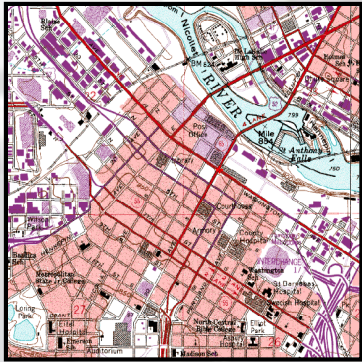
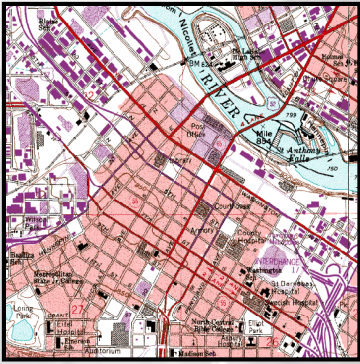


Who am I?

- ❑ Vincent M. Carbone, P.G. with HDR Engineering, Inc.
- ❑ HDR is a 10,000 employee Engineering Firm based in Omaha, Nebraska
- ❑ 185 Locations in over 60 countries
- ❑ 27 years of (Phase I and II Site Assessment Experience)
- ❑ HDR Engineering Due Diligence Lead
- ❑ Site Specific, Corridor, and Area Studies



Before the Phase I Site Reconnaissance



- ☐ Why are you completing the Phase I ESA?
- ☐ Who is your client? Know your client!!!
- ☐ What is their intended use of the property?
- ☐ What is the schedule?
- ☐ Is the site active or inactive?

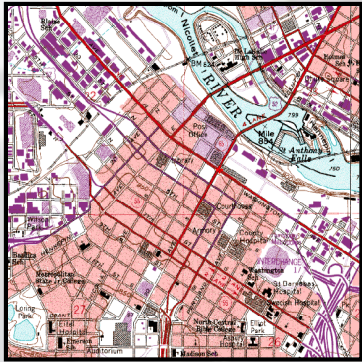
Knowing this information may change the way you proceed with the ESA!!

Common Types of Sites Encountered

- Be alert to the many types of sites you may see in the field.

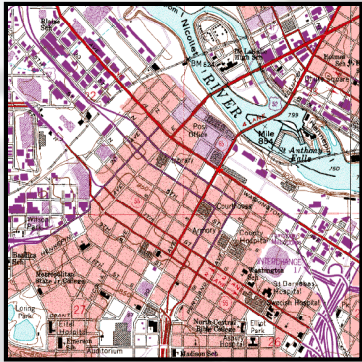
For-sure sites to watch for:

- Current or repurposed gas stations
- Dry cleaners
- Industrial buildings
- Structures that seem out-of-place (i.e. mounds, soil disturbance, pits or ponds that seem out of place.)



Gas Stations

- USTs are largest source of petroleum contamination in US soils and groundwater
- Release sources to soil and groundwater:
 - Tank leaks (LUST)
 - Distribution line leaks
 - “Service stations” – did they do auto repair?
 - Hydraulic lifts?
 - Floor drains? To sewer, septic or dry well?
 - Used oil disposal? Floor drains, “out the back door”, in a UST, AST or 5 gallon buckets
 - Floors washed with TCE, and rinse down the drain
 - NFAs before 1998- view with suspicion
 - Surface drains for stormwater

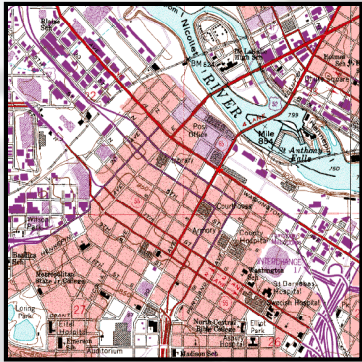


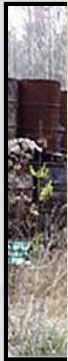


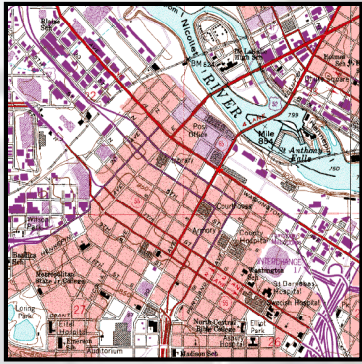


Dry Cleaners

- “Perc” (Per- or tetra-chlorethylene a.k.a. PCE) – most common dry cleaning solvent
- Over time, dry cleaning machines create waste sludge that was often dumped out the back door, or to septic system
- Highly persistent and volatile, breakdown products (TCE, DCE and vinyl chloride) also volatile - “TCE is forever”
- Some pre-1940 dry cleaners used carbon tetrachloride – that stuff is REALLY forever
- Not all dry cleaners clean onsite. Some are only drop off/pick-up locations. Stop in (or call) and ask!





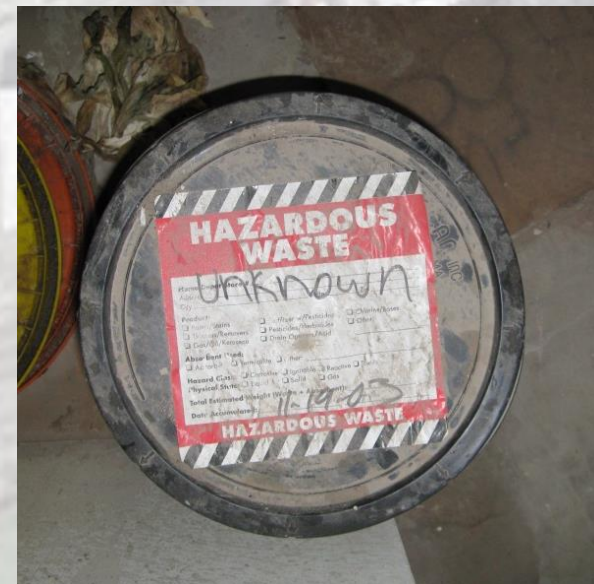
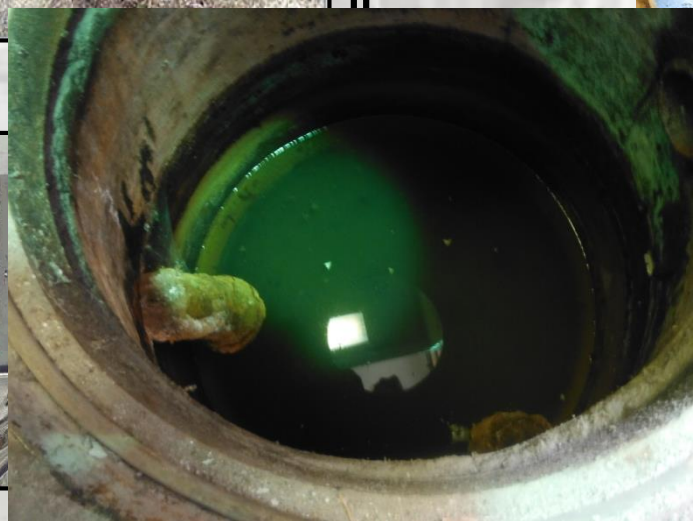


Industrial Buildings

- Waste storage and disposal
- Floor drains (Where do they go?)
- Floor cracks and staining
- Sewer or septic connection
- Hydraulic lifts
- Tanks – AST and UST



<<Understand the facility's waste stream>>

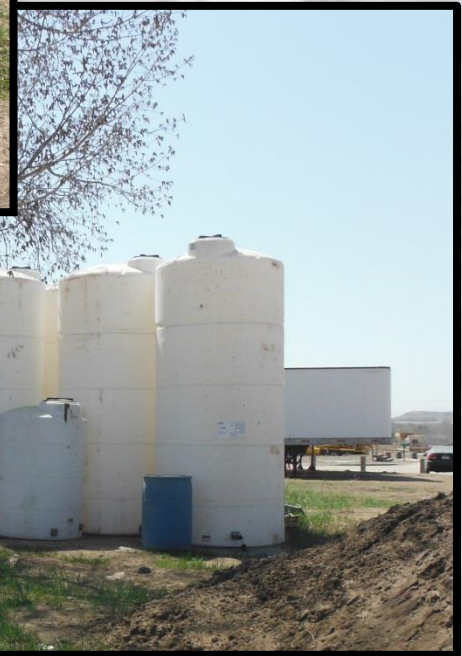


It can be boring...

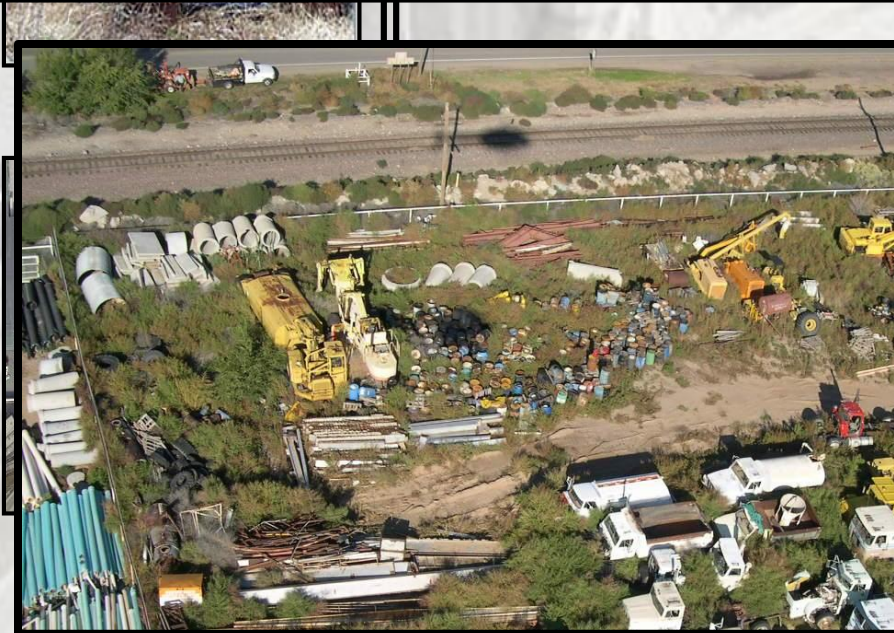
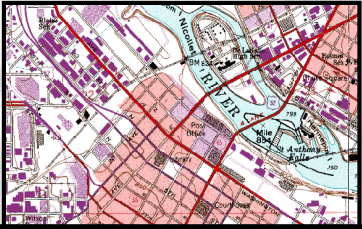


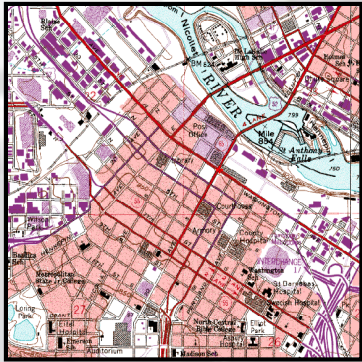
It can be interesting...





Or death defying!

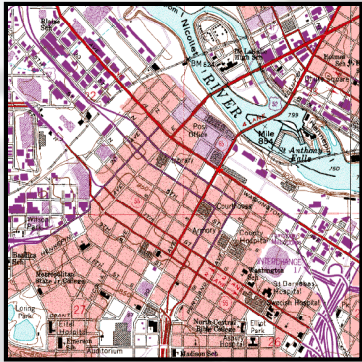




The Basics

- **Purpose** To confirm current conditions for sites/issues you already know about, and to identify sites or conditions that are not included in regulatory databases
- **Be organized** Have a plan, do the history first if possible
- **Know Your Contacts** Who you need to talk to and not talk to.
- **Ask** If pictures are possible don't assume you can always take them
- **Use a Checklist** Included in your notebook
- **Safety** Do you need safety gear, training, to be escorted, etc.

Being unable to do a site recon is a data gap and must be documented



Phase I ESA Recognized Environmental Condition

- ASTM E1527-13 Definition of REC
- The term *recognized environmental conditions* means the presence or likely presence of any *hazardous substances* or *petroleum products* in, on, or at a *property*:
(1) due to any *release* to the *environment*; (2) under conditions indicative of a *release* to the *environment*; or (3) under conditions that pose a *material threat* of a future *release* to the *environment*. *De minimis* conditions are not *recognized environmental conditions*.



Background Information

□ Historical

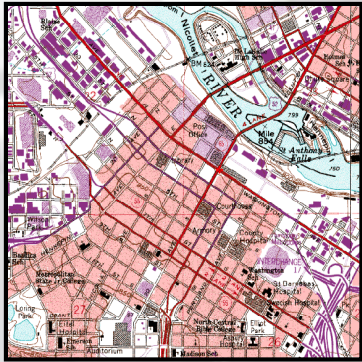
- Sanborn Maps
- Aerial Photos
- City Directories
- Prior Documents
- People to Contact/interview
- Towns/municipalities/state

□ EDR Report- Data base review!

- Cover your area! Make sure the radius meets the AAI standard.
- FOIA

□ Google IT!

□ Now on to a pictorial....



FAX

To: Todd/Pat/Dan From: Howard Holmes
E-mail: hholmes@ncalabs.com
Company: EEI Phone: (503) 908-9231 FAX: (503) 908-9210
Fax: 503-221-0041 Date: 12-6-02
Pages: 16 including the cover page
Phone: _____
☒ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

* Comments:

Midway Cleaners

Please note sample MC-3

1.16 g to Tetrachloroethene

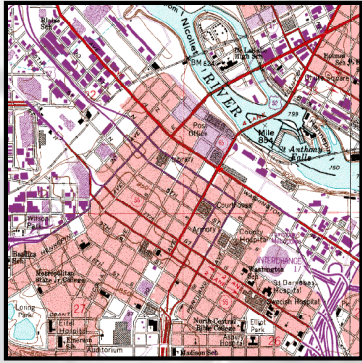
Have a great weekend!

H2

anks,
ward

Confidentiality Notice:

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, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended
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Site Reconnaissance

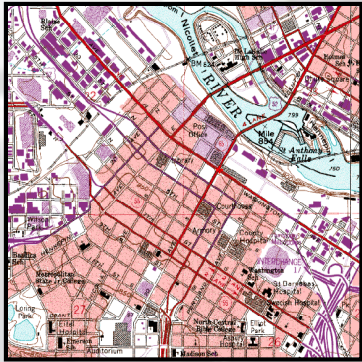
Sometimes conditions are pretty clear!!



Evidence of contamination, or past use of it.....



Stressed Vegetation, eroded asphalt, placards, storage areas, drum circles or rings, soil disturbance

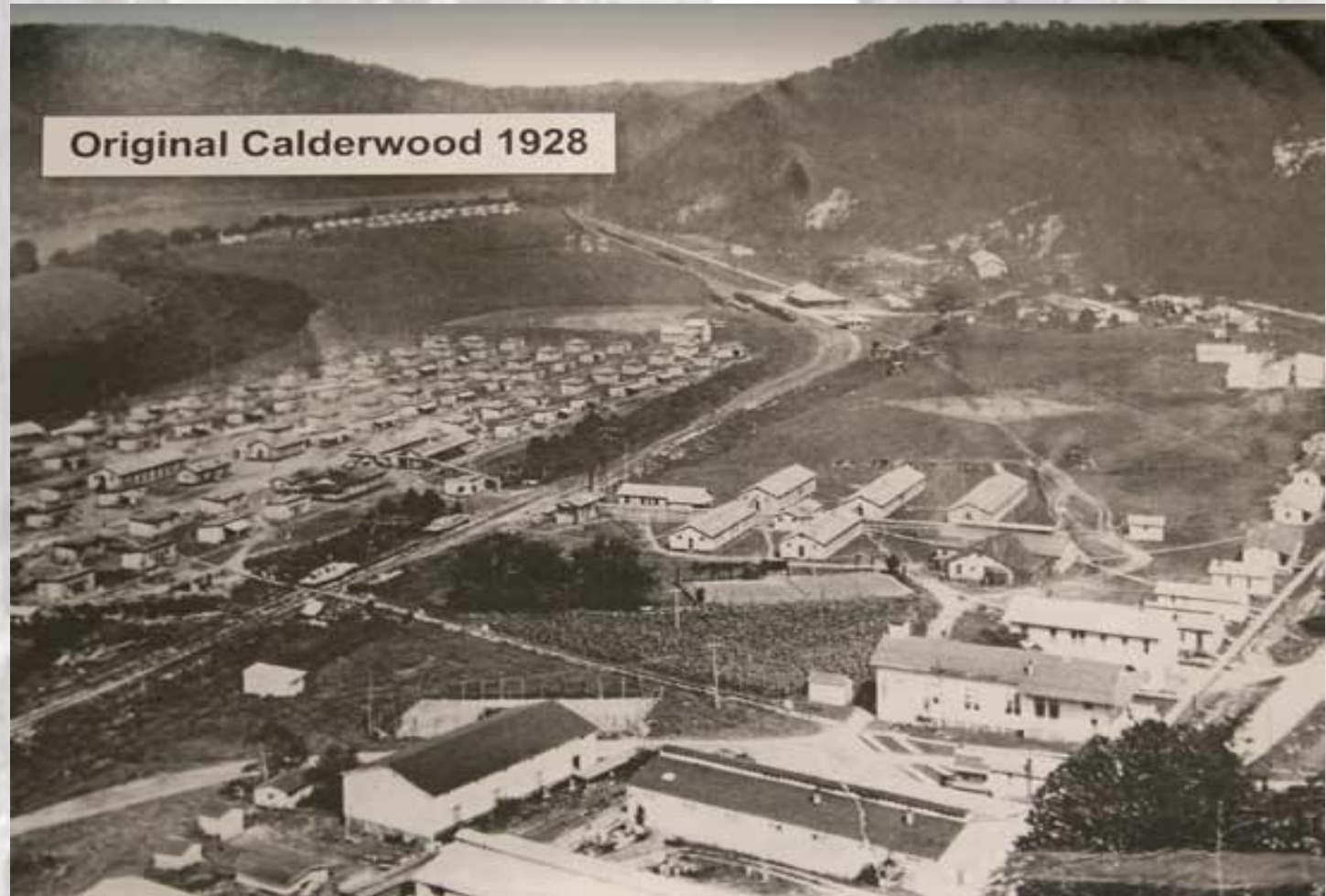
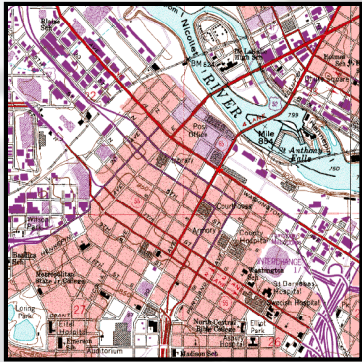


Site Reconnaissance

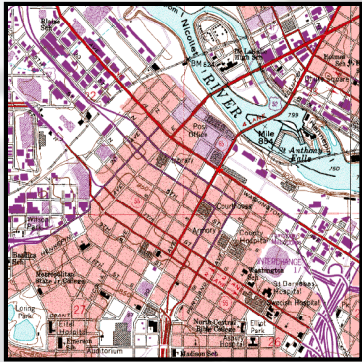
☐ Sometimes not so clear....



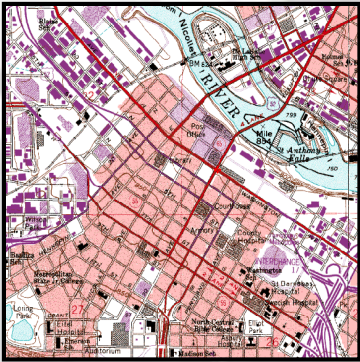
As they were in the past!



Or Where you least expect it!



Site Reconnaissance

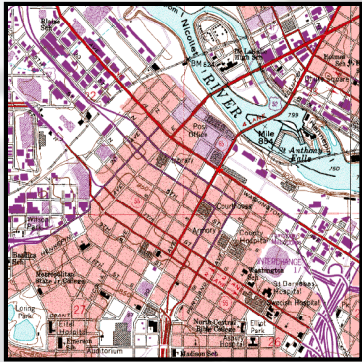


- ☐ Use your info!
- ☐ Narrow your focus!
- ☐ Use your experience!
- ☐ You don't need to see everything !
 - “Practically Reviewable”
 - “Reasonably Ascertainable”



Santeetlah Station

It all comes clear!

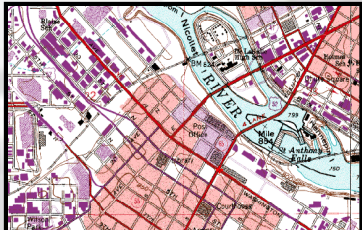


Archives
Libraries
Vaults

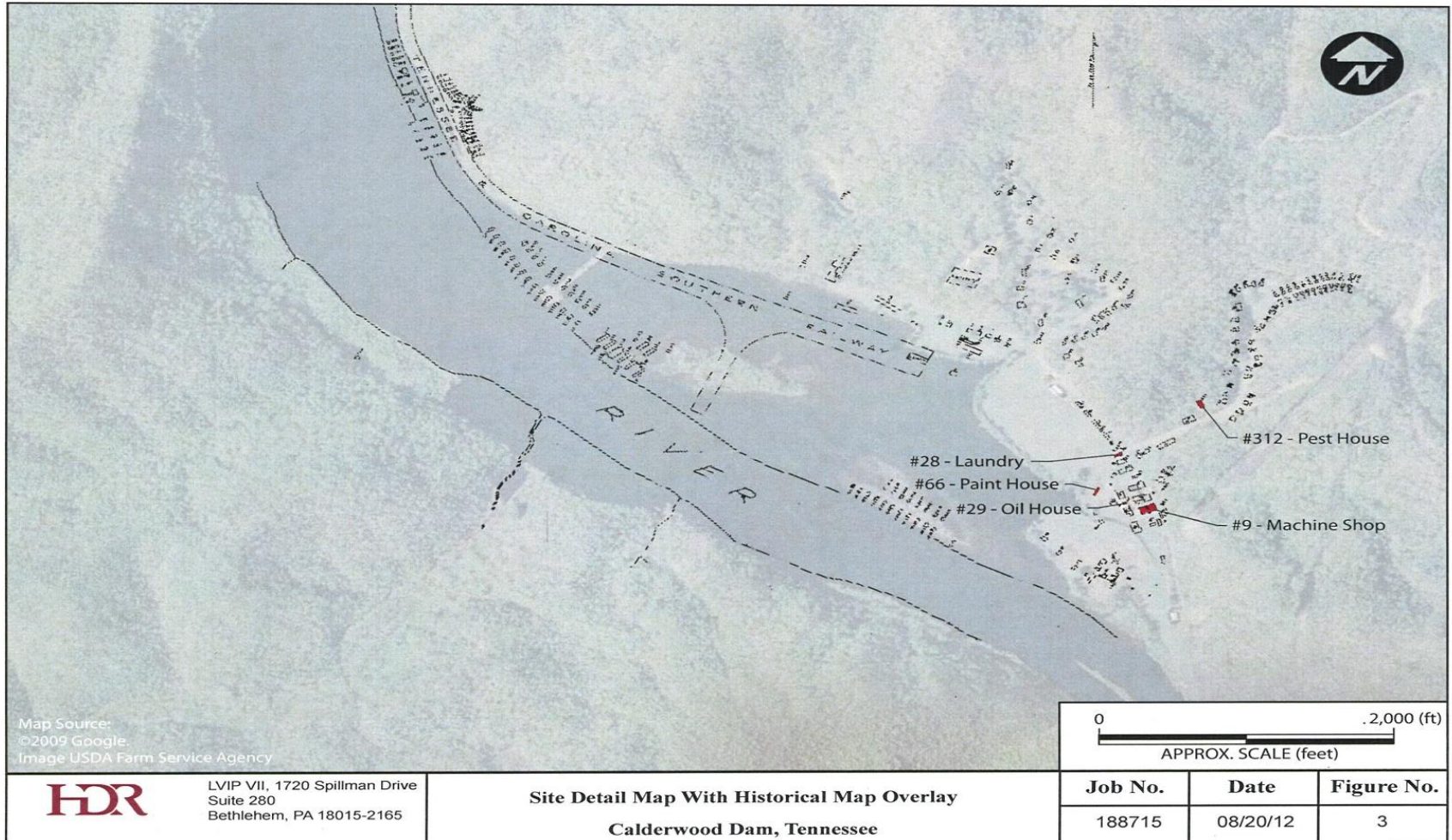


Common areas
Old Timers
Union Halls
Interview with
KNOWLEDGE!

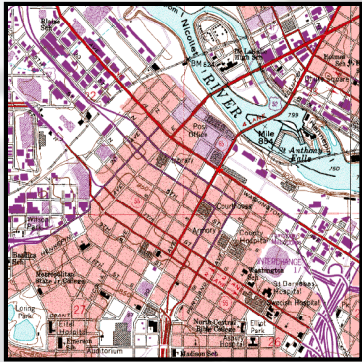




Calderwood Village



Architecture





- Floor Drains, Sumps, Pits, Vats, Drums



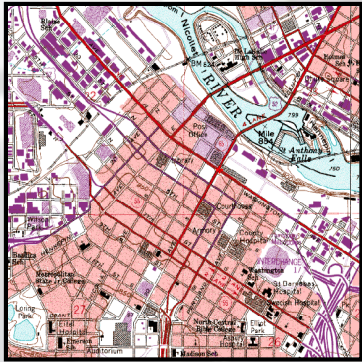
Storage areas, warehouses, solid wastes

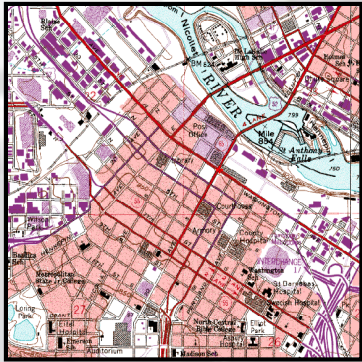


Site processes, vents, blow down areas, changes in pavement

Nuts and Bolts: The Art of the Interview

- ❑ The OFN - A vanishing resource
- ❑ Approaching an interviewee
- ❑ Gleaning useful information vs. shooting the breeze
- ❑ The importance of cross-referencing
- ❑ Limiting who you should interview and what you can reveal about your project
- ❑ Avoid the clipboard!



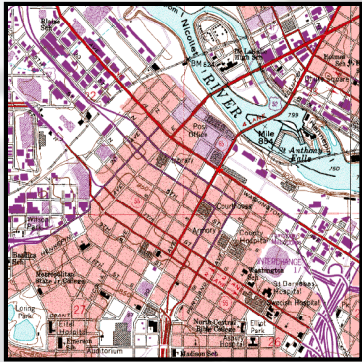


El&M– Before the Phase I

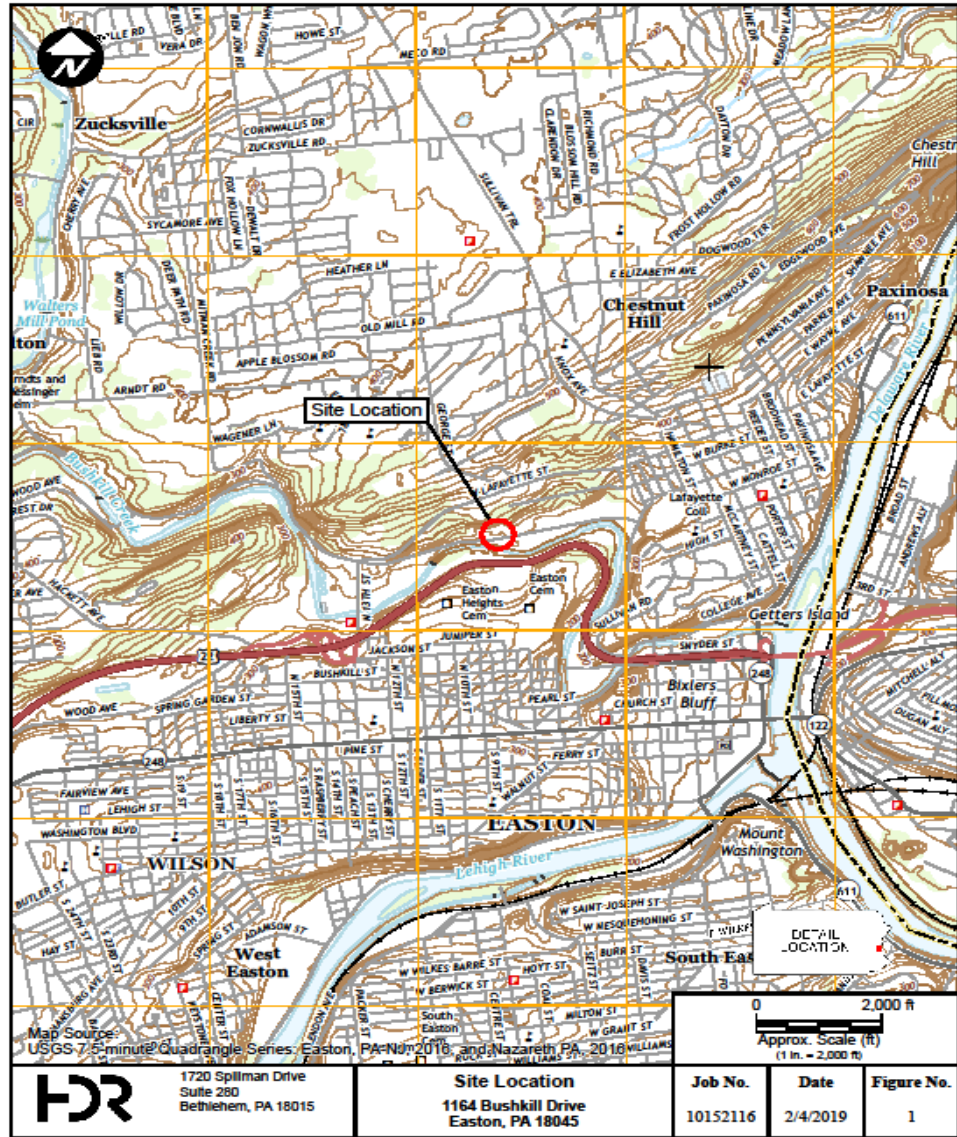
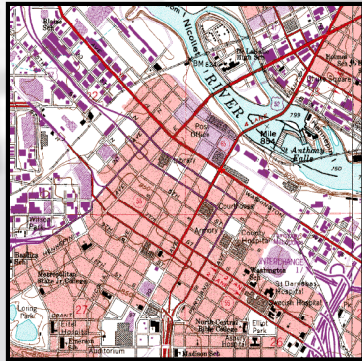
- ❑ Site is being evaluated by the City of Easton as part of a larger project. The site is part of a larger planning corridor train system.
- ❑ Client was LVLRI using a grant from USEPA/ to assist in identifying environmental concerns prior to purchase, Due diligence.
- ❑ Planning corridor, nature walk, community improvement.
- ❑ Schedule for Phase I & potential Phase II work is ASAP.
- ❑ Site is inactive.



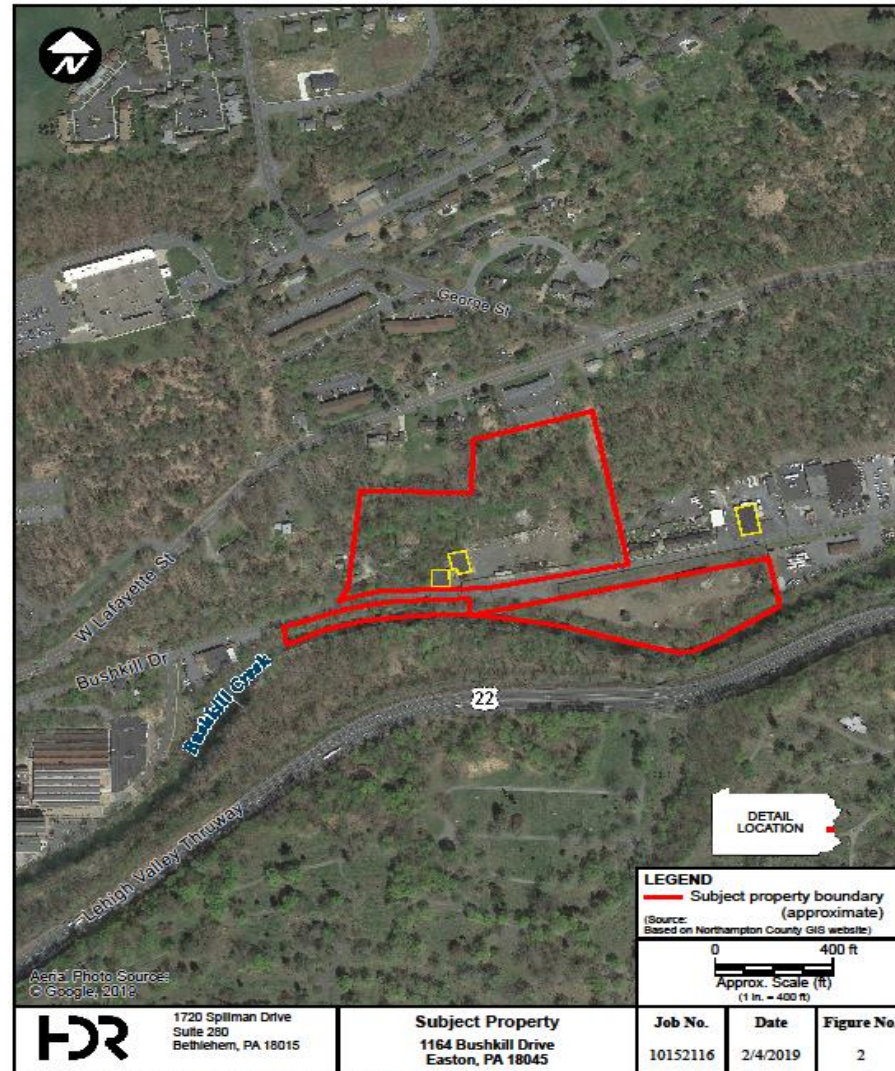
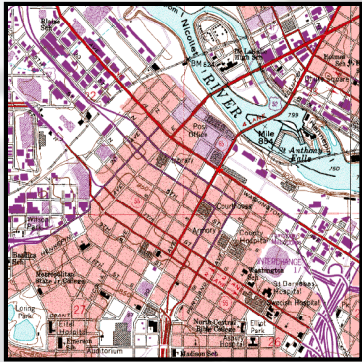
Easton Iron and Metal



Research-Site Location

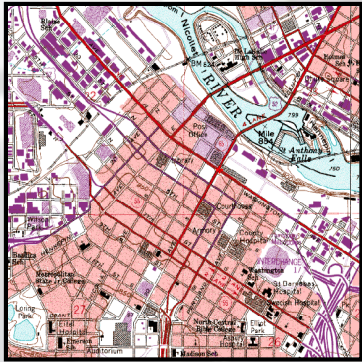


Research –Subject Property Boundaries



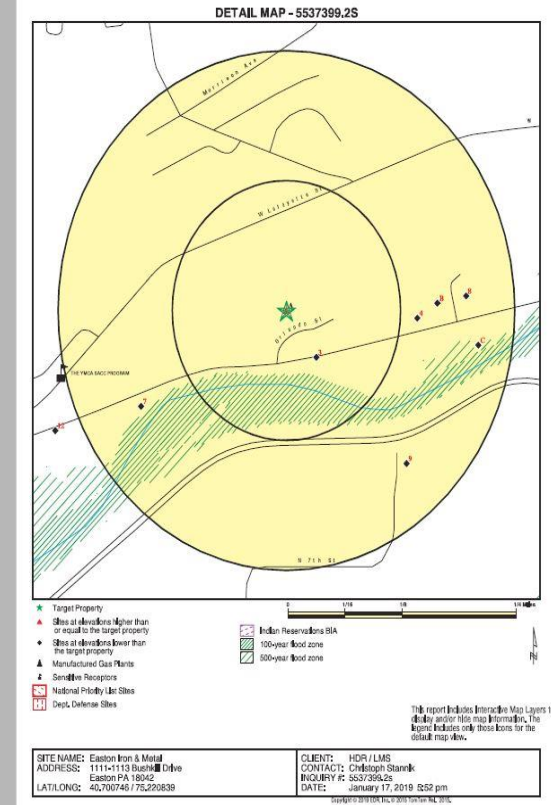
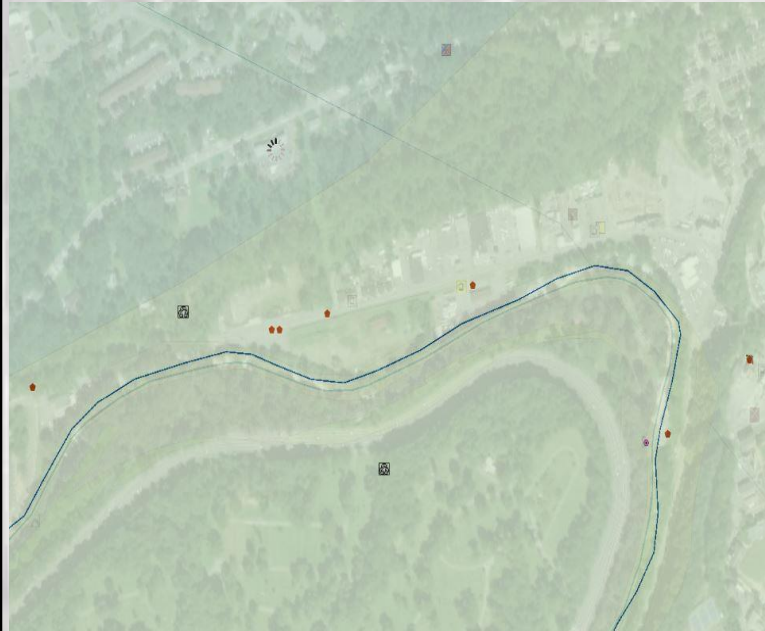
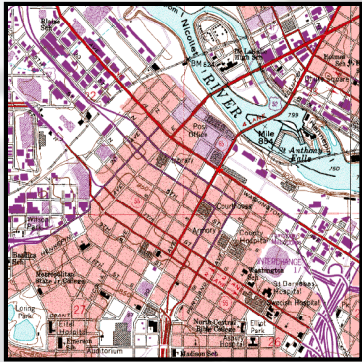
Research-Site Location

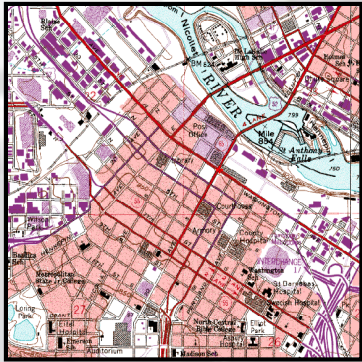
- ☐ Topography
- ☐ Setting (urban, rural)
- ☐ Surface Water/Sediments
- ☐ Active, Inactive
- ☐ Public Water and Sewer?
- ☐ Exposure Routes
- ☐ Geology
- ☐ Hydrogeology



Research-Government Records

EDR Radius Reports/ EMAP PA





Historical Document Review

- “Ensure that a continuous record of land uses is assembled to create a comprehensive review of the potential for releases of hazardous substances at the property.” (ASTM)
 - To first developed use of the site or 1940, whichever is earlier



Do your Research!

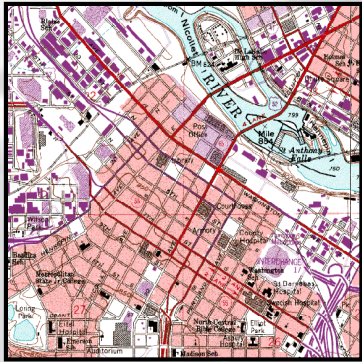
❑ Research Tools & Sources

❑ Convenience: New Technology

- Internet, GIS, research companies, etc.

❑ Roll Up Your Sleeves: Old School Sources

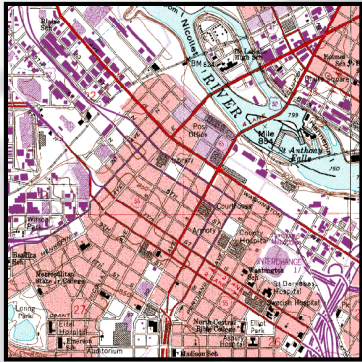
- Libraries, government offices, farmer Bill



Interviews

□ John - Grandson of original owner

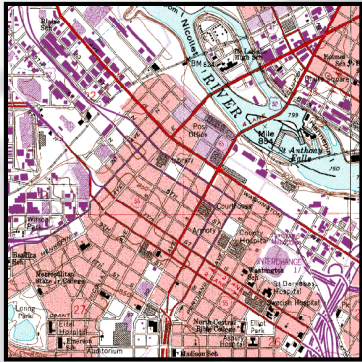
- Worked at the project facility from 1970 to 1980 when it closed.
- Note the dates that this person worked at the facility. What does it tell you?



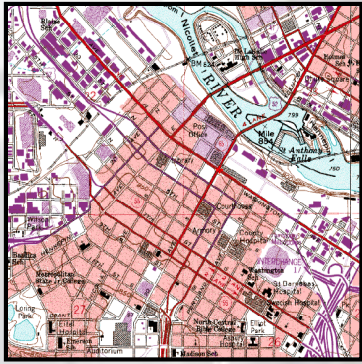
Site Reconnaissance

□ What To Look For?

- Use your Research as a guide!
 - Tanks/Vent Pipes
 - Railroad
 - Foundations
 - Pavement Cuts
 - Stressed Vegetation
 - Depressions or Mounds
 - Sumps
 - Stains
 - Body Language of your escort
 - Many others!
- Look under/over and in between
- NOTE THINGS YOU CANT GET TO!



Looks Can be Deceiving!



As they appear now may not be as they were in the past.
Take your research with you!