

Chapter 51

ENVIRONMENTAL ISSUES DURING CONSTRUCTION

MDT ENVIRONMENTAL MANUAL

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Chapter 51

ENVIRONMENTAL ISSUES DURING CONSTRUCTION

51.1 OVERVIEW

The Environmental Services Bureau (ESB) performs a broad array of environmental analyses and coordination during the preconstruction phase of project development for implementation during the construction phase of the project. The analyses and coordination often result in environmental commitments, mitigation measures and permit obligations that MDT must fulfill for compliance with applicable environmental requirements. To the fullest extent practical, ESB includes the commitments, mitigation measures and permit obligations in the environmental documentation for the proposed project. ESB and the Design Team (DT) coordinate to include the commitments, mitigation measures and permit obligations in the project plans (e.g., in project design details and/or in special provisions included in the contract plans).

When these types of obligations are involved, MDT has a continuing responsibility to ensure they are appropriately addressed during project implementation. The District Environmental Engineering Specialist (DEES) and ESB personnel generally are involved in monitoring project construction for follow-through on commitments, mitigation measures and permit obligations.

ESB personnel are involved in the construction phase if a project's environmental impacts change as a result of alterations to the project, if project construction causes environmental complaints, or if environmental issues are encountered that require analyses and/or remediation.

This Chapter provides an overview of the various roles and responsibilities for addressing environmental issues during project construction.

51.2 MONITORING IMPLEMENTATION OF ENVIRONMENTAL COMMITMENTS, MITIGATION AND PERMIT OBLIGATIONS

When a project involves environmental commitments, mitigation measures and/or permit obligations, ESB personnel responsible for the issues involved coordinate the information with the Project Manager (PM) and DT. The PM and DT ensure the commitments, mitigation and/or permit obligations are accurately reflected in the contract documents for the project (e.g., Supplemental Specifications, special provisions, detailed drawings).

For many environmental issue areas, the DEES accomplishes monitoring during construction and assists the Engineering Project Manager (EPM) in ensuring environmental commitments associated with the project are implemented. For other environmental issue areas, ESB staff may also be involved in the monitoring. The following sections discuss roles and responsibilities for monitoring the implementation of environmental commitments, mitigation and permit obligations.

51.2.1 District Environmental Engineering Specialist

The DEES assists the District Construction Engineer (DCE), District Construction Operations Engineer (DCOE), EPMs and their construction personnel with environmental compliance and is generally the front-line person for addressing environmental concerns and needs during project construction. The DEES coordinates, as needed, with the Environmental Engineering Section Supervisor (EESS), and other ESB staff to ensure that measures for addressing environmental issues are consistent with MDT Statewide environmental policies and with practices established by ESB.

The DEES and appropriate ESB personnel monitor project construction to assist the contractor and EPM with ensuring that all permit conditions, environmental commitments and mitigation measures, including those associated with construction impacts, are implemented in accordance with the approved contract documents. See the following discussions of construction-related responsibilities of other ESB positions for examples of the types of environmental issues addressed.

The DEES receives a copy of the environmental documentation and permitting certification for a project shortly before it will be let. This certification alerts the DEES to the project's status for letting and allows an opportunity for the DEES to ensure a complete working file of the environmental documentation and permitting for the project. The DEES reviews that information along with the project plans prior to attending the Preconstruction Conference. At the Preconstruction Conference, the DEES is available to answer questions, provide information and guidance regarding environmental permits, regulations, conditions and special provisions and to prepare the contractor for additional permitting during the construction phase (e.g., temporary facilities, storm water). The DEES assists the contractor and/or the EPM in complying with Montana Pollutant Discharge Elimination System (MPDES) and/or National Pollutant Discharge Elimination System (NPDES) storm water permit requirements when applicable. The DEES also coordinates with the EPM and contractor to support the contractors' efforts to secure and adhere to temporary facilities and construction permits.

The DEES reviews contractor submittals for temporary facilities permitting and suggests revisions, as necessary, to help facilitate efficient permitting by the agencies. The DEES coordinates, as needed, with the EESS, Project Development Engineer (PDE) and District Biologist (DB) to ensure permitting decisions and strategies are consistent with ESB policies and practices. The DEES prepares cover letters for the applications and forwards the packets

to the EESS for signature, submittal and tracking. Once the permits/authorizations are received from the applicable regulatory and resource agencies, the EESS distributes them as a complete package. The DEES then reviews conditions, consults with project managers and regulatory and resource agencies for clarifications or amendments and monitors implementation and compliance.

The DEES conducts on-site reviews with Construction personnel and ESB staff for conformance with preconstruction and temporary facility permits, storm water permits and other environmental requirements and regulations. The DEES coordinates self-reporting, when warranted, in accordance with MDT policy. When MDT is a permit holder, the DEES conducts the Annual Inspection and produces the required Annual Report for sites meeting Montana Department of Environmental Quality (DEQ) storm water permit criteria. The DEES conducts and facilitates on-site field reviews, meetings and discussions with regulatory and resource agency personnel related to construction permitting and environmental compliance. The DEES conducts final file and site reviews upon completion of construction and consults with the EPM to determine whether the contractor has met contract requirements and whether the storm water permit can be transferred/terminated. The EPM completes a final inspection to ensure the plans have been constructed as designed and all commitments have been fulfilled.

51.2.2 Project Development Engineer

The PDE coordinates with the DEES and/or Construction personnel to ensure that special provisions and design elements associated with permit conditions, environmental commitments and mitigation measures are understood and implemented during construction. Examples include the following:

1. Commitments and mitigation measures included in the approved environmental documentation for compliance with the *National Environmental Policy Act/Montana Environmental Policy Act*, such as:
 - impact avoidance, minimization and mitigation measures for various environmental resources;
 - alternatives to avoid and minimize conversion of Section 6(f) land and provide suitable replacement property; and
 - mitigation for impacts to pedestrian and bicycle facilities.
2. Measures to minimize harm to Section 4(f) resources as documented in a final Full Section 4(f) Evaluation, Programmatic Section 4(f) Evaluation or *De Minimis* Impact Determination approved by FHWA.
3. Commitments associated with Section 404 permits, 401 water quality certification and/or Tribal permits, such as:
 - compliance with the Section 404(b)(1) guidelines,
 - compliance with applicable regional permit conditions,
 - compliance with applicable nationwide permit conditions, and
 - compliance with special conditions associated with Tribal permits.

As necessary, the PDE also coordinates with the DEES and Construction personnel to address issues that may arise during construction (e.g., visual quality effects, potential conflicts with local events).

The PDE attends the Preconstruction Conference, as necessary, to answer questions and provide information and guidance regarding environmental permits, regulations, conditions and relevant special provisions.

51.2.3 District Biologist/Botanist

The DB/Botanist coordinate with the DEES and/or Construction personnel to address the objectives described for the listed environmental issue areas:

1. Plant Communities/Vegetation. To ensure the special provisions and design elements concerning plant communities/vegetation and associated conservation measures are implemented during construction.

The DB and Botanist both perform the following construction-stage functions:

- conduct on-site field review to ensure adherence to reclamation/planting specifications; and
- assist construction staff with goals and objectives of design specifications.

The DB conducts field reviews of wetland mitigation site completion, if applicable.

The Botanist performs the following construction-stage functions:

- monitors compliance with plant survival (contract) guarantee specifications; and
- coordinates with seeding contractors to accomplish objectives.

2. Wildlife. To ensure the special provisions, design elements and associated conservation measures concerning wildlife are implemented during construction.
3. Threatened and Endangered Species. To ensure the special provisions, design elements and associated conservation measures concerning threatened and endangered species are implemented during construction.
4. Water Resources/Water Body Modification. To ensure the special provisions, design elements and associated impact avoidance and minimization measures concerning water resource/water body modification impacts and SPA 124 permit conditions, if applicable, are implemented during construction.
5. On-Site Wetland Mitigation. To ensure the special provisions and design elements concerning the wetland impacts and on-site wetland mitigation are implemented during construction.

After the on-site wetland mitigation measures are constructed, the DB conducts periodic monitoring to evaluate the development of the on-site wetlands (e.g., acreage, wetland classification/type, wetland functions).

The DB/Botanist attend the Preconstruction Conference, as necessary, to answer questions, provide information and guidance regarding environmental permits, regulations, conditions and relevant special provisions.

51.2.4 Wetlands Unit

When notified by the Contract Plans Bureau that an off-site wetland mitigation project has been awarded for construction, the Wetlands Unit coordinates with the MDT Construction Bureau and the selected contractor to conduct preconstruction meetings, periodic monitoring and oversight of the construction work for consistency with the final contract documents.

If the construction reviews identify a need for corrective action to bring the project into conformance with the final design plans, the Wetlands Unit coordinates with the EPM to ensure the project is constructed in accordance with the final design plans and specifications.

51.2.5 Historian/Archeologist

During and after the project's construction, the Historian and Archeologist monitor the activities to ensure adequate fulfillment of avoidance stipulations and other compliance commitments (e.g., timely completion of agreed-to mitigation reports, documents) for cultural resources, including historic and/or archaeological resources associated with Tribal lands.

When a project involves use of Section 4(f) land, the Historian and Archeologist provide support during construction to meet all Section 4(f) commitments.

51.2.6 Noise Analyst

The Analyst coordinates with the PDE and DT to ensure all special provisions and details concerning proposed traffic noise abatement measures and special provisions for control of traffic noise impacts and construction noise, if applicable, are incorporated in the final contract documents.

As necessary, based on specific project commitments, the Analyst monitors construction noise for compliance with the special provisions.

51.2.7 Hazardous Waste Section

The Hazardous Waste Section (HWS) coordinates with the EPM and/or other Construction personnel to address the objectives described for the listed issue areas:

1. Removal of Contaminated Soil and/or Groundwater. To facilitate implementation of special provisions concerning removal and appropriate disposal of contaminated soil and/or groundwater during construction.
2. Removal of Underground Storage Tanks. To facilitate implementation of special provisions concerning removal and appropriate disposal of underground storage tanks during construction.

3. Remediation for Lead-Based Paint. To facilitate implementation of special provisions for removal, containment, collection and appropriate disposal of lead-based paint dust and/or debris during construction. To conduct or arrange for negative exposure testing, if determined necessary. To assist in collection of documentation of the transport and disposal for the EPM.

51.3 ENVIRONMENTAL COMPLAINTS/CHANGES IN IMPACTS

51.3.1 Environmental Complaints/Potential Violations

Entities external to MDT (e.g., DEQ, the public) may make complaints regarding environmental issues associated with construction operations for an MDT project. Examples include dust, open burning, fuel spills and discharges into streams or other water bodies. MDT construction inspectors may identify environmental issues that could result in complaints. When an environmental complaint is received or an environmental issue that could cause a complaint is identified and the complaint or issue involves potential noncompliance with environmental requirements, follow the guidance and procedures in MDT Management Memo 03-01 "Reporting Environmental Violations," or the most current guidance. Proper and timely management of environmental complaints is imperative.

The EPM may contact the DEES and/or the ESB for assistance in addressing the issue(s) involved. Generally, the DEES is responsible for initiating action to verify the nature of the complaint or issue and its cause and, for a complaint, coordinates with ESB personnel responsible for the environmental issue area(s) involved and a member of ESB Management. The DEES and/or ESB staff notifies the appropriate regulatory agency. For concerns involving air quality, fuel spills or other discharge of hazardous substances, the HWS provides assistance. The Environmental Resources Section (ERS) provides assistance on concerns involving threatened and endangered species impacts and wetlands. The Environmental Engineering Section (EES) provides assistance for concerns involving *Clean Water Act* Section 404 permits, Section 401 Certifications and Tribal permits. The Historian or Archeologist provides assistance on concerns involving historic/archaeological resource issues. The DEES and appropriate ESB personnel coordinate with the EPM and regulatory/resource agencies, as necessary, to discuss corrective action options for addressing the cause of the complaint (e.g., implementing dust suppression measures, limiting open burning, applying emission control technologies). The EPM oversees implementation of the selected corrective action measures to resolve the complaint and ensure compliance with applicable regulations. The DEES and ESB personnel provide assistance, if needed, during implementation of the corrective action measures.

51.3.2 Changes in Environmental Impacts

In some cases, the nature of a construction project may change for a variety of reasons (e.g., seasonal timing of construction work, added construction activities, unexpected site-specific conditions). These changes may result in new or different environmental impacts that were not anticipated during planning and design. Where proposed construction changes could alter a project's environmental effects, the EPM may notify the DEES or ESB directly or the DEES or ESB may identify environmental effect issues based on information in construction change orders provided to ESB for review.

ESB coordinates with the EPM and/or DEES to identify the proposed construction changes and determine the environmental resources and/or issues they may affect. As needed, appropriate ESB personnel conduct field reviews and/or studies to evaluate the environmental resources and/or issues and the nature and extent of the impacts they would incur. ESB personnel may call upon the DEES to assist with and/or conduct these reviews.

ESB personnel and the DEES also identify applicable environmental requirements and appropriate actions for compliance. ESB personnel and/or the DEES continue coordination with the EPM to identify and evaluate options to avoid or minimize impacts and to provide mitigation for unavoidable impacts, as necessary. The DEES and ESB personnel coordinate with appropriate regulatory and resource agencies to address and document compliance with applicable rules and regulations. In general, the DEES takes the lead on temporary facilities issues and ESB personnel take the lead on other environmental compliance issues. Collaboration among all staff is critical in addressing changes in environmental impacts. ESB and/or the DEES advises the EPM when the environmental evaluations and coordination for the construction change effects are complete and compliance is established with all applicable environmental requirements.

51.4 DISCOVERY OF ARCHAEOLOGICAL RESOURCES

If prehistoric or historic archaeological artifacts are encountered during construction, the contractor immediately stops work affecting the resources and notifies the EPM. The EPM stakes the area and designates it to remain undisturbed until further notice. The EPM notifies ESB of the discovery.

The Historian and/or Archeologist initiate field studies to obtain data for evaluating the significance of the site and possible actions for resolving adverse effects. Within 48 hours of the discovery of the site, the Historian and/or Archeologist notify the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and any Indian Tribe that might attach religious or cultural significance to the site. The notification describes the assessment of the eligibility of the site for the National Register of Historic Places (NRHP) and proposed actions to resolve adverse effects. The SHPO/THPO and Indian Tribe(s) should respond within 48 hours of the notification.

The Historian and/or Archeologist coordinate with FHWA to take into account recommendations received from the SHPO/THPO and Indian Tribe(s) regarding eligibility of the site for the NRHP and proposed actions for dealing with the site. The Historian and/or Archeologist then carry out appropriate actions regarding the site and provide the SHPO/THPO and Indian Tribe(s) a report of the completed actions. The Historian and/or Archeologist notify the EPM when the actions are complete and construction in the area of the site may proceed.

If artifacts are discovered on Tribal lands during project construction, the Historian and/or Archeologist comply with Tribal regulations and procedures and obtain the concurrence of the Indian Tribe on the proposed actions for dealing with the site.

51.5 DISCOVERY OF HAZARDOUS WASTE/MATERIALS

51.5.1 Underground Storage Tank (UST) Removals

If an UST is discovered during construction within the project right-of-way or in any other area of the project including the contractor's work areas, the contractor immediately stops work near the UST and notifies the EPM. For an UST within MDT right-of-way, the EPM notifies the HWS in ESB and/or the DEES. The EPM and HWS determine whether the current Contractor will be able to handle removal of the UST or whether the UST issue will be managed internally by MDT.

If the UST issue is managed internally by MDT, the HWS, or a term consultant (TC) tasked by the HWS, conducts an investigation of the UST to obtain information necessary for completing a "DEQ Notification of Underground Storage Tanks" Form. The completed notification form is submitted to the DEQ, Waste and Underground Tank Management Bureau (WUTMB).

The HWS or TC then completes a DEQ Closure Permit Application for Underground Storage Tanks, which includes information on the UST, where liquids or sludge will be disposed, where tanks and piping will be stored or disposed and which approved laboratory will perform soil analysis. HWS submits the completed application to the WUTMB within 30 days of the submittal of the UST notification form to DEQ and at least 30 days before the tank removal occurs.

After DEQ reviews and approves the application, it issues a permit for the UST removal. Part of the tank removal process includes conducting a site assessment to determine whether a release has occurred. This requires collecting soil and/or water samples to be sent to a laboratory. Specific requirements are included in the permit.

After receiving the UST Closure Permit from DEQ, HWS initiates action to hire a consultant or licensed tank removal contractor to remove the UST. HWS provides oversight of the UST removal work performed by the selected consultant or tank removal contractor. The work includes the following activities, as applicable:

- pumping all liquids out of tank before removal and properly disposing of the liquids;
- purging or neutralizing flammable conditions inside the tank;
- excavating and removing the tank and properly disposing of the tank and any associated piping;
- collecting soil and/or water samples after tank removal and having them analyzed by an approved laboratory, in accordance with the provisions of the UST Closure Permit;
- notifying the WUTMB within 24 hours if there is evidence of a tank or piping leak, which may be determined before or after receipt of the results of closure sample analyses;
- removing and properly disposing of soil contaminated by the tank or piping leak, if applicable; and

- backfilling and compacting the UST removal site and coordinating with the EPM on resurfacing, if necessary.

The HWS notifies the EPM when the UST removal work is complete and construction can proceed in the UST location.

51.5.2 Contaminated Soil and Water Characterization, Removal and Disposal

If contaminated soil or groundwater is encountered during project construction, the contractor immediately stops work affecting the contaminated location(s) and notifies the EPM. The EPM then notifies the DEES and HWS. The EPM and HWS determine whether the current Contractor will be able to handle the contamination issues or whether management will be handled internally by MDT.

If managed internally by MDT, the HWS, or a TC tasked by the HWS, evaluates the contamination. The evaluation includes the following steps:

- conducting historic land use research, as needed, to gather additional information on the contaminated area; and
- conducting subsurface investigations to determine the extent and magnitude of the contamination within MDT right-of-way and affected construction project area.

If the evaluation determines the contamination is not hazardous and does not involve petroleum products, HWS documents the findings for the project file, provides a copy of the documentation to the EPM and advises that the construction project may proceed.

If the evaluation determines the contamination is hazardous and/or involves petroleum products, the HWS proceeds in accordance with the following steps:

1. **Identification.** Based on the type of hazardous materials/substances and the project's involvement with the contamination, the HWS identifies regulatory agencies that need to be involved (e.g., DEQ, Petro Board, US Environmental Protection Agency (EPA)). The HWS communicates with the agencies to apprise them of the contamination and to determine the level of documentation necessary for compliance with regulatory requirements and for seeking reimbursement of cleanup costs (i.e., through the Petro Fund). For sites involving petroleum contamination, MDT may want to pursue reimbursement of the cleanup costs. The coordination with regulatory agencies also addresses formal determination of eligibility for reimbursement from the Petro Fund.
2. **Work Plan.** The HWS or TC prepares a Work Plan to establish the scope of work and estimated costs necessary for remedial investigation/cleanup of the contamination. The scope of the Work Plan is commensurate with the nature and extent of the hazardous materials/substances and the project's level of involvement with the contamination and reflects the results of coordination with regulatory agencies.

In developing the Work Plan for a site where MDT will seek reimbursement from the Petro Fund, the HWS or TC coordinates with DEQ Remediation Division and Petro Board. This may be an iterative process to refine the work items and estimated costs for

site cleanup to be approved by DEQ and the Petro Board. When the DEQ and Petro Board are satisfied with the corrective action work items and estimated costs in the draft Work Plan, the HWS transmits the final Work Plan to DEQ for approval. If necessary, the HWS provides copies of the transmittal to the EPA and to affected Tribes if the contamination is on Reservation land.

For contamination sites that are not reimbursed by the Petro Fund and for non-petroleum contaminated sites, the HWS or TC coordinates with DEQ and/or EPA and obtains their approval of the Work Plan.

3. Implementation. After approval of the Work Plan, the HWS or TC provides oversight and direction to a qualified contractor that conducts hazardous material/substance cleanup in accordance with the provisions of the Work Plan for addressing contaminated sites involved with the project. Remediation may include one or more of the following methods:

- over-excavation of contaminated soils;
- pumping and treating contaminated water;
- natural attenuation (i.e., monitoring groundwater to determine if there is a decreasing trend over time); and/or
- other remedial technologies.

The HWS or TC prepares reports documenting the remediation work and the progress in meeting cleanup goals for the site. When the site cleanup goals are met, the HWS submits supporting documentation to DEQ and/or EPA and requests site closure approval. Upon receiving approval documentation for site closure from the appropriate regulatory agencies, the HWS provides a copy of the documentation to the EPM.