

## PROJECT DEVELOPMENT

### CHAPTER 5

#### Introduction

This chapter references procedures detailed in the *CDOT Project Development Manual*. The *Project Development Manual* refers to responsibilities of the Resident Engineer. When the Local Agency is administering the design of the project, the Local Agency will typically assume the responsibilities of the Resident Engineer. Questions and clarification of responsibilities should be directed to the CDOT Project Manager.

#### 5.1 Prepare Design Data - CDOT Form 463

The Form 463, which is completed in the CDOT database, is used on all projects to document important design information and provide uniform information during the project development process.

Design data on the Form 463 includes, but is not limited to:

Traffic volumes	Structural road parameters
Geometric standards	Major structures
Project characteristics	Highway classification
Right-of-way issues	Utilities
Railroad crossings	Environmental category
Agency coordination	Construction information
Entities involved	

The Form 463 is filled out cooperatively between the Local Agency and CDOT. See 1.09, "Design Data," of the *CDOT Project Development Manual* for further explanation.

#### 5.2 Prepare Local Agency / CDOT Inter-Governmental Agreement

CDOT will prepare a project inter-governmental agreement (IGA) detailing the responsibilities for the completion of the project. The agreement shall be developed in cooperation with the Local Agency and shall cover all phases of project work for which funding is approved. See Chapter 3 of this *Manual* for further explanation.

### 5.3 Conduct Consultant Selection / Execute Consultant Agreement

The Local Agency may hire a consultant to design and/or administer the construction of its project. To obtain Federal reimbursement, the Local Agency shall use CDOT's consultant selection process or, with the prior approval of CDOT's Contracts & Market Analysis Branch, use its own consultant selection process. In order to obtain this prior approval, the Local Agency must have its attorney certify that the Local Agency RFP and Consultant Selection Process is in conformance with federal and state laws. The IGA's Attachment #1 lists the procedures that Local Agencies shall use for agreements with professional consultant services and lists the pertinent federal and state laws.

A written Request for Proposal (RFP) is prepared by the local agency to solicit proposals from the consultants. For purposes of this manual requests for proposals (RFP) and Requests for qualifications (RFQ) are considered equivalent.

If the local agency does not want reimbursement for consulting services, it may use its own consultant selection process without CDOT approval. For consultants performing right of way services, see Chapter 8 of the CDOT Right of Way Manual.

*Title 23 CFR Part 172, Administration of Engineering and Design Related Service Contracts* requires the state highway agency to insure that procurement actions by local agencies comply with this regulation. Consultant contracts shall be reviewed by CDOT prior to approval.

The Agreements Unit of the Contracts and Market Analysis Branch can be contacted for a copy of CDOT's *Professional Consultant Contracting Manual: A Guide to CDOT's Policies, Procedures, Rules, Regulations and Guidelines, for Professional Service Contracts with Architects, Industrial Hygienists, Engineers, Landscape Architects, and Land Surveyors*.

Because the regulations and laws are lengthy, the subsequent steps serve as a guide for a Local Agency obtaining professional consultant services. This guidance follows the format of *Title 23 CFR Part 172*. This information is also located in Attachment 1 of the CDOT/Local Agency Inter-Governmental Agreement.

1. The contracting Local Agency shall document the need for obtaining professional services.
2. Prior to solicitation for consultant services, the contracting Local Agency shall develop a detailed scope of work and a list of evaluation factors and their relative importance. The evaluation factors are those identified in *Colorado Revised Statute 24-30-1403, Professional services - listings - preliminary selections*. Also, a detailed cost estimate shall be prepared for use during negotiations.
3. The contracting agency must advertise for consultant contracts if the basic construction cost of the project is expected to exceed \$1 million or if the fee for engineering or surveying services is expected to exceed \$100,000. The advertisement period must be a minimum of 15 days prior to the selection of the three most qualified firms, and the advertising should be done in one or more daily newspapers of general circulation. If the cost is expected to be less than \$100,000, advertisement is not necessary. In those instances, contact the CDOT Project Manager for direction.
4. The request for proposals shall include the scope of work, the evaluation factors and their relative importance, the method of payment, and the goal for Underutilized Disadvantaged Business Enterprise (UDBE) participation set by CDOT. Refer to CDOT's DBE Definitions and Requirements for Consultant Contracts (see <http://www.dot.state.co.us/Consultants/> ). These requirements outline all of the CDOT DBE Forms that are required of Prime Consultants and explain how they relate to evaluation factors and contract compliance.

The draft RFP shall be reviewed by the CDOT Project Manager prior to solicitation.

5. The evaluation and selection of the consultants are done in accordance with *Colorado Revised Statutes 24-30-1403*. This section of the regulation identifies the criteria to be used in the evaluation of consultants and their team. It also shows which criteria are used to short-list and make a final selection. The selection process is qualification-based and cost shall not be considered a factor.

Selection is based on the following evaluation factors:

- Project team
- Firm capability
- Past performance on similar projects
- Work location
- Capacity
- Project goals
- Project Control
- Project concept
- Project critical issues

Optionally, the top firms (minimum of 3) can be short-listed and invited to participate in a presentation and interview phase. Final selection will then be made after the presentation and interview score is added.

Under *Colorado Revised Statute 24-30-1401, Legislative Declaration*, cost shall not be considered a factor in the evaluation of professional consultant services.

6. After a consultant is selected, the Local Agency enters into negotiations with the consultant to obtain a fair and reasonable price for the anticipated work. Pre-negotiation audit evaluations are prepared for contracts expected to be greater than \$50,000. For audit assistance, contact the CDOT Consultant Audit Unit of the Contracts and Market Analysis Branch.

Federal reimbursement is limited to those items allowable under the cost principles in *Title 48 CFR 15, Contracting by Negotiation (subpart 15.404-4 Profit)*. Fixed fees (profits) are determined with consideration given to such items as project size, complexity, duration, qualifications of contractors, and degree of risk involved in the work. Profit is not to exceed 15 percent of the total allowable direct and indirect costs. Costs-plus-percent-of-cost contracts are not permissible.

The Draft Consultant Contract shall be reviewed by the CDOT Project Manager to ensure the contract contains the necessary federal requirements.

A Consultant Contract for federally reimbursable consulting services cannot be signed until the CDOT/Local Agency Inter-governmental agreement has been signed and made effective by the CDOT Controller.

7. A qualified Local Agency employee shall be responsible and in charge of the project to ensure that the work being done is complete, accurate, and consistent with terms, conditions, and specifications of the contract. At the end of the project, the Local Agency prepares a performance evaluation on the consultant (see CDOT Form 313 in Appendix A) and forwards it to the CDOT Project Manager.
8. Each of the steps listed above is documented in accordance with the provisions of *Title 49 CFR 18.42, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments*, which provide for records to be kept at least three years from the date that the Local Agency submits its final expenditure report. Records of projects under litigation shall be kept at least three years after the case has been settled.

*Colorado Revised Statutes 24-30-1401 through 24-30-1408, Title 23 CFR Part 172, and CDOT Procedural Directive 400.1 - Obtaining Professional Consultant Services*, provide additional details for complying with the eight steps discussed above.

Regulation 49 CFR 18.36(i) also requires:

It is also the responsibility of the Consultant to comply with the federal statutes and regulations cited in 49 CFR 18.36 (i), specifically (1) Administrative, contractual, or legal remedies, (2) Termination for cause and for convenience, (3) "Equal Employment Opportunity," (4) Copeland "Anti-Kickback" Act, (5) Davis-Bacon Act, (6) Contract Work Hours and Safety Standards Act, (7) regulations pertaining to reporting, (8) Patent rights, (9) Copyrights and rights in data, (10) Access by CDOT and FHWA to documents, (11) Retention of documents, (12) Clean Air Act, Clean Water Act, EPA regulations, and (13) energy efficiency conservation.

See Appendix B for the complete 49CFR18.36(i).

#### 5.4 Conduct Design Scoping Review Meeting

The Design Scoping Review (DSR) creates an early, on-site review of a project prior to preliminary design. This enables developing a scope of work that will be consistent with the planning and design characteristics. See 8.09 of the *CDOT Project Development Manual* and Appendix B of this *Manual* for *CDOT Procedural Directive 512.1*.

Determining the limits of the project and a draft survey request should be one product of the DSR (See 1.08 of the PDM). For right of way acquisition and plans, the accuracy of the survey increases, as listed in 5.5.1, "Minimum Horizontal Accuracy Tolerances," as listed in the CDOT Survey Manual and 5.5.2, "Minimum Horizontal Accuracy Tolerance Table."

The project scope shall address the CDOT policy for ADAAG. See the Americans with Disabilities Act (ADA) Accessibility Requirements in CDOT Transportation Projects policy memo for Federal Aid funded projects :

<http://www.dot.state.co.us/DesignSupport/ADA/ADA%20Accessibility%20Requirements%20in%20CDOT%20Transportation%20Projects%2010-20-2003%20.pdf>

Whenever possible it is desirable to conduct the DSR after the local agency selects its consultant, but before it completes the consultant contract. This enables all parties to ensure that all task items assigned to the consultant are properly addressed in the consultant contract. The consultant will not receive any compensation for activities that precede the Notice to Proceed. Following the DSR the CDOT Project Manager will issue a letter to the local agency that identifies items needed to clear the project for construction.

#### 5.5 Conduct Public Involvement

It is recommended that Local Agencies involve the public throughout the project development. Project information can be provided via flyers, news releases, or the local agency web site. Local Agencies should use CDOT's Public Participation Guidelines or adopt their own. Local Agencies should coordinate with CDOT to determine whether there are disproportionately adverse impacts to minority and low income populations. See Title VI Assurances in Appendix B. For guidance contact your CDOT Project Manager or review the public participation guidelines in section 3.2 of *CDOT's Title VI*

*and Environmental Justice Guidelines for NEPA Projects – Rev. 3*, found at:  
<http://www.dot.state.co.us/environmental/StandardsForms/Forms.asp#GuidanceandStandards> .

Public meetings can include door to door visits, homeowner group meetings, business surveys or stakeholder meetings, open houses, or formal public meetings and comment periods. It is in the best interest to have a wide range of public involvement early in the project. The elected officials, planners, design engineers and right-of-way agents should attend to get some public feedback on the project. Context sensitive solutions should be considered when designing and constructing the improvement.

When a significant number or proportion of the affected community needs information in a language other than English to participate in the process, the Local Agency shall provide notices of public meetings and project information in the other languages and take any other reasonable steps, including providing an interpreter, appropriate for the scope of the program and the size and concentration of the limited English proficiency population.

Announcement on the Local Agency's web site of the design of the transportation improvement project and its corresponding public meeting is also effective.

## **5.6 Conduct Field Inspection Review (FIR)**

The Field Inspection Review (FIR) is the on-site review of preliminary construction plans and cost estimate that signifies the end of the preliminary design phase. FIR plans are preliminary in nature, but still must contain applicable required items and details of all salient features. The FIR is held to conclude all unresolved issues identified during preliminary design and to establish the specific criteria and direction that are to be used in the final design. See 8.10, "Field Inspection Review," of the *CDOT Project Development Manual* for further explanation. Please contact the CDOT Project Manager to determine the number of FIR plans CDOT needs for Specialty staff involved with the review of the project.

## 5.7 Conduct Environmental Processes

The Local Agency must ensure that the environmental consequences of its transportation project have been adequately considered and that required mitigation measures can be completed within the time frame and budget described in the application. An environmental clearance is required before final design, right-of-way acquisition and construction funds are authorized. Contact the CDOT Project Manager for guidance concerning the environmental requirements. Among those requirements, Environmental Justice considerations should be analyzed and documented, if applicable. For more information see *CDOT's Title VI and Environmental Justice Guidelines for NEPA Projects – Rev. 3* and the *CDOT Environmental Stewardship Guide*, both found at :

<http://www.dot.state.co.us/environmental/StandardsForms/Forms.asp#GuidanceandStandards>

See Exhibit 3.1, “Sample Environmental Checklist,” in the FHWA Western Federal Lands Design Manual:

<http://www.wfl.fhwa.dot.gov/design/manual/pddmch03.pdf>

## 5.8 Acquire Right-of-Way

All right-of-way needed in connection with Local Agency projects must be acquired in compliance with Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended<sup>1</sup>, commonly called the Uniform Act. The rules are reprinted each year in the Code of Federal Regulations, Title 49, Part 24. See <http://www.fhwa.dot.gov/realestate/ua/index.htm> .

Before Federal funding can be authorized for right-of-way purposes, CDOT must review and approve a set of right-of-way (ROW) plans. The ROW plans shall include legal descriptions and topographic features for all land acquisitions. An approved relocation plan, if applicable, and cost estimates for right of way acquisition need to be submitted

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<sup>1</sup> As amended by Public Law 100-17, Apr. 2, 1987, Title IV, Uniform Relocation Act Amendments of 1987; As amended by Public Law 102-240, Dec. 19, 1991, Sec. 1055, Relocation Assistance Regulations Relating to the Rural Electrification Administration; As amended by Public Law 105-117, Nov. 21, 1997, Sec. 104, an Alien not lawfully present in the United States.

with the ROW plans in the packet requesting approval prepared for the project. See the CDOT Regional ROW Manager for the extent of ROW plans needed to obtain approval.

The Uniform Act applies when Federal dollars are utilized in any phase of the project. The Uniform Act applies even when Federal dollars are not used specifically for property acquisition or relocation activities, but are used elsewhere in the project, such as planning, environmental assessments or construction. The Uniform Act also applies when right of way is acquired for projects that modify state highways where no Federal dollars are used in any phase (100% local funded projects).

The Uniform Act is divided into three major sections or titles. Title I, General Provisions, covers definitions. Title II, Uniform Relocation Assistance, contains provisions relating to the displacement of persons or businesses by Federal or federally assisted programs or projects. Title III, Uniform Real Property Acquisition Policy, pertains to the acquisition of real property for Federal or federally assisted programs or projects.

CDOT must provide assurance to the FHWA that it can fully comply with the Uniform Act. The Local Agency must certify that it has followed the Uniform Act when acquiring real property. Pursuant to *Title 23 CFR 710.311 Construction Advertising*, no project can be advertised until local agency has provided written certification that all right of way has been cleared and CDOT has accepted that certification. See Appendix B for two example right-of-way certification letters. All right-of-way shall be purchased and taken into possession prior to concurrence to advertise for bids. See Chapter 8 of the ROW manual ( [http://www.dot.state.co.us/ROW\\_Manual/](http://www.dot.state.co.us/ROW_Manual/) ).

The Local Agency may accept, as part of a Federal or federally assisted project, a parcel that a developer has dedicated through the local planning and zoning approval process. Dedication is the process in which a local government directly appropriates property for a future public use in the planning and zoning approval process. Dedications are usually consummated at the time of subdivision approval. Dedications must be completed and enforceable before the Local Agency requests a right of way clearance.

Real property obtained through normal zoning, or through subdivision procedures requiring dedication of strips of land in the normal exercise of police power, is not

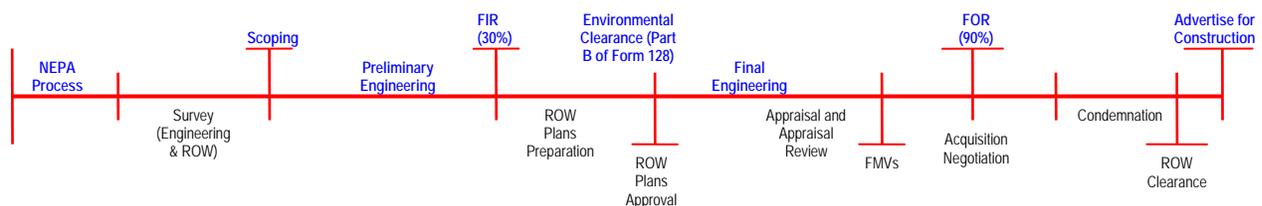
considered to be a taking in the constitutional sense and does not call for payment of just compensation or compliance with the Uniform Act. Land acquired in this manner may be incorporated into a federally assisted project without jeopardizing participation in other project costs.

Property owners whose real property is to be acquired for a project may make a gift or donation of the land, or any part of it, or of any of the compensation paid for it, to the acquiring agency. The owner-donors must be fully informed of the right to receive just compensation for the acquisition of the property if it is desired. The owners must also be fully informed that they are entitled to have an appraisal made of the property along with an offer of just compensation. The owners may release the Local Agency from either or both of these obligations. This release must be acquired in writing and cannot be obtained through coercion.

The Local Agency shall work closely with the CDOT Project Manager and the CDOT Right-of-Way Manager during the entire acquisition process, both to expedite acquisition and to assure that all Federal and State requirements are met.

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### Right of Way Acquisition Pursuant to the Uniform Act



Observations:

- ROW Process is a system of handoffs
- ROW Process interacts with other disciplines, e.g.: Engineering, Environmental, Utilities, etc.

The above illustration shows that the Right-of-Way timetable threads its way through the environmental clearance and design process. NEPA clearance (without corresponding permits) is required before ROW plans are approved by CDOT. Thus

the notice to proceed with the owner interaction and appraisals period is dependent upon the ROW plans approval. See Chapter 8 of the ROW Manual for in-depth instructions and further regulations. at [http://www.dot.state.co.us/ROW\\_Manual/](http://www.dot.state.co.us/ROW_Manual/) .

The local agency shall use appraisers and acquisition agents selected from CDOT's RFP list or CDOT's Qualification List in accordance with section 8.4.1 of CDOT's Right of Way Manual. Once the appraisal is completed, it should be sent to the CDOT regional ROW office for review. This review may require the LA's appraiser to adjust the appraisal. It is about a 3 to 4 week process. It is wise to also obtain the owner's appraisal at about the same time, as this can generally be used for setting or adjusting the Fair Market Value (FMV) by the CDOT regional office.

Negotiations between the LA and the property owner can begin when the FMVs are established. If the LA decides to compensate the owner more than the FMV for some reason, the CDOT ROW Manager shall be informed of this decision. All possession and use and final closing documents must be copied to the regional ROW manager.

CDOT forms must be used for ROW acquisition, since it streamlines the process and provides a very easy way for CDOT to concur with these actions. The property must be free of all liens and encumbrances to avoid endangering the integrity of the federally funded facility.

## **5.9 Obtain Utility and Railroad Agreements**

### **Utilities**

It is the Local Agency's responsibility to coordinate with all affected utility owners to identify existing facilities, determine where conflicts exist, and negotiate relocation requirements and payment terms.

Pursuant to *Title 23 CFR 635.309(b) Authorization to Advertise*, no project can be advertised until CDOT has provided written certification that all conflicts with the utility companies have been resolved. The Region Utilities Engineer will issue a Utility Clearance for the project.

The Region Utilities Engineer provides guidance to the Local Agency Project Manager in identifying and addressing all utilities affected by the project.

The Local Agency Project Manager shall:

1. Identify, verify, and locate known utilities and conflicts within project limits.
2. Coordinate necessary utility relocations and negotiate the agreements and/or permits.
3. Draft project utility specifications, and ensure that existing utility lines and any relocation requirements are accurately shown and identified on the project plans, specifications and estimates.
4. Submit project Utility Clearance letter to the Region Utilities Engineer.
5. Process utility billings.

## **Railroads**

The Local Agency may encounter railroad involvement in one of two contexts:

1. On projects specifically for the installation of safety devices at highway/rail at-grade crossings, or
2. When the transportation project will encroach upon railroad property and/or impact railroad facilities.

On Local Agency projects with railroad involvement, an agreement between the railroad and the Local Agency is required. An application may need to be submitted to and approved by the Colorado Public Utilities Commission. The CDOT Railroad Program Office in the Traffic and Safety Engineering Branch can furnish guidance and support at the Local Agency's request.

### **5.10 Conduct Final Office Review (FOR)**

The Final Office Review plans and specifications shall be final in nature. The Final Office Review (FOR) is a final review of construction plans, specifications and cost estimates for completeness and accuracy. See 8.12, "Final Office Review," of the *CDOT Project Development Manual* for further information. Please contact the CDOT Project Manager to determine the number of FOR plan sets CDOT needs for Specialty staff involved with the review of the project.

### **5.11 Justify Force Account Work by the Local Agency**

In accordance with Policy Directive 387.0 actual construction of a project shall be performed under a contract awarded to the lowest responsible bidder. However, under limited circumstances, subject to CDOT's approval, it may be in the public interest for a Local Agency to construct a portion of a project on a force account basis. In this context, the term "force account construction method" means the direct performance of project work by the Local Agency using labor, equipment and materials furnished by it and used under its direct control.

It may be found in the public interest and cost effective for a Local Agency to undertake a construction project by the force account construction method when a situation arises in which the rights and responsibilities of the community at large are so affected as to require a special course of action. Situations that may justify a request for a Force Account Construction Method – Finding in the Public Interest (FIPI) are listed in CDOT Form 895.

See 8.01, "Method of Construction," of the *CDOT Project Development Manual* for more details and the instructions on the cost effectiveness determination for this approval.

The latest revision of section 8.01 can be found at:

<http://www.dot.state.co.us/DesignSupport/Project%20Development%20Manual/Revisions%20to%20Project%20Development%20Manual/ProjDevManRev.htm> .

The CDOT Region Program Engineer must approve the FIPI justification before a Local Agency is authorized to perform any work on a project by the force account construction method. Upon receipt of the FIPI justification, the CDOT Region Program Engineer will

prepare the CDOT Form 895 – Region Certification – Force Account Construction Method –and Finding in the Public Interest (see Appendix A).

### **5.12 Justify Proprietary, Sole Source, or Local Agency Furnished Items**

When the use of a patented or proprietary (trade name), sole source, or local agency furnished item is essential for a project, a Finding in the Public Interest shall be prepared which documents that no equally suitable alternative exists.

See 8.16, “Proprietary Items,” of the *CDOT Project Development Manual* for further information.

### **5.13 Document Design Exceptions – CDOT Form 464**

The Form 464 – Design Exception Variance Request is used to document a project design exception (variance). This form documents important decisions, mitigation and safety information required when minimum design standards, as identified on the CDOT Form 463 – Design Data cannot be met. See 1.10, “Design Exceptions (Variance),” from the *CDOT Project Development Manual* for information on preparing a variance letter.

### **5.14 Prepare Plans, Specifications and Construction Cost Estimates**

Plans and specifications of a project describe the location and design features with all the construction items in sufficient detail to facilitate construction. The estimate reflects the anticipated costs in detail to permit an effective review and comparison of bids received.

A complete plans, specifications and estimate package (PS&E) shall include:

1. *CDOT Standard Specifications for Road and Bridge Construction* as supplemented by CDOT Standard Special Provisions (SSP), CDOT Project Special Provisions (PSP), and approved Local Agency specifications.
2. Plans in the form of detailed drawings.

3. Detailed cost estimate of bid and force account items (by the Local Agency). CDOT's review of the final cost estimate prior to completion of the bid package will be at the discretion of the Project Manager. Bid item information is available on the CDOT web site at <http://www.dot.state.co.us/Bidding/index.htm> .

See 8.20, "Plans, Specifications and Estimate Approval," of the *CDOT Project Development Manual* for further information.

For all projects that require the preparation of design or engineering plans, the Local Agency is required to have professional personnel on its staff or under contractual agreement to be in charge of the project. As appropriate, this professional may be an architect certified by the Colorado Board of Examiners of Architects, an historian, an architectural historian, or a Professional Engineer certified by the State Board of Professional Engineers and Land Surveyors. All projects involved with the rehabilitation or preservation of historic buildings, structures or sites are coordinated with and receive written approval from the State Historic Preservation Officer.

Construction plans are sealed by the Professional Engineer according to Rule VIII, bylaws and rules of procedure of the State Board of Registration for Professional Engineers and Professional Land Surveyors, and *CDOT Procedural Directive 508.01 – Professional Engineer's Stamp*. The Local Agency's project manager is responsible for coordinating all project-related activities with CDOT, including the status of the project plans. CDOT has final approval authority for plans and specifications submitted for advertisement and construction.

The Local Agency completes the project plans and specifications in conformance with CDOT requirements during the project development process. CDOT reviews the final set of construction plans and specifications.

### **5.15 Ensure Authorization of Funds for Construction**

Authority to spend funds for preliminary engineering through final design, right-of-way, utilities, and construction is authorized in phases. The CDOT Project Manager submits a CDOT Form 1180 – Standard Certification and Project PS&E Approval to authorize construction funds when the project is ready for advertisement.

The following documents must be submitted prior to federal authorization:

1. Form 1180
2. Final 463
3. Right of Way Certification
4. Utility certification
5. Environmental clearance – Form 128, or FONSI or ROD.

CDOT will prepare the necessary paperwork to verify the federal funds are authorized for the construction (C) phase. The C phase is authorized through the Federal-Aid Program Data (Form 418). Authorization must be granted before advertisement. The CDOT project manager should check encumbrance before construction work begins. A funding letter may be necessary at this point. Funds spent by the Local Agency before CDOT authorization are not eligible for reimbursement.