

PART 2, CHAPTER 20

CONTAMINATION

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PART 2 CHAPTER 20

CONTAMINATION

20.1 OVERVIEW

20.1.1 Purpose

Pursuant to **23 United States Code (U.S.C.) § 327** and the implementing Memorandum of Understanding (MOU) executed on December 14, 2016, the Florida Department of Transportation (FDOT) has assumed and Federal Highway Administration (FHWA) has assigned its responsibilities under the **National Environmental Policy Act (NEPA)** for highway projects on the State Highway System (SHS) and Local Agency Program (LAP) projects off the SHS (**NEPA** Assignment). In general, FDOT's assumption includes all highway projects in Florida which source of federal funding comes from FHWA or which constitute a federal action through FHWA. **NEPA** Assignment includes responsibility for environmental review, interagency consultation and other activities pertaining to the review or approval of **NEPA** actions. Consistent with law and the MOU, FDOT will be the Lead Federal Agency for highway projects with approval authority resting in the Office of Environmental Management (OEM).

This chapter provides guidance on identifying, evaluating, and handling potential contamination issues associated with FDOT projects in all phases of the project development process [Planning, Project Development and Environment (PD&E), Design and Construction] to comply with federal and state laws and regulations. Federal requirements for contamination evaluation are contained in the **Resource Conservation and Recovery Act (RCRA)** as amended by **Hazardous and Solid Waste Amendments (HSWA)** and the **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)** as amended by **Superfund Amendment and Reauthorization Act (SARA)**. **RCRA** deals with waste management for protecting human health and the environment from the potential hazards of waste disposal. **CERCLA** (also known as Superfund) sets federal requirements for responding to spills of hazardous substances and establishes liability for cleanup cost to responsible parties. Florida's requirements for pollution prevention and control are contained in **Chapters 376 and 403 Florida Statutes (F.S.)**, respectively and requirements for dealing with hazardous wastes, and rehabilitation of contaminated sites are outlined in **Chapters 62-730 and 62-780 Florida Administrative Code (F.A.C.)**, respectively.

The 1988 FHWA Memorandum titled **Interim Guidance – Hazardous Waste Sites Affecting Highway Project Development** provides guidance on dealing with contaminated materials during project development and construction of federal-aid transportation projects. The FHWA interim guidance emphasizes the need to identify and assess potentially contaminated sites early in the project development process and to use measures to avoid or minimize project involvement with substantially contaminated sites. In 1998, FHWA issued a **Policy Revision to Support the Brownfields Economic**

Redevelopment Initiative which encourages acquisition and/or clean-up of land within brownfields for transportation purposes in certain instances: 1) where such actions are feasible, reasonable, within acceptable limits of liability exposure, 2) when cooperating partners are available, and 3) when parties legally responsible for the contamination are pursued to the maximum extent practicable.

Contamination within or adjacent to FDOT right of way (ROW) has the potential for liability (to FDOT through property ownership and due to contaminated/hazardous material exposure, handling and disposal) and may require assessment, remediation, or special handling. Therefore, FDOT should consider the potential for encountering contamination within the limits of every project, including excavation, acquiring new ROW or easements, proposed stormwater management sites, utility work, structure demolition/modifications, and similar off-site construction activities. To avoid or minimize impacts, evaluation for potential contamination impacts begins during the earliest phase of the project development process and continues through construction. The level of contamination evaluation increases as the project moves from the Planning phase to the Construction phase.

Contamination in soil, groundwater, surface water, sediments, and structures may have the following impacts to an FDOT project:

- Human exposure;
- Potential or actual human health effects;
- Exacerbation of the contamination by construction activities;
- Design modifications or special construction provisions for work within contaminated areas;
- Dewatering permitting requirements
- Requirements for the proper handling and disposal of contaminated material; and,
- Potential cost and/or schedule impacts.

Thus, understanding the type and extent of contamination issues and addressing them early and properly can reduce costs and risks to FDOT. FDOT must utilize the best available information to identify, screen, evaluate, and remediate potential contamination impacts.

If areas with the potential for contamination are identified within or adjacent to an FDOT project, the Project Manager (PM) and District Contamination Impact Coordinator (DCIC) should work together to determine actions to address contamination issues. The PM and DCIC should provide this information in a timely manner to the District management and appropriate technical offices (such as ROW, Design, Construction and Maintenance) and the Office of General Counsel (OGC), as appropriate, to allow for informed project-related decisions to be made.

20.1.2 Definitions

Asbestos – A naturally occurring, fibrous silicate mineral, including chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered. All types of asbestos are known to cause serious health hazards. For purposes of this definition "asbestos" includes Presumed Asbestos Containing Materials (PACM) and Regulated Asbestos Containing Materials (RACM).

Asbestos Containing Materials (ACM) - Any material containing more than one percent (1%) asbestos as defined in **29 Code of Federal Regulations (CFR) § 1926.1101, Occupational Health & Safety Administration (OSHA)**.

Brownfield – As per **Section 376.79(3), F.S.**, Brownfield means real property, the expansion, redevelopment or reuse of which may be complicated by actual or perceived environmental contamination.

Cleanup Target Level – The concentration for each contaminant identified by an applicable analytical test method, in the medium of concern, at which a site rehabilitation program is deemed complete.

Contamination Assessment and Remediation (CAR) Contractor – A vendor selected by FDOT that provides services related to hazardous and contaminated materials, emergency response services, site assessment, source removal services, and other environmental services as required by the contract.

Contaminated or Contamination - The presence of any contaminant in surface water, groundwater, soil, sediment, or upon the land, in concentrations that exceed the applicable Cleanup Target Levels (CTLs) specified in **Chapter 62-777, F.A.C.**, or water quality standards in **Chapter 62-302** or **62-520, F.A.C.**, or in concentrations that may result in contaminated sediment.

Contaminant - Any physical, chemical, biological, or radiological substance present in any medium which may result in adverse effects to human health or the environment or which creates an adverse nuisance, organoleptic, or aesthetic condition in groundwater.

Contaminated Site - Any site with hazardous substances, pollutants, or contaminants that are harmful or likely to be harmful to human health or the environment.

Contamination Screening Buffer – An area within and adjacent to the project that should be evaluated for possible additional contamination assessment.

Contamination Source - The place of origin or major concentration of contaminants from which contamination migrates to surrounding areas through the soil, groundwater, or other media.

Hazardous Material - A general term that includes all materials and substances which are now designated or defined as hazardous by federal or state law or by the rules or regulations of the state or any federal agency: **40 CFR § 261.30, 40 CFR § 261.4, 40 CFR §§ 261.21-261.24, Section 376.301, F.S., and Section 403.74, F.S.**

Hazardous Waste Site - A site at which wastes as defined in **Rule Chapter 62-730, F.A.C.**, and **40 CFR §§ 260-272**, have been disposed, treated, or stored.

Lead-Based Paint (LBP)- Paint or other surface coatings as defined in **Section 381.983, F.S.** that contain lead equal to or exceeding 1.0 milligram per square centimeter, 0.5 percent by weight, 5,000 parts per million (ppm) by weight or 5,000 milligrams per kilogram.

Level of Investigation - To standardize contamination evaluations on transportation projects, FDOT broadly uses the following levels of contamination investigation:

Level I – A contamination screening evaluation consisting of a desktop review of current and historical records and site reconnaissance to identify past and present activities that have the potential to impact areas in, or immediately adjacent to, project construction. It is used to determine the need and scope of further assessments. Level I evaluation is completed as early as feasible in the project process, typically during the PD&E phase or during preparation of Phase I (30%) design plans for projects which do not have a PD&E Study.

Level II – Level II assessment [also known as Impact to Construction Assessment (ICA)] consists of a detailed evaluation of potential contaminated sites based on the findings of Level I evaluation. When applicable, a Level II assessment includes soil sampling, laboratory testing and/or installation of groundwater monitoring wells for sites with known or potentially contaminated materials. This is done to assess the type and extent of contamination in potentially contaminated sites, identify impacts to construction and associated costs for remediation, and to develop recommendations for Level III activities or avoidance measures as warranted. Level II assessment is typically performed during the Design phase and prior to ROW acquisition and Construction. However, it may be performed during the PD&E phase for projects with advanced design activities or when it is required to substantiate the impact of potentially contaminated sites on the preferred alternative.

Level III – Level III refers to additional evaluation of contamination identified or suspected based on the Level II assessment and any requisite remediation or abatement of contamination or hazardous materials. It includes a detailed plan for the removal and disposal of contaminated media, storage tanks, and/or other hazardous materials that may directly impact construction activities or ROW acquisition and clearance. Level III activities can occur during design and ROW acquisition, or during or prior to construction to avoid impacts to construction and project delays.

Metal-Based Coatings (MBC) – Surface coatings likely to contain heavy metals, including cadmium, arsenic, lead, zinc, and hexavalent chromium that could be present at concentrations considered to be hazardous. Elevated concentrations of the aforementioned metals require worker protection, special storage or transport, and regulated disposal at a licensed facility.

Modified Special Provision (MSP) - A specification, prepared, signed, and sealed in accordance with **Chapters 471 and/or 481, F.S.**, that revises an implemented specification (Standard Specification, Supplemental Specification, or Special Provision) to address a project specific need and is approved for use by the State Specifications Engineer.

Municipal Separate Storm Sewer System (MS4) - A MS-4 system is a storm water conveyance system owned by a state, city, town or other public entity which discharges to waters of the United States but is not combined with a sewer system or part of a publicly owned treatment works.

National Pollutant Discharge Elimination System (NPDES) - the NPDES Stormwater Program is a comprehensive two-phased national program (established by the **Clean Water Act**) for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the NPDES permitting mechanism to require the implementation of controls designed to prevent harmful pollutants from being discharged by stormwater runoff into local water bodies.

Potentially Contaminated Site - A site, within or adjacent to the project limits, suspected to have existing contamination based on past or current activities on or near the site as evidenced by records review, historical land use evaluation, or field reconnaissance.

Presumed Asbestos Containing Material (PACM) - Thermal system insulation and surfacing material, caulk, joint compound, and mastics found in buildings and bridges with the potential to have ACM constructed no later than 1980. PACM may be noted as present in other materials that cannot be adequately sampled. Sampling of these materials may be prohibited due to access, safety, and compromising the building's structural integrity.

Remediation - Those activities necessary to remove, treat, or otherwise reduce contamination to a level acceptable to the regulatory agency having jurisdiction in accordance with **Chapter 62-780, F.A.C.**, or applicable federal programs (e.g. **RCRA**).

Regulated Asbestos Containing Material (RACM) – According to the Environmental Protection Agency (EPA), RACM is (a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

Sediment – Unconsolidated solid matrix occurring immediately beneath any surface water body. The surface water body may be present part or all of the time and may support a wetland environment or vegetation.

Solid Waste - RCRA defines a solid waste as: “any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial or mining and agricultural operations, and from community activities . . . [excluding] . . . solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows, or industrial discharges which are point sources subject to permits under **Section 402 of the Federal Water Pollution Control Act.**”

Superfund Site - Land in the United States that has been contaminated by hazardous waste and identified (in the National Priorities List) by the United States Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health or the environment.

Technical Special Provisions (TSPs) - Specifications of a technical nature, prepared, signed, and sealed in accordance with **Chapters 471, 481, or 481 Part 2, F.S.**, that are made part of the contract as an attachment to the contract documents. TSPs describe work that is not covered by the **Standard Specifications** or Workbook and are included as Appendices in a Specifications Package.

20.2 Procedure

Project involvement with contamination must be evaluated for all FDOT projects to minimize potential risks, liabilities, health and safety concerns, project delays and cost overruns. The scope of the project, as it relates to potential involvement with contaminated soil, sediments, or groundwater, is a key consideration. Involvement with contamination can be in the form of potential exposure to contaminated soil, groundwater, other surface debris, ACM, or MBC during construction; as well as the potential for plume disturbance during construction; or the consideration of contaminants or storage tanks present on parcels identified for ROW acquisition. These levels of investigation evaluate or assess the sites along or in close proximity to the project corridor for the potential presence of contamination and provide the appropriate information needed to address contamination concerns at each phase of the project development process. Typically, Level I supports the PD&E Study, Level II supports Design phase activities, and Level III supports construction; see [Section 20.1.2](#). However, Level II assessment may be conducted during the PD&E Study, as determined by the DCIC and District Environmental Office staff, to assist the PM in making this determination.

Efforts to conduct coordination as described in the [2014 MOU between Florida Department of Environmental Protection \(FDEP\) and FDOT](#) when addressing for petroleum contamination should be considered and advanced as appropriate at each Level of Investigation, see [Section 20.2.5.1](#). Ideally, petroleum contaminated sites identified during PD&E will be addressed and remediated by FDEP through the provisions

of the **2014 MOU** prior to acquisition or construction. As project environmental review advances from PD&E to construction, the contamination section of the original **NEPA** document and subsequent re-evaluations provide a summary of results of the associated Level of Investigation at each phase. The Construction Advertisement re-evaluation should contain a final summary of contamination investigations completed and reflect resolution of contamination related issues to accommodate advancement of construction.

The DCIC is the District's point of contact for all issues related to contamination impacts within the existing or proposed FDOT ROW. The DCIC is responsible for administration of the District's contamination program, which may include management of the Contamination Assessment and Remediation (CAR) contract(s); coordination of contamination activities in all phases of the project development process; emergency response activities as they relate to contamination discharges on FDOT ROW or facilities and maintenance and retention of documentation for contamination work performed within the District. Additional duties may include coordination of hazardous materials and petroleum compliance issues with appropriate personnel for FDOT facilities and maintenance yards.

20.2.1 Contamination in the Project Development Process

Contamination issues can be avoided or minimized by changing the project's design, or remediated if they are identified early in the project development process. The benefit of early identification of contamination is to minimize unanticipated contamination encountered during construction of a project. Contamination issues on FDOT projects can be identified early during Work Program development through Statewide Acceleration Transformation (SWAT) meetings, or during Efficient Transportation Decision Making (ETDM) screening, scope of services development, and the PD&E Study. Many options are available to effectively manage, or remediate contamination issues that are discovered early in the project development process. These options include conducting Level II assessment, design modifications, developing Modified Special Provisions (MSPs), or remediating contamination issues (prior to construction) using the CAR Contractor, as appropriate. Additionally, sites contaminated with petroleum may be remediated using the [**2014 MOU between FDEP and FDOT \(Section 20.2.5.1\)**](#).

Contamination issues often vary from project to project; therefore, the DCIC and PM should be both flexible and innovative in addressing the issues. [**Figure 20-1**](#) summarizes general considerations related to contamination impacts on projects that the DCIC, PM, and project analysts should consider when evaluating contamination issues.

20.2.1.1 ETDM Screening and Project Scope Development

Evaluation of potential contamination impacts on PD&E projects begins when the District prepares Preliminary Environmental Discussion (PED) for projects that are screened through the ETDM process (See [**Part 1, Chapter 3, Preliminary Environmental Discussion and Advance Notification**](#)). The ETDM process provides an opportunity for regulatory agencies [FDEP, EPA, and Water Management Districts (WMDs)] to comment on sites or properties that have or had regulated activities. Evaluation of potential

contamination impacts is limited to the broad impact that known or suspected contaminated sites may have on the project scope. The District can use the ETDM Environmental Screening Tool (EST), FDOT records and/or other online resources maintained by the FDEP, local agencies and WMDs to obtain data for preparation of PED.

The PM, DCIC and ETDM Coordinator should coordinate with regulatory agencies and other appropriate local agencies throughout the ETDM screening process. Coordination should also include District staff such as the District Drainage Engineer, Permit Coordinator, District Design Engineer, Design PM, District Structures Engineer, District Construction Environmental Coordinator, OEM, and others who might be involved in future phases of the project.

The following project activities occur during the ETDM process:

- **Planning Screen** – Specific information identified in the PED of the Planning Screen includes information about known or potential contaminated sites located within or adjacent to project alternatives. The District may begin to coordinate with the FDEP for potential assessment or remediation of petroleum contaminated facilities within or adjacent to the project ROW, pursuant to the [2014 MOU between FDEP and FDOT \(Section 20.2.5.1\)](#).
- **Programming Screen** – The PED should include discussion about known or potential project involvement with contamination based on the District's familiarity with the project area and anticipated project activities. The PED should also list all known and potential contamination issues located within the project area using available data and District staff familiarity with the project area. Based on the effect of the project, the PED should indicate whether a Level I evaluation is anticipated. The District must begin to coordinate or update the status of coordination with the FDEP on potential assessment or remediation of petroleum contaminated sites within or adjacent to the project ROW, pursuant to the [2014 MOU between FDEP and FDOT](#).

After the ETDM screening, the PM and DCIC review the Environmental Technical Advisory Team (ETAT) comments related to contamination issues published in the **Programming Screen Summary Report** for the project. While reviewing the report, the PM and DCIC should pay close attention to any list of potential contamination sources and/or sites that warrant further investigation.

The results of the ETDM screening and the District's familiarity with the potential contamination issues in the project area are used to estimate the level of effort for contamination evaluation in the scope of the PD&E Study. The PM should work with the DCIC to determine contamination evaluation needs and the level of evaluation effort for contamination to be included in the scope of services for the PD&E Study or CAR contract. A thorough scope of services for the PD&E Study is important to ensure all contamination issues are identified early in the project development. For projects that overlap the PD&E and Design phases, the **Contamination Screening Evaluation Report (CSER)** / Level I evaluation and Level II assessment may be combined or completed consecutively

Evaluation of potential contamination impacts for projects that do not have a PD&E phase begins during the scope development stage for the project. Depending on the type of construction activity, these projects generally require contamination evaluation that is not as extensive as projects that have a PD&E phase. The extent of assessment for projects with no PD&E phase is based on the scope of design and the expected inclusion of subsurface activities (e.g., drainage structures, mast arms, high mast lighting, cantilever sign bases, ponds, sidewalks, driveways, or underground utilities). The Design PM should work with the DCIC to determine the scope of contamination evaluation and documentation requirements for these projects.

20.2.1.2 Project Development and Environment

During PD&E, a Level I evaluation (contamination screening) is performed to screen known and/or potentially contaminated sites that may impact project alternatives. The identified potential contaminated sites are evaluated for impact to each project alternative and each site is assigned a “risk rating”. Based on the assigned risk rating and the proposed construction activities in the area of potential contamination, the PM and the DCIC coordinate actions that should be taken to address contamination issues.

Level I evaluation is documented in the **CSER**. The findings of the **CSER** should be summarized in the appropriate Environmental Document prepared for each PD&E project (See [Section 20.2.2.6](#)).

The proposed project scope of work should be considered in qualifying the effort and detail invested in the Level I evaluation. Project construction activities which expose potentially contaminated soils, ACM/MBC, or groundwater, proposed activities that could exacerbate an existing contaminated groundwater plume and projects with ROW acquisition, warrant more detailed evaluation as outlined in this Chapter. Contamination evaluation for Projects with no soil excavation or groundwater disturbance, and no ROW acquisition, primarily with all sites assigned No or Low risk ratings, may be documented by technical memorandum or contamination clearance letter with identification of potentially contaminated sites within the project vicinity. Contaminated sites, primarily those assigned Medium or High risk ratings, should continue to be evaluated in the Design phase.

20.2.1.3 Design

During the Design phase, planned ROW acquisition and project design features should be considered in determining the potential contamination impacts. There may be instances when contamination involvement can be avoided with minor design changes; for example, moving drainage structures or redesigning french drains to solid pipes in areas identified as having potential for soil or groundwater contamination. In addition, the potential pond sites and floodplain compensation (FPC) areas should be evaluated during the Level I/contamination screening evaluation. Level I evaluation should be updated during the Design phase wherever there is change in design (including additional utility adjustment on the project).

A Level II assessment, if warranted, is typically performed during the Design phase. The DCIC should continue to coordinate with the Design Project Manager and ROW staff as appropriate. Design plans and their revisions should be reviewed by the DCIC to ensure that design features are not impacted by or exacerbate, contamination issues. Additionally, drainage easements should be evaluated if there is a potential for contamination impacts to construction activities. The DCIC should also coordinate with regulatory agencies as necessary, such as coordinating with FDEP for projects that may require remediation through the [2014 MOU between FDEP and FDOT](#), solid waste/Storage tank removal, or dewatering permits.

20.2.1.4 Construction

For projects with identified contamination issues, the DCIC should attend the pre-construction meeting and coordinate closely with the construction PM to ensure the contractor is fully aware of potential involvement, commitments, remediation activities, avoidance measures, or any further coordination or measures as needed. During the Construction phase, the DCIC should support the Engineer on contamination-related matters and verify completion of any necessary Level III activities.

If avoidance of contamination is not possible, steps must be taken to remove or render safe the contaminated media prior to or during construction using Level III assessment.

20.2.2 Level I / Contamination Screening Evaluation

The Level I evaluation is performed (during the PD&E phase or development of Phase I design plans for projects which do not have a PD&E phase) to screen potentially contaminated sites that are within or adjacent to the project. Level I evaluation does not involve sampling and testing soil or groundwater. The information obtained from the Level I evaluation should be sufficient enough to determine potential contamination risk on each project alternative. The Level I evaluation consists of desktop review of the proposed project scope of work; contamination-related records; site reconnaissance/field review, interviews; estimating risk ratings; and preparation of a report or technical memorandum.

Level I evaluation may determine through review of environmental records or field review evidence that the site is not suspect to contamination (e.g., properly constructed and decommissioned landfills, contamination at the site was handled and disposed of according to regulations, or documented contaminants stored pose no risk to human and environment). If the Level I evaluation clearly finds no contamination issues in the project area, there is no need for further investigation providing there are no new discharges causing contamination; or no changes in design or construction activities on the site that can exacerbate contamination issues.

If sites (ranked medium or high) are identified during the Level I evaluation, then the sites are further considered for a Level II assessment.

20.2.2.1 Desktop Review

The purpose of the desktop review is to identify potential contaminated sites and to evaluate the potential for encountering contamination from current and/or previous land uses. Desktop reviews should be performed prior to the field review. The desktop review should include consideration of land use adjacent to the transportation project when screening for contamination issues.

Review of historical aerial photos and Sanborn maps can also provide information on potential contamination sources. The EST contamination layer and comparisons of old and new aerial photographs and Sanborn maps may identify any land-filling or other earth disturbing activities, historic non-regulated gasoline service stations, past agricultural uses, trucking facilities, possible cattle ranching activities (cattle dipping vats), automotive repair facilities, dry cleaners, and heavy industrial uses (e.g. ship yards). Databases maintained by federal, state, or local governments or regulatory agencies are the most reliable sources of data for desktop review. Desktop review may also include review of available historical aerial photographs and Sanborn fire insurance maps to evaluate the potential for contaminated materials to exist from the earliest date of development/use of the property.

Sources of data for desktop review are the Environmental Screening Tool (EST), publicly available databases, or databases from commercial environmental data service companies. Commercial environmental databases have limitations, thus their use is left to the discretion of the DCIC.

Desktop review should include review of topographic and hydrologic conditions of the site to evaluate the potential for migration of contaminants above or below ground. Sources for hydrologic information include individual site information in FDEP's Oculus database, United States Geological Survey (USGS) maps and States Department of Agriculture (USDA) soil survey and reports.

Search distances (contamination screening buffers) used for the desktop review vary depending on the context of the project and type of contamination source. The project analyst (or consultant) performing Level I investigation should coordinate with the DCIC if the buffer distance is to be modified to reflect project context. The following buffer distance are recommended on FDOT projects:

1. 500 feet from the ROW line for petroleum, drycleaners, and non-petroleum sites. Corridor projects in heavily industrialized or urbanized areas with dewatering planned near the contaminated sites need to be addressed with FDEP, WMD, or the local delegated program lead.
2. 1000 feet from the ROW line for non-landfill solid waste sites (such as recycling facilities, transfer stations and debris placement areas).
3. 1/2 mile from the ROW line for **CERCLA**, National Priorities List (NPL) Superfund sites, or Landfill sites. Include a detailed discussion of these sites if they are

expected to potentially impact the project. Coordinate with OGC and environmental permitting agencies, as appropriate.

The following sources available in EST should be considered in evaluating contamination on a project.

1. FDEP Map Direct Geographic Information Services (GIS) Application
2. FDEP Contamination Locator Map
3. FDEP Institutional Control Registry
4. National Priorities List
5. Proposed National Priority List
6. Superfund Enterprise Management System (SEMS)
7. Historical/Current Aerial Photos

Other sources that should be considered include:

1. FDEP OCULUS database
2. FDOT ROW map notes
3. Sanborn Maps
4. County/City/Municipals Directories and Registries
5. District GIS databases
6. Other state and local data resources that may be applicable and available

20.2.2.2 Site Reconnaissance/Field Review

A field review or site reconnaissance is required to identify potential/suspect and documented contaminated sites within or adjacent to the project area. The field review is an opportunity to verify the locations of potentially contaminated sites identified during the desktop review and discover previously undocumented contamination impacts. The DCIC or representative should participate in the field reviews. Field review is typically conducted from existing FDOT or public ROW and should not require reviewers to enter a property suspected to have contamination issues.

Field reviews can include observations of apparent changes in topography such as depressions or mounds indicative of subsurface concerns. Through field reviews, visual

indications of surface spills, surface staining, areas of suspect liquids, tanks, suspicious odors, apparent sink holes, distressed vegetation, ventilation pipes, former pump islands/tank pads, soakage pits, drums, or chemical storage containers can be used to screen potentially contaminated media. Photographs should be taken of each site reviewed and any specific areas of concern should be noted during the site visit. Information about current and former uses of the site (ascertained through visual inspection or interviews) should be noted. Above ground utilities, and any evidence of below ground utilities should be documented on field notes.

The lack of visual characteristics for contamination does not imply the media is not contaminated. Based on the results of the desktop review, field review and interviews with the operators of the site, it may be necessary to conduct a Level II assessment to sample and test soil, groundwater, and/or surface water. **Property Access Agreements** Notification to access properties that have not been acquired or that currently have tenants may be needed prior to conducting Level II assessment. The District Project Manager is responsible to prepare written notification to property owners or tenants. The notification requirements to enter the property of others to conduct a survey, drill a test well, and collect samples are contained in **Section 337.274, F.S.** Any testing (if warranted and approved by the DCIC) should be conducted in accordance with existing **FDEP Standard Operating Procedures** contained in **Chapter 62-160, F.A.C.**

For projects involving existing bridges, building structures, and existing or abandoned utilities (which will be moved or demolished), the potential need for Asbestos Containing Materials (ACM), Lead-Based Paint (LBP), or Metal Based Coatings (MBC) surveys should be identified. Similar considerations should be given to project involving bridge timbers, fender systems, or railroad ties that may have the potential to contain wood preservatives. The DCIC should be involved to determine District preferences for the extent and timing of the survey.

The DCIC should coordinate with the District Maintenance Office and District Construction Office may also have information about existing contamination from previous projects.

20.2.2.3 Interviews

Interviews with present and past owners, adjacent property owners, operators, and/or occupants of the properties with contamination concerns may be used to identify potential contaminants and environmental concerns at a site with little existing information.

20.2.2.4 Contamination Risk Rating

FDOT uses a contamination risk rating system to evaluate the likelihood that a contaminated site may impact a project. The rating system provides information needed to address potential contamination impact through avoidance, remediation. The presence of a contaminated site adjacent to the project area does not always mean a high risk is present on the project. The analyst should consider proposed construction activities and determine if the scope of work may cause direct contact with the contaminant. In some cases, a regulatory agency may also be performing corrective actions to known

contamination issues, which may fully remediate or substantially reduce the level of contamination issues prior to project construction.

Additionally, regulated/permitted sites with no documented contamination should only be evaluated when the sites abut the FDOT ROW. Sites with documented contamination impacts should be evaluated within 500 feet of the project corridor due to dewatering impacts during construction.

There are four (4) contamination risk rating categories (No, Low, Medium or High) that are assigned to each property or site evaluated for potential contamination impacts to the project. These risk rating categories and their appropriate use are explained as follows:

1. **No** - A review of available information on the property and a review of the conceptual or design plans indicates there is no potential contamination impact to the project. It is possible that contaminants have been handled on the property. However, findings from the Level I evaluation indicate that contamination impacts are not expected.
2. **Low** - A review of available information indicates that past or current activities on the property have an ongoing contamination issue; the site has a hazardous waste generator identification (ID) number, or the site stores, handles, or manufactures hazardous materials. However, based on the review of conceptual or design plans and/or findings from the Level I evaluation, it is not likely that there would be any contamination impacts to the project.
3. **Medium** - After a review of conceptual or design plans and findings from a Level I evaluation, a potential contamination impact to the project has been identified. If there is insufficient information (such as regulatory records or site historical documents) to make a determination as to the potential for contamination impact, and there is reasonable suspicion that contamination may exist, the property should be rated at least as a "Medium". Properties used historically as gasoline stations and which have not been evaluated or assessed by regulatory agencies, sites with abandoned in place underground petroleum storage tanks or currently operating gasoline stations should receive this rating.
4. **High** - After a review of all available information and conceptual or design plans, there is appropriate analytical data that shows contamination will substantially impact construction activities, have implications to ROW acquisition or have other potential transfer of contamination related liability to the FDOT.

A recommendation for each site with a rating of medium or high should include a listing of the analytical parameters of concern and media (e.g., soil, groundwater), a discussion of potential involvement with ROW acquisition and/or construction and if the site is anticipated to warrant additional (Level II or III) assessment.

The rating can also change based on changes in design, construction activities, construction methods, ROW needs, or other factors when the project progresses from

design to construction. Where ROW acquisition is anticipated, the DCIC should inform and coordinate further related activities with PM, the assigned ROW agent and/or Office of General Counsel as appropriate. Prior to ROW acquisition, Level II assessment must be performed to characterize the types, concentrations, and extent of contamination within the acquisition area unless this information is already available from regulatory agencies.

Documentation of contamination evaluations and recommendations are summarized in the Environmental Document and progressively updated with subsequent re-evaluations as described in [Section 20.2](#).

20.2.2.5 Contamination Screening Evaluation Report

Documentation of the contamination screening evaluation is required to demonstrate that contamination involvement in the project was considered and addressed as appropriate. The documentation of the Level I evaluation is a **CSER** for PD&E projects, and a **Level I Evaluation Report** for projects that do not have a PD&E Study. A Technical Memorandum or contamination clearance letter is prepared for project with no contamination impacts or with minimal involvement with contamination. The decision to prepare a Technical Memorandum should be made in consultation with DCIC during development of the scope of services for the project after the ETDM Programming Screen is completed.

The **CSER** or **Level I Evaluation Report** documents screening methodology and contamination screening results. The report also includes data reviewed; findings; previous remedial actions; a risk rating for each potentially contaminated site; conclusions about the findings of the evaluation; and need for Level II assessment. Risk ratings, conclusions and the need for additional assessment presented in the report must be supported by data. If known or potentially contaminated sites are identified, their locations should be clearly marked (with stations and offsets, if appropriate) on the map that show project alternatives. The level of detail of the **CSER** depends on the complexity and scope of the project; severity of potential contaminated material; and number of potential contaminated sites. The report should be reviewed for technical accuracy, clarity of presentation and quality. Sources of all information and supporting documentation should be included (or appended) in the report.

The **CSER** report should have headings and subheadings to effectively delineate the sections appropriate to the level of analysis. See [Figure 20-2](#) and [Figure 20-3](#) for a sample **CSER** cover page and examples of section details, respectively. The cover page of the **CSER** should use the **Technical Report Cover Page, Form No. 650-050-38**. The cover page of the **CSER** or Technical Memorandum should contain the following standard statement:

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a

Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

The following is a suggested outline for the **CSER**:

- **Cover page**—See [Figure 20-2](#) for sample cover page
- **Table of Contents**
- **Introduction**— Briefly state the purpose of the report.
- **Project Description**— Briefly describe the proposed improvements and define the project limits and construction activities. The description should state if the project is anticipated to acquire new ROW. Include project location map.
- **Project Alternatives**—Briefly describe each viable alternative that is analyzed in detail. Illustrate project alternatives using maps (overlaid on the aerial photographs) or other relevant figures. The maps should include commercial, industrial, or any other properties within the vicinity of the project which may pose contamination concerns.
- **Methodology**—Summarize the method used to evaluate contamination impacts on the project including all sources of information used and all individuals interviewed. Describe how contaminated sites were screened and evaluated for each project alternative.
- **Land Uses**—Briefly describe existing land uses. Include land use maps. Identify the current and previous users of each potentially contaminated property and the type of business conducted. Review historical aerial photos and indicate any historic land uses that may have resulted in contamination impacts to the subject properties.
- **Hydrologic Features**—Briefly describe of the hydrologic features within and adjacent to the project limits.
- **Interviews**—Summarize the outcome of interviews with site owners, operators, managers, regulatory agency staff, and others. To streamline preparation of **CSER**, this may be included in Project Impacts section
- **Project Impacts**—Based on the outcome of desktop review and field review: 1) Describe the source(s) of hazardous material; 2) Describe pertinent activities taken by regulatory agencies (regulatory status); and 3) Provide a narrative of potential contamination impacts on each project alternative, for each site with known or potential contamination issues. Locate known and/or potentially contaminated sites on the alternative concept plans. Summarize the number of potentially contaminated sites and their respective risk ratings as described in [Section 20.2.2.4](#) for each alternative in a matrix format.

- **Conclusion**—Discuss the findings of the contamination evaluation and need for additional investigation (Level II or Level III assessment) during subsequent phases (i.e., ROW acquisition or design). Include in the discussion, a listing of the analytical parameters of concern and media (e.g., soil, groundwater) for each site that will require additional investigation.
- **Appendices**—Include, site maps, relevant project plan sheets, site photographs with captions, historical research documentation, regulatory records documentation, interview documentation, site review checklists, field notes, topographic maps, project alternatives concept plans, and any letters, emails, or memos that document coordination with regulatory agencies.

20.2.2.6 Environmental Document

Documentation of contamination should be included in the Environmental Document as outlined in this section. All commitments made through coordination efforts should be documented in the Environmental Document and transmitted to the next phases of project development (Design and Construction) in accordance with [Procedure No. 650-000-003, Project Commitment Tracking](#) and [Part 2, Chapter 22, Commitments](#).

20.2.2.6.1 Type 1 Categorical Exclusions and Non-Major State Actions

Type 1 Categorical Exclusions (CEs) – Include a brief summary of Level I evaluation in the [Type 1 Categorical Exclusion Checklist \(Part 1, Chapter 2, Class of Action Determination for Federal Projects\)](#). Upload **Level I Report**, technical memorandum, or contamination clearance letter as well as documentation of subsequent assessment, as appropriate in the StateWide Environmental Project Tracker (SWEPT).

Non-Major State Actions (NMSAs) – Include a brief summary of Level I evaluation in the [Non-Major State Action Checklist \(Part 1, Chapter 10, State, Local, or Privately Funded Project Delivery\)](#). Upload the **Level I Evaluation Report** or a technical memorandum as well as documentation of subsequent evaluation, as appropriate, in SWEPT.

20.2.2.6.2 Type 2 Categorical Exclusions

Projects which are Type 2 CEs may have an involvement with contamination provided that the involvement is determined not to be significant. The determination of significance should use the guidance in [Part 1, Chapter 2, Class of Action Determination for Federal Projects](#). Upload the **CSER**, or a technical memorandum as well as documentation of subsequent evaluation, as appropriate, in SWEPT. Briefly summarize project involvement with contamination (based on Level I evaluation) in the **Type 2 Categorical Exclusion Determination Form**. The summary should at least answer the following questions:

1. Are there any known or potentially contaminated sites within or near the project area.

2. How did the project avoid or minimize impact to any known or potentially contaminated sites?
3. Are there sites that require additional investigation (i.e. Level II assessment)?

Note that a determination of significance for contamination involvement is rare and can generally be resolved through application of procedure described in this Chapter. Any potential significant involvement should be coordinated with OEM and OGC as early as practical during the development of the project, preferably before preparation of **Type 2 Categorical Exclusion Determination Form**.

20.2.2.6.3 Environmental Assessment and Environmental Impact Statement

The findings from the **CSER** are summarized in the in Environmental Analysis section of an Environmental Impact Statement (EIS) or an Environmental Assessment (EA). A summary table of impacts for each alternative should also be provided. Coordination which occurred during the contamination impact assessment is summarized in the Environmental Analysis section. Where applicable, the following statement should be provided:

The State of Florida has evaluated the proposed project corridor and has identified potentially contaminated sites for the various proposed alternatives. Results of this evaluation will be utilized in the selection of a preferred alternative. When a specific alternative is selected for implementation, a site assessment will be performed to the degree necessary to determine levels of contamination and, if necessary, evaluate the options to remediate along with the associated costs.

The Comments and Coordination section should discuss and include letters from agencies expressing comments on the Level I evaluation. Resolution of comments shall also be documented in this section.

For an EA with Finding of No Significant Impact (FONSI), the document will include a brief statement indicating the effect of the project. The availability of the **CSER**/Level I evaluation in the District Office should be noted. If known or potentially contaminated sites may affect the preferred alternative, the final Environmental Document [Final Environmental Impact Statement (FEIS)/Record of Decision (ROD), FEIS, or EA with FONSI] should briefly discuss these impacts and remediation/mitigation measures to eliminate or minimize the impacts. The following is an example statement that can also be included:

Based upon the above considerations, it is determined that there is no practical alternative to the proposed action, and that all practical measures have been included to eliminate or minimize all possible impacts from contamination involvement.

Upload the **CSER** as well as documentation of subsequent evaluation, as appropriate, in SWEPT.

20.2.2.6.4 State Environmental Impact Reports

SEIRs should summarize the results of the contamination screening evaluation in the Environmental Analysis section of the **State Environmental Impact Report Form, Form No. 650-050-43**.

The summary should answer the following questions:

1. Are there known or potentially contaminated sites within or near the project area.
2. How did the project avoid or minimize impact to any known or potentially contaminated sites?
3. Are there sites that require additional investigation (i.e. Level II assessment)?

Upload the **CSER** or Technical Memorandum, as appropriate, in SWEPT.

20.2.2.6.5 Re-evaluations

Changes to contamination impacts after approval of the Environmental Document must be re-evaluated consistent with [Part 1, Chapter 13, Re-evaluations](#). Design changes to the approved PD&E concept should be evaluated for potential contamination concerns. Updates to contamination status, anticipated or actual activities taken to resolve contamination issues should be discussed in the **Re-evaluation Form**. A construction advertisement Re-evaluation should reflect resolution of previously identified contamination issues. Resolution may include a description of how the issue will be handled if it will be addressed just prior to or during construction. Status of sites identified in the **CSER** with a Medium or High Risk Rating must be updated with subsequent re-evaluations. Final resolution on the disposition and method of addressing potentially contaminated sites during construction should be summarized in the re-evaluation.

20.2.3 Level II Assessment

A Level II assessment, also referred to as an **Impact to Construction Assessment (ICA)**, is usually performed during the Design phase to assess the type and extent of potential contamination impacts to construction activities on the project or ROW acquisition. Level II assessment is also used to establish a basis for developing remediation goals. Level II assessment should normally be performed only on projects identified for property acquisition or construction in FDOT's 5-year Work Program. The DCIC may use the District CAR contractor to perform Level II assessments. In some instances, a Level I evaluation and Level II assessment may be performed during the PD&E phase for a project with advanced design activities, or to assist FDOT in selecting the preferred alternative.

Level II assessment is required on all Medium to High ranked contaminated sites identified during Level I evaluation, unless project design changes or updated contamination/hazardous material information shows that the site no longer poses a risk to the project. The Level II assessment should consist of further evaluation with consideration of updated information, changes in design, review of design details, and/or ROW acquisition status. A Level II assessment may include site access, and sampling and testing of soil and groundwater, if appropriate. Soil and/or groundwater sampling would be conducted to further ascertain, the type, location and potential involvement with contamination as well to aid in further development of approaches to address contamination when found. Additionally, depending on the results of the Level I evaluation, sampling may also be required for asbestos, metal based coatings, surface water, sediments, wood preservatives, or air quality.

The scope of Level II assessment depends on the potential for contamination impacts and the type of construction contracting method for the project. Design Build (DB) and Public, Private Partnership (P3) projects often require an increased level of effort much earlier in the Design phase to identify potential impacts and ensure contamination issues are understood and considered in the DB and P3 processes. For these projects, the FDOT can adjust the assessment requirements (e.g., performing multiple levels of investigation concurrently), based on additional project information and design plans that are made available for review during the process.

The assessment methodology should be developed and coordinated between the project analyst, PM, and DCIC before beginning assessment. For guidance on assessment methods and cleanup target levels, refer to the FDEP's website, as well as **Chapters 62-780 and 62-777, F.A.C.**

If the Level II assessment indicates contamination issues are not present in the project area, or contamination issues will not impact construction (including dewatering efforts), or ROW acquisition, no further assessment should be required unless there is a record of a new contaminant discharge occurring within the construction limits after the assessment was completed.

If the Level II assessment indicates that contamination is present in areas that may impact construction activities or ROW acquisition, and involvement is anticipated, further assessment (Level III) is warranted to define the how contaminants will be avoided, removed or managed.

20.2.3.1 District Contamination Impact Coordinator Role during the Design Phase

The DCIC should perform the following activities during Level II assessment phase:

- Review the status of known or identified contaminated sites undergoing regulatory review or remedial action for baseline information.
- Coordinate Level II assessments, if warranted for the project, and coordinate with the assigned ROW agent and design PM, as appropriate.

- Review design plans and identify if there are activities which could cause exposure to, excavation of, or exacerbation of, existing soil or groundwater contamination.
- Review inclusion of plume identification, dewatering or proper site specific contamination plan notes to be included in the design plans, when appropriate, or preparation of MSP related to contamination.
- Coordinate with regulatory agencies, as necessary, such as coordination with FDEP for projects that require use of the [2014 MOU between FDEP and FDOT](#), or with WMDs for projects that require dewatering permits.
- As needed, update contamination status for contaminated sites adjacent to the project that are remediated by FDEP under the [2014 MOU between FDEP and FDOT](#).
- Verify commitments included in the final Environmental Document are addressed during Design phase.
- If possible, remediate contamination prior to construction activities using Districtwide CAR contracts.
- Coordinate with the CAR Contractor during remediation.

The presence of contamination or hazardous materials in the soil, sediment, groundwater and/or structures, within or adjacent to the ROW, may affect the ROW acquisition and project construction schedules. The schedule for Level II activities should allow sufficient time for FDOT to complete related activities required for the project. Thus, coordination between FDOT, the CAR Contractor, regulatory agencies, current tenants, and property owners is necessary to complete the assessment in a timely manner. It is possible that FDOT's production schedule will progress much faster than the regulatory agency and current property owner's assessment and remediation schedule. If the agency or property owner assessment and remediation schedule might affect FDOT's construction schedule, it may be necessary for FDOT to assume the responsibility for conducting the assessment within the ROW and complete remediation activities sufficient to accommodate construction activities, prevent exacerbation of existing contamination, and/or reduce construction worker exposure, either in advance of, or concurrent with construction. A final report documenting the type and level of assessment or remediation that was conducted should be provided to the FDOT PM and DCIC once the work has been completed. Interim reports or other investigation documents may also be provided, based on the project needs and context.

20.2.3.2 Right of Way Support

For parcels with building structures that might be purchased as part of the ROW acquisition, Level II Assessment should include review of building interiors, if possible. This should include a search for the potential for ACM and/or MBC (if not addressed by a separate District ROW contract), hazardous materials storage, staining, or other conditions that may indicate that potential/suspect contamination is or may be present. If contamination issues are identified on parcels to be acquired by FDOT, the DCIC should

coordinate with the District ROW Office and provide contamination-related information to support the appraisal of the parcel.

When possible, a decision should be made by the District (Environmental, ROW, and Construction Offices) for advance parcel acquisition as early as possible during the final design of the project to allow sufficient time for remediation of contamination to meet the production schedule.

20.2.3.3 Contamination Plan Markings and Special Provisions

If contamination is not avoided in the project, locations of known or potential contamination issues that will be encountered during construction should be marked on the design plans. Examples of contamination issues that can be shown on the design plans are limits of contaminated soil, landfills, storage tank system components, pump islands, monitoring wells, and groundwater contamination plumes.

Project notes (such as “General Notes Concerning Contamination”) that explain how the contractor will handle cleanup activities during construction are prohibited in the design plans. Instead, the PM and DCIC should rely on applicable implemented Standard Specifications that explain how contamination remediation plans will be executed during construction. If the Standard Specifications do not adequately address contamination needs for the project, the DCIC should work with the project’s Engineer of Record (EOR) to develop MSPs, or Technical Special Provisions (TSPs), as appropriate to ensure contaminated materials are handled and disposed of properly. Development of MSPs and TSPs requires coordination with the District and State Specifications Engineers as outlined in [Specifications Package Preparation Procedure, Topic No. 630-010-005](#).

20.2.4 Level III Assessment - Contamination Remedial Action

Level III assessment activities can take place during the Design phase, when acquiring ROW (if advanced acquisition has been completed), prior to the start of construction or during construction. These activities require coordination for appropriate funding allocation prior to construction letting.

Each site with potential contamination impacts should have a clearly defined scope of work for remediation activities, which conforms to the requirements of the appropriate regulatory agency. Generally, the provisions published by the FDEP for assessment and remediation of contaminated sites will be adequate for most regulatory agencies. The liability provisions in **Section 337.27, F.S.**, should always be considered when identifying the need for regulatory involvement and the extent of remedial activities.

In some instances, remedial activities could occur prior to the start of construction. These activities require coordination for appropriate funding allocation prior to construction letting. In certain cases, the Project Engineer, in coordination with the DCIC, may implement changes to the original Design to avoid or limit construction activities within contaminated areas.

The Level III scope of work should include a summary of the Level II assessment with recommendations on the limits of contamination and recommended remediation or construction support activities. If soil or groundwater remediation is necessary, the procedures should follow the applicable standards of the appropriate regulatory agency. Petroleum related Level III activities should be coordinated with the FDEP consistent with the [2014 MOU between FDEP and FDOT](#), see [Section 20.2.5.1](#).

20.2.5 Additional Considerations

20.2.5.1 2014 MOU between FDEP and FDOT

In June 2014, FDEP and FDOT entered into a Memorandum of Understanding ([2014 MOU between FDEP and FDOT](#)) to address discharges of petroleum pollutants in the FDOT transportation facilities. The MOU provides a process where FDEP can prioritize funding for assessment and remediation of petroleum pollutants from trust fund-eligible source sites into the SHS. Additionally, the MOU provides the procedure for dealing with inactive sites that have contaminant plumes extending beneath the FDOT ROW where FDOT adds a map note on the roadway ROW map as an institutional control to provide notice of existing contamination.

Based on the MOU, FDEP may conduct cleanup or provide funding to a third party contractor to assist with cleanup activities for petroleum contaminated sites. Projects covered under the [2014 MOU between FDEP and FDOT](#) should continue to be tracked throughout the project life cycle. If costs are incurred by FDOT, they may be recoverable under the [2014 MOU between FDEP and FDOT](#).

20.2.5.2 CERCLA / Superfund Sites

When a **CERCLA** or abandoned Superfund site is located within the project limits, the Office of General Counsel should be contacted if the contamination has the potential to be exacerbated by project activities. The DCIC should also coordinate with the EPA (and/or FDEP if they have been given delegation) for any remedial action decisions that are made for that site.

20.2.5.3 Asbestos Containing Materials and Metal Based Coating Surveys

It is FDOT's responsibility to protect the health and safety of its employees, contractors, consultants and the traveling public through inspections and proper handling, management and removal of ACM or MBC. Therefore, ACM and MBC surveys should be performed as early as possible in the Design phase, possibly as early as the PD&E phase, to allow for an evaluation of the impacts prior to the Construction phase. The asbestos and coatings surveys must be conducted according to the Asbestos Management Procedure in the [Right of Way Procedures Manual, Topic No. 575-000-000](#).

The DCIC should coordinate with the District Structures Engineer, District Bridge Engineer, District Maintenance Engineer, or District Facilities Engineer, as appropriate,

when survey or abatement actions are required for facilities or structures that have or may have ACM, LBP, or MBC. The District Structures Engineer, District Bridge Engineer, District Maintenance Engineer, or District Facilities Engineer may have additional information acquired during surveys or previous maintenance activities regarding ACM and MBC on structures/bridges within the project.

The DCIC should make sure an ACM or MBC survey is performed on all bridges and other structures prior to demolition and any required abatement performed prior to construction. When ACM or MBC have been identified, abatement plans and provisions for worker safety, handling, storage, shipping, and disposal of the hazardous material shall be prepared.

Lead based paint may have been removed as part of previous bridge repainting or maintenance operations therefore testing for MBC will likely not show the presence of MBC even though MBC will likely still be present within faying surfaces of splices and top flanges embedded in concrete decks. Therefore, abatement plans must be prepared regardless of the outcome of the survey for all bridges constructed in 1980 or earlier.

If the project involves replacement, modification, or rehabilitation of the bridge constructed in 1980 or earlier, include the following standard statement in the ACM and MBC survey reports:

Based on the age of the bridge, lead-based coating shall be assumed to be present within faying surfaces of splices and top flanges embedded in concrete decks as well as other surfaces. Abatement plans for handling, management and removal of asbestos-containing materials and lead-based coating must be prepared before demolition, modification or rehabilitation of the bridge.

20.2.5.4 Use of Bridge Debris as an Artificial Reef

For coastal bridge replacement projects, consideration may be given to using clean bridge debris material for use as an artificial reef. Consideration for use of debris as an artificial reef will include, but will not be limited to, management, testing for hazardous materials, storage, estimated cost and/or transport of the material as well as permitting and agreements that may be necessary. This is coordinated with regulatory and resource agencies (FDEP, U.S. Army Corps of Engineers, and Florida Fish and Wildlife Conservation Commission), as well as other stakeholders, once it is determined that demolition is the preferred alternative for the project. Additionally, this work should be coordinated as appropriate among the Design PM, Project Engineer of Record, Environmental Manager, District Permits Coordinator, the Construction Project Manager and the DCIC, and it should occur as early in the design phase as possible. See **Part 1, Section 110.5.2.3 of the FDOT Design Manual (FDM), Topic No. 625-000-002** for more guidance.

20.2.5.5 Dewatering During Construction

Construction activities may require dewatering. Dewatering operations must obtain a National Pollution Discharge Elimination System (NPDES) Generic Permit for Discharge of Groundwater. Dewatering operations seeking coverage under the NPDES Generic Permit for Stormwater Discharges from Large and Small Construction Activities under subsection **62-621.300(4), F.A.C.**, are not required to obtain separate coverage under subsection **62-621.300(2), F.A.C.**

Contamination issues must be screened within 500 feet of the dewatering area before permit application. Any pollutants of concern (i.e. contamination) present in ground water at the dewatering site at concentrations equal to or exceeding the surface water criteria under subsection **62-302.530 F.A.C** must be remediated otherwise dewatering operation will not qualify for permit under subsection **62-621.300(2), F.A.C.** Therefore, dewatering operations in areas identified with contamination issues require treatment of effluent to limits and requirements specified in the NPDES Generic Permit.

20.3 REFERENCES

Chapter 62-302, F.A.C., Surface Water Quality Standards

Chapter 62-520, F.A.C., Ground Water Classes, Standards, and Exemptions

Chapter 62-528, F.A.C., Underground Injection Control

Chapter 62-610, F.A.C., FDEP Standard Operating Procedures

Chapter 62-621, F.A.C., Generic Permits

Chapter 62-701, F.A.C., Solid Waste Management Facilities

Chapter 62-730, F.A.C., Hazardous Waste

Chapter 62-761, F.A.C., Contaminated Site Cleanup Criteria

Chapter 62-761, F.A.C., Underground Storage Tank Systems

Chapter 62-762, F.A.C., Aboveground Storage Tank Systems

Chapter 62-777, F.A.C., Contaminant Cleanup Target Levels

Chapter 62-780, F.A.C., Contaminated Site Cleanup Criteria

FDEP, Contamination Locator Map (CLM).

<http://ca.dep.state.fl.us/mapdirect/?focus=contamlocator>

FDEP, Generic Permit for Discharge of Ground Water from Dewatering Operations, Document Number 62-621.300(2)(a)
[https://www.flrules.org/gateway/readRefFile.asp?refId=4262&filename=Generic%20Permit%2062-621.300\(2\)\(a\).pdf](https://www.flrules.org/gateway/readRefFile.asp?refId=4262&filename=Generic%20Permit%2062-621.300(2)(a).pdf)

FDEP OCULUS website. <http://depedms.dep.state.fl.us/Oculus/servlet/login>

FHWA, Technical Advisory T6640.8A, "Guidance for Preparing and Processing Environmental and Section 4(f) Documents," October 30, 1987.

FDOT, Efficient Transportation Decision Making Manual, Topic No. 650-000-002.
<http://www.fdot.gov/environment/pubs/etdm/etdmmanual.shtm>

FDOT, FDOT Design Manual (FDM), Topic No. 625-000-002.
<http://www.fdot.gov/roadway/FDM/2018FDM.shtm>

FDOT, Local Agency Program Manual, Topic No. 525-010-300.
http://www.fdot.gov/programmanagement/LAP/LAP_TOC.shtm

FDOT, Right of Way Procedures Manual, Topic No. 575-000-000.
<http://www.fdot.gov/rightofway/ProceduresManual.shtm>

FDOT, Standard Specifications for Road and Bridge Construction.
<http://www.fdot.gov/programmanagement/Specs.shtm>

FDOT, 2012. Statewide Stormwater Management.
<http://www.fdot.gov/maintenance/FDOTStormWaterMgmtPlan2012.pdf>

Memorandum of Understanding Between FHWA and FDOT Concerning the State of Florida's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327, December 14, 2016.
<http://www.fdot.gov/environment/pubs/Executed-FDOT-NEPA-Assignment-MOU-2016-1214.pdf>

Memorandum of Understanding between FDOT and FDEP, June 16, 2014

Section 334.27, F.S. Soil or Groundwater Contamination Liability

Sections 337.27 and 337.274, F.S. Exercise of Power and Entering Land

Sections 376.031 and 376.301, F.S. Definitions

Section 381.983, F.S. Definitions

Section 403.031, F.S. Definitions

Title 23 Code of Federal Regulations (CFR) Part 771, Environmental Impact and Related Procedures. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title23/23cfr771_main_02.tpl

Title 40 CFR §§ 230-300, Ocean Dumping and Solid Wastes. <http://www.ecfr.gov/cgi-bin/text-idx?SID=9e41e4fb951c2baf6b8d495cfacbf88f&mc=true&node=pt40.27.230&rgn=div5>

Title 40 CFR §§ 1500-1508, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. <http://www.ecfr.gov/cgi-bin/text-idx?gp=&SID=2844df1cb4a3af5ebaa699f42d98a60f&mc=true&tpl=/ecfrbrowse/Title40/40chapterV.tpl>

Title 49 CFR §§ 171-172, Hazardous Materials Regulations. http://www.ecfr.gov/cgi-bin/text-idx?SID=d97de10c4a7811818a0e8c2ce2169a55&mc=true&tpl=/ecfrbrowse/Title49/49cfrv2_02.tpl#0

United States Code, Title 29, Parts 1910 and 1926, U.S. Department of Labor, Occupational Health and Safety Administration (OSHA)

20.4 FORMS

[State Environmental Impact Report Form, Form No. 650-050-43](#)

[Technical Report Cover Page, Form No. 650-050-38](#)

20.5 HISTORY

12/10/2003, 9/1/2016, 6/14/2017: NEPA Assignment and re-numbered from Part 2, Chapter 22, 1/14/2019

Examples of issues or questions that may be considered for a project.

1. Pre-existing contamination within or immediately adjacent to the existing or proposed ROW
 - a. If contamination is present, what is the current status of the assessment or remediation by the Florida Department of Environmental Protection (FDEP) or third party?
 - b. What is the size / extent of the contamination plume and what planned construction activities does it affect? Should FDOT conduct further assessment (Level II) to better define extent and type of contamination?
 - c. If not petroleum, what is the contaminant? What other regulatory considerations exist for the contaminant?
 - d. If contamination exists, is it only petroleum or are there non-petroleum components?
 - e. If the contaminant is petroleum, has there been coordination with FDEP and/or is it eligible for remediation in accordance with the [2014 MOU between FDEP and FDOT?](#)
2. Contamination Related Structures in the ROW
 - a. Are there known or suspected Underground Storage Tanks (USTs), Above Ground Storage Tanks (ASTs), soakage pits, hydraulic lifts, or other potential contamination-related structures and/or ACM/LBP issues within the existing or proposed ROW that could impact construction?
 - b. Are there known or suspected contamination related structures and/or ACM/LBP issues within areas of proposed ROW acquisition which could impact ROW clearance and demolition?
 - c. What must be done to address them?
 - d. Should removal occur prior to construction?
 - e. Is UST removal appropriate for consideration under the [2014 MOU between FDEP and FDOT?](#)

Figure 20–1 Key Points to Consider

3. Impacts to the Design

- a. How will the known or potential contamination impact the design?
- b. Is there a viable avoidance alternative, design modification, or mitigation measure?
- c. Are there remediation or construction costs to be considered in coordination with the Work Program Office?
- d. Are areas of contamination marked on the design plans?
- e. Is there a need to prepare MSP or TSP?

4. Impacts to Construction

- a. How will the potential contamination impact the planned construction?
- b. Have the design and construction PMs been advised and coordinated with?
- c. What notifications need to be made to the construction contractor?
- d. Will remediation or removal of contaminated soil be completed prior to construction?
- e. Are there anticipated additional time or costs to construction?
- f. How will impacts to the construction contractor's planned activities be minimized?
- g. Do the contamination impacts pose an exposure or health & safety concern for the construction contractor?
- h. How will FDOT address these issues?
- i. Will the CAR contractor be involved during construction?

5. Exacerbation Potential

- a. Were contamination issues reviewed for proposed dewatering, sheet piling, pond construction?
- b. Will dewatering *impact* a ground water contamination plume?

Figure 20–1 Key Points to Consider (Page 2 of 3)

- c. Will stormwater proposed drainage measures (e.g., ponds, french drains) impact a groundwater plume?
6. **CERCLA**/Superfund, NPL Sites
- a. Are there known **CERCLA**/Superfund Sites within a ½ mile radius of the project limits?
 - b. What impact do these sites have on the project?
 - c. Is there potential of project activities to exacerbate, encounter contamination from, or acquire any portion of a **CERCLA** Site?
 - d. Has the District Office of General Counsel been advised of potential **CERCLA** involvement when identified?
7. Site Contamination Removal and Remediation
- a. If removed, how will the contaminant be transported?
 - b. What type of documents will be required for transporting waste from the site?
 - c. What is the status of the current site assessment and remediation on the FDEP's OCULUS website?
 - d. Have contractual and funding mechanisms been established for the costs of remediation and disposal?
 - e. Can the contamination-impacted soils (with levels less than Commercial/Industrial criteria) be reused on the project?

Figure 20–1 Key Points to Consider (Page 3 of 3)

CONTAMINATION SCREENING EVALUATION REPORT

Florida Department of Transportation
District X
Project Title
Limits of Project
County, Florida
Financial Management Number: XXXXX-X
ETDM Number: XXXXXX
Date

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

Figure 20–2 Sample Contamination Screening Evaluation Report Cover Page

Cover Page—See [Figure 20-2](#) for sample cover page.

Executive Summary—Briefly summarize the report. This should generally be no more than two pages.

Table of Contents

1. **Introduction**—Briefly state the purpose of the report and provide details on the basics of the project. An example introduction could be:

"The purpose of this report is to present the findings of a contamination screening evaluation for <<Insert Project Title>>. This report identifies and evaluates known or potential contamination sites within or adjacent to the project area that may affect implementation of the project. The report also presents recommendations for additional analysis and documents possible project impacts and their mitigations."

2. **Project Description**—Briefly describe the proposed improvements and define the project limits and construction activities. The description should also state if the project is anticipated to acquire new ROW. Include a project location map.

3. **Project Alternatives** —Briefly describe each viable alternative that is analyzed in detail. Illustrate project alternatives using maps or other relevant figures.

4. **Methodology**—Summarize the method used to evaluate contamination impacts on the project including all sources of information used and individuals interviewed. Describe how contamination was screened and evaluated for project alternatives. An example for a methodology could be:

"A contamination screening evaluation of _____ Road was conducted to identify potential contamination issues within the proposed project limits from properties or operations located within the vicinity of the project. This evaluation consisted of the following tasks:

- a. A description of the coordination with agencies contacted (such as FDEP, local government agencies, WMDs).

Figure 20–3 Contamination Screening Evaluation Report Outline

- b. A detailed description of data collected and their sources (such as database names, environmental database providers, local regulatory agencies, information on hazard classes obtained from generators, transporters, stationary tanks, and known leaks and spills).
 - c. A review of the aerial photographs (including historical aerials) used to determine the potential contamination problem areas.
 - d. Field observations (windshield surveys) performed to verify information provided and to identify other potential sources within the vicinity of the project.
 - e. A determination of the potential contamination risk rating (i.e., No, Low, Medium or High) for each potential contaminated site or property within the proposed project limits.”
5. **Land Uses**—Briefly describe existing land uses. Include land use maps. Review historical aerial photos and indicate any historic land uses that may have resulted in contamination impacts to the subject properties. An example of a land use description would be:

“ _____ Street, development has been in strip form fronting on _____ Road. The depth of commercial development is very shallow with residential apartments and single-family homes immediately behind the commercial property. A 23-acre shopping mall is located at the intersection of _____ Street. The area is fully developed with no open spaces remaining.”

Identify the current property owner and previous land use or previous business types of every suspect property on each project alternative (this is not intended to be a "Title Search"). This information should be available from the District ROW Survey and Mapping Office or from the County Property Appraisers office.

Identify the current and previous users of each property and the type of business conducted. This information should be available through county records (most are now online), city directories, Sanborn Insurance maps, plat maps and in the local public library. (To streamline report preparation, specific former and current land uses at each site can be included in the narratives in Section 8 – Project Impacts.)

Photographs of each potentially impacted sites should be taken, as well as any specific areas of concern noted during the field review. A photographic log should be prepared and include a caption indicating site location, potential impact, the photographer position, and camera direction.

Figure 20–3 Contamination Screening Evaluation Report Outline (Page 2 of 6)

- 6. Hydrologic Features**—Briefly describe of the hydrologic features within and adjacent to the project limits. This should be no longer than one page in length, unless there is a specific reason to provide more extensive detail. An example of a hydrologic features description would be:

"The project area is generally underlain by the _____ aquifer, which is characterized by high porosity sands and limestone which typically allows rapid infiltration of rain-fall and surface runoff. The groundwater surface generally follows the ground surface with a North to South gradient at a depth of _____ feet below ground surface. Flow rates are estimated to be _____ feet per day. There are no surface water features (lakes, canals) or wells within the immediate project area. The _____ is located _____ from the project area and is considered outside any possible zone of influence. Existing surface drainage is flat, relying primarily on infiltration for removal."

- 7. Interviews** (if applicable)—Summarize the outcome of interviews with site owners, operators, managers, regulatory agency staff, and others. The City/County engineer should be able to provide current or historical permit information. The local WMD personnel can provide information on water wells in the area, problems associated with water quality, and discharge requests that have been approved, disapproved, or are under consideration.

Utility companies may be able to provide additional information concerning the services provided to the site, such as a sewer connection or septic system, how much electrical capacity is provided to the facility, (e.g., large electrical capacity could mean large equipment for manufacturing) or any documentation of prior polychlorinated biphenyl (PCB) use, if present. Utility companies may also have information on materials used to construct their utility lines (i.e., transite asbestos-containing pipes).

(To streamline report preparation, outcome of interviews can be included in the narratives in Section 8 – Project Impacts.)

Figure 20–3 Contamination Screening Evaluation Report Outline (Page 3 of 6)

8. **Project Impacts**—Based on the outcome of desktop review and field review: 1) Describe the source(s) of hazardous material; 2) Describe pertinent activities taken by regulatory agencies (regulatory status); and 3) Provide a narrative of contamination impacts on each project alternative, for each site with known or potential contamination issues. The narrative can include a table with details of each site or property by alternative that would be impacted. This table should include, at a minimum, the following information:
- a. Property description - Including facility name, physical address, and former site names.
 - b. Permit or ID numbers - Include FDEP program identification numbers or other permit numbers.
 - c. Type of Contamination Impact - List each hazardous material or potential hazard.
 - d. Contamination sources for each site with known or potential contamination issues.
 - e. Regulatory status of contaminated sites summarizing pertinent activities taken by regulatory agencies for each site or property and briefly outline the potential contamination issue(s) that would have an impact on the proposed project or alternative.
 - f. List of potential contamination-related structures - Located within the property boundaries as well as information on whether they are above ground tanks (ASTs) or USTs, along with tank size(s), contents, age, if they remain in place, etc. Other structures such as hydraulic lifts, soakage pits, and potential ACM/LBP structures, should also be documented.
 - g. Distance of known contamination plumes (or storage tank) from ROW (existing and/or proposed).
 - h. Identify the contamination risk rating for each site and alternative. Present the number of known or potentially contaminated sites with risk rating for each of the alternatives being considered.

Locate known and/or potentially contaminated sites on the alternative concept plans. Summarize the number of potentially contaminated sites and their respective risk ratings for each alternative in a matrix format.

Figure 20–3 Contamination Screening Evaluation Report Outline (Page 4 of 6)

9. **Conclusions** - Provide conclusions and recommendations related to the contamination impacts on the project. Each Medium- or High-rated site or property within the proposed project corridor will require Level II testing in the next phase of project development. When ascertainable, this section should note if the contamination impacts identified relate to ROW acquisition as well as potential involvement with construction. Unusual or notable impacts, such as CERCLA sites should be noted. Pertinent agency or stakeholder comments, coordination or commitments should be summarized. If this report is intended to be shared with other agencies or stakeholders for additional coordination, it can be stated in this section.

This section should also include a statement regarding potential for dewatering during construction.

This section should also include a very brief discussion of estimated costs for assessment and remediation, if known.

Figures

- a. Project Location Map: An area map (region, county, state, etc.) showing the general location of the proposed project, including project limits with a detailed map of the immediate project area.
- b. Land Use Map: A map or maps of the proposed project corridor and surrounding area showing current or future land uses (i.e., commercial, multi and single-family residential, schools, malls, parks,) if the map adds value to the evaluation.
- c. Contaminated Site(s) Location Map: A detailed map of the proposed project, including project limits, showing the locations of all potentially contaminated sites for each alternative.
- d. Maps should be scaled appropriately to provide useful information and discern features or structures, if warranted and should be consistent. Multiple maps and enlarged sub-maps may also be utilized.

Figure 20–3 Contamination Screening Evaluation Report Outline (Page 5 of 6)

Tables

- a. Potentially Contaminated Sites: This table should present information on each contaminated site or property that was evaluated as part of this document.
- b. Number of Potentially Contaminated Sites per Alternative: This table should present the number of known or potentially contaminated sites or properties with risk rating for each viable alternative. An example of this table would be:

Project Alternative	Contamination Risk			
	No	Low	Medium	High
A	#	#	#	#
B	#	#	#	#
C	#	#	#	#

= number of contaminated sites per risk rating for each viable alternative

10. **Appendices** - The document should include appendices that provide additional information required to support the risk rating, as well as provide information on current regulatory status. Examples of the information that could be included are as follows:

- a. Electronic regulatory database radius search documents.
- b. Potential Hazardous Waste Generator documentation and permits.
- c. Other Permit information.
- d. Tank registration data.
- e. Regulatory agency assessment documents including maps, diagrams, etc.
- f. Regulatory compliance reports.
- g. Copies of historical aerial photographs.
- h. Field notes, Site review checklists, Site review photo logs with captions

Figure 20–3 Contamination Screening Evaluation Report Outline (Page 6 of 6)