

ENVS 302 — Phase I Environmental Site Assessment Courses Syllabus: Fall, 2014

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Office Hours: SCI 202

12:00–1:00 M W F

Text: Socha, T.M. (2001) A Technical Guide for Performing and Writing Phase I Environmental Site Assessments. San Jose:Writer’s Press Club.

Course Description: Introduce the principle and method for Phase I Environmental Site Assessments; culture students’ practical ability to conduct Phase I Environmental Site Assessments.

Instructional Method: Students do Phase I Environmental Site Assessments and write the final reports.

Course Objective: Upon completion of this course, you will be able to:
1. conduct a Phase I Environmental Site Assessment;
2. present the results of Phase I Environmental Site Assessment in a professional written report.

Evaluation:	Two reports	500 points	A = 90%
			B = 80%
			C = 70%
			D = 60%
			F < 60%

The first report must be turned in before **October 20**. Feedback will be given to the first report which can be applied to improve the second report. The second report must be submitted before **December 12**. Late reports will receive a “C”. Grades depend on the quality, thoroughness of the investigations and reports.

What is and why Phase I Environmental Site Assessments?

Environmental site assessment (ESA) is a procedure to detect contamination and estimate potential environmental risks related to the sites. Environmental site assessment include Phase I, Phase II and Phase III assessment. Phase I is conducted to investigate evidence of actual or potential contamination on a property, which involves record review, site inspections and interview. Phase II mainly includes field sampling and analysis while Phase III is for remedial investigations.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or "Superfund"), provided for liability of persons responsible for releases of hazardous waste at

these sites. When an abandoned hazardous waste site is found, the responsible parties are required to clean up the site or to finance the clean up which may cause more than millions dollars. However, CERCLA also indicates that a party seeking protection from CERCLA liability may use when conducting a Phase I ESA before acquiring property. The Phase I ESA is a very important step in the process of environmental “due diligence”. CERCLA requires purchasers of commercial property to perform a Phase I study meeting the specific standard of ASTM E1527: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

How To Proceed in this Course:

1. Read the book completely, from which you can get basic ideas about how to conduct Phase I ESA and how to write final reports.
2. Phase I ESA will be conducted on two sites during the semester. The sites in Commerce will be assigned to the students. Students live in another town and wish to do investigations there may suggest sites. However, the sites must be approved by the instructor. Sites are typically abandoned commercial operations, such as old gas stations, restaurants, laundries, etc. Investigations take a lot of time. So do not wait until the last minute.
3. **Get permission** from the site owner, operator, manager, or managing real estate company before you begin the investigation. Get this in writing before you begin and turn this in to the instructor before you start. Completely explain to the appropriate person why you want to the investigations; the findings will not be used for any legal or financial procedure. Otherwise, the owners may be upset with us. Also, we do not want anything bad happens to the students because of this course. Any owners/operators who wish to talk to me about this can call me (903-886-5371) or email me. If you have trouble in getting permission, contact the instructor immediately and get a different assignment.
4. During the investigation, you need to determine all of the past uses of the property, all the past owners, any hazardous chemicals that were used or may have been used on the property or on **adjacent properties**, and the potential for such contaminants to migrate within the subsurface of the property. Your investigation and report may include but not limited to (when possible):
 - (1) Historic and current use of property and Information of environmental settings
 - (a) A title search, who own it now, who once owned it, when, how long ...back to 1940;
 - (b) Previous environmental assessment record, if applicable;
 - (c) Building permits;
 - (d) Street directory and zoning records;
 - (e) Visits to regulatory agency, such as the fire department, EPA and city offices, that may have record of any hazardous chemicals used on the property or on adjacent properties;
 - (f) A aerial photos of the site;
 - (g) Property sketch;
 - (h) Proximity to population centers; environmentally sensitive areas, etc.
 - (i) A topographic map which may be obtained from United States Geological Survey (USGS);
 - (j) Sanborn maps, if possible;

- (k) A description of the site's geology, such as soil and rock type, native plants, etc. Information may be gotten from U.S. Department of Agriculture soil survey maps;
- (l) A description of the site's hydrology, such as the depth, flow rate, directions of groundwater, information may be gotten from well driller, well maps, soil survey maps and state agency.

(2) Complete description of your site visits and **take photographs** of items of interest. Site visit provides an opportunity to get more information. An inspection of all aspects of the property, such as exterior site conditions and inside of the building. There are many things to look for, depending on the nature of your site:

- (a) Type or condition of vegetation, areas where grass doesn't grow because of chemical pollution;
- (b) Drain pipes sticking out the back of buildings;
- (c) Gullies; pools, or lagoons;
- (d) Dead critters;
- (e) Pipes sticking out of the ground;
- (f) Underground storage tanks;
- (g) Stained curbs around the property;
- (h) Hauled-in dirt or gravel;
- (i) Mounds where something may be buried;
- (j) Odors
- (k) Wells including dry wells, irrigation wells, abandoned wells...
- (l) Transformers and old light ballasts may suggest the presence of polychlorinated biphenyl (PCBs);
- (m) Waste water and other liquid discharges from the site;
- (n) Any other unusual or unnatural features you might observe.

(3) Interviews with the previous and present owner of the property, with owners of adjacent properties, and with neighbors and/or long-term employers to get further information of the sites. Interviews may be conducted prior or during site visit. Always document names, relevance to the property, time, date, form of communication, etc. Questions depend on the characteristics of the sites which may be related to:

- (a) History of the site;
- (b) Nature of the site;
- (c) Waste disposal practices;
- (d) Past environmental emergencies, etc.

5. **Record everything** you do and turn it in with your report: when and where you do all of the above, who you talk to, a summary of the information, or if it failed to discover any information.

6. Follow the guidelines of the text book and submit **two reports** on time.

7. Other things need to keep in mind: due dates; try your best to do investigations then you will not have "no data available"; share the sources of information with your classmates and save them for future use; grades depend on the quality, thoroughness of the investigations and presentation of final reports (professional looking, tidy, nice format, etc).

Helpful Recourses

<http://www.edrnet.com/>

Property Assessors:

US Property Assessors: <http://indorgs.virginia.edu/portico/assessors.html>

Collin County: <http://www.collincad.org/>

Dallas County: <http://www.dallascad.org/>

Tarrant County: <http://www.tad.org/>

Denton County: <http://www.dentoncad.com/>

Maps:

Bing.com (use aerial view)

Topo Maps:j

-<http://www.trails.com/>

-US Geological Survey: <http://topomaps.usgs.gov/>

USGS: <http://nationalmap.gov/gio/viewonline.html>

FEMA:

<http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1>

National Wildlife Refuge: <http://www.fws.gov/refuges/>

North Central Texas Council of Governments: <http://www.dfwmmaps.com/>

National Wetland Inventory: <http://www.fws.gov/wetlands/Data/mapper.html>

Texas Well Reports: <http://134.125.70.235/drillers-new/index.asp>

US EPA Envirofacts Query: http://www.epa.gov/enviro/html/sdwis/sdwis_ov.html

TCEQ Central Registry: <http://www12.tceq.state.tx.us/crpub/>

TCEQ PST Database: http://www.tceq.state.tx.us/permitting/registration/pst/pst_query.html

Natural Resource Conservation (Soil Information): <http://soils.usda.gov/>

USDA Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/>

Texas Aquifers:

<http://www.twdb.state.tx.us/publications/reports/GroundWaterReports/GWReports/Individual%20Report%20htm%20files/Report%20345.htm>

TX Railroad Commission: <http://gis2.rrc.state.tx.us/public/>

Coastal Barrier Unit Maps: <http://projects.dewberry.com/FWS/CBRS%20Maps/Forms/AllItems1.aspx>

Endangered Species: <http://ecos.fws.gov/ecos/indexPublic.do>

National Register of Historic Places: <http://www.nps.gov/nr/>

Regulatory:

EPA: <http://www.epa.gov/lawsregs/>

CFR Title 40-Protection of Environment: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr763_main_02.tpl

OSHA – 29 CFR:

http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=0&p_keyvalue=&p_status=CURRENT

Texas Administrative Code (TAC):

[http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac_view=3&ti=30&pt=1](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=3&ti=30&pt=1)

TX Drycleaners: http://www.tceq.state.tx.us/permitting/registration/dry_cleaners/Am_I_Regulated.html

TX Drycleaners Database: http://www5.tceq.state.tx.us/dcr2_dpa/

EPA regions and state links: <http://www.epa.gov/ow/region.html>

Texas Asbestos Program: <http://www.dshs.state.tx.us/asbestos/default.shtm>

HUD Lead Laws: <http://www.hud.gov/offices/lead/enforcement/regulations.cfm>

Environmental Information Association: <http://www.eia-usa.org/>

Cell phone:

Answering a cell phone is prohibited in class. Cell phone must be turned off or in silent mode.

Students with Disabilities:

The Americans with Disabilities Act (ADA) prohibits discrimination against people with disabilities in employment, transportation, public accommodation, communications, and governmental activities.

If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 132 Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148,

StudentDisabilityServices@tamu-commerce.edu

Plagiarism:

All sources of information must be referenced. Unreferenced or stealing of other's sentences, paragraphs, or entire paper is a serious ethical offense and even a crime activity.

Behavior:

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. Students who are disruptive to class activities will be dropped from the class and may face further disciplinary action.

Early intervention for first year students:

Early intervention for freshmen is designed to communicate the University's interest in their success and a willingness to participate fully to help students accomplish their academic objectives. The university through faculty advisors and mentors will assist students who may be experiencing difficulty to focus on improvement and course completion. This process will allow students to be knowledgeable about their academic progress early in the semester and will provide faculty and staff with useful data for assisting students and enhancing retention. Grade reports will be mailed by the end of the sixth week of the semester.

If you have questions pertaining to the content of this course, please contact your me via email or come to my office. I am glad to talk to you any time, but it is better to stop by during my office hours or send me email in advance.