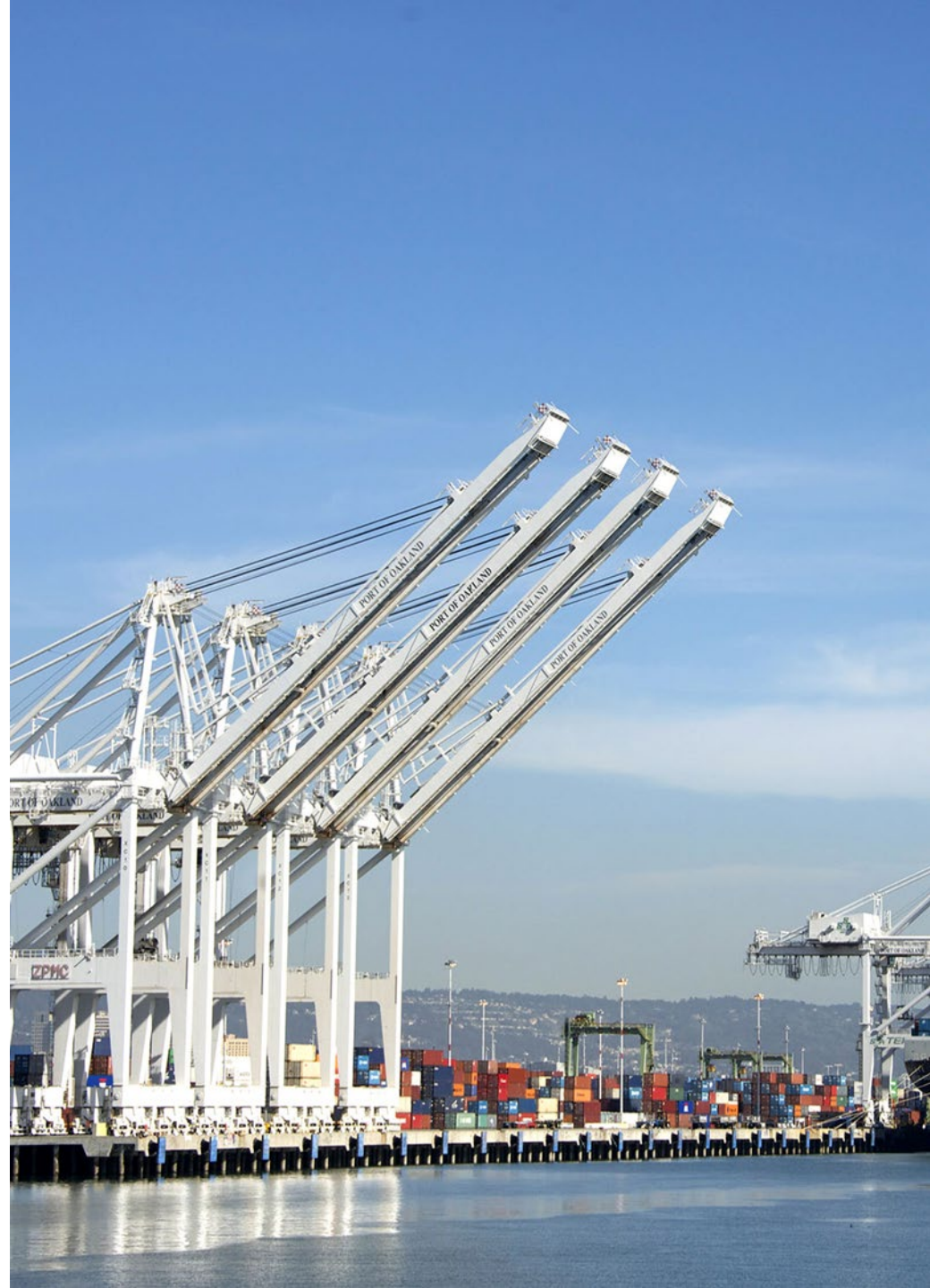


2021 ASTM STANDARD E1527 UPDATE: PHASE 1 ESA PROCESS

Presented by:

Scott Bourne, PE
Mary Cunningham, PE
Kylie Cush, PG



PRESENTATION OVERVIEW

- Introduction to CDIM
- Overview of Phase 1 ESAs
- 2013 vs. 2021 ASTM Standard
 - Highlight Key Changes
- Takeaway Message

CDIM SERVICES

We provide environmental engineering services and solutions to reduce environmental risk for construction, development, industrial, and municipal (CDIM) clients.

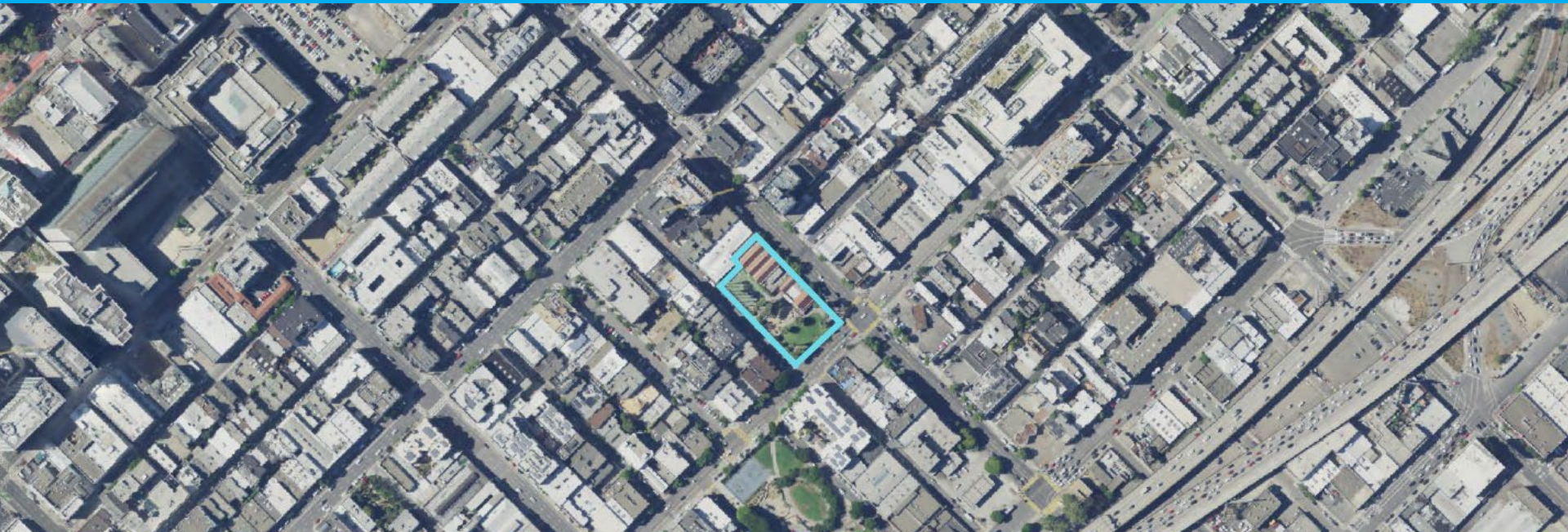
CDIM's expert-level services include:

- Contaminated sediment, soil, and groundwater services
- Regulatory compliance and permitting
- Water quality engineering, with emphasis on storm water
- Site civil engineering including grading, drainage and utilities



OBJECTIVE

Understand the differences between the 2013
and 2021 ASTM Standards for Phase 1 ESAs



OVERVIEW OF PHASE 1 REQUIREMENTS

DEFINITIONS

Recognized Environmental Condition (REC)

Presence or likely presence of hazardous substances or petroleum products

Controlled Recognized Environmental Condition (CREC)

Past release of hazardous substances or petroleum products with residual contamination in place, which is “controlled” (e.g., activity/use limitations)

Historic Recognized Environmental Condition (HREC)

Past release of hazardous substances or petroleum products, which has been remedied to allow unrestricted use.

De minimis Condition

Condition that does not present a threat to human health or the environment and would not be subject to government enforcement action.

User

The party seeking to use ASTM Standard Practice E1527-13 to complete an ESA of the property. User responsibilities are described in E1527-13.

PHASE 1: REGULATIONS AND STANDARDS



EPA promulgated an all-appropriate inquiries (AAI) Rule under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), effective November 2006

- AAI: is process of evaluating a property's environmental conditions and assessing potential liability for any contamination
- Requires inquiries into the previous ownership and uses of the subject property consistent with good commercial and customary practice
- Required to obtain protection from certain liabilities under CERCLA



ASTM Standard Practice E1527-13 (current)

- Originally issued in 1993 & updated every 8 years
- EPA approved the ASTM Standard Practice E1527-13 for compliance with the provisions of the AAI rule

PHASE 1: PURPOSE

- Document prior land uses for a Site.
- Identify potential RECs.
- Assess conditions of environmental liability that may exist at a Site.



PHASE 1: BASIC COMPONENTS

1. Records Review

2. Interviews

3. Site Visit

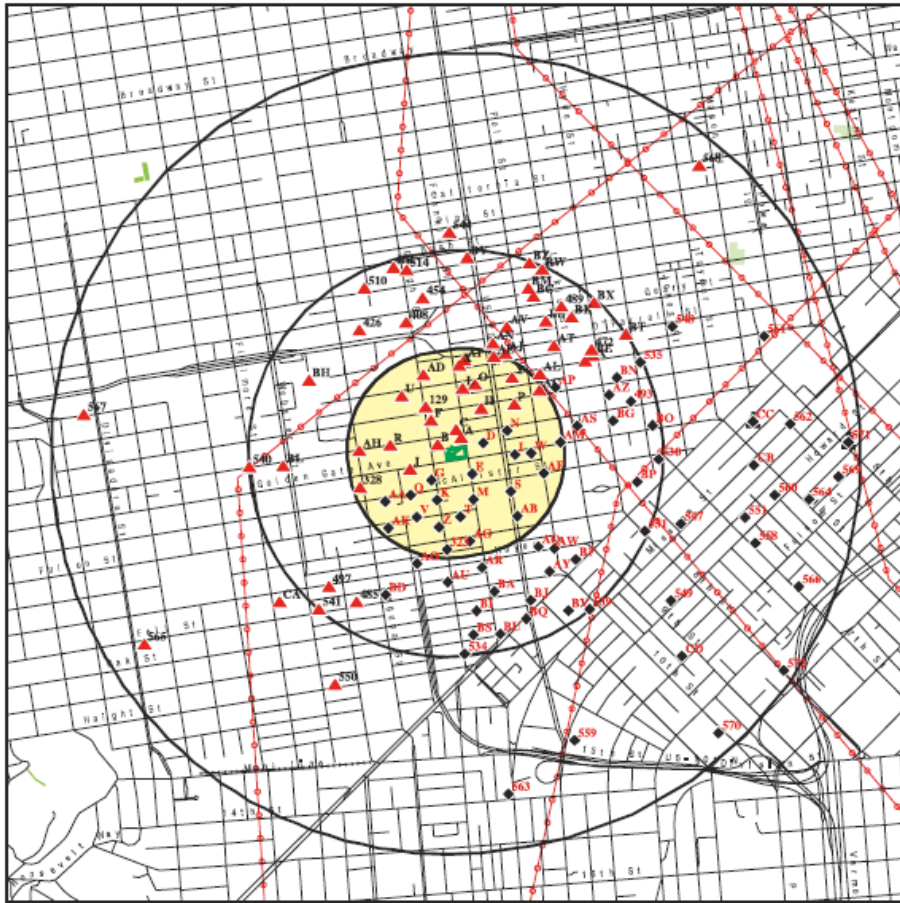
4. Report

- Key Site Documents
- Title, Lien, and Activity/Use Limitations
- Environmental Database Search (EDR and Regulatory Agency Websites)
- Review of Historical Records (EDR)



DATABASE SEARCH

OVERVIEW MAP - 6719179.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Lots 2-6, APN 0761-002/003/022/062
 ADDRESS: 758 GOLDEN GATE AVE
 SAN FRANCISCO CA 94102
 LAT/LONG: 37.78098 / 122.422859

CLIENT: CDIM Engineering, Inc.
 CONTACT: Mary Cunningham
 INQUIRY #: 6719179.2s
 DATE: October 25, 2021 5:57 pm

Copyright © 2021 EDR, Inc. © 2016 Envirostor, LLC

EDR Radius Map™ Report

MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|-------------------------|-----------------|-------|-----------|-----------|---------|-----|---------------|
| STANDARD ENVIRONMENTAL RECORDS | | | | | | | | |
| Federal NPL site list | | | | | | | | |
| NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Proposed NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| NPL LIENS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Federal Delisted NPL site list | | | | | | | | |
| Delisted NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Federal CERCLIS list | | | | | | | | |
| FEDERAL FACILITY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SEMS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Federal CERCLIS NFRAP site list | | | | | | | | |
| SEMS-ARCHIVE | 0.500 | | 0 | 1 | 0 | NR | NR | 1 |
| Federal RCRA CORRACTS facilities list | | | | | | | | |
| CORRACTS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Federal RCRA non-CORRACTS TSD facilities list | | | | | | | | |
| RCRA-TSDF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Federal RCRA generators list | | | | | | | | |
| RCRA-LQG | 0.250 | | 3 | 0 | NR | NR | NR | 3 |
| RCRA-SQG | 0.250 | | 3 | 12 | NR | NR | NR | 15 |
| RCRA-VSQG | 0.250 | | 0 | 1 | NR | NR | NR | 1 |
| Federal institutional controls / engineering controls registries | | | | | | | | |
| LUCIS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US ENG CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |

Regulatory data management system websites

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER

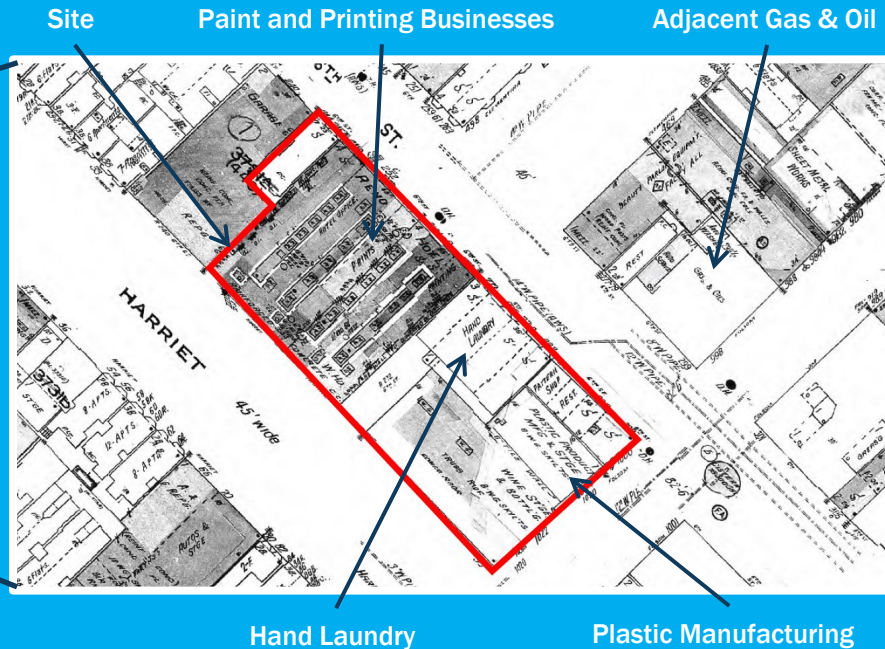
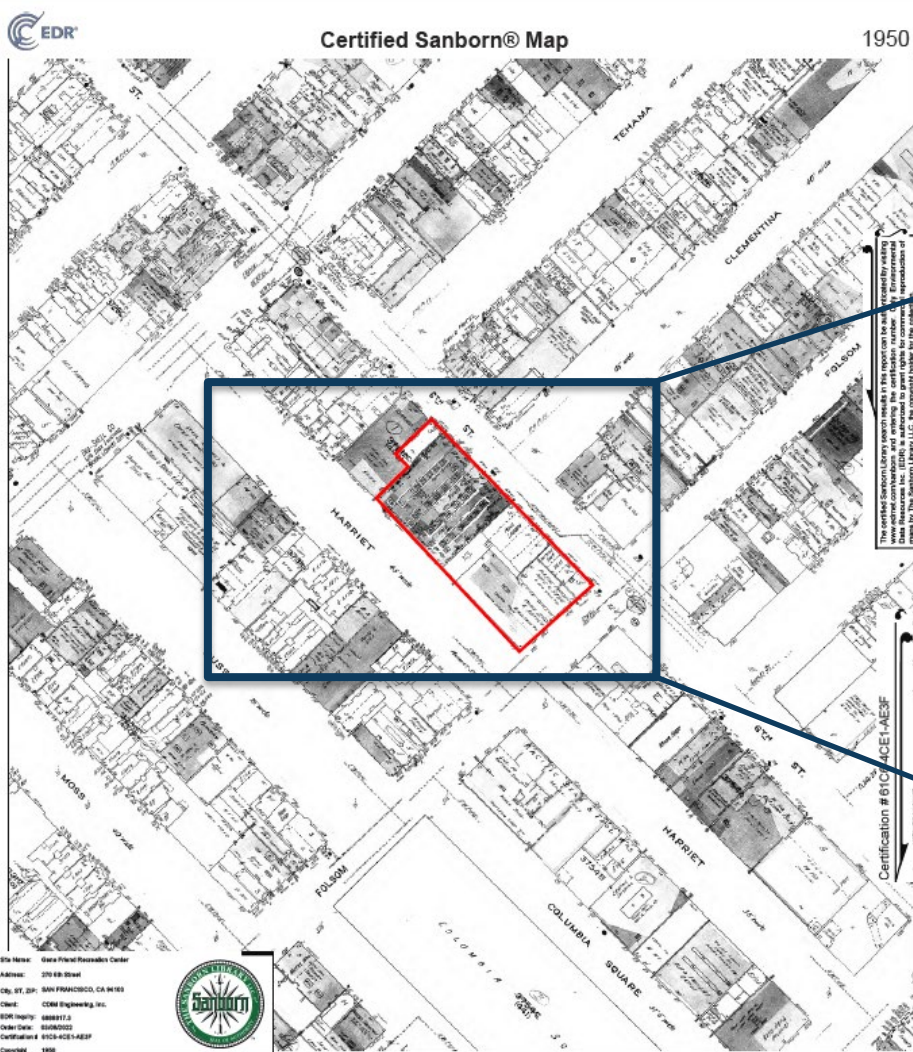
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
ENVIROSTOR

HISTORICAL RECORDS - AERIALS



Historical Aerial Photographs:
Past uses of Site and local vicinity

HISTORICAL RECORDS - SANBORNS



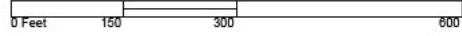
Site Name: Gera Fibers Research Center
 Address: 200 8th Street
 City, St, Zip: SAN FRANCISCO, CA 94103
 Client: CEM Engineering, Inc.
 SDR Number: 888817.3
 Order Date: 8/26/2013
 Certification: 0103-AE3F-AE3F
 Copyright: 1998



This Certified Sanborn Map combines the following sheets.
 Outlined areas indicate map sheets within the collection.



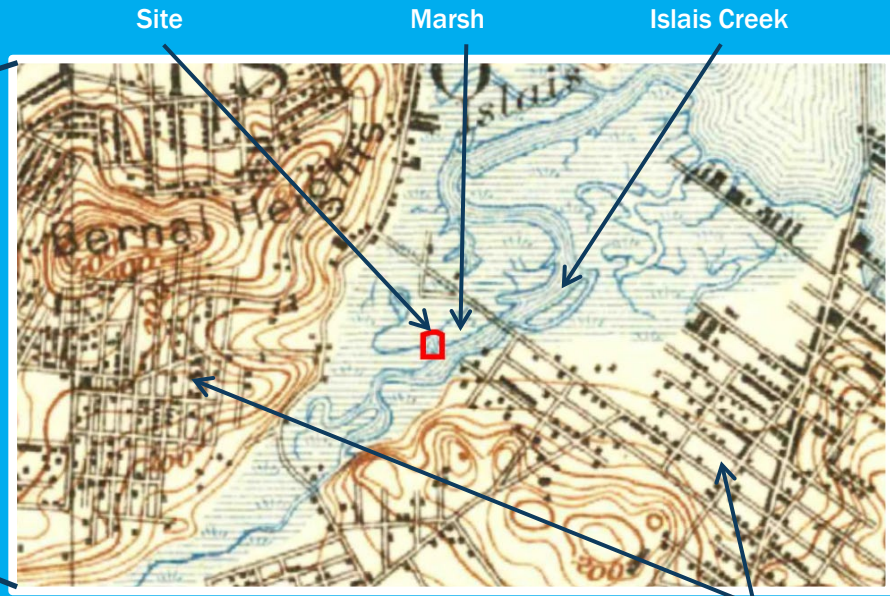
Volume 2, Sheet 172
 Volume 2, Sheet 171
 Volume 2, Sheet 164
 Volume 2, Sheet 163
 Volume 2, Sheet xxx
 Volume 1, Sheet xxx



Sanborn Maps:
 Past uses of Site and local vicinity
 & potential storage tanks

HISTORICAL RECORDS – TOPOS

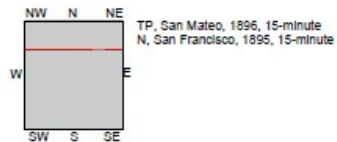
EDR® Historical Topo Map 1895, 1896



Developed Areas

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



SITE NAME: 175 To 211 Industrial Street
ADDRESS: 175 To 211 Industrial Street
San Francisco, CA 94124
CLIENT: CDIM Engineering, Inc.



Historical Topographic Maps:
Past uses of Site and local vicinity

PHASE 1: BASIC COMPONENTS

1. Records Review
2. Interviews
3. Site Visit
4. Report

- Document information provided by individuals that may have knowledge related to hazardous materials use or release at the Site (past/present owners/operators and local/state government officials)
- User should communicate specialized knowledge prior to Site visit
- User Questionnaire provided in E1527-13

PHASE 1: BASIC COMPONENTS

1. Records Review
2. Interviews
- 3. Site Visit**
4. Report

- Site reconnaissance
- Visual/physical observations of Site and surrounding properties:
 - Inspect entire site, including interior of structures
 - Look for signs of USTs/ASTs
 - View property from public throughfares
- Obtain information to assist with identifying potential RECs

SITE VISIT



Environmental Science & Engineering
Construction • Development • Industrial • Municipal

45 Polk Street, 3rd Floor • San Francisco, California 94102 • 415.498.0535 • cdimengineering.com

SITE RECONNAISSANCE FORM

Date/Time of Visit:

Person completing form:

CDIM persons present:

Other persons present:

Summary:

Did you observe the property and any structure on the property (to the extent feasible)?

How did you access the property?

What methodology did you use to inspect the (grid, pattern, other systematic approach etc?)

Did you inspect the exterior of the property?

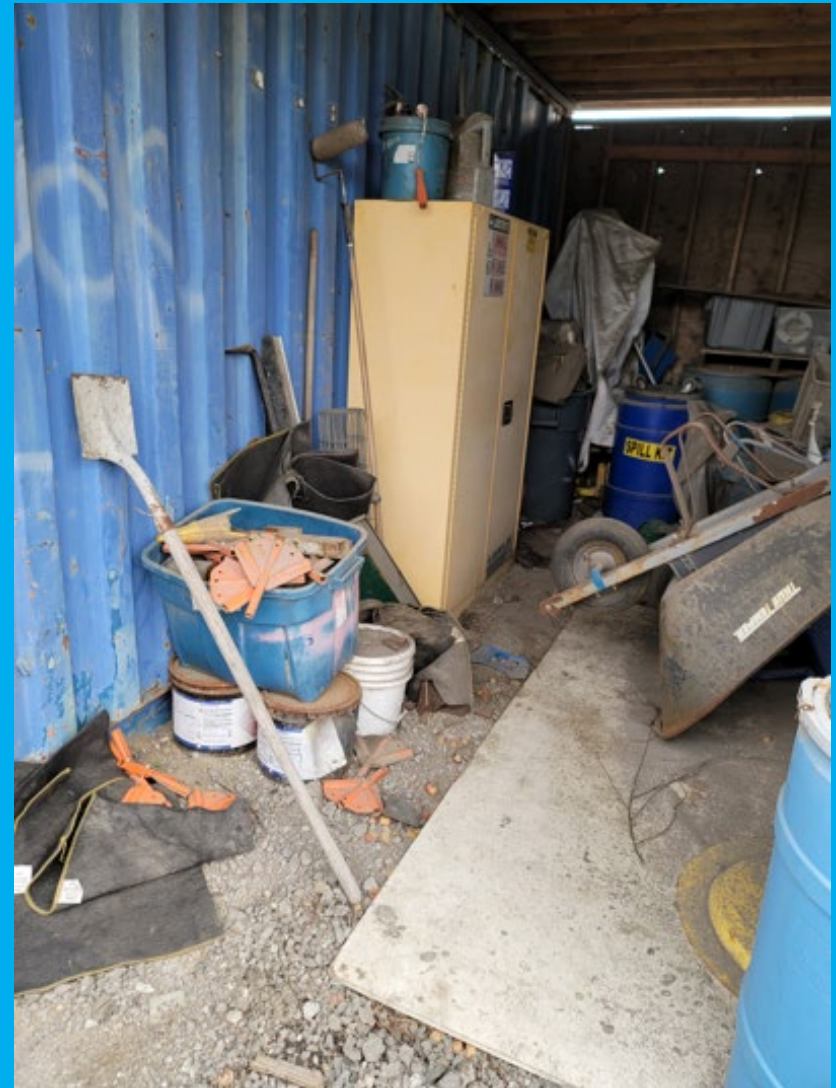
Did you inspect the interior of the property?

The periphery of all structures?

Did you view the property from all adjacent public thoroughfares?

Did you observed any roads or paths with no apparent outlet to determine if it was used for disposal of HW or TPHs?

What is the current usage?



CDIM checklist

SITE VISIT

Inspection of Site perimeter



View from public thoroughfares

PHASE 1: BASIC COMPONENTS

1. Records Review
2. Interviews
3. Site Visit
4. **Report**

- Summarizes records review, interviews, site reconnaissance, and findings
- Findings section: includes environmental professional's opinion on known or suspected RECs, CRECs, HRECs, and *de minimis* conditions.
- E1527-13 provides a recommended table of contents and report format.

GENERAL REPORT OUTLINE

1. EXECUTIVE SUMMARY
2. INTRODUCTION
3. SITE DESCRIPTION
4. USER PROVIDED INFORMATION
5. RECORDS REVIEW
6. SITE VISIT
7. INTERVIEWS
8. FINDINGS AND OPINIONS
9. NON-SCOPE SERVICES
10. REFERENCES
11. TABLES, FIGURES, APPENDICES

PHASE 1 STANDARD 2013 VS 2021

INTRODUCTION TO E1527-21



Designation: E1527 – 21

Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process¹

This standard is issued under the fixed designation E1527; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

ASTM International published
E1527-21 on **November 16, 2021.**

Intended to clarify term
definitions, improve report
consistency, and streamline
decision-making.

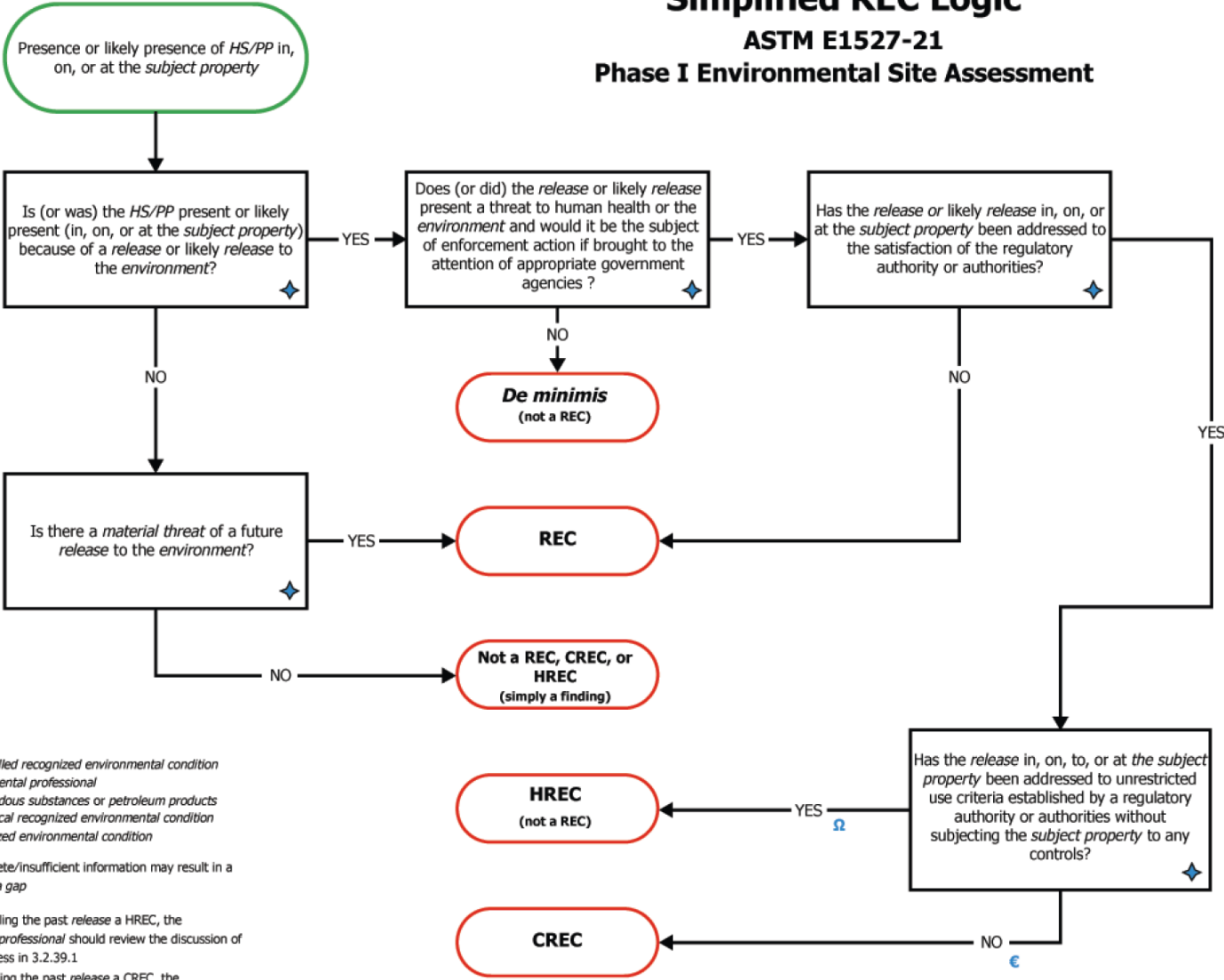
TERMINOLOGY UPDATES

| Term | ASTM E1527-13 | ASTM E1527-21 |
|-------------------------|--|--|
| REC | Presence or likely presence of hazardous substances or petroleum products. | Clarified meaning of “likely.” New Appendix: REC Logic flow chart. |
| CREC | Past release of hazardous substances or petroleum products, which is “controlled.” | New multi-step process for identifying CRECs. Must explain rationale in Findings and Opinions section. |
| HREC | Past release of hazardous substances or petroleum products, which has been remedied to allow unrestricted use. | New multi-step process for identifying HRECs. Must explain rationale in Findings and Opinions section. |
| Property use limitation | Not defined. | New and added to CREC definition. Property use limitations in connection with a response to a release (hazardous substances allowed to remain in place). |
| Significant data gap | Not defined. | New. A data gap that affects the ability of the environmental professional to identify a REC. Discuss in Findings and Opinions section. |

Simplified REC Logic

ASTM E1527-21

Phase I Environmental Site Assessment



NOTES:

CREC – controlled recognized environmental condition
 EP – environmental professional
 HS/PP – hazardous substances or petroleum products
 HREC – historical recognized environmental condition
 REC – recognized environmental condition

◆ – incomplete/insufficient information may result in a significant data gap

Ω – Before calling the past release a HREC, the environmental professional should review the discussion of the HREC process in 3.2.39.1

€ – Before calling the past release a CREC, the environmental professional should review the discussion of the CREC, process in 3.2.17.1

FIG. X4.1 Simplified REC Logic

NEW REQUIREMENTS

| Deliverable | ASTM E1527-13 | ASTM E1527-21 |
|---|--|---|
| Use of “subject property” | Consistency not required. “Site” or “property” acceptable. | Requires consistent use of “subject property.” |
| Site plan | Not required. | Required. Show features, activities, uses, and conditions of the subject property. |
| Photos of site reconnaissance | Not required. | Required. |
| Historical use review | Limited requirements. | Required. Review of at least one of the following: aerial photographs, topographic maps, fire insurance maps. |
| Title search information reports | Limited requirements. | Must review land title records recorded between 1980 and present. |
| Adjoining properties and surrounding area | Limited requirements. | Expanded requirements. Increases records review and past use research effort. |

EMERGING CONTAMINANTS

ASTM E1527-13

Not discussed in Appendix X5. Summary of Common Non-Scope Issues.

ASTM E1527-21

Added to Appendix X6. Summary of Common Non-Scope Issues:

Section X6.10 Substances Not Defined as Hazardous Substances

Users can request that PFAs or other emerging contaminants be included in the Phase 1 ESA scope if their state considers these contaminants hazardous substances.



REPORT SHELF LIFE

ASTM E1527-13

Continued Viability of Phase 1:
6 months or 1 year* prior to the date of acquisition of the property.



ASTM E1527-21

Continued Viability of Phase 1:
Clarified. 6-month or 1-year* shelf life starts on the date each task was conducted (interviews, lien searches, records review, visual inspection).
Dates of these activities must be listed in report.

*A Phase 1 is viable for 6 months (180 days). After 6 months, the Phase 1 needs a comprehensive update. After 1 year, the initial Phase 1 is no longer valid.

TAKEAWAY MESSAGE

On March 14, 2022, EPA issued a direct final rule approving E1527-21 as an *additional* standard meeting AAI requirements.

- EPA concluded: no legally significant differences between ASTM E1527-13 and the revised ASTM E1527-21.

However, EPA withdrew the direct final rule on May 2, 2022 due to adverse public comments. EPA will address these comments in a subsequent final action.

- Therefore, as of May 2, 2022, EPA has not approved ASTM E1527-21 as a standard meeting AAI requirements.
- Environmental Professionals must continue to reference ASTM E1527-13 and may add ASTM E1527-21 as an optional additional reference.

Impacts of implementing ASTM E1527-21 vs. ASTM E1527-13:

- Important to know lender or insurer requirements, which may evolve this year given the new standard
- Slightly broader scope of work and more thorough Phase 1 review (more RECs may be identified)
- Potential increased timeline (adjoining and surrounding properties review & title review)
- Potential increased cost (title records search, additional graphics & labor)