Section
2-02 Design Process

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INTRODUCTION

General: The following guidelines represent the design process for complex road construction projects, such as reconstruction or widening and overlaying. They are not intended for contract maintenance, lighting, bridge replacement, or other specialized projects. Plan development is a team effort of various design and support programs and sections within WYDOT. Exhibit 1 lists the programs and sections that are typically involved in the design process, along with a brief description of their responsibilities.

PROGRAMS AND SECTIONS	GENERAL RESPONSIBILITY
Project Development	Project manager for roadway design, assembly and issuance of plans, and administration of the design process.
Bridge	Structural design and hydraulics.
Geology	Geological investigations, soils profile, and recommendations.
Materials	Surfacing design (type and thickness) and materials & rates.
Photogrammetry & Surveys	Project survey and mapping.
Traffic	Signing, lighting, electrical design, striping, etc.
Right-of-Way	Appraisals, right-of-way acquisition, and permits.
Environmental Services	Environmental needs and mitigation.
District	Surveys, material sources, and field recommendations.
ITS	Intelligent traffic systems, message signs, web cam, etc.

EXHIBIT 1
PROGRAM AND SECTION GENERAL RESPONSIBILITY

WYDOT uses a Project Control System (PCS) to manage the critical path progress of design tasks assigned to various department programs and sections. The completion of various tasks or design elements makeup the final project plans.

To complete the final contract plans and documents, Project Development provides the road design elements and manages the flow of information necessary to incorporate the design elements that other programs and sections produce. The Design Plan Flowchart and this chapter delineate the key tasks Project Development requires to produce final plans and documents.

Design Process Flowchart: This flowchart is a graphical representation of a typical roadway project beginning with the Programming Phase (100) through Contract Phase (800). Phases, tasks, and plan issuances are shown as being performed in a linear process; however, there is considerable overlap between tasks, and many tasks are done concurrently. The Issue Grading Plans portion of the Design Process Flowchart is shown in Exhibit 2 to illustrate the basic elements that make up the flowchart See Section 2-01 for Design and Environmental Flowcharts.

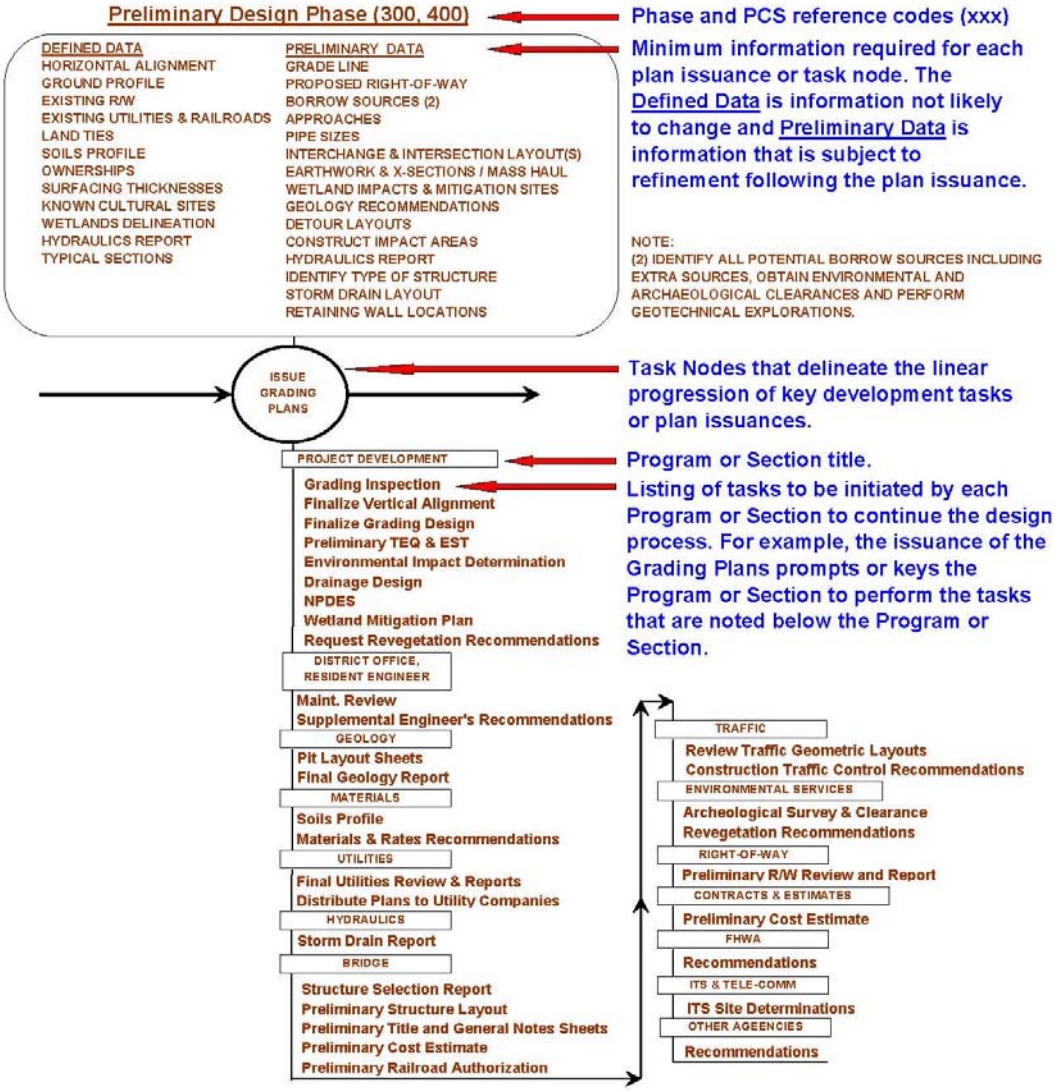

EXHIBIT 2

ISSUE GRADING PLANS SECTION OF DESIGN PROCESS FLOWCHART

The design and environmental processes are two separate elements that proceed along the same general time line and interact with one another to coordinate environmental needs, studies, public input, and mitigation requirements.

In special cases, depending upon the project size and complexity, some design tasks and plan issuances may be combined, or new tasks and plan issuances may be established. For example, on a widen and overlay project, the issuance of Preliminary Plans and Grading Plans could be combined at the discretion of the Project Development Engineer.

Consulting Engineers: The design process does not change when WYDOT uses consultant design services. Consultants are to perform assigned tasks at the same level of responsibility, quality, and standards as if they were performed by WYDOT personnel. For example, when Project Development hires a consultant, the consultant would assume the role of a squad leader in the design process. If the scope of work also includes soil investigations and development of the soil profile, then the consultant would also assume the role of Geology Program staff, and this function would have to be developed based on Geology's procedures and requirements. In cases when a design function is provided by WYDOT, such as the Materials Program providing the surfacing design, then the consultant's role is the same as that of a squad leader whose job it is to use the information provided to complete the roadway design and contract documents in the sequence outlined in the Design Process Flowchart.

PROGRAMMING PHASE (100)

General: The Programming Phase is a prerequisite function to the design and environmental process to establish the initial project scope and budget. These guidelines provide a broad overview of this process with the intent that the Planning Program be contacted for specific details.

The WYDOT Enterprise Resource Planning (ERP) system may change project programming from a paper process to an electronic process, but the general concepts presented here will still apply.

State Transportation Improvement Program (STIP): The STIP is the Transportation Commission of Wyoming's official work plan for improvement projects. It is a six-year program that includes projects for the current year plus five years into the future. Projects enter the STIP through needs analysis, priority rating, special funding by governmental and private requests, and emergency projects.

An annual Highway Development Conference is held with each district to review and update the STIP. New projects are added and project construction dates are adjusted based on need and funding. From this information, WYDOT's Programming Section generates a revised draft STIP for approval by the Commission. Each year the newly approved STIP becomes the official work plan for the following improvement year. The STIP is amended quarterly to keep it current.

Cooperative Agreements: For projects that require funding from counties, local governments, or other sources, a cooperative agreement is prepared before the Authority for Expenditure (AFE) is issued.

Authority for Expenditure (AFE): AFEs are source documents for authorizing the expenditure of WYDOT funds for a given project. The approving authority is determined by WYDOT Operating Policy 24-1, Monetary Limitations and Approving Authority. The Programming Section initiates the request (Form E-113), and approval for AFEs is based on projects in the STIP or by request from various programs or sections. Then Financial Services issues an AFE for Phase I or Phase II preliminary engineering (PE) and distributes the funds accordingly. Phase I PE is for preliminary studies, surveys, and reconnaissance phases. Phase II PE is for survey, preliminary design, final design, and contract phases. The AFE provides accounting codes and project numbers to track various project costs.

> **Program Study Report:** The AFE for Phase I PE requires a Program Study Report for most new construction projects entering the STIP. Some minor projects are exceptions and may not require a Program Study Report. The Programming Section prepares the Program Study Report, which describes the project limits, corridor, and recommended improvements.

Scope Statement: The AFE for Phase II PE requires an approved Scope Statement, which is a synopsis of the Final Reconnaissance Report for the project. The Programming Section prepares a Scope Statement and routes it to the Assistant Chief Engineer for Engineering and Planning for concurrence. Upon receiving Executive Staff concurrence, Programming initiates the request for Financial Services to issue a Phase II AFE.

Reference documents are: Operating Policy 3-2, Schedule for Programming and Budgeting Process; OP 12-1, Project Authorization; and OP 24-12, Authority for Expenditure.

RECONNAISSANCE AND SURVEY PHASE (200)

General: The Reconnaissance and Survey Phase can begin once the Programming Phase is completed and the Phase I AFE is issued. The Project Development Engineer or State Bridge Engineer (for bridge replacement projects) coordinates this phase.

Reconnaissance Inspection Coordinated by Project Development or Bridge: A field reconnaissance inspection is held to evaluate the proposed corridor with respect to the project intent and environmental issues. The Project Development Engineer or State Bridge Engineer assembles a project inventory of available information to support the development of the reconnaissance inspection and report. The inventory should include but is not limited to the following:

- Authority for Expenditure (AFE)
- Program Study Report
- STIP project budget
- As-constructed plans
- Maintenance history
- Existing aerial photographs
- U.S. Geological Survey quadrangle maps, as applicable to project
- Photolog and five-year accident history
- Bridge inventory and rating
- Master street plan for urban projects
- Readily available environmental information
- Current and projected traffic data, including percentage of trucks
- Existing utilities from the utilities information data base

After considering the project inventory, location, complexity, and type of funding, the Project Development Engineer or State Bridge Engineer schedules the appropriate agencies, programs, and sections that will participate in the reconnaissance inspection.

The reconnaissance field inspection is used to evaluate the project for sensitive engineering and environmental issues, finalize alternatives to be studied, and identify improvement needs that are not specified in the Planning Study Report. The inspection is a review of all available data and the project physical elements to establish a consensus of the improvement needs and intent (scope of work).

A reconnaissance inspection checklist provides key topics to be considered at the inspection. The checklist is available in the Electronic Design Aid section of this manual.

Engineering and Environmental Studies Needed, EA/EIS (decision node)**:** Before the Reconnaissance Inspection, the Environmental Services Section determines the level of National Environmental Policy Act (NEPA) documentation and need for studies. Projects identified as needing an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) prompt the scheduling and development of surveys necessary to support the engineering and environmental studies. See Section 2-01 Environmental Process and NEPA Analysis and Documentation Flowcharts for the general correlation of the environmental and design process.

Determine Survey Needs (decision node)**:** At the reconnaissance inspection, the type of project surveys (field, aerial, and level of land survey) are determined.

****Develop Survey:** Following the reconnaissance inspection, the survey process begins if the project does not involve funding from a cooperating agency.

**If the project involves funding from a cooperating agency, the survey process does not begin until after the cooperating agency agreement is completed following the issuance of the final reconnaissance report and AFE adjustment (Phase II PE).

The resident engineer begins the survey process by scheduling the survey meeting as noted in the Design Process Flowchart under the Develop Survey node. Reference document: *Survey Manual*.

Draft Reconnaissance Inspection Report: A Draft Reconnaissance Inspection Report is written by the Project Development Engineer or State Bridge Engineer (for bridge replacement projects) to document the reconnaissance inspection, summarize the review of existing conditions, and make recommendations on the scope of work, alternatives to be analyzed, and engineering and environmental studies required. The report must provide a clear understanding of the project need and scope of work. The reconnaissance report should include the following:

- Title Page
  - Project number, name, section, and county
  - Date of inspection, date of draft report, and name of preparer
  - Inspection personnel
  - "Reviewed by" and "approved by" signature blocks
- Location (description per program route, beginning MP, ending MP, and length of project)
- Final Report (date xx/xx/xx)
- Highway District (number)
- Length/Location of Project (per AFE and recommended limits)
- Functional Classification
- Programmed Character of Work

- Programmed Funding
- Programmed Construction Year
- Purpose and Need
- Existing Facilities (identify existing elements and substandard features)
  - Posted speed
  - Current/projected traffic volumes
  - Horizontal alignment
  - Vertical alignment
  - Roadway widths
  - Surfacing
  - Structures
  - Crash history
  - Maintenance history
  - Utilities
  - Right-of-way
- Design Standards (per current WYDOT Design Guides and AASHTO's *A Policy on Geometric Design of Highways and Streets*)
  - Projected traffic
  - Functional classification, Level of Service (LOS)
  - Terrain
  - Design speed
  - Number of and width of lanes
  - Shoulder width
  - Structure width
- Reconnaissance Recommendation (address needed issues)
  - Character of work
  - Schedule
  - Limits
  - Engineering and land survey requirements
  - Proposed typical section
  - Horizontal alignment
  - Grading
  - Surfacing
  - Structures
  - Environmental considerations
  - Traffic control
  - Drainage
  - Right-of-way
  - Miscellaneous
  - Estimated improvement costs

- Attachments (existing and proposed typical sections, reference documents, etc. Upon completion, the Draft Reconnaissance Inspection Report is distributed to the participating programs and sections for review and comment)

A sample Draft Reconnaissance Inspection Report provides the general format to be used as a template when writing reconnaissance reports. A sample report is available in the Electronic Design Aid section of this manual.

Are Special Engineering Studies Needed (decision node)**:** Project Development and other programs and sections complete any alternatives or special studies that are identified following the draft reconnaissance review and comment period. The engineering studies should identify alternatives, cost, and final recommendations and support the environmental alternative analysis if the project requires EA or EIS documentation.

Final Reconnaissance Inspection Report and Scope Statement: The final report is a revision of the draft report and includes the draft review comments. If design alternatives are considered, cost estimates are included for each alternative and identify the preferred or recommended alternative. The State Bridge Engineer (for bridge replacement projects) and Project Development Engineer review and sign the final report before the Highway Development Engineer, District Engineer, and other officials (city, county, etc.), if required, approve and sign it. Differences that cannot be resolved between these parties are referred to the Assistant Chief Engineer for Engineering and Planning.

Once the Final Reconnaissance Inspection Report is approved and signed, it is issued to the participating programs and sections.

AFE Adjustment: The issuance of the Final Reconnaissance Inspection Report prompts the Planning Program to initiate the request for Phase II PE based on the final reconnaissance scope of work and cost estimates.

The AFE for Phase II PE requires an approved Scope Statement, which reflects the intent of the Final Reconnaissance Inspection Report. The Programming Section prepares a Scope Statement and routes it to the Assistant Chief Engineer for Engineering and Planning for concurrence. Upon receiving concurrence, Programming initiates the request for Financial Services to issue a Phase II AFE.

PRELIMINARY DESIGN PHASE (300 & 400)

General: The Preliminary Design Phase starts the actual design process, which allows each plan issuance to advance the project design. The process includes the issuance of Preliminary Plans and Grading Plans. Each plan set issuance is the key element that prompts programs and sections to provide specific engineering functions as part of the design process.

Project Development prepares and issues all roadway plan sets, incorporating into the plans recommendations and designs from programs, sections, local government, and private entities. For example, these recommendations could include earthwork design and sub-grade repair from Geology, pavement thickness and mix design from Materials, contract administration items from the resident engineer, utility work or enhancements from the city/county, and meeting standards and guidelines set by participating and regulatory agencies (FHWA, Corps of Engineers, etc.). Responsibilities for this task include the following:

- Reviewing the information to ensure the recommendation or design features to be incorporated will work with the overall project design. Identifying and addressing features that will be affected, such as utilities, storm sewers, need for additional right-of-way, etc.
- Contacting the program, section, or entity and providing assistance to resolve design problems, issues, or conflicts related to the recommendations or design being incorporated into the plans.
- Developing the design and plan details to incorporate recommendations or designs that are presented in a preliminary format.

Issue Preliminary Plans: When the Final Reconnaissance Report and project surveys are completed, the Preliminary Design Phase begins with the preparation and issuance of Preliminary Plans. Project Development prepares and issues the Preliminary Plans based on the Final Reconnaissance Report recommendations, which prompt various programs and sections to begin work on the project. The Preliminary Plans provide the mapping, horizontal alignment data, and preliminary vertical alignment so that each program and section can relate its work to specific project elements and see the influence of the design on the topographical features.

For example, as indicated in the Design Process Flowchart, the issuance of Preliminary Plans prompts the programs and sections listed below the Issue Preliminary Plans node to begin work on specific tasks. As each related task is completed, Project Development checks and reviews the information to make sure it works within the overall project design. The information is then detailed and incorporated into the plans to further the design process for the issuance of the next plan set. The Design Process Flowchart above the Issue Preliminary Plans node shows the minimum data to be included in this plan set.With the issuance of the

Preliminary Plans, Project Development schedules a field inspection with the participating programs and sections to discuss, coordinate, and recommend specific requirements that are needed to further the design process.

Preliminary Inspection Report: Project Development writes and issues a Preliminary Plans Inspection Report that summarizes the details of the inspection. A sample Preliminary Inspection Report provides the general format to be used as a template for writing the report. The sample report is available in the Electronic Design Aid section of this manual.

Value Engineering Studies Required(decision node)**:** If needed, value engineering studies are performed by a value engineering team assigned to the project. Value engineering studies should be based on the following three basic precepts of value engineering for highways:

- An **organized review** to improve value by using a multi-discipline team of specialists who know various aspects of the problem studied.
- A **function-oriented approach** to identify the essential functions of the system, product, or service being studied and the costs associated with those functions.
- **Creative thinking** that uses recognized techniques to explore alternate ways of performing the function at a lower cost or to improve the design, service, or product.

Alternatives are selected and included into the next plan issuance.

Is Public Meeting Required (decision node)**:** District staff members schedule and conduct public meetings or open houses. Projects that have new locations, significant right-of-way needs, changes in traffic function, and social or economic impacts generally require public meetings. Project Development prepares exhibits for the public meetings. Environmental Services, Highway Development, Right-of-Way, and other programs and sections, as needed, attend the public meeting and assist in the presentation.

Meeting participants have the opportunity to give written or oral comments. Oral comments are generally recorded. A transcript of the public meeting comments is distributed to the involved programs, sections, FHWA, and when appropriate, to other governmental agencies (cities, counties, etc.). The findings that require mitigation are addressed in the environmental process, and adjustments are made in the design to minimize impacts.

Issue Grading Plans: Project Development uses the data and recommendations generated from the issuance of Preliminary Plans, the inspection review, engineering

studies, value engineering studies, public meeting, etc., to advance the design process to the Grading Plan stage. During development of Grading Plans, the relationship of the vertical and horizontal alignments and their impacts on a project become very evident. After issuance of these plans, the designer can begin to finalize the vertical alignment taking into account input from the other programs and sections. Minimum data required for the issuance of Grading Plans is shown in the Design Process Flowchart above the Issue Grading Plans node.

Current earthwork computations and cross sections are provide by Project Development to support the field inspection review of the vertical alignment and dirt borrow or waste requirements.

Project Development should make sure that the existing utilities are annotated correctly on the cross sections to be submitted with the Grading Plans. This information is critical to determining utility conflicts and mitigation requirements. The Utilities Section has the Geopak files and instructions required to annotate existing utilities on cross sections.

With the issuance of the Grading Plans, Project Development schedules a field inspection with the participating programs and sections to review and designate specific requirements that are needed to further the design process.

Grading Inspection Report: Project Development writes and issues a Grading Inspection Report that summarizes the details of the inspection. A sample report for a typical project provides the general format to be used as a template for writing the Grading Inspection Report. The sample report is available in the Electronic Design Aid section of this manual.

Grading Plans for pavement rehabilitation (mill and overlay projects) with minor earthwork may be combined with the issuance of the Preliminary Plans, at the discretion of the Project Development Engineer.

At this stage of the design process, it is key to determine if the project involves tribal lands or Class I streams in reference to the storm water control and the permitting process. In most cases where the project does not involve tribal lands or work near Class I streams, the Storm Water Control Plan is a lump sum contract bid item that requires the contractor to prepare the plan and secure the necessary permits with the Department of Environmental Quality (DEQ). However, when a project involves work on tribal lands or work near Class I streams, Project Development is required to design and permit the Storm Water Control Plan with the jurisdictional regulatory agency. On tribal lands, the Environmental Protection Agency (EPA) is the regulatory agency, and the permitting process must comply with EPA regulations. If tribal lands are not involved, DEQ is the regulatory agency, and the permitting

process must comply with DEQ regulations. Environmental Services should be contacted to ensure current EPA and DEQ requirements are being applied.

FINAL DESIGN PHASE (500, 600 & 700)

General: The Final Design Phase is the advancement of the design from the preliminary stage to final contract plans. The process includes the issuance of Right-of-Way and Engineering Inspection Plans, Right-of-Way and Utility Plans, Final Design Plans, Check Plans, and PS&E (plans, specifications, and estimate) Plans. The issuance of each plan set prompts other programs, sections, and agencies to provide specific functions. For example, the issuance of Right-of-Way and Utility Plans will key the Right-of-Way Program to begin the land acquisition process, and the same plan set also keys the Utilities Section to notify the utility companies of conflicts that will require utilities to be adjusted.

Issue Right-of-Way and Engineering Inspection Plans: Right-of-Way and Engineering Inspection Plans are the result of refining the vertical alignment, earthwork, and cross-sections and establishing all other design features that will affect right-of-way acquisition, utility relocation/acquisition, and completion of environmental documents. Changes that will affect the right-of-way acquisition and utilities relocation process are key items to be finalized during this plan set review. Typical data required for this plan issuance is shown in the Design Process Flowchart above the Issue Right-of-Way and Engineering Inspection Plans node. The issuance of these plans will prompt the programs and sections listed below the node to begin work on the tasks that will further the design process.

With the issuance of Right-of-Way and Engineering Inspection Plans, Project Development schedules a field inspection with the participating programs and sections to review and recommend specific requirements that are needed to further the design process, such as pay items, special provisions, etc.

Engineering Inspection Report: Following the inspection, Project Development writes and issues an Engineering Inspection Report that summarizes the details of the inspection. A sample Right-of-Way and Engineering Inspection Report for a typical project provides the general format to be used as a template for writing the report. A sample report is included in the Electronic Design Aid section of this manual.

Right-of-Way Report and Deficiency Report: Issuance of the Right-of-Way and Engineering Inspection Plans will key the Right-of-Way Program to review the project and write the following two separate reports:

> **Right-of-Way Report:** The Right-of-Way Program attends the right-of-way and engineering inspection, along with other participating programs and sections, to review the scope of work as it relates to its tasks and responsibilities, such as appraisals, negotiations, construction permits, permanent easements, temporary easements, fence types, temporary fence,

railroad involvement, land use justification, approaches, cattleguards, existing right-of-way, new right-of-way, etc. Following this inspection, the Right-of-Way Program writes and issues a Right-of-Way Report that summarizes the details relevant to the Program's tasks and responsibilities.

Deficiency Report: The Right-of-Way Program also reviews the plans for completeness of engineering data required for the land acquisition process. A report is written and issued to Project Development to document plan deficiencies, such as missing property ties, ownerships, lot lines, easements, centerline ties, etc., so that deficient data can be corrected before the next plan issuance.

Issue Right-of-Way and Utility Plans: The design is further refined based on the issues raised after the issuance of Right-of-Way and Engineering Inspection Plans so that all design features affecting right-of-way acquisition and utility relocations are finalized. Changes following this plan issuance that affect the right-of-way acquisition or utility relocation process should be avoided if possible. If changes are proposed or needed, Project Development is responsible for coordinating with the Right-of-Way Program or Utilities Section. Note that the environmental process, excluding construction monitoring, must be completed before right-of-way may be acquired.

All related design features, details, bid items, and summaries are included in this plan issuance, as shown in the Design Process Flowchart above the Issue Right-of-Way and Utility Plans node. The issuance of these plans prompts the specified programs and sections listed below the node to begin work on the tasks that are noted below each program and section. A plan review is not required for this plan issuance.

Following this plan issuance, the draft special provisions should be completed and available for review at the Final Design Plans inspection. Project Development is responsible for coordinating with the participating programs and sections to develop the roadway-related draft special provisions. Bridge is responsible for developing the structure-related draft special provisions. Reviewing the draft special provisions at this stage of development provides the input and lead time required for Construction Staff to process the final special provisions before issuing the Plans, Specifications, and Estimate (PS&E) Plans. Project Development should make sure that projects in or near the Wind River Reservation include the current special provision for employment preference and Tribal Employment Rights Office (TERO) fees and that the percentage of the project within the reservation boundaries is included in the special provision.

Issue Final Design Plans: Project Development and participating programs and sections complete all plan development tasks and put them into their final format, which includes special provisions, summaries and quantities, drawing details, bridge plans, contract documents, etc., and issue the Final Design Plans. Other project tasks are also completed, such as land appraisal and acquisition, construction permits, 404 permits, material source and water agreement, environmental clearances, etc.

With the issuance of Final Design Plans, Project Development schedules a field office inspection with the participating programs and sections to review the plan details, summaries, notes, bid items, special provisions, etc. Project Development then revises the plans so that they include any recommended changes or additions which are required as a result of the plan review.

Check Plans: After Project Development has incorporated the changes as a result of the Final Plans review, Check Plans and documents are submitted to Engineering Services for final checking. Contract documents submitted with the Check Plans should include the Index of Special Provisions, copies of special provisions, agreements, permits, and cost estimates for royalty payments and traffic striping. The project plans and contract documents are checked for general completeness and compliance with format, policies, standards, etc. A check is made to verify that the summary quantities, bid items (numbers, name, and quantity), index of sheets, standard plans, sheet numbering, and project numbers are correct.

Project Development then revises the plans so that they include necessary changes, additions, and corrections as a result of Engineering Services' plans check. Even though Engineering Services performs a final plans and documents check, Project Development, other design programs, sections, and consultants who professionally stamp the plans assume responsibility for design, accuracy, and completeness.

Issue PS&E Plans: Engineering Services verifies that plan revisions made are correct and issues the PS&E Plans. This completes the Final Design Phase and begins the Contract Phase.

Following the issuance of the PS&E Plans, Project Development prepares and submits the slope stake report and blue top elevations to the resident engineer and provides copies of the final roadway and pipe cross sections, earthwork computations, and mass haul diagram to Financial Services for sales to prospective bidders.

Changes to the plans or contract documents after the issuance of PS&E Plans should be avoided if possible. If changes are necessary, Project Development will coordinate with the appropriate program or section to make the plan changes and provide new

originals and a copy (with the changes highlighted) to the Engineering Services check squad for distribution to Contracts and Estimates. If the changes are not made in time to be included in the final printed bid documents, Contracts and Estimates may issue the changes as an addendum to the contract bid documents.

After the issuance of PS&E Plans and before contract award, Project Development archives the project electronic files in the PD_ Finals directory as shown in the GeoPak™ manual.

CONTRACT PHASE (800)

General: Issuance of the PS&E Plans prompts the programs and sections listed below the node in the Design Process Flowchart to begin work on the tasks that will complete the project advertising, bidding, and award process. The Transportation Commission sets the monthly advertising, bid, and award dates (letting schedule) for each fiscal year. Design projects are completed to coincide with the Commission letting schedule. The approximate length of time for the Contract Phase is set by the letting schedule and advertisement period for state and federal aid projects. See Exhibit 3 for federal aid projects and Exhibit 4 for state projects.

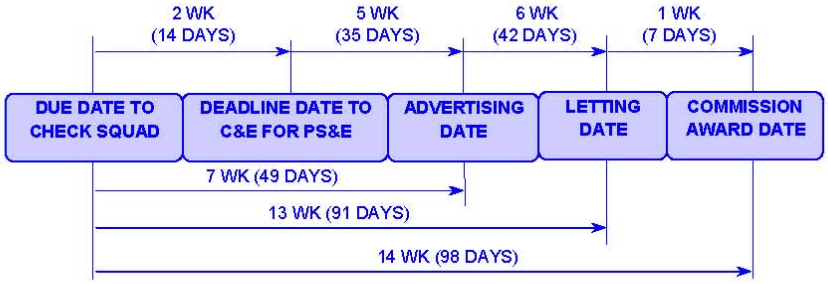

EXHIBIT 3
CONTRACT PHASE - TIME SCHEDULE FEDERAL AID PROJECTS

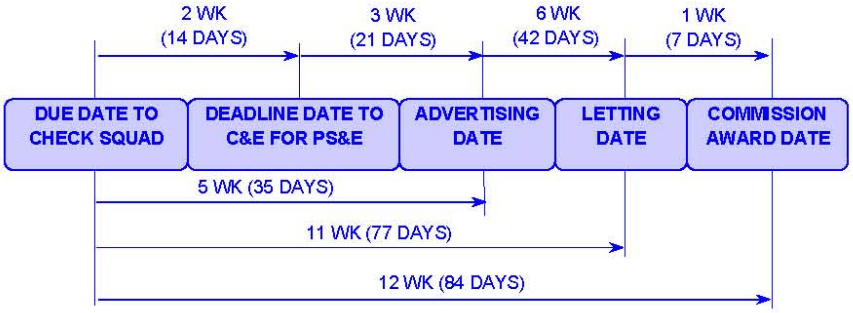

EXHIBIT 4
CONTRACT PHASE - TIME SCHEDULE STATE PROJECTS

The time schedules shown in Exhibit 3 and 4 are for illustration purposes only and should not be used when scheduling actual projects. Actual projects should be scheduled around the approved letting schedule provided by Engineering Services.

Prepare Advertisement: Contracts and Estimates Program compiles the project list for the bid letting, prepares the bid proposals, advertisement for bids and submits the advertisement to the newspaper for publication. The Program also prepares an invitation to bid and makes it available to interested participants.

Construction Staff will furnish the wage determination and the contract completion date for the bid proposal.

Advertisement: Following the advertisement, Financial Services arranges for the distribution and sale of plans and bidding documents. Contracts and Estimates issues addendums and special notices as needed.

The resident engineer is responsible for showing the project to interested bidders and holding pre-bid conferences, when required. Construction Staff prequalifies contractors who are eligible to bid the project, and Financial Services issues the construction AFE.

Bid Opening: Bids are received and read by Contracts and Estimates at the designated location and time. Bids are analyzed for completeness and recommended for award.

Contracts and Estimates notifies the resident engineer of the bid results, and a cost estimate breakdown is presented to participating local agencies to concur in the award of the bid.

Project Award: The Executive Staff presents project bids to the Transportation Commission for the award of contract.

REFERENCE DOCUMENTS

- Chapter 2, Section 2.01 Design Process Flowchart
- Chapter 2, Section 2.01 Environmental Process Flowchart

ELECTRONIC DESIGN AIDS

- Reconnaissance Inspection Checklist - wpd
- Draft or Final Reconnaissance Report - wpd
- General Inspection Checklist - wpd
- Preliminary Inspection Report - wpd
- Grading Inspection Report - wpd
- Engineering Inspection Report - wpd