

OFF-SITE WETLAND MITIGATION PROCESS

1. Purpose

This work instruction describes the process for providing off-site mitigation for unavoidable wetland impacts resulting from MDT highway projects (i.e., stand-alone mitigation projects not associated with the highway project).

2. Scope

The process for off-site wetland mitigation is administered by the Wetland Engineer (WE) and Wetland Specialist (WS) within the MDT Environmental Services Bureau (ESB), in cooperation with other MDT Bureaus and Sections, as applicable. The process begins with identification of a need for off-site wetland mitigation and is completed when the WE and WS determine the off-site mitigation meets applicable performance criteria, goals, objectives and regulatory requirements and can be switched from active monitoring to inactive monitoring.

On consultant-designed projects, the MDT Project Manager (PM) will be the liaison for any coordination required between the consultant and WE/WS.

3. Process

[Figure 1](#) presents a flowchart that illustrates the MDT process for off-site wetland mitigation. Following the Figure is a description of each task included within the flowchart.

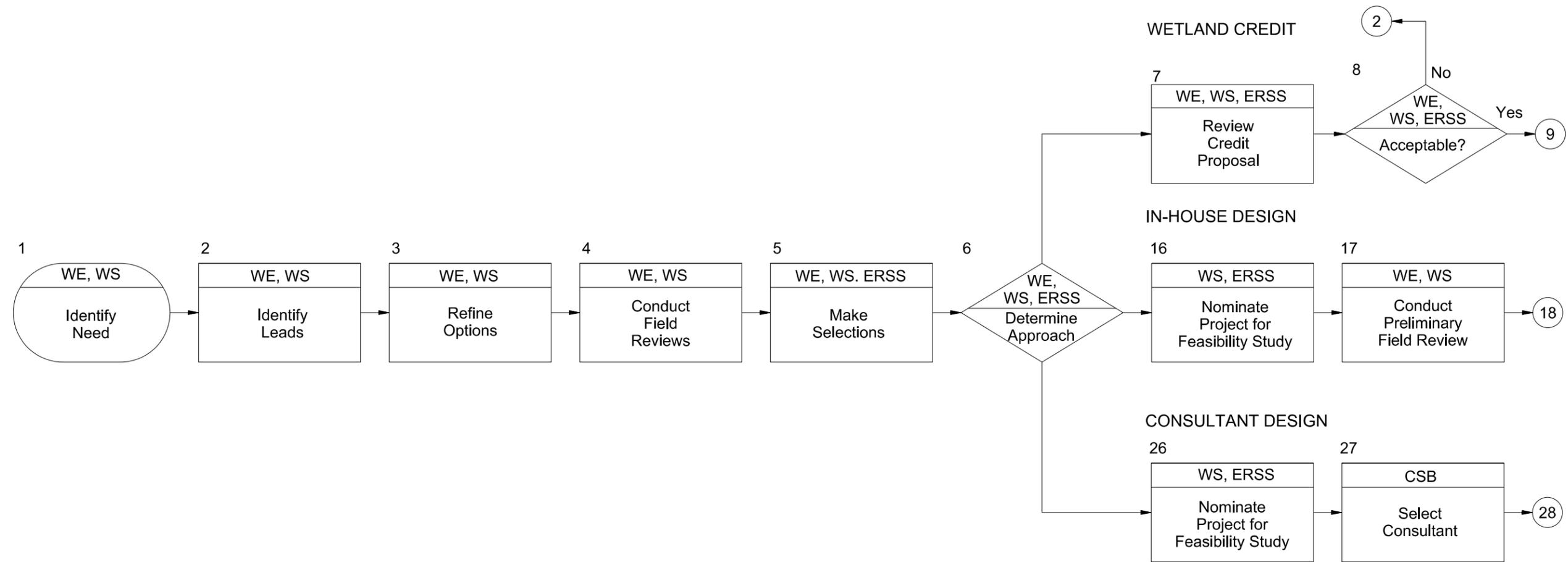


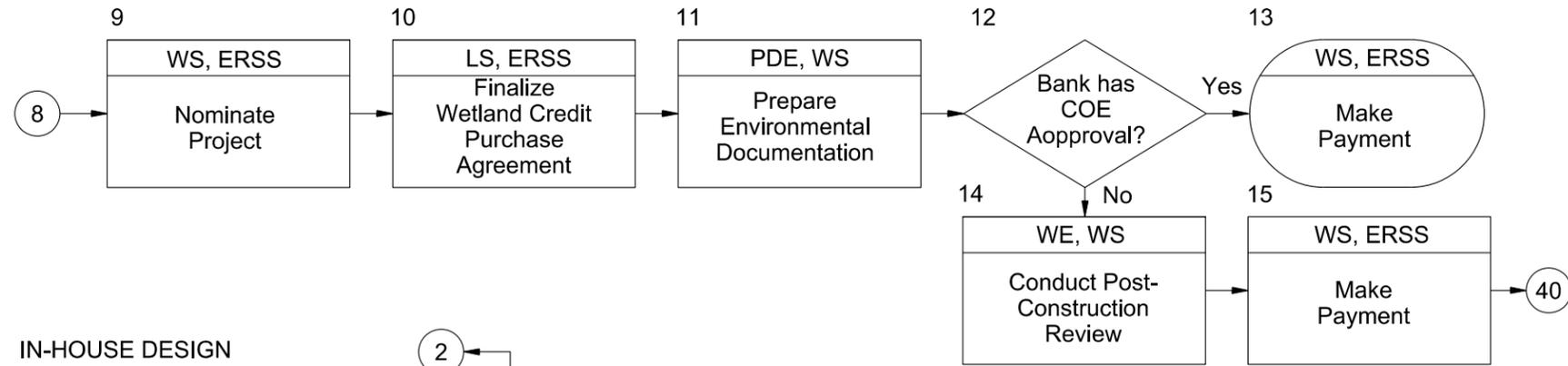
Figure 1 — OFF-SITE WETLAND MITIGATION PROCESS

Legend:

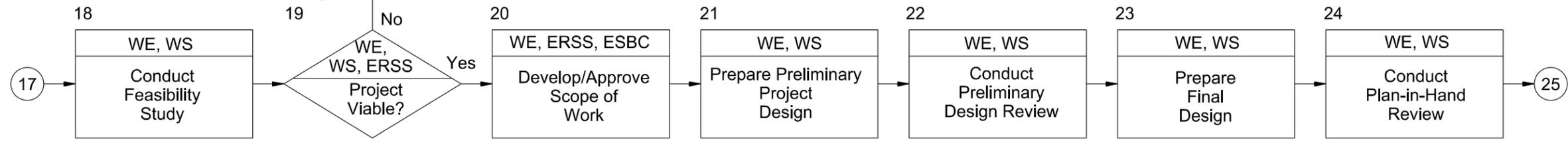
- C = Consultant
- CB = Construction Bureau
- CSB = Consultant Selection Board
- ERSS = Environmental Resource Section Supervisor
- ESBC = Environmental Services Bureau Chief
- LS = Legal Services
- PDE = Project Development Engineer
- PM = Project Manager
- RW = Right-of-Way Bureau
- WE = Wetland Engineer
- WS = Wetland Specialist

Off-Site Wetland Mitigation Process

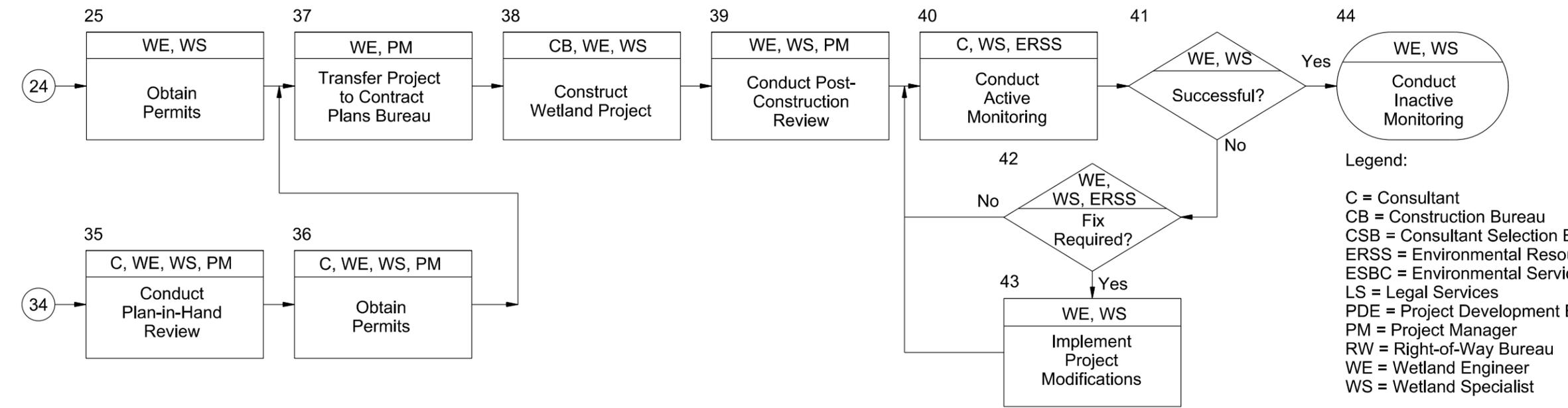
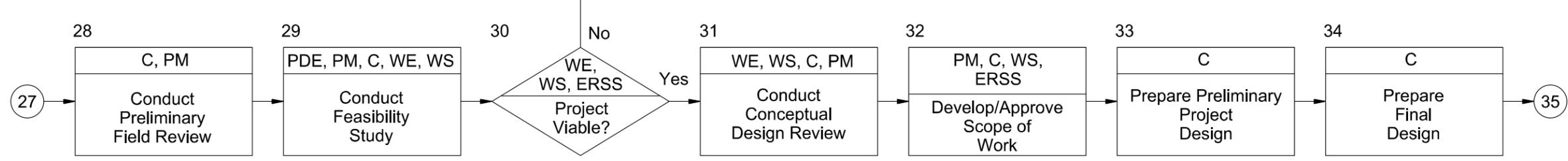
WETLAND CREDIT



IN-HOUSE DESIGN



CONSULTANT DESIGN



Legend:

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- WE = Wetland Engineer
- WS = Wetland Specialist

Figure 1 — OFF-SITE WETLAND MITIGATION PROCESS (Continued)

PROCESS TASK

Task Title: Identify Need

Task No.: 1

Task Description

The process begins with the identification of a need for off-site wetland mitigation. This may result from a determination that on-site wetland mitigation is not feasible or cannot account for all the required mitigation.

Identification of need also may result from analysis of the estimated wetland impacts of upcoming highway projects, the anticipated amount of off-site mitigation necessary to address those impacts and information in the MDT Wetland Ledger that may indicate the balance of available wetland mitigation credits is not sufficient to meet the anticipated needs.

PROCESS TASK

Task Title: Identify Leads

Task No.: 2

Task Description

After identifying a need for off-site wetland mitigation, the WE and WS initiate contacts (e.g., with landowners, resource agencies, conservation districts/groups, Tribal agencies, consultants) to identify leads for properties that may be suitable and available for development of viable wetland mitigation sites.

PROCESS TASK

Task Title: Refine Options

Task No.: 3

Task Description

The WE and WS follow up on identified potential mitigation sites by gathering information to determine which sites warrant a field review for a more detailed evaluation of their wetland mitigation suitability.

The WE and WS use the information to refine the list of possible sites and to focus on those that have the greatest likelihood of providing cost-effective wetland mitigation credits (i.e., sites with potential for establishment of wetlands).

PROCESS TASK

Task Title: Conduct Field Reviews

Task No.: 4

Task Description

For those sites determined to have the greatest potential for establishment of viable, cost-effective wetland mitigation credits, the WE and WS conduct in-depth field reviews to evaluate the various aspects of each site and to identify any constraints that need to be addressed.

PROCESS TASK

Task Title: Make Selections

Task No.: 5

Task Description

The WE and WS confer with the Environmental Resources Section Supervisor (ERSS) on the results of the field reviews and jointly select those locations to pursue for use as wetland mitigation sites. Site selection depends upon a number of factors (e.g., adequate hydrology, a willing seller, presence of sufficient soil for the establishment of wetlands, ease of construction, construction costs).

PROCESS TASK

Task Title: Determine Approach

Task No.: 6

Task Description

The WE, WS and ERSS determine the approach to be used for establishing the wetland mitigation credits at the selected site(s). This consists of one of the following:

- purchase credits from a bank that is, or will be, approved by the US Army Corps of Engineers (COE) (proceed to [Task 7](#));
- complete the wetland design and implementation in-house (proceed to [Task 16](#)); or
- have a consultant complete the wetland design and implementation (proceed to [Task 26](#)).

PROCESS TASK

Task Title: Review Credit Proposal

Task No.: 7

Task Description

The WE, WS and ERSS obtain a proposal from an entity selling credits from a wetland bank that is, or will be, approved by the COE. The WE, WS and ERSS coordinate with the entity to review the proposal and to negotiate the proposed costs.

PROCESS TASK

Task Title: Acceptable?

Task No.: 8

Task Description

After coordinating with the entity to review the proposal and to negotiate credits, ratios and costs, the WE, WS and ERSS decide whether the proposal is acceptable.

If the proposal is determined to be acceptable, the WE, WS and ERSS proceed to [Task 9](#).

If the proposal is unacceptable, the WE, WS and ERSS return to [Task 2](#).

PROCESS TASK

Task Title: Nominate Project

Task No.: 9

Task Description

The WS and ERSS nominate the wetland credit purchase project through the MDT Planning Division.

After approval by the Montana Transportation Commission (MTC), the project is included in the Statewide Transportation Improvement Program (STIP) and assigned a Federal funding program number.

PROCESS TASK

Task Title: Finalize Wetland Credit Purchase Agreement

Task No.: 10

Task Description

The ERSS coordinates with Legal Services (LS) in preparation of the wetland credit agreement that stipulates the purchase price, ratios and number of credits.

PROCESS TASK

Task Title: Prepare Environmental Documentation

Task No.: 11

Task Description

The WS coordinates with the Project Development Engineer (PDE) to prepare environmental documentation in compliance with the *National Environmental Policy Act* and *Montana Environmental Policy Act*.

PROCESS TASK

Task Title: Bank Has COE Approval?

Task No.: 12

Task Description

If the purchase is from a wetland bank that has already received COE approval, the WS proceeds to [Task 13](#).

If the purchase is from a bank that has not yet received COE approval, the WS proceeds to [Task 14](#).

PROCESS TASK

Task Title: Make Payment

Task No.: 13

Task Description

When the environmental document is finalized and the wetland credit agreement is fully executed, the WS and ERSS initiate action to have MDT Construction pay the entity.

The process is complete upon payment to the entity.

PROCESS TASK

Task Title: Conduct Post-Construction Review

Task No.: 14

Task Description

Upon completion of construction of the wetlands, the WE and WS coordinate with the contractor responsible for the wetland construction, FHWA and COE to conduct a post-construction review of the project. The purpose of the review is to confirm the wetlands were constructed according to the approved proposal and meet approved performance standards and requirements of the COE.

If post-construction review identifies a need for corrective action(s) to achieve performance standards and/or meet COE requirements, the WE and WS coordinate additional post-construction reviews for the corrective action(s) until the performance standards and COE requirements are met and the COE issues an approval letter for the project.

PROCESS TASK

Task Title: Make Payment

Task No.: 15

Task Description

After the COE approves the bank, the WS and ERSS initiate action to have MDT Construction pay the entity. The WE and WS then proceed to [Task 40](#).

PROCESS TASK

Task Title: Nominate Project for Feasibility Study

Task No.: 16

Task Description

The WS and ERSS prepare information describing the proposed project and nominate the project to the MDT Planning Division for a Feasibility Study.

After approval by the MTC, the project is included in the STIP and assigned a Federal funding program number.

PROCESS TASK

Task Title: Conduct Preliminary Field Review

Task No.: 17

Task Description

After receiving approval for the Feasibility Study, the WE and WS initiate a Preliminary Field Review (PFR) for the proposed wetland mitigation project. The WE and WS ensure that the appropriate MDT personnel are notified of the field review and invited to participate.

Following the field review, the WE and WS prepare a PFR Report summarizing the issues discussed during the PFR. The WE and WS distribute 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 Environmental Services Bureau Chief (ESBC).

PROCESS TASK

Task Title: Conduct Feasibility Study

Task No.: 18

Task Description

After the PFR, the WE and WS coordinate with other staff within the Environmental Services Bureau and appropriate MDT personnel (e.g., Geotechnical Section, Right-of-Way (RW)) to complete the Feasibility Study for the proposed wetland mitigation project. The Feasibility Study evaluates several factors including, but not limited to, the following:

- hydrology and soils,
- delineation of existing wetlands,
- biological resources,
- cultural resources,
- water rights,
- right-of-way costs and issues,
- conceptual project designs, and
- estimated construction costs.

The WS coordinates with the PDE to prepare environmental documentation in compliance with the *National Environmental Policy Act* and *Montana Environmental Policy Act*.

PROCESS TASK

Task Title: Project Viable?

Task No.: 19

Task Description

The WE, WS and ERSS evaluate the results of the Feasibility Study and determine if the proposed wetland mitigation project is viable.

If the proposed project is viable, the WE, WS and ERSS coordinate with the Planning Division to move the project from the Feasibility Study Phase to the Design Phase and proceed to [Task 20](#).

If the proposed project is not viable, the WE, WS and ERSS return to [Task 2](#).

PROCESS TASK

Task Title: Develop/Approve Scope of Work

Task No.: 20

Task Description

The WE, WS and ERSS prepare a Scope of Work (SOW) Report to define the proposed wetland mitigation project, design criteria, hydrologic controls and any other special features/designs. The SOW Report is based on the preferred conceptual design prepared as part of the Feasibility Study and 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 of completed site, etc.

The environmental documentation must be approved prior to approval of the SOW Report. The WE, WS and ERSS prepare the SOW Report for approval by the ESBC.

PROCESS TASK

Task Title: Prepare Preliminary Project Design

Task No.: 21

Task Description

The WE and WS, in cooperation with other Bureaus, prepare the design for the wetland mitigation project based on the conceptual design in the approved SOW Report. Concurrently, ERSS, WE and WS coordinate with RW to initiate the appraisal of the easement/property purchase and execution of a Letter of Intent with the affected landowner(s).

PROCESS TASK

Task Title: Conduct Preliminary Design Review

Task No.: 22

Task Description

The WE and WS coordinate with Federal, State and Tribal regulatory and resource agencies and appropriate MDT personnel to conduct a review of the preliminary design for the project.

PROCESS TASK

Task Title: Prepare Final Design

Task No.: 23

Task Description

After addressing any issues raised as a result of the Preliminary Design Review, the WE and WS prepare the final design plans, special provisions and a cost estimate for the project. In addition, the WE and WS develop a crediting scheme, performance criteria and goals and objectives for the site (e.g., wetland acreage, wetland types, wetland functions).

PROCESS TASK

Task Title: Conduct Plan-in-Hand Review

Task No.: 24

Task Description

The WE and WS distribute the final design plans to Federal, State and Tribal regulatory and resource agencies and appropriate MDT personnel and invite participation in a Plan-in-Hand (PIH) review.

The WE and WS document all comments received during the PIH review in a PIH Report. The WE and WS distribute the PIH Report to the PIH review participants for review and comment. The WE and WS use the information in the final PIH Report to revise the plans, special provisions and cost estimate for the project.

PROCESS TASK

Task Title: Obtain Permits

Task No.: 25

Task Description

The WE and WS prepare the appropriate permit applications required for the proposed project. The WE/WS submit the permit applications to the appropriate agencies.

After all permits needed for the project are obtained, the WS and WE incorporate all permit conditions into the plans and special provisions and proceed to [Task 37](#).

PROCESS TASK

Task Title: Nominate Project for Feasibility Study

Task No.: 26

Task Description

The WS and ERSS prepare information describing the proposed project, the intent to assign project design to a consultant and nominate the project to the Planning Division for a Feasibility Study.

After approval by the MTC, the project is included in the STIP and assigned a Federal funding program number.

PROCESS TASK

Task Title: Select Consultant

Task No.: 27

Task Description

After receiving approval for the Feasibility Study, the WS 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.

PROCESS TASK

Task Title: Conduct Preliminary Field Review

Task No.: 28

Task Description

The selected Consultant, in cooperation with the PM, initiates a PFR for the proposed wetland mitigation project. The Consultant and PM ensure that appropriate MDT personnel are notified and invited to participate in the field review.

Following the field review, the Consultant prepares a PFR Report summarizing the issues discussed during the PFR. The PM distributes the 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.

PROCESS TASK

Task Title: Conduct Feasibility Study

Task No.: 29

Task Description

After the PFR, the Consultant and PM coordinate with Environmental Services Bureau staff and other appropriate MDT personnel (e.g., Geotechnical Section, RW) to complete the Feasibility Study for the proposed wetland mitigation project. The Feasibility Study evaluates several factors including, but not limited to, the following:

- hydrology and soils,
- delineation of existing wetlands,
- biological resources,
- cultural resources,
- water rights,
- right-of-way costs and issues,
- conceptual project designs, and
- estimated construction costs.

The Consultant prepares draft environmental documentation in compliance with the *National Environmental Policy Act* and *Montana Environmental Policy Act* and submits the documentation to the PM. The PM coordinates with the WE, WS and PDE for final preparation of the environmental documentation.

PROCESS TASK

Task Title: Project Viable?

Task No.: 30

Task Description

The WE, WS and ERSS evaluate the results of the Feasibility Study and determine if the proposed wetland mitigation project is viable.

If the proposed project is determined to be viable, the WE, WS and ERSS coordinate with the Planning Division to move the project from the Feasibility Study stage to the design stage. The Consultant may be notified to initiate conceptual design work and proceeds to [Task 31](#).

If the proposed project is not viable, the WE, WS and ERSS return to [Task 2](#).

PROCESS TASK

Task Title: Conduct Conceptual Design Review

Task No.: 31

Task Description

After the Consultant develops the conceptual design for the proposed project, the PM, WE and WS, 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 for the project.

PROCESS TASK

Task Title: Develop/Approve Scope of Work

Task No.: 32

Task Description

Based on the results of the Conceptual Design Review conducted in [Task 31](#), the Consultant, in coordination with the PM, WE, WS and ERSS, prepares a SOW Report to define the proposed wetland mitigation project, design criteria, hydrologic controls and any other special features/designs. 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 of completed site, etc.

The Consultant provides the draft SOW Report to the PM who submits the final Report for approval. The environmental documentation must be approved prior to approval of the SOW report.

PROCESS TASK

Task Title: Prepare Preliminary Project Design

Task No.: 33

Task Description

The Consultant prepares the design for the wetland mitigation project based on the conceptual design in the approved SOW Report.

Concurrently, the PM, ERSS, WE and WS coordinate with RW to initiate the appraisal of the easement/property purchase and execution of a Letter of Intent with the affected landowner(s).

When the Consultant completes preparation of the preliminary design, the PM, WE and WS coordinate with Federal, State and Tribal regulatory and resource agencies (e.g., COE, Montana Department of Environmental Quality (DEQ)) and appropriate MDT personnel to conduct a review of the preliminary project design.

PROCESS TASK

Task Title: Prepare Final Design

Task No.: 34

Task Description

After addressing any issues raised as a result of the preliminary design review, the Consultant prepares the final design plans, special provisions and a cost estimate for the project and develops a crediting scheme, performance criteria and goals and objectives for the site (e.g., wetland acreage, wetland types, wetland functions).

PROCESS TASK

Task Title: Conduct Plan-in-Hand Review

Task No.: 35

Task Description

The PM, WE and WS distribute the Consultant's final design plans to Federal, State and Tribal regulatory and resource agencies and appropriate MDT personnel and invite participation in a PIH review.

The Consultant, in coordination with the PM, WE and WS, documents all comments received during the PIH review in a PIH Report and provides the Report to the PM for distribution to PIH participants for review and comment. The Consultant uses the information in the final PIH Report to revise the plans, special provisions and cost estimate for the project.

PROCESS TASK

Task Title: Obtain Permits

Task No.: 36

Task Description

The Consultant prepares drafts of the appropriate permit applications required for the proposed project for submittal to the PM. The PM coordinates with the WE and WS to obtain permits required for the proposed project. The WE/WS submit the permit applications to the appropriate agencies.

After all permits needed for the project are obtained, the Consultant incorporates all permit conditions into the plans and special provisions.

PROCESS TASK

Task Title: Transfer Project to Contract Plans Bureau

Task No.: 37

Task Description

The PM or WE, 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.

PROCESS TASK

Task Title: Construct Wetland Project

Task No.: 38

Task Description

When notified by the Contract Plans Bureau that the project has been awarded for construction, the WE and WS coordinate with the MDT Construction Bureau and the selected contractor to conduct periodic monitoring and oversight of the construction work for consistency with the final engineering plans for the project.

If the construction review identifies a need for corrective action(s) to bring the project into conformance with the final design plans, the WE and WS coordinate with the Engineering Project Manager (EPM) to ensure that project construction is consistent with the final design plans and specifications.

PROCESS TASK

Task Title: Conduct Post-Construction Review

Task No.: 39

Task Description

Upon completion of construction of the wetlands, the WE and WS coordinate 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 WE and WS coordinate additional post-construction reviews until the WE, WS, FHWA and COE all agree that project construction is consistent with the final design plans and specifications.

PROCESS TASK

Task Title: Conduct Active Monitoring

Task No.: 40

Task Description

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 WS. When finalized, the WS submits the annual monitoring reports to the appropriate Federal, State and Tribal agencies for review.

PROCESS TASK

Task Title: Successful?

Task No.: 41

Task Description

The WE and WS evaluate annual monitoring reports to assess whether the project is progressing toward meeting performance standards, goals and objectives.

If it is determined that the project is not progressing towards meeting the proposed performance standards, goals and objectives, the WE and WS proceed to [Task 42](#).

If it is determined that the project has met the performance standards, goals and objectives, the WE and WS proceed to [Task 44](#). If the WE and WS determine the project has exceeded the goals and objectives in terms of the quantity of wetland acres established, the WE, WS and ERSS request additional crediting from the COE.

PROCESS TASK

Task Title: Fix Required?

Task No.: 42

Task Description

When active monitoring determines the project has not succeeded in meeting the proposed performance standards, goals and objectives, the WE, WS 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 WE and WS coordinate with the monitoring consultant to document the finding in the annual monitoring report and return to [Task 40](#).

If it is determined that project modifications/maintenance are required, the WE and WS coordinate with the monitoring consultant to document the finding in the annual monitoring report and proceed to [Task 43](#).

PROCESS TASK

Task Title: Implement Project Modifications

Task No.: 43

Task Description

The WE and WS coordinate 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 WE and WS return to [Task 40](#).

PROCESS TASK

Task Title: Conduct Inactive Monitoring

Task No.: 44

Task Description

Upon determining a project has met the performance standards, goals and objectives, the WE and WS switch 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.

