

## 400. Introduction

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- 400.1. Purpose
- 400.2. Responsibility
- 400.3. Project Work/Improvement Types
- 400.4. Process Flow Charts

### 400.1. Purpose

This chapter establishes procedures and guidance for use in developing federal-aid and state-funded highway capital improvement projects from initiating project development authorization (PDA) to construction contract award. It stipulates minimum requirements and provides references to the sources of those requirements. Additional steps may be appropriate to address project specific requirements. Section 490 of this manual covers state-funded projects and notes differences in project development procedures.

### 400.2. Responsibility

The regions are responsible for project development. Planning field offices are responsible for transferring project nomination, Statewide Transportation Improvement Program (STIP) information, planning studies and other information to support project initiation and funding.

Preservation projects come from Asset Management project nominations developed between the regions and Statewide Materials.

Highway Safety Improvement Program (HSIP) project nomination packages come from the regional Traffic & Safety Engineers in consultation with the Statewide Traffic Engineer.

Project managers are responsible for developing projects in accordance with applicable federal, state, and local laws and regulations, and departmental policies and procedures.

In this chapter, the use of position titles refers to levels of authority rather than specific position names.

### 400.3. Project Work/Improvement Types

There are six major-project types:

- New Construction
- Reconstruction
- Resurfacing, Restoration & Rehabilitation (3R)
- Preservation
- Bridge
- HSIP

This is not inclusive of all the work/improvement types available for federal project budget development.

[http://www.dot.state.ak.us/stwddes/dcsprecon/assets/pdf/preconhwy/fhwa\\_improvement\\_type\\_code.pdf](http://www.dot.state.ak.us/stwddes/dcsprecon/assets/pdf/preconhwy/fhwa_improvement_type_code.pdf)

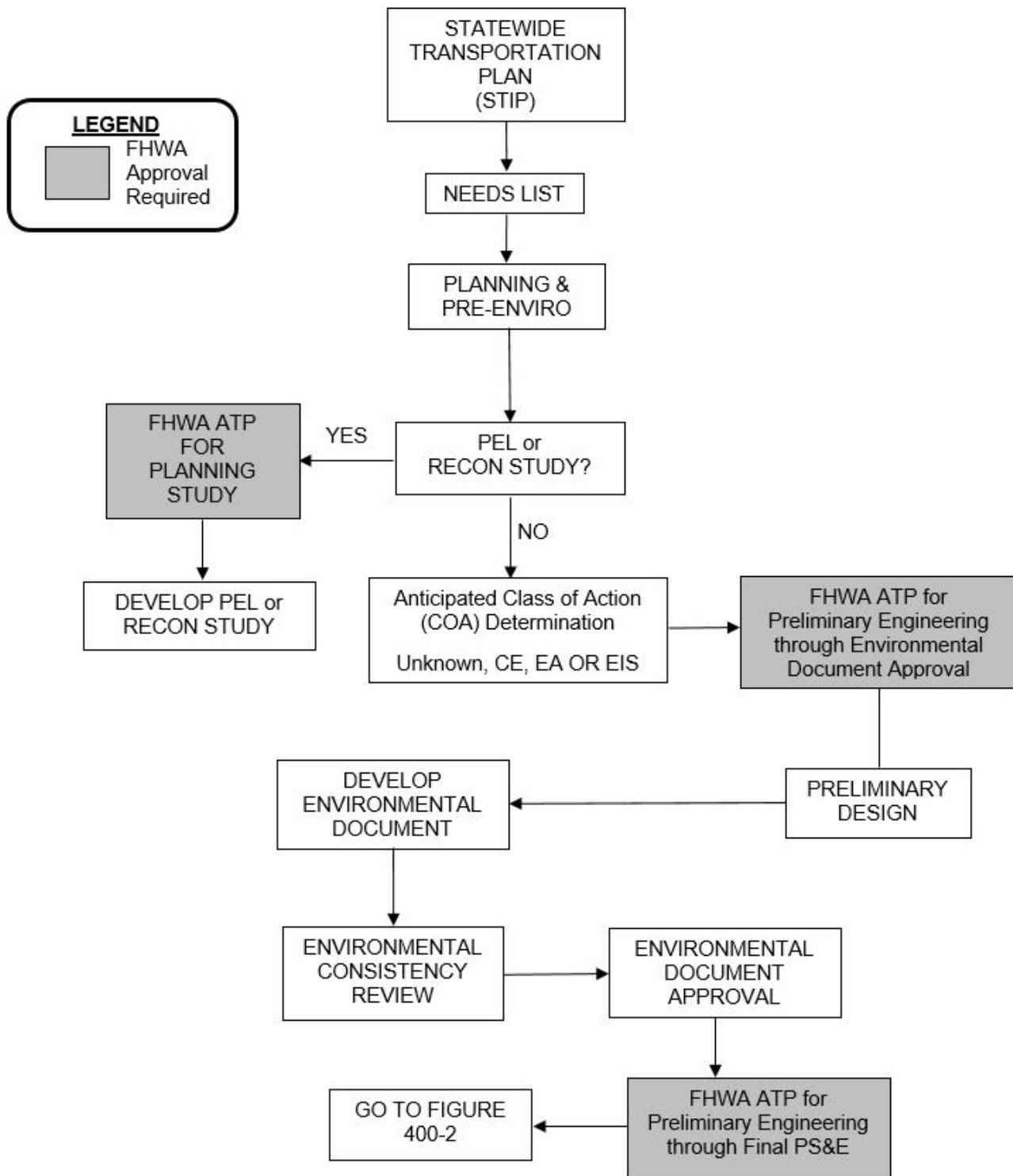
### 400.4. Process Flow Charts

Project development process flow charts for federal funding approval actions are shown in Figures 400-1 and 400-2.

Some variation from these charts may be granted by Federal Highway Administration (FHWA) Order 6640.1a – *FHWA Policy on Permissible Project Related Activities During the NEPA Process* – which allows advancement of certain project-related activities prior to the conclusion of the National Environmental Policy Act (NEPA) process.

This FHWA order is found here:

<http://www.fhwa.dot.gov/legregs/directives/orders/66401a.htm>



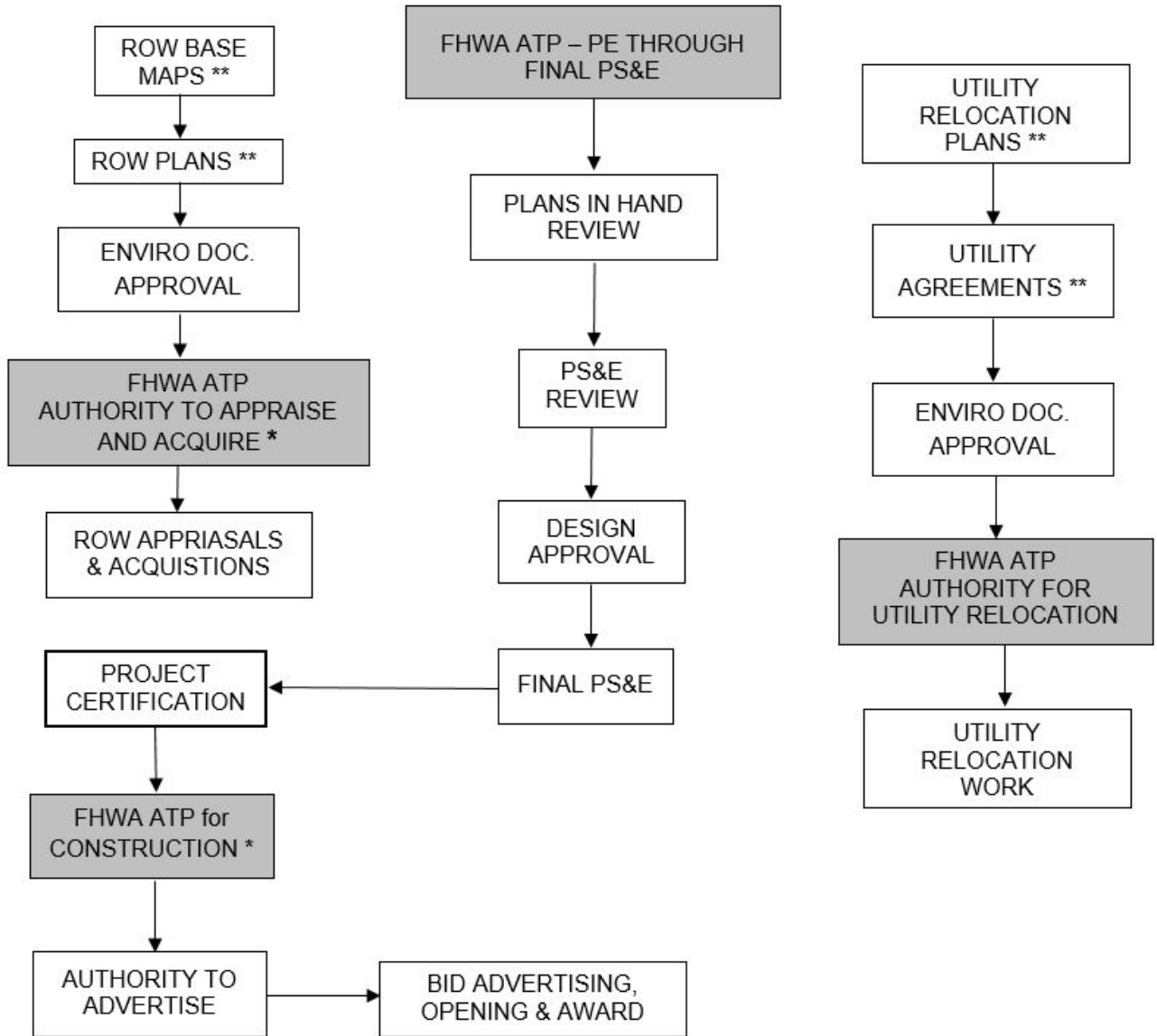
**Figure 400-1**  
**Flow Chart For Processing Federal-Aid Projects**  
**FHWA ATP for Preliminary Engineering through Environmental Document**  
 (Typical Process - Some Minor Variations May Occur)

**LEGEND**

 FHWA Approval Required

\* Environmental Document Re-evaluation Required

\*\* Activities allowed under ATP for Preliminary Engineering through Environmental Document



**Figure 400-2**  
**Flow Chart for Processing Federal-Aid Projects**  
**FHWA ATP for Preliminary Engineering through Final PS&E**  
(Typical Process - Some Variations May Occur)

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## 410. Project Oversight

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410.1. General

410.2 Projects of Division Interest

### 410.1. General

Section 106 of Title 23 United States Code (USC) requires that FHWA and the Alaska Department of Transportation and Public Facilities (DOT&PF) form an agreement documenting those responsibilities that the Department will assume from FHWA. This agreement is referred to as the Stewardship and Oversight (S&O) Agreement, and is found here:

<http://www.dot.state.ak.us/stwddes/dcsaboutus/resources.shtml>

For all federal aid-eligible projects, including National Highway System (NHS) and non-NHS projects, DOT&PF assumes FHWA responsibility under Title 23 for the following:

- Design
- Plans, Specifications, and Estimate (PS&E)
- Right of Way (ROW) Certification
- Contract Awards
- Inspection and final acceptance of projects

This responsibility does not extend to other federal actions required outside of Title 23, for example, the Civil Rights Program. Environmental approvals under NEPA have been assumed under other agreements pursuant to 23 USC 327.

The general requirements of Title 23, such as metropolitan and statewide planning, procurement of services or contracts, disadvantaged business enterprises, wage rates, etc., continue to apply to projects where DOT&PF has assumed the noted responsibilities.

### 410.2. Projects of Division Interest (PoDIs)

The S&O Agreement between the FHWA and DOT&PF provides that FHWA may retain project-level approval authorities otherwise delegated to the state at the program level. These projects are known as PoDIs. Each PoDI has a project-specific S&O Plan that outlines the specific approval authorities retained by FHWA. DOT&PF is responsible for

requesting FHWA approval prior to advancing the project beyond an approval that is outlined in the project-specific SOP.

See Section 497 of this manual for more on PoDIs.

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## 415. Planning and Pre-Environmental

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- 415.1. Introduction
- 415.2. Planning Level Estimates and Contingency
- 415.3. Local Match Agreements
- 415.4. Maintenance Agreements
- 415.5. Confirming SSEs
- 415.6. Inflation-Proofing Estimates

### 415.1. Introduction

Prior to preparing the initial Project Development Authorization (PDA) request for a new project start (see Section 420.1), the project manager should coordinate with the planning field office for:

- Planning level project development information
- Applicable Planning and Environmental Linkages (PEL) and Reconnaissance Studies
- Planned parent - child(ren) project relationships, if any
- Project name, location, and scope [e.g. what will go in the initial electronic Project Information Sheet (ePID) and populate the federal-aid agreement] See Section 430.2.

Work with the planning field office and support groups, as necessary, to develop a Project Startup Package, which includes:

- Development of the Project Startup Package:
  - Draft cover letter to Project Control
  - Scope Schedule and Estimate (SSE) Confirmation Form (See Figure 415-1)
  - Project location map, including termini. Route Mile points (termini) are needed to three decimal places. Incidental roadwork less than 500 feet in rural locations or 100 feet in urban locations does not need to be included.
  - Detailed design budget. Budget detail must assign cost to roads and structures (bridges) separately and specifically.
    - Include route or structure information with detailed cost assignment

- Multi-route may be assigned by percentage share of length of entire project as an automatic distribution, or
- Multi-route/bridge may be individually assigned costs, or
- Multi-route/bridge may be assigned costs as a percentage of a group adding up to a total of 100%
- Once a method is selected, the entire project should maintain the budget method through the life of the project
  - Milestone form, with Authority to Proceed (ATP) end date
  - Statewide Transportation Improvement Program (STIP) page

### 415.2. Planning Level Estimates and Contingency

Planning level estimates vary in detail and accuracy. Application of contingency accounts for the unknown costs and elements of the construction budget in the early stages of project development.

Use the following construction contingency factors:

| Estimate Based on      | Contingency |
|------------------------|-------------|
| System Averages        | 30%         |
| Itemized Approximation | 20%         |
| Detailed Estimate      | 10%         |

### 415.3. Local Match Agreements

For projects requiring a local match, execute a local match agreement in accordance with P&P 09.01.040 before the initial PDA request.

### 415.4. Maintenance Agreements

The Department has maintenance responsibility for all projects constructed with federal-aid funding (23 CFR 633.208).

For projects owned by a municipality or other local agency, or owned by the Department but maintained by a municipality or other local agency, execute a

written agreement with the municipal or local agency administrator stating their assumed maintenance responsibility. For Department owned facilities currently maintained by a municipality or other local agency, review the existing maintenance agreement and determine if any changes are necessary.

In the event of a request to take over maintenance or operations on a portion, or all, of a roadway, ensure compliance with P&P 07.05.095, which is found here:

[http://www.dot.state.ak.us/edocs\\_code/edocs\\_document\\_relay\\_nativefile\\_bydocname.cfm?inline=1&ddocname=DOT-JNU\\_123356](http://www.dot.state.ak.us/edocs_code/edocs_document_relay_nativefile_bydocname.cfm?inline=1&ddocname=DOT-JNU_123356)

The Department will not assume any additional maintenance and operations responsibilities without written approval by the Regional Director and with necessary funding appropriated.

Ensure maintenance agreements are executed before submitting the initial Phase 2 PDA.

#### **415.5. Confirming SSEs**

A project that is in the STIP should have a confirming Scope, Schedule and Estimate (SSE) review by preconstruction personnel prior to formal project initiation (e.g. initial PDA / ATP). Reduce construction cost estimate contingencies commensurate to the level of estimate detail.

An example SSE form is shown in Figure 415-1.

#### **415.6. Inflation-Proofing Estimates**

When the base year for a planning level estimate changes by more than two years, adjust using an annual inflation factor of 3.0%.



**STIP**  
**SCOPE, SCHEDULE & ESTIMATE**  
**CONFIRMATION**

Date: \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Need ID: \_\_\_\_\_

Project Scope: \_\_\_\_\_

Project estimate: \_\_\_\_\_

|                         | Year-1 | Year-2 | Year-3 | Year-4 | TOTAL |
|-------------------------|--------|--------|--------|--------|-------|
| Preliminary Engineering |        |        |        |        |       |
| Utilities               |        |        |        |        |       |
| Right-of-Way            |        |        |        |        |       |
| Construction            |        |        |        |        |       |
| <b>TOTAL</b>            |        |        |        |        |       |

Confirmed Scope: \_\_\_\_\_

Confirmed Project Costs: \_\_\_\_\_

|                         | Year-1 | Year-2 | Year-3 | Year-4 | TOTAL |
|-------------------------|--------|--------|--------|--------|-------|
| Preliminary Engineering |        |        |        |        |       |
| Utilities               |        |        |        |        |       |
| Right-of-Way            |        |        |        |        |       |
| Construction            |        |        |        |        |       |
| <b>TOTAL</b>            |        |        |        |        |       |

Estimate based on: \_\_\_\_\_ System averages \_\_\_\_\_ Itemized approximation \_\_\_\_\_ Detailed estimate \_\_\_\_\_

Includes Field Review:      →    \_\_ YES    →    \_\_ NO

Environmental Considerations: \_\_\_\_\_

.....Type document anticipated:    →    \_\_ PCE    →    \_\_ CE    →    \_\_ EA    →    \_\_ EIS ..... Re-eval

..... →    4(f) involvement:    →    \_\_ YES    →    \_\_ NO

Right-of-Way Considerations: \_\_\_\_\_

Utility Considerations: \_\_\_\_\_

Confirmed Scope, Schedule & Estimate prepared by: \_\_\_\_\_

Confirmed Scope, Schedule & Estimate APPROVED by: \_\_\_\_\_

**Figure 415-1**  
**Scope, Schedule, and Estimate Confirmation Form**

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## 420. Administration

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- 420.1. Project Authorization
- 420.2. Project Funding Phases
- 420.3. Professional Services
- 420.4. Local Public Agency Agreements and Oversight
- 420.5. Records
- 420.6. Maintenance Agreements
- 420.7. Project Status Meetings
- 420.8. Project Status Reports

### 420.1. Project Authorization

The Department must obtain an Authority to Proceed (ATP) through the Federal-aid section from FHWA before beginning any preliminary design work on a federal-aid project (23 CFR 630.106 - 108). In addition, a project must be in the federally approved STIP and have legislative authorization prior to initiating project development.

#### 420.1.1. Project Development Authorization

An approved Project Development Authorization (PDA) and ATP are required before commencing project development activities.

Develop the initial project PDA request based on input from Planning, Design, and Environmental sections. Planning provides an explanation of the nature and extent of the project, project purpose, vicinity map, and the funding source and amount authorized by the Legislature. Prepare the initial project funding request with the requested ATP level (see Section 420.2.1) funding requirements by phase and year, and the following items:

1. Project startup package (See Section 415)
2. An electronic Project Information Document (ePID) prepared by the project manager and signed by both the Regional Environmental Manager (REM) and the project manager. The electronic system for preparing and processing ePIDs is called eWorX and is accessed here:

<https://portal.eworx.com/>

Regional Project Control establishes user access to this system

3. Local Match Agreement (if applicable). Funding requests must include a receipt of payment or copy of the check, identifying the

entity providing the match for the project. Transfer of Responsibility Agreements (TORAs) require similar support. If non-monetary match will be provided, include the type and source of the match on the PDA.

The PDA establishes the authorized funding levels by project phase. The project manager initiates subsequent PDAs either within the existing ATP or in conjunction with a funding request and ATP to the next project development level. A PDA requesting additional funding within an existing ATP is used when more money is needed or the scope of the project changes materially beyond that in the approved Federal-aid Agreement or the STIP. An updated ePID is required for scope changes. Project managers should charge their time in preparing the initial PDA and ePID as directed by the regional preconstruction engineer.

#### At-Risk Preliminary Engineering

The FAST Act Section 1440 – At-Risk Project Preagreement Authority – allows the Department to incur Preliminary Engineering (PE) costs for an eligible project under Title 23 USC prior to receiving project authorization from FHWA. If At-Risk PE is anticipated, IRIS codes must be established so the expenditures can be tracked and allow them to eventually become federal-aid eligible once the project is authorized.

These costs must be identified as a single line of funding on the initial PDA and the Department must identify the At-Risk PE costs which are being requested for reimbursement at that time. FHWA is not required to approve these costs; hence the “at-risk” designation. These costs must be identified on the initial PDA, the ePID, the Federal Aid Agreement, and throughout the life of the project.

The design phase code will be marked as “suspended for reimbursement” in IRIS until the Federal-Aid Agreement is approved and includes a statement about PE At-Risk costs being eligible for reimbursement.

### 420.2. Project Funding Phases

#### Phase 1 – Unprogrammed Legislative Authority

**Phase 2 – Preliminary Engineering (PE):** This includes pre-environmental document work (preliminary design) and post-environmental document work (final design).

There are two ATP levels in Phase 2:

1. PE through Environmental Document Approval
2. PE through Final PS&E

The project manager determines how much of the total Phase 2 funding is needed to complete the environmental document and how much is needed to complete the final PS&E.

**Phase 3 – ROW:** This phase includes appraisal and acquisition of ROW, and residential, farm, and business relocations.

**Phase 4 – Construction**

**Phase 7 – Utility Relocation**

**Phase 8 – Planning & Research:** For Statewide Planning and Research only.

**Phase 9 - Other:** This may include Planning and Environmental Linkage (PEL) studies, Reconnaissance Studies, inspection, training, or other non-construction projects.

#### **420.2.1. Authority to Proceed (ATP)**

The Department must obtain ATP from FHWA before beginning work on any federal-aid project (per 23 CFR 630.106) and before beginning work on specific phases of a project except for At Risk PE project starts. All requests for FHWA ATP and subsequent agreement modification requests must comply with 23 CFR108-112 requirements.

The different ATP authorizations are listed in the following paragraphs.

**Reconnaissance Study or PEL Study:** This ATP level authorizes a reconnaissance engineering study or PEL study.

**Preliminary Engineering through Environmental Document Approval:** This ATP level authorizes preliminary design work through the environmental document (Phase 2). Preliminary design is defined in 23 CFR 636.103.

The following ROW activities are allowable under this Phase 2 ATP:

- ROW base mapping
- Estimates of the probable number of parcels and their acquisition and relocation costs for alternatives under consideration

- Assessment of the socio-economic effects of residential and commercial relocations
- Title searches \*
- Other ROW work necessary to support the environmental document
- Appraisals \*
- Appraisal reviews \*
- Waiver value preparation \*
- Property map preparation \*
- Preliminary relocation planning activities \*

Note: those activities denoted with an asterisk (\*) are considered preliminary acquisition activities under 23 CFR 710.203(a)(3) and may be undertaken prior to completion of the environmental document. These preliminary acquisition activities require approval from the preconstruction engineer. Keep documentation of this approval in the project files.

These utility relocation activities are permitted under this Phase 2 ATP:

- Reviewing and determining probable utility conflicts and developing cost estimates for alternatives under consideration in the environmental document phase
- Developing draft utility relocation agreements

**Preliminary Engineering through Final PS&E:** This ATP authorizes work necessary for final design and completion of the final PS&E.

This ATP is used for a project after the environmental document is approved.

**Right-of-Way through Appraisals and Acquisitions:** This ATP level authorizes appraisals and acquisition of ROW necessary to construct a project (Phase 3).

**Right-of-Way through Utility Relocation:** This ATP level authorizes relocating utilities in accordance with the executed utility relocation agreement(s) (Phase 7).

**Construction:** This ATP level authorizes advertisement, award, and construction of a project (Phase 4).

**Highway Planning and Research:** This ATP level is only for Statewide Planning and Research funded projects (Phase 8).

**Other:** This ATP level is for non-construction, non-design, other management, or non-Statewide Planning and Research funded projects that do not lead directly to a physical construction project (Phase 9).

### **420.3. Professional Services**

#### **420.3.1. General**

Use professional service providers (consultants) to balance Department workloads or when the Department lacks expertise. The *Professional Services Agreement (PSA) Manuals* provide guidance for solicitation, selection, award, and administration of construction-related PSAs. The PSA manuals are online at:

<http://www.dot.state.ak.us/procurement/prosvcs/index.shtml>

### **420.4. Local Public Agency Agreements and Oversight**

The Department may permit Local Public Agencies (LPAs) to carry out the Department's assumed responsibilities on locally administered projects. The Department is responsible and accountable for compliance with all applicable Federal laws and requirements, and those additional LPA oversight requirements are spelled out in the Stewardship and Oversight Agreement.

### **420.5. Reserved**

### **420.6. Project Status Meetings**

Regularly scheduled project status meetings are held according to regional policy to review the status or technical aspects of projects. These meetings may encompass all projects under development or be limited, for example, to projects that have encountered problems.

These meetings keep management and support groups informed, and allow management to be involved in identifying and resolving problems in scheduling or funding commitments. The meetings are not necessarily limited to discussions of project status and may include policy, procedures, problem areas, public involvement, and special topics.

### **420.7. Project Status Reports**

The project manager and support groups enter project status information into DOT&PF Management Reporting System (MRS).-MRS is accessed by various department employees to view

the current status and information pertaining to projects currently under development.

The MRS is a web-based program accessed on the DOT&PF intranet site at:

[http://web.dot.state.ak.us/status.d/project\\_status.html?](http://web.dot.state.ak.us/status.d/project_status.html?)

A username and password are required for data input. A user guide is available from the link posted above.

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## 425. Reconnaissance Engineering Studies and Planning & Environmental Linkage Studies

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- 425.1 Introduction
- 425.2 Reconnaissance Engineering Studies
- 425.3 Planning & Environmental Linkage Studies

### 425.1. Introduction

Both Reconnaissance Studies and Planning & Environmental Linkage (PEL) Studies are developed under Phase 9 (Other) ATP authorization.

### 425.2. Reconnaissance Engineering Studies

Project development for a Reconnaissance Engineering Study is similar to projects developed under PE through Environmental Document Approval, except that there is no formal environmental process, and public involvement may be limited. A limited environmental analysis is usually completed to determine the environmental impacts and issues that would need to be addressed if the project advances beyond the reconnaissance stage.

A Reconnaissance Engineering Study is typically performed as follows:

- Identify and review the problem or deficiency to be resolved, and formulate a purpose and need statement
- Obtain support group input on the problem and their data needs
- Research and acquire existing data
- Conduct a site visit, if possible
- Identify and evaluate preliminary alternatives.
- Conduct public involvement activities as outlined in the PIP
- Complete field investigations, including survey and environmental resource mapping as applicable
- Complete traffic analyses as applicable
- Sufficiently develop those alternatives that appear feasible so that they can be compared according to alignment, grade, width, length, cost, level of

service, access control, soils conditions, erosion and sediment control, drainage, availability of construction materials, maintenance, snow and icing problems, right-of-way and utilities considerations, services to existing communities, development and potential development areas within communities, location of hazardous waste sites, wetlands, cultural and historical sites, and other environmental issues.

- Prepare schematic plans as necessary to convey information to support groups, agencies, and the public

The discussion of alternatives should consider the "no build" action, Transportation Management Systems (TMS), alternative transportation options (such as transit) where appropriate, and all reasonable "build" alternatives.

The result of the Reconnaissance Engineering Study is a written report. It contains a description of the project's purpose and need, and a discussion of all technically feasible alternative solutions with comparisons of their engineering characteristics, environmental impacts, and costs.

This report should target a general audience, so it is easily incorporated later into the project's environmental document.

The Reconnaissance Engineering Study may conclude with a recommendation to proceed, not proceed, or proceed later with further project development. The Reconnaissance Engineering Study does not select a preferred alternative, but may recommend which alternative(s) to advance for new project initiation.

The report is signed by the preparer and the project manager and approved by the regional preconstruction engineer.

### 425.3. Planning and Environmental Linkage Studies (PELs)

PELs are developed following the Alaska DOT&PF PEL Guidebook. A copy of this guidebook is found here:

[https://dot.alaska.gov/stwddes/desenviron/assets/pdf/procedures/pel\\_guidebook.pdf](https://dot.alaska.gov/stwddes/desenviron/assets/pdf/procedures/pel_guidebook.pdf)

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## 430. Preliminary Engineering through Environmental Document Approval

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- 430.1. Introduction
- 430.2. Project Purpose, Need, and Scope
- 430.3. Project Management Plan (PMP)
- 430.4. Reserved
- 430.5. Environmental Process
- 430.6. Preliminary Design to Develop and Support the Environmental Document Process

### 430.1. Introduction

The Preliminary Engineering through Environmental Document Approval stage includes all activities from initiating project development authorization to environmental document approval.

### 430.2. Project Purpose, Need, and Scope

#### Purpose and Need

The purpose and need statement identifies the objective of and necessity for a project.

A project purpose and need statement is normally found in the planning documentation. If not, it should be in the project startup package.

Project purpose and need is fundamental in developing, analyzing, and evaluating alternatives and may require refinement during project development.

#### Project Scope

The project scope is derived from the project purpose and need. The project scope has legal significance and should reflect the context and intent of the legislative authorization. Any change in project scope must conform with the purpose and need and be reflected in the project's NEPA documentation.

Project scope should be consistent across a number of different project documents, for example:

- PDA
- ePID
- PMP
- Environmental document
- Federal-aid agreements
- Status reports

The initial project scope for the PDA for design (Phase 2) should come from information in the project startup package. The scope must specifically mention

any included bridge work, non-motorized facilities, Americans with Disabilities Act (ADA) improvements, and high cost construction features. The electronic Project Information Document (ePID) instructions in eWorX provides guidance on the level of scope detail needed. These instructions are found in the eWorX system. The PID provides scope information that populates the Federal-Aid Agreement, which is approved by FHWA.

On Highway Safety Improvement Program (HSIP) projects, the project scope is limited to that work specifically approved by the Chief Engineer in the HSIP funding program.

Project scope may change during the course of project development. Coordinate project scope changes with the Planning, Project Control and Environmental Sections. FHWA, the Director of Program Development, and the preconstruction engineer must approve changes to the project scope. The PDA and ePID are mechanisms used to change project scope and modify Federal-Aid Agreements.

The final project design scope (Phase 2) must match the PDA scope for construction (Phase 4), inclusive of location information.

#### Schedule

In this context, "schedule" refers to placement by phase (Preliminary Engineering, ROW, Utility Relocation, and Construction) and anticipated funding year within the STIP. This information is found in the project startup package prepared by the planning field office or in the published STIP. Immediately inform the regional preconstruction engineer of any necessary schedule changes because they can affect fiscal year spending plans. The regional preconstruction engineer must inform the planning field office of these changes.

#### Authorized Funding

Authorized funding levels are shown by project phase on the PDA. As with scope and schedule, the project manager is responsible for monitoring the project budget and expenditures.

When a project's construction estimate increases by 15%, or more, or a budget adjustment of \$250,000 or more (23 CFR 630.106(4)), from the STIP estimate, refer to Section 440 – Scope and Budget Control.

### **430.2.1. Reserved**

### **430.3. Project Management Plan**

The Project Management Plan (PMP) establishes the activities, budget, resources, and schedule for project development. Prepare the initial PMP after project funding is authorized. The PMP is subsequently reviewed and approved in accordance with regional policy.

The PMP is updated throughout project development as needed or at least before the Authority to Proceed through Final PS&E.

The project manager develops the PMP through coordination with support groups. Include the following in the PMP:

1. Project purpose and need, scope, schedule (program year), and funding
2. Support Group activities, durations, work force, and budget necessary to complete the project
3. Studies, reports, permits, and clearances anticipated during the design development cycle;
4. Public Involvement Plan (PIP) outlining the level of public involvement and schedule for such activities
5. Determination of whether the project will be developed as design-bid-build, CM/GC, design-build, lump sum, or utilize alternative contracting
  - a) Design-build procedures are available at:  
[www.dot.alaska.gov/designbuild](http://www.dot.alaska.gov/designbuild)
  - b) Lump sum procedures are available at:  
<http://www.dot.state.ak.us/stwddes/dcsmisc/asets/pdf/lumpsum/lumpsum0103.pdf>
  - c) CM/GC Manual:

*[under development]*

Consider FHWA Order 6640.1A and PE At-Risk (see Section 420.1.1) in developing the PMP in the context of expediting project delivery. FHWA Order 6640.1A defines permissible project related activities that may be advanced prior to the conclusion of the National Environmental Policy Act (NEPA) process. Until the project is authorized, and federal funds obligated, there is no guarantee that the project will be eligible for federal funding. If the Preconstruction Engineer approves the use of this order it must be documented

in the PMP and included in the funding approval. See Section 420.1.1 for further information on at-risk preliminary engineering.

A copy of FHWA Order 6640.1A can be found here:

<https://dot.alaska.gov/stwddes/dcsprecon/>

An example PMP format is available under the Preconstruction Forms heading at:

<http://www.dot.state.ak.us/stwddes/dcsprecon/preconmanual.shtml>

### **430.3.1. Public Involvement Plan (PIP)**

Prepare the PIP in accordance with Chapter 5 of this manual, Chapter 7 of the *Alaska DOT&PF Environmental Procedures Manual* (EPM), and 23 CFR 771.111.

### **430.4. Reserved**

### **430.5. Environmental Process**

All projects require an evaluation of their environmental and socio-economic impacts. This section focuses on federally-funded projects. The process for state-funded projects is covered in Section 490.7.

On federally funded-projects, the environmental process follows:

- National Environmental Policy Act (NEPA)
- 23 CFR Part 771 – Environmental Impact and Related Procedures
- NEPA Assignment Program Memorandum of Understanding (MOU)
- The *Alaska DOT&PF Environmental Procedures Manual (DOT&PF EPM)* projects that are assignable under the NEPA Assignment Program MOU

The goal of the environmental process is to complete an approved environmental document in a timely and efficient manner. Completion of the environmental document is on the critical path of nearly all projects.

All projects generally require the following:

1. Purpose and need statement
2. Project scope
3. Identification and development of alternatives
4. Evaluation of environmental impacts

5. Coordination with local governments and other agencies, including federally recognized tribes
6. Public involvement (except as noted in 430.5.4)
7. Selection of a preferred alternative and proposed action
8. A complete and approved environmental document
9. Acquisition or completion of required environmental approvals, authorizations, clearances, consultations, permits, and reviews as necessary

Work closely with environmental staff throughout project development to ensure that the environmental impacts of all project alternatives are considered.

For more information on the Department’s environmental policies and procedures, refer to the appropriate environmental procedures manual and the Statewide Environmental Office’s website:

<http://dot.alaska.gov/stwddes/desenviron>

#### **430.5.1. Environmental Classification**

Under the NEPA regulations, there are three environmental classes of action, each having different documentation and compliance requirements. The classes of action are:

- Class I – Environmental Impact Statement (EIS)
- Class II – Categorical Exclusion (CE)
- Class III – Environmental Assessment (EA)

For federally-funded projects, the class of action is a major factor in determining the level of preliminary design development required and the project schedule.

#### **Class of Action (COA) Determination**

The COA is determined based on the scope of the project and assessment of the probable impacts of the project’s action. The initial COA determination is based on information provided to the regional environmental manager (REM), which may include scope provided in planning documents and the ePID.

The REM forwards the initial COA recommendation to the NEPA Program Manager for approval (see Chapter 2 of the EPM). The REM documents the appropriate COA on the ePID. If the initial COA is unknown, the REM will indicate this on the environmental page of the initial ePID.

The completed ePID is included in the initial PDA request.

#### **Class I: Environmental Impact Statement (EIS)**

If a project is expected to have a significant impact on the environment, it requires an EIS.

The EIS process is described in detail in Chapter 5 of the EPM.

#### **Class II: Categorical Exclusion (CE)**

A CE project has no significant individual or cumulative impact on the environment.

Examples of CE project types are listed in 23 CFR 771.117. The CE process is described in detail in Chapter 3 of the EPM.

#### **Class III: Environmental Assessment (EA)**

An EA is appropriate if the effects of a project on the environment are not apparent.

The EA process is described in detail in the EPM.

#### **Other Considerations**

For any document type, complex resource investigations such as hazardous materials investigations, indirect and cumulative impacts, air quality issues, cultural resource studies, etc., can significantly extend the time required to develop an approved environmental document.

Consult with the REM before releasing draft or final environmental documents.

#### **430.5.2. Identification of Environmental Issues**

All projects should strive to avoid important or sensitive cultural, social, and environmental resources to the extent feasible. Initial environmental work for projects typically consists of identifying areas or issues within the project limits, such as but not limited to:

- Wetlands and other water resources
- Essential fish habitat
- Threatened and endangered species habitat
- Contaminated soils
- Water bodies, including floodplains
- Cultural and historical resources
- Wildlife resources
- Anadromous fish streams, including fish passage issues
- Section 4(f) land

- o Parks
- o Recreation areas
- o Wildlife and Waterfowl refuges
- o Historic sites
- Section 6(f)
- Existing land use or municipal transportation plans
- ROW acquisition and residential, farm, and business relocations.
- Air quality
- Noise
- Materials sites
- Disposal sites
- Environmental justice
- Invasive species

Work with environmental staff to identify boundaries of sensitive environmental features as early as possible to determine whether an alternative affects them and whether impacts can be avoided or minimized, or if mitigation will be required. Identification can consist of researching and reviewing existing data and field reconnaissance.

Evaluating existing physical and environmental features requires qualitative and quantitative analysis. For features that do not present unusual or substantive constraints, a general discussion of their presence is adequate in an EA or EIS. More significant features may require greater effort.

Certain investigations, such as noise studies, archaeological surveys, or soil/water contamination, may require technical expertise beyond that of the Department's environmental staff, requiring the assistance of consultants.

CEs still require some environmental reconnaissance work even though they are, by definition, not likely to have any significant or cumulative environmental effect.

#### **430.5.3. Agency Coordination, Tribal Consultation and Public Involvement**

Early coordination with local, state, and federal agencies and federally recognized tribes helps determine the type and scope of the environmental document required. Work with the REM to initiate this (see Chapter 5 of this manual and Chapter 7 of the EPM). Agency and tribal consultation are also part of

other coordination processes, such as Section 106 (see Chapter 10 of the EPM).

The requirements in Chapter 5 of this manual and the approved PIP detail the necessary public involvement. Federally-funded projects require some level of public involvement, especially if ROW is required or a protected resource is involved. CEs may not require public involvement if they have minimal impacts, do not require ROW, do not affect protected resources, and are not controversial.

Tribal consultation may be focused on government-to-government (G2G) consultation, defined here as between the federal government (FHWA) and federally recognized tribes (FRT), or may consist of project communication and consultation between the Department and tribes.

While DOT&PF is authorized to consult with tribes under the Section 106 process, for example, FHWA retains responsibility for direct G2G consultation with tribes in accordance with 36 CFR 800.2(c)(2)(ii)(C) and (D), and Part 3.1.3 of the NEPA Assignment Program MOU. Contact with any federally recognized tribe should only be done after consultation and in coordination with the REM and the Professionally Qualified Individual (PQI).

#### **430.5.4. Environmental Analysis**

Regional environmental staff analyze and quantify environmental impacts and, if necessary, determine appropriate mitigation measures. The analysis is performed in accordance with the EPM and is documented in the appropriate environmental document

#### **430.5.5. Approvals, Authorizations, Clearances, Consultations, Permits, and Reviews**

The environmental analysis and documentation process identifies what approvals, authorizations, clearances, consultations, permits, and reviews are required for the project.

Most of these approvals, authorizations, clearances, permits, and reviews are sought after environmental document approval. Further discussion of these is found in the *EPM*.

#### **430.5.6. Environmental Commitments and Mitigation Measures**

The environmental staff will identify any environmental commitments or mitigation measures required for the proposed action. Include these in the

environmental document and in the final design and construction of the project.

#### **430.5.7. Environmental Document Preparation**

Regional environmental staff prepares the appropriate environmental documentation (EIS, CE, or EA) as identified in the approved COA and in accordance with the *EPM*.

The environmental document contains the analysis of the environmental and socio-economic impacts and provides required documentation. The environmental document also identifies mitigation measures, if necessary.

#### **430.6. Preliminary Design to Develop and Support the Environmental Document**

Preliminary design is all engineering and support group work necessary to develop and support completion of the environmental document.

The duration and level of engineering required depends on the environmental document classification, the complexity of the project, and the environmental issues and impacts present.

##### **Context Sensitive Solutions (CSS)**

FHWA mandates the use of CSS for all federally-funded projects. The Department embraces a CSS approach when developing all projects, regardless of funding source. Scale the level of CSS to the complexity of the project and the environmental issues.

##### **430.6.1. Field Reconnaissance**

Field reconnaissance is desirable whenever possible as it allows the engineering, environmental, and support group staff to examine the existing conditions. It may also assist in determining additional necessary data.

Assessment of existing conditions should produce an inventory of physical, environmental, cultural, and social features within the study area.

Maintenance and Operations (M&O) is responsible for many recurrent and costly tasks such as snow removal, ditch cleaning, etc., on completed projects, so include the local maintenance foreman in the on-site field reconnaissance. If a field reconnaissance is not conducted, request that the local maintenance foreman provide video or photos of the project as necessary to illustrate conditions and specific concerns. Solicit their comments and coordinate with

them to resolve any conflicts with design/construction interests. If conflicts cannot be resolved, elevate the issue to the regional preconstruction and maintenance engineers.

##### **430.6.2. Development of Alternatives**

The development of alternatives depends on the environmental class of action. Consider the existing environment as a baseline to measure the impacts and benefits of the other alternatives. The “no-build” alternative must be carried throughout the process for EA and EIS. It represents the no-action alternative through the same design year as the other build alternatives.

In addition, all classes of environmental actions must consider avoiding or minimizing impacts if wetlands or floodplains are affected (E.O. 11990 & 11988).

Consider ideas and innovative solutions proposed by stakeholders. Seek to develop alternatives that balance the project goals for safety, mobility, community, and the environment while considering budgetary constraints.

##### **Environmental Impact Statement (EIS)**

For an EIS, develop preliminary alternatives. Key factors to consider include:

- Purpose and need for the project
- Public comments and concerns
- Avoidance of sensitive environmental, social, and cultural resources
- Avoidance of protected resources
- Avoidance of other physical features that require complex or costly engineering solutions
- Alternative transportation modes or Transportation Systems Management

Once a range of preliminary alternatives has been identified, use a screening process to narrow the list to include only reasonable and feasible alternatives. The screening process normally uses objective criteria and quantitative analysis to eliminate nonviable or infeasible alternatives.

Carry the reasonable and feasible alternatives forward and develop them to a similar level of detail.

### **Categorical Exclusion (CE)**

Alternatives are not developed for CEs - only the proposed action is evaluated.

### **Environmental Assessment (EA)**

Consider the following alternatives on an EA project:

- No-build
- Preferred alternative
- Additional build alternative(s) (optional)
- Avoidance/minimization alternative(s) if the proposed action affects protected resources such as wetlands or floodplains

#### **430.6.3. Design of Alternatives**

Design staff develops reasonable and feasible alternatives to the extent necessary to evaluate environmental impacts and develop cost estimates.

Develop a typical section(s) for the improvement based on the approved Design Designation and Project Design Criteria (Figures 1100-1 and 1100-2 in Chapter 11).

Develop preliminary designs to a level sufficient to determine project footprint; environmental, right-of-way, and utility impacts; and estimated total project costs that remain within approved funding limits.

For EAs and EISs, strive for accurate and concise plans that the public can easily understand.

Estimate cost for each alternative and itemize as follows:

- Preliminary Engineering [Design] (Phase 2)
- ROW (Phase 3)
- Construction (Phase 4)
- Utility Relocation (Phase 7)

#### **430.6.4. Support Group Activities**

Scheduling and coordinating design activity and project development with support groups is addressed in the PMP. The project manager needs to know what information is required by the support groups and when it is needed.

The level of effort and detail of analysis required by the support groups should be commensurate with the level of environmental analysis required. EISs will require more work, while CEs may require less.

Any work necessary to prepare or support the environmental document is considered eligible for FHWA reimbursement.

The listing of support groups is presented in alphabetical order.

### **Bridge**

The Bridge Section typically designs highway and pedestrian bridges, but is also involved in the design of other structures, such as retaining walls.

The project manager informs the chief bridge engineer when the ATP for PE through Environmental Document Approval is obtained on any project that involves bridge design. The project manager also provides a copy of the PMP.

Provide the Bridge Section with a start-up package so they can begin the preliminary bridge layout, type selection, and cost estimates needed for the bridge type selection process. The Bridge start-up package includes:

- Proposed roadway plan & profile data
- Topographic data in the vicinity of the bridge site including a bridge site survey in accordance with Section 1120.5.4 of this manual
- Roadway typical section
- ROW limits
- Utility locations and utilities to be carried on the new bridge
- Environmental design criteria and commitments
- Preliminary hydraulic and geotechnical recommendations, when available

The Bridge Section will provide a general layout drawing, site plan drawing, and preliminary estimate for each alternative under consideration in the environmental analysis.

### **Civil Rights**

It is the policy of the Department that no person shall be excluded from participation in, or be denied benefits of any and all programs or activities we provide based on race, color, national origin, gender, age, income, or disability regardless of the funding source. This includes Federal Transit Administration, Federal Aviation Administration, Federal Highway Administration, Federal Motor Carrier Safety Association and State of Alaska funds.

Title VI provides that no person shall on the grounds of race, color, religion, sex, national origin, marital status, handicap, or family composition be excluded from participation in, denied the benefits of, or otherwise discriminated against under any program of the federal, state, or local government.

The Department has a Title VI Nondiscrimination Program Plan to ensure compliance with federal civil rights laws and regulations. Each region has civil rights Title VI/Nondiscrimination liaisons.

The Title VI Nondiscrimination Plan is found here:

[http://www.dot.state.ak.us/cvlrts/pdfs/TitleVI\\_Nondiscrimination\\_Program\\_Plan.pdf](http://www.dot.state.ak.us/cvlrts/pdfs/TitleVI_Nondiscrimination_Program_Plan.pdf)

Title VIII of the Civil Rights Act of 1968 prohibits discrimination in real estate transactions for housing. Housing accommodations made as a result of a highway or airport project must be fair and equitable, without regard to race, color, religion, or national origin.

Executive Order 12898 on Environmental Justice (as well as other USDOT and FHWA orders) requires public consultation for projects that affect a predominantly low-income area or minority community. The purpose is to identify and address disproportionately high and adverse human health or environmental effects of the project on minority populations and low-income populations.

Executive Order 13166 on improving access to services for persons with limited English proficiency (LEP) requires communicating the elements of proposed projects, for public consultation, in languages other than English. It is important to conduct a thorough demographic analysis for the project study area to determine if there is a non-English speaking population. There is no population threshold for required LEP actions.

When a project is located within 50 miles of a community with a federally recognized tribe, there is a separate requirement for GTG consultations as required by 23 USC 135(d)(3) & (e), Executive Orders 13007 & 13175, and P&P 01.03.010. In some areas of Alaska, this consultation may need to be conducted in the native language of the community. The Civil Rights Office has a current list of federally recognized tribes in Alaska.

For all public meetings, the Department and its consultants will document attendance by race, color and gender by using the Public Meeting Sign-in Sheet

found here (race, color and gender are provided on a voluntary basis by attendees):

<http://www.dot.alaska.gov/cvlrts/forms/titlevipublicsigninsheet.pdf>

The quarterly and annual reporting requirements that arise from preliminary design activities are as follows:

- For each consultant contract administered by Design, the contract manager will report to a Title VI/Nondiscrimination liaison using a copy of the contract's Record of Negotiation and Selection (RONS) for Professional Services Agreements. The Title VI/Nondiscrimination liaison will keep and compile these forms for the Annual Title VI/Nondiscrimination Update.
- For each public meeting where the project manager determines that there are no Title VI issues, the project manager will document this finding and send it to the Title VI/Nondiscrimination liaison for the Annual Title VI/Nondiscrimination Update using the Title VI Public Meeting Report form.
- For each public hearing where the project manager determines there are Title VI issues, the Title VI/Nondiscrimination liaison will document them. The Title VI/Nondiscrimination liaison will also document: 1) how these issues were dealt with in the meeting, and; 2) the final resolution of the Title VI issues in the project development process using the Title VI Public Meeting Report form, and compile this information for the Annual Title VI/Nondiscrimination Update.
- For each project where there is a citizen advisory group and the project manager has identified Title VI issues, the project manager will complete the citizen advisory group board breakdown portion of the Title VI Public Meeting Report form and transmit it to the Title VI/Nondiscrimination liaison. The Title VI/Nondiscrimination liaison will keep and compile these forms for the Annual Title VI/Nondiscrimination Update.
- For the Department's annual Title VI/Nondiscrimination Update to FHWA, each regional sends the following information to the Civil Rights Office: 1) a list of all EAs and EISs that found no Title VI impacts, and 2) for all EISs and EAs that did identify Title VI impacts, a short summary of the issues and how the issues were resolved consistent with Title VI.

EAs and EISs must document consideration of impacts on minorities and other groups under the Civil Rights Acts of 1964. They must contain the following standard certification statement:

*“This project has been developed in accordance with the Civil Rights Act of 1964 and EO 12898.”*

Civil rights forms are found here:

<http://www.dot.state.ak.us/cvlrts/forms.shtml>

### **Construction**

Involve the Construction Section early in project development. Give them the opportunity to provide input on:

- Selection of alternatives
- Constructability of alternatives
- Construction timing and phasing restrictions
- Selection of the preferred alternative

### **Geotechnical/Materials**

Depending on the scope, some projects may require an extensive geotechnical investigation. Others may require only an examination of the performance of the existing facility and a review of the as-builts, construction records, and previous geotechnical reports. Geotechnical and materials site investigations are normally performed with regional staff.

The project manager should convey initial information on alternatives under consideration so the regional engineering geologist and materials engineer can evaluate it. There may be sufficient information for a reasonable comparison of the alternatives; however, it may be necessary to obtain additional geotechnical data.

If a geotechnical investigation is warranted, perform it in accordance with the Department’s *Geotechnical Procedures Manual*. This manual is online at:

[http://www.dot.state.ak.us/stwddes/desmaterials/mat\\_geology/pop\\_geotechman.shtml](http://www.dot.state.ak.us/stwddes/desmaterials/mat_geology/pop_geotechman.shtml)

A draft geotechnical memorandum with preliminary recommendations for design of the project may be prepared. This memorandum supplies information to the Design Section, but is not intended for publication.

### **Foundations**

Statewide Materials staff perform foundation investigations. A foundation investigation is normally required for a highway bridge or other significant structure.

The investigation is similar to a geotechnical investigation and is in accordance with the *Geotechnical Procedures Manual*. Preliminary recommendations may be made in the pre-environmental document stage.

### **Hydrology & Hydraulics**

Determine the need for the hydraulics engineer’s involvement early in the project scoping. Consider these issues when deciding:

- Is there a bridge proposed on the project? (Note: a culvert installation with a total width of 20 feet or greater, measured along centerline of the roadway, is considered a bridge.)
- Is fill or other physical modification proposed in a floodplain or waters of the United States?
- Does a decision or cost effective analysis need to be made on whether to use a bridge or culvert?
- Are there any new, replaced, or retrofitted culverts proposed on fish streams, or are there any other known fish passage problems that need to be evaluated?\*

\* **Note:** Refer to the DOT&PF/ADF&G Memorandum of Agreement (MOA) for Design, Permitting and Construction of Culvert for Fish Passage (1/1/02) for specific issues. A copy of this MOA is found at:

[http://dot.alaska.gov/stwddes/desenviron/assets/pdf/procedures/dot\\_adfg\\_fishpass080301.pdf](http://dot.alaska.gov/stwddes/desenviron/assets/pdf/procedures/dot_adfg_fishpass080301.pdf)

For any environmental alternative that encroaches on a floodplain or supports base floodplain development, a Location Hydraulic Study is required per 23 CFR 650.111. Include this study in the Environmental Document.

Fish passage structures can have a significant bearing on project costs and on the significance of environmental impacts. Many fish passage problems are avoided by considering hydraulic factors early in the project development.

In most cases, specific survey data is needed to perform the required hydraulic analysis. Section 1120.5.4 covers the requirements for a hydraulic site survey.

Preliminary hydraulic analysis or recommendations may be necessary to complete the environmental analysis.



## Maintenance and Operations (M&O)

Involve the M&O Section early in project development and give them an opportunity to provide input on:

- Existing M&O problems and concerns
- Development of alternatives
- M&O considerations on alternatives
- Selection of the preferred alternative

## Planning

Planning field offices perform traffic data collection and forecasting. Planning also assists during the project initiation stage and may assist in public meetings/open houses. Planning field offices are responsible for updating the STIP as needed to account for approved project scope and budget changes.

The design designation should be requested early in the project development process. The project manager requests a design designation for the project from traffic data collection staff. The regional preconstruction engineer approves it.

An approved design designation is necessary to establish project design criteria. See Figure 1100-1 for an example of a design designation form.

## Right-of-Way

During preliminary design, the project manager provides ROW staff with preliminary plans for each alternative under consideration. ROW prepares base maps and estimates the probable number of parcels needed and their acquisition and relocation costs for each alternative.

Each alternative is also assessed in terms of the number and socio-economic effects of residential, farm, and business relocations it causes. The results are reported in a Relocation Study, often in memo format, which is included in the project's Environmental Document. The Relocation Study is utilized, revisited, and updated throughout the project development process.

If there is a public hearing or open house on the project, ROW presents information from the Relocation Study and discusses the acquisition and relocation processes required by the *Alaska Right-of-Way Manual*.

## Surveying

The engineering design staff should research the availability of any existing surveys, as-builts, mapping, or imagery that would be helpful in developing the preliminary alternatives.

Depending on the scope of the work (e.g. new construction or 3R) the project manager should determine and convey the survey requirements to the surveying staff. In most cases, a full design survey will be performed during-preliminary design, with additional work during final design as needed.

## Traffic and Safety

Consult with the Traffic and Safety Section to:

1. Evaluate existing traffic control devices within the project limits and determine whether to include upgrading those devices in the project development, if not previously identified.
2. Review crashes and propose cost-effective measures to address correctable crashes.
3. Review historical safety requests from the general public and agencies for consideration of implementing cost-effective mitigation measures.

The Traffic and Safety Section assists in the following tasks:

- Traffic data collection and forecasting\*
- Crash analysis
- Capacity analysis
- Safety analysis
- Signal warrant analysis\*\*
- Intersection analysis
- Signalized intersection traffic simulations
- Lighting analysis

\* **Note:** Support group function for this task varies by region.

\*\* **Note:** The Roundabout First Policy requires that a single lane roundabout be considered at all locations where a new traffic signal is being considered. Justification for not installing a roundabout needs to be included in the Final Design Study Report (See Section 450.5.1).

## Utilities

For each alternative under consideration, the project manager furnishes plans to the utilities engineer that show line, grade, slope limits, and clear zone widths. The utilities engineer will verify adjustments or

relocations necessary for each alternative and rough cost estimates. Consider environmental impacts of utility relocation work.

If additional right-of-way is necessary to accommodate utility relocation, the project manager should forward the request to the ROW Section for inclusion into the ROW cost estimates.

Utility agreements may be drafted in the PE through Environmental Document Approval phase.

#### **430.6.5. Evaluation of Alternatives**

For an EIS, the project manager works closely with the REM to determine which alternatives require evaluation. Factors to consider include, but are not limited to:

- Ability to satisfy purpose and need
- Direct and indirect impacts to sensitive cultural, economic, environmental, and social resources and to protected resources
- Avoidance of sensitive and protected resources
- Total cost
- Safety

The alternatives under consideration should be given an interdisciplinary review to ensure that all direct and indirect environmental impacts are identified for each alternative. In analyzing the significance of impacts, consider the context and intensity of each impact and the cumulative effect of all the impacts.

Evaluate and compare alternatives with each other and with the no-build alternative. You may use a decision matrix or other decision making process to evaluate and select a preferred alternative. For any level of environmental document, the project manager will select a preferred alternative for approval in accordance with regional policy.

Once the preferred alternative is approved, the project manager notifies all affected support groups.

## **440. Scope and Budget Monitoring**

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440.1 Introduction

440.2 Guidance

### **440.1. Introduction**

Scope and budget control are important in the overall context of a fiscally constrained Statewide Transportation Improvement Program (STIP). Scope creep and budget creep can arise due to a number of reasons – some of which are in the project manager’s control and some which are not. It is important to monitor the project scope and budget during the course of project development.

### **440.2. Guidance**

Complete a scope and confirming estimate update when the project is nearing completion of preliminary design. Use the Scope, Schedule and Estimate from shown in Figure 415-1 for this purpose.

If project elements are outside the project scope, consider eliminating them from the project.

If a modification to the scope or project location (termini) is recommended to keep the project within its scope and budget, consult with the planning field office and Project Control to determine if a new a new ePID is required.

If the confirmed/refined construction estimate is 15%, or more, over the STIP funding, consult with the planning field office and Project Control to determine whether additional funding is available. If no additional funding is available, coordinate with Program Development.

Projects that are near final design completion may be completed and the design “shelved” until sufficient funding is available. This may require the project to go back through the STIP nomination process.

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## 450. Preliminary Engineering through Final PS&E

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- 450.1. Introduction
- 450.2. Authority to Proceed
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- 450.18. Constructability Review
- 450.19. PS&E Review
- 450.20. Final PS&E
- 450.21. Retention of Project Development and Design Files

### 450.1. Introduction

Preliminary Engineering through Final PS&E begins after approval of the environmental document and receipt of the Authority to Proceed (ATP). It is the final design stage of the project culminating with a bid-ready set of contract documents.

Support group activities include:

- Topographic and ROW surveying
- Design of bridges, retaining walls, or other significant structures.
- Environmental re-evaluation and permitting
- Geotechnical and foundation investigations
- Hydraulic or hydrologic investigation or design
- ROW plans, appraisals, acquisitions, and relocations
- Traffic signal and illumination design
- Utility relocation

### 450.2. Authority to Proceed

Once the environmental document is approved, submit a PDA request for ATP for PE through Final PS&E (see Section 420.1 for further information). Final design may begin once FHWA has issued the ATP.

### 450.3. Update PMP and PIP

Update the PMP and PIP using feedback from appropriate support groups.

Once the schedule is updated and ATP to Final PS&E is approved, notify all affected support groups and provide them with the current project schedule. Send a copy of the updated PMP and PIP to the appropriate planning staff.

### 450.4. Reserved

### 450.5. Design Study Report (DSR)

The Design Study Report (DSR) summarizes and documents the design features and decisions made during the Environmental process and in final design.

#### 450.5.1. Design Study Report (DSR)

The DSR is a formal report that documents final design decisions for the preferred alternative brought forward from the environmental document.

Include the following sections in the DSR:

1. Description of project location and existing facilities, and purpose and need for proposed project
2. Design standards used, including project design criteria and design designation
3. Reserved
4. Discussion of the final design
5. Typical sections, including shoulder treatment
6. General horizontal and vertical alignment, including location of bridges and other structures
7. Erosion and sediment control
8. Drainage
9. Soil conditions
10. Access control features

11. Traffic analysis. Discuss the traffic analyses done to support the need for specific project features such as:

- Addition of turn lanes
- Widening of shoulders, or
- Installation of traffic signals

Analyses can include:

- Signal warrants
- Capacity analysis, or
- Roundabout analysis

Include a discussion of the existing and projected traffic volumes and patterns as well. Discuss reported crashes as appropriate.

12. Safety improvements. Discuss project specific safety improvement features included that will reduce known or potential safety deficiencies. If the project is an HSIP project, include the original project nomination.

13. ROW requirements

14. Pedestrian and bicycle accommodations, including provision for accessibility by people with disabilities

15. Utility relocation and coordination

16. Preliminary work zone traffic control for the preferred design alternative including any probable detour routes and impacts along those detour routes. Provide determination of whether the project is “significant” per Section 1400.2 of this manual.

17. Pavement design, including life-cycle cost analysis

18. Updated cost estimate for all phases (PE, ROW, Utility Relocation, and Construction)

19. Environmental commitments and mitigation measures. This section should include a summary of all environmental commitments.

20. Preliminary bridge layout

21. Identification and justification of design exceptions and design waivers

22. Maintenance considerations

23. ITS Features. Discuss ITS elements to be incorporated into the project.

Appendices to the DSR should include the following items as applicable:

- Approved design criteria and design designation
- Approved design exceptions and design waivers
- Traffic analyses (signal warrants, capacity analysis, roundabout analysis in accordance with the Department’s Roundabout First Policy, etc.) and speed studies
- Resurfacing, Restoration, and Rehabilitation (3R) analysis
- Systems Engineering Analysis (SEA)
- Approved environmental document
- VE consideration

Be objective and factual when preparing a DSR. Avoid subjective wording such as “inadequate,” “unsafe,” “dangerous,” “deficient,” “insufficient,” or “substandard.” For example:

*Don't write:* “The shoulder width is insufficient.”

*Do write:* “The shoulder width does not meet current standards for new construction.”

*Don't write:* “The horizontal curve is dangerous.”

*Do write:* “The 5-year crash history of this horizontal curve indicates 11 major injuries and 1 fatality.”

Prepare a draft DSR and circulate for in-house review and comment.

The final DSR is sealed and signed by a professional engineer, signed by the preparer, concurred by the project manager and design group chief, and approved by the regional preconstruction engineer. Distribute copies in accordance with regional policy.

### **3R Analysis**

On 3R projects, perform a 3R analysis in accordance with Section 1160.4.1 of this manual. Include the analysis as an appendix to the DSR.

### **Systems Engineering Analysis (SEA)**

All significant ITS projects require an SEA. Non-significant ITS projects do not require an SEA. See Section 485 for how to distinguish between the two

and procedures for developing an SEA. Include the SEA as an appendix to the DSR.

#### **450.5.2. Design Approval**

Approval of the DSR constitutes design approval. Complete the DSR prior to the PS&E Review.

The regional preconstruction engineer may waive design approval for advanced ROW acquisitions, utility-only project, or other similar projects.

#### **450.6. Reserved**

#### **450.7. Final Design**

Per 23 CFR 636.103, *final design* means any design activities following preliminary design and expressly includes the preparation of final construction plans and detailed specifications for the performance of construction work. In the context of this manual, final design is all design work after completion and approval of the environmental document and receipt of ATP for PE through Final PS&E.

Strive for a context sensitive final design that, to the extent practicable, is in harmony with the community it is located in, and preserves environmental, scenic, aesthetic, historic, and natural resource values of the project area.

##### **450.7.1. Reserved**

##### **450.7.2. Plan Set**

Develop the content and organization of plan sets according to regional policy. -Plans are sealed and signed by the engineer(s) of record. Show environmentally sensitive and restricted work areas in the plans.

#### **Erosion and Sediment Control Plan (ESCP)**

Develop an ESCP for all projects, regardless of funding, with disturbed ground that meet either of the following conditions:

- Owned by the Department
- Designed (or design administered by) and constructed (or construction administered) by the Department

See Section 1120.7 for guidance on ESCP preparation.

#### **Traffic Control Plan (TCP)**

Develop a TCP to address the safety of motorists, pedestrians, and construction workers on all federal-aid construction projects as required by 23 CFR 630.

Guidance for developing TCPs is found in Chapter 14.

#### **450.7.3. Alaska Standard Plans (ASPs)**

ASPs show commonly used plans and details approved by the Department and FHWA for use on projects. ASPs are contained in the *Alaska Standard Plans Manual* available online at:

<http://www.dot.state.ak.us/stwddes/dcsprecon/stddwgeng.shtml>

In accordance with guidance in Chief Engineer's Directive (CED) of January 25, 2019, titled *Alaska Standard Plans, Development and Incorporation*, Standard Plans are not signed and sealed by a professional engineer (PE). This CED is available here:

<http://dot.alaska.gov/stwddes/dcspubs/directives.shtml>

ASPs are adapted from detail drawings that are treated as final drawings and are signed and sealed by a professional engineer in accordance with 12 AAC 36.185. The final drawings are archived at the Statewide Design and Construction Standards office. By sealing the final drawing, the professional engineer certifies their responsible charge for the technical development of the detail drawing used as the basis for the ASP.

The chief engineer approves ASPs for use by the Department.

Each ASP has an associated technical report, called the Standard Plan Development Report (SPDR), prepared by a professional engineer. The SPDR provides background and guidance on the selection, application, restrictions, and qualifying conditions for use of the associated ASP. SPDRs are found here:

<http://dot.alaska.gov/stwddes/dcsprecon/stddwgeng.shtml>

Plans should list the ASPs that apply to a specific project on the project cover sheet, project index sheet, or individual plan sheet. The professional engineer signing and sealing the project plans takes responsibility for inclusion of specific ASPs.

#### **450.7.4. Specifications**

Specifications consist of the Standard Specifications, Standard Modifications, and Special Provisions. Specifications describe the material and construction requirements, method of measurement, and basis of payment for the work shown in the plans.

The Alaska DOT&PF Standard Specifications for Highway Construction (SSHC) are approved by the Department and FHWA for general application and repetitive use and are available online at:

<http://www.dot.state.ak.us/stwddes/dcsspecs/index.shtml>

Statewide Standard Modifications are additions or revisions to the Standard Specifications and supersede the Standard Specifications. In most cases, Standard Modifications exist to correct errata or deficiencies in the Standard Specifications. A list of current Statewide Standard Modifications is available at the website noted above. Include all Standard Modifications that apply to the work. Standard Modifications that will be overridden by a Special Provision do not need inclusion.

Special Provisions are additions or modifications to the Standard Specifications or Standard Modifications and cover conditions specific to an individual project. Special Provisions supersede Standard Specifications, Standard Modifications, and the plans. Special Provisions can be statewide, regional, or project-specific. A list of current Statewide Special Provisions is available at the website listed above. Each region develops and maintains its own Regional Special Provisions. Choose which Special Provisions to include in the specifications based on the specific requirements of the project.

#### **Open Competition**

In accordance with 2 CFR 200.319, specifications for construction contracts must provide for full and open competition. Incorporate a clear and accurate description of the technical requirements for the materials, products, or services required in the construction contract. Such descriptions must not contain language that unduly restrict competition. The description may include a statement of the qualitative nature of the material, product, or service and, when necessary, must set forth those minimum essential characteristics and standards to which it must conform to satisfy its intended use.

#### **Named Brand Products**

It is a best practice to avoid the use of brand (trade) name projects in specifications. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a “brand name product or equal” specification may be used. The FHWA Alaska Division has indicated that using a “brand name product or equal” specification provides for sufficient competition; however, the salient features of the named brand product that must be met by the “or equal” product need to be clearly stated.

Special circumstances may require restriction of products to a single brand name:

- The named brand product must match an existing item or system to facilitate operation, maintenance or continuity
- The named brand products is the only one that will perform the required function

When only one named brand product will meet the Department’s need under one of the conditions above, a written determination must be approved by the Contracting Officer prior to advertising the construction contract. See P&P 10.02.050 for further information.

#### **Warranty Clauses**

Warranty clauses may be used on federal-aid construction contracts in accordance with 23 CFR 635.413. See the following link for FHWA guidance:

<https://www.fhwa.dot.gov/construction/cqit/warranty.cfm>

Warranty clauses must be for a specific product or feature. General warranties for an entire project are not acceptable, unless the project in question is design-build.

Warranty clauses may not cover work that would be otherwise ineligible for federal-aid participation, including routine maintenance. Warranty clauses may not cover damage caused by others – a contractor cannot be required to warrant items over which the contractor has no control.

#### **Specialty Items**

Identify Specialty Items in the Special Provisions in the description of work. A Specialty Item is defined in Section 101-1.03 of the SSHC as “a contract item identified in the contract that requires highly specialized knowledge, abilities, or equipment not



ordinarily available in the type of contracting organizations qualified and expected to bid on the contract.”

#### **450.7.5. Estimates**

Estimates are prepared by the engineering design staff and checked by the project manager. The final engineers estimate is approved in accordance with regional policy.

Depending on whether the contract will be unit price, lump sum, or a combination thereof, the design staff will select the appropriate pay items for the project and determine the quantities.

For unit price estimates, the design engineering staff should construct the estimate using standard pay items from the SSHC whenever possible. If a non-standard pay item is used, a special provision will be required for establishing the new pay item, a method of measurement, and a basis of payment. If no historical data exists or the pay item is non-standard, use engineering experience and judgment. Unit price contracts may use lump sum items.

The engineer’s estimate is the final estimate used for contract bidding and programming of construction funding. In addition, the engineer’s estimate includes Indirect Cost Allocation Program (ICAP) and construction engineering costs.

Use AASHTOWare Project software to develop the engineer’s estimate. AASHTOWare Project generates the following when the project goes to advertise and award:

- DBE goals worksheet
- Bid schedule
- Federal-aid agreement
- Coding backup
- Compilation of bids and bid-analysis reports

AASHTOWare Project software is also used to archive the bid results for reference in generating future estimates.

The final engineer’s estimate must be coded prior to the PDA request for Construction funding being submitted to FHWA for approval. Consult with the Project Control for assistance on coding estimates. Coding guidance is available at:

[http://dot.alaska.gov/stwddes/dcsprecon/assets/pdf/preconhw/fhwa\\_improvement\\_type\\_code.pdf](http://dot.alaska.gov/stwddes/dcsprecon/assets/pdf/preconhw/fhwa_improvement_type_code.pdf)

Ensure that final coded estimates follow location and improvement type allocations established at project startup. Refer to Section 450.1 for further information.

#### **Lump Sum Projects**

The project manager, in consultation with the construction project manager, should consider whether an entire project could be developed as a lump sum, fixed-price contract. Consider lump sum contracting on projects with:

- A well-defined description of work
- A low risk of unforeseen conditions
- A low possibility for changes
- Limited opportunity for contractors to provide less than the required quantity

Further guidance on lump sum contracting is found in the “Lump Sum Project Guidelines”:

<http://www.dot.state.ak.us/stwddes/dcsmisc/assets/pdf/lumpsum/lumpsum0103.pdf>

#### **450.7.6. Bidding and Contract Documents**

The regional Contracts Section prepares bidding and contract documents. The project manager should provide the Final PS&E package along with the signed Authority to Advertise (ATA), project bidding description, subcontractable items list, and DBE goal to the contracts officer. Construction contract forms are available at the Design and Construction Standards webpage:

[http://www.dot.state.ak.us/stwddes/dcsconst/pop\\_conforms.shtml](http://www.dot.state.ak.us/stwddes/dcsconst/pop_conforms.shtml)

The Contracts Section will assemble a contract bid package and put the project out to bid per Section 470.

#### **450.8. Reserved**

#### **450.9. Support Group Activities**

It is the project manager’s responsibility to coordinate and schedule design activities with support groups through the development of the Final PS&E.

##### **450.9.1. Bridge Design**

The project manager informs the chief bridge engineer when the environmental document is approved and ATP through Final PS&E have been obtained. The

project manager confirms the preferred bridge alternative (alignment, profile and typical section) and design schedule.

For PIH reviews, the Bridge Section provides a refined general layout, site plan, and cost estimate.

The Bridge Section provides 95 percent complete bridge plans for the PS&E review. They also include the draft special provisions, preliminary bid items, quantities, and cost estimate.

Refer to the Alaska Bridges and Structures Manual for procedures related to the preliminary and final structural foundation engineering report.

Bridge provides sealed and signed drawings, special provisions, bid items, quantities, and cost estimate that the project manager incorporates into the Final PS&E.

#### **450.9.2. Civil Rights**

Numerous state and federal laws and regulations pertain to civil rights. Contact the Civil Rights Office (CRO) for specific guidance and information not contained in this manual. Provisions to implement these laws are included in various contract “boilerplate” forms and in the specifications. Provisions for state-funded and federal-aid projects ~~contracts~~ are similar, but not identical.

#### **Disadvantaged Business Enterprise (DBE) Program**

The purpose of the DBE program is to provide an equal opportunity to participate in construction contracts and subcontracts for businesses owned and controlled by persons who are socially and economically disadvantaged. The requirement for DBE on federal-aid projects is covered in 49 CFR Part 26.

For all federal-aid projects, provide a copy of the final engineer’s estimate to the Construction Section at least one week prior to the anticipated advertising date. The Construction Section will prepare the DBE Goals Worksheet and submit it to the CRO for approval. The CRO will finalize the DBE Goals Worksheet and prepare the DBE Goal memo and Form 25A-324 DBE - Subcontractable Items list. They will transmit these documents to the Construction Section for review and concurrence. If acceptable, Construction will transmit them to the project manager and the Contracts Section.

The goal must be refreshed if the project is not advertised within three months of the goal setting or if there is a change in the engineer’s estimate.

#### **On-the-Job Training (OJT) Program**

The purpose of the OJT Program is to train and employ minorities and women in the construction industry. The requirement for an OJT Program is covered in 23 CFR 230.111.

On all federal-aid projects, coordinate with the Construction Section in preparation of the OJT Goal(s) at least one week prior to the anticipated advertisement date. Submit the final engineer’s estimate to the Construction Section who will calculate the goal(s) based on the basic bid and will then submit it to the CRO for approval. Once approved, the CRO will issue the OJT Goal via memo to the Construction Section. Upon review and acceptance, Construction will transmit the memo to the project manager and Contracts Section.

The goal(s) must be refreshed if the project is not advertised within three months of the goal set, or there is a change in the engineer’s estimate.

The CRO establishes and approves OJT goals on federal-aid highway projects that can support this program. The OJT goal is then added to the contract documents before advertising. Include provisions for Section 645 -Training Program - in the specifications.

#### **Title VI**

Pursuant to the Civil Rights Act of 1964, the Department has prepared a Title VI/Nondiscrimination Program Plan to ensure compliance with federal civil rights laws and regulations. The Program Plan stipulates clauses to be included in construction contracts, professional service agreements, and property actions. It also places coordination and reporting requirements on project managers during the project development and public involvement processes.

Copies of the Program Plan may be obtained from the Civil Rights Office.

#### **450.9.3. Construction**

Include construction staff in all plans reviews to provide feedback on constructability, materials, scheduling, specifications, and cost issues. Consult with construction on environmental permit stipulations, commitments, or construction restrictions to ensure that the project can be built without violations.

#### **450.9.4. Contracts**

The Contracts Section will assist in compiling, printing, and distributing plan review sets. This usually includes inserting the necessary contract boilerplate language into the PS&E review documents.

They also compile the final PS&E and incorporate it into a bid package that goes out for advertisement.

#### **450.9.5. Environmental**

Environmental staff typically perform several functions during final design, including obtaining all required approvals, authorizations, clearances, consultations, permits, and reviews; re-evaluation of the environmental document, checking that all necessary environmental commitment and mitigation measures are incorporated into the plans; and assisting design with any special environmental details, plans, or specifications that may be required.

#### **Approvals, Authorizations, Clearances, Consultations, Permits, and Reviews**

Some approvals, authorizations, clearances, consultations, permits, and reviews must be obtained during the NEPA process. Most of these will be obtained after environmental document approval. Work with environmental staff to ensure that the appropriate information and plan sets are submitted as required to resource agencies for their review and approval.

#### **Environmental Re-evaluations**

The purpose of an environmental re-evaluation is to determine if the environmental document (EA/FONSI, EIS/ROD) or CE designation is still valid before proceeding with a major project approval or authorization.

A re-evaluation is required per 23 CFR 771.129 and EPM Section 6.2 prior to requesting the following ATPs:

- PE through Final PS&E (final design)
- ROW Appraisal and Acquisition
- Construction

After a project has received an approved environmental document, there are other circumstances that trigger the need for a re-evaluation:

- The project, or a phase of the project, is proceeding to the next major federal approval (i.e.

final design, ROW appraisal and acquisition, and construction.)

- When a major step to advance a project has not occurred within three years
- When there is an appreciable change in the scope or design that could result in revised effects
- Changes to laws or regulations potentially affect the conclusions of the original environmental document

Coordinate with the REM regarding re-evaluations. The REM will determine what effects any project changes or changes in the effected environment may have on the validity of the environmental document and consult with the NEPA Program Manager. Procedures for re-evaluations are covered in Chapter 6 of the EPM.

#### **Environmental Commitments and Mitigation**

Environmental commitments and mitigation measures detailed in the approved environmental document and necessary permits are incorporated into the project plans and specifications.

Environmental staff may also help develop project specific Best Management Practices (BMPs), recommend erosion and sediment control measures, and review erosion and sediment control plans.

#### **450.9.6. Geotechnical Investigations (Centerline, Materials Source, and Foundation)**

A geotechnical centerline, foundation, or material source investigation can be initiated during the design stage, or may be initiated in the preliminary project development stage as a reconnaissance investigation and continue into the design development stage.-

Materials staff or consultants conduct geotechnical investigations and prepare a final geotechnical report, in accordance with the *Alaska Geotechnical Procedures Manual* and the *AASHTO Manual on Subsurface Investigations*.

The purpose of the geotechnical investigation is:

1. To determine the nature of the geotechnical characteristics of the project site, including the surface conditions, geological hazards, and the underlying earth materials along the alignment
2. To assess foundation conditions at the site of structures

3. To recommend structural design parameters for earthwork and foundations
4. To estimate the availability and characteristics of construction materials
5. To identify and make recommendations for resolving special geotechnical problems such as soft ground, slope stability, thaw-unstable permafrost, and rock excavation

### **Centerline/Material Source Investigations**

Centerline investigations are normally completed in support of design of the preferred design alternative, and consist of both centerline and material source investigations (see Section 450.10 for a discussion of material sources) including test borings, test pits, mapping, sample analyses, and preparation of a final report with recommendations for design. Limited centerline and material source investigations may also be completed to assist in evaluation of project alternatives.

To support the field investigation, the project manager provides:

- Line and grade data (existing and proposed)
- Cut and fill locations
- Earthwork quantity estimates
- Anticipated drainage provisions

Generally, for centerline investigations, the alignment is staked and stationed in the field or provided in an electronic format from which the geologist prepares an exploration plan for the regional materials engineer's and project manager's approval.

The project manager or lead designer should accompany the geologist on a field review of the alignment before beginning the field investigation. The project manager or principal designer may return for firsthand review of problem areas during field investigations.

As soon as the results of the field investigation are analyzed, the regional materials engineer submits a memorandum with interim design recommendations and a preliminary report to the project manager.

The final geotechnical report is normally completed by the geotechnical engineer or certified professional

geologist that conducted the investigation after the final alignment, grade, and geometry have been selected. The report should describe surface characteristics and soil and rock conditions, and make design recommendations. The report is submitted to the project manager upon completion.

### **Foundation Investigations**

Perform foundation investigations where structures such as bridges, buildings, or retaining walls are planned.

Foundation investigations are directed by the state foundation engineer, statewide or regional geotechnical engineer or licensed geologist, or geotechnical engineering consultants.

Foundation investigations look at surface and subsurface site conditions at the location of foundation units. The purpose of the investigation is to provide the designer with information on the engineering properties of the natural material for use in the foundation design.

The foundation engineer provides an exploration plan for the foundation investigation. The plan is based on the preliminary layout of the structure, which is normally completed before undertaking the investigation. Provide structure site map and plan/profile information to the foundation engineer for use in developing an exploration plan.

Complete the foundation investigation and geotechnical report in accordance with the *Alaska Geotechnical Procedures Manual* and the *AASHTO Manual on Subsurface Investigations*.

The final foundation report is normally completed after selection of the final structure location and then submitted to the project manager.

### **450.9.7. Hydrology & Hydraulics**

The statewide or regional hydraulics engineer may remain involved in a project into final design if there are any of the following features:

1. Culverts 48 inches or larger, or a bridge structure. In this case, a hydraulic and hydrologic summary is required per Section 1120.5.6. Cross culverts 48 inches in height, or greater, should be evaluated for failure due to hydrostatic and

hydrodynamic forces, erosion, saturated soils, or plugging by debris per Section 1120.5.1

2. Floodplain analysis. Generally, the Location Hydraulic Study (see Section 430.6.5 Hydrology & Hydraulics) is completed during preliminary design, but final analysis may continue into final design
3. Riprap slopes in bodies of water
4. Fish passage design

The statewide hydraulics engineer is responsible for the hydrologic and hydraulic designs of all bridge projects. Regional hydraulics engineers are responsible for all single and multiple culvert installations not considered bridges (e.g. spans of less than 20 feet, measured parallel to centerline of roadway and out-to-out of culverts) and other drainage designs requiring a report.

All hydrologic and hydraulic reports must be sealed and signed by a professional engineer. If a hydrologic or hydraulic report is prepared by a consultant, the hydraulics engineer will review it and provide comments to the project manager prior to the report's finalization. The project manager will provide responses to all comments made by the hydraulics engineer.

The hydraulics engineer should review all changes or addenda related to hydraulic designs prior to the start of construction.

Some hydraulic designs may be prepared by the design staff and then checked by the regional hydraulics engineer.

#### **450.9.8. Maintenance & Operations (M&O)**

Consult M&O staff early in the final design stage and include them in all plan reviews.

M&O will comment on any design, maintenance, or operational problems with an existing facility and should comment on features that lower M&O costs. Designers should always remember to include M&O costs in life cycle and benefit-cost analyses.

#### **450.9.9. Right-of-Way (ROW)**

The ROW Section in each region obtains and manages the land interests necessary for construction, operations, and maintenance of capital projects, in accordance with the *Alaska Right-of-Way Manual*. This process involves:

1. Identifying real property and land interests based on design plans
2. Researching titles to properties to be acquired
3. Preparing ROW plans, with measurements of areas needed
4. Appraising the fair market value of lands needed, including affected improvements (The receipt of the Authority to Appraise and Acquire [AAA] starts the appraisal process)
5. Negotiating property acquisitions
6. Relocating any displaced families and businesses
7. Certifying the Department's ownership or land interest
8. Controlling encroachments and disposing of lands no longer necessary for public use
9. Preparing programming requests for the project manager's approval

ROW tasks 1-3 may begin in the preliminary design and completed during final design.

ROW task 4 may be done during preliminary design prior to completion of the environmental document – see Subsection 420.2.1.

After environmental document approval and ATP for PE through Final PS&E, ATP for AAA may be requested from FHWA. The receipt of AAA starts the appraisal and acquisition process.

Design plans serve as the basis for the ROW plans. Closely coordinate design changes affecting the amount or location of required land with ROW and other support groups.

Design staff needs to give special consideration to access and space necessary to construct the project. Obtain temporary construction permits or temporary easements for any work space needed beyond the ROW and easement lines.

Property owners may request that construction items be added to the plans. The negotiator submits such requests for project manager approval, on a Memorandum of Agreement (MOA), or a Memorandum of Understanding (MOU), form. After successful negotiations, ROW processes the legal and payment documents, arranges for clearing the

acquired right-of-way of any improvements, and manages any relocation of families or businesses.

### **Hazardous Materials**

The presence of hazardous materials or hazardous waste can significantly affect appraisals. It is important that suspect parcels be identified and investigated early in the project development process, usually as part of environmental activities, so that any problems can be quantified and managed in time to minimize delay in the appraisal process.

### **Eminent Domain**

If negotiations fail or title complications exist, and if administrative settlement at a higher-than-market price is imprudent or unsuccessful, initiate eminent domain proceedings through the Department of Law (DOL).

Approval to proceed with acquisition through condemnation is reserved for the preconstruction engineer. The DOL handles subsequent proceedings. These proceedings significantly affect project schedules and budgets. The proposed taking must be for the greatest public good and the least private injury.

If an eminent domain action is probable, the project manager needs to prepare a decisional document (DD). This DD explains to the landowner and DOL the basis for the Department's decision to acquire property and documents that DOT&PF has selected the project location most compatible with the greatest public good and the least private injury. In the DD, include the following:

1. Summary of relevant project background information
2. Studies that discuss the design alternatives and impacts
3. The public benefit and private loss of the property acquisition
4. A discussion of the necessity of acquiring the property through eminent domain

### **Department of Natural Resources (DNR) Land Issues**

A DNR *Tidelands Lease* may be required for permanent placement of fill or structures on state tidelands.

A DNR *Tidelands Permit* may be required for certain activities of a temporary nature on state tidelands.

A DNR *Land Use Permit* may be required for constructing projects on state-owned lands or crossing state-owned lands for access. Because the state owns most land below the ordinary high water line of navigable streams and lakes, this permit is required for most activities in waters of larger streams.

### **ROW Certification**

When all the ROW is acquired or right of entry obtained, the chief ROW agent certifies the project and signs the project certification form when circulated by the project manager before requesting construction authority.

If specifically listed on the invitation for bids, make ROW information available to bidders.

#### **450.9.10. Surveying**

Additional topographic or boundary surveying may be required in support of the final design or determination of ROW lines. The project manager should alert the Survey Section of any additional pick-up work as soon as possible so that the work is scheduled.

#### **450.9.11. Traffic and Safety**

The Traffic and Safety Section may continue to work on those items noted in Section 430.6.5. In addition, they may work on or assist in preparing plans, specifications, and estimates for:

1. Traffic control
2. Roadside barrier analysis and design
3. Signing and striping
4. Signals systems
5. Illumination systems
6. Cost-effective crash and historical safety request mitigation measures identified during preliminary design

#### **450.9.12. Utilities**

The project manager furnishes plans to the utilities engineer showing line, grade, slope limits, and clear zone widths. These plans are given to each affected utility company. The utility determines the adjustments and relocations necessary to avoid conflict with the project (which may warrant revising design plans), designs the changes to its facilities, and prepares plans and cost estimates to support the relocation agreement. In some cases, DOT&PF or a

consultant performs the utility relocation design for relocation work to be included in the contract.

The utility engineer drafts relocation agreements for all affected utilities. All of the utility relocation design work and drafting of utility relocation agreements may be done under Phase 2.

If additional ROW is necessary to accommodate utility relocation and if it is to be acquired by the utility company, departmental approval is necessary before authorizing the utility company to begin appraisal and acquisition.

Prepare and submit a PDA request for Utility Relocation. (See Section 420.2.1) Approval and execution of utility agreements is required before utility relocation work begins.

Relocation may be performed by the utility company, by a contractor managed by the utility company or as part of the Department’s construction project.

#### 450.10. Materials Sources

A material source is a location where sand, gravel, rock, or other material may be extracted for use on a project. These types of materials may come from an existing commercial source, but when no commercial source is available, or in order to provide competitive bidding when only a single commercial source is available, DOT&PF may want to consider making a Department-furnished site available for use.

Table 450-2 provides a matrix defining responsibility for obtaining rights to material sources.

**Table 450-2  
Material Source Responsibility Matrix**

|   | <b>Contractor-Furnished Source</b>    | <b>Mandatory Source</b>           | <b>Designated Source</b>          | <b>Available Source</b>           |
|---|---------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Who owns the subsurface rights?           | It depends, see narrative             | The Department must obtain rights | The Department must obtain rights | The Department must obtain rights |
| Who obtains permits?                      | Contractor                            | Department                        | Department                        | Department or Contractor          |
| Materials Report required                 | No                                    | Yes                               | Yes                               | See below                         |
| Who prepares mining and reclamation plan? | Contractor – acceptable to Department | Department                        | Contractor                        | Contractor                        |

The following definitions of the various types of material sources are derived from Section 106-1.02 of the SSHC:

- **Contractor-Furnished Source:** A material source that is from a commercial plant or any material source that is not identified-below.
- **Mandatory Source:** A material source required for use by the Department. A Public Interest Finding (PIF) is required to designate a material source as mandatory (See P&P 10.02.013 and 23 CFR 635.407).
- **Designated Source:** A material source that is made available to the contractor, but is not required for use.
- **Available Source:** A material source identified as available for use to the contractor. The Department makes no guarantee as to the quality or quantity of material available. Provide any available information as supplemental information and note its availability in the Notice to Bidders. The contractor is responsible for making their own determination of the quality and quantity of material available.

- **Excluded Material Source:** A material source that is excluded from use. It may be considered by the contractor as a contractor-furnished source, unless it is identified in the contract as an excluded materials source.

To use data from a materials report for a mandatory or designated material source, it must be a project specific report.

The permits necessary for a material source can be numerous and may include:

- Wetlands
- Floodplain
- State Historic Preservation Office (SHPO)
- Conditional use permit
- Noise

Obtain rights to use or otherwise develop a material source prior to advertising a project when it is the responsibility of the Department as indicated in Table 450-2.

Address permits to be obtained by the Department in final design. Permits to be obtained by the contractor and the mining and reclamation plan will be obtained during construction.

#### **450.11. Material Disposal Sites**

Many projects will generate unusable or excess materials such as clearing, grubbing, unsuitable unclassified excavation, and excess unclassified excavation.

Cleared and grubbed material may be burned, buried, or otherwise disposed. The contractor will comply with local laws pertaining to open burning and obtain a Department of Environmental Conservation (DEC) air quality permit when required.

Unusable or excess materials can be buried in non-structural fill sections indicated on the plans

Disposal of unusable or excess material can be accomplished on-site with a state-furnished disposal site or off-site with a state or contractor furnished disposal site or a commercial landfill.

##### **450.11.1. State-Furnished**

Designers should consider non-environmentally sensitive upland areas within the right-of-way limits for material disposal. Also consider slope flattening on adjacent segments of roadway.

These areas should be accounted for in the environmental document process and the plans should indicate their locations and the conditions for wasting the material such as vegetating, etc.

##### **450.11.2. Contractor-Furnished**

If no State-furnished material disposal areas are made available or they are not adequately sized, the contractor will either secure his own material disposal site or use a commercial landfill.

#### **450.12. Driveway and Approach Road Design and Permitting**

The Department has adopted regulations (17 AAC 10) pertaining to the legal requirements for driveways and approach roads placed within its highway ROWs. Those portions of the driveway within the ROW are considered encroachments, and the property of the state, but construction, maintenance, and liability are at the expense of the lands served.

##### **450.12.1. Driveway and Approach Road Design Standards**

Section 1190, presents Department standards for driveway and approach road design on highways, streets, and roads it administers or maintains.

Section 1190 applies to all new driveway and approach roads designed and constructed by the Department.

Section 1190, as published in December 1998, applies to:

- All existing driveways and approach roads
- Design and construction of all new private driveways and approach roads applied for and built by the permit applicant
- All existing driveways and approach roads reconstructed or modified by a Department highway or road project

Driveways with permits (considered encroachment permits by state law) issued prior to April 1, 1986, are not required to conform to the standards presented in Section 1190 unless the Department determines the driveway must be changed or relocated for public safety. A new permit is required if a landowner changes the land use, relocates the driveway or approach road, or changes the geometry.

All driveways or approach roads upgraded or constructed on, or after April 1, 1986, must conform



to the requirements of Section 1190, as published in December 1998 version of the HPCM, unless the Department makes an exception in writing through a design waiver. This exception is for project related driveways and is not for new driveway applications.

#### **450.12.2. Driveway Permit Procedures**

Do not acquire driveway permits as part of the project development and construction process.

Existing driveways and approach roads (herein referred to as an approach) should be located and noted on the project plans. At existing driveways and approach where there is no record of a permit:

1. Determine if the driveway or approach creates an unsafe condition or a traffic operations issue (both considered a “problem”).
2. If a problem exists, the driveway or approach should be removed subject to the extent that a permit would not be issued for it “as-is.” Notify the Permits Officer so that an attempt can be made to contact the property owner and to determine whether the property owner intends to apply for a permit for an alternate access location. If an alternate access location is approved, construct it as part of the project.
3. If it doesn’t create a problem, reconstruct it as part of the project.
4. If the driveway or approach has no permit and appears recently constructed (e.g. after project development commencement) but does not create a problem, then notify the Permits Officer so that the property owner can be contacted and advised of the permit application process requirements. If a permit application is submitted and approved, include reconstruction of it in the project plans. If a permit application is not submitted or approved, it is considered an unauthorized encroachment per AS 19.25.220-250.

#### **450.12.3. Driveways in the Project Plans and As-Builts**

Existing driveways and approach roads onto state roads and highways shall be shown in the project plans and noted for removal, relocation, improvement or retention as-is.

The as-built plans and driveway summary constitutes a valid driveway permit for all driveways and approaches reconstructed or allowed to remain as part

of the project, whether or not there was a prior permit, unless otherwise noted. Provide a copy of the as-built driveway summary to the regional Permits Officer.

A driveway permit obtained via the construction as-built plans satisfies the landowner’s requirement for permitting. The landowner is not required to take additional steps to permit the driveway or approach unless they wish to:

- Change the land use of the property served by it
- Change the location of it
- Otherwise modify it

If any of the aforementioned changes occur, the landowner is required to obtain a new driveway permit.

#### **450.13. Reserved**

#### **450.14. Reserved**

#### **450.15. Plans-in-Hand (PIH) Review**

Plans-in-Hand review consists of an office review of the approximately 75-percent-completed plans, specifications, and cost estimate, and a field review of the proposed project site. The PIH review:

- Ensures conformity with project scope and the approved project design criteria
- Verifies environmental conditions and impacts
- Reviews design details and verifies technical recommendations
- Assesses the cost-effectiveness of the design and accuracy of the construction cost estimate
- Evaluates the quality of the product

In accordance with regional policy, the project manager will determine whether to conduct a PIH review. The project manager allows sufficient time for review of the documents and schedules a meeting to discuss the PIH review comments.

Distribution of review documents for all projects is normally to the following:

- Design
- Bridge
- Construction
- Statewide Materials
- Regional Planning

- Right-of-Way
- Environmental
- Regional Materials
- City or municipality having local planning authority
- Utilities
- Borough
- Surveying/Locations
- Traffic and Safety
- Review engineer
- Maintenance and Operations
- Other involved state/federal agencies
- Consultant(s) (if used)

#### 450.16. Value Engineering (VE)

Department policy requires that all projects with a total estimated value equal to or greater than \$40 million be considered for a VE analysis. For those projects, document the decision to use or not use value engineering in the DSR.

A VE analysis is required for bridge projects on the National Highway System (NHS) with an estimated cost of \$40 million or more; for all other projects on the NHS, an analysis is required when the estimated total cost is \$50 million or greater, per 23 CFR 627.5.

The total estimated value of a project includes costs for:

- Design (Phase 2)
- ROW (Phase 3)
- Construction (Phase 4)
- Utility Relocation (Phase 7)

A VE analysis is best performed as early as practicable in the design stage. On projects selected for a VE analysis, consult with the regional VE coordinator and follow procedures specified in P&P 05.01.030.

#### 450.17. Local Concurrence

AS 35.30 requires coordination of projects with municipalities, communities, and villages within, or near, the project limits. Copy the planning field office on all correspondence.

#### Municipalities

Except as noted later, submit plans and specifications for all state facility construction projects within a municipality and all municipal facility projects to the planning commission along with a formal letter requesting they take the following action:

- Review and comment on the plans and specifications
- Complete a specific review to address compliance with municipal planning and zoning ordinances, and other regulations

Maintenance projects are excluded from this requirement.

A template letter for this purpose is shown in Figure 450-1 of this section. An electronic version of this is found on the Preconstruction Resources webpage:

<http://dot.alaska.gov/stwddes/dcsprecon/index.shtml>

Submit the plans and specifications at the earliest time they are sufficiently developed for review of compliance with local planning and zoning ordinances and other regulations.

If the municipality fails to comment within 90 days, the Department may proceed with the project.

For written comments received within the 90 day period, the Department will:

- Bring the project into compliance with planning and zoning ordinances or other regulations per AS 35.30.020, or seek a waiver from municipal planning authority.
- Consider comments to the extent practicable and provide written responses.

AS 35.30.010 states that prior approval by a municipal planning commission is not required before the construction of a highway or local service road if:

1. The Department and the municipality have entered into agreement for the planning of the project under [AS 19.20.060](#) or 19.20.070 and the plans for the project are completed in accordance with the terms of that agreement;
2. The municipality has adopted a municipal master highway plan under [AS 19.20.080](#) and the highway or local service road is consistent with the plan adopted; or,

3. The Department has entered into agreement with the municipality for the planning of transportation corridors under [AS 19.20.015](#) and the plans for the project are completed in accordance with the provisions of that agreement.

For maintenance projects within a municipality to be completed using private contractors, send a letter stating the project scope and estimated advertising date to the municipality's planning director.

#### **Communities with a Community Council**

For projects located within one-half mile of the boundary of an area represented by a community council established by municipal charter or ordinance, send a formal letter to the community council requesting that they review and comment on the project plans and specifications.

A template letter for this purpose is shown in Figure 450-2. An electronic version of this is found on the Preconstruction Resources webpage.

#### **Villages**

For projects located within two miles of a village, send a formal letter to the community council requesting that they review and comment on the project plans.

A template letter for this purpose is shown in Figure 450-3. An electronic version of this is found on the Preconstruction Resources webpage.

#### **450.18. Constructability Review (CR)**

A CR is a plan review involving those with relevant construction experience and expertise. A CR is typically done in conjunction with a PIH for PS&E review.

The purpose of a CR is to ensure the project is biddable and buildable; that the contract documents clearly define when, where, and what work is to be performed; what restrictions exist; and how the contract work will be accepted and paid for.

Additionally, CRs look at:

- Coordination of contract documents
- Construction phasing and scheduling
- Traffic control
- Ease of construction
- Design consistent with field conditions

- Environmental Considerations
  - Erosion and sediment control
  - Timing restrictions
  - Permit conditions and stipulations

Comments from a CR review are handled in accordance with regional policy.

#### **450.19. Plans Specifications and Estimate (PS&E) Review**

Perform a PS&E review on all projects, unless waived by the preconstruction engineer. This is the final review of the PS&E, packaged in a format to include the Bid Schedule, Invitation for Bids, and other project-specific contract documents: a final contract mock-up.

Distribution of review assemblies is similar to the PIH Review with the addition of , adding the project control and regional planning. You may combine the PIH review with the PS&E review subject to regional policy.

Distribute PS&E assemblies externally (e.g. FHWA, local agencies, municipalities, etc.) in accordance with regional policy.

It is important that comments receive objective consideration. Regional policy will adjudicate outstanding issues.

Provide reviewers a response to their comments, and provide a copy of all comments and responses to the Construction Section.

#### **450.20. Final PS&E**

Upon completion of changes from the PS&E review, the original, reproducible plan sheets are sealed, signed, and dated in ink by the professional engineer(s) responsible for their preparation, in accordance with P&P 70-1003, AS 08.48.221 and 12 AAC 36.185, and the cover sheet is signed by the person(s) delegated by regional authority. Submit the original plans, a copy of the final specifications and engineer's estimate, and any other information necessary for advertising to the Contracts Section.

Electrical power distribution designs (electric utility service connections, step-up and step-down transformers, and electric load centers) for highway lighting systems (including parking, mooring and docking areas) and traffic signal and highway data

systems must be sealed and signed by an Alaska licensed professional electrical engineer.

Designs for highway lighting systems and traffic signal and highway data systems “electrically downstream” of load centers may ~~must~~ be signed and sealed by an Alaska licensed professional civil engineer. “Electrically downstream” refers to components between the load side of a branch circuit breaker and utilization equipment.

Plans may include private contractor (company) or public agency names to identify and acknowledge their contribution to a project. No contractor or public agency logos apart from the DOT&PF logo are allowed anywhere in the plans. Other public agency logos are permitted when that agency provides a majority of funding for the project.

Identify contractors or other public agencies involved in the development of plans for the Department by including the company or agency name on the plan sheets in accordance with regional policy and 12 AAC 36.185. Use lettering that is 1/16” or less in height as printed on 11” x 17” plan sheets, and use the same font as other lettering of similar size on the plan sheet.

Production of the final PS&E completes the design stage. The project is ready for advertising once the Project Certification and Authority to Advertise are obtained (see Section 470). Design changes after Project Certification are not permitted.

If tribal consultations were made during project scoping, notify these tribes that the project is ready for construction and provide an estimated construction start date.

### **Buy America Provisions**

FHWA’s Buy America policy (see 23 CFR 635.410) requires a domestic manufacturing process for all steel or iron products permanently incorporated in a federal-aid highway construction project. Federal regulations allow an exemption for minor quantities (0.1% of the total contract amount or \$2,500, whichever is greater) of non-domestic steel or iron products.

When a product manufactured predominantly of steel or iron material is identified in the contract by name and/or manufacturer, determine whether the product is, or is not, manufactured in the US.

Include Statewide Special Provision HSP18-1 to indicate whether a predominantly steel or iron product

called for in the contract by name and/or manufacturer is manufactured in the United States. If unable to determine whether or not a product is manufactured in the US, list the product as not manufactured in the US.

A waiver to this policy may be requested from the Alaska Division of FHWA in accordance with 23 CFR 635.410(c). Further guidance on Buy America waivers is found here:

[https://www.fhwa.dot.gov/construction/contracts/buyam\\_qa.cfm](https://www.fhwa.dot.gov/construction/contracts/buyam_qa.cfm)

### **450.21. Retention of Project Development and Design Files**

After contract award, consolidate records pertaining to project development as much as possible.

On federal aid highway construction projects, retain project records at least three years after FHWA pays the final voucher.

On state-funded projects, the three-year retention begins when the state issues the letter of acceptance to the contractor. The retention is automatically extended through resolution of any outstanding litigation, claims, or audits, and it may be extended by specific retention schedules or regional policy.

Make records available for public inspection at reasonable times and places in accordance with AS 40.25.110 and with prior coordination with the Department’s attorney. This does not include records deemed confidential and exempt from disclosure under the Freedom of Information Act (see 49 CFR Part 7).

Examples of confidential records include attorney-client correspondence, records pertaining to pending claims or litigation, and personnel matters (AS 09.25.110 and AS 09.25.120).



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

**Department of Transportation and  
Public Facilities**

Section  
DOT&PF Engineering Manager

Address 1  
Address 2  
Phone  
Fax

|  
Date

Re: *Project name, number, and location*

Certified Mail #: \_\_\_\_\_  
Return Receipt Requested

*Name and Mailing Address of Planning Commission*

Dear *Planning Commission*,

The enclosed plans are submitted for your review and comment, and for determination of compliance with local planning and zoning ordinances. Under AS 35.30.020, the Department must comply with local planning and zoning ordinances and other regulations in the same manner and to the same extent as other landowners. If you believe the Department's construction of this project would result in a violation of planning, zoning, or other regulations generally applicable to landowners, please identify the portions of the project that would be in violation, and the specific planning, zoning, or other regulations that you believe would be violated.

Pursuant to AS 35.30.010, you have 90 days from delivery of the plans to provide comments on the project and to notify the Department whether the project violates any planning, zoning, or other regulations. If comments are not received within this time frame, the Department is authorized to proceed with the project.

Thank you for attention to this matter.

Respectfully,

DOT&PF Engineering Manager

Enclosure: Project Plans

*"Keep Alaska Moving through service and infrastructure."*

**Figure 450-1  
Example Letter to Planning Commission**



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

**Department of Transportation and  
Public Facilities**

Section  
DOT&PF Engineering Manager

Address 1  
Address 2  
Phone  
Fax

Date

Re: *Project name, number, and location*

Certified Mail #: \_\_\_\_\_  
Return Receipt Requested

*Name and Mailing Address of Community Council*

Dear *Community Council*,

The enclosed plans are submitted for your review and comment in accordance with AS 35.30.010.

You have 90 days from the delivery of the plans for your review and to offer any comments on the project and plans. Failure to provide comments within this time period will result in the Department moving forward with the project without taking your comments into consideration.

Thank you for your attention to this matter.

Respectfully,  
|

DOT&PF Engineering Manager

Enclosure: Project Plans

*"Keep Alaska Moving through service and infrastructure."*

**Figure 450-2  
Example Letter to Community Council**



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

**Department of Transportation and  
Public Facilities**

Section  
DOT&PF Engineering Manager

Address 1  
Address 2  
Phone  
Fax

Date

Re: *Project name, number, and location*

Certified Mail #: \_\_\_\_\_  
Return Receipt Requested

*Name and Mailing Address of Village Council*

Dear *Village Council*,

The enclosed plans are submitted for your review and comment in accordance with AS 35.30.010.

You have 90 days from the delivery of the plans for your review and to offer any comments on the project and plans. Failure to provide comments within this time frame will result in the Department moving forward with the project without taking your comments into consideration.

Thank you for your attention to the matter.

|  
Respectfully,

DOT&PF Engineering Manager

Enclosure: Project Plans

*"Keep Alaska Moving through service and infrastructure."*

**Figure 450-3**  
**Example Letter to Village Council**

## 460. Reserved

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## 470. Advertising and Award

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- 470.1. Introduction
- 470.2. Shelved Projects
- 470.3. PS&E Approval and Project Certification
- 470.4. ATP for Construction and Authority to Advertise (ATA)
- 470.5. Advertising for Bids
- 470.6. Addenda
- 470.7. Bid Opening, Evaluation and Analysis
- 470.8. Bid Award, Cancellation and Protests
- 470.9. References

### 470.1. Introduction

Advertising and award of a project generally begins with completion of the final PS&E and ends with an award to a contractor for project construction.

Procedures detailed in this section are required on federal-aid projects. Project certification is different for state funded projects (see Section 490 of this manual).

Design-build contracting is allowed under 23 CFR 636, AS 36.30.200(c) and 2 AAC 12.933. Follow guidelines presented in 23 CFR 636, P&P 10.02.020, and the *Guidebook for Design-Build Highway Project Development* manual when advertising design-build contracts. This manual is located here:

[http://www.dot.state.ak.us/comm/design\\_build.shtml](http://www.dot.state.ak.us/comm/design_build.shtml)

### 470.2. Shelved Projects

When a project does not have construction funding available immediately upon completion of the final P&SE, it is shelved. Follow regional policy for shelving projects.

Shelved projects should be reviewed prior to advertising to ensure:

- Current design standards are met
- Engineer's estimates are still accurate
- Environmental documents have not expired and permits are still valid
- Standard specifications and standard modifications have not changed, required FHWA contract provisions have not changed and DBE/OJT goals are still valid.
- Status of utility agreements and ROW certification is still valid

- No field changes within the project limits, such as a change in original ground, new driveways or approaches, signs, utility work, etc.

### 470.3. PS&E Approval and Project Certification

When the PS&E is final, circulate it with the FHWA Project Certification Form for certification signatures.. Route it to the REM, the regional ROW chief and the regional utilities engineer then sign it before submitting it to the preconstruction engineer for final PS&E approval. The FHWA Project Certification Form is found here:

<http://www.dot.state.ak.us/stwddes/dcsprecon/preconmanual.shtml>

### 470.4. ATP for Construction and Authority to Advertise (ATA)

Once approval for the Final PS&E is obtained, Project Control prepares the ATP for Construction funding request and submits it to FHWA. The ATP for Construction request must include the FHWA Project Certification Form with the requested Phase 4 programming amount.

Approval of the ATP for Construction constitutes PS&E approval by FHWA.

After FHWA approves the ATP for Construction, Project Control will confirm that authorization has been received. The preconstruction engineer will then grant approval for Authority to Advertise (ATA).

Once the ATA is received, deliver the final PS&E, project certification, and ATA to the Contracts Section for bid advertising.

### 470.5. Advertising for Bids

Establish the bid advertising period after receiving the ATA. By state and federal law (AS 36.30.130, and 23 CFR 635.112[b]), the minimum advertising period is 21 days prior to bid opening. Four to six weeks is advisable depending on the complexity and location of the project.

The contracting officer may approve a written determination to shorten the minimum advertising period when it is advantageous for a particular bid and adequate competition is anticipated.

The Contracts Section will prepare and post an invitation to bid. Provide them with any additional advertising information they require, such as special notices to bidders.

#### **470.6. Addenda**

Addenda are used to make changes to the contract documents or to advise all bidders of pertinent information after a contract is advertised for bids. Changes to the bid proposal, bid schedule, bid bond, specifications, plan sheets, or appendices require an addendum. Prepare, process, and approve addenda in accordance with departmental and regional policy and procedures.

Addenda are posted on the DOT&PF Procurement website and/or faxed to all plan holders generally at least 48 hours prior to the bid opening. The Contracts Section keeps hard copies of the addenda in the plans room and shall keep records relating to the posting and distribution of all addenda in the contracts file.

#### **470.7. Bid Opening, Evaluation and Analysis, and Recommendation**

##### **470.7.1. Bid Opening**

Open bids in accordance with P&P 10.02.011. After the Bid Tabulation is checked and certified, total bid amounts are posted on the DOT&PF Procurement and Contracting web site:

<http://www.dot.state.ak.us/procurement/bidding/index.shtml>

##### **470.7.2. Bid Evaluation and Analysis**

After bid opening, the project manager examines the low bid tabulation, conducts a bid evaluation and analysis, and then prepares a recommendation memo to submit to the contracts officer.

On federal-aid projects, FHWA requires the apparent low bid be checked for reasonable conformance with the engineer's estimate. It also requires a bid analysis on a bid where (a) there are extreme variations from the engineer's estimate, or (b) there is an unbalanced bid situation.

Bid analysis is advisable, but not required, on State funded projects.

The two types of unbalanced bids are mathematically unbalanced and a materially unbalanced bid.

#### **Mathematically Unbalanced Bid**

A mathematically unbalanced bid contains lump sum or unit price items which do not reflect reasonable actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead, and other indirect costs.

#### **Materially Unbalanced Bid**

A materially unbalanced bid contains mathematical unbalancing, and:

- Raises doubt that award to the bidder will result in the lowest ultimate cost to the department, or
- Is so unbalanced it results in a significant advance payment to the bidder.

The *Standard Specifications for Highway Construction* (SSHC) states that materially unbalanced bids shall be rejected as nonresponsive (see Section 102-1.06); thus, a bid evaluation and analysis is necessary in the bid award process.

To perform a bid evaluation and analysis, do the following:

1. Sum the total of the bid, construction engineering and ICAP amounts and determine whether they are within the programmed funding amount. If so, advance to 2.

If they are not, consult with Project Control and the Planning Section to determine if additional funding is available. If additional funding is unavailable the Department may consider: (1) rejecting all bids or (2) repackaging and rebidding the project with possible modifications to lower the cost.

2. Determine if the bid prices are in reasonable conformance with the engineer's estimate and other bids.
3. Determine whether the bid is mathematically unbalanced (as defined above).

If the answer to (2) is yes and the answer to (3) is no, the bid analysis can stop here. If the answer to (2) is no and (3) is yes, then proceed to the following steps:

4. Verify that the bid quantities are correct. If not, will the contract cost increase if the quantities are corrected? Will the low bidder remain the low bidder if quantities are corrected?

5. On bid items where quantities may vary, will the low bidder remain as low bidder if quantities change?
6. Determine whether the contractor can manipulate the final quantity of any mathematically unbalanced bid items.
7. Is the bid materially unbalanced? If so, did the unbalancing have a detrimental effect on the competitive bid process or could it cause contract administration problems after award?

### **470.7.3. Recommendation Memo**

After evaluating and analyzing the bids, the project manager will prepare a recommendation memo. This memo will recommend either awarding the contract to the low bidder or rejecting all bids and cancelling the award. In the event of a materially unbalanced bid, recommend either rejecting the apparent low bid and awarding it to the next low bidder, or cancelling the bid.

A recommendation to award should comment on the following:

- Competitiveness of the bids received
- Recommendation for awarding the contract

A non-award recommendation should comment on the following:

- Competitiveness of the bids received
- Conformance of bid prices with the engineer's estimate
- Any mathematical unbalancing
- Any material unbalancing and the nature of the detrimental effects on the bidding process or contract administration
- In the case of a materially unbalanced bid rejection, whether the next low bid should be evaluated

### **470.8. Bid Award, Cancellation, and Protests**

The project manager will submit the recommendation memo to the Contracts Section and send a copy to the preconstruction engineer. The Contracts Section issues either a Notice of Intent to Award (NOI) or a Notice of Cancellation (NOC) to all bidders.

A recommendation to cancel a bid or reject all bids on a construction project must be submitted to the chief

contracts officer (CCO). If the CCO concurs, an NOC is sent to all bidders. See P&P 10.02.017.

The NOI and NOC trigger a protest period of 10 days in which unsuccessful bidders may dispute the contract award (AS 36.30.365) or bid cancellation (2 AAC 12.615).

If the Contracts Section receives a bid protest within the protest period, it must decide whether to award the contract or issue a written "Stay of Award" in accordance with AS 36.30.575.

If a written "Stay of Award" is issued, it will automatically continue if there is a timely appeal of the protest decision until the Commissioner makes a written determination that the award of the contract without further delay is necessary to protect substantial interests of the State. Without a Stay of Award, a contract may be awarded at any time during the protest and/or appeal.

After the low bidder executes and returns the necessary forms, the Letter of Award and Notice to Proceed is issued.

Within 90 Days of the Letter of Award and Notice to Proceed, adjustments of over \$250,000 shall be submitted through Project Control for adjustment to the Federal-aid Agreement to comply with 23 CFR 630.108.

### **470.9. References**

1. Code of Federal Regulations 23 CFR 635.112 – Advertising for Bids and Proposals
2. 23 CFR 635.113 - Bid Opening and Bid Tabulation
3. 23 CFR 635.114 – Award of Contract and Concurrence in Award
4. DOT&PF Policy and Procedure 10.02.011 – Bid Openings
5. DOT&PF Policy and Procedure 10.02.017 – Cancellation of a Solicitation and Rejection of all Bids or Proposals Procurements.
6. FHWA Memorandum to Regional Federal Highway Administrators and Direct Federal Program Administrators, "Bid Analysis and Unbalanced Bids" May 16, 1988. Reference No. HHO-32

<http://www.fhwa.dot.gov/programadmin/contracts/051688.cfm>

7. AS 36.30.130 – Public Notice of Invitation to Bid
8. AS 36.30.140 – Bid Openings
9. AS 36.30.150 – Bid Acceptance and Bid Evaluation
10. 2 AAC 12.860 – Rejection of All Bids or Proposals

## **480. Preventive Maintenance Force Account Projects**

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480.1. Introduction

480.2. Project Development

### **480.1. Introduction**

Preventive Maintenance Force Account (PMFA) projects use state maintenance and operations equipment and personnel to complete preventive maintenance activities. Preventive maintenance work is only done by state forces when it is cost effective and in the best interest of the state, and falls within P&P 07.05.080. Force account construction is covered in 23 CFR 635 Subpart B.

### **480.2. Project Development**

Requests for PDAs, and PDAs requesting ATP for projects using PMFA shall specifically state: “This is a Force Account construction project.”

The development of PMFA projects is similar to other projects discussed in this chapter. Prepare an environmental document as described in Section 430 and in accordance with the *EPM*. Plans and specifications for PMFA projects need not be as comprehensive as for competitively bid projects.

Other steps in the design process are covered in P&P 07.05.080, Procedure, Part C.

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## 485. Intelligent Transportation System (ITS) Projects

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- 480.1. Introduction
- 480.2. Policy
- 480.3. Definitions
- 480.4. Identification of ITS Projects
- 480.5. Systems Engineering Analysis

### 485.1. Introduction

Intelligent Transportation System (ITS) projects improve transportation safety and efficiency, and enhance productivity through the integration of advanced communication technologies into the transportation infrastructure and in vehicles.

ITS includes a broad range of wireless and wire line communications-based information and electronic technologies. The FAST Act encourages the use of ITS to improve the safety and efficiency of transportation systems.

### 485.2. Policy

23 CFR Subchapter K, Part 940 on ITS System Architecture and Standards and FHWA policy on Architecture and Standards Conformity requires all ITS projects or ITS elements within a project using federal funds be developed using systems engineering.

23 CFR 940 provides policies and procedures for implementing that part of Section 6002 of the FAST ACT pertaining to conformance with the National Intelligent Transportation Systems Architecture and Standards. 23 CFR 940 requires that ITS projects conform to the National ITS Architecture and Standard through the regional ITS architecture. 23 CFR 940 provides policies and procedures for conformance with the National ITS Architecture and Standards. Two regional architectures have been established in Alaska:

- The Alaska regional architecture (Alaska Iways Architecture)
- The Anchorage regional architecture.

Develop ITS projects in accordance with the applicable regional architecture. The Alaska regional ITS architecture is available on line at:

<http://www.dot.state.ak.us/iways/architecture.shtml>

This section provides guidance to meet those requirements.

### 485.3. Definitions

**Archived Data Management System:** An automated computer system that collects and stores traffic data from roadway sensors or detectors.

**Automated Anti-Icing and De-Icing System:** An automated system that remotely applies anti-icing or de-icing chemicals to the roadway. The system uses atmospheric and pavement sensors to provide early warning of changing conditions. Technology includes environmental sensors to detect weather conditions, telecommunications to transmit data from the environmental sensor, and computer software to generate criteria and trigger the anti-icing and de-icing system built into roadway infrastructure.

**Automated Pedestrian Detection System:** A system that detects the presence of pedestrians as they approach the curb prior to crossing the street, and automatically calls the “Walk” signal. These systems can also extend the clearance interval in order to allow more crossing time for slower persons.

**Avalanche Detection System:** A system that provides nearly immediate notification and real-time mapping of current avalanche activity. It uses sound sensor arrays which transfers sound information to data loggers and then to a local computer for processing. The computer generates a map of avalanche activity and forwards this to avalanche staff.

**AVL: Automatic Vehicle Location.** Systems that incorporate positioning technologies, mapping, and communications to allow the location of a vehicle to be determined. Examples include route guidance, computer-aided dispatch, transit traveler information, commercial vehicle fleet management, “Mayday” or motorist assist technologies, congestion detection and stolen vehicle recovery systems.

AVL often uses Global Positioning Systems (GPS), radio frequency triangulation, proximity beacons, and cellular telephone systems.

**Crash Data Reporting System:** A computerized system that allows the electronic transfer of crash data



from incident/accident response agencies to transportation agencies for analysis to benefit traffic safety.

**Credentials Administration System:** An Internet site that allows commercial vehicle operators to apply for and receive credentials online.

**Dynamic Message Signs:** Signs that display information and can electronically vary the display as traffic or environmental conditions warrant. Also known as changeable or variable message signs.

**Electronic Screening:** An electronic data interchange system that transmits safety and credentials history data from an information infrastructure to a roadside system. It typically involves vehicles equipped with transponders and roadside readers to either receive messages from the vehicles or send messages to a vehicle.

**Environmental Sensors:** A system used by transportation agencies to make winter maintenance decisions and to provide traveler information to the public, consisting of:

- Surface sensors that monitor pavement temperature and surface conditions including presence of ice, frost, water, and snow
- Atmospheric-condition sensors that monitor air temperature, dew point, relative humidity, precipitation, wind direction, wind speed, and visibility
- Remote processing units that collect and transmit the surface and atmospheric data from the sensors to a central processing unit
- Central processing units that contain data for graphic presentation and transmit data to remote terminals

**Ferry Tracking:** Online vessel tracking system using GPS, satellite, and a computer-based information system. The vessel's status, location, speed, arrival, and departure information is displayed on a website in near real-time.

**Freight Management System:** The application of automated vehicle location systems using GPS, telecommunications, computer-based information systems, and mobile communications to improve efficiencies in shipping freight.

**Fleet Management System:** The application of automated vehicle location using GPS, telecommunications, computer-based information systems, and an automated vehicle detection system (sensors on the vehicle that detect diagnostics and maintenance) to improve the efficiency, reliability, and safety of transit systems.

**Infrared Inspection System:** Infrared camera and computer based system used at commercial vehicle weigh stations to detect malfunctioning brakes.

**Intelligent Specialty Vehicle System:** A system of differential GPS, telecommunications, computers, radar detectors, and a heads-up video monitor display ("smart snowplow/snow blower" or "driver-assistive systems technology") in the cab of maintenance vehicles to provide drivers with information under difficult driving conditions, such as low visibility, severe weather, and narrow and congested roadways.

**ITS: Intelligent Transportation System.** Electronics, communications, or information processing used to improve the efficiency or safety of a surface transportation system.

**ITS Project:** Any project that in whole or in part funds the acquisition of technologies that provide or significantly contribute to the provision of one or more ITS user services as defined in the National ITS Architecture.

**ITS System Manager:** The individual position responsible for the design standards, integration, and operational standards of specific ITS components. This position may, or may not, be the one responsible for day-to-day maintenance and operation of the system.

**ITS Telecommunication Projects:** Telecommunication technology used in Intelligent Transportation Systems.

**Land Mobile Radio System:** High-frequency, two-way radios that allow both voice and data transmission to communicate with other emergency service agencies and access data from other intelligent transportation systems, such as road weather information systems, maintenance management systems, etc.

**Maintenance Decision Support System:** A computer-based system that collects information from various weather databases and disseminates it

electronically to transportation-related agencies with the intent of improving road weather forecasting.

**Maintenance Management Systems:** A computer-based system that allows transportation agencies to manage and monitor maintenance activities electronically by collecting information in the field using laptops and transmitting the information to a central computer system where the data is stored and retrieved for analysis.

**Onboard Safety and Security System:** A commercial vehicle system that uses automated sensors on the vehicle to collect and process on board vehicle and driver safety and security information for detection of unsafe equipment or load conditions.

**Safety Information Exchange:** An automated system using electronic data transfer software and the internet to enable roadside collection and exchange of interstate/intrastate commercial vehicle safety information.

**Signal Operations Center:** A location from which signals can be controlled and monitored.

**Signal Preemption:** Event driven system of signal control at intersections typically used to reduce delays for emergency services or to prevent conflicts with railroad operations.

**Signal Priority:** Event driven system of signal control at intersections typically used to reduce delays for mass transit vehicles.

**TOC: Traffic Operations Center.** A physical location or virtual facility for the control, monitoring and management of traffic signal, freeway, and corridor control, and traveler information systems within its jurisdiction using data gathered from ITS technologies. Also referred to as Traffic Management Center (TMC).

**Traffic Detection:** A system used to indicate the presence or passage of a vehicle or bicycle, providing volume, speed, and occupancy data. They include weigh in motion systems, traffic recorders, classifier detectors, and other similar technologies

**Traffic Management System (TMS):** A system used to monitor, control, and manage traffic more effectively. A TMS includes a Traffic Management Center and links to other ITS components in a metropolitan area.

Examples of a Traffic Management System include:

- ramp metering
- signal operations center (SOC)
- ramp closures
- lane control
- variable speed control
- priority control for high-occupancy vehicles
- vehicle detectors
- call boxes
- weather and environmental detectors
- overheight vehicle detectors
- automatic truck warning system
- closed circuit television (CCTV)
- video
- lane-use control signals
- highway advisory radio (HAR)
- in-vehicle systems
- highway/railway intersection control
- communications (including real-time communications received from police and maintenance personnel, as well as cellular telephone reports called in from drivers)

**Traffic Signal Control System:** A system of devices that work together to operate a single traffic signal or to provide coordination between multiple signal systems and optimize roadway operations.

**Transportation Infrastructure Monitoring System:** A security system used to monitor strategic transportation infrastructure, such as major bridge crossings. Technologies include video cameras and telecommunications to relay images back to a central server.

**Traveler Information System:** A system of computers that centralizes information from various databases, traffic sensors and detectors, environmental sensors, and cameras and disseminates the data in the form of information such as road conditions, traffic advisory reports, and weather advisories to the traveling public via internet, telephone (511) systems, and smartphone apps. 511. Alaska.gov is an example of such a system.

<https://511.alaska.gov/map>

**TSMO: Transportation Systems Management and Operations.** TSMO is an approach to congestion mitigation that seeks to identify improvements to enhance the capacity of an existing system through better management and operation of existing transportation facilities. TSMO techniques are designed to improve traffic flow, accessibility, and safety.

TSMO strategies are generally low-cost but effective in nature and eliminate the need for major projects.

**Video:** Video is used for traffic detection and roadway surveillance. Video is an integral part of many ITS services such as Transportation Infrastructure Monitoring System, Traffic Management System, Traffic Operations Center, etc.

#### **485.4. Identification of ITS Projects**

An ITS project is one that includes elements or systems of elements contributing to one or more ITS service areas.

The project manager determines whether the scope of the project includes ITS elements. Table 485-1 lists ITS elements, the associated ITS service area, and the ITS system manager. Consult with the ITS system manager(s) to determine which, if any, ITS elements to include in your project. If a project is federally funded and contains any of the elements listed in Table 485-1, it must be developed as an ITS project. Non-federally funded projects that contain any of the elements listed in Table 485-1 are considered ITS projects and should be developed in accordance with this Section.

An ITS project can be either a significant, or non-significant one. A non-significant ITS project contains ITS elements, but represents a minor modification or upgrade to any existing system. A non-significant ITS project does not require a Systems Engineering Analysis.

Examples of a non-significant ITS project are:

- Does not include any ITS devices
- Only includes signal system equipment upgrades, signal re-timing, or signal coordination
- Stand-alone ITS devices that do not or will never communicate
- Only fiber optics cable or conduit
- Upgrade of opticom sensors and controller equipment to prevent unauthorized users or

devices from activating the system while maintaining authorized users activation capabilities.

- A traffic signal installation that only includes technologies already present in the current system.
- A Temporary Traffic Control device not interconnected with the ITS Architecture or one with an established interconnection protocol.
- Connecting a device to a system that does not provide new technological capabilities or alter the relationships of similar previously installed devices or the system.

Contact the state ITS coordinator if any part of a project may be an ITS element (as presented in the regional ITS architecture) but is not included in the elements listed in Table 485-1. A portion of a project that is not listed as an ITS element but which contains or interfaces with electronic components should also be referred to the state ITS coordinator for evaluation for ITS element status.

#### **485.5. Systems Engineering Analysis**

The purpose of a System Engineering Analysis is to deliver a project that:

- Is constructible
- Fulfills anticipated benefits
- Can be operated and maintained
- Capable of communicating and integrating with other systems now, or in the future.

All significant ITS projects require a Systems Engineering Analysis (SEA), except for Non-Systems Engineering Projects. Non-Systems Engineering Projects are ones that:

- Do not include any ITS devices
- Only include signal systems equipment upgrades or signal re-timing/re-coordination
- Only include stand-alone ITS devices that do not/will never communicate
- Only include fiber or conduit

Non-significant ITS projects do not require an SEA. See 485.4 for the differentiation between significant and non-significant ITS Projects.

In consultation with the ITS systems managers, complete a Systems Engineering Checklist (SE Checklist) for all significant ITS projects. The SE Checklist includes:

1. Portions of the Regional ITS or Statewide Iways Architecture being implemented and, identification of the program area(s), including a brief description of the functional needs to meet that Program Area(s).

Consult the Statewide ITS Coordinator if any ITS element in your project does not fit in with the goals of the program area.

2. List of participating agencies and a discussion of their roles and responsibilities.
3. Definition of system requirements.
4. Analysis of alternative system configurations and technology options to meet the system requirements.
5. Identification of procurement options.
6. Identification of applicable ITS standards and testing procedures.
7. Identification of procedures and resources necessary for operations and management of the system. Some ITS M&O costs qualify for federal participation. Identify those costs in this section. If a project would otherwise qualify as non-significant, it might be desirable to perform an SEA to qualify these costs.

The following online table with contact information for individual ITS system managers can be found here:

<http://www.dot.state.ak.us/stwddes/dcsprecon/index.shtml>

The SE Checklist and instructions are found at the same location.

For examples of SE checklists, contact the Iways ITS coordinator.

Include the completed SE Checklist as an appendix to the DSR. Provide an electronic copy of all SE Checklists to the statewide Iways ITS coordinator and the FHWA ITS coordinator.

**Table 485-1  
ITS Elements**

| <b>ITS ELEMENT</b>                | <b>ITS SERVICE AREA *</b>                               | <b>ITS SYSTEM MANAGER</b>                  |
|-----------------------------------|---|--|
| Archived Data Management System   | Data Archive  | Regional Traffic Data Manager              |
| Automated Anti-Icing System       | Winter Maintenance                                      | Regional M&O Chief                         |
| Automated Pedestrian Detection    | Traffic Management                                      | Regional Traffic and Safety Engineer       |
| Automatic Vehicle Location        | Winter Maintenance<br>Public Transportation             | Regional M&O Chief<br>State Transit Office |
| Avalanche Detection System        | Winter Maintenance<br>Incident and Emergency Management | Regional M&O Chief                         |
| Bridge Scour Detection Systems    | Other   | State Bridge Engineer                      |
| Crash Data Reporting System       | Data Archive  | Regional Traffic Data Manager              |
| Credentials Administration System | CVO and Freight   | MS&CVE ITS Coordinator                     |
| Dynamic Message Signs             | Traffic Management<br>CVO                               | Reg.. Traffic & Safety Engineer<br>MSCVE   |
| Electronic Screening              | CVO and Freight   | MS&CVE ITS Coordinator                     |
| Environmental Sensors             | Winter Maintenance                                      | Statewide ITS Coordinator (RWIS)           |
| Ferry Tracking                    | Public Transportation                                   | AMHS                                       |
| Freight Management System         | CVO and Freight   | MSCVE ITS Coordinator                      |
| Fleet Management System           | Public Transportation<br>State Equipment Fleet          | AMHS<br>SEF Manager                        |
| Infrared Inspection System        | CVO and Freight   | MS&CVE ITS Coordinator                     |

**Table 485-1 (Con't)**  
**ITS Elements**

| <b>ITS ELEMENT</b>                                | <b>ITS SERVICE AREA *</b>     | <b>ITS SYSTEM MANAGER</b>            |
|---|-------------------------------|--------------------------------------|
|   |                               |                                      |
| Intelligent Specialty Vehicle System              | Winter Maintenance            | Regional M&O Chief                   |
| Intersection Collision Warning System             | Traffic Management            | Regional Traffic and Safety Engineer |
| Land Mobile Radio System                          | Multiple                      | Central Region M&O Manager           |
| Maintenance Decision Support                      | Winter Maintenance            | Regional M&O Chief                   |
| Maintenance Management Systems                    | Winter Maintenance            | Regional M&O Chief                   |
| IT Communications Interface Projects              | Multiple                      | Statewide ITS Coordinator            |
| Onboard Safety and Security System                | Commercial Vehicle Operations | MS&CVE ITS Coordinator               |
| Roadway Lighting System Control                   | Traffic Management            | Regional Traffic and Safety Engineer |
| Traffic Detection                                 | Traffic Management            | Regional Traffic and Safety Engineer |
| Traffic Signal Systems, Subsystems, and Equipment | Traffic Management            | Regional Traffic and Safety Engineer |
| Traveler Information                              | Traffic Management / Multiple | State ITS Coordinator                |
| Video Surveillance and CCTV                       | Traffic Management            | Regional Traffic and Safety Engineer |
|   |                               |                                      |

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## 490. State-Funded Projects

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- 490.1. Purpose
- 490.2. State Project Development
- 490.3. General
- 490.4. Project Development Authorizations
- 490.5. Civil Rights Program
- 490.6. Design Criteria Approval
- 490.7. Environmental Requirements
- 490.8. Right-of-Way (ROW) Requirements
- 490.9. Local Concurrence
- 490.10. Non-Required Process

### 490.1. Purpose

This section establishes procedures for state-funded capital improvement projects, from authorization through construction contract award.

While this chapter establishes minimum requirements, the project manager may determine that additional steps are appropriate for a project.

When not specifically exempted or altered by this subsection, follow the guidance provided in the remainder of this manual.

### 490.2. State Project Development

The project manager receives the project nomination package with state funding information, including bonding, if applicable.

### 490.3. General

The flow chart in Figure 490-1 shows the relative progression of design, right-of-way, and environmental work on a state project. There are no FHWA approvals required on state-funded projects.

### 490.4. Project Development Authorizations

Proper authorization to obligate funding and commence project development activities consists of an approved PDA.

Request ATP for PE through Final PS&E on the initial design PDA for state-funded projects. Project Control prepares the initial PDA based on input from the Planning and Design Sections. The planning field office provides the project scope, project purpose, vicinity map, funding source, and amount authorized by the Legislature.

Design provides estimated funding requirements by phase similar to those of a federally-funded project. State-funded projects are not usually included in the STIP.

When the project has finished development through Final PS&E, complete the State-Funded Project Certification form and submit to the preconstruction engineer along with the request for Authority to Advertise (ATA). Once the project is certified, submit the PDA for construction. The State-Funded Project Certification form is located here:

<https://dot.alaska.gov/stwddes/dcsprecon/preconmanual.shtml>

See Section 420.1 of this manual for further information on project development authorization.

### 490.5. Civil Rights Program

#### 490.5.1. Disadvantaged Business Enterprise (DBE)

Bidders are not required to meet minority business recruitment goals on state-funded projects.

#### 490.5.2. On-The-Job Training (OJT)

OJT positions are not included in state-funded projects.

#### 490.5.3. Title VI

Title VI compliance and reporting is required for state-funded projects. (See Section 430.6.5 and the State Projects Environmental Form)

### 490.6. Design Criteria Approval

Design criteria is established by the project manager and approved by the preconstruction engineer.

Approval of design criteria constitutes design approval.

### 490.7. Environmental Requirements

Environmental documentation on state-funded projects is addressed in Chapter 9 of the *Alaska FHWA Program Environmental Procedures Manual*, which is found here:

<http://www.dot.state.ak.us/stwddes/desenviron/resources/docprep.shtml>



## **490.8. Right-of-Way (ROW) Requirements**

The *Alaska Right-of-Way Manual* provides specific guidance for state-funded projects.

Project ROW plans must be complete before acquisition begins on any property that is less than a total acquisition.

Advanced acquisition prior to completion of ROW plans may be undertaken for total takes.

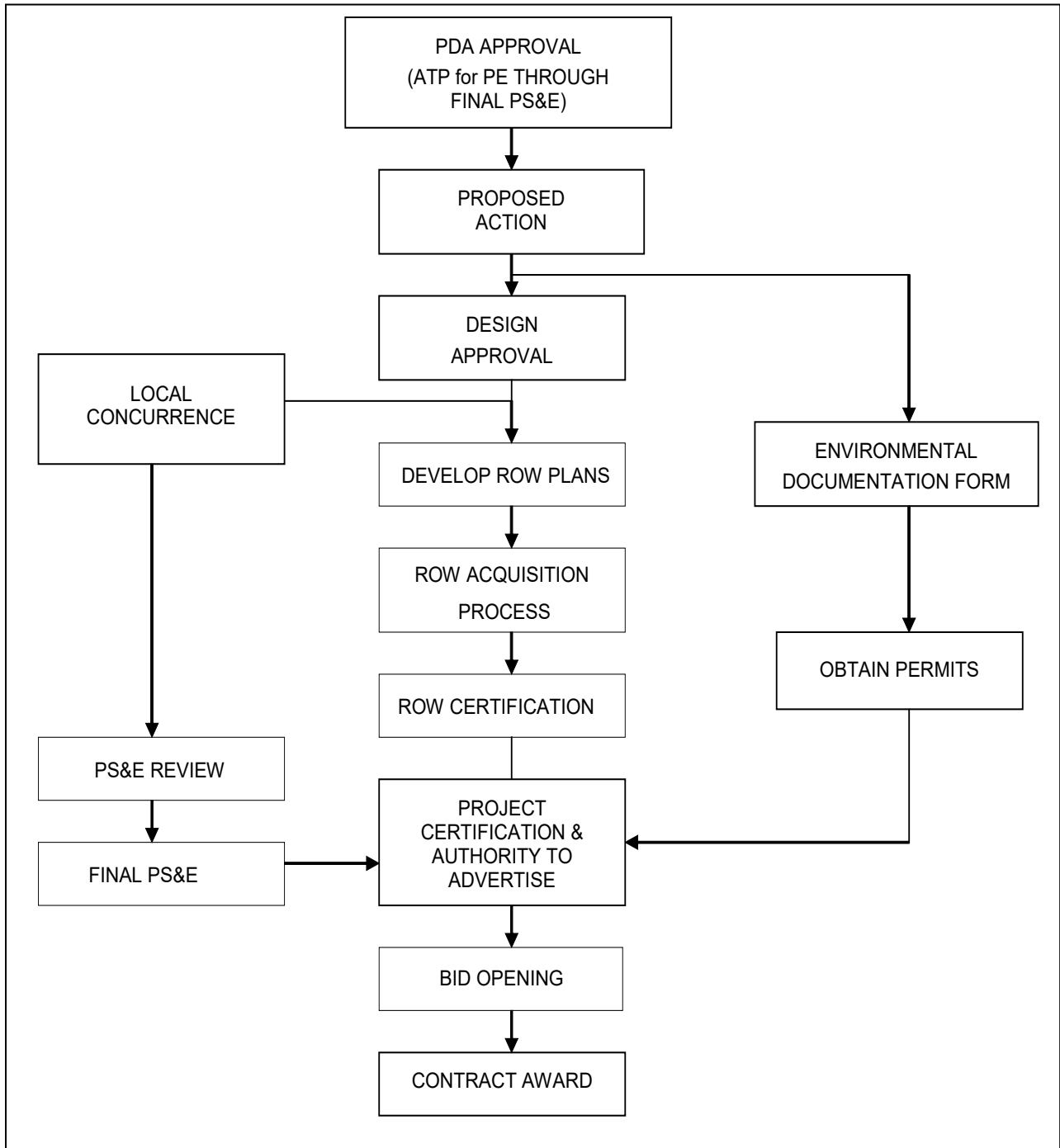
## **490.9. Local Concurrence**

Comply with Section 450.17 of this manual.

## **490.10. Non-Required Process**

Many processes, policies, and procedures contained in Chapter 4 of this manual are not required for state-funded projects, but may be prudent for specific complex or controversial projects. The regions may decide whether or not to do the following:

- Design Study Report (DSR)
- PIH Review
- Public Involvement



**Figure 490-1  
State Funded Design Process**

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## 495. Denali Commission Projects

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- 495.1. Purpose
- 495.2. General
- 495.3. Project Grant Award
- 495.4. Project Development Authorizations
- 495.5. Coordination with Owner/Public Involvement
- 495.6. Project Management Plan (PMP)
- 495.7. Civil Rights Program
- 495.8. Design Study Report (DSR)
- 495.9. Project Reviews
- 495.10. Environmental Requirements
- 495.11. Right-of-Way (ROW)
- 495.12. Utilities
- 495.13. Maintenance Agreements

### 495.1. Purpose

This chapter establishes the procedures for capital improvement projects funded by the Denali Commission (Commission). It covers activities from authorization to contract award for construction.

### 495.2. General

The Denali Commission was established by Public Law 105 – 277 enacted in 1999, as amended by Section 1520 of MAP-21. The purpose of the Commission is to:

1. Deliver the services of the Federal Government in the most cost-effective manner practicable by reducing administrative and overhead costs.
2. Provide job training and other economic development services in rural communities, particularly distressed communities.
3. Promote rural development; provide power generation and transmission facilities, modern communication systems, water and sewer systems, and other infrastructure needs.

The Commission is composed of appointed members with a statewide perspective and knowledge of rural Alaska matters, including:

- Transportation
- Design
- Construction
- Maintenance of rural infrastructure
- Community and regional planning

- Workforce development
- Health
- Energy
- Communications infrastructure

The Commission establishes projects through the authority granted to it and seeks the services and expertise of the Department on some projects.

The “Memorandum of Agreement between the Denali Commission and the Alaska Department of Transportation and Public Facilities” (MOA) is found here:

<http://www.dot.state.ak.us/stwddes/dcsprecon/index.shtml>

The MOA establishes three levels of Department involvement in Commission projects, which are:

1. DOT&PF Administered Projects
2. DOT&PF Design, Procure and Monitor Projects
3. DOT&PF Project Cost Accounting and Periodic Inspection projects.

Table 1 of the MOA establishes general responsibilities associated with the three levels of Commission projects. Responsibilities may be altered or refined in the project Grant Award (see subsection 495.3.).

The flow chart in Figure 495-1 shows the relative progression of design, ROW, and environmental work on projects funded by the Commission.

### 495.3. Project Grant Award

The Commission prepares the project Grant Award. After negotiation, the Commission and DOT&PF execute the mutually agreed upon project Grant Award.

The Grant Award establishes the responsibilities of DOT&PF and the Commission. The responsibilities established in the grant award will usually follow those provided in Table 1 of the MOA; however, changes to the responsibility matrix may be made in the Grant Award on a project by project basis.

#### **495.4. Project Development Authorizations**

ATP through Final PS&E and Authority to Advertise (ATA) are the only authorizations required on Denali Commission projects.

Request ATP through Final PS&E on the initial design PDA. Project Control prepares the initial PDA based on input from the Planning and Design Sections.

Authorization to obligate funding and commence project development activities may begin once the ATP through Final PS&E is obtained.

Planning provides:

- Project purpose and scope
- Vicinity map(s)
- Schedule
- Funding source and programmed amount

Design provides estimated funding requirements by phase. Because Commission projects are not included in the STIP, use a preliminary engineering estimate to establish funding amounts per phase.

The PDA establishes the authorized funding levels by project phase. Subsequent PDAs are initiated by the project manager.

Once the Final PS&E is complete, the project manager prepares, circulates for signature, signs and submits the Project Certification Form to the preconstruction engineer for approval along with the request for ATA. The Denali Commission Project Certification Form is found here:

<http://www.dot.state.ak.us/stwddes/dcsprecon/preconmanual.shtml>

#### **495.5. Coordination with Owner/Public Involvement**

Commission projects may be developed for local entities provided they own the ROW where the project is to be constructed and assume maintenance responsibilities for the completed project.

Coordinate with the owner(s) to establish responsibility and the extent of local public involvement before any work begins. Participate in,

or lead, any public workshops, meetings, or hearings as agreed through coordination with the owner(s).

#### **495.6. Project Management Plan (PMP)**

Guidance for developing a PMP is provided in Section 430.3 of this manual.

Add a section to the PMP designating the general guidance to be followed in the project design. Use this manual as a guide unless other design guidance is specified in the Grant Award.

#### **495.7. Civil Rights Program**

Civil rights program requirements are the same as those for FHWA-funded projects (see Section 450.9.2.).

#### **495.8. Design Study Report (DSR)**

The regional preconstruction engineer determines if a DSR is necessary. Complete a DSR after identification of the proposed action.

#### **495.9. Project Reviews**

Typically, a combined PIH and PS&E review is conducted for Commission projects. The project manager may determine that a separate PIH review is necessary due to project complexity or in the interest of assuring understanding between DOT&PF and the owner(s) concerning project scope.

#### **495.10. Environmental Requirements**

Environmental documents for Denali Commission projects are developed by the Department or the owner of the project in accordance with the *Alaska DOT Environmental Procedures Manual*, with the exception of approval authorities, which reside with the Denali Commission.

#### **495.11. Right-of-Way (ROW)**

The Department is generally not involved in ROW actions needed for non-Department administered Commission projects. The owner or partner will certify that ROW interests necessary for project construction are obtained.

On Department administered projects, the regional ROW chief transmits a letter of ROW certification recommendation to the Commission.

When DOT&PF resources are used to accomplish ROW acquisitions, follow the *Alaska Right-of-Way Manual* state-funded project guidance.

#### **495.12. Utilities**

The Department is generally not involved in utility relocations for non-Department administered Commission projects. The owner(s) will certify that appropriate and adequate utility relocation coordination has taken place prior to construction.

On Department administered projects, the regional utility engineer transmits a letter of recommendation for certification to the Commission.

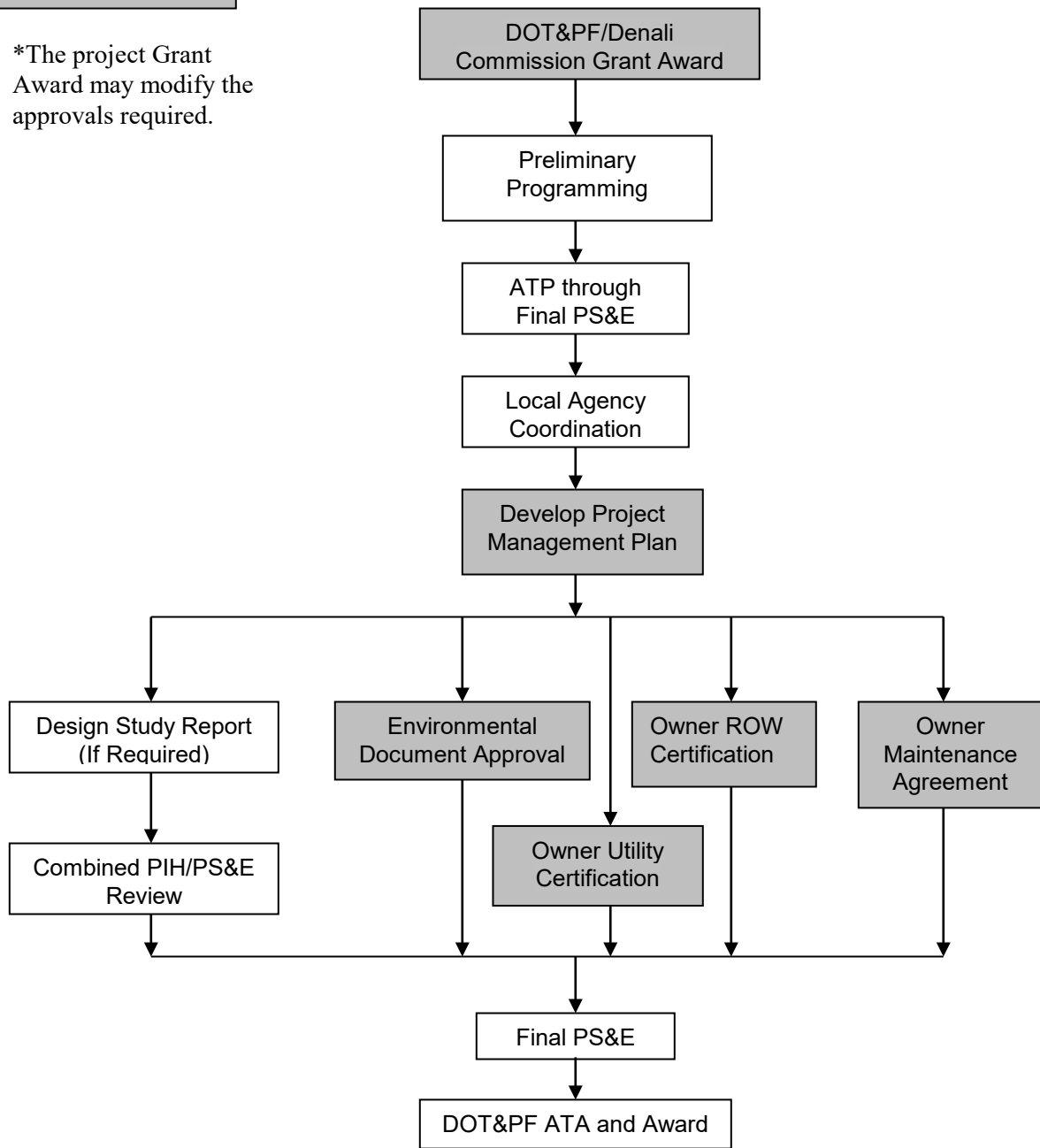
When DOT&PF resources are used to accomplish utility relocations, follow the *Alaska Utility Manual*.

#### **495.13. Maintenance Agreements**

Maintenance agreements are normally prepared and executed between the Commission and the local owner or partner. If the project is state owned, the Department will draft the maintenance agreement and transmit it to the Commission for approval.

Indicates Denali Commission Approval Required\*

\*The project Grant Award may modify the approvals required.



**Figure 495-1  
Denali Commission Project Flow Chart**

## 497 Projects of Division Interest (PoDIs)

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- 497.1. Introduction
- 497.2. Project Responsibilities

### 497.1. Introduction

This section highlights procedures specific to FHWA Projects of Division Interest (PoDIs). PoDI projects are:

- Major projects estimated to have a total project cost of more than \$500 million
- TIGER and BUILD Discretionary Grant Projects
- Projects selected by FHWA for Risk Based Stewardship and Oversight.
- Programmatic

The FHWA Alaska Division office selects projects designated as PoDI. Individual PoDI are common and are selected based upon an individual project risk assessment. Programmatic PoDI are uncommon – they reflect the risk-based need for FHWA to retain responsibilities for certain project approval actions on a program-wide basis.

Project risk areas that FHWA considers include:

1. Complexity
2. Cost
3. Schedule
4. Urgency
5. Environmental Considerations/Stakeholders
6. Funding
7. Project Administration
8. National/Regional Significance
9. Corporate Actions
10. Local Considerations

### 497.2. Project Responsibilities

The Stewardship and Oversight (S&O) Agreement identifies federal-aid highway project approval and related responsibilities which are subject to DOT&PF assumption. For each individual PoDI, the FHWA Alaska Division office prepares a project-specific Stewardship and Oversight (S&O) Plan. The S&O Plan describes the project risk areas that FHWA Division has identified, as well as FHWA's planned

risk response strategies. Risk response strategies usually include approvals and responsibilities otherwise assumed by the DOT&PF which are reverted back to the FHWA Alaska Division for the individual project. Because each individual S&O Plan is unique to the project, it is important to be familiar with the approvals and responsibilities which FHWA has retained.

When the FHWA Alaska Division office creates a new PoDI or updates an existing one, the new or updated S&O Plan is provided to DOT&PF. The project-specific S&O Plan will normally include the following information:

1. Project information
2. FHWA contact person
3. Primary PoDI type
4. Risk areas associated with the project (from FHWA's risk-based assessment)
5. Project elements that will be reviewed by FHWA in response to the risks
6. Activities to be conducted on the project – i.e. retained/reassumed approval action(s), inspections, etc.
7. A request for Federal-aid modification should be part of this process for projects that already have their initial ATP
8. Regions shall be notified when projects are selected from the STIP, and the Field Office Planner shall assure the S&O Agreement PoDI oversight will be included on the PDA
9. Once a project is selected as a PoDI, the oversight status shall remain the same until the project is closed.



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