

Chapter 40
WETLAND IMPACTS

MDT ENVIRONMENTAL MANUAL

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Chapter 40

WETLAND IMPACTS

40.1 OVERVIEW

The regulations of the US Army Corps of Engineers (COE) and the US Environmental Protection Agency (EPA) for implementing Section 404 of the *Clean Water Act* include the following definition of wetlands:

The term wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

The definition is included in 33 CFR 328.3 of the COE regulations and 40 CFR 230.3 of the EPA regulations.

Wetlands are important features of the landscape that perform numerous beneficial functions. These include:

- protecting and improving water quality,
- recharging water supplies,
- storing floodwaters and maintaining surface water flow during dry periods,
- providing fish and wildlife habitat,
- providing recreational opportunities and aesthetic benefits,
- providing sites for research and education, and
- providing benefits for commercial fisheries.

In recognition of their importance, wetlands are included in the definition of “waters of the United States” that are subject to the regulatory requirements under Section 404 and Section 401 of the *Clean Water Act*. Wetlands also are afforded protection under Federal Executive Order 11990 and US DOT Order 5660.1A and wetlands on certain Tribal lands in Montana are subject to Tribal permitting requirements (i.e., under the Aquatic Lands Protection Ordinance 90-A and the Aquatic Lands Conservation Ordinance 87-A).

This Chapter provides guidance and procedures for identifying and addressing potential wetland impacts associated with MDT projects, in accordance with applicable wetlands protection directives.

40.2 LAWS, REGULATIONS AND GUIDANCE

40.2.1 33 USC 1344 “Permits for Dredged or Fill Material”

This Section of the *United State Code* (USC) codifies Section 404 of the Federal *Clean Water Act* (CWA) establishes a program for regulating the discharge of dredged and fill material into waters of the United States, including wetlands. Implementing regulations administered by the COE are in Title 33 of the *Code of Federal Regulations* (CFR), Parts 320-330 and implementing regulations administered by EPA are in 40 CFR 230-233. The EPA regulations in 40 CFR 230 address “Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material.” Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern. These Guidelines also include the provision that “...no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.”

40.2.2 33 USC 1341 “Certification”

This USC Section codifies Section 401 of the CWA. It requires any applicant for a Federal license or permit for any activity that may result in any discharge into the navigable waters to provide the permitting agency a certification from the State in which the discharge originates, or will originate, that the discharge will not violate applicable water pollution control standards.

40.2.3 23 USC 139 “Efficient Environmental Reviews for Project Decision-Making”

For projects involving preparation of an environmental impact statement and for environmental assessments being prepared in accordance with the FHWA “SAFETEA-LU Environmental Review Process Final Guidance,” this part of the USC requires that, at appropriate times during the study process, the lead agency or agencies for the project collaborate with agencies serving as participating agencies to determine the methodologies to be used and the level of detail required for assessing impacts, including wetland impacts. See [Chapters 11 “Preparing Environmental Documentation,”](#) [13 “Environmental Assessment/FONSI”](#) and [14 “Environmental Impact Statement/ROD”](#) for further guidance on this requirement.

40.2.4 Executive Order 11990 “Protection of Wetlands”

This 1977 Executive Order establishes policies applicable to Federal actions to support the objectives of avoiding, to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The Executive Order requires each Federal agency, to the extent permitted by law, to avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds that there is no practicable alternative for the construction, and that the proposed action includes all practicable measures to minimize harm to wetlands that may result.

40.2.5 DOT Order 5660.1A “Preservation of the Nation’s Wetlands”

Pursuant to Executive Order 11990, this Order sets forth the US Department of Transportation policy “...to assure the protection, preservation, and enhancement of the Nation’s wetlands to the fullest extent practicable during the planning, construction and operation of transportation facilities and projects. In accordance with E.O. 11990, new construction located in wetlands must be avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such construction. In making a finding of no practicable alternative, economic, environmental and other factors may be taken into account. Some additional cost alone will not necessarily render alternatives or minimization measures impractical since additional cost would normally be recognized as necessary and justified to meet national wetland policy objectives.” The Order also establishes procedures for implementation of the policy.

40.2.6 23 CFR 777 “Mitigation of Impacts to Wetlands and Natural Habitat”

These regulations provide Federal Highway Administration (FHWA) policy and procedures for the evaluation and mitigation of adverse environmental impacts to wetlands and natural habitat resulting from Federal-aid projects funded pursuant to provisions of title 23 USC “Highways.”

40.2.7 33 CFR 332 “Compensatory Mitigation for Losses of Aquatic Resources”

This final rule, issued by COE and EPA, amends 33 CFR 325 and 332 and 40 CFR 230. The rule establishes performance standards and criteria for the use of permittee-responsible compensatory mitigation, mitigation banks and in-lieu programs to improve the quality and success of compensatory mitigation projects for activities authorized by Department of the Army permits.

The rule is intended to improve the planning, implementation and management of compensatory mitigation projects. It emphasizes a watershed approach in selecting compensatory mitigation project locations and requires measurable, enforceable ecological performance standards and regular monitoring for all types of compensation. It also specifies the components of a complete compensatory mitigation plan, including assurances of long-term protection of compensation sites, financial assurances and identification of the parties responsible for specific project tasks.

40.2.8 MCA 87-5-501 through 509 “Stream Protection”

These Parts of the *Montana Code Annotated* (MCA) establish the authority for the Montana Department of Fish, Wildlife and Parks (FWP) to administer the requirement for submitting SPA 124 Notifications for projects that may affect any streams or tributaries in Montana.

40.2.9 MCA 75-5-318 “Short-Term Water Quality Standards for Turbidity”

This Montana Statute establishes the authority for the Montana Department of Environmental Quality (DEQ) to issue 318 Authorizations for turbidity resulting from stream-related construction activities or stream enhancement projects.

40.2.10 Corps of Engineers Wetlands Delineation Manual, 1987 Edition, including Regional Supplements

The *Corps of Engineers Wetlands Delineation Manual* and regional supplements describe technical guidelines and methods using a multi-parameter approach to identify and delineate wetlands for purposes of Section 404 of the CWA. The *Manual* and supplements also provide appendices of supporting technical information. Use of this *Manual* and supplements is mandatory for identification and delineation of wetlands potentially subject to regulation under Section 404. For Montana, the regional supplements that should be used are the Great Plains, Arid West and Western Mountains and Valleys.

40.2.11 Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States

This memorandum, dated December 2, 2008 provides guidance to EPA Regions and COE districts implementing the Supreme Court's decision in the consolidated cases "Rapanos v. United States" and "Carabell v. United States," which address the jurisdiction over waters of the United States under the CWA. This decision affirmed COE jurisdiction over the following classes of waters:

- "traditionally navigable waters," including all rivers and other waters that are large enough to be used by boats that transport commerce and any wetlands adjacent to such waters;
- "non-navigable tributaries that are relatively permanent and wetlands that are physically connected to these tributaries;" and
- other tributaries and adjacent wetlands that have certain characteristics that significantly affect traditionally navigable waters, based on case-by-case determinations.

40.2.12 Supreme Court decision in Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers (SWANCC)

The SWANCC decision negated the COE interpretation that use of isolated, non-navigable, intrastate waters by migratory birds was sufficient basis for asserting COE jurisdiction over those waters. The Court held in SWANCC that "isolated waters," intrastate waters with no connection to any navigable waters, were not subject to COE authority under the CWA.

40.2.13 Headwaters Inc. v. Talent Irrigation District

As a part of this case (2001 Court Decision), Talent Irrigation District (TID) disputed that irrigation canals were "navigable waters." The Ninth Circuit Court concluded that the canals were "navigable waters" because they exchange water with streams and other natural bodies of water. The court determined that the irrigation canals were tributaries because they are "streams which contribute their flow to a larger stream or other body of water." Tributaries are "waters of the United States" and are subject to the requirements of the CWA. The Ninth Circuit rejected TID's argument that the irrigation canals are "isolated waters" because they have closed waste gates that form a "closed system." The court first pointed out that the waste gates

failed to contain the treated water when leaks killed fish in 1996 and 1983. The court also determined that the irrigation canals are intermittent streams because they exchange water with natural streams. Intermittent streams qualify as “waters of the United States.”

40.2.14 Corps of Engineers Regulatory Guidance Letter No. 08-02

This Regulatory Guidance Letter (RGL), dated June 26, 2008, explains the differences between an approved Jurisdictional Determination (JD) and a preliminary JD. It also provides guidance on when an approved JD is required and when a landowner, permit applicant or other affected party can decline to request and obtain an approved JD and elect to use a preliminary JD instead.

40.2.15 Classification of Wetlands and Deepwater Habitats of the United States

This 1979 publication, issued by the US Fish and Wildlife Service (USFWS), documents a classification system for wetlands and deepwater habitats that was developed by wetland ecologists, with the assistance of many private individuals and organizations and local, State and Federal agencies. USFWS has officially adopted this wetland classification system and uses it for wetland databases it develops, including the National Wetlands Inventory.

40.2.16 USFWS “National Wetlands Inventory” Website

This website is accessible through the USFWS home page. It includes links to a broad range of useful information regarding the National Wetlands Inventory (e.g., Geospatial Data – The Wetlands Geo-Web, National Spatial Data Infrastructure (NSDI) Wetlands Layer).

40.2.17 US Geological Survey (USGS) “National Wetlands Research Center” Website

The National Wetlands Research Center is a source and clearinghouse of scientific information about wetlands in the United States and the world for various agencies, private entities, academia and the public at-large. On a National level, the Center provides information on wetland habitats through a system of peer-reviewed journal articles, databases, synthesis reports, workshops, conferences, technical assistance, training and information/library services.

40.2.18 Montana Natural Heritage Program “Montana Wetland and Riparian Mapping” Website

This website is accessible through the Montana Natural Heritage Program home page. It provides information regarding the State’s program to map wetlands and riparian areas to USFWS national standards.

40.2.19 FHWA Technical Advisory T 6640.8A

The Technical Advisory, dated October 30, 1987, includes the following guidance for addressing wetland impacts of proposed projects:

1. Draft EIS. Where an alternative will impact wetlands the draft EIS should:
 - identify the type, quality and function of wetlands involved;
 - describe the impacts to the wetlands;

 - evaluate alternatives that would avoid these wetlands; and
 - identify practicable measures to minimize harm to the wetlands.

2. Wetland Identification. Identify wetlands using the definition of 33 CFR 328.3(b) (issued on November 13, 1986), which requires the presence of hydrophytic vegetation, hydric soils and wetland hydrology. Provide exhibits showing wetlands in the project impact area in relation to the alternatives.

3. Wetlands Importance and Impacts. In evaluating the impact of the proposed project on wetlands, the following two items should be addressed: the importance of the impacted wetland(s) and the severity of this impact. Merely listing the number of acres (square meters) taken by the various alternatives of a highway proposal does not provide sufficient information upon which to determine the degree of impact on the wetland ecosystem. The wetlands analysis should be sufficiently detailed to provide an understanding of these two elements.
 - a. Importance. In evaluating the importance of the wetlands, the analysis should consider:
 - the primary functions of the wetlands (e.g., flood control, wildlife habitat, ground water recharge);
 - the relative importance of these functions to the total wetland resource of the area; and
 - other factors (e.g., uniqueness that may contribute to the wetlands importance).

 - b. Impact. In determining the wetland impact, the analysis should show the project's effects on the stability and quality of the wetland(s). This analysis should consider the short- and long-term effects on the wetlands and the importance of any loss (e.g., flood control capacity, shoreline anchorage potential, water pollution abatement capacity, fish and wildlife habitat value).

The methodology developed by FHWA and described in FHWA-IP-82-23 and FHWA-IP-82-24, *A Method for Wetland Functional Assessment – Volumes I and II*, is recommended for use in conducting this analysis. Knowing the importance of the wetlands involved and the degree of the impact, the Highway Agency and FHWA will be in a better position to determine the mitigation efforts necessary to minimize harm to these wetlands. Mitigation measures that should be considered include preservation and improvement of existing wetlands and creation of new wetlands, consistent with 23 CFR 777.

4. Preferred Alternative in Wetlands. If the preferred alternative is located in wetlands, to the fullest extent possible, the final EIS needs to contain the finding required by

Executive Order 11990 that there are no practicable alternatives to construction in wetlands. Where the finding is included, approval of the final EIS will document compliance with the Executive Order 11990 requirements (23 CFR 771.125(a)(1)). The finding should be included in a separate subsection entitled “Only Practicable Alternative Finding” and should be supported by the following information:

- a reference to Executive Order 11990;
- an explanation why there are no practicable alternatives to the proposed action;
- an explanation why the proposed action includes all practicable measures to minimize harm to wetlands; and
- a concluding statement similar to the following:

Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result.

40.2.20 MDT “Montana Wetland Assessment Method”

The Montana Wetland Assessment Method (MWAM), dated March 2008, was developed by MDT in cooperation with the FWP. The objectives of the 2008 version of the MWAM are to provide a rapid, economical and repeatable wetland evaluation method applicable to Montana that:

- meets the needs of local regulatory agencies in terms of rating wetland functions and values for the majority of proposed wetland disturbance-related projects and wetland mitigation projects in the State, particularly highway projects;
- minimizes subjectivity and variability between evaluators;
- allows for the comparison of different wetland types;
- provides a means of rating wetlands to facilitate the prioritization of impact avoidance and minimization measures; and
- incorporates current and relevant information on wetland functions.

40.2.21 Aquatic Lands Protection Ordinance 90-A (ALPO)

This ordinance requires permit coverage from the Blackfeet Nation Environmental Office for all construction or fill projects that occur in wetlands, riparian areas and streams on the Blackfeet Indian Reservation.

40.2.22 Aquatic Lands Conservation Ordinance 87-A (ALCO)

This ordinance requires permit coverage from the Shoreline Protection Program Office of the Confederated Salish and Kootenai Tribe (CSKT) for any proposed work in, over or near any stream, river, lake or wetland on the Flathead Reservation.

40.2.23 Montana Department of Natural Resources and Conservation (DNRC) “Water Rights Bureau” Website

This website is accessible through the DNRC home page. It contains links to a broad range of useful information regarding water rights in Montana (e.g., Water Right Records Unit, Water Right Forms, Rules, Find a Water Right, Adjudication Information, General Information).

40.2.24 MDT “Wetland Mitigation Monitoring Protocol and Success Criteria, On-site, Project Specific Sites (< 2 acres)”

This monitoring protocol and the associated success criteria were established for use by MDT and by consultants hired by MDT to monitor On-site, Project Specific Wetland Mitigation Projects that are < 2.0 acres (0.81 ha) in size. The protocol is intended for reference in the Section 404 permit for the project involving the wetlands impacts.

40.2.25 “Priceless Resources, A Strategic Framework for Wetland and Riparian Area Conservation and Restoration in Montana, 2008-2012”

This document presents a strategic five-year framework to prioritize and direct collective efforts on wetland and riparian area conservation and restoration in Montana in pursuit of the State’s goal of “No overall net loss of the State’s remaining wetland resource base (as of 1989) and an overall increase in the quality and quantity of wetlands in Montana.” The wetland plan was developed by the Montana Department of Environmental Quality in collaboration with the Montana Wetland Council, with input from over 500 Montana scientists, resource managers, landowners, educators, private business owners and citizens.

40.3 PROCEDURES

40.3.1 Wetland Impact Evaluation and Mitigation

40.3.1.1 Wetland Identification and Assessment

The Preliminary Field Review (PFR) is the initial step in the analysis of a proposed project's effects on wetlands. The PFR includes preliminary evaluation of the project scope of work and the potential for social, economic and environmental impacts. The Design Team (DT) notifies and invites appropriate MDT personnel, including the District Biologist (DB) and Project Development Engineer (PDE) within the MDT Environmental Services Bureau (ESB), to the field review. The PDE reviews the list of ESB attendees and includes others as necessary to ensure appropriate ESB personnel are in attendance.

Prior to the PFR, the DB may conduct preliminary research to evaluate the potential presence of wetlands in the project area. Examples of potential information sources for this research include:

- National Wetlands Inventory website (limited coverage in Montana),
- Montana Wetland and Riparian Mapping Center website,
- topographic maps, and
- aerial photographs of the project area.

The DB and PDE participate in the PFR to make a preliminary evaluation of the available information on the project scope and the potential for wetland impacts. The DB also evaluates the feasibility of providing on-site mitigation for unavoidable wetland impacts. The area evaluated for potential impacts to wetland resources includes the locations where ground disturbance will occur. It also includes other areas containing wetlands that are sufficiently close to the ground disturbance that they may be affected by the project (e.g., alterations to the drainage in the watershed, above or below the wetlands; surface runoff, eroded soil or chemicals associated with the project).

Following the field review, the DT prepares a PFR Report summarizing the issues discussed during the PFR, including preliminary determination of potential wetland impacts and potential for on-site mitigation. The final PFR Report is distributed for review and comment. Within ESB, the PDE serves as the document champion to collect and coordinate comments from the other Sections. The PDE compiles the comments into a PFR review memorandum for signature by the Environmental Services Bureau Chief (ESBC).

After the PFR, and receipt of the PFR Report, the DB (or consultant, through the DB) and PDE request information from resource agencies that have a management or regulatory interest in wetlands (e.g., DEQ, USFWS) and review available environmental databases and resource maps to gather additional information in the project area. The scope of the data gathering is based on the proposed preliminary scope of work, type of project, geographic location and information obtained during the PFR.

For projects subject to the requirements of 23 USC 139 "Efficient Environmental Reviews for Project Decision-Making," the DB, in cooperation with FHWA, collaborates with participating agencies in determining the appropriate methodologies to be used and the level of detail required in the analysis of wetland impacts of project alternatives.

If the results of information gathering and agency coordination indicate there are no wetlands within the project's potential impact area, the DB and PDE document the basis for this determination, provide a copy to the DT and place a copy of the documentation in the project file.

If it is determined there are wetlands within the project area that may be affected directly (e.g., crossed by a road alignment) or indirectly (e.g., storm water runoff) by any of the project alternatives, the DB (or term consultant, if applicable) accomplishes the following tasks and documents the results for each potentially affected wetland:

1. Wetlands Delineation. The DB delineates the wetlands using the methodology described in the *Corps of Engineers Wetlands Delineation Manual*, 1987 Edition, including subsequent modifications and applicable regional supplements. The DB documents the results using the appropriate regional supplement wetland data forms.
2. Wetlands Classification. The DB classifies the wetlands according to the guidance provided in the USFWS publication *Classification of Wetlands and Deepwater Habitats of the United States*, 1979, and the appropriate Hydrogeomorphic (HGM) classifications. In addition, the DB applies additional classifications for "Weeds" and "Artificially Flooded Water Regimes" for wetlands located on the Flathead Indian Reservation. See the CSKT "Wetlands Conservation Program" website for additional guidance.
3. Wetlands Functional Assessment. The DB assesses the wetland function using the methodology in the current version of the MDT MWAM and documents the results using the MDT Montana Wetland Assessment Form included in the *MWAM Manual*.
4. Gathering Additional Information. The DB gathers additional information for evaluating the feasibility of providing on-site mitigation (e.g., magnitude of potential impacts to the wetlands, applicable mitigation ratios*, topography of the project area, right-of-way limits).

* *COE mitigation ratios for Montana are available on the Omaha COE District website. COE requires 1:1 acre replacement at a minimum and mitigation prior to impacts occurring. COE also requires 1.5:1 acre ratio at a minimum for temporal wetland losses and on-site mitigation. The COE provides ratios for restoration (re-establishment), restoration (rehabilitation), creation (establishment), enhancement, preservation (protection) and upland buffer. Several Tribes in Montana require 3:1 acre replacement at a minimum.*

40.3.1.2 Wetland Impact Evaluation

After wetlands in the project area are identified and evaluated, the DB coordinates with the DT throughout the project design process to avoid and minimize project impacts on wetland resources to the extent practicable and then evaluate unavoidable wetland impacts.

Pursuant to the guidance in FHWA Technical Advisory T 6640.8A, in evaluating the impact of the proposed project on wetlands, the DB and PDE consider the importance of the impacted wetland(s) and the severity of this impact. They ensure the wetlands analysis is sufficiently detailed to provide an understanding of these two elements.

In evaluating the importance of the wetlands, the DB and PDE consider the following factors:

- the primary functions of the wetlands (e.g., flood control, wildlife habitat, groundwater recharge);
- the relative importance of these functions to the total wetland resource of the area; and
- other factors (e.g., uniqueness that may contribute to the wetlands importance).

In determining the wetland impact, the DB and PDE evaluate the project's effects on the stability and quality of the wetland(s). This analysis considers short- and long-term effects and direct and indirect effects on the wetlands and the importance of any loss including:

- flood control capacity,
- shoreline anchorage potential,
- water pollution abatement capacity, and
- fish and wildlife habitat value.

The DB and PDE determine the direct impacts, typically based on the acreage (hectares) and functions disturbed. The DB and PDE determine precise area measurements for any wetlands that would be physically disturbed by unavoidable project impacts. They also must identify the potential for indirect impacts from surface runoff, eroded soil or chemicals. This includes the types, extent and timing of earth disturbances that could result in surface runoff and erosion and any chemicals that will be present in the project area during construction and operation.

In accordance with wetland protection directives, if wetland impacts cannot be avoided and have been reduced to the minimum level practicable, MDT must provide appropriate mitigation to compensate for the unavoidable adverse wetland impacts. To the fullest extent practicable, the mitigation should be in place prior to the occurrence of the wetland impacts requiring the mitigation.

40.3.1.3 Biological Resource Report

Based on the information gathered and the proposed project scope, the DB makes a preliminary estimate of the project's potential wetland impacts and a preliminary determination of whether the proposed action requires a Section 404 permit or an ALPO or ALCO permit. The DB coordinates with the PDE regarding the preliminary determination on required permits for wetland impacts.

The DB (or consultant) documents the information on the potentially affected wetlands in the Biological Resource Report (BRR) for the project. The wetlands content in the BRR includes an introduction describing the project aspects affecting wetlands, a discussion of the methods used for the wetlands evaluations and information on the results of the wetland evaluations, including the following:

1. Description of Delineated Wetlands. Describe location, type, extent, abundance, general condition, etc.

2. Wetland Delineation and Functional Assessment Classification. Provide a discussion and a table summarizing the functional assessment values of each wetland for which wetland site evaluation forms were completed.
3. Potential Wetland Impacts. Include qualitative and quantitative description of the direct and indirect effects of the project on each wetland or wetland complex. Provide a table listing affected wetlands, their type, area, affected area, site location and project station location, and a summary of the total affected area of wetlands by category and type and totals for the project.
4. Recommendations for Avoiding and Minimizing Wetland Impacts. Discuss the changes in design elements and implementation of Best Management Practices (BMPs) (e.g., installing silt fencing around the perimeter of the construction site, installing perimeter berms and liners in areas used for storage of chemicals, including petroleum products) to avoid and/or minimize direct and indirect impacts to wetlands in the project area.
5. Permits Required. Discuss the need for Section 404 permit(s), 401 certification(s), SPA 124 Notification(s), 318 Authorization(s) and ALPO and/or ALCO permits.
6. Assessment of the Feasibility of On-Site Mitigation. Provide a discussion of the factors that would affect the ability to accomplish mitigation on or adjacent to the project right-of-way.
7. Forms/Data. Include COE Routine Wetland Determination Data Forms, MWAM Wetland Assessment Forms, photographs of representative wetlands and plan sheets with delineated wetland locations included in an appendix to the BRR.

Upon completion of a BRR prepared by the DB, the Environmental Resources Section Supervisor (ERSS) reviews the Report. The DB may also coordinate the document with the DT and outside regulatory and resource agencies for review and comment. The DB makes changes in the BRR to respond to comments.

Upon completion of a BRR prepared by a consultant, the DB reviews it and may also coordinate it with the DT and outside regulatory and resource agencies for review and comment. The consultant makes changes in the BRR to respond to comments.

For a BRR prepared by the DB, both the DB and the ERSS sign the Report when they are satisfied with its contents. The consultant signs consultant-prepared BRRs.

The DB distributes the final BRR to the DT. The DB/consultant provides delineated wetland boundaries (MicroStation File) to the DT for inclusion within the plans.

The DB revises the BRR as necessary as project alternatives are refined. This may be an iterative process.

If all wetland impacts are avoided prior to the Alignment and Grade Review (AGR), the DB documents this outcome and provides this information to the DT for inclusion in the AGR Report. The DB also coordinates the information with the PDE for incorporation in the environmental documentation prepared for compliance with the *National Environmental Policy Act* (NEPA) (42 USC 4321, et seq.) and the *Montana Environmental Policy Act* (MEPA) (MCA 75-1-101, et seq.). See [Chapters 11 “Preparing Environmental Documentation,”](#) [12 “Categorical](#)

Exclusion,” 13 “Environmental Assessment/ FONSI” and 14 “Environmental Impact Statement/ROD.”

40.3.1.4 Analysis of Compensatory Mitigation Options for Unavoidable Wetland Impacts

40.3.1.4.1 On-Site Mitigation

If all wetland impacts cannot be avoided, the DB first considers providing mitigation on-site (i.e., within or adjacent to the right-of-way of the project causing the impacts). The DB determines the feasibility of on-site mitigation based on applicable mitigation ratios, project location, right-of-way availability and constructability.

If on-site wetland mitigation appears to be a feasible option for all or part of the project’s anticipated wetland impacts, the DB coordinates with the DT to develop and evaluate the feasibility of various on-site conceptual mitigation ideas (e.g., wetland restoration, wetland creation, wetland enhancement, wetland preservation) as the project design proceeds. To the extent practicable, the intent is to design suitable mitigation that will replace the wetland functions affected by the transportation project.

The DT includes mitigation concepts determined to be potentially feasible on the preliminary design plans for discussion at the AGR meeting. When the DT has completed preparation of preliminary plans for the proposed project, the DT coordinates with appropriate MDT personnel to schedule an AGR. The PDE reviews the list of ESB attendees and includes others as necessary to ensure appropriate ESB personnel are in attendance. The purpose of the AGR is to establish the horizontal and vertical alignments for the project. The AGR should address key design issues, including wetland impacts and associated on-site mitigation options. The AGR entails extensive coordination among the DT, including the DB.

After changes resulting from the AGR are incorporated in the design, the DT prepares a report documenting the issues discussed during the field review, including potential wetland impacts and on-site mitigation proposals. The DT distributes the final AGR Report for review and comment. Within ESB, the PDE serves as the document champion to collect and coordinate comments from the other Sections. The PDE compiles the comments into an AGR review memorandum for signature by the ESBC. Based on the results of the AGR, the DB determines whether on-site mitigation is still a feasible option.

If on-site mitigation is still a feasible option, the DB documents the proposed on-site mitigation measures in the Wetland Findings Report and coordinates with the PDE for incorporation in the environmental documentation prepared for compliance with NEPA and MEPA.

40.3.1.4.2 Off-Site Mitigation

If the DB and DT determine on-site mitigation is not a practical option for addressing the project’s wetland impacts, the DB coordinates with the Wetlands Unit in ESB to transfer the wetland impact information (i.e., location, classification and functions of affected wetlands, and the nature and magnitude of the project’s anticipated impacts on the wetlands) for mitigation off-site.

The Wetlands Unit considers several options for providing off-site mitigation including the use of wetland credits from existing MDT wetland reserves, purchase of wetland credits from wetland banks and/or development of proposals to establish suitable compensatory mitigation sites through wetlands restoration, creation, enhancement and/or preservation.

MDT wetland reserves are similar to wetland banks, but are solely for use in mitigating wetland impacts of MDT projects. Credits are not sold to other entities. Mitigation reserve designs are developed by MDT or by using consultants. MDT has developed flowcharts for wetland design for both processes. Average time for design is 1 to 2 years, depending on the need for mitigation project to meet permitting requirements. Plans are developed according to MDT and FHWA requirements and submitted for competitive bidding. MDT awards contracts for construction based on low bid. Reserve sites have been developed in the various watersheds and are located on Federal, State, Tribal and private lands. Reserves have been constructed by MDT, landowners/consultants and through cooperative projects with Federal, State, Tribal and municipal agencies. Reserves also have been constructed through cooperative/cost-share projects with conservation groups (e.g., Ducks Unlimited, Trout Unlimited). Funding for establishing the reserves is based on the projects being mitigated within each reserve.

MDT and the Montana Interagency Wetland Group divided the State into 16 major watersheds and developed a wetland ledger to track project-related wetland impacts in each watershed. MDT tracks proposed and permitted wetland losses for both proposed and constructed projects. Wetland losses mitigated at MDT wetland reserves are tracked within the ledger.

In developing a suitable proposal for providing off-site mitigation for a specific project, the Wetlands Unit considers a range of factors, including:

- the need to provide the compensation in the same watershed as the impacted wetlands and prior to occurrence of the impacts requiring the mitigation, to the fullest extent practicable;
- the need to provide the same suite of functions in the compensatory mitigation as those in the affected wetlands, to the extent practicable;
- availability of wetland reserves and/or wetland banks with service areas that include the project involving the wetland impacts requiring off-site mitigation and the extent the wetland reserves and/or wetland banks have the number and type of credits available to provide the needed compensatory mitigation;
- availability and viability of sites for establishing additional suitable compensatory mitigation sites through wetlands restoration, creation, enhancement and/or preservation (giving consideration to availability of water rights, whether or not the watershed involved has a watershed plan in place and, if so, how proposed compensatory mitigation would fit with the provisions of the plan, etc.); and
- effects of compensation ratios that may apply as a result of:
 - + method of compensation,
 - + temporal losses of wetland functions,

- + differences between functions lost and those expected to be produced by the compensatory mitigation, and
- + the difficulty of restoring or establishing the desired wetland resource functions and likelihood of success.

The Wetlands Unit accomplishes research, studies and coordination as necessary to develop a suitable proposal for off-site mitigation.

For purchase of wetland credits, the Wetlands Unit obtains a proposal from an entity selling credits. The Wetlands Unit and ERSS coordinate with the entity to review the proposal and to negotiate credits, ratios and costs. If the proposal is determined to be acceptable, the Wetlands Unit and ERSS nominate the wetland credit purchase project through the MDT Planning Division. After approval by the Montana Transportation Commission, the project is included in the Statewide Transportation Improvement Program (STIP) and assigned a Federal funding program number. The ERSS coordinates with MDT Legal Services in preparation of the wetland credit purchase agreement that stipulates the purchase price, ratio and number of credits.

For details regarding other off-site mitigation options, see [Section 40.3.2](#) “Development and Implementation of MDT Off-Site Mitigation.” The Wetlands Unit documents the proposed compensation plan and provides the information to the DB and to the PDE for incorporation in the environmental documentation.

40.3.1.5 Environmental Process

For projects involving wetland impacts, the DB provides the following information:

- type, quality and function of the wetlands involved;
- impacts to the wetlands, both short-term and long-term and direct and indirect, and the importance of any losses of wetland functions that would result;
- alternatives that would avoid the wetlands; and
- practicable measures to minimize harm to the wetlands, including proposed on-site and/or off-site mitigation, as applicable.

The DB and PDE coordinate to make a preliminary determination of jurisdictional authority of the COE and Tribes regarding the wetlands affected. If the COE has jurisdiction, the PDE makes a preliminary determination of whether an Individual or Nationwide 404 permit applies. The PDE reflects those determinations in the environmental documentation and coordinates with those agencies. The COE District Office with jurisdiction must make the final determination of whether an area is a wetland and whether the proposed activity requires a permit.

If an Individual permit is anticipated, the PDE ensures the environmental documentation includes alternatives under study to address the analysis required by Section 404 (b)(1); see [Chapter 45 “404\(b\)\(1\) Analysis.”](#)

The DB coordinates with the Wetlands Unit and DT in evaluating and responding to comments received regarding the project's wetland impacts and proposed compensatory mitigation. For comments from the COE, EPA, Tribes or other agencies/entities with management or regulatory responsibilities for wetlands, the PDE, DB and Wetlands Unit also may coordinate with those agencies/entities in responding to their comments.

For projects involving unavoidable wetland impacts, the DB provides information to the PDE to ensure the final environmental documentation addresses the finding required by Executive Order 11990 that there are no practicable alternatives to construction in wetlands

See [Chapters 11 "Preparing Environmental Documentation," 12 "Categorical Exclusion," 13 "Environmental Assessment/ FONSI" and 14 "Environmental Impact Statement/ROD"](#) for additional information on the environmental process and environmental documentation.

40.3.1.6 Scope of Work Report

As soon as appropriate data is available, the DT prepares the Scope of Work (SOW) Report, which identifies the major design features of the project and provides an overview of the project improvements. In addition to information on various engineering aspects of the proposed project, the SOW Report includes discussion of environmental considerations, including wetland impacts and associated impact avoidance and minimization measures and, if applicable, on-site mitigation.

The DT coordinates the SOW Report for review and comment by affected MDT bureaus. Within ESB, the PDE serves as the document champion to collect and coordinate comments from the other Sections. The DB reviews the SOW Report, provides written comments to the PDE and coordinates with the DT to ensure that wetland impacts, impact avoidance and minimization measures and, if applicable, on-site wetland mitigation measures are accurately reflected in the Report. The DB and PDE review the SOW Report to ensure that agreed-upon measures for avoiding and minimizing wetland impacts are incorporated in the project design. The PDE compiles the ESB comments into a SOW review memorandum for signature by the ESBC. The DT evaluates the proposed design to determine if there are areas where design modifications should be pursued to further avoid and/or minimize wetland impacts.

40.3.1.7 Preliminary Design Plans

After approval of the SOW Report by the Chief Engineer, the DB coordinates with the DT to incorporate on-site mitigation design in the project plans, if applicable. When preliminary project plans are complete, the DT provides the preliminary plans to the DB. The preliminary plans reflect the conceptual design for the project, the locations of delineated boundaries of wetlands in relation to the project and, as applicable, proposed on-site wetland mitigation measures. The DB transmits the preliminary plans to FWP and USFWS. The PDE submits the plans to the COE, DEQ, EPA and appropriate Tribal governments. The transmittal requests the agencies and Tribes to review the preliminary plans and provide any comments or concerns to the DB within a specified timeframe.

After the review and comment period for the preliminary conceptual design plan information, the DB and PDE coordinate with the DT, commenting regulatory and resource agencies and Tribal

governments to respond to comments received regarding the conceptual design and its effect on wetland resources. This process may be iterative and may include exchanges of correspondence, meetings and field visits to achieve resolution of comments submitted.

The DT incorporates in the project plans the appropriate design changes resulting from coordination with regulatory and resource agencies and affected Tribal governments.

40.3.1.8 Plan-in-Hand Review

After all appropriate design changes are incorporated to the extent practicable, the DT distributes the preliminary detailed design plan package and invites participation in a Plan-in-Hand (PIH) Review of the project. The PDE reviews the list of ESB attendees and includes others as necessary to ensure appropriate ESB personnel are in attendance. The DB and PDE review the plan package prior to the PIH meeting and either participate in the PIH Review meeting or submit comments prior to the meeting. The DB participates in the PIH Review to address wetland impacts, avoidance and minimization measures and associated on-site mitigation, if applicable.

The DT documents the items discussed during the PIH Review in the PIH Report and distributes the Report to participants for review and comment. Within ESB, the PDE serves as the document champion to collect and coordinate comments from the other Sections. The PDE compiles the comments into a PIH review memorandum for signature by the ESBC. The DT uses the recommendations contained in the PIH Report to revise the plans, special provisions and cost estimate. The DT determines the final limits of construction for the project and documents them in the project plans. If the project involves wetland impacts, the DT provides a set of the revised plans to the DB for use in preparing a Wetland Findings Report.

40.3.1.9 Wetland Findings Report

If it is determined wetland impacts will occur as a result of the project, the DB prepares a Wetland Findings Report to document the project's unavoidable impacts to wetland, river, stream and/or other water resources located within the project corridor. The Report includes the following information:

- description of the project and project area;
- discussion of methodology used for wetland delineation, classification and functional assessment;
- description of wetlands in the project area, including type, size, functions, abundance and location;
- discussion of the project's wetland impacts;
- discussion of alternatives for avoiding and minimizing the project's wetland impacts;
- description of compensatory mitigation (on-site and/or off-site) for unavoidable adverse wetland impacts; and

- appendices containing COE Routine Wetland Determination Data Forms, MDT Montana Wetland Assessment Forms, representative wetland photographs and project plans indicating wetland impacts.

Review the Appendices of this *Manual* for further guidance on the format and content of a Wetland Findings Report.

The DB provides a copy of the Wetland Findings Report to the PDE, the Wetlands Unit and DT, as appropriate.

40.3.1.10 Permitting

40.3.1.10.1 Evaluation

Based on the project scope and final construction limits, the DB and PDE evaluate the project's wetland impacts to determine if it involves any or all of the following:

- discharge of dredged or fill material, directly or indirectly (fallback), into a wetland determined to be subject to COE jurisdiction;
- work in, over or near any wetland on the Flathead Indian Reservation meeting the description contained within ALCO;
- work in, over or near any wetland on the Blackfeet Indian Reservation meeting the description contained within ALPO; or
- work affecting wetlands subject to local government wetland protection requirements (e.g., Bozeman, Whitefish, Ravalli County).

If the project involves one or more of the above-listed types of work, the DB and PDE prepare and submit permit applications according to the following procedures. The permitting process varies depending upon the location within the State.

40.3.1.10.2 Non-Tribal Land

As applicable, the PDE prepares the following:

1. 404 Permit. For discharges of dredged or fill material into jurisdictional wetlands, the PDE compares the proposed project with the Nationwide Permit Fact Sheets, Regional Conditions and applicable 401 Certification requirements to determine if the discharges qualify for coverage under a Nationwide 404 permit (NWP) or require an Individual 404 permit. For either type of permit, the PDE coordinates with the DB and prepares and submits a "Joint Application for Proposed Work in Montana's Streams, Wetlands and Other Water Bodies," along with appropriate supporting information and attachments, to the appropriate COE District.
2. Section 401 Certification. The 401 Certification is issued by DEQ. Generally, this process is coordinated between DEQ and the COE. The PDE is responsible for

reviewing and ensuring compliance with DEQ 401 Certification requirements, which vary depending on type of NWP.

40.3.1.10.3 Tribal Land

If discharge(s) of dredged or fill material involve wetlands within Tribal lands, other than the Blackfeet, Flathead, Fort Peck or Northern Cheyenne Reservations, the PDE only submits the 404 permit application information to the COE District and no additional submittals for Tribal permits or Tribal water quality certification are required for Individual 404 permits. For NWP, the PDE checks the COE NWP Fact Sheets for Montana and the CSKT, Fort Peck and Northern Cheyenne Tribal Certification, as applicable, or the EPA Certification for other Tribal lands to determine 401 Certification requirements. If the discharges involve waters within the Blackfeet, Flathead, Fort Peck or Northern Cheyenne Reservations, the following additional requirements apply:

1. Blackfeet Indian Reservation - ALPO Permit. The following apply:
 - a. 404 Permit. Apply to COE for a 404 permit.
 - b. 401 Certification. For NWP, check the EPA Tribal Lands Certification for 401 certification requirements. For Individual permits, the COE contacts EPA directly for a 401 certification.
 - c. ALPO. For work in, over or near any wetland on the Blackfeet Indian Reservation meeting the description contained within ALPO, the PDE completes and submits to the Blackfeet Nation Environmental Office an application, with appropriate supporting information, for an ALPO permit.
2. Flathead Indian Reservation - ALCO Permit. The following apply:
 - a. 404 Permit. Apply to COE for a 404 permit.
 - b. 401 Certification. For NWP, check the CSKT Certification for 401 certification requirements. For Individual permits, apply to the CSKT for a 401 certification.
 - c. ALCO. Apply to CSKT Shoreline Protection Office for the ALCO.

An ALCO permit is required for discharge of dredged or fill material into wetlands located within the Flathead Indian Reservation. If the PDE determines a project involves any other work in, over or near any wetland on the Flathead Indian Reservation meeting the description contained within ALCO, the PDE completes and submits a copy of the application information to the Confederated Salish and Kootenai Tribe (CSKT) Shoreline Protection Office for an ALCO permit to cover the work. The PDE also completes and submits an application, with appropriate supporting information, to the CSKT Tribal Water Quality Program.

3. Fort Peck Indian Reservation. The following apply:
 - a. 404 Permit. Apply to COE for a 404 permit.

- b. 401 Certification. For NWP, check the Fort Peck Tribes Certification for 401 certification requirements. For Individual permits, apply to Fort Peck Tribes for a 401 certification.

For a discharge of dredged or fill material into wetlands within the Fort Peck Indian Reservation, the PDE submits a copy of the 404 permit application information to the Fort Peck Office of Environmental Protection with a request for 401 Water Quality Certification.

4. Northern Cheyenne Reservation. The following apply:

- a. 404 Permit. Apply to COE for a 404 permit.
- b. 401 Certification. For NWP, check the Northern Cheyenne Tribes Certification for 401 certification requirements. For Individual permits, apply to the Northern Cheyenne Tribe for a 401 certification.

For a discharge of dredged or fill material into wetlands within the Northern Cheyenne Reservation, the PDE submits a copy of the 404 permit application information to the Northern Cheyenne Tribes with a request for a 401 Water Quality Certification.

5. All Other Tribal Reservations. The following apply:

- a. 404 Permit. Apply to COE for a 404 permit.
- b. 401 Certification. For NWP, check the EPA Tribal Lands Certification for 401 certification requirements. For Individual permits, apply to the EPA for a 401 certification.

The following are examples of supporting information and attachments that may be submitted with permit applications:

- PFR Report, or AGR Report, if the content is different from that in the PFR Report;
- SOW Report;
- BRR;
- information from Hydraulics Study Report;
- environmental documentation of the project's impacts (e.g., Categorical Exclusion checklist or applicable portions of the Environmental Assessment or Environmental Impact Statement);
- documentation of impact avoidance measures;
- applicable portions of project plans and cross-sections;
- Wetland Findings Report; and
- mitigation plan including crediting schemes, monitoring and performance standards.

Upon receipt of any required Section 404, ALPO and/or ALCO permits and associated Section 401 water quality certification for the project's wetland impacts, the PDE electronically scans the permits and uploads the permits to the Document Management System (DMS). The PDE distributes copies of the permits using the standard distribution memorandum and e-mail to solicit review and comment on special conditions associated with the permits. The PDE coordinates with the DB and prepares and submits appropriate special provisions for the bid package and submits them to the Contract Plans Bureau and DT.

The original permit and water quality certification are maintained in the ESB files.

40.3.1.11 Mitigation Implementation

40.3.1.11.1 On-Site Mitigation

The DB prepares any special provisions necessary to implement wetland impact avoidance, minimization and on-site mitigation measures (e.g., for salvaging wetland soils, installing fencing to delineate extent of protective easement for mitigation site). To the extent possible, the DB should prepare the contract documents using the *MDT Standard Specifications* to minimize the need for special provisions. The DB coordinates with the DT and MDT Contract Plans Bureau to ensure the special provisions associated with wetland impacts and on-site mitigation measures are included in the final engineering plan documents.

The DB coordinates with the DT to review final project plans to ensure measures for wetland impact avoidance and minimization are incorporated and that on-site mitigation design and special provisions are accurately reflected. The DB coordinates with the DT and the MDT Contract Plans Bureau to implement any needed changes.

The DB coordinates with Construction personnel and the District Environmental Engineering Specialist (DEES) 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).

For on-site mitigation of less than 2 acres (0.81 hectares), the following monitoring protocol and success criteria will apply and will be referenced in the Section 404 permit for the project, per agreement with the COE:

1. Pre-Construction Environmental Baseline. The DB collects the following baseline information for incorporation into the Post-Construction Monitoring Report:
 - a. Include a completed BRR, Wetland Findings Report/Delineation, MDT MWAM and the mitigation site performance standards for the proposed mitigation project area.
 - b. Provide photographs of the proposed mitigation project area from a minimum of two photo points well outside the actual project area. Include documentation of the location of these points on either a map or the MDT plan set. Use of an established survey hub or benchmark for these photo points is recommended. A

placed and painted (Survey Orange) iron pin or fence post are also acceptable for locating these points. Photographic documentation also should include a representative sample of photographs that encompass the entire project area.

- c. Include measurements of the proposed wetland mitigation area based on the design elevation to estimate the boundaries and area of wetlands to be developed.
2. Post-Construction Monitoring Report. A complete On-site Project-Specific, Wetland Mitigation Project Post-Construction Monitoring Report will contain the following:
 - COE file (404 permit) number;
 - name of the on-site, project-specific wetland mitigation project;
 - MDT project accounting information for the formal MDT project, linked to the development of the on-site, project-specific wetland mitigation site;
 - time, in years and months, since project completion;
 - dates and times of monitoring efforts and names of personnel conducting the monitoring;
 - photographs of the entire mitigation project site from each of the original photo points established prior to construction, taken during the growing season to fully document the extent to which the vegetation has become established;
 - completed post-construction COE Routine Wetland Determination Data Forms and MDT Montana Wetland Assessment Forms for the project site, including documentation of the results of a plant and wildlife survey of the project site, giving particular attention to hydrophytic plants and fauna found within the delineated wetland area;
 - the surveyed boundaries and calculated area of the developed wetlands;
 - a scale drawing or map of the delineated wetland areas within the project site superimposed on the project's as-built plans, clearly distinguishing the wetland areas that have developed since construction from wetland areas that existed before construction, if any;
 - performance standards; and
 - preconstruction baseline information, as described above.

Compile the information in a memorandum of no more than one or two pages. Attach copies of the supporting information (i.e., COE Routine Wetland Determination Data Forms, MDT Montana Wetland Assessment Forms, photographs and scale drawing or map of site).

3. Success Criteria. The COE has agreed that annual monitoring of on-site, project-specific MDT wetland mitigation projects will not be required for projects of less than 2

acres (0.81 hectares). Instead, achievement of the following success criteria at some point after the project's first full growing season and before the end of the fifth year after completion of construction will constitute successful development of the on-site project.

The portion of the site that meets or exceeds the criteria below will be considered successful and creditable:

- The area proposed for wetland credit must meet the wetland vegetation, soils and hydrology criteria detailed in the 1987 *Corps of Engineers Wetlands Delineation Manual* and appropriate regional supplements.
- The class of newly established wetlands must either:
 - + equal or exceed the wetland class that had the greatest unavoidable wetland impacts (if the site mitigates for all of the project's wetland impacts), or
 - + equal or exceed the wetland class of the portion of the impacted wetlands for which the site is intended to provide mitigation (if the site mitigates for a portion of the project's wetland impacts).

The wetland class will be determined based on the MDT MWAM.

- If monitoring results indicate the on-site mitigation is not successful in meeting the intended mitigation objectives, the DB continues to monitor the site in accordance with procedures in the approved agreement with COE for on-site mitigation. If ongoing monitoring indicates the on-site mitigation continues to be unsuccessful, the DB evaluates whether a project modification can be implemented to increase the potential success.
- If the DB determines project modifications can be implemented to increase the potential success of the on-site mitigation, the DB coordinates with Construction personnel and the DEES to implement the modifications.
- If the DB determines project modifications cannot be implemented to increase the potential success of the on-site mitigation or if ongoing monitoring indicates project modifications that were implemented failed to increase the potential success of the on-site mitigation, the DB coordinates with the Wetlands Unit to transfer the wetland impact information for mitigation of any remaining balance off-site and notifies the COE.
- If monitoring results indicate on-site mitigation is successful in meeting the mitigation objectives, the DB prepares the final monitoring report for the on-site mitigation and transmits it to the COE along with a Certificate of Compliance signed by the ERSS. If the on-site mitigation produced more wetland credits that meet the success criteria than originally estimated, MDT requests additional crediting from the COE.

40.3.1.11.2 Off-Site Mitigation

For off-site mitigation involving use of wetland credits, implementation occurs in one of the following ways:

1. COE Approved Bank. If the purchase is from a wetland bank that has received COE approval, when the environmental process is finalized and the wetland credit purchase agreement is fully executed, the Wetlands Unit and ERSS initiate action to have MDT Construction pay the entity in accordance with the terms of the credit purchase agreement.
2. Wetland Reserves. For off-site mitigation involving the use of existing credits from an MDT wetland reserve, the Wetlands Unit implements the mitigation by updating the MDT Wetlands Ledger information and providing documentation to the COE, and Blackfeet and/or CSKT Tribes, if applicable, to confirm application of the credits for wetland mitigation on the project.

For other forms of off-site mitigation, see [Section 40.3.2](#).

40.3.2 Development and Implementation of MDT Off-Site Mitigation

MDT provides off-site mitigation for unavoidable adverse wetland impacts resulting from its projects through purchase of wetland credits from wetland banks, use of wetland credits from existing MDT wetland reserves and/or development of proposals to establish suitable compensatory mitigation sites through wetlands restoration, creation, enhancement and/or preservation. The information in this section applies to wetland reserves and other off-site mitigation developed and implemented by MDT.

40.3.2.1 General

COE requires perpetual conservation easements to protect wetland mitigation sites. MDT places perpetual conservation easements on all mitigation sites developed on private and Tribal properties. Typically, easements are held by MDT, but in some cases are held by local land trusts or conservation groups. All mitigation reserves require a Certificate of Survey to accurately delineate the boundaries of the protective easement. MDT provides fencing to delineate boundaries of these easements, as required by FHWA. Due to previous issues with prohibiting grazing, all sites now require fencing.

COE requires securing water rights for each site constructed by MDT to ensure hydrology for wetland functions. MDT secures water rights to protect both groundwater and surface water hydrology. Applications for water rights are time consuming, as each application is different. The Wetlands Unit must collect data for a period of time to determine quantity for water right. Objections from adjacent landowners and water right holders can delay the processing of applications. Average period for MDT to secure water rights is 2 years. Closed basins are limiting new water rights and wetland mitigation efforts.

The Wetlands Unit considers the results of functional assessments of wetlands impacted during the planning and development of off-site mitigation sites. The impacted functions are

incorporated into mitigation projects whenever practical. Functional goals are incorporated into mitigation objectives and performance standards.

The Wetlands Unit is responsible for assessing mitigation sites during the monitoring period to determine if they are meeting functional goals/objectives. MDT imposes grazing prohibitions for the term of the monitoring period to allow planted shrubs and trees to develop. Monitoring of an off-site mitigation site includes detailed studies for a minimum period of 5 years or until the site meets performance goals and objectives. The monitoring period could be longer if drought conditions persist or shorter if the site develops quickly. Monitoring requirements and performance goals and objectives for the sites are outlined in the mitigation plan and the COE Section 404 permits. MDT must meet the performance goals and objectives as outlined by agencies involved for the project to be considered complete. During the monitoring period, MDT is responsible for maintaining fencing, eliminating weeds, and maintaining manmade structures and water diversions for each site.

Monitoring standards used by the Wetlands Unit to assess mitigation sites include the following:

- hydrology – surface and groundwater elevations, presence/absence, water quality;
- soils – mottles, redox, organics;
- vegetation – plant communities, threatened and endangered species, wetland delineations, monitoring for noxious weed species;
- wildlife – macroinvertebrates, threatened and endangered species, birds, mammals, reptiles and amphibians, etc.;
- maintenance issues - structures, fencing, weed control, etc.; and
- functional assessment.

As a part of monitoring, the Wetlands Unit annually takes color aerial photographs of each site at the same time of year. COE may require supplemental monitoring (e.g., water quality, soil sampling) depending on concerns with site.

MDT develops management plans with the landowner(s) to maintain wetlands after the monitoring period and approval of the completed wetlands by COE.

40.3.2.2 Identification of Need

The process for development of off-site mitigation begins with the identification of a need. This may result from a determination by the DB that on-site mitigation is not feasible or cannot account for all the required mitigation for a project. It also may result from a planning analysis by the Wetlands Unit of estimated wetland impacts of upcoming highway projects, as provided for in the STIP.

40.3.2.3 Mitigation Site Identification, Evaluation and Selection

After identifying a need for developing off-site mitigation, the Wetlands Unit initiates actions to identify leads for properties that may be suitable and available for development of viable wetland mitigation sites. The Wetlands Unit coordinates with MDT Right-of-Way (regarding availability of suitable excess right-of-way parcels); contacts landowners, resource agencies, conservation districts/groups, Tribal agencies, consultants, etc.; and may employ other methods to identify leads (e.g., placing advertisements in newspapers soliciting potential sites, distributing MDT Mitigation Program brochures in appropriate venues).

The Wetlands Unit follows up on identified potential mitigation sites by gathering information (e.g., on location, topography, soils, hydrology, adjacent land use, development plans) to determine which sites warrant a field review for a more detailed evaluation of their suitability for wetland mitigation. The Wetlands Unit uses the information to refine the list of possible sites and to focus on those with the greatest potential for establishment of cost-effective wetland credits.

For those sites determined to have the greatest potential for establishment of viable, cost-effective wetland mitigation credits, the Wetlands Unit conducts in-depth field reviews to evaluate various aspects of each site (e.g., soils, hydrology, land ownership, cultural resource issues, availability of water rights) and to identify any constraints that need to be addressed.

The Wetlands Unit confers with the ERSS, COE and appropriate Tribal governments on the results of the field reviews and jointly selects those locations to pursue for use as wetland mitigation sites. Site selection depends upon a number of factors (e.g., adequate hydrology, topography, availability of water rights, a willing seller, presence of sufficient soil for the establishment of wetlands, ease of construction, construction costs, amount of potential wetland credit acres).

The Wetlands Unit and ERSS then decide whether to complete the wetland design and implementation with in-house staff or to have a consultant complete the wetland design and implementation.

40.3.2.4 Feasibility Study

The Wetlands Unit and ERSS prepare information describing the proposed mitigation project (and, if applicable, the intent to assign project design to a consultant) and nominate the project to the MDT Planning Division for a Feasibility Study.

After approval by the Montana Transportation Commission, the Feasibility Study project is included in the STIP and assigned a Federal funding program number. If project design is to be assigned to a consultant, after receiving approval for the Feasibility Study, the Wetlands Unit and ERSS submit the project proposal information to the Consultant Design Engineer for presentation to the Consultant Selection Board (CSB). The CSB evaluates the project proposal and selects a qualified consultant to perform the work. The Consultant Design Engineer notifies the ERSS of the CSB selection. For consultant projects, unless otherwise noted, the consultant and the MDT Project Manager (PM) are responsible for the Wetlands Unit responsibilities noted below.

After receiving approval to conduct the Feasibility Study, the Wetlands Unit initiates a PFR for the proposed wetland mitigation project. The Wetlands Unit ensures appropriate MDT, Tribal and agency personnel are notified of the field review and invited to participate. The PDE reviews the list of ESB attendees and includes others as necessary to ensure appropriate ESB personnel are in attendance. Following the field review, the Wetlands Unit prepares a PFR Report summarizing the issues discussed during the PFR. The Wetlands Unit distributes the final PFR Report for review and comment. Within ESB, the PDE serves as the document champion to collect and coordinate comments from the other Sections. The PDE compiles the comments into a PFR review memorandum for signature by the ESBC.

After the PFR, the Wetlands Unit coordinates with other staff within the ESB and other MDT offices (e.g., Geotechnical Section, Right-of-Way) to complete the Feasibility Study for the proposed wetland mitigation project. The Feasibility Study evaluates a number of factors including, but not limited to, the following:

- hydrology (i.e., availability of groundwater and surface water);
- geology and soils;
- delineation of existing wetlands;
- biological resources;
- cultural resources;
- hazardous materials;
- water rights;
- right-of-way costs and issues;
- potential wetland credits;
- conceptual project designs; and
- estimated construction costs.

For in-house projects, the Wetlands Unit coordinates with the PDE to prepare environmental documentation for the project in compliance with NEPA and MEPA.

For consultant projects, the consultant prepares draft environmental documentation for compliance with NEPA and MEPA and submits the documentation to the PM. The PM coordinates with the Wetlands Unit and PDE for final preparation of the environmental documentation.

The Wetlands Unit and ERSS evaluate the results of the Feasibility Study, including any comments received or issues raised during the project analysis, and determine if the wetland mitigation project is viable.

If the proposed project is not viable, a project closure is initiated by the Wetlands Unit and the ERSS. Upon closure, the Wetlands Unit and ERSS reinitiate actions to identify leads for finding other suitable sites. If the proposed project is determined to be viable, the Wetlands Unit and ERSS coordinate with the Planning Division to move the project from the Feasibility Study Stage to the design stage. For consultant projects, the consultant may be notified to initiate conceptual design work.

40.3.2.5 Conceptual Design Review (Consultant Projects)

After the consultant develops the conceptual design for the proposed project, the PM and Wetlands Unit, in cooperation with the consultant, coordinate with Federal, State and Tribal regulatory and resource agencies and appropriate MDT personnel to conduct a review of the conceptual design.

40.3.2.6 Scope of Work Report

A SOW Report is prepared to define the proposed wetland mitigation project's design criteria, hydrologic controls and any other special features/designs. For in-house projects, the SOW Report is based on the preferred conceptual design prepared as part of the Feasibility Study. For consultant projects, the SOW Report is based on the results of the Conceptual Design review. The SOW Report provides, at a minimum, detailed discussion of the following information:

- design mapping;
- summary of geotechnical recommendations;
- major hydraulic/hydrologic considerations;
- water rights;
- location and description of special features (e.g., headgates, ditch blocks, culverts, islands);
- utility impacts;
- required permits;
- environmental considerations;
- right-of-way acquisition needs; and
- survey data acquired from the site, including elevations, location of structures, certificate of survey, as-built survey or completed site, etc.

For in-house projects, the Wetlands Unit and ERSS submit the completed SOW Report for approval by the ESBC. For consultant projects, the consultant provides the draft SOW Report to the PM. The PM coordinates review of the draft report and submits the final SOW Report for approval.

The environmental documentation for the project must be approved prior to approval of the SOW Report.

40.3.2.7 Preliminary Project Design

The Wetlands Unit, in cooperation with other MDT Bureaus, prepares the design for the wetland mitigation project based on the conceptual design in the approved SOW Report.

Concurrently, the ERSS and Wetlands Unit coordinate with the Right-of-Way Bureau to initiate the appraisal of the easement/property purchase and execution of a Letter of Intent with the affected landowner(s).

For in-house projects, the Wetlands Unit coordinates with Federal, State and Tribal regulatory and resource agencies and appropriate MDT personnel to conduct a review of the preliminary design for the project.

For consultant projects, when the consultant completes preparation of the preliminary design, the PM and Wetlands Unit coordinate the preliminary design for review by Federal, State and Tribal regulatory and resource agencies and appropriate MDT personnel.

40.3.2.8 Final Project Design

After addressing any issues raised as a result of the review of the Preliminary Project Design, the Wetlands Unit or consultant prepares the final design plans, special provisions and a cost estimate for the project, and a crediting scheme, performance criteria and goals and objectives for the site (e.g., wetland acreage, wetland types, and wetland functions to be established).

40.3.2.9 Plan-in-Hand Review

The Wetlands Unit (and PM for consultant projects) distributes the final design plans to Federal, State and Tribal regulatory and resource agencies and appropriate MDT personnel and invites participation in a PIH Review.

The Wetlands Unit documents the items discussed during the PIH Review in a PIH Review Report. For in-house projects, the Wetlands Unit distributes the PIH Review Report to the PIH Review participants for review and comment. For consultant projects, the consultant provides the report to the PM for distribution to PIH Review participants for review and comment. The Wetlands Unit uses the information in the final PIH Review Report to revise the plans, special provisions and cost estimate for the project.

40.3.2.10 Permitting

For in-house projects, the Wetlands Unit prepares a Wetland Mitigation Plan for submission to the COE that includes wetland crediting schemes and monitoring and performance standards. The Wetlands Unit also prepares the appropriate permit applications required for the proposed project (i.e., the “Joint Application for Proposed Work in Montana’s Streams, Wetlands and Other Water Bodies” and applications for ALCO and/or ALPO permits, if needed) and coordinates the applications with the appropriate PDE and DB for review.

For consultant projects, the consultant prepares a draft Wetland Mitigation Plan for submission to the COE that includes wetland crediting schemes and monitoring and performance standards. The consultant also prepares the appropriate permit applications required for the proposed project and submits them to the PM. The PM provides the draft applications to the Wetlands Unit and the Wetlands Unit coordinates the applications with the appropriate PDE and DB for review.

The Wetlands Unit submits the necessary permit applications to the appropriate agencies. After all permits needed for the project are obtained, the Wetlands Unit incorporates all permit conditions into the plans and special provisions.

40.3.2.11 Project Construction

The DT or Wetlands Unit, in cooperation with the appropriate MDT personnel, prepares and processes the necessary paperwork to transfer the project design plans to the Contract Plans Bureau for completion of the actions necessary to move the project to construction.

When notified by the Contract Plans Bureau that the 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 engineering plans for the project.

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 Engineering Project Manager (EPM) to ensure the project is constructed in accordance with the final design plans and specifications.

40.3.2.12 Post-Construction Review and Monitoring

Upon completion of construction of the wetlands, the Wetlands Unit coordinates with the EPM, FHWA, and Federal, State and Tribal regulatory agencies to conduct a post-construction review of the project. The purpose of the review is to confirm the wetlands were constructed according to the final design plans and specifications.

If the post-construction review identifies a need for corrective action(s) to bring the project into conformance with the final design plans, the EPM coordinates with the project contractor to implement any necessary corrective actions. Following completion of the corrective actions, the Wetlands Unit coordinates additional post-construction reviews until the Wetlands Unit, FHWA and COE all agree that project construction is consistent with the final design plans and specifications.

The ERSS manages the monitoring consultant, who conducts active monitoring of mitigation sites to evaluate progress toward meeting the proposed performance standards, goals and objectives. Active monitoring consists of detailed evaluations of the project by the consultant at regular intervals and preparation of an annual report of the monitoring results. The consultant submits the draft annual report for review by the Wetlands Unit. When finalized, the Wetlands Unit submits the annual monitoring reports to the appropriate Federal, State and Tribal agencies for review.

The Wetlands Unit evaluates annual monitoring reports to assess whether the project is progressing toward meeting performance standards, goals and objectives. One of the following will apply:

- If it is determined the project is not progressing towards meeting the proposed performance standards, goals and objectives, the Wetlands Unit and ERSS evaluate the project to determine if modifications can be implemented to increase the potential success of wetland development.
- If it is determined that project modifications/maintenance are not required, the Wetlands Unit coordinates with the monitoring consultant to document the finding in the annual

monitoring report and the monitoring consultant continues active monitoring of the project.

- If it is determined that project modifications/maintenance are required, the Wetlands Unit coordinates with the monitoring consultant to document the finding in the annual monitoring report. The Wetlands Unit then coordinates with appropriate MDT personnel, Federal, State and Tribal agencies, landowners and entities responsible for credit purchase projects, to reach agreement on appropriate project modifications or maintenance that can be implemented to achieve the proposed performance standards, goals and objectives. After further coordination to accomplish implementation of the agreed upon modifications/ maintenance, the monitoring consultant continues active monitoring of the project.

When it is determined the project has met the performance standards, goals and objectives, the Wetlands Unit switches from active to inactive monitoring of the site. Inactive monitoring consists of period checks of the project (e.g., through review of aerial photographs of the site, on-site inspections, landowner contacts) to determine if the site is retaining its wetland qualities and functions, to identify any needed maintenance actions and to verify whether approved management plans are being followed. Inactive monitoring continues in perpetuity.

If the Wetlands Unit determines the project has exceeded the goals and objectives in terms of the quantity of wetland acres established, the Wetlands Unit and ERSS request additional crediting from the COE.

