

RECENT UPDATES TO ASTM E1527-21

Phase I Environmental Site Assessment
Standard Practice

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What is a Phase I Environmental Site Assessment (ESA)?

- The first ASTM Phase I ESA standard was issued in 1993 – and was referred to as ASTM E1527-93. This standard focused on what the minimum information sources to be reviewed should include and what a “site inspection” had to entail
- The ASTM E1527 Standard has been updated multiple times since – 1997, 2000, 2005, 2013, and 2021
- Conducted on commercial properties
- Identify Recognized Environmental Conditions (RECs)
- Determine environmental risk
- Limit liability
- All Appropriate Inquiry (AAI)

All Appropriate Inquiry (AAI)

- The AAI obligation originated from the CERCLA or "Superfund" law of 1980 and was refined by several later laws:
 - Superfund Amendment and Reauthorization Act (SARA) in 1986
 - Asset Conservation, Lender Liability and Deposit Insurance Protection Act in 1996
 - Small Business Liability Relief and Brownfields Revitalization Act ("Brownfields Amendments") in 2002.
- The AAI final rule was published in the Federal Register on November 1, 2005 (70 FR 66070) and went into effect on November 1, 2006.

All Appropriate Inquiry (AAI)

- The All Appropriate Inquiry or "AAI," is defined by ASTM and EPA (through CERCLA) as the process of conducting inquiry:
 - "into the previous ownership and uses of the subject property consistent with good commercial or customary practice..."
 - that will qualify a party to a commercial real estate transaction for one of the threshold criteria for satisfying the landowner liability protections to CERCLA liability...
 - and assuming compliance with other elements of the defense."

Persons Subject to AAI

- Commercial and government entities purchasing property, and all individuals purchasing property for non-residential use, who may, after purchasing a property, seek protection from CERCLA liability for releases or threatened releases of hazardous substances.
- Any party who receives a Brownfields grant awarded under CERCLA Section 104(k)(2)(B) and uses the grant to conduct site characterization or assessment activities.

Timing of New Standard ASTM E1527-21

- On December 15, 2022, the United States Environmental Protection Agency (EPA) published a notice of a Final Rule approving the use of the new ASTM International standard.
- The new Standard, known as “E1527-21-Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (Standard) became active on February 13, 2023.
- The new Standard replaced the prior ASTM E1527-13 approved in 2013.
- The old Standard may still be used but will be phased out on February 13, 2024, after which ASTM E1527-21 will be the only standard for conducting a Phase I ESA.

Old definition of “REC” and the related term “Likely”

Under the ASTM E1527-13 Standard, the definition of a REC included the term “likely”

“the presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to a 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.”

The use of this term created confusion among environmental professionals (EPs) and consultants.

New definition of “REC” and the related term “Likely”

Under the new ASTM E1527-21 Standard, a revised definition is provided for a REC where the term “likely” is only used when describing one instance where a REC is found:

“(1) the presence of hazardous substances or petroleum products in, on or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on or at the subject property under conditions that pose a material threat of a future release to the environment.”

New definition of “REC” and the related term “Likely”

The new E1527-21 standard clarifies that the term “likely” means a condition “which is neither certain nor proved, but can be expected or believed by a reasonable observer based on the logic and/or experience of the environmental professional, and/or available evidence, as stated in the report to support the opinions given.”

New definition of an historical REC (HREC)

An HREC is defined in the new Standard as “a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities, without subjecting the property to any controls (for example activity and use limitations, or other property use limitations).”

The Standard further requires EPs to evaluate any past closures of a contaminated site and the environmental assessment data associated with such closure to confirm that the assessment meets the current standards for unrestricted use.

Newly defined REC – Controlled REC (CREC)

An CREC is defined in the new Standard as “a recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of controls (for example, activity and use limitations or other property use limitations).”

REC Guidance – REC vs. HREC vs. CREC

- The new Standard includes specific definitions and a flow chart in Appendix X4 for use in assisting the EP to classify property conditions as a REC, HREC or a CREC.
- Although this guidance will not eliminate all variability related to these determinations, the intent is to create more consistency among EPs when classifying a property condition in a Phase I ESA.

Figure X4.1 – Simplified REC Guidance

Simplified REC Logic ASTM E1527-21 Phase I Environmental Site Assessment

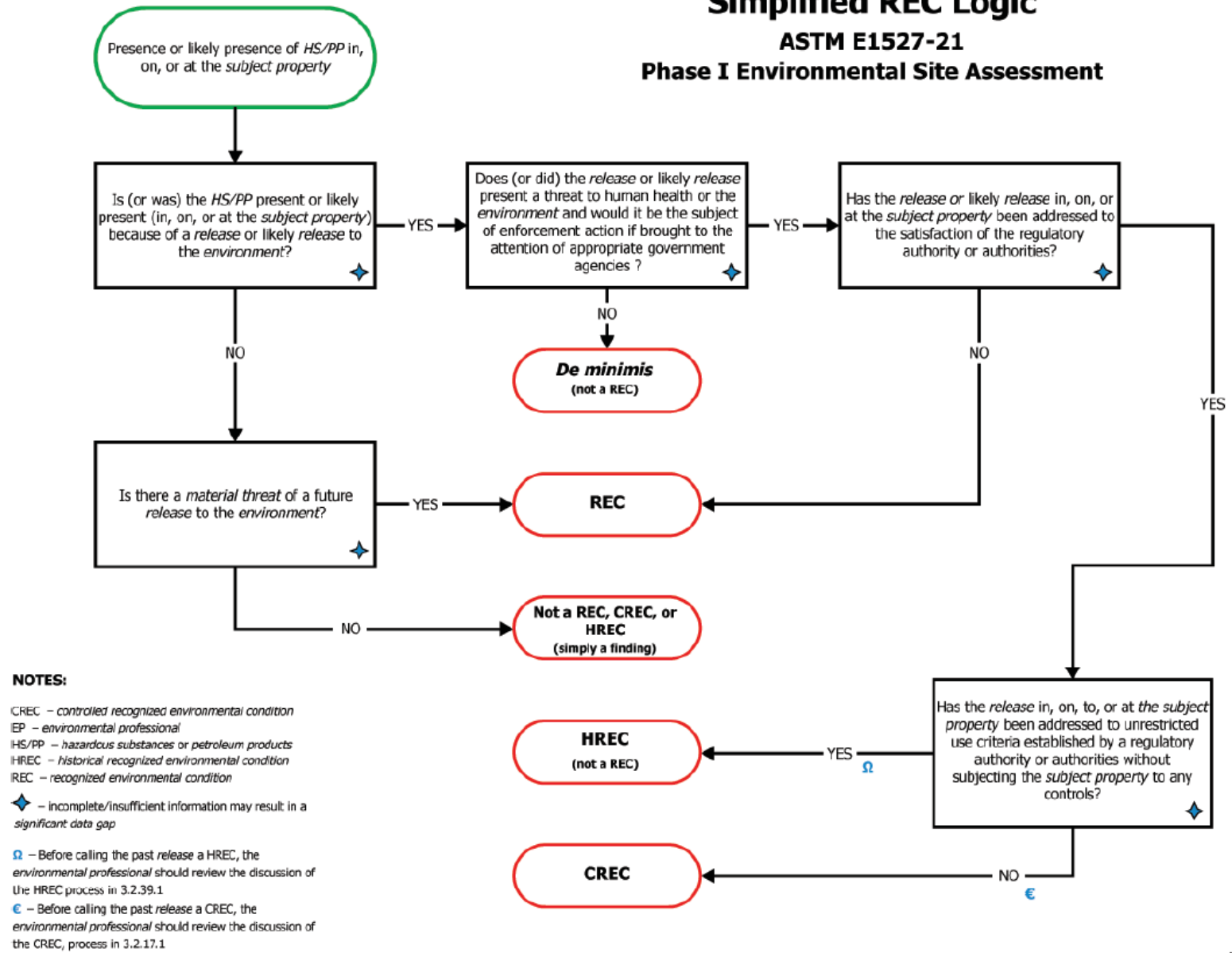


FIG. X4.1 Simplified REC Logic

August 30, 2021

“Subject Property”

- The new Standard recommends that the EP use the term “Subject Property” consistently throughout the Phase I ESA report when referencing the tract or property being evaluated for the Phase I ESA.

How long is a Phase I ESA valid?

- The new Standard provides that a Phase I ESA must be completed no more than 180 days prior to the date of acquisition to remain viable or up to one year if five specific components of the Phase I ESA have been updated, specifically the (i) interviews; (ii) searches for recorded environmental cleanup liens; (iii) review of government records; (iv) site reconnaissance of the subject property; and (v) the EP Declaration.
- Further, the new Standard requires that the Phase I ESA identify the dates on which each component was completed and further provides that the 180-day or one year time period commences on the date when the first of these components were completed.

Title Searches

- The new standard requires the user of the Phase I ESA perform the environmental lien and activity use limitation searches and clarifies that these searches are not to be performed by the EP unless specifically contracted for in their engagement with the user.
- Specifically, the user must search for “land title records,” which includes, but is not limited to “deeds, mortgages, leases, land contracts, court orders, easements, liens, and activity and use limitations (AULs)” that could be located “within the recording systems or land registration systems created by state statute in every state and ordinarily administered in the local jurisdiction.”

Standard Historical Sources

- The new Standard requires that the EP review a minimum of four historical sources related to the subject property and adjoining properties. This includes properties with abutting property lines, and any properties that are across the street or across an alley from the subject property.
- If any of the four required sources cannot be reviewed, or are unavailable, the Phase I ESA should include a statement explaining why the source could not be reviewed.
- These include historic topographic maps (USGS), historic aerial photos (USDA, USGS), Sanborn Fire Insurance maps, and city directories (R.L. Polk & Company).

Standard Historical Sources – USGS Topographic Maps



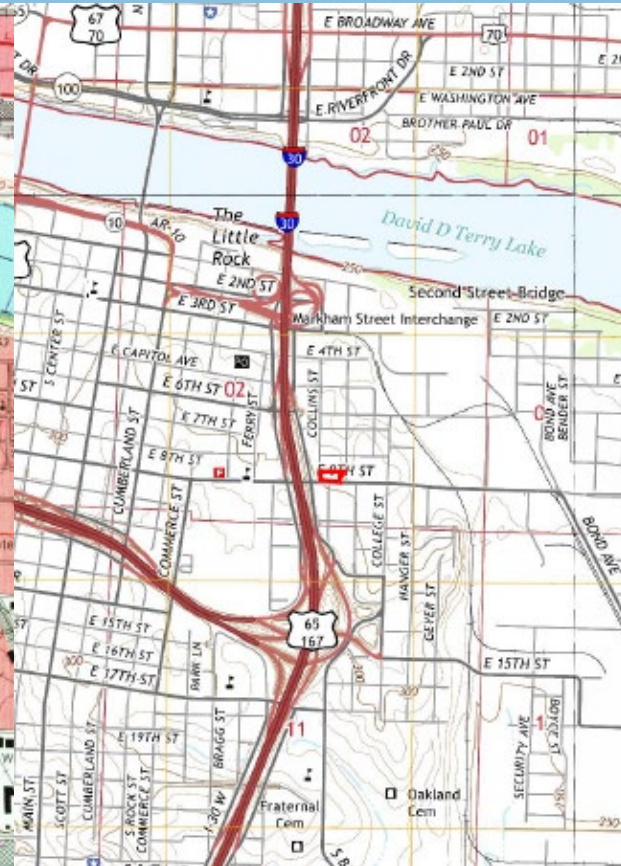
1891



1935



1970



2014

Standard Historical Sources – Historic Aerial Photos



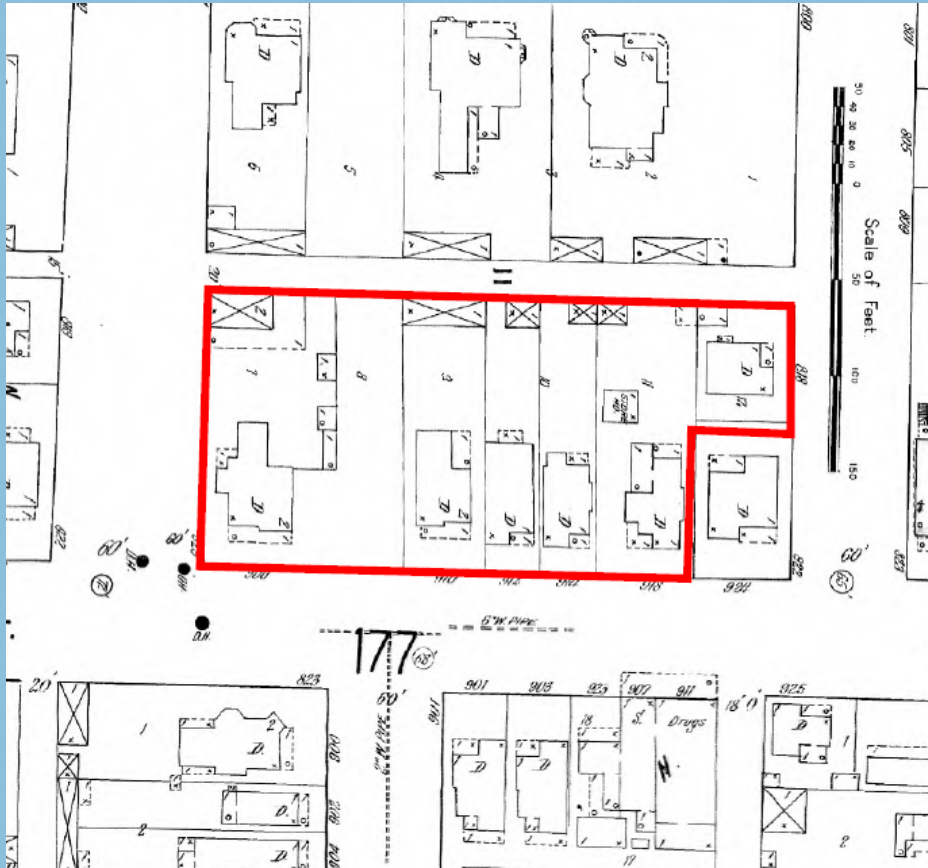
1937

1960

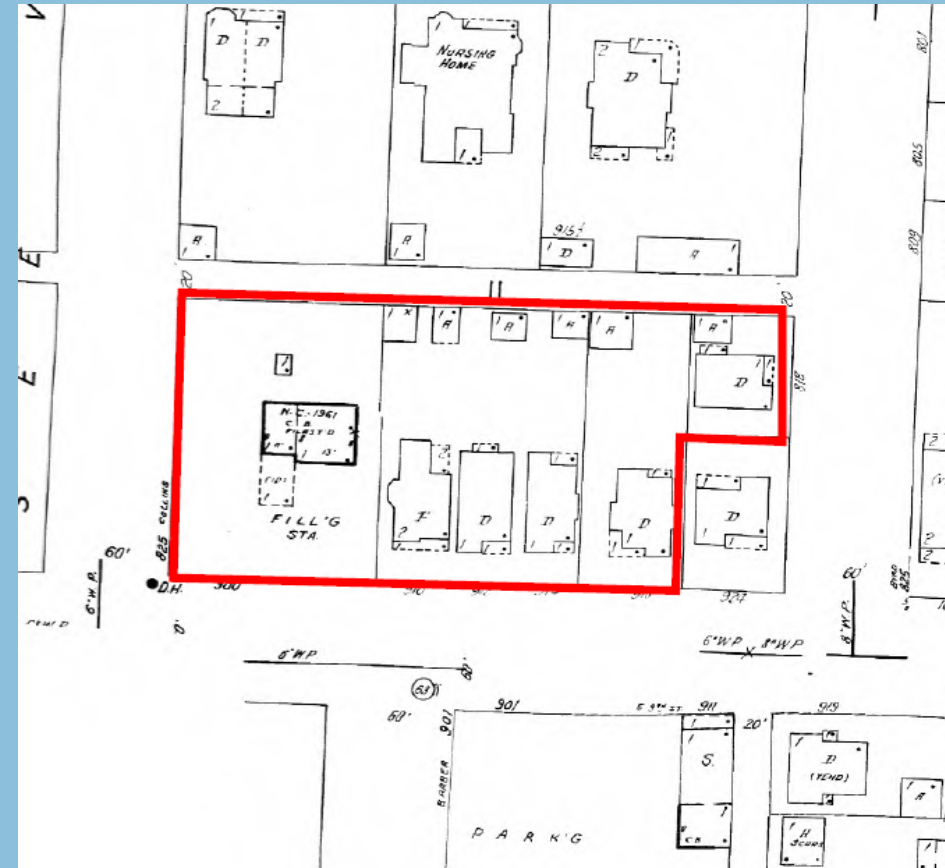
1970

2017

Standard Historical Sources – Sanborn Maps

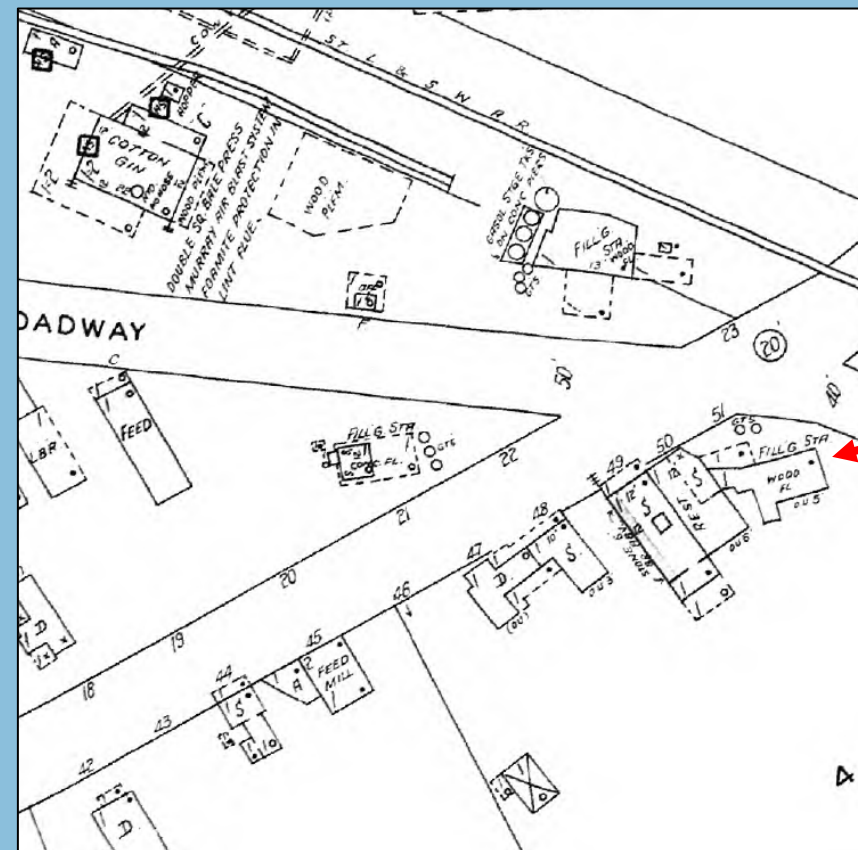
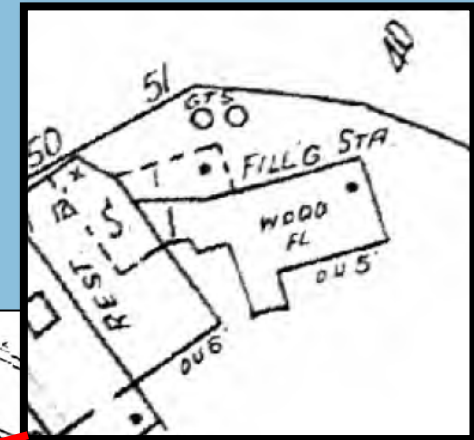


1913

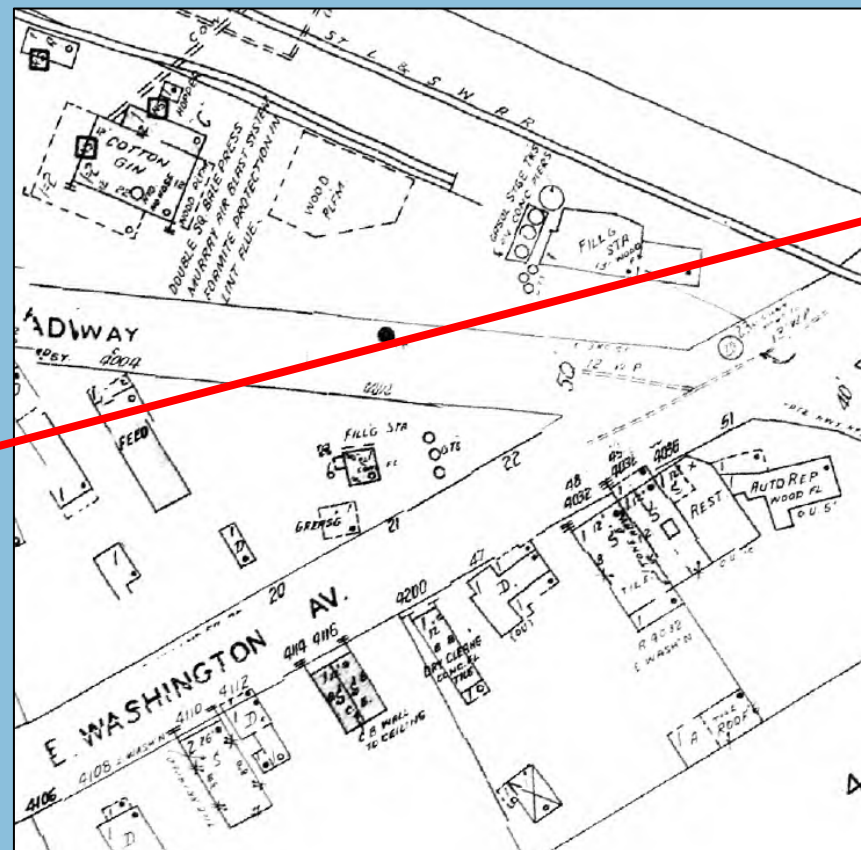


1963

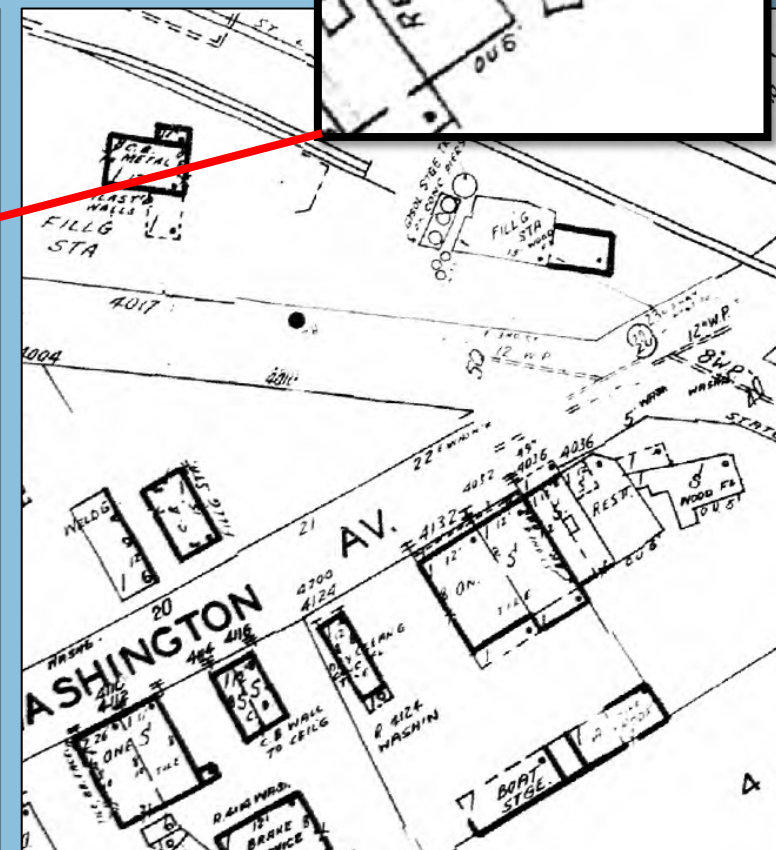
Standard Historical Sources – Sanborn Maps



1939



1950



1963

Standard Historical Sources – City Directories

820△Imbery John C ◎
 822△Stokes Lorene
 824 No Return
 Collins ends
 Barber av begins
 900△Baird John P ◎
 901△Lunsdon Mary Mrs ◎
 △Clark Tommie
 903△Fuller W Dell
 907△Glover Merlie L ◎
 909△McGee Bennie gro
 910△Walpole Harry
 912△Oswald Louis E
 913-15△Tedford Lea
 druggist
 914△Cope Chas C ◎
 918△Couch Arth F ◎
 919△Oliver Eug T ◎
 921△Black Sophie Mrs
 924△Durst Herman A ◎
 Byrd ends
 Welch begins
 1000△Lipe Willard E
 1002△Smith Wm K
 1004△Stegmar Otto C ◎
 △Drinkwater Alf

1949

27

---MC GOWAN BEGINS
 823 BARBER STREET ESSO
 SERVICENTER GAS STA
 FR4-7371
 DYNAMITE INC WHOL
 EXPLOSIVES FR4-7371
 824 FIRST NATL BK IN LITTLE
 ROCK (BR) FR5-6911
 ---COLLEGE ENDS
 ---BARBER AV BEGINS
 900 BILLS LION SERVICE GAS STA
 FR2-9578
 910 FULLER HARRY B FR4-7283
 910½ WILLIAMS CHESTER
 912 VACANT
 914 CRAWFORD FLOYD J ●
 FR5-1783
 915 TEDFORD DRUG STORE
 FR4-4926

1965

27

MC GOWAN BEGINS
 823 Barber Street Esso Servicenter
 372-9685
 824 First National Bank (Br) 375-6911
 COLLINS ENDS
 BARBER AV BEGINS
 900 Riley Lion Service Station gas sta
 372-8775
 912 Vacant
 914 Crawford Floyd J ◎ 375-1783
 915 Tedford Drug Co Inc 374-4926
 4915 Galusha Harry L Jr pharm
 916 Green Sophia Mrs
 919 Jinks Herbie
 921 Kelly Charley 374-2194
 924 Durst Josephine H Mrs ◎ 372-3774
 Durst Maxine M ◎
 BYRD ENDS
 WELCH BEGINS

1970

27

MC GOWAN BEGINS
 823 Barber Street Exxon Servicenter 372-9685
 824 First National Bank (Br) 371-7211
 COLLINS ENDS
 BARBER AV BEGINS
 900 Vacant
 915 Tedford Drug Co Inc 374-4926
 919 House Eliz Mrs 375-3365
 921 Clay Maggie 375-1770
 924 Durst Josephine H Mrs ◎ 372-3774
 Durst Maxine M ◎
 BYRD ENDS
 WELCH BEGINS

1980

Additional Standard Historical Sources

- The new Standard stresses the importance of providing detailed information regarding the specific historical use of the subject property even if the general historical use of the subject property is not considered to be a source of hazardous contamination.
- In such instances, the new Standard requires that additional historical sources should still be reviewed should a more specific use be reasonably ascertainable to identify applicable RECs at the subject property.
- These include but are not limited to interviews, building department records, property tax records, zoning/land use records, and past regulatory records/determinations, etc.

Interviews

- The new Standard classifies interviews as part of the Standard Historical Sources.
- Interviews were a standalone component in the previous Standard.

Significant Data Gaps

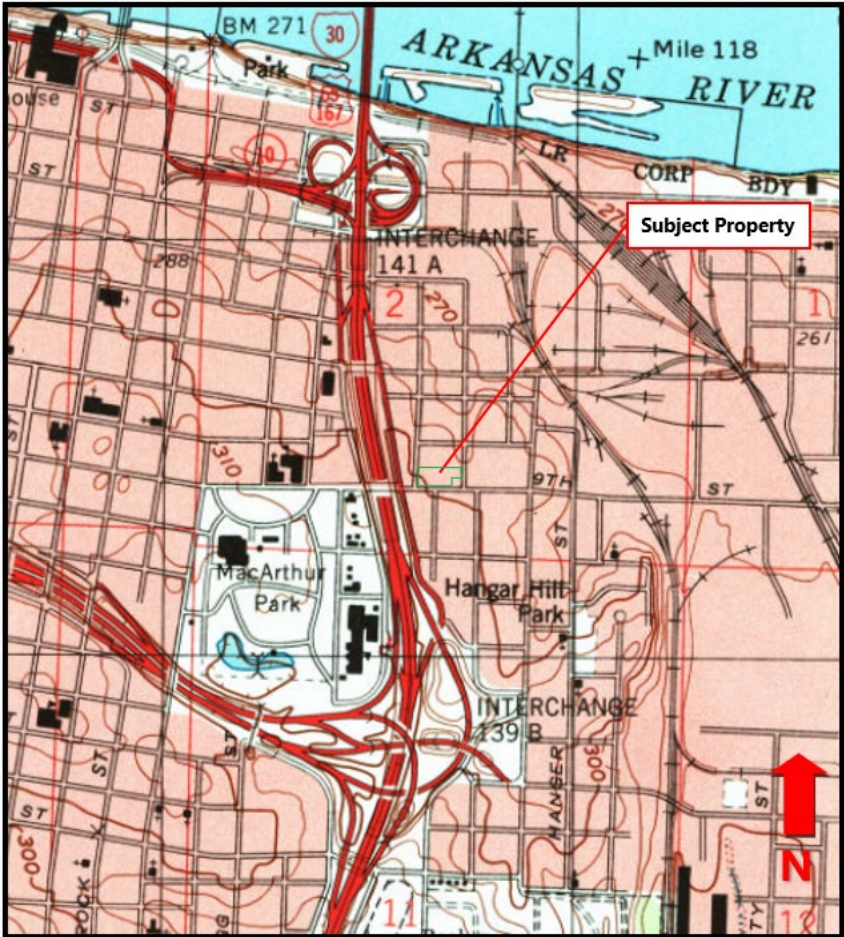
- The previous Standard required significant data gaps to be identified in the Phase I ESA but did not provide any guidance on what constituted a “significant data gap”.
- The new Standard now includes a definition for a “significant data gap” and provides that it is “a data gap that affects the ability of the environmental professional to identify a recognized environmental condition.”
- In addition, the new E1527-21 standard requires a discussion of how significant data gaps affect the environmental consultant’s ability to make conclusions regarding any RECs.

Maps and Photographs

- The new Standard now requires that a map showing the Subject Property with property boundaries identified be included in Phase I ESA the report.
- The new Standard also requires that photographs of the subject property taken during the site reconnaissance be included in the Phase I ESA the report.
- The photographs should include representative site features and locations of property conditions that are considered RECs, as well any *de minimis* conditions as defined under the new Standard.

Map Examples

Figure 3-1 –Site Location Map



Source: USGS, 1983

Figure 3-2 –Aerial Map



Source: Google Earth, 3/3/2020

Site Photo Examples



Photograph 9: View east of concrete block building on west side of subject property. This building was in use as a dry-cleaner from at least 1950 until the early 1970s.



Photograph 3: Unlabeled drums under canopy at subject property.



Photograph 17: View northeast of oil-stained asphalt near former compressor.



Photograph 55: View south/southwest of Godsey's Cleaners facility on adjacent property to the west.



Photograph 10: View northwest of concrete block building on west side of subject property.



Photograph 4: Stained soil adjacent to drums under canopy.



Photograph 18: View northeast of oil-stained asphalt near former compressor.



Photograph 56: View northwest of former filling station location on adjacent property to the northwest.

Emerging Contaminants – PFAS

- Emerging contaminants per- and polyfluoroalkyl substances (PFAS) are currently excluded from the scope of the new Standard.
- PFAS includes
 - Perfluorooctanoic acid (PFOA)
 - Perfluorooctane sulfonic acid (PFOS)
 - Perfluorononanoic acid (PFNA)
 - Hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX Chemicals)
 - Perfluorohexane sulfonic acid (PFHxS)
 - Perfluorobutane sulfonic acid (PFBS).
- On September 8, 2022, the EPA issued a proposed rule to designate PFOA and PFOS as hazardous substances under CERCLA.
- Until the rule is adopted and PFAS are added to the hazardous substances list, the EP may choose to include review of emerging contaminants as a non-scope consideration similar to asbestos, lead-based paint and radon.

Traditional Non-Scope Considerations

- Radon
- Asbestos
- Lead-based paint
- Soil and groundwater sampling
- Stream/wetland delineation

Questions?

