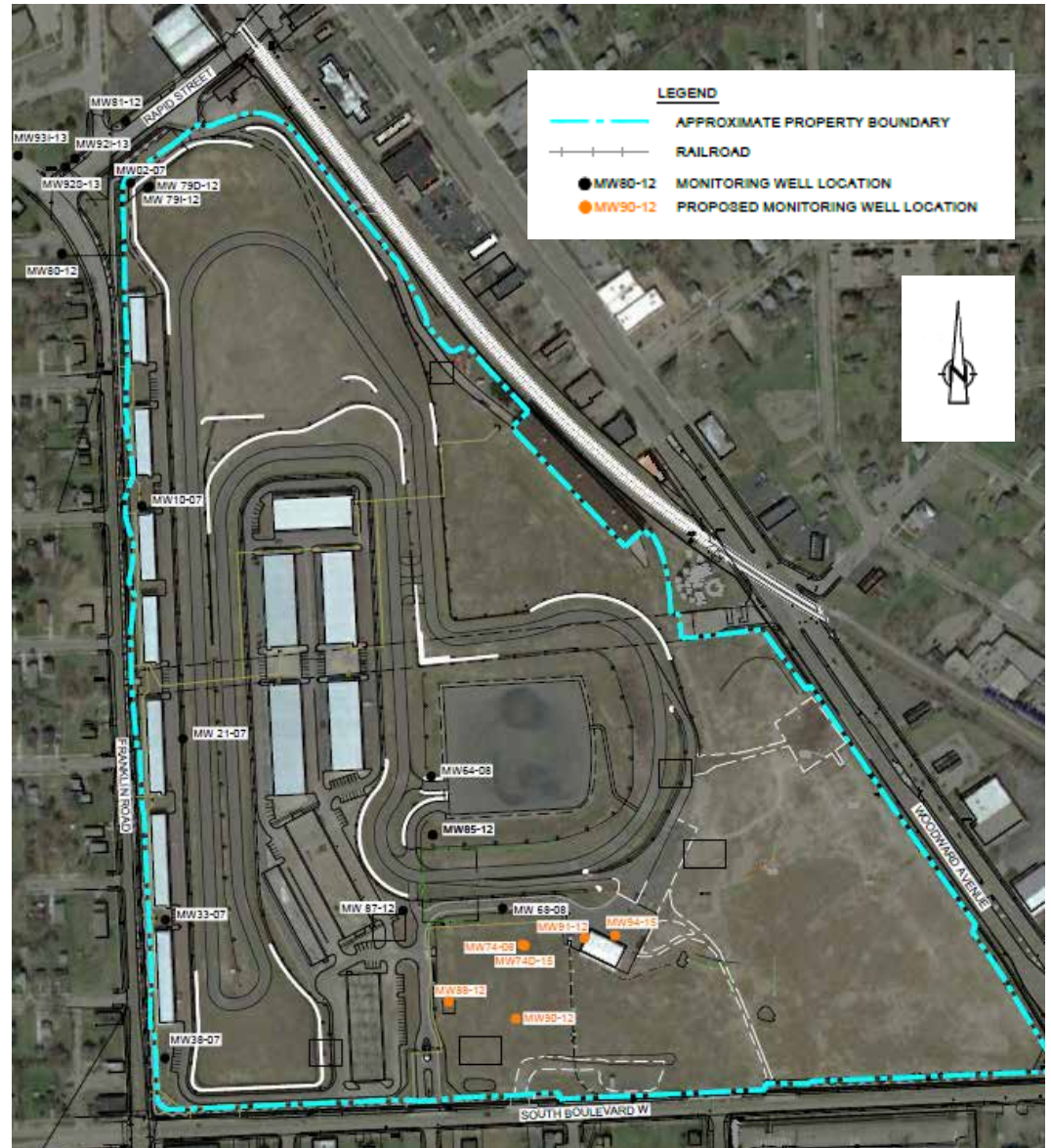
# Corrective Measures Completed/Ongoing



- Groundwater Use Restriction Institutional Controls – on & off-site (Obtained via Emergency Manager in 1 week)
- LNAPL deemed de-minimus
- On-site deed restriction – NR, groundwater use, VI

# Corrective Measures Completed/Ongoing

- Wells abandoned for redevelopment & re-installed in 2018/2019 (ongoing)
- Ongoing groundwater monitoring





# Brownfield Conditions

- City of Pontiac is qualified local government unit
- Presence of contaminants > generic residential criteria
- 30,000 SF area of LNAPL
- TCE in groundwater
- Multiple VOCs & metals in soils & groundwater
- Eligible for \$14.7 MM TIF

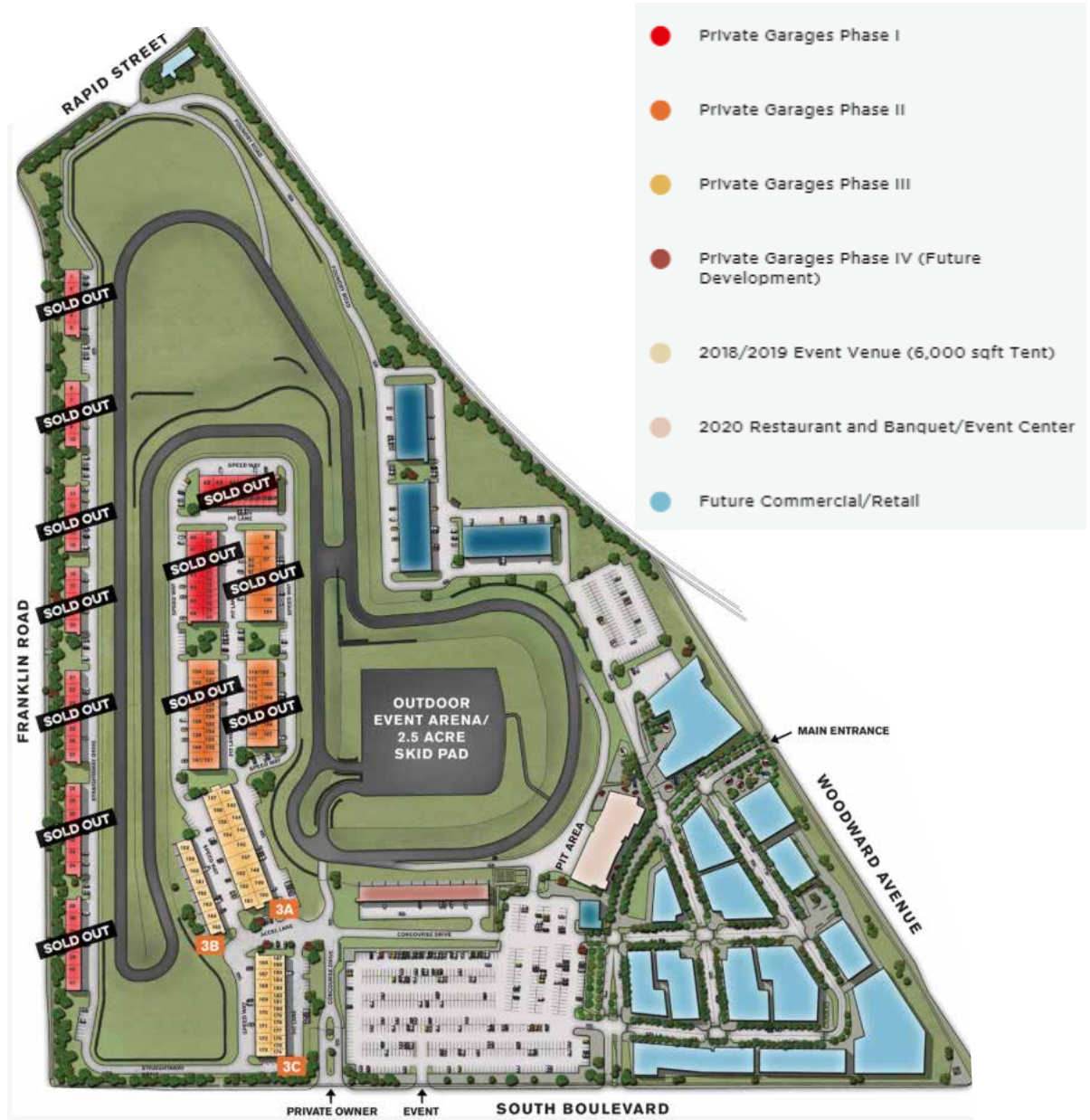


Prime industrial land in **Pontiac, MI**



# Redevelopment

- Car Condominiums
- Year-round auto-themed destination for auto collectors & enthusiasts
- Located along Woodward Avenue where the world's largest auto event takes place (DREAM CRUISE)



# Redevelopment

- State-of-the-art 1.5 mile performance track
- Auto-themed retail buildings
- Restaurant
- Office building
- Outdoor stage & exhibition area
- Accommodations for over 1,000 classic cars



# Redevelopment



# Redevelopment



# The Finish Line



- RCRA investigations, reporting and interim measures were completed on a fast track
- Site has been redeveloped and is helping to revitalize a downtrodden community!

# Questions?

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