

Environmental Office
MaineDOT
Standard Operating Procedure
Uncontrolled Petroleum and Hazardous Waste Environmental Site Assessments

1.0 APPLICABILITY.

This Standard Operating Procedure (SOP) applies to staff in the Maine Department of Transportation's Environmental Office Hazardous Material Management Division (HMM) charged with assessing the presence of uncontrolled petroleum or hazardous waste contamination on Maine Department of Transportation (MaineDOT) projects throughout the state. The document also outlines procedures for incorporating site assessments for uncontrolled petroleum and hazardous waste into the development of projects by the Bureau of Planning, Bureau of Project Development, Bureau of Maintenance and Operations, Environmental Office, Office of Freight Transportation, and Office of Passenger Transportation.

2.0 PURPOSE.

The overarching purpose of this SOP is to outline a series of procedures to be used by the HMM to ensure that the MaineDOT is in compliance with state and federal uncontrolled petroleum and hazardous waste laws and to protect the health and safety of MaineDOT workers and the public. Conducting environmental site assessments focuses on identifying potential areas of contamination involving uncontrolled petroleum or hazardous waste within the work area that may require special handling of soils and groundwater. The site assessments are the MaineDOT's due diligence procedure to limit long term environmental liability and to protect workers from exposure to contamination. The MaineDOT environmental site assessments are based on the ASTM document E 1527-05 Standard Practice Site Assessments Phase 1 Environmental Site Assessments Process.

3.0 RESPONSIBILITIES.

The occurrence of wastes, uncontrolled petroleum and hazardous materials has created substantial problems in the planning, design, and construction of transportation facilities. Land purchased or considered for purchase by state transportation agencies is sometimes contaminated by petroleum, solid wastes, or hazardous waste. The presence of these substances can create a multitude of problems affecting the project development and/or land acquisition process, and requires coordination within the transportation agency, as well as with environmental regulatory agencies. Waste and contamination problems often have the potential to impact transportation programs by increasing costs, creating time delays and providing greater opportunities for litigation if not identified early in the project development process. Federal and State regulations require that state transportation agencies develop and implement plans for resolving

these problems. For MaineDOT, the fundamental statutes for dealing with uncontrolled petroleum and hazardous waste issues are the Resource Conservation and Recovery Act of 1976 (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the Hazardous and Solid Waste Amendments to RCRA of 1984 (HSWA), the Superfund Amendments and Reauthorization Act to CERCLA of 1986 (SARA), Maine Law under Chapter 13 Title 38, and the Code of Maine Regulations (CMR) Chapters 850-857.

3.1 CONFORMITY

HMM personnel involved in conducting Initial Site Assessments and Detailed Site Investigations proposed by MaineDOT are responsible for becoming familiar, and complying with, the contents of this procedure. Further it is advisable that ENV managers and supervisors, Legal Office personnel and managers within the Bureau of Project Development become acquainted with this Policy to garner an understanding of how these initiatives integrate with their respective programs.

3.2 ORIGINATION, DEVELOPMENT & PROCESS

The Bureau that introduces the project into the Work Plan (e.g., Project Development or Maintenance and Operations) will request an Initial Site Assessment (ISA) from the HMM. For each geographical Region within the Bureau of Maintenance & Operations, a biannual review of upcoming activities will be conducted with the Manager of the ENV or the designee to determine if an ISA is applicable. Every acquisition or sale of property for any purpose is applicable. Any project that includes the purchase of new right-of-way, excavation that requires Dig-Safe review, structure demolition or structure modification will require at least an ISA to assess if there are known or potential uncontrolled petroleum or hazardous waste issues within the proposed project limits. Projects within the existing right-of-way when there is no change to the cross section, grade or utilities involved, generally will not require an ISA.

A Detailed Site Investigation (DSI) is conducted only when the ISA reveals known or potential uncontrolled petroleum or hazardous waste contamination. The DSI is undertaken to investigate ISA findings, estimate the nature and extent of contamination at the site, and provide a basis for assessing the need, type, and cost of remediation. The activities and methods incorporated in a DSI depend on the nature of the project and findings of the ISA. The following list identifies activities that may be appropriate on a case by case basis: 1) geophysical studies, 2) Soil borings/monitoring wells, 3) test pits, 4) chemical field screening, 5) sampling and laboratory analysis, 6) mitigation assessment, including feasibility and estimated cost analysis and 7) written documentation of findings. Remedial action goals are defined, and in some cases, baseline risk assessments are performed.

The Manager of the HMM will oversee coordination efforts within

MaineDOT and between MaineDOT, the Maine Department of Environmental Protection (MDEP) and the Environmental Protection Agency (EPA). In addition, decisions concerning the need for and level of project involvement will be made by this position. The Manager of the HMM will make the final decision since even minor excavation could involve uncontrolled petroleum and hazardous waste migration from off-site sources.

3.3 APPROVAL

The Manager of the HMM will review the results of ISA's and DSI's to verify compliance with this policy and relevant federal and state regulations. Additionally, review, input and consultation will be requested from the Legal Office relative to issues associated with problematic environmental habitat concerns that may potentially prove burdensome for MaineDOT.

4.0 PROCEDURES.

The assessment work performed by the HMM will be performed in a phased manner. ISA requests will be made directly to the Manager of the HMM or through the Environmental Office Project Team Leader. The HMM then conducts an ISA. The results of the ISA are documented to the Environmental Office project files and the Environmental Office Project Team Leader or the initiating Bureau. A comment summarizing the findings is also inserted into the Projex database system. If potential contamination exists, the HMM will notify the appropriate Bureau or Environmental Office Project Team Leader. The Manager of the HMM will decide if a DSI should be conducted, and will be responsible for coordinating within MaineDOT, with any consultants, and with the MDEP.

If a DSI is required, the HMM (or its consultant) will prepare a work plan and obtain access to the site(s). Subsurface exploration and sampling programs may be coordinated with MaineDOT's field geotechnical group, an exploration contractor and/or an environmental laboratory. The DSI findings will be documented in a report for the Environmental Office files and to the appropriate Bureau or Environmental Office Project Team Leader. The report shall show contaminated areas in relation to project alternatives, shall discuss preliminary types of treatment and/or disposal, potential or current environmental habitat issues under each option and present cost estimates for remediation or mitigation. The HMM shall document the Department's proposed resolution of contamination concerns, including treatment/disposal measures (to the extent possible) and shall indicate what needs to be done to comply with applicable laws and regulations. The proposal shall be sent to MDEP, the Project Team Leader and the Legal Office (when applicable).

Specifics associated with the procedures for implementing the phased investigate assessments are provided below:

4.1 INITIAL SITE ASSESSMENT

An ISA involves evaluating a site to determine if it has the potential to be contaminated with uncontrolled petroleum or hazardous waste or contains other

regulated wastes. In general, the ISA starts with a reconnaissance of the project area. The site visit is used to visually identify potential structures or site features that suggest contamination may be in the proposed construction area. Some features of interest that the reconnaissance focuses on include current gasoline stations, buildings that have the appearance of being former gasoline stations/automotive and small engine garages, industrial facilities, landfills, transformer stations, current or former mills, Junk yards, automotive repair facilities and bulk fuel storage facilities.

The site reconnaissance efforts are followed with a detailed database review using both Maine Department of Environmental Protection (MDEP) and Environmental Protection Agency (EPA) sources. The databases typically reviewed include the following:

- EPA's Toxic Release Inventory list (TRI)
- EPA's Water Discharge Permits Compliance System (PCS)
- EPA's Air Release list (AIRS/AFS)
- EPA's Resource Conservation and Recovery Act (RCRAinfo) list
- EPA's Super Fund list including National Priority List (NPL) and CERCLA
- MDEP Voluntary Response Action Program (VRAP) list
- MDEP Uncontrolled Hazardous Substance Site Program List
- MDEP Registered Landfill list
- MDEP Master Underground Storage Tank List
- MDEP 011 and Hazardous Material Spill Reports
- MDEP Long Term Petroleum Remediation Priority list
- MDEP Arc Map data base
- Department of Health and Human Services (DHHS) Public Water Resource Information System data base
- Department of Defense (DOD) data base

These databases are reviewed to confirm potential contamination issues identified during the site visit or to identify other areas not readily determined during the site reconnaissance such as the location of hazardous materials and/or petroleum spills. Typically, a visit is made to the MDEP Augusta office to review and obtain copies of any pertinent spill reports or files that pertain to a given site being investigated. However, most spill reports and some files are now available on-line from the MDEP.

On occasion, it may be necessary to use a vendor to perform the database research. Typically, MaineDOT uses Environmental First Search. This can be done by going to their web page at <http://www.efsn.com> and following their instructions. In general, the same information they provide is assessable at the above mentioned databases. This vendor may be useful for larger projects like

proposed corridors or long segments of planned work through urban or industrial areas.

Another source of information is interviews with people knowledgeable about the project site and municipal officials that may have knowledge of any contamination issues. These individuals include, but are not limited to, MDEP officials, Code Enforcement Officers, Fire Chiefs, Town Managers, Municipal Sewer and Water Supervisors, Town Historians and others familiar with the area's history.

The ISA data is collected in a folder marked with the name of the project and its Work Identification Number (WIN) or Project Scoping Number (PSN). A two page cover sheet titled "Initial Site Assessment Checklist" (see Attachment A) is reviewed, completed and placed in the file along with the rest of the pertinent data.

If the ISA suggests no obvious issues, a comment to this effect is made under the proper WIN or PSN in the Projex database. The supporting documentation is then submitted to be scanned into the TEDOCS file management database and CPD e-file.

If it is determined that the potential for contamination exists on the project, a DSI will be performed. The appropriate comment is made in ProjEx and the Project Manager and Designer are informed of the potential for contamination being encountered.

4.2 DETAILED SITE INVESTIGATION

The DSI typically involves the advancement of subsurface explorations at select areas identified during the ISA as having the potential for contamination.

Prior to performing field work, a Health and Safety Plan following OSHA 29 CFR 1910.120 (e)(8) is prepared and reviewed. This plan states the type of contamination that is expected to be encountered and action levels to be followed to ensure workers are not exposed to hazardous chemicals while working on-site.

A predetermined number of subsurface explorations are advanced within the MaineDOT Right-of-Way at the area of concern with soil samples collected for testing of volatile organic constituents in the field. This is generally done following the MDEP TS004 Compendium of Field Testing of Soil Samples for Gasoline and Fuel Oil in combination with MDEP Chapter 691, MDEP Appendix Q Determination of the Presence and Concentration of Oil Contaminated Soils by Field and Laboratory Analytical Methods as Part of an Underground Oil Storage Facility Closure Site Assessment. Typically, MaineDOT personnel use either a Thermo 580B Photoionization Meter or a MiniRAE 3000 Photoionization meter to do the field screening. Usually, a soil sample with the highest field screening

reading from each location is submitted to an MDEP approved laboratory for analytical testing.

The analytical parameters typically screened for include: Volatile Petroleum Hydrocarbons (VPH) using the MA VPH method, Extractable Petroleum Hydrocarbons (EPH) using the MA EPH method, Volatile Organic Hydrocarbons (VOCs) using EPA method 8260 and total lead using EPA Method 6010B. Depending on the type of suspected contaminants that may be present, other analysis may be necessary, especially if PCBs or heavy metals are suspected.

If the laboratory results indicate contamination has adversely impacted the site, MDEP is contacted along and an environmental site assessment report is developed and forwarded to them for their review. The report summarizes the findings of the ISA and DSI and includes copies of the laboratory results, site plans/figures/boring locations and a draft copy of a Special Provision, Section 203 "Excavation and Embankment (Contaminated Soil and Groundwater Management) The Special Provision is based on a Memo of Understanding between the MaineDOT and the MDEP titled "Special Provision for Contaminated Soil and Ground Water Management for Maine Transportation Construction Projects" dated August 21, 1996 (see Attachment B). The Special Provision details the areas of contamination, field screening methods and affected soil management practices.

Once MDEP approves the Special Provision, this document then becomes part of the construction bid package. A copy of the Special Provision is provided to the Project Manager/Designer and is also placed into the relevant projects CPD e-file. A copy is also scanned into TEDOCS and the appropriate comments are entered into ProjEx.

If the subsurface explorations do not suggest contamination or the contamination is determined to be deeper than the planned excavation at the site, a General Note is prepared indicating that the possibility of contamination exists. The General Note is submitted to the Project Manager and Designer for inclusion in the bid package. The document is also copied to the project CPD e-file and scanned into TEDOCS. Appropriate comments are also entered into ProjEx. The primary intent of the Note is to inform the contractor of the potential environmental issues and to spell out their responsibilities if contamination is discovered during work.

4.3 HIRING A CONSULTANT.

In some instances, such as a heavily urbanized or industrial area or if in-house resources are unavailable a pre-approved consultant is hired to perform an ISA or DSI investigation following ASTM E 1527-05 guidelines.

Once the consultant's report is submitted, reviewed by staff for completeness

and a determination is made on the type and amount of contamination present and then the previous outlined steps are taken if it is determined that a Special Provision or General Note is needed. If a Special Provision is determined to be necessary, a copy of the consultant's report along with a draft Special Provision is sent to MDEP for their review and approval of the Special Provision. Once the Special Provision has been accepted by MDEP, the above previous mentioned procedures are followed for inclusion of the Special Provision into the bid Package.

ATTACHMENT A

Initial Site Assessment Checklist

ATTACHMENT B

Memo of Understanding between the MaineDOT and the MDEP
Special Provision for Contaminated Soil and Ground Water Management for Maine
Transportation Construction Projects
August 21, 1996

ATTACHMENT #1

“Model” Special Provision

(from Blaine/Mars Hill Route 1 Project)