401 Step 1 - Determine Scope, Schedule, and Budget

Objectives

- Conduct a site visit
- Identify Red Flags
- Prepare a written design scope document
- Confirm that scope of work meets the definition of a minimal project
- Prepare a Public Involvement Plan
- Update project cost estimates and milestone dates
- Confer of design scope, schedule, and budget at Concurrence Point #1

401.1 Process

The planning principles that apply to Minor Projects also apply to Minimal Projects. Minor and Minimal Projects differ in the level of detail required to accomplish the planning activities. For Minimal Projects, it is possible to complete the planning activities, actions, and products within a day or two. Details on the planning process are provided in ODOT's *Planning Process Manual.*

401.2 Preliminary Legislation

For projects occurring within the jurisdictions of local public agencies (LPAs), 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, or township trustees).

401.3 Site Survey and Red Flags

Red Flags are points of concern, including environmental and engineering issues, within the proposed work area. A site visit is used to assess possible Red Flags that could change the conceptual scope of work. By definition, a Minimal Project must be exempt from environmental documentation. If the project does not fall under the work types listed as exempt from Categorical Exclusion documentation in the ODOT's *Environmental Process Manual*, the project will need to be reclassified as a Minor Project (or in extremely rare instances as a Major Project).

The site visit, supplemented by research of existing records (for example: accident history, drainage complaints), is used to identify design Red Flags such as the presence of drainage problems or geometric deficiencies that, when corrected, could change the nature of work such that a project would be considered too complex or environmentally significant to classify as a Minimal Project.

The goal of the site survey and Red Flag identification is to confirm that the project meets the requirements for a Minimal Project. If Red Flags are present, the project likely will need to be reclassified as either Minor or Major Projects.

Notes from the site survey and Red Flag identification are saved in the project file. There is no required submission or formal approval of the site survey and Red Flag findings.

401.4 Design Scope

Step 1 includes preparation of a written design scope. The design scope identifies the project's work limits and describes the proposed work. The written design scope should indicate either that there no Red Flag issues for the project or list the Red Flag issues for the project. It is possible that the design scope be written to include several projects with similar work type (e.g. pavement marking, guardrail replacement). The Planning and Programs Administrator, Highway Management Administrator and Production Administrator must approve the written design scope of work. Unless existing conditions are altered, the design scope should not be revised during subsequent steps of the PDP.

401.5 Cost Estimates and Milestone Dates

After completing the Red Flag verification, the site visit, and written design scope of work; the project description, cost estimate (construction and utility reimbursement), funding information, and schedule in Ellis should be verified and revised, if necessary.

401.6 Public Involvement Plan

The project manager is responsible for developing a plan to inform stakeholders of each project through a Public Involvement Plan. The project manager should be familiar with similar projects performs in the area and note past stakeholder communication successes. Coordination with local officials and ODOT officials on the District and Central Office levels is recommended.

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

An important activity during Step 1 is the presentation of the project design, concept, and scope to the stakeholders. Stakeholders are usually limited to the appropriate ODOT disciplines, however, it is always important to talk with local officials to understand their concerns and coordinate scheduling of local events and local capital projects.

401.8 Products

- Completed site visit
- Identified Red Flags
- Written design scope
- Confirmation that scope of work meets the definition of a minimal project
- Public Involvement Plan
- Updated cost estimate and milestone commitment dates
- Completion of Concurrence Point #1

402 Step 2 - Develop Stage 3 Detailed Design Plans

402.1 Stage 3 Detailed Design Plans

The Stage 3 Detailed Design completes the design and detailing of the project. The plans must contain all details and quantities required to accurately bid and construct the proposed work. For Minimal Projects, the Stage 3 Detailed Design Plans typically consists of simplified plans, quantities, and notes.

Objectives

- Develop and submit Stage 3 Detailed Design
- Update project cost (construction and utility reimbursement) estimates

After completion of the Stage 3 plans, they are submitted to the appropriate district personnel—generally the District Production Office. Plans prepared by the District Production Office should be reviewed by someone other than the project designer. See ODOT's *Location and Design Manual,* Volume 3*,* Section 1400, for more information regarding the Stage 3 Detailed Design activities and required reviews.

After completion of the Stage 3 plans, they are submitted to the appropriate district personnel—generally the District Production Office. Plans prepared by the District Production Office should be reviewed by someone other than the project designer. See ODOT's *Location and Design Manual,* Volume 3*,* Section 1400, for more information regarding the Stage 3 Detailed Design activities and required reviews.

402.2 Cost Estimates

After completing Stage 3 Detailed Design Plans, the construction and utility reimbursement cost estimates should be updated in Ellis.

402.3 Products

- Approved Stage 3 Detailed Design plans and associated documentation
- Updated project cost estimates

403 Step 3 - Prepare Final Plan Package

403.1 Final Tracings and Final Plan Package

Submission of the final plan package represents the end of the design phase of the project. At this point, the project manager ensures presentation of the project for bidding and construction. The final plan package typically includes the signed and sealed final tracings, the Right-of-Way Certification, the completed ODOT LD-4 estimating form, and the final construction cost estimate.

Objectives

- Prepare and submit Final Tracings package
- Prepare and submit plan package
- Update construction cost estimate
- Achieve milestone for Final Tracing approval

The project manager should address the disposition of all comments generated throughout the review process. The District Production Office generally processes the final plan package adding proposal notes and special provisions. 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. For a more detailed discussion of submittal requirements refer to the ODOT *Location and Design Manual*, Volume 3, Section 1500.

Within 30 days of consultant's submission of the Plan 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.

403.2 Milestone for Final Tracing Approval

Prior to proceeding with Step 4 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.

403.3 Cost Estimate

Upon completion of the Final Tracings and plan package activities in Step 3, the construction cost estimate is updated in Ellis.

403.4 Products

- Approved Final Tracings and associated documentation
- Submitted plan package
- Updated construction cost estimate in Ellis
- Completion of milestone for Final Tracing approval

404 Step 4 - Award Contract

404.1 Plans, Specifications, and Estimates Package

At the end of Step 3, the Final Plan Package was submitted to or processed by ODOT's District Production Office. Now, at the beginning of Step 4, the District Production Office ensures the Final Plan Package is complete and submits it to the Office of Estimating. For a complete list of submission requirements see ODOT's *Location and Design Manual,* Volume 3*,* Section 1500.

The Office of Estimating prepares an engineer's cost estimate based on the Final Plan Package submission. The engineer's estimate is the official estimate upon which any required legislation is be based.

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

404.2 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 LPAs 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.

Now in Step 4 in cases of 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 4, which is then 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 the required monies, the District then submits the final legislative package back 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.

404.3 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.

404.4 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 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*.

404.5 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.

404.6 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 3. For more details on the requirements of Innovative Contracting, see ODOT's *Innovative Contracting Manual*.

404.7 Products

- Approved Plans, Specifications, and Estimates (PS&E) package
- Final legislation
- Federal Authorization
- Legal advertisement for bid date
- Contract addenda (a record of officials responses to pre-bid questions)
- Construction contract sale
- Awarded contract

405 Step 5 - Construct Project

405.1 Pre-Construction Conference and Coordination

The contractor awarded the contract in Step 4 has the responsibility in Step 5 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 a pre-construction conference and regular coordination meetings
- Review and respond to contractor's Value Engineering Change Proposals
- Accept materials for construction
- Construct project
- Obtain final project acceptance
- Conduct post-construction conference and activities

At the beginning of Step 5, 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

In addition, the following text box provides a list of potential discussion topics.

Pre-Construction Conference Discussion Topics

ODOT

- Project description
- Announce the appointment of the project manager and/or project engineer and explain his or her 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
- Review proposal, special provisions, general plan notes; obtain agreement on their meaning
- Prevailing wage requirements and procedures
- Project bulletin board responsibilities and the necessary contractor posters
- Contractor Equal Employment Opportunity (EEO) responsibilities
- Soil and erosion control responsibilities
- 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
- Disadvantage Business Enterprise goals and tracking procedures
- Partnering agreements and meetings
- Request-for-Information process
- Maintenance of traffic issues and scheme

Contractor

- Proposed start date
- Announce the name of the project manager
- Present the project baseline schedule
- State all subcontractors, suppliers, and material sources
- State the work procedures, type of equipment, and work schedule to perform the project
- List all haul roads and waste and borrow areas
- Method of paying fringe benefits to workers required by prevailing wage law
- Any questionable aspects of the contract or project site conditions

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 5 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*.

405.2 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).

405.3 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*.

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

405.4 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 text box on the previous page highlights some of the activities, incidents, or requirements of the construction phase that become part of the project documentation. This is not an exclusive list (see ODOT's *Procedures for Construction Project Documentation* for more detail).

405.5 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.

405.6 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 details 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. The meeting participants also might discuss 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*.

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

Documentation throughout Step 5 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 provides a list of activities for which it is important to document and monitor:

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

The activities in the post-construction stage of Step 5 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 and the Ohio Environmental

Protection Agency. During Step 5, the Environmental Commitments Summary should be reviewed to determine if other mitigation efforts require further action or coordination post-construction.

405.7 Products

- Pre-construction conference and regular coordination meetings
- Response to contractor's Value engineering Change Proposals
- Materials acceptance
- Completed construction
- Final project acceptance documentation