301 Step 1 - Develop Purpose and Need

301.1 Kick-off Meeting

ODOT's District Planning staff typically takes the lead role in conducting Step 1 activities. At the onset of the project, the project manager holds a "kick-off" meeting involving all appropriate ODOT disciplines. One meeting concerning several projects can serve as each individual project's "kick-off" meeting. Attendees discuss the project from their perspective so that all disciplines begin the PDP with a common understanding of project issues. Recognizing that conditions will change as more information becomes available, the meeting attendees identify the project team, define the general work requirements, and develop an initial schedule agreed to by all team members. A project team can include ODOT, the Federal Highway Administration (FHWA), a metropolitan planning organization, the Local Public Agency, and the consultant staff working on the project.

Objectives

- Identify the study area
- Identify and communicate with stakeholders
- Conduct a site visit
- Conduct technical studies
- Develop a Red Flag summary
- Develop a Purpose and Need Statement
- Update project cost estimates and milestone dates

301.2 Study Area

The analysis (completed prior to Step 1; see *Initial Identification of Projects* in the *Introduction)* that triggers the project's inclusion into ODOT's work program provides the preliminary study area limits; input from the ODOT technical disciplines refines the study area. The goal is to define a study area that is large enough to encompass the range of alternatives appropriate for the project type. Defining an adequate study area size at this early stage should minimize the possibility that the PDP would have to start over by redefining the study area later in the development process.

This step includes the creation of study area mapping for use throughout the planning, environmental, and early design efforts. This mapping includes information from the technical analyses and literature review to display the spatial characteristics of the project's study area.

301.3 Stakeholder Involvement and PIP

Stakeholder involvement is an essential element for establishing the project purpose and need. Stakeholders are individuals and groups who have an interest in the project. Outside ODOT, stakeholders for a Minor Project can include affected property owners, local governments, and permitting agencies. For many of ODOT's Minor Projects, the stakeholders can be limited to individuals from each of ODOT's internal disciplines (for instance, planning, environmental, design, real estate, utilities, construction, and maintenance). Due to the spectrum of projects classified as Minor, the project manager determines the appropriate level and timing of stakeholder involvement.

Examples of Stakeholders

- Ohio Department of Transportation
- Federal Highway Administration
- Federal Transit Agency
- Local transit agency
- Resource agencies
- Metropolitan Planning Organization
- Local public agency
- Civic and community associations
- General public
- Special interest groups

The project manager is responsible for developing a plan to inform stakeholders of each project. This Public Involvement Plan is developed for and specific to each project. The plan can be created at the "kick-off" meeting and can entail an informational meeting, newsletters or handouts provided at a local event, or a more formal meeting. The project scope and expected impact determines what is necessary for each project. The project manager should be familiar with similar projects performed in the area and note past stakeholder communication successes. If the project manager has no previous experience from which to draw, a meeting with the affected local government and experienced District or Central Office personnel might be necessary to determine how to provide information about the project.

301.4 Site Visit

ODOT District staff should visit every potential project site to confirm the problem and proposed solution for the project. It is during the site visit that both environmental and design Red Flags are identified. The site visit is best done as a group but may be done individually and later reviewed jointly.

301.5 Technical Studies

Step 1 includes investigation of a wide range of issues, problems, needs and appropriate actions to determine the best way to solve the transportation problem. For example, technical studies for a Minor Project may include: conducting or reviewing traffic counts, Level of Service, and traffic projections.

Safety issues should be considered to determine if improvements are warranted. Technical studies need to provide adequate data to define the problem and identify solutions. Variables that can impact the level of analysis necessary include, but are not limited to:

- Size of community, demographics, and other socio-economic factors
- Growth trends and projections, distribution of population and manufacturers
- Season, time of day, day of week of analysis
- Physical condition of the transportation infrastructure
- Topography, roadway design factors
- Environmental justice populations
- GIS analysis
- Environmental Red Flags
- Design Red Flags

The following studies also can be conducted during Step 1 for a Minor Project:

- Transportation systems analyses, such as geometric and design analysis, Level of Service analysis, or accident analysis, to understand the cause of the identified problems
- Conceptual transportation alternatives such as Intelligent Transportation System, Access Management, and Transportation Demand Management
- Structural analysis such as bridge rehabilitation report and bridge inspection

ODOT and local government agencies may have available data for these studies such as: traffic count data, accident data, truck factors, population and traffic growth factors, and existing and future land use.

301.6 Red Flags

Red Flags, including environmental and engineering issues, are locations of concern within the study area. Red Flags do not necessarily identify locations that must be avoided, but rather, identify locations that will entail additional study, coordination, design, right-of-way, or construction cost. Locations that must be avoided are referred to as “fatal flaws.” The project manager should ensure consultation with the appropriate specialists to determine the level of concern for each Red Flag item. Both environmental and design Red Flags are identified on the Red Flag Summary.

301.7 Secondary Source Documentation

Identifying the environmental resources in the study area involves documenting secondary source reviews and conducting a preliminary site survey of the study area. The secondary source documentation provides an inventory of known environmental, social, and cultural resources in the study area. Specific resources include: history and architecture sites, archaeology sites, wetlands, rivers and streams, threatened and endangered species, land uses, Section 4(f) properties, environmental justice populations, public water supplies, mines, and hazardous materials. The preliminary site survey provides the opportunity to confirm secondary source information and familiarize the project participants with the study area.

Resources for Environmental Secondary Source Information

- Ohio Historic Preservation Office
- Ohio Environmental Protection Agency
- ODOT Office of Environmental Services
- U.S. Fish and Wildlife Service
- Ohio Department of Natural Resources
- Bureau of Underground Storage Tank Regulation
- Federal Emergency Management Agency
- Natural Resources Conservation Service
- U.S. Census
- MPOs

For a more comprehensive list, see ODOT's *EA/EIS Manual*.

Study area mapping identifies places within the study area that the site visit, secondary source information and technical analysis revealed might require specific engineering challenges. Potential areas of concern include utility locations, structure condition, drainage problems, waterways, geotechnical issues, and existing right-of-way and/or land use. Design Red Flags are documented on the Red Flag Summary in accordance to ODOT's *Location and Design Manual,* Volume 3, Section 1400. A sample Red Flag Summary form is contained in Appendix G.

Information from the technical studies, the environmental secondary source review, site visits, and engineering review is presented on study area mapping, when possible. Not all information will be applicable to mapping. Planners and designers use study area mapping as a supplementary tool to avoid and minimize impacts to resources. Attach study area mapping to the Red Flag Summary. There is a recommended Red Flag Summary format, but the use of the recommended format is optional as long as all the pertinent information is documented

301.8 Purpose and Need

The project manager ensures development of a Purpose and Need Statement based on the technical studies and stakeholders concerns. The Purpose and Need should be detailed enough to qualitatively and quantitatively define the transportation problem and establish the need for the project.

The Purpose and Need Statement is the catalyst for identifying and analyzing reasonable strategies. For projects with multiple feasible alternatives, the Purpose and Need Statement assists with selecting the preferred alternative. The statement should be comprehensive, specific, and concise, so that decision-makers and the public alike can use it to balance the project alternatives against associated impacts. A clear, well-defined statement is also an essential element for successful interagency coordination and communication during the environmental and permitting processes.

Ultimately, the Purpose and Need Statement:

- Defines the transportation need addressed by the proposed action
- Establishes the logical termini and any intermediate control points
- Demonstrates that the project has independent utility (that is, is a usable and reasonable expenditure even if no additional transportation improvements in the area are made)

FHWA and ODOT's Office of Urban and Corridor Planning and the Office of Environmental Services have guidance on drafting a Purpose and Need Statement.

301.9 Cost Estimates and Milestone Dates

After completing the site visit, technical studies, Red Flag identification, and Purpose and Need; the project description, funding information, and schedule in Ellis should be updated and revised. There should also be enough information to update the construction, right-of-way acquisition, and utlity reiimbursement cost estimates.

301.10 Products

- Identify study area
- Identify stakeholders through the Public Involvement Plan
- Conduct site visit
- Conduct technical studies
- Develop Red Flag summary
- Develop a Purpose and Need statement
- Update project cost estimates and milestone dates

302 Step 2 - Determine Scope, Schedule, and Budget

302.1 Alternative Identification and Evaluation

The initial set of alternatives should be broad enough to allow for a wide range of possible solutions while at the same time account for the project's relative size and scope. The alternatives identified and examined at this level should be considered conceptual solutions to the transportation problem. The project manager should consider items such as pavement type and thickness, minor geometric improvements to improve safety or traffic flow, alternate structure types, or possible structure rehabilitation. The no-build alternative should be considered for all projects, as it serves as a baseline condition against which alternative strategies will be measured. For Minor Projects, the study alternatives can be more design-specific in nature than alternatives for Major Projects. Minor and Minimal projects differ in the level of detail required to accomplish planning activities

Objectives

- Identify alternatives
- Determine project scope
- Determine project schedule
- Determine project budget
- Determine level of environmental documentation
- Address stakeholders comments by reaching Concurrence Point #1 (Scope, Schedule, and Budget)
- Update project cost estimates and milestone dates

In all cases, the alternatives should encompass the critical elements identified in the Purpose and Need Statement. These critical elements provide one component of the comparative measures through which the project team evaluates the alternatives under consideration.

The project team should evaluate the alternatives based on a variety of comparative measures. Examples of comparative measures include quantifying the number of impacts identified through technical analysis, Red Flag identification, costs, long-term verses short-term solutions, and stakeholder involvement. An evaluation matrix can facilitate the comparison of conceptual alternatives. A stakeholder meeting may be necessary to provide a forum for reviewing the evaluation matrix, discussing the rationale for eliminating alternatives, and selecting the feasible alternative(s) proposed for advancement. For specific evaluation methodologies and examples, refer to ODOT's *Planning Process Manual*.

302.2 Project Scope

Documentation during the alternative identification activities confirms the consideration of alternatives, describes the no-build alternative, explains why alternatives were eliminated from further consideration, presents estimated costs of the considered alternatives, and recommends the feasible alternative(s) to be considered for further evaluation. The alternatives comparison allows for the definition of the project design concept and scope.

> The **design concept** is a detailed definition or description of the transportation alternative or strategy that best meets the identified need. This would include a definition of mode(s), general physical design characteristics, optional parameters, and required intermodal linkages (where applicable).
>
> The **design scope** is the general location, conceptual alternative, and logical termini or service area of the proposed project.

The scope and nature of the project will dictate the length of the documentation. The alternatives and project scope description might comprise a brief document limited to a few pages for a Minor Project that involves limited resource issues, limited design options, and no project approach concerns.

Districts may use the scope form that best meets their needs. The scope form must be signed by the District Programs and Planning Administrator, District Production Administrator, and the District Highway Management Administrator.

302.3 Project Schedule and Budget

A project schedule and budget should be developed for the conceptual alternatives. The project schedule should be a Gantt Chart that includes:

- Project milestones
- Products to be developed
- Start date for each task
- Finish date for each task

A project budget should be developed for the conceptual alternatives. The project manager may be required to seek budget approval from the appropriate Funds Program Manager. The Funds Program Manager must balance the needs identified by the stakeholders versus the overall work plan need for statewide/district projects.

The schedule and cost estimate, including the construction, utility relocation, and right-of-way acquisition estimates, will be refined further as the project progresses through subsequent steps of the PDP.

302.4 Preliminary Legislation

For projects occurring in jurisdictions of local public agencies, whether or not the agency is participating financially, preliminary legislation must be obtained from the affected LPA’s early in project development. This legislation includes broad language to the effect that the local agency grants permission for ODOT to perform work on the specific project within its jurisdictional boundaries. The preliminary legislation addresses the need to use the county, city, or township right-of-way, necessary alterations to the local highway system, and use of the local roadway network as a detour route. The preliminary legislation also details each party’s authorization, duties, and financial responsibility for the project. This legislation is initiated by ODOT and submitted to the appropriate local jurisdiction for enactment in the form of a resolution by its governing body (e.g: county commissioners, city or village council, township trustees).

302.5 Environmental Documentation Determination

If the project qualifies as a Categorical Exclusion Level 1 (CE-1) or it is exempt from the CE requirements, the NEPA requirements are completed during this step. If the project is exempt, the project file must contain documentation justifying this decision. If the project qualifies as a CE Level 1, a completed CE form approved by the ODOT District Environmental Coordinator must be filed. For a more detailed discussion of the CE submittal requirements and review process, refer to the ODOT *Environmental Process Manual*.

If the project is not exempt or does not qualify for a CE Level 1, one of the following should be identified as the necessary NEPA document:

- A higher-level CE
- An Environmental Assessment (EA)
- An Environmental Impact Statement (EIS)

The decision should occur upon completion of Step 2. If the appropriate NEPA document is an EA or EIS, the project is no longer considered a Minor Project and the Major PDP process must be followed for the remaining steps.

Definitions of Exempt and Categorical Exclusion Projects as stated in the *Programmatic Categorical Exclusion Agreement Between the Federal Highway Administration and the Ohio Department of Transportation* dated March 6, 2003

Exempt Projects are stand-alone maintenance functions that, from ODOT's and FHWA's past experience, do not result in any significant impacts to human or natural environment; thus, these projects do not require documentation. A complete list is available in the *Programmatic Categorical Exclusion Agreement Between the Federal Highway Administration and the Ohio Department of Transportation* dated March 6, 2003.

CE Level 1. These projects assume little or no impact to the environment. They do not result in relocation or significant impacts.

CE Level 2. These projects can involve minor right-of-way acquisition with a maximum of 10 acres (4 hectares) or involving a maximum of two relocations. There is a limited amount of hazardous materials involved, and wetland impacts are limited to no more than three acres (1.2 hectares) of Category 1 and Category 2 Wetlands. Also, the Section 106 impacts are included in the project files as required by 36 CFR Part 800, and the Programmatic Section 4(f) impact documentation is approved by ODOT's Office of Environmental Services and/or FHWA. These projects involve minor public or agency controversy on environmental grounds.

CE Level 3. These projects involve right-of-way acquisition with a maximum of eight relocations or up to 25 acres (10 hectares) of permanent right-of-way. The wetland impacts include no more than five acres (2 hectares). There are Section 106 impacts included in the project files as required by 36 CFR Part 800, and the Section 4(f) impacts fall within the bounds of Programmatic 4(f). There is substantial public or agency controversy on environmental grounds.

CE Level 4. Projects in this category must meet the intent of 23 CFR 771.117(d) and satisfy the criteria for CE Classification. Based on past experience with similar actions, these actions do not involve significant environmental impacts.

302.6 Concurrence Point #1 (Scope, Schedule, and Budget)

An important activity during Step 2 is concurrence on the project design, concept, and scope by ODOT internal and external stakeholders.

As described in Step 1, it is the project manager's responsibility to determine the appropriate stakeholders to be involved in the project development. The project manager also should consider what form of public involvement is necessary as a part of this concurrence point. This concurrence is verified by the signatures on the scope form of the District Planning and Programs Administrator, District Production Administrator, and the District Highway Management Administrator.

302.7 Cost Estimates and Milestone Dates

The project manager should update the schedule in Ellis to reflect any changes as a result of the alternatives discussion, written design scope, determination of environmental documentation, or other project information from Step 2. The construction, right-of-way acquisition, and utility reimbursement cost estimates should also be updated.

302.8 Products

- Identify alternatives
- Project scope
- Project schedule and budget
- Determination of environmental documentation
- Completion of Concurrence Point #1
- Updated project cost estimates (construction, utility reimbursement, and right-of-way acquisition) and milestone dates in Ellis

303 Step 3 - Perform Environmental Analysis and Begin Preliminary Engineering

303.1 Property Owner Notification

Prior to conducting the field studies, the project manager ensures letters are mailed to property owners and tenants notifying them of ODOT's intent to enter upon their property. The project team uses tax maps to develop the mailing list of property owners in the study area. The project manager must ensure delivery of this notice of entry to the property owners and tenants no less than 48 hours or no more than 30 days prior to entering the property (see *Ohio Revised Code 163.03*). Note that this notification applies to all entry onto private property during the PDP.

Objectives

- Notify property owners
- Complete topographic field survey
- Prepare and submit Minor Project Preliminary Engineering Study
- Conduct first constructability review
- Identify existing utilities and coordinate with utility companies
- Prepare draft Categorical Exclusion (CE)
- Complete Waterway Permit determinations and draft applications
- Develop scope of services for final plan development (Concurrence Point #2)
- Update project cost estimates (construction, utility reimbursement, and right-of-way acquisition) and milestone dates

303.2 Minor Project Preliminary Engineering and First Constructability Review

The primary purpose of preliminary engineering is to establish and develop the project design parameters to a level of detail comprehensive enough to generate an accurate scope, schedule, and budget for the remainder of the design. On projects with multiple alternatives (other than the no-build alternative), preliminary engineering also should provide a level of design that allows for an educated selection of the preferred alternative.

Preliminary engineering aids in the prevention of late-stage design changes. Preliminary design provides a level of plan development that allows for a comprehensive analysis of all design issues and a thorough review and comparison by the appropriate stakeholders. The preliminary engineering should provide enough detail so that the intent, design parameters, costs, and impacts of the project are clearly discernable. The detail should be such that a final design scope of services can be established. The scope of services aids in refining the project schedule and gives the design team a solid base upon which to complete the plans.

The project manager will determine if a constructability review will be conducted concurrent with the preliminary engineering review. The intent of a constructability review is to check the potential construction strategies, techniques, and logistical issues. The review checks construction durations, and alternative designs. It identifies labor and material availability, access for large equipment, project phasing, and the conceptual maintenance of traffic.

Preliminary Engineering should be conducted on all Minor Projects to a level of detail that provides:

- Accurate costs for all feasible alternatives
- An accurate scope of services for final plan development
- A comprehensive analysis of design issues
- Preliminary construction limits
- Geotechnical data

Although it is not the intent of this document to detail all of the elements included in a preliminary engineering submittal, "Typical Preliminary Engineering Elements" below is a set of general guidelines to help establish a reasonable level of detail for a typical preliminary engineering submittal. For a more detailed explanation of preliminary engineering refer to ODOT's *Location and Design Manual,* Volume 3, Section 1400.

Typical Preliminary Engineering Elements

- Typical sections including lanes, curbs, sidewalks, trees, lawns, and shoulder widths
- Type of grading
- Alignments (horizontal and vertical)
- Clearances (horizontal and vertical)
- Field survey information including topography, bridges, utilities, channels, and railroads
- Geological and soil boring data (highway/bridge foundations)
- Post construction storm water best management practices feasibility study
- Service road justifications
- Pedestrian overpass studies
- Retaining wall justifications
- Noise wall justifications
- Construction limits
- Conceptual drainage design including preliminary culvert sizes
- Signal warrants
- Conceptual maintenance of traffic
- Preliminary structure design including type and dimensions of structure and foundation
- Temporary structure requirements
- Staged bridge construction requirements
- Right-of-way, construction, and utility reimbursement cost estimates

303.3 Utility Identification and Railroad Coordination

As part of the Minor Project Preliminary Engineering Study activities, the utility companies are contacted to locate their underground facilities. Any utility relocation is identified and the District Utility Coordinator is contacted to determine estimated utility reimbursement cost. Early coordination with the ODOT District Railroad Coordinator is important to ensure that railroad companies are involved early in the process.

All actions directly related to the project must be included in the environmental document. For example, the new location of a natural gas line that is moved "off-project" must be considered when evaluating the impacts of an alternative for the environmental document.

303.4 Environmental Field Studies

Based on the level of potential environmental impacts, as documented in the secondary source search in Step 1, a determination is made on the required level of environmental field studies and regulatory agency coordination.

Field Studies are used to quantify and qualify the characteristics of the natural and man-made environment. Environmental field studies are conducted within the alternatives as defined in the Preliminary Engineering Study. Reports generated from these field studies help to determine whether further investigation is warranted. If Environmental Staff concludes that the secondary field study is necessary to refine impacts, the work is conducted only within the preferred alternative. Field studies are conducted for following resources:

- Ecological (water resources, plant and animal species, terrestrial habitat, farmland)
- Cultural (history/architecture)
- Environmental Site Assessment (hazardous waste, landfills)
- Social and Economic Resources (environmental justice, Title 6, community issues)
- 4(f) properties (parks, recreation areas, waterfowl refuges and historic sites)
- Noise

The amount of data collected and coordination will vary with the impacts associated with the project. For example, some projects may be cleared through one of OES' streamlined agreements while other projects may require more detailed documentation and additional coordination efforts. ODOT's Office of Environmental Services has established mechanisms for streamlining the environmental process for some resources. These processes exist in the form of Memorandums of Agreement (MOAs), Letters of Agreement (LOAs), and Programmatic Agreements (PAs). The streamlined processes should be evaluated for applicability to the project during this step.

Prior to conducting the field studies, the project manager ensures that letters are mailed to property owners and tenants notifying them of ODOT's intent to enter upon their property.

Individual field survey reports present the results of the technical field studies within the feasible alternatives. The results of the field studies are added to project mapping that was initiated as part of the Red Flag identification in Step 1. The updated project mapping includes all Red Flag information, the results from the field surveys, and the approximate locations of homes and businesses. Field checks verify the exhibit's accuracy prior to the mapping's submissions to the District and ODOT's OES.

Once the District and OES approve the results of the feasible alternative field studies, the project manager coordinates scheduling of the public involvement activities. The goal of the meeting is to gain public input and demonstrate that adequate data has been collected within the feasible alternatives to support the recommended preferred alternative. After the public comments are collected, ODOT selects a preferred alternative. See ODOT's *Public Involvement Guide* for additional suggestions—other than meetings—regarding public involvement opportunities.

Fieldwork for Ecological Resources

- Phase I History/Architecture Survey
- Fieldwork for Ecological Resources
- Phase I Environmental Site Assessments
- Field reviews and research of social and economic resources
- Relocation Assistance Program Survey
- Confirm Environmental Justice communities
- Confirm Section 4(f) properties

Step 3 might require conducting a Relocation Assistance Program (RAP) Conceptual Survey to document the residential and business relocations within the feasible alternatives. The decision to conduct this survey for a Minor Project is based on the project manager's knowledge of the community, the number of potential relocations, and the availability of safe and sanitary replacement housing. The survey involves a visual inspection and information collection from secondary and community resources. The RAP Survey Report summarizes the investigation results, and ODOT District receives a copy. Refer to the *Environmental Process Manual* and *Real Estate Policies and Procedures Manual* for the specific items that this report should include.

303.5 Preferred Alternative

The Minor Project Preliminary Engineering Study submission includes a matrix or summary of advantages and disadvantages for each alternative from a design perspective. The results of the environmental field studies and the conceptual relocation studies should be summarized to show the advantages and disadvantages for each alternative. It is the combination of both Design and Environmental factors that contribute to the selection of the preferred alternative.

303.6 Waterway Permit Determinations

The discharge of dredge or fill materials into waters of the United States, regardless of amount or length, is regulated by the U.S. Army Corps of Engineers (USACE) and the Ohio Environmental Protection Agency (OEPA) through the 404/401 waterway permitting process. The USACE regulates impacts to navigable waters under Section 10 of the Rivers and Harbors Act of 1899 and the discharge of dredge and fill materials into waters of the United States under Section 404 of the Clean Water Act (CWA). The OEPA, under authority of Section 401 of the CWA, regulates the state water quality through the 401 Water Quality Certification process and impacts to isolated wetlands under Section 6111 of the ORC. The U.S. Coast Guard (USCG) regulates impacts to, or crossing of, navigable rivers in Ohio under Section 9 of the Rivers and Harbors Act of 1899. A completed 401 Water Quality Certification is required by the USCG for a Section 9 permit.

Projects are first evaluated for waterway permit issues by the ODOT District to determine if there is potential impact to aquatic resources subject to waterway permits. If aquatic resources are not impacted, no waterway permits are required. If, however, aquatic resources subject to waterway permits are to be impacted, the Waterway Permit Determination Package is forwarded to the OES Waterway Permit Unit for the Permit Determination (PD). The project PD returned to the District includes the type and level of waterway permits required.

Typical permit authorization options include:

- No waterway permits are required
- Authorization under the 404 Nationwide Permit Program (as designated by OES for projects with minimal impacts or by the USACE for projects which surpass specified criteria)
- Authorization under individual 404 Permit and 401 Water Quality Certification
- Projects over commercially navigable rivers require a Section 9 Permit from the USCG in addition to a 404 Permit and 401 Water Quality Certification
- Projects impacting isolated wetlands require an OEPA Isolated Wetlands Permit in addition to any option above

Waterway permit processing and coordination for projects which can be authorized under the 404 Nationwide Program (or equivalent waterway permit) ends at Step 3 of the Minor PDP with the submittal of the Special Provision Package (SPP) to the district by OES. The SPP includes the waterway permit(s) and all relevant conditions and is attached to the final construction plans by the district.

Should a 404 Pre-Construction Notification, 404 Individual Permit, 401 Water Quality Certification or Isolated Wetlands Permit be required, draft permit applications are prepared and submitted to the OES Waterway Permit Unit for review and coordination with the agencies in Step 4 of the PDP.

Please refer to the OES Waterway Permit Guidelines for a complete description of waterway permit issues.

303.7 Draft Categorical Exclusion

The project manager ensures that a draft CE document is initiated during this step for those projects not previously qualified as an Exempt or Level 1 CE. If the feasible alternative field investigations result in a determination that no further environmental investigations are warranted (except archaeology), the CE document can be substantially completed in Step 3 and the document can be finalized in Step 4. For more information, refer to ODOT's *Environmental Process Manual*.

303.8 Concurrence Point #2 (Scoping for Detailed Design)

Concurrence Point #2 involves obtaining comments and approval from the stakeholders and the public on scoping for detailed design. This concurrence point is obtained prior to initiation of Stage 1 Detail Design. Concurrence Point #2 typically represents the point at which the project is "handed off," moving from environmental to production, although both departments have been (and will remain) involved through this point. The project manager also should consider what form of further public involvement is necessary.

303.9 Cost Estimates and Milestone Dates

The project manager should update the schedule in Ellis to reflect any changes as a result of the preliminary engineering, environmental field studies, or other project information from Step 3. The construction, right-of-way acquisition, and utility reimbursement cost estimates should also be updated.

303.10 Products

- Notification letters to property owners and tenants
- Field survey information
- Approved Minor Project Preliminary Engineering
- Completed First Constructability review
- Utility coordination letters
- Draft Categorical Exclusion (CE) document
- Waterway permit determination and draft applications
- Approved scope of services for final plan development (Concurrence Point #2)
- Updated project cost estimates and milestone dates

304 Step 4 - Prepare Environmental Clearance and Develop Stage 1 Design

304.1 Environmental Field Studies

Additional field studies often are required for the preferred alternative. The additional studies are conducted only as necessary based on the results of the field studies conducted for the feasible alternatives. If the results conclude that additional studies are warranted, those additional studies are conducted within the area of the preferred alternative. For more information on the field studies, refer to the individual technical and environmental manuals.

Documentation for Consultation and a Memorandum of Agreement are prepared to address mitigation. Mitigation for archaeological sites typically is conducted in the form of data recovery; this involves excavation of the site to obtain artifacts. Excavated artifacts are made available to an appropriate public repository for research purposes.

Mitigation for archaeology as well as history/architecture is conducted during Step 6 after acquisition of the parcel(s) containing the eligible site(s). For a more detailed discussion of cultural resource investigation and mitigation requirements, refer to ODOT's *Cultural Resources Manual.*

Objectives

- Perform detailed environmental studies, Phase I and Phase II Archaeology and Wetland Delineation, and coordinate with resource agencies
- Develop Documentation for Consultation and Memorandum of Agreement
- Develop and submit Stage 1 Detailed Design
- Prepare final Waterway Permit applications
- Develop Conceptual Mitigation Plans
- Summarize environmental commitments and develop necessary environmental plan notes
- Prepare and submit Final Categorical Exclusion (CE)
- Update project cost estimates
- Address stakeholder comments by reaching Concurrence Point #2 (Scoping for Detailed Design)

304.2 Stage 1 Detailed Design

In Step 4, there is an apparent preferred alternative based upon the approved preliminary engineering and the environmental analysis. The design team addresses comments generated from the Preliminary Engineering review, and the project manager ensures completion of the costs, construction limits, and project intent. Prior to beginning Stage 1 design, the project manager may conduct a project review meeting with, at minimum, representatives from the design, planning, and environmental staff to discuss outstanding issues. The project manager should consider including other discipline representatives such as district utilities, railroads and construction.

The primary purpose of the Stage 1 design is to carry forward the ideas and decisions evaluated and approved during preliminary engineering and to continue the processes of formal plan preparation. Stage 1 design results in a refinement of the design completed during preliminary engineering. It also provides a level of design and detail necessary to begin Preliminary Right-of-Way Plans and allows accurate estimation of required right-of-way and construction costs.

Environmental commitment notes are developed and added to the Stage 1 submission. The purpose of these notes is to inform the contractor of the environmental restrictions and mitigation commitments that must be followed during the construction phase. The notes provide strict guidance to the contractors in preparing their bids and thus must contain enough detail to include the relevant information necessary for fulfilling the environmental commitments.

A list of elements to assist in the establishment of a reasonable level of detail for a typical Stage 1 design submittal is presented in the text box on the next page. The list is not all-inclusive, and all of the listed design elements are not required for every project. See ODOT's *Location and Design Manual,* Volume 3, Section 1400 for a complete list.

304.3 Property Owner Notification

As discussed in Step 3, the process requires property owner notification prior to conducting field studies. If more than 30 days has passed since the last notification, letters should be mailed to property owners and tenants notifying them of ODOT's intent to enter their property. In Step 4, property owner notification letters are limited to property owners within the construction limits of the preferred alternative where additional ecological and archaeological field investigations are necessary.

304.4 Final Waterway Permit Applications and Conceptual Mitigation Plans

Projects requiring a 404 Pre-Construction Notification, 404/401 Individual Permits, or 401 Isolated Permits require the completion of permit applications for submission to the agencies. The draft permit applications are submitted to the OES Waterway Permit Unit for review in Step 4. Conceptual mitigation plans are developed as part of the waterway permit applications. If the draft permit applications are returned to the district or consultants for correction, then the final permit applications are resubmitted to OES for director's signature and coordination with the agencies.

Individual Waterway Permits can take up to eight months to obtain after submission of applications to the agencies. The project manager should build sufficient time into the project schedule to allow for permit authorization. Final Waterway Permits must be obtained prior to work within waters of the United States. Refer to the OES Waterway Permit Guidelines for a description of waterway permit issues.

If Phase II Archaeology Surveys identify Natural Register of Historic Places (NRHP) potentially eligible sites then a Draft Data Recovery plan is prepared. This plan must be prepared by an ODOT prequalified cultural resources consultant through the direction of the project manager. OES reviews the plan and coordinates it with OHPO. For a more detailed discussion of cultural resource investigation and mitigation requirements, refer to ODOT's *Cultural Resources Manual.*

Typical Stage 1 Design Elements

- Refined typical sections
- Benching
- Design exceptions
- Guardrail length
- Existing property lines
- Title and deed research
- Subsurface utility exploration
- Utility dispositions
- Final soil borings
- Cross-sections with final flow line elevations
- Ditch designs
- Finalize post construction storm water best management practices design
- Drive and interchange details
- FAA clearance analysis
- Pavement design
- Refined construction cost estimate
- Noise wall and retaining wall details
- Sewer design (plan/profiles)
- Refined construction limits for right-of-way
- Culvert design (no headwall details)
- Structure Preliminary Design

Field Studies Conducted within the Preferred Alternative

- Noise Analysis
- Fieldwork for Ecological Resources
- Phase II History/Architecture Survey
- Section 4(f) Coordination, if applicable
- Phase I and II Environmental Site Assessments

304.5 Floodplain Coordination

Activities in Step 4 include initiating coordination with the Local Community Floodplain Administrator in charge of administering the requirements set forth in the National Flood Insurance Program (NFIP), if applicable. A description and mapping of the preferred alternative—including available details on any fill material to be placed in the floodplain—should be provided to the Local Community Floodplain Administrator for review and comment. This coordination will determine if a Flood Hazard Development Permit will be required prior to construction activities.

304.6 Environmental Commitments Summary

An Environmental Commitments Summary is a link between the environmental phase of the project and the later stages of the PDP to ensure follow through of commitments made with stakeholders. This summary becomes a part of the CE document. The summary includes information about resources that were specifically avoided during preliminary development and a description of environmentally related actions such as a National Pollutant Discharge Elimination System (NPDES) Section 402 Permit. The summary also can include commitments for additional public meetings, as well as a reference table and associated mapping identifying the location of avoided resources.

304.7 Final Categorical Exclusion

The draft CE document prepared in Step 3 is updated to include the results of further cultural and ecological resource investigations and mitigation plans developed in Step 4. If the project qualifies for a CE Level 2, the document is submitted to, or prepared by, the ODOT District Environmental Coordinator (DEC) for review and approval. Level 3 and 4 CE documents also are submitted to, or prepared by, the DEC for review and approval. However, the documents also must be approved by OES. OES submits Level 4 CEs to FHWA for approval. For more information on completion of the CE document, refer to ODOT's *Environmental Process Manual*.

304.8 Director's Authorization

The Director's Authorization is issued by ODOT's District Deputy Director to formalize changes to the state highway system. This authorization occurs after the FHWA issues the FONSI or ROD. Local jurisdictions are notified by letter of ODOT's authorization. Subsequent to this notification, local jurisdictions are required to contact ODOT prior to authorizing property transfers, rezoning, or building permits in proximity to the planned project.

304.9 Cost Estimates

The project manager should update all the cost estimates in Ellis, including construction, right-of-way acquisition, and utility reimbursement.

304.10 Products

- Environmental studies
- Documentation for Consultation and Memorandum of Agreement
- Approved Stage 1 Detailed Design
- Final Waterway Permit applications
- Conceptual Mitigation Plan
- Environmental commitments summary
- Updated cost estimates

305 Step 5 - Develop Stage 2 Design Plans

305.1 Stage 2 Detailed Plans

Objectives

- Develop and submit Stage 2 Detailed Design
- Conduct second constructability review
- Develop and submit preliminary right-of way plans
- Prepare final mitigation plans
- Update project cost estimates

At this point in the process, the Stage 1 plans have been reviewed and approved. A primary objective of the PDP is to provide a sufficient level of preliminary design inclusive of multiple disciplines in order to anticipate and mitigate all planning, environmental, design, and construction issues in the early stages of project development (prior to Stage 2 design). However, it is not always possible to completely anticipate all issues for any given project, and this step of the PDP might uncover additional concerns. All members of the project team should recognize this fact and be prepared to provide additional data as necessary in order to resolve any latent issues. The project manager should consider holding additional meetings as necessary to coordinate efforts to resolve concerns that might occur during Step 5.

Stage 2 design typically is where the majority of the design detailing and plan preparation takes place. In general, Stage 2 plans should be developed to the point where plan preparation, design, and detailing are substantially complete. Some exceptions apply, notably the inclusion of final pay quantities for roadway and bridge and final reinforcing steel details for structures.

Typical Stage 2 Design Elements

In addition to a refinement of those elements included in the Stage 1 design, consider the following:

- Removal items shown on plans
- Quantity balloons (no quantities)
- Pavement details/elevation tables
- Underdrain details
- Signal design/layout
- Lighting design/layout
- Signing and pavement marking
- Maintenance of traffic details
- Complete structure design including substructure and superstructure
- Retaining wall plans
- Noise wall details

The primary purpose of Stage 2 design is to detail and draft the ideas and concepts set forth in the Preliminary Engineering and the Stage 1 design. Also during Stage 2 design, the project manager should critically review the project's schedule and budget and make appropriate changes if necessary. For example, it is important to time the sale of land and removal of trees in coordination with environmental concerns to minimize project costs and maximize project schedule.

Although it is not the intent of this document to detail all elements in a Stage 2 design submittal, the text box to the left provides general guidelines establishing a reasonable level of detail for a typical Stage 2 design submittal. For a more detailed explanation of the requirements for a Stage 2 design submittal, refer to ODOT's *Location and Design Manual,* Volume 3, Section 1400.

305.2 Second Constructability Review

A second constructability review may be conducted concurrent with the Stage 2 review. This review is intended to cover the following areas: right-of-way, environmental, geotechnical, utilities, site plan and profile, drainage, structures, maintenance of traffic, construction completion date, construction project phasing and access, assess the buildability of the design details with particular emphasis on construction methods, maintenance of traffic phasing details, etc, and overall bid-ability and build-ability of the project.

305.3 Preliminary Right-of-Way Plans

Preliminary Right-of-Way Plans are developed concurrently with Stage 1 Plans and should incorporate all Stage 1 review comments related to right-of-way issues. Preliminary Right-of-Way Plans are prepared in accordance with Section 3100 ("Right-of-Way Plans") of the *Real Estate Policies and Procedures Manual*.

In general, Preliminary Right-of-Way Plans provide an overall picture of the affected property that will be obtained, either temporarily or permanently, in order to construct the project. The primary purpose of the Right-of-Way Plans is to allow an accurate location and appraisal of properties affected by a project. Acquisition of property can be a long process that in many cases dictates the overall schedule of a project prior to construction. To facilitate this process, the right-of-way staff should develop Right-of-Way Plans concurrently with the roadway design plans.

Preliminary Right-of-Way Plans

Preliminary Right-of-Way Plans generally include the following items at minimum:

- Title sheet (generally from construction plans)
- Centerline plat
- Property map
- Summary of additional right-of-way
- Detail Right-of-Way Plan sheets

305.4 Final Mitigation Plans

The project manager addresses ODOT's Office of Environmental Services (OES) comments on the draft mitigation plans and draft data recovery plans submitted in Step 4. OES will submit these plans together with the Documentation for Consultation and the Memorandum of Agreement to the consulting parties for approval. For additional details, refer to the ODOT *Cultural Resources Manual.*

305.5 Cost Estimates

The project manager should use the Stage 2 Detailed Design and Preliminary Right-of-Way information to update the construction, right-of-way acquisition, and utility reimbursement cost estimates in Ellis.

305.6 Products

- Approved Stage 2 Detailed Design
- Completed second constructability review
- Approved preliminary right-of-way
- Final mitigation plans
- Updated project cost estimates

306 Step 6 - Complete Right-of-Way Plan and Begin Acquisition

306.1 Final Right-of-Way Plans

Objectives

- Complete and submit final right-of-way plans and tracings
- Begin right-of-way acquisition
- Begin environmental mitigation
- Begin utility relocation
- Update project right-of-way acquisition cost estimate
- Achieve milestone for right-of-way / utility coordination

Final Right-of-Way Plans incorporate preliminary right-of-way plan comments and any Stage 2 Detailed Design comments that affect the right-of-way. Legal descriptions and calculations also are included in the Final Right-of-Way plans. Final Right-of-Way Plans can be developed concurrently with the Stage 2 Detailed Design in Step 9. However, any Stage 2 design issues that may affect right-of-way must be resolved prior to submission of the Final Right-of-Way Plans.

Right-of-way plans must be accurate as source documents in all cases. Right-of-way plans are used to perform title searches and confirm ownership of the properties required. ODOT uses these Final Right-of-Way Plans and Stage 2 construction plans to estimate compensation for the part taken and damages, if any, to the residence. The Final Right-of-Way Plans also identify service providers needing relocation in conjunction with the project.

In some instances (hardship cases), advanced right-of-way acquisition and whole-take acquisition can begin prior to Final Right-of-Way Plan approval; however, this is generally not the case.

306.2 Final Right-of-Way Tracings

The Final Right-of-Way Tracings incorporate the Final Right-of-Way Plan review comments. Before submitting the Final Right-of-Way Tracings, an in-depth field review is conducted to verify topographic feature, structures, utilities, and titles are updated to verify property owners. The Final Right-of-Way Tracings are revised to accurately reflect new information identified in the final field verification. Details for final right-of-way submission are included in Section 3100 of the *Real Estate Policies and Procedures Manual.*

306.3 Right-of-Way Acquisition

Qualified appraisal personnel complete certified appraisals to determine property values in the area. These appraisal reports are the basis for developing Fair Market Value Estimates (FMVE) and making offers to the affected property owners. Agreement on acquisition is then sought through presentation of the FMVE and the proposed construction plans.

Acquisition can be done either by easement or by purchase. The right-of-way acquisition process requires ODOT to take certain steps to ensure the protection of all rights and interests of property owners and utility service providers during the acquisition. These steps include:

- ODOT estimates fair market value of the property acquired plus damages to any remaining property. Certified appraisers review and complete the FMVE and certified appraisal report.
- ODOT must make every effort to acquire the property in a timely manner.
- ODOT must make every reasonable effort to contact each property owner and present the owner with a written offer of the approved valuation for the required property.

- ODOT must offer the full fair market value for the property being acquired in compliance with both federal and state laws.
- ODOT must inform any occupants of buildings being acquired of their rights and benefits under the Relocation Assistance Program. Refer to the *When ODOT Needs Your Property* pamphlet for more details.
- ODOT must inform all owners of their rights under the law; the law will fully protect these rights. State and federal laws prohibit discrimination on the grounds of race, color, religion, sex, national origin, age, or disability.

The project manager ensures that a complete record of all negotiation activities is kept for each property owner. These property owner files include:

- Applicable right-of-way plan sheets
- Title reports
- Certified FMVE appraisal reports
- Negotiation notes
- Signed offer letters and signed contracts
- Relocation Assistance Program documentation
- Fully executed and recorded conveyance instruments

If ODOT and the property owner cannot reach an agreement through negotiation, the Ohio Revised Code permits ODOT the right to acquire property for a public improvement through eminent domain. The Assistant Attorney General's Office, Transportation Section, handles all appropriations for ODOT. More details on this process can be found in ODOT's *Real Estate Policies and Procedures Manual* and Chapter 163 of the Ohio Revised Code.

After acquisition and prior to turning the structures over to the districts for disposition, the ODOT regional real estate office will have all structures tested for asbestos, and where applicable, abated. Where time permits, the regional real estate office also can rent the structures until needed for construction, or the regional real estate office can work with the District Office to attempt selling the structures by public bid.

Once right-of-way acquisition has been substantially completed, the project manager shall complete the Consultant Evaluation System (CES) Right of Way feedback information.

306.4 Right-of-Way/Utility Coordination Milestone

This milestone represents the completion of right-of-way tracings and the start of right-of-way acquisition. It also represents the point at which utility companies should begin to prepare final plans to relocate their facilities.

306.5 Environmental Mitigation and Utility Relocation

After acquisition of all property, ODOT makes arrangements for the clearance of the property. Clearance activities include environmental mitigation, demolition of all structures, and relocation of all utilities. If buildings or other structures need to be acquired for the project, it is desirable to demolish these structures as soon as possible. This helps to minimize vandalism and trespassing. In order to gain these advantages, it might be advisable to enter into a contract prior to gaining possession of the structures. This allows prompt removal of the structures on an individual basis as ODOT acquires possession. If a historic building or bridge requires demolition, HABS/HAER recordation must be done prior to demolition.

If the buildings or structures are subject to mitigation due to their eligibility for the National Register of Historic Places, the approved mitigation plan must be carried out prior to the demolition.

ODOT must conduct other forms of mitigation associated with the project—such as data recovery from archaeological sites, archival recordation of historic buildings, stream mitigation, and the creation of replacement wetlands—prior to construction activities impacting the associated resource. Coordination with construction activities is imperative to allow sufficient time for the mitigation activities and ensure they will not hinder the construction schedule.

Close coordination among the property acquisition, utility relocation, and design teams is necessary at all stages of right-of-way acquisition. This coordination should include a review of impacts to local property owners and utility providers in the early stages of this process. The Project Manager should hold regularly scheduled meetings to coordinate utility relocation efforts. Coordination with the appropriate county administrator is necessary in the preparation of legal descriptions, Final Right-of-Way Plans, and individual title reports. In cases where ODOT cannot reach agreement with property owners, close coordination with the Office of the Attorney General is necessary as early as possible.

As ODOT acquires each structure, they can release the property immediately to the successful bidder who was contracted for removal. Property owners with buildings being acquired have the option to keep these buildings should they so desire. ODOT and the property owners discuss and agree upon all details at the time of settlement. It is the responsibility of the property owner to remove any buildings they desire to keep, at their own expense and in accordance with state specifications.

306.6 Cost Estimates

Based on the right-of-way activities in Step 6, the project manager should update the right-of-way acquisition and utility reimbursement cost estimates in Ellis.

306.7 Products

- Approved Final Right-of-Way Plans and Tracings
- Right-of-way acquisition underway (acquisition must be completed before submission of the plan package in Step 8)
- Environmental mitigation underway
- Utility relocation underway (disposition of utility conflicts must be resolved prior to submission of the plan package in Step 8)
- Update project right-of-way acquisition cost estimate
- Completion of milestone for right-of-way / utility coordination

307 Step 7 - Develop Stage 3 Design

307.1 Stage 3 Detailed Design Plans

Stage 3 Detailed Design should represent a complete plan, although changes still might be made due to revisions to existing conditions, right-of-way negotiations, and so forth. The principal work items in Stage 3 include the addition of quantities to the plans and a final cost estimate. In addition to a refinement of those elements in the Stage 2 design and a resolution of the Stage 2 comments, consider the items in "Design Elements to Be Considered" below. ODOT's *Location and Design Manual,* Volume 3, Section 1400 provides further details.

Objectives

- Develop and submit Stage 3 Detailed Design
- Prepare Environmental Consultation form
- Update construction cost estimate

307.2 Environmental Consultation Form

During Stage 3 Review, the plans are reviewed to confirm their compliance with all Environmental Commitments and mitigation plans this compliance is formalized on the Environmental Consultation Form. This form is signed by the District Environmental Coordinator and submitted with the Final Plan Package to ODOT's Office of Contracts during Step 8.

The project-specific waterway permits are listed as Special Provisions on the construction plan title sheet. The permits are affixed to the plans as a Special Provisions package; this alerts the bidding contractors and ODOT construction personnel to the existence of the permits and all permit provisions and conditions.

Design Elements to Be Considered for the Stage 3 Design Plans

- Project Site Plan
- All final quantities
- Construction estimate
- General notes
- Pavement calculations
- FAA clearance notification
- Wiring diagrams
- Pole orientation and signal timing charts
- Reinforcing layout and computation
- Special Provision Package including the Waterway Permits and Conditions

307.3 Cost Estimate

Based on the Stage 3 Design activities in Step 7, the project manager should update the construction cost estimate in Ellis.

307.4 Products

- Approved Stage 3 Detailed Design
- Environmental Consultation form
- Updated construction cost estimate

308 Step 8 - Prepare Final Plan Package

308.1 Final Plan Package

The Final Plan Package that typically includes the same items listed for the final tracing submission in the text box near the bottom of this page and presents the design information for bidding and construction. The District Production Office generally processes the Final Plan Package. For a more detailed discussion of submittal requirements, refer to the ODOT *Location and Design Manual,* Volume 3, Section 1500.

Objectives

- Prepare and submit final tracings
- Prepare and submit final plan package
- Update construction cost estimate
- Achieve milestone for final tracing approval

Within 30 days of consultant's submission of the Final Tracings to the District, the Consultant Evaluation System Evaluation form is completed. The project manager will determine whether a meeting with the consultant is necessary.

308.2 Milestone for Final Tracing Approval

Prior to proceeding with Step 9, Award Contract, final tracing approval is required. At this milestone, the project moves from design to contract administration. The final plans and calculations are complete, all reviews have been completed and comments addressed.

Final Plan Package

Submittal of the final plan package should contain the following:

- Tracings of final construction plans including soil profile and foundation sheets
- Tracings of final right-of-way plans
- Completed LD-4 Estimating Form
- Copy of LD-33, County Engineer Approval Form
- Cost estimates
- Environmental monitoring during construction

308.3 Cost Estimate

The project manager should, for the last time, update the construction cost estimate in Ellis.

308.4 Products

- Approved final tracings and associated documentation
- Submitted final plan package
- Updated construction cost estimate
- Completion of milestone for final tracing approval

309 Step 9 - Award Contract

309.1 Process

The Final Plan Package is prepared in Step 8 and sent in Step 9 to the ODOT Office of Estimating for entry into the Contract Administration process. The Contract Administration process takes a project from submission of the final plan package to central office through the contract award process. The final contract plan package consists of design tracings, proposal notes, special provisions, contract specifications and other related documents along with right-of-way and utility clearance certifications.

Objectives

- Prepare Plans, Specifications, and Estimate (PS&E) package
- Complete final legislation
- Obtain Federal authorization
- Advertise project
- Respond to pre-bid questions
- Conduct construction contract sale
- Award contract

After receipt of the final plan package, the Office of Estimating begins the Step 9 processing with the preparation of an engineer's cost estimate based on the plan package submission. The Engineers Estimate is the official estimate upon which any required legislation will be based.

309.2 Plans, Specifications, and Estimates Package

At the end of Step 8, the Final Plan Package was submitted to or processed by ODOT's District Production Office. Now, at the beginning of Step 9, the District Production Office ensures the Final Plan Package is complete and submits it to the Office of Estimating. For a list of submission requirements see ODOT's *Location and Design Manual,* Volume 3, Section 1500.

309.3 Final Legislation

For projects occurring in jurisdictions of local public agencies, whether or not the agency is participating financially, preliminary consent was obtained from the affected local public agencies early in the PDP. This consent included broad language to the effect that the local agency granted permission for ODOT to perform work on the specific project within its jurisdictional boundaries. For projects where local financial participation occurs, the preliminary legislation established participation levels and the details for the transfer of local funds toward the financing of the project.

In Step 9 cases involving local funding participation, final legislation is required in which local agencies give final agreement to specific funding levels and amounts and methods of funding transfers. The Office of Estimating prepares the final legislative package in Step 9. It then is sent to the District to coordinate with the LPA in order to obtain the required consent. Once the appropriate consent is obtained, as well as required monies, the District then submits the final legislative package to the Office of Estimating for final processing. The Office of Estimating completes the final legislation package and includes it in the Plan, Specifications and Estimates Package.

309.4 Federal Authorization

For federally funded projects, the Office of Estimating requests review and authorization of the Plan, Specifications, and Estimates Package from the FHWA to advertise the contract for bids.

309.5 Advertisement

Once the final legislation is approved, the Office of Contracts assembles the final bid documents. Bid documents include notice to bidders, project appropriate proposal notes, quantity estimates, final plans and other documentation necessary for legal submission of project bids. The Office of Contracts then schedules a bid letting, a timeframe for distribution of addenda, and a bid date. All dates are set either by ODOT policy or by law. The project manager should submit all contract addenda to ODOT's Office of Estimating prior to the bid date to ensure proper distribution to all potential bidders. More specifics of the process are in the ODOT *Construction Administration Manual*.

309.6 Pre-Bid Questions

ODOT ensures one central location for the receipt of all questions about the contract prior to bid. ODOT has a specific telephone number and e-mail address for this purpose. If warranted, pre-bid questions receive a response that is made available to all potential bidders in the form of contract addenda. Coordination is often necessary between estimators, designers, and the right-of-way acquisition team in responding to pre-bid questions from prospective bidders. The official record of pre-bid questions and responses is called the Contract Addenda.

309.7 Contract Award

After the bids are opened, the lowest bidder is announced as the apparent low bidder. A detailed review checks the bid for accuracy, responsiveness, and compliance with all conditions. After ODOT certifies a bid as accurate, the lowest bidder receives a contract award letter from ODOT. Notification of the contract award must also be made to utility service providers to coordinate pre-construction schedules and all field activities.

After the project is awarded, the Innovative Contracting Notification Form (ICNF) Part II is included in the contract award notification to the Office of Construction Administration. The ICNF Part II also includes the Part I submitted in Step 8. For more details on the requirements of innovative contracting, see ODOT's *Innovative Contracting Manual*.

309.8 Products

- Approved PS&E package
- Final legislation
- Contract addenda (record of official responses to pre-bid questions)
- Federal authorization
- Construction contract sale
- Awarded contract

310 Step 10 - Construct Project

310.1 Pre-Construction Conference and Coordination

The contractor awarded the contract in Step 9 has the responsibility in Step 10 to perform the work as detailed in the contract documents. Although it is the contractor's responsibility to perform within the scheduled milestones and for the agreed-upon cost, it is ODOT's responsibility to administer the contract. ODOT monitors, manages, and documents the contractor's activities to ensure compliance with the plans, proposal, and specifications. Conferences, meetings, and general coordination are tools of contract administration.

Objectives

- Conduct pre-construction conference and regular coordination meetings
- Review and respond to contractor's Value Engineering Change Proposals
- Accept materials for construction
- Prepare and submit Storm Water Pollution Prevention Plan
- Construct project
- Obtain final project acceptance
- Conduct post-construction conference and activities

At the beginning of Step 10, the project manager should conduct a pre-construction conference before the start of physical construction. The primary goal of the pre-construction conference is to introduce all of the project participants and to discuss actions necessary for a successful start, execution, and completion of the contract work. The pre-construction conference provides a forum to convey details of mutual interest and concern about the execution of the contract documents. It allows the opportunity to clarify and respond to any questions or potential misunderstandings regarding the upcoming work to be performed. The project manager, with contractor input, coordinates the meeting details including the list of attendees and agenda topics. Following is a list of possible attendees:

- ODOT county manager, Equal Employment Opportunity (EEO) personnel, Prevailing Wage Officer, and testing, production, utilities, and environmental personnel
- Subcontractors and suppliers
- Participating agencies or any agency impacted, including the FHWA
- Utility and railroad companies

The following text box provides a list of potential discussion topics.

Pre-Construction Conference Topics of Discussion

ODOT

- Project description
- Announcement of the project manager and explanation of the person's authority
- Material approval, inspection, and payment processes
- Change order process including who has authority to approve change orders and to grant permission to proceed prior to change order approval
- Contractor evaluation process and C-95 form
- Dispute resolution and claims process
- Proposal, special provisions, and general plan notes; agreement on their meanings
- Prevailing wage requirements and procedures
- Project bulletin board responsibilities and the necessary contractor posters
- Contractor EEO responsibilities
- Environmental permit requirements, waterway permits, and mitigation
- Soil and erosion control responsibilities
- All environmental commitments and associated plan notes
- Right-of-way issues
- Utility relocations
- Railroad coordination, including any agreements between the contractor and the railroad
- Any value engineering change proposals
- Any pending extra work or change orders
- Disadvantaged Business Enterprise goals and tracking procedures
- Partnering agreements and meeting (if applicable)
- Request-for-Information process
- Maintenance of traffic issues and scheme
- Environmental monitoring during construction

Contractor

- Proposed start date
- Name of the project superintendent
- Project baseline schedule
- Subcontractors, suppliers, and material sources
- Work procedures, type of equipment, and work schedule to perform the project
- Haul roads and waste and borrow areas
- Method of paying fringe benefits to workers required by prevailing wage law

In addition, the project manager, in conjunction with the contractor's project manager, should conduct coordination meetings with the contractor on a weekly or bi-weekly basis depending on the project's size and complexity.

Coordination Meeting Agenda Topics

- Verify prior meeting minutes and announce future meeting schedule
- Attendee list
- Review completed, ongoing, and soon-to-start activities
- Identify conflicts and potentials for delays
- Review status of environmental commitments and compliance, permit requirements, VECPs and outstanding Requests for Information, contractor proposals, submittals, and shop drawings
- Discuss maintenance of traffic issues, safety concerns, and public relations
- Review claims/disputes status, change order status, and estimates status
- Discuss testing/material issues, EEO/prevailing wages issues
- Hold open discussion

Coordination in Step 10 should also include public involvement. The public should be made aware of construction schedules and included in decisions that will affect the local community's daily activities. For example, the local community would need to be involved with scheduling road closures or detours around high-traffic areas and times or special events. For specific information on how to involve the public, refer to ODOT's *Public Involvement Guide*.

310.2 Project Site Plan

A Project Site Plan is normally prepared as part of the contract documents. In Step 10, the construction contractor is responsible for modifying the plan to prepare a Storm Water Pollution Prevention Plan (SWPPP) that meets Ohio EPA and National Pollutant Discharge Elimination System (NPDES) requirements (see the ODOT's *Location and Design Manual,* Volume 2).

Project Site Plans are required for all projects that include any Project Earth Disturbance Area as detailed in ODOT's *Location and Design Manual,* Volume 2, Section 1112. The specific requirements of a Project Site Plan are listed in ODOT's *Location and Design Manual,* Volume 3*,* Section 1300.

310.3 Value Engineering Change Proposals

During the construction phase the contractor may submit Value Engineering Change Proposals. These proposals are a contractor's suggestion on ways to reduce project costs or offer a time saving in construction without altering the essential functions and characteristics of the project. Value Engineering Change Proposals are detailed in ODOT Policy Number 27-008(P).

310.4 Acceptance of Materials

Materials incorporated into the construction project must meet all requirements of the applicable material specification. Materials should be field sampled to ensure they meet applicable standards. Where field sampling is not feasible, the method for accepting materials must be determined by the Administrator of the Office of Materials Management. There are options available when materials do not reasonably conform to appropriate specifications for incorporation into the construction project. These options are outlined in ODOT Policy Number 510-009(SP). More information on controlling accepted material is available in ODOT's *Construction and Material Specifications*.

310.5 Construction

Construction can be defined as the execution and administration of the contract documents. At the construction stage, the contractor begins to perform the tasks detailed in the contract. The contractor is responsible for constructing the work as detailed in the contract documents while the ODOT team, led by the project manager, is responsible for ensuring that the terms of this construction contract, including changes, are fulfilled. To verify that those conditions are met, certain documentation is essential. The adjacent text box highlights some of the activities, incidents, or requirements of the construction phase that become part of the project documentation. See ODOT's *Procedures for Construction Project Documentation* for more detail.

Construction Phase Includes:

- Material acceptance
- Construction Management System
- Assessment of liquidation damages
- Postponement of contract completion date
- Critical Path Method scheduling
- Disputes and claims
- Change orders
- Project estimates
- Value Engineering Change Proposal
- Inspection

310.6 Final Acceptance

The project manager should notify the engineer when all of the engineer's punch list items are complete. Then, the District final inspector will inspect the project for approval. If there are any outstanding minor work items, then the inspector provides these items on a punch list to the contractor. The contractor must complete the punch list and all necessary documentation before receiving the inspector's final approval. The inspector's approval and all necessary documentation from the contractor are necessary for final acceptance and payment. Part of final acceptance also includes completion of the C95 Evaluation Contractor Feedback Form.

310.7 Post-Construction Conference and Activities

The post-construction stage involves documentation, coordination, and meetings to finalize the project. One document that needs to be finalized and submitted after construction is the Innovated Contracting Notification Form (ICNF) Part III. The ICNF Part III is submitted to the Office of Construction Administration Innovating Contracting Coordinator. For more detail on the ICNF, see ODOT's *Innovative Contracting Manual*.

At the post-construction stage, the project personnel and the contractor review the aspects of the project to determine the project's challenges and successes. This is done at a post-construction conference. Possible participants include: the ODOT design engineer, construction engineer, project engineer, project personnel, design utility coordinator, district environmental coordinator, area engineer, and OES staff. The contractor personnel and management consultant are also likely participants.

Topics for the post-construction conference can include reviewing the value engineering changes, project change orders, project dispute-claims and negotiations settlements, and critical path schedule. Meeting participants also might discuss

Construction Activities to Document and Monitor

- All contractor and department correspondence
- The environmental commitments and permit requirements
- The contractor's use of public roads, workers, and public safety
- Change orders and force account work authorizations
- Prevailing wage compliance records
- Approved shop drawings and logs
- Transmittal and correspondence logs
- Contractor schedules
- Invoices

adherence to environmental commitments and permits, the accuracy and completeness of contract documents, and the partnering relationships with the contractors, field staff, management, and engineers.

Products of the post-construction conference include the Record of Learning. More details can be found in ODOT's *Construction and Material Specifications*.

Documentation throughout Step 10 creates a history of the project and is a source of information for future construction, resolution of potential claims, and assurance of properly managed public funds. The adjacent text box on the previous page provides a list of activities important to document and monitor:

For more details see ODOT's *Construction and Material Specifications*.

The activities in the post-construction stage of Step 10 may include post-construction monitoring required by environmental commitments. Stream and wetland mitigation sites have a five-year monitoring period for which annual reports are submitted to the U.S. Army Corps of Engineers (USACE) and the Ohio Environmental Protection Agency (OEPA). During Step 10, the Environmental Commitments Summary should be reviewed to determine if other mitigation efforts require further action or coordination post-construction.

310.8 Products

- Pre-construction conference and regular coordination meetings
- Approved Storm Water Pollution Prevention Plan
- Response to contractor's Value Engineering Change Proposals
- Material acceptance
- Completed construction
- Final project acceptance documentation
- Documentation of post-construction conference (record of learning)