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### 220.01 General

The Project File (PF) contains the documentation for planning, scoping, programming, design, approvals, contract assembly, utility relocation, needed right of way, advertisement, award, construction, and maintenance review comments for a project. A Project File is completed for all projects and is retained by the office responsible for the project. Responsibility for the project may pass from one office to another during the life of a project, and the Project File follows the project as it moves from office to office. Refer to the [Project File checklist](#) for documents to be preserved in the project file.

The Design Documentation Package (DDP) is a part of the Project File and is completed for all projects. It documents and explains design decisions and the design process that was followed. The DDP is retained in a permanent retrievable file for a period of 75 years, in accordance with the Washington State Department of Transportation (WSDOT) records retention policy. See [Exhibit 220-4](#) for the WSF DDP checklist for documents to be preserved in the DDP.

With the exception of the DDP, the Project File may be purged when retention of the construction records is no longer necessary.

For operational changes and local agency and developer projects, design documentation is also needed. It is retained by the office responsible for the project, in accordance with WSDOT records retention policy. All participants in the design process are to provide the appropriate documentation for their decisions.

For emergency projects, also refer to the [Emergency Relief Procedures Manual](#) M 3014. It provides the legal and procedural guidelines for WSDOT employees to prepare all necessary documentation to respond to, and recover from, emergencies and disasters that affect the operations of the department.

## 220.02 References

### (1) Federal/State Laws and Codes

[23 CFR 635.111](#) *Tied bids*

[23 CFR 635.411](#) *Material or product selection*

[RCW 47.28.030](#) *Contracts – State forces – Monetary limits – Small businesses, minority, and women contractors – Rules*

[RCW 47.28.035](#) *Cost of project, defined*

[RCW 47.60.327](#) *Operational strategies for asset utilization*

[RCW 47.60.340](#) *Vessel maintenance and preservation program — Report*

[RCW 47.60.345](#) *Life-cycle cost model on capital assets*

[RCW 47.60.365](#) *Terminal design standards*

[RCW 47.60.385](#) *Terminal improvement project funding requests — Predesign study — New vessel acquisition planning*

### (2) Design Guidance

WSDOT Directional Documents Index, including the one listed below:

[wwwi.wsdot.wa.gov/publications/policies/default.htm](http://wwwi.wsdot.wa.gov/publications/policies/default.htm)

- Secretary’s Executive Order [E 1053](#) *Project Risk Management and Risk Based Estimating*
- Instructional Letter [IL 4071](#) *Risk-Based Project Estimates for Inflation Rates, Market Conditions, and Percentile Selection*
- Executive Order [E 1010](#) *Certification of Documents by Licensed Professionals*

WSDOT technical manuals, including those listed below:

[www.wsdot.wa.gov/publications/manuals/index.htm](http://www.wsdot.wa.gov/publications/manuals/index.htm)

- *Terminal Design Manual* M 3082
- *Emergency Relief Procedures Manual* M 3014
- *Environmental Manual* M 31-11
- *Plans Preparation Manual* M 22-31
- *Project Control and Reporting Manual* M 3026
- *Roadside Classification Plan* M 25-31
- *Bridge Design Manual LRFD* M 23-50
- *Bridge Inspection Manual* M 36-64
- *Bridge List* M 23-09
- *Cost Estimating Manual for WSDOT Projects* M 3034
- *Design Manual* M 22-01
- *Geotechnical Design Manual* M 46-03
- *Highway Runoff Manual* M 31-16
- *Hydraulics Manual* M 23-03
- *Local Agency Guidelines* M 36-63

- *Right of Way Manual* M 26-01
- *Standard Plans* M 21-1
- *Transportation Structures Preservation Manual* M 23-11
- *Utilities Accommodation Policy* M 22-86
- *Utilities Manual* M 22-87

WSDOT Administrative manuals, including those listed below:

[www.wsdot.wa.gov/publications/manuals](http://www.wsdot.wa.gov/publications/manuals)

- *Advertisement and Award Manual* M 27-02
- *Electronic Engineering Data Standards* M 3028

WSDOT Engineering Applications, including those listed below:

[www.wsdot.wa.gov/design/projectdev/engineeringapplications](http://www.wsdot.wa.gov/design/projectdev/engineeringapplications)

- Bid Tabs
- EBASE
- Standard Items
- Unit Bid Analysis

Terminal Engineering Intranet Pages, including those listed below:

[www.wsdot.wa.gov/ferries/terminalengineering/default.htm](http://www.wsdot.wa.gov/ferries/terminalengineering/default.htm)

- Cost Estimating
- *Life Cycle Cost Model*
- *Programmatic Scoping*

Multimodal Transportation Planning

- [www.wsdot.wa.gov/planning](http://www.wsdot.wa.gov/planning)

### (3) Supporting Information

*A Policy on Geometric Design of Highways and Streets* (Green Book), AASHTO, 2011  
*Mitigation Strategies for Design Exceptions*, FHWA, July 2007. This publication provides detailed information on design exceptions and mitigating the potential adverse impacts to highway safety and traffic operations.

## 220.03 Definitions

**Consider** To think carefully about, especially in order to make a decision. No backup documentation is required.

**Design Approval** Documented approval of the design criteria, which becomes part of the Design Documentation Package. This approval is an endorsement of the design criteria by the designated representative of the approving organization as shown in [Exhibit 220-2](#).

**Design Criteria** Standards or design level that designers should meet in designing some system or device. If the specified standards cannot be met a *deviation* may be required.

**Design Variance** A recorded decision to differ from the design level specified in the *WSF Terminal Design Manual*, such as an evaluate upgrade (EU) not upgraded, or

a deviation. EUs leading to an upgrade are documented but are not considered to be variances. A project analysis may also constitute a design variance if that analysis leads to a decision to use a design level or design classification that differs from what the *WSF Terminal Design Manual* specifies for the project type.

**Design Variance Inventory (DVI)** A list of design elements that will not be improved in accordance with the *WSF Terminal Design Manual* or (where applicable) WSDOT *Design Manual* criteria designated for the project. Only approved variances should be included on this list.

**Design Variance Inventory System (DVIS)** A database application developed to generate the DVI form. The DVIS also provides query functions, giving designers an opportunity to search for previously granted variances. The DVIS was started in the early 2000s and does not identify prior variances. The *WSF Terminal Design Manual* is constantly being refined and guidelines change over time. What may have been a design variance previously may not be a deviation today. Previously approved design variances do not carry forward and must be revisited as described in [Section 220.04\(5\)](#). The DVIS database is intended for internal WSDOT use only, and WSDOT staff access it from the left margin of this website: [wwwi.wsdot.wa.gov/design](http://wwwi.wsdot.wa.gov/design)

**Desirable** Design criteria that are recommended for inclusion in the design. Document conditions when a desirable value is not met.

**Deviation** A documented decision granting approval at project-specific locations to differ from the design level specified in the *WSF Terminal Design Manual* (see [Chapter 210](#) and [Exhibit 220-1](#)).

**Document (verb)** The act of including a short note to the Design Documentation Package that explains a design decision.

**Evaluate Upgrade (EU)** A decision-making process to justify an upgrade to an existing design element as designated in the design matrices. Documentation is required (see [Exhibit 220-1](#)).

**HQ** Washington State Department of Transportation Headquarters organization.

**Justify** Preparing a memo to the DDP identifying the reasons for the decision: a comparison of advantages and disadvantages of all options considered. A more rigorous effort than document.

**Minimum** The lowest design value allowed without a deviation.

**Maximum** The highest design value allowed without a deviation.

**Practical Design** An approach to making project decisions that focuses on the need for the project and looks for the cost-effective solutions. It engages local stakeholders at the earliest stages of defining scope to ensure their input is included at the right stage of project design. Decision-making focuses on maximum benefit to the system, rather than maximum benefit to the project. Focusing on the specific project need minimizes the scope of work for each project. The goal is to allow more needs to be addressed system wide by reducing spending on lesser priority items on each project. Practical design is an important component in implementing WSDOT's strategic plan:

- Innovation and solutions are encouraged
- No compromises to safety
- Community engagement is important to making decisions
- Collaboration ensures a wide array of perspectives

By using practical design, project decisions will build the most efficient solutions for the state's transportation needs as a whole.

**Project Analysis** Documentation that justifies a change in design level and/or decisions to include, exclude, or modify design elements specific to a project only (also see [Chapter 210](#)).

**Project Change Request Form (PCRF)** A form used to document and approve revisions to project scope, schedule, or budget from a previously approved Project Definition (see Project Summary). Include copies in the Design Documentation Package.

**Project Development Approval** Final approval of all project development documents by the designated representative of the approving organization prior to the advertisement of a capital transportation project. Includes original and updated Design Approval documents.

**Project File (PF)** A file containing all documentation and data for all activities related to a project (see Sections [220.01](#) and [220.04](#)).

- **Design Documentation Package (DDP)** The portion of the Project File, including Design Approval and Project Development Approval, that will be retained long term in accordance with WSDOT document retention policies. Depending on the scope of the project, it contains the Project Summary and some or all of the other documents discussed in this chapter. Required and applicable components are listed in [Exhibit 220-4](#). Technical reports and calculations are part of the Project File but are not designated as components of the DDP. Include estimates and justifications for decisions made in the DDP (see [Section 220.04\(2\)](#)). The DDP explains how and why the design was chosen and documents approvals (see [Section 220.06](#)).

**Project Summary** A set of electronic documents consisting of the Project Definition (PD), Project Impacts Form, Project Considerations Form, Design Decision Summary (DDS), and Environmental Review Summary (ERS). The Project Summary is part of the design documentation required to obtain Design Approval and is ultimately part of the design documentation required for Project Development Approval (see [Section 220.07](#)).

- **Project Definition (PD)** An electronic document that records the purpose and need of the project, along with program level and design constraints. (See [Section 200.05\(1\)a](#)).
- **Project Impacts Form** Describes the impact the project will have on the traveling public, local communities, other government agencies or possibly tribal entities (See [Section 200.05\(1\)b](#)).
- **Project Considerations Form (PCF)** Describes project considerations including Environmental, Tribal, Railroad, Utility and Maintenance considerations (See [Section 200.05\(1\)c](#)).

- **Design Decision Summary (DDS)** An electronic document that records major design decisions regarding roadway geometrics, roadway and roadside features, and other issues that influence the project scope and budget. (See 200.05(2)d)
- **Environmental Review Summary (ERS)** An electronic document that records the environmental classification (class of action) and considerations (consequences of action) for a specific project. (See 200.05(2)e)

**Scoping Phase** The first phase of project development for a specific project, the scoping phase follows identification of the need for a project and precedes detailed project design. It is the process of identifying the work to be done and developing a cost estimate for completing the design and construction. The Project Summary, engineering and construction estimates, and possibly several technical reports (geotechnical, surfacing, bridge condition, and so on) are developed during this phase.

## 220.04 Design Documentation

### (1) Purpose

Design documentation records the evaluations and decisions by the various disciplines that result in design recommendations. Design assumptions and decisions made prior to and during the scoping phase are included. Changes that occur throughout project development are documented. Required justifications and approvals are also included.

### (2) Design Documents

The DDP portion of the PF preserves the decision documents generated during the design process. In each package, a summary (list) of the documents included is required.

The design documents to be included in the DDP are listed in [Exhibit 220-4](#).

A Design Variance Inventory (DVI) is needed for all projects that have design variances. The DVI lists all EUs not upgraded and deviations as indicated by the design matrices. Record variances that result from a project analysis in the DVI. Use the Design Variance Inventory System (DVIS) database to record and manage individual design variances identified during project development. The DVIS database can be accessed from this website: [wwwi.wsdot.wa.gov/design](http://wwwi.wsdot.wa.gov/design)

Project Summary documents are required for most projects. Exceptions will be identified by the HQ Capital Program Development and Management Office.

### (3) Certification of Documents by Licensed Professionals

Many original technical documents must bear the certification of the responsible licensee (see Executive Order [E 1010](#)).



### (4) Evaluate Upgrade (EU) Documentation and Approval

In special cases, projects may need to address design elements, which are shown as blank cells in a design matrix (see [Exhibit 220-1](#)). These special cases must be coordinated with the appropriate Assistant State Design Engineer (ASDE) and the HQ Capital Program Development and Management. When this is necessary, document the reasons for inclusion of that work in the project.

Matrix Cell Contents	Design Element Meets Specified Design Level	Document to File	Record in DVIS
Blank cell in design matrix	Element not considered for project type	No	No
<b>Cell Entry</b>			
Evaluate Upgrade (EU)	Yes	DDP	No
	No	DDP	Yes

DDP = Design Documentation Package

### Design Matrix Documentation Requirements

#### Exhibit 220-1

The EU process justifies whether an item of work will or will not be done, through analysis of factors such as operational necessity, systemic needs, benefit/cost, route continuity, collision reduction potential (if applicable), environmental impact, and economic development. Document all EU decisions to the DDP using [Exhibit 220-5](#) as a guide for the content. The cost of the improvement must always be evaluated when making EU decisions.

If a particular scoped item of work was identified as an EU, per the appropriate matrix, and the project has already been scoped and funding provided, contact the appropriate ASDE to discuss what documentation will be required.

EU examples on the Internet can serve as models for development of EU documentation. The approval authority for EUs is HQ Design.



#### (5) **Deviation Documentation and Approval**

Deviation requests are stand-alone documents that require enough information and project description for an approving authority to make an informed decision of approval or denial. Documentation of a deviation contains justification and is approved at the appropriate administrative level. Submit the request as early as possible because known deviations are to be approved prior to Design Approval.

Deviation approval is at HQ Design Office level. To prepare a deviation request, use the list in [Exhibit 220-6](#) as a general guide for the sequence of the content. The list is not all-inclusive of potential content and it might include suggested topics that do not apply to a particular project.

When applying for deviation approval, it is necessary to provide two explanations. The first identifies the design element and explains why the design level specified in the design matrices was not or cannot be used. The second provides the justification for the proposed design. Justification for a deviation is to be supported by at least two explanations, which may include the following:

- Collision history and analysis
- Benefit/cost analysis
- Operational and or ridership considerations
- Engineering judgment\*
- Environmental issues
- Route continuity

\*Engineering judgment may include a reference to another publication, with an explanation of why that reference is applicable to the situation encountered on the project

Reference an approved project analysis or other approved study, if one exists, as supporting justification for design deviations dealing with route continuity issues (see [Chapter 1100](#) of the WSDOT *Design Manual*).

When several design variances are proposed in a corridor, and they have similar contributing factors or are intertwined in their effects on each other, they can sometimes be handled in a single project analysis. Coordinate this approach with the ASDE assigned to WSF.

If the element meets current AASHTO guidance adopted by FHWA, such as *A Policy on Geometric Design of Highways and Streets*, but not WSF *Terminal Design Manual* or *Design Manual* M 22-01 criteria, it is a deviation from the WSF *Terminal Design Manual* that requires review from HQ Design Office but WSF is the approval authority. The following documentation is required for a deviation that meets AASHTO guidance:

- Identify the design element.
- Explain why the design level specified in the design matrices was not used.
- Explain which AASHTO guidance was used, including the title of the AASHTO guidance, the publication date, and the chapter and page number of the guidance.

Once a design variance is approved, it applies to that project only. When a new project is programmed at the same location, the subject design element is to be reevaluated, and either the subject design element is rebuilt to conform to the applicable design level or a new deviation is developed, approved, and preserved in the DDP for the new project. Check the DVIS for help in identifying previously granted deviations. Keep in mind that the WSF *Terminal Design Manual* is continually evolving. What may have met guidelines once may not meet current guidelines.

**Notes:**

- For projects with a proposed sidewalk width that is less than shown in the *Standard Plans* or in the WSDOT *Design Manual*, but still meets or exceeds federal ADA guidelines, as opposed to an ADA Maximum Extent Feasible (MEF) document, a deviation will need to be prepared by the project team and approved by the HQ Design Office.
- Deviations from WSF *Terminal Design Manual* criteria, but meet other standards or codes, such as building or electrical codes, require HQ Design Office approval.

For design deviation examples, see: [www.wsdot.wa.gov/design/projectdev](http://www.wsdot.wa.gov/design/projectdev)

## 220.05 Project Development

In general, WSF initiates the development of a specific project by preparing the Project Summary. The project coordination with other disciplines and interests (such as WSF Operations, Real Estate Services, Roadside and Site Development, Utilities, and Environmental) is started in the project scoping phase and continues throughout the project's development. WSF coordinates with state and federal resource agencies and local governments to provide and obtain information to assist in developing the project.

The project is developed in accordance with all applicable Directives, Instructional Letters, Supplements, and manuals; the WSF [Long Range Plan](#); the Washington State Highway System Plan; approved planning studies; and the Project Summary documents.



WSF develops and maintains documentation for each project. The Project File (PF)/ Design Documentation Package (DDP) includes documentation of project work, including planning; scoping; public involvement; environmental action; design decisions; approvals; calculations; right of way acquisition; permit requirements/ documentation; Plans, Specifications, and Estimates (PS&E) development; project advertisement; and construction. Refer to [Chapter 230](#) and the [Plans Preparation Manual](#) for more information on PS&E documentation.

All projects involving a federal action require National Environmental Policy Act (NEPA) documentation. WSDOT uses the Environmental Classification Summary (ECS) form for USDOT concurrence/approval on the environmental class of action (EIS, EA, DCE or CE). The environmental approval levels are shown in [Exhibit 220-2](#).

Upon receipt of the ECS approval for projects requiring an EA or EIS under NEPA, WSF proceeds with environmental documentation, including public involvement, appropriate for the magnitude and type of the project.

Design Approval and approval of right of way plans are required prior to acquiring property. Recent changes to federal law (23 USC 108) allow for acquisition of right of way using federal funds prior to completion of NEPA. However, WSDOT LP, ESO, and Real Estate Services are working with FHWA to prepare procedures for this early acquisition as this manual was going to press. (See the [April 2, 2013, memorandum on early acquisition policy](#) for more information.)

The ASDE works with the WSF on project development and is part of the FTA Triennial process reviews on projects as described in [Section 220.08](#).

### **(1) Scoping Phase**

Development of the project scope is the initial phase of project development. This effort is prompted by WSF's [Life Cycle Cost Model \(LCCM\)](#)/Asset Management System for preservation projects, and the [Long Range Plan](#) or [Call for Projects](#) for improvement projects. The project scoping phase consists of determining a project's description, schedule, and cost estimate. The intent is to make design decisions early in the project development process that focus the scope of the project, keeping in mind the guidance provided by the matrices where applicable. During the project scoping phase, the Project Summary documents are produced. For projects not covered by a matrix line from [Chapter 210](#), a project-specific matrix can be developed and approved by HQ Design Office at this phase.

### **(2) Project Summary**

The Project Summary (see [Chapter 200](#)) provides information on the results of the scoping phase; links the project to WSF's LCCM and Long Range Plan; and documents the design decisions, the environmental classification, and agency coordination. The Project Summary is developed and approved before the project is funded for design and construction, and it consists of Project Definition, Project Impacts, Project Considerations, Design Decision Summary, and Environmental Review Summary documents. The Project Summary database contains specific online instructions for completing the documents.

**(a) Project Definition (PD)**

The PD identifies the various disciplines and design elements that are anticipated to be encountered in project development. It also states the purpose and need for the project, the program categories, and the recommendations for project phasing. The PD is completed early in the scoping phase to provide a basis for full development of the Environmental Review Summary, Design Decision Summary, schedule, and estimate. If circumstances necessitate a change to an approved PD, process a Project Change Request Form (PCRF) for approval by the appropriate designee.

For all improvement projects and for preservation projects over \$5 Million, the scope is subject to the results of the Pre-Design Study and may result in a PCRF.

**(b) Project Impacts**

Almost all terminal engineering projects impact ferry operation, the traveling public, local communities, other government agencies or possibly tribal entities. Many impacts will affect multiple stakeholders. For successful project completion, it is essential in scoping to identify these impacts, including costs and durations, and mitigation strategies. The Project Impact and Mitigation Strategy Statements, as well as impact cost and duration, will relate to the issues that will arise during the life of a project, and better enable these be mitigated accordingly.

**(c) Project Considerations**

Additional project impacts may or may not include identification of potential maintenance impacts; initial predesign decisions; regulatory impacts; engineering services/workforce requirements and impacts; public involvement; and commitments made to the project to others, or commitments by others to the project.

**(d)  Design Decision Summary (DDS)**

The DDS generally provides the design matrix used to develop the project, as well as the design variances, other terminal features, and any design decisions made during the scoping of a project. See [Chapter 200](#) for more detail. The information contained in this form is compiled from various databases of departmental information, field data collection, and evaluations made in development of the PD and the ERS. Design decisions may be revised throughout the project development process based on continuing evaluations.

The appropriate ASDE concurs with the Design Decisions for all projects requiring a DDS. The WSF Design Engineering Manager approves the DDS when confident there will be no significant change in the PD or estimated cost. Schedule, scope, or cost changes require a Project Change Request Form to be submitted and approved by the appropriate designee, in accordance with the [Project Control and Reporting Manual](#).

**(e) Environmental Review Summary (ERS)**

The ERS lists the potential required environmental permits and approvals, environmental classifications, and environmental documentation. If there is a change in the PD or DDS, the information in the ERS must be reviewed and revised to match the rest of the Project Summary. The ERS is prepared during the scoping phase and is approved by WSF. For actions classified under NEPA, the approved ERS becomes the

ECS when the project is funded and moves to design. If the NEPA class of action is a CE, PCE or DCE, WSF may revise the ECS as appropriate (usually during design). The ECS serves as the NEPA environmental documentation for CE/PCE/DCE projects. WSF approves the ECS and sends it to FTA/FHWA for its approval (DCE only). During design and permitting, revisions may need to be made to the ERS and be reapproved by WSF. The ERS/ECS database includes fully integrated help screens that provide detailed guidance. Contact your region Environmental Office for access. (See the *Environmental Procedures Manual* and [Chapter 200](#) for more detail.)

## 220.06 Design Approval

When the Project Summary documents are complete, a predesign study has been completed if required, and WSF is confident that the proposed design adequately addresses the purpose and need for the project, a Design Approval may be pursued and granted at this early stage. Early approval is an option at this point in the design phase and is likely most relevant to larger projects with longer PE phases because it provides early, approved documentation that locks in design policy for three years. This is a benefit for longer PE phases in that it avoids design changes due to policy updates during that time and provides consistency when purchasing right of way or producing environmental documentation.

If early Design Approval is not beneficial for a subject project, the typical items (below) that are part of this package are required in the combined Design Approval/ Project Development Approval Package. Design Approval may occur prior to NEPA approval. Approval levels for design and PS&E documents are presented in Exhibits [220-2](#) through [220-3](#).

The following items are typically provided for Design Approval:

- Stamped cover sheet (See [Appendix V](#) for template)
- A reader-friendly 1 or 2 page memo that describes the project and contains:
  - Project Description, including existing conditions
  - Design Criteria
  - Environmental Permit List
  - Operations Plan
  - Current Cost Estimate with Design Level indicated
  - TEIS Milestones
- Project Summary documents
- Project analysis (if applicable)
- Design Variance Inventory (if applicable for known design variances (EU's not upgraded, deviations) at this stage)
- Slip Layout or Site Plan and Elevation Plan
- Channelization or intersection plans, Alignment plans and profiles (if applicable)
- Approved Predesign Study (if applicable)
- TDM [Chapter 210](#) Design Matrix used with row(s) highlighted (if applicable)
- ASDE-approved Project Specific Design Matrix used (if applicable)
- Project Delivery Method Selection (PDMS) Memo for all projects

Design Approval is entered into the Design Documentation Package and remains valid for three years or as approved by the HQ Design Office. Evaluate policy changes or revised design criteria that are adopted by the department during this time to determine whether these changes would have a significant impact on the scope or schedule of the project. If it is determined that these changes will not be incorporated into the project, document this decision with a memo from WSF Project Development Engineer that is included in the DDP. For an overview of design policy changes, consult the Detailed Chronology of *Design Manual* Revisions: [www.wsdot.wa.gov/design/policy/default.htm](http://www.wsdot.wa.gov/design/policy/default.htm)

### (1) **Alternative Project Delivery Methods**

Design Approval applies to projects delivered using alternative means, including design-build projects, general contractor/construction manager (GC/CM) projects, and projects completed by state forces. Design documentation begins in the project scoping phase and continues through the life of the design-build project. This documentation is thus started by WSDOT and is completed by the design-builder. Since Design Approval is related to project scoping, this milestone shall be accomplished prior to issuing a Design-Build Request for Proposal (RFP) (see [Exhibit 110-1](#) in the WSDOT *Design Manual* M 22-01). However, the design-builder shall refer to the Request for Proposal (RFP) for direction on approval milestones.

## 220.07 **Project Development Approval**

When all project development documents are completed and approved, Project Development Approval is granted by HQ Design Office. The Project Development Approval becomes part of the DDP. (See [Section 220.04](#). Exhibits [220-2](#) through [220-3](#) provide approval levels for project design and PS&E documents.)

The following items must be approved prior to Project Development Approval:

- Stamped cover sheet (project description) —See [Appendix V](#) for template Required environmental documentation
- Design Approval Package documents (and any supplements)
- Updated Design Variance Inventory (all project design variances)
- Approved Deviations and Evaluate Upgrades, if applicable
- Cost estimate EBASE Report Printouts: Summary Report, Fund Report (Federally or multi-program funded projects only), Group Report (multi-Control Section projects only), and Item Report

Project Development Approval is required prior to Advertisement and remains valid for three years if Ad is delayed. Evaluate policy changes or revised design criteria that are adopted by the department during this time to determine whether these changes would have a significant impact on the scope or schedule of the project. If it is determined that these changes will not be incorporated into the project, document this decision with a memo from WSF Design Engineering Manager that is included in the DDP.

All permits do not need to be received for Project Development Approval to be granted. However, all permits need to be identified. If a permit has not been returned at the time of Project Development Approval, provide the anticipated approval date. For permits that will be obtained by the Contractor, such as Building Permits or Noise Variances, state “To Be Obtained by Contractor”.

### (1) **Alternative Project Delivery Methods**

For projects delivered using alternative methods, such as design-build, the design-builder shall refer to the project RFP for specification on final and intermediate deliverables and final records for the project. Project Development Approval is required prior to project completion.

It is a prudent practice to start the compilation of design documentation early in a project and to acquire Project Development Approval before the completion of the project. At the start of a project, it is critical that WSF project administration staff recognize the importance of all required documentation and how it will be used in the design-build project delivery process.

### (2) **Proprietary Items**

Designers need to obtain approval of all project specific proprietary items required for a project as early as possible. These items must be approved by HQ Design prior to the project being advertised. See the [Plans Preparation Manual](#) Section 700.01(5) for documentation requirements. Include a copy of the approval memo in the DDP.

The Designer needs to be aware that specific items may be found in an approved WSF Programmatic Proprietary document. Provide a copy of the approved Blanket approval highlighting materials used for a specific project and include this in the DDP.

### (3) **Buy America and Buy American Act**

The Designer needs to be aware that *Buy America* and *Buy American Act* requirements will be required for any steel materials permanently incorporated into a project that has any amount of Federal funding. See the [Plans Preparation Manual](#) Section 700.05 for further information about Buy America requirements and required documentation. Consult with Capital Program Development and Management Office if there is any question regarding source of funding. Include required General Special Provisions when preparing the PS&E for the project.

For procurement of equipment required for Department of Homeland Security (DHS) purposes, and the funding is provided by the Port Security Grant Program, *Buy American Act* requirements are to be followed. These requirements apply to more items than foreign made steel. Note that the *Buy American Act* is not necessarily the same as “Buy American” requirements in other federal legislation.

The Federal Highway Administration (FHWA) (see [Appendix Y](#)) deems product to be manufactured predominantly of steel or iron if the product consists of at least 90 percent steel or iron content by cost when it is delivered to the job site (which includes sites wherever precast concrete products are manufactured) for installation. The project team is responsible for making this determination with the concurrence of the ASDE.

Federal Transit Administration’s (FTA) Buy America policies may be found at [this Link](#).

HQ Design ASDE needs to concur with all documentation for *Buy America* and *Buy American Act* requirements prior to obtaining Project Development Approval. Include a copy of the concurrence, calculations and justifications in the DDP.

## 220.08 Combined Design Approval/Project Development Approval

For smaller or short duration design projects, a project team may elect to seek a combined Design Approval and Project Development Approval. For these situations, address the bulleted items in Sections 220.06 and 220.07 to the Assistant State Design Engineer assigned to WSF. A combined Design Approval/Project Development Approval stamped cover sheet template is included in Appendix V.)

A reader-friendly 1 or 2 page memo that describes the project and contains is also required and will contain the following:

- Project Description, including existing conditions
- Design Criteria
- Environmental Permit List
- Operations Plan
- Current Cost Estimate with Design Level indicated
- TEIS Milestones

## 220.09 FTA Triennial Review

The review is done to provide reasonable assurance that projects are prepared in compliance with established policies and procedures and that adequate records exist to show compliance with state and federal requirements. Process reviews are conducted by FTA staff with the Region Director of Operations approving the final report.

The review occurs every three years. It is essentially an audit of how the state is managing Federal funds and involves checking management systems and documentation. The reviewers look at 27 areas:

- |  |   |
|--|---|
| 1. Program Management                      | 11. Buy America                           |
| 2. Grant Administration                    | 12. Debarment and Suspension              |
| 3. Selection and Eligibility               | 13. Lobbying                              |
| 4. Financial Management                    | 14. Planning and Coordination             |
| 5. Intercity Bus                           | 15. Title VI                              |
| 6. Rural Transportation Assistance Program | 16. Americans with Disabilities Act (ADA) |
| 7. Satisfactory Continuing Control         | 17. Charter Bus                           |
| 8. Maintenance                             | 18. School Bus                            |
| 9. Procurement                             | 19. Drug Free Workplace                   |
| 10. Disadvantaged Business Enterprise      | 20. Drug and Alcohol Program              |
|  | 21. Equal Employment Opportunity          |

- |  |   |
|--|---|
| 22. National Transit Database                  | 25. Safety and Security                             |
| 23. Public Comment on Fare and Service Changes | 26. Intelligent Transportation Systems Architecture |
| 24. Half Fare                                  | 27. American Recovery and Reinvestment Act          |

Findings are documented with a letter from FTA to the grantee, listing what was done and what the findings contained.

WSF takes action to correct any findings and a letter is sent to FTA confirming the steps taken to address the findings.

## 220.10 Design Drawing Production

### (1) *WSF CADD Standards*

WSF uses the WSDOT *Plans Preparation Manual* M 22-31 as a guideline for preparing PS&E documents. However, the WSDOT *Plans Preparation Manual* applies primarily to roadway-type projects and does not adequately address the specific needs and variety of projects performed by WSF. [Division 8](#) supplements the WSDOT *Plans Preparation Manual* and provides instruction and guidance for the preparation of contract drawings using Bentley's MicroStation® and Autodesk's AutoCAD® Computer-Aided Design and Drafting (CADD or CAD) software, which is used on all WSF projects.

Special exceptions to the use of MicroStation are those projects that include within their scope the construction of shoreside buildings. WSF depends on the WSDOT Architectural Department or Consultant to provide the building design services necessary to complete that portion of the contract. In projects that incorporate items of work other than architecture, there will be a "design limit of five feet beyond the perimeter of the architectural work that will mark the boundary where the architectural and other discipline work will coincide.

### (2) *Expectations for Consultant Design Drawing Production*

The following is a list of expectations for consultants that provide electronic CADD files as part of their participation in WSF design projects:

- Unless otherwise notified the WSDOT's SFTP server will be used to transfer electronic files between all consultants and WSF during the project.
- WSF will provide the plan sheet borders for all projects. The format will be MicroStation.
- WSF will provide MicroStation line, font and symbology resource files for the consultant to use during the project.
- Drafting will be done 1:1 in the master files (.mst files).
- WSF will provide the CADD background information that it has on hand for each design project in MicroStation format.

- Consultants will post a maximum of two progress prints between submittal milestones. The date for these posting will be identified by the WSF Project Manager. (These are only meant to be “snap shots” of where we are with the project.)
- Backgrounds produced during the life of the contract will be placed on the SFTP server for use a minimum of three weeks prior to review submittal.
- Backgrounds will be frozen two weeks prior to review submittal.
- A table of contents for each discipline will be submitted a minimum of one week prior to any submittal.
- Electronic files for submittal shall be in both MicroStation and PDF format.
- Upon completion of the project the consultants will be responsible for submitting MicroStation files of the ad copy and addendum sheets.

### **(3) Architectural Drawings**

AutoCAD is the standard industry drafting software used for architectural drawings. Since MicroStation is the primary CAD program used at WSDOT/WSF, the following divisions applies:

- For buildings constructed on trestles, MicroStation will be used for the trestle and AutoCAD will be used for the building design.
- For upland buildings, AutoCAD will be used to a 5' perimeter from the outer expanse of the building. Everything beyond will be displayed using MicroStation.



Item	Approval Authority		
	WSF	HQ	FHWA
<b>Program Development</b>			
Work Order Authorization		X	
<b>Public Hearings</b>			
Environmental Documentation	X		
<b>Environmental Document</b>			
Environmental Classification Summary (ECS) NEPA			X
Class I NEPA (EIS)		[3]	X
SEPA (EIS)		X	
Class II NEPA – Categorical Exclusion (CE)* (Per MOU)	X <sup>[18]</sup>		
Class II NEPA – Documented Categorical Exclusion (DCE)	[2]		X
SEPA – Categorical Exemption (CE)	X		
Class III NEPA – Environmental Assessment (EA)		[3]	X
SEPA Environmental Checklist and Determination of Non-Significance (DNS)	X		
<b>Design</b>			
Final Project Definition		X <sup>[4]</sup>	
Final Design Decision Summary	X <sup>[2]</sup>	X <sup>[1]</sup>	
Environmental Review Summary	X		
Design Approval		X	
Project Development Approval		X	
OFM Approved Predesign Study	[17]	[17]	[17]
Building Architectural Elements	[15]	[15]	[15]
Intersection or Channelization Plans	X <sup>[5]</sup>		
Right of Way Plans or Sundry Site Plans	[6]	X	
Monumentation Map	X		
Pavement Determination Report		X <sup>[7]</sup>	
Resurfacing Report		X <sup>[7]</sup>	
Signal Permits	X <sup>[8]</sup>		
Geotechnical Report		X <sup>[7]</sup>	
Tied Bids	X <sup>[9]</sup>		
Bridge Design Plans (Bridge Layout)	X		

Table is continued on the following page, which contains the notes.



**Approvals (1 of 2)**  
**Exhibit 220-2**

Item	Approval Authority		
	WSF	HQ	FHWA
<b>Design (continued)</b>			
Hydraulic Report		X <sup>[10]</sup>	
Signalization Plans	X <sup>[13]</sup>		
Illumination Plans	X		
Intelligent Transportation System (ITS) Plans	X <sup>[13]</sup>		
Project Change Request Form	X <sup>[12]</sup>	X <sup>[12]</sup>	
Work Zone Transportation Management Plan/Traffic Control Plan	X <sup>[13]</sup>		
Public Art Plan	X <sup>[11][14]</sup>	X <sup>[14]</sup>	
ADA Maximum Extent Feasible Document (see <a href="#">Chapter 300</a> )	X <sup>[2]</sup>	X	
Work Zone Transportation Management Plan/Traffic Control Plan	X <sup>[13]</sup>		
Public Art Plan	X <sup>[11][14]</sup>	X <sup>[14]</sup>	
ADA Maximum Extent Feasible Document (see <a href="#">Chapter 300</a> )	X	X	
<b>Project Delivery Methods</b>			
Combining Two or more Project PINs into a Single Contract	X <sup>[16]</sup>		
Staging Projects (Breaking Single Projects into one or more Contracts)	X <sup>[16]</sup>		
Design-Build Determination	X <sup>[16]</sup>	X	

X Normal procedure \*If on the preapproved list

**Notes:**

- [1] Approved by Assistant State Design Engineer.
- [2] Final review and concurrence required at WSF level prior to submittal to approving authority.
- [3] Final review and concurrence required at HQ prior to submittal to approving authority.
- [4] Approved by HQ Capital Program Development and Management Office.
- [5] Include channelization details. Approval required by Region Traffic.
- [6] Certified by the responsible professional licensee
- [7] Submit to HQ Materials Laboratory for review and approval.
- [8] Approved by RegionTraffic.
- [9] See [23 CFR 635.111](#).
- [10] See the [Hydraulics Manual](#) for approvals levels.
- [11] Applies to WSF with a Landscape Architect.
- [12] Consult HQ Capital Program Development and Management Office for clarification on approval authority.
- [13] Local Municipality or Region Traffic Engineer or designee.
- [14] The State Bridge and Structures Architect reviews and approves the public art plan (see WSDOT [Design Manual](#) Chapter 950 for further details on approvals).
- [15] Approval by Local Jurisdictional Control and WSDOT Facilities Office
- [16] Approval by WSF Terminal Engineering Program Manager, Design Engineering Manager and Director.
- [17] Approval by WSF Executive Management and Office of Financial Management (OFM) thru HQ Capital Program Development and Management Office (in that order)
- [18] If on the preapproved list
- [19] The above requirements do not necessarily apply for other funding sources, including the FTA and DHS. Contact WSF Program Management for assistance



**Approvals (2 of 2)**  
**Exhibit 220-2 (continued)**

Item	Approval
M/WBE/DBE/training goals* **	HQ Office of Equal Opportunity
Right of way certification for state-funded projects	HQ Real Estate Services Office
Work performed for public or private entities*	WSF <sup>[1]</sup>
State force work*	WSF, Capital Program Development and Management Office <sup>[2]</sup>
Use of state-furnished stockpiled materials*	WSF, Capital Program Development and Management Office <sup>[2]</sup>
Work order authorization	WSF, Capital Program Development and Management Office
Ultimate reclamation plan approval through DNR	WSF
Proprietary item use*	HQ Design Office
Mandatory material sources and/or waste sites*	WSF <sup>[3]</sup>
Nonstandard bid item use*	WSF
Incentive provisions	HQ Construction Office
Nonstandard time for completion liquidated damages*	HQ Construction Office
Interim liquidated damages*	Statewide Travel and Collision Data Office

**Notes:**

- [1] This work requires a written agreement  
 [2] Use of state forces is subject to dollar limitations found in [Chapter 200](#)  
 [3] Document for all projects

**References:**

\* [Plans Preparation Manual](#)

\*\* [Advertisement and Award Manual](#)



**T&E Process Approvals**  
**Exhibit 220-3**

Document	Required within DDP
Stamped Cover Sheet	X [3] [DA] [PDA]
Reader friendly memo describing the project	X [DA][5]
Project Summary Documents (Scoping Forms)	X [DA]
Environmental Review Summary	X [DA]
Current Cost estimate EBASE Reports with Design Level Indicated, (also include concurrence from Terminal Engineering Chief Estimator in DDP only)	X [DA] [PDA]
Combined Site and Vicinity Map	X
Design Criteria Memo	X [DA]
OFM Approved Predesign Study	[1] [DA]
Corridor or Project Analysis	[1] [DA]
Approved, Stamped Channelization plans, Intersection Plans or Interchange Plans	[1] [DA]
Approved Design Approval Package (If separate from Project Development Approval) [DA]	[1*]
Approved Project Development Approval Package (If separate from Design Approval) [DA]	[1*]
Combined Desig Approval/Project Development Approval Package [DA]	[1*]
Approved Deviations	[1] [DA]
Approved Evaluate Upgrades	[1] [DA]
Slip Layout Plans with Captain's Concurrence Documentation (Berthing Structure Projects only)	[1] [DA]
Site Plans and Elevation Plans	X [DA]
ADA Maximum Extent Feasible Documentation	[1] [PDA]
PCRF Forms	[1]
Approved Stamped Hydraulic Report	[1], [4]
Approved Right of Way Plans	[1]
Design Matrix (highlight/identify appropriate row(s))	X [DA]
Design Parameters (roadway only)	[1]
Design Parameters (Include back-up Calculations)	[1], [2]
Design Variance Inventory System (printed forms)	[1] [DA] [PDA]
Added Work not covered by the matrix	[1]
Decisions for project components for which there are no WSF Terminals guidance	[1]
Alignment and Profile plans, Roadway Sections	[1] [DA]
NEPA Approvals and Documentation (if required)	[1] [PDA]
SEPA Approvals and Documentation (if required)	X [PDA]
Environmental Permits (list)	X [DA]
Environmental Commitments – From Environmental Commitment Database	[1] [PDA]
Traffic Analysis	[1]
Collision History	[1]
Capacity Determination (roadway and building)	[1]
Approved Stamped Geotechnical Reports	[1]
Approved Stamped Surfacing Reports	[1]
Signing, delineation, and Illumination	[1]
ITS	[1]
Signal Permit	[1]

X - To Be Included

Table is continued on the following Page. Part 2 of 2 contains the notes.



### WSF Terminals Design Documentation Package (DDP) Checklist (1 of 2)

Exhibit 220-4

Document	Required within DDP
Clearzone Inventory	[1]
Barrier Length of Need Calculations	[1], [2]
Impact Attenuator Systems	[1]
School Bus Stops/Interaction	[1]
Pedestrian Facilities	[1]
Project Delivery Method Selection (PDMS) Memo	[1],[6]
Shared Use Paths	[1]
Roadway Bicycle Facilities	[1]
Aesthetic Visual Elements	[1]
Structural Calculations	[1], [2]
Retaining Walls	[1]
Roadside Restoration/Enhancement	[1]
Access Control	[1]
Road Approaches/Access permits	[1]
Fencing	[1]
Railroad Issues	[1]
Utilities Involvement (list)	[1]
Franchises (list)	[1]
Agreements (list)	[1]
HOV Operational issues	[1]
Travelers Services	[1]
Park and Ride considerations	[1]
Transit flyer stops	[1]
Monumentation/Record of Survey	[1]
Local Agency Coordination	[1]
Concurrence Letters	[1]
Letters of Understanding	[1]
Approved Public Art plan	[1]
Memo summarizing Public Involvement	[1]
Approved Proprietary Item Requests	[1] [DA] [PDA]
Buy America/Buy American Act Exclusion Determination, including calculations/justifications and ASDE Concurrence—Federal Projects Only	[1] [DA] [PDA]

X - To Be Included

**Notes:**

[1] If Applicable

[1<sup>1</sup>] Design Documentation Package will include either separate Design Approval and Project Development Approval submittals, or a combined submittal (generally for smaller projects. See Section 220.08 above.

[2] If calculations indefinitely retained by Terminal Engineering Library, include calculation check sheet only and note location of retained records.

[3] See [Appendix U](#) for Cover Sheet Example

[4] Consult the hydraulics office as a full report may not be necessary, but a memorandum to the design file may suffice. If the report will be included in the Terminal Engineering Library, only a stamped cover sheet is needed to be included in the DDP

[5] Required for Combined DA/PDA

[6] Required for all projects greater .

[DA] Required for Design Approval—send copy along with request

[PDA] Required for Project Development Approval—send copy along with request

**WSF Terminals Design Documentation Package (DDP) Checklist (2 of 2)**  
*Exhibit 220-4 (continued)*

1. Design Element Upgraded when required in the Matrix
  - (a) Design element information
    - Design element
    - Location
    - Matrix number and row
  - (b) Cost estimate<sup>[1]</sup>
  - (c) B/C ratio<sup>[2]</sup>
  - (d) Summary of the justification for the upgrade<sup>[3]</sup>
  
2. Design Element Not Upgraded when Indicated in the Matrix
  - (a) Design element information
    - Design element
    - Location
    - Matrix number and row
  - (b) Existing conditions
    - Description
    - Collision Summary
    - Operational Elements
    - Advantages and disadvantages of leaving the existing condition unchanged
  - (c) Design using the WSF *Terminal Design Manual* or WSDOT *Design Manual* criteria
    - Description
    - Cost estimate<sup>[1]</sup>
    - B/C ratio<sup>[2]</sup>
    - Advantages and disadvantages of upgrading to the level indicated in the matrix
  - (d) Selected design, if different from existing but less than the level indicated in the matrix
    - Description
    - Cost estimate<sup>[1]</sup>
    - B/C ratio<sup>[2]</sup>
    - Advantages and disadvantages of the selected design
  - (e) Summary of the justification for the selected design<sup>[3]</sup>

**Notes:**

- <sup>[1]</sup> An estimate of the approximate total additional cost for the proposed design. Estimate may be based on experience and engineering judgment.
- <sup>[2]</sup> Include only when B/C is part of the justification. An approximate value based on engineering judgment may be used.
- <sup>[3]</sup> A brief (one or two sentence) explanation of why the proposed design was selected.

**Evaluate Upgrade (EU) Documentation Contents List**  
*Exhibit 220-5*

1. Overview
  - (a) The safety or improvement need that the project is to meet
  - (b) Description of the project as a whole
  - (c) Highway classification and applicable design matrix number and row
  - (d) Funding sources
  - (e) Evidence of deviations approved for previous projects (same location)
  - (f) Predesign study (if applicable)
  
2. Design Alternatives in Question
  - (a) Existing conditions and design data
    - Location in question
    - Rural, urban, or developing
    - *Approved corridor study*
    - Environmental issues
    - Right of way issues
    - Number of lanes and existing geometrics
    - Current and 20-year projected ADT
    - Design speed, posted speed, and operating speed
    - Percentage of trucks
    - Terrain Designation
    - Managed access or limited access
  - (b) Collision Summary and Analysis
  - (c) Operational and or ridership considerations
  - (d) Design using the WSF *Terminal Design Manual* or *Design Manual* M 22-01 criteria
    - Description
    - Cost estimate
    - B/C ratio
    - Advantages and disadvantages
    - Reasons for considering other designs
  - (e) Other alternatives (may include “No-build” alternative)
    - Description
    - Cost estimate
    - B/C ratio
    - Advantages and disadvantages
    - Reasons for rejection
  - (f) Selected design requiring justification or documentation to file
    - Description
    - Cost estimate
    - B/C ratio
    - Advantages and disadvantages
  
3. Concurrences, Approvals, and Professional Seals

**Deviation Request and Project Analysis Contents List**  
***Exhibit 220-6***

