

Design Documentation

Course Introduction

Assistant State Design Engineers
May 2025

Julie Meredith, Secretary of Transportation

Mike Gribner, Deputy Secretary of Transportation

Safety Briefing

Working from home

- Do you have trip hazards?
- How do you exit your workplace?
- Can 911 see your house address?
- Where can you go in an earthquake?
- Do your smoke detectors work?
- Do your CO2 detectors work?
- Do you have a first aid kit?

Working from an office

- Where is the first aid kit?
- Where is the defibrillator?
- What is your incident response plan?
- What is the address of your location?



Participate

- Get OUT what you put IN
- Ask Questions



Introductions

Course Outline

This training will cover:

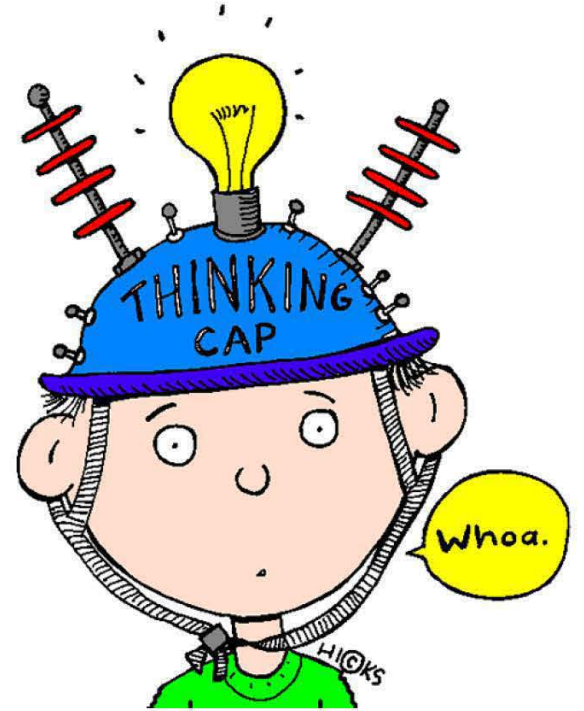
- Module 1 - Course Introduction
- Module 2 - Design Documentation Package (DDP)
- Module 3 - Design Approval (DA)
- Module 4 - Project Development Approval (PDA)
- Module 5 - Project File (PF)
- Module 6 - Combined DA/PDA, Filing, Process Review

Class Goals and Objectives

After taking this course, you should understand:

- Why we document
- Design documentation terminology
- Which DDP is needed
- Who approves a DDP
- Contents of a DDP
- How to file a DDP

You will also be provided with contact information and examples



Concurrency

The Design Manual mentions 'Concurrency' 52 times

When 'Concurrency' is required, how is it documented?

- Always get written concurrence
- Verbal or implied is not acceptable documentation

Where do I store this documentation?

- DDP or
- Project file

Why Do We Document?

- Tort cases are a civil case for any wrongful act, damage, or injury done willfully, negligently, or in circumstances involving strict liability (can't be breach of contract)
 - Washington State is a Joint and Several state
 - Washington State has no cap on the value of liability damages in a civil lawsuit
- Mitigate Liability Risk
 - **It is easier to defend a well documented decision than a good decision without documentation**

Why Set Standards for Documentation?

- Demonstrate practical & logical decision making
- Consistency
 - Inconsistency can quickly establish a breach
 - If a particular document (decision process) is missing then there is a gap in telling our design story
 - Saves time and money in research preparation for a defense team
- FHWA Stewardship and Oversight (S&O) Agreement
 - WSDOT must follow the S&O to receive federal funds
 - Contains documents needed for a FHWA Audit

Why Set Expectations for Documentation?

Most Importantly it captures:

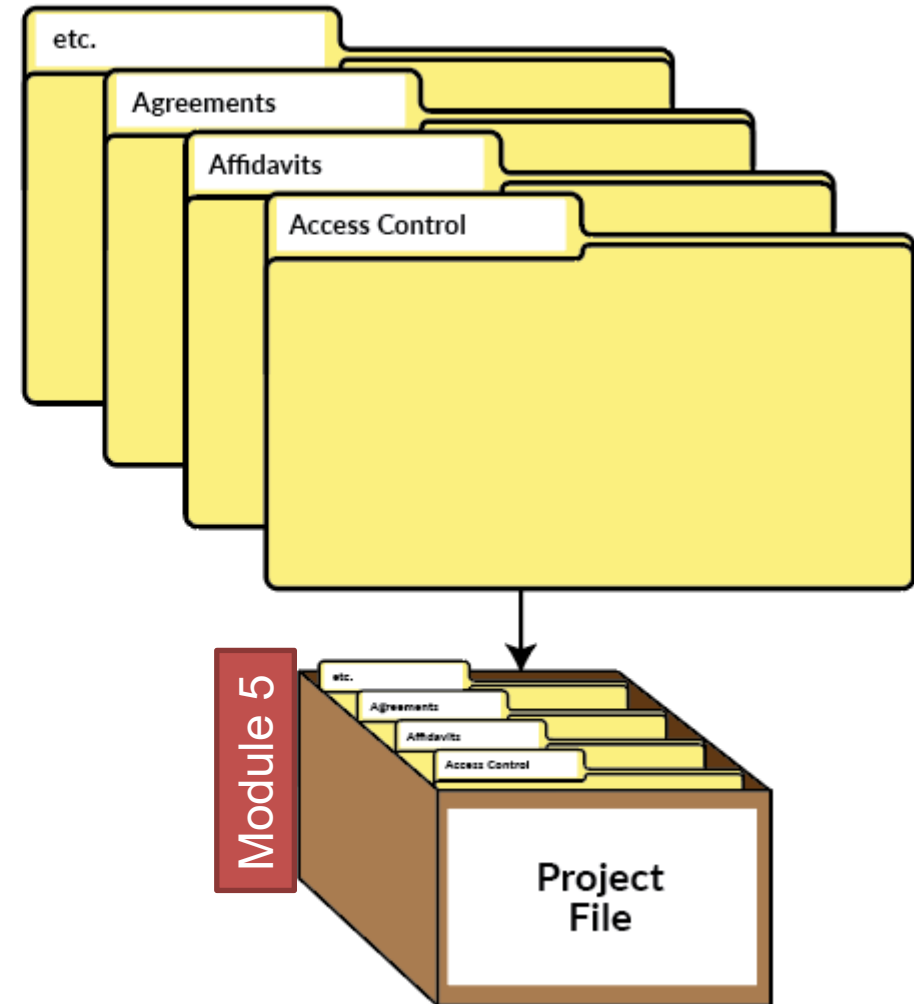
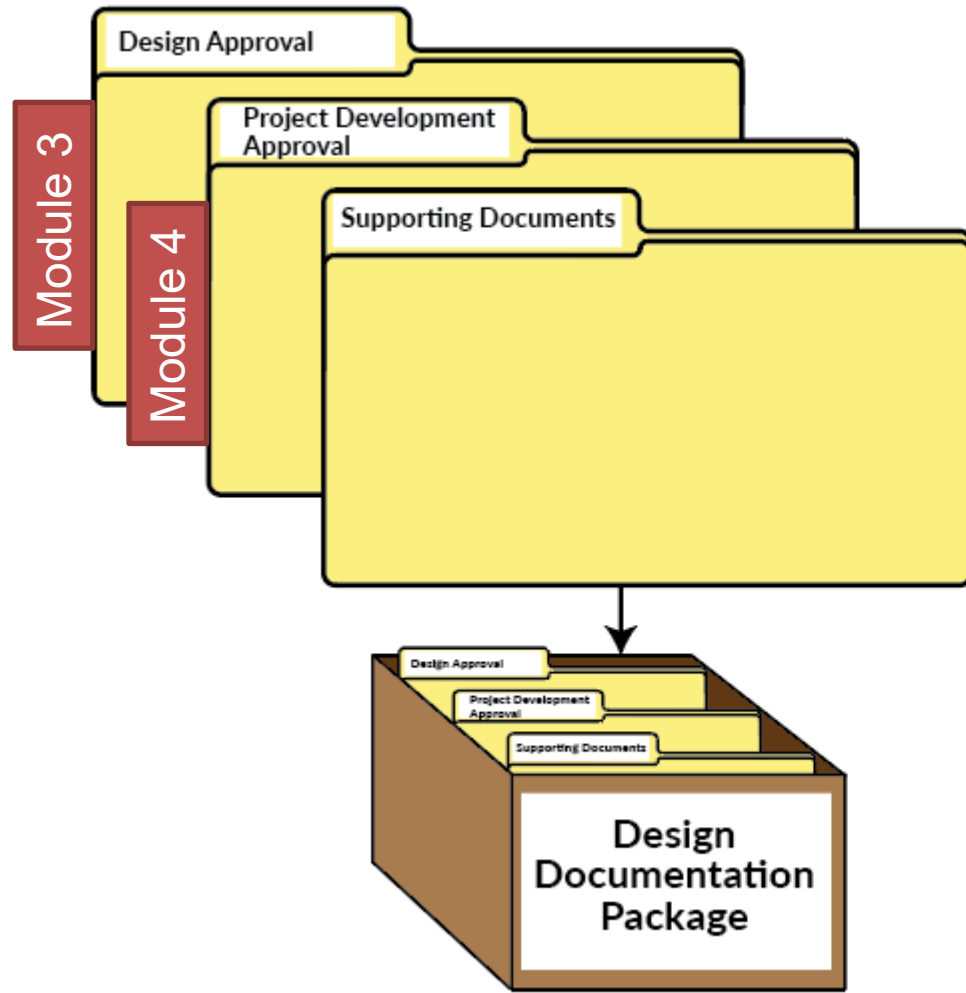
What you did and
why you did it?

Design Documentation

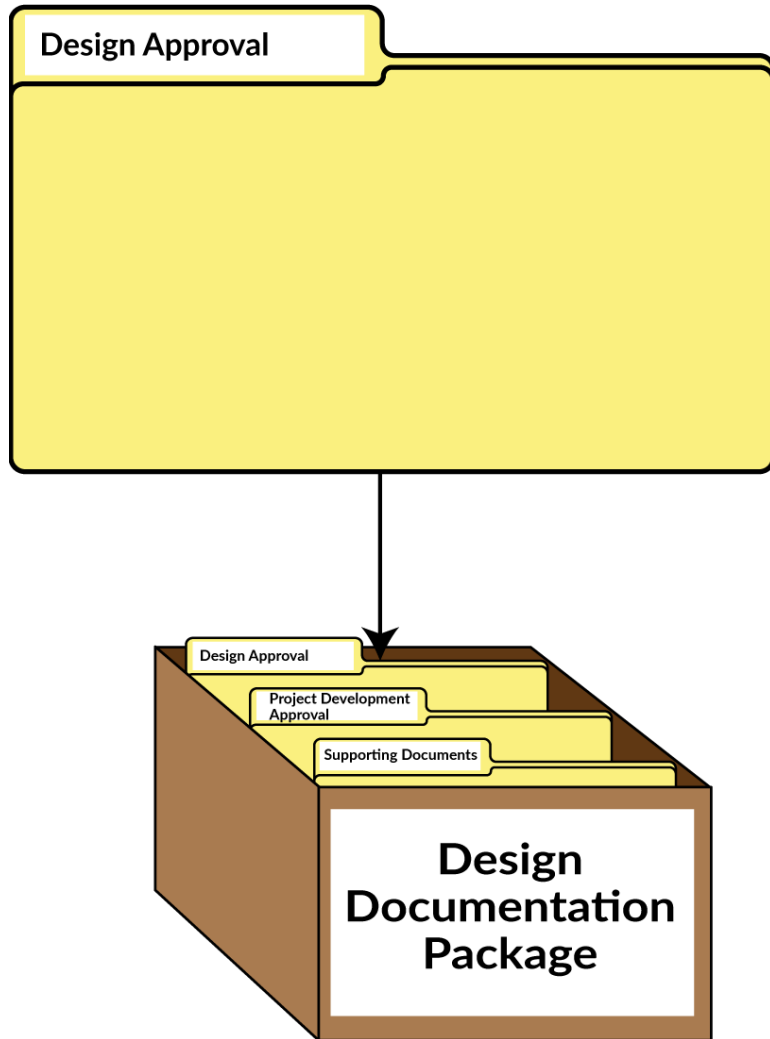
Design Documentation Package

Module 2

Design Documentation – Design-Bid-Build



Design Approval – Design-Bid-Build

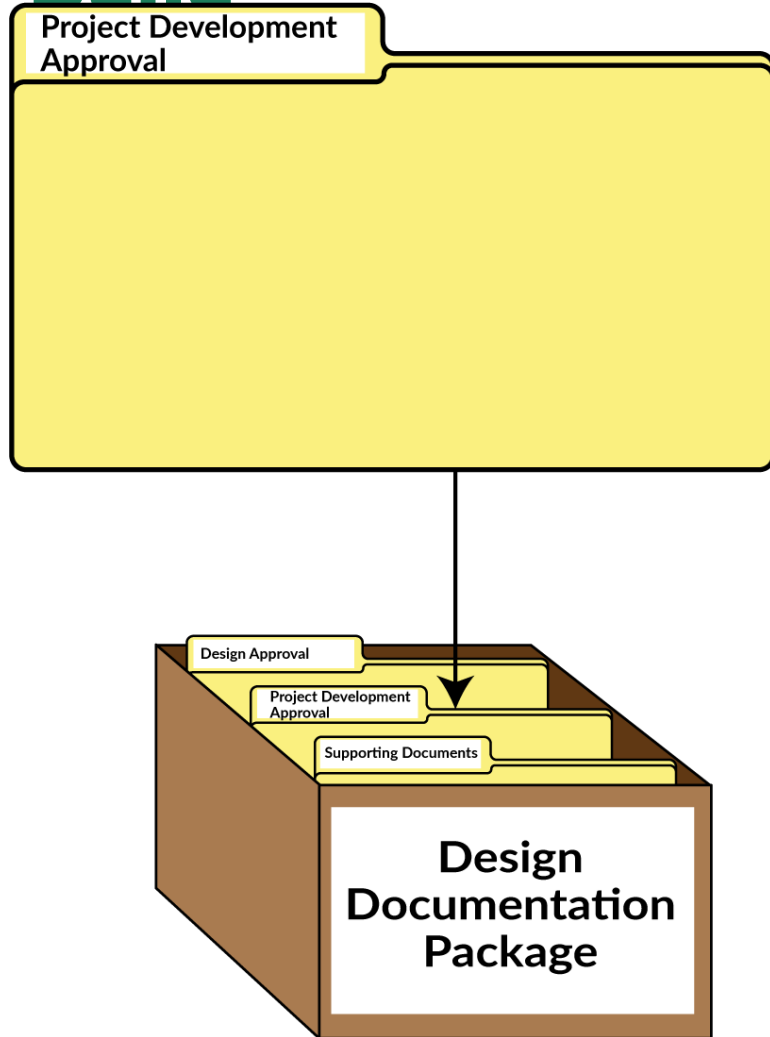


- Done on large or complex projects
- Required for right of way acquisition to begin
- Does not contain environmental approval
- Sets design policy for three years
- Completed around 30% design

For this training

DA = Design Approval

Project Development Approval – Design-Bid-Build

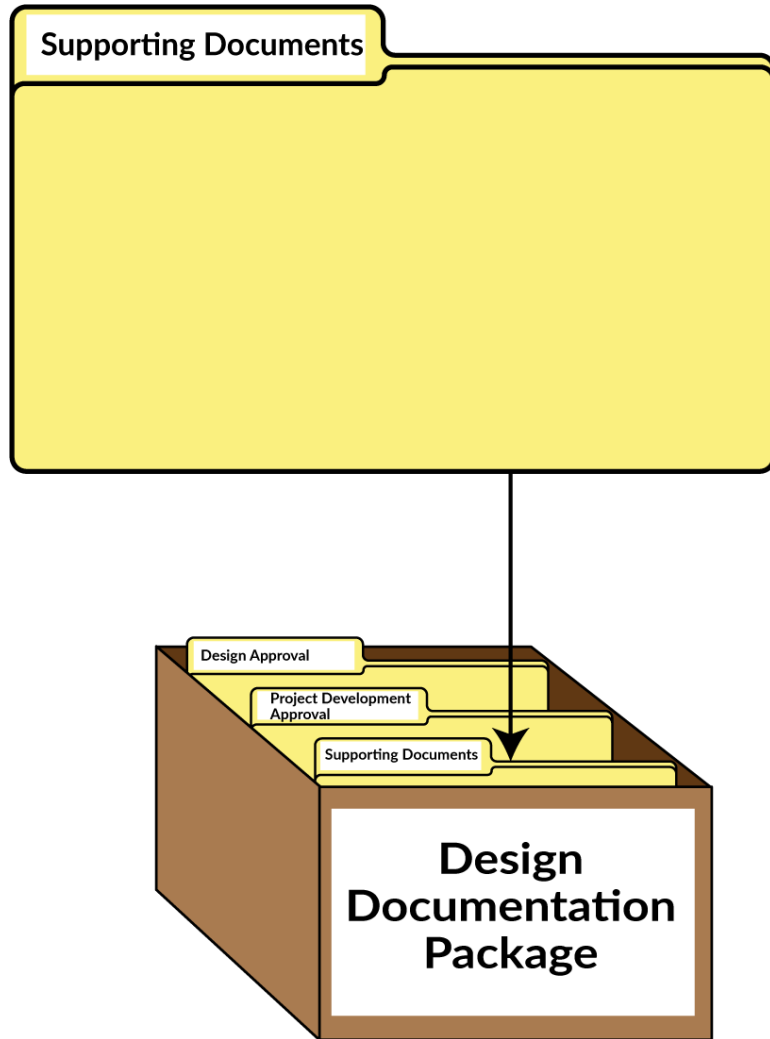


- Contains environmental approval
- Contains all documents changed or added after Design Approval
- Completed around 90% design
- Required prior to advertisement

For this training

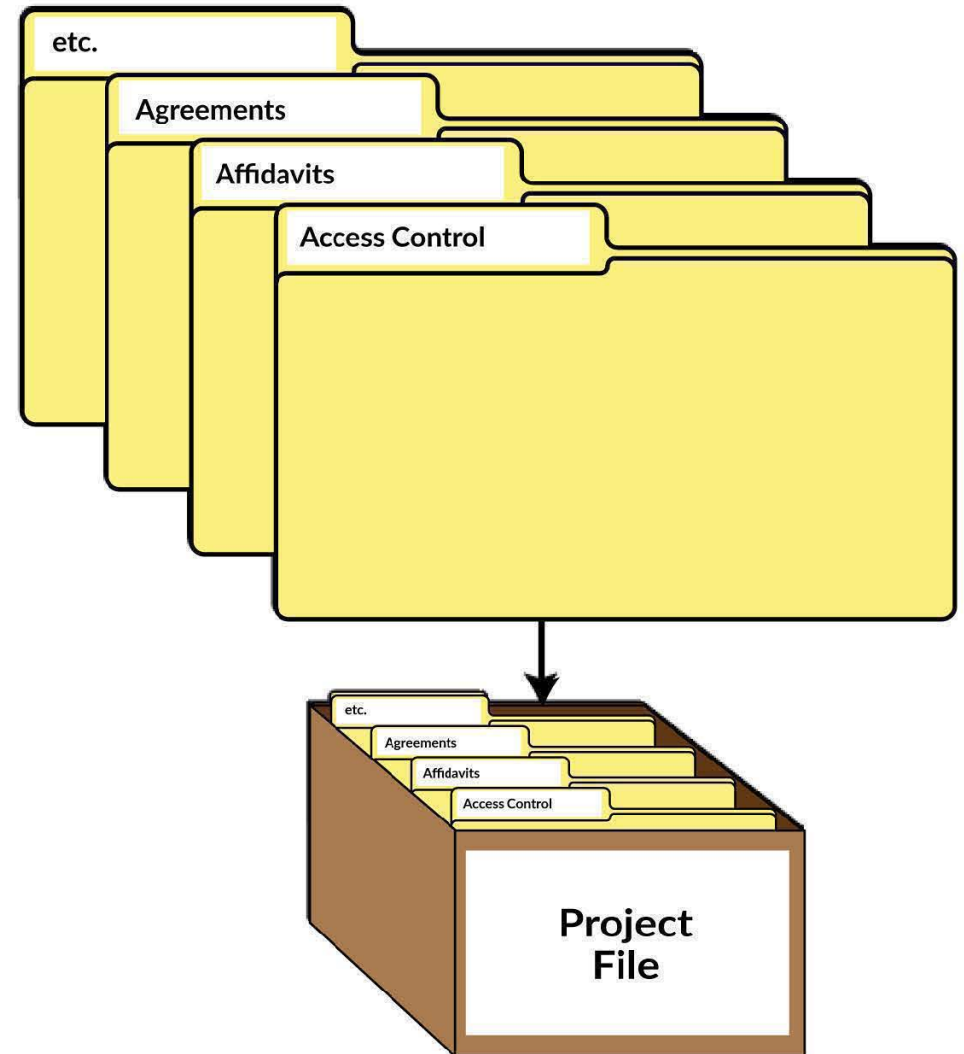
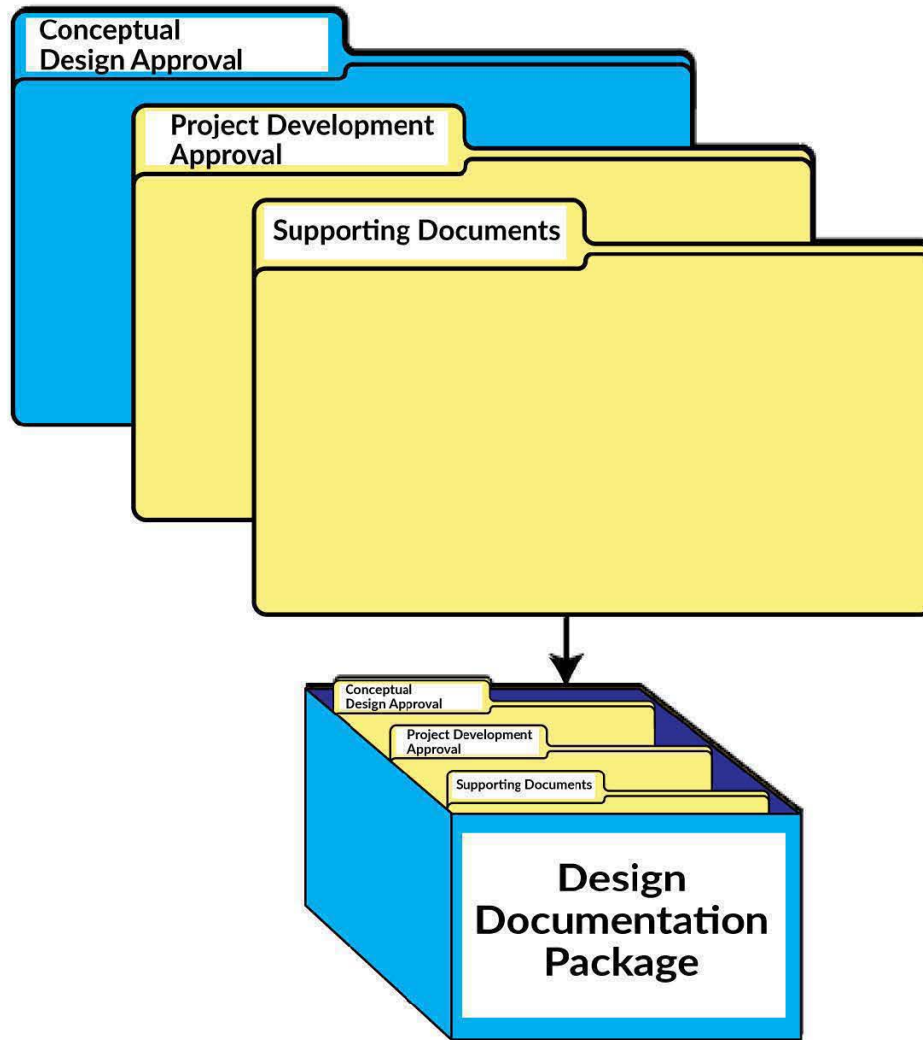
PDA = Project Development Approval

Supporting Documents – Design-Bid-Build

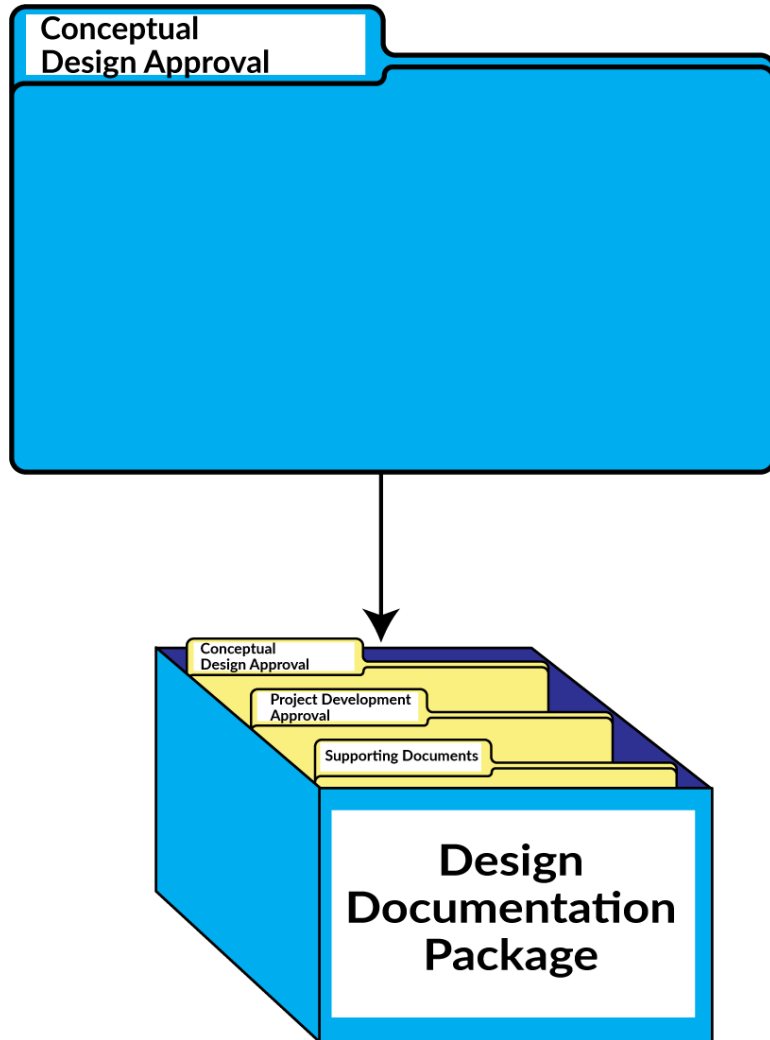


- Documents can be completed during Design Approval or Project Development Approval
- Only final documents

Design Documentation – Design-Build



Conceptual Design Approval – Design-Build

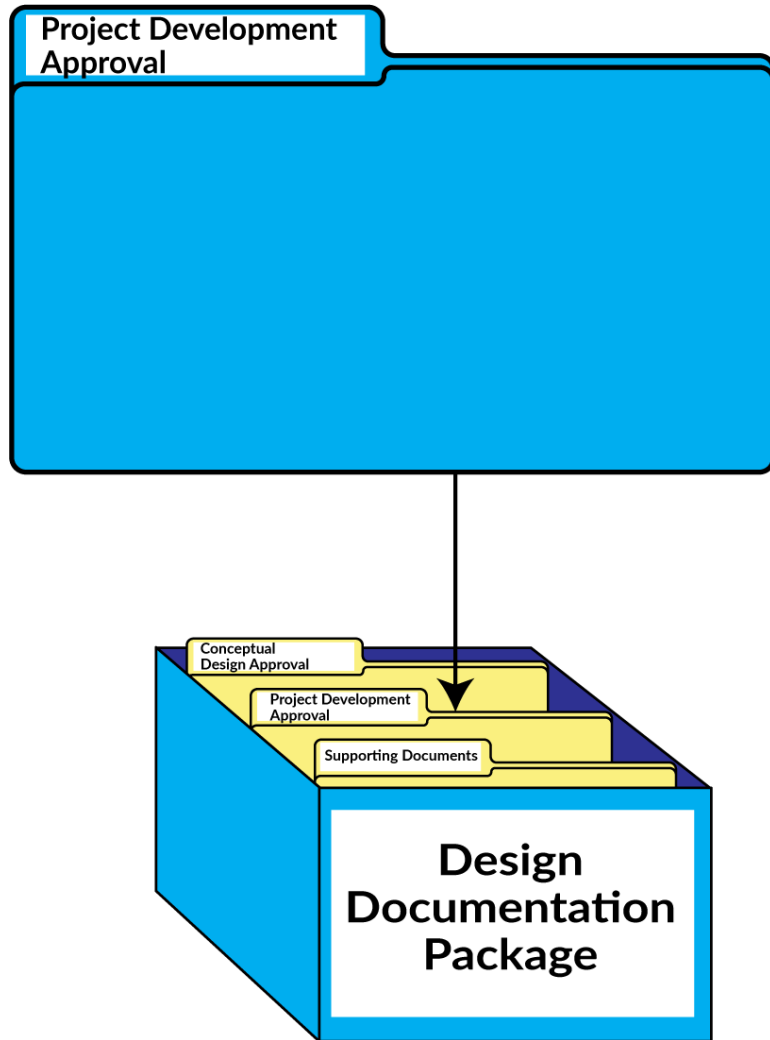


- Completed prior to RFQ
- Sets design policy for the duration of the design-build contract
- Do not have NEPA (2023 DM)
 - If advertising without NEPA completed, discuss with ASDE
- Compiled by WSDOT staff

For this training

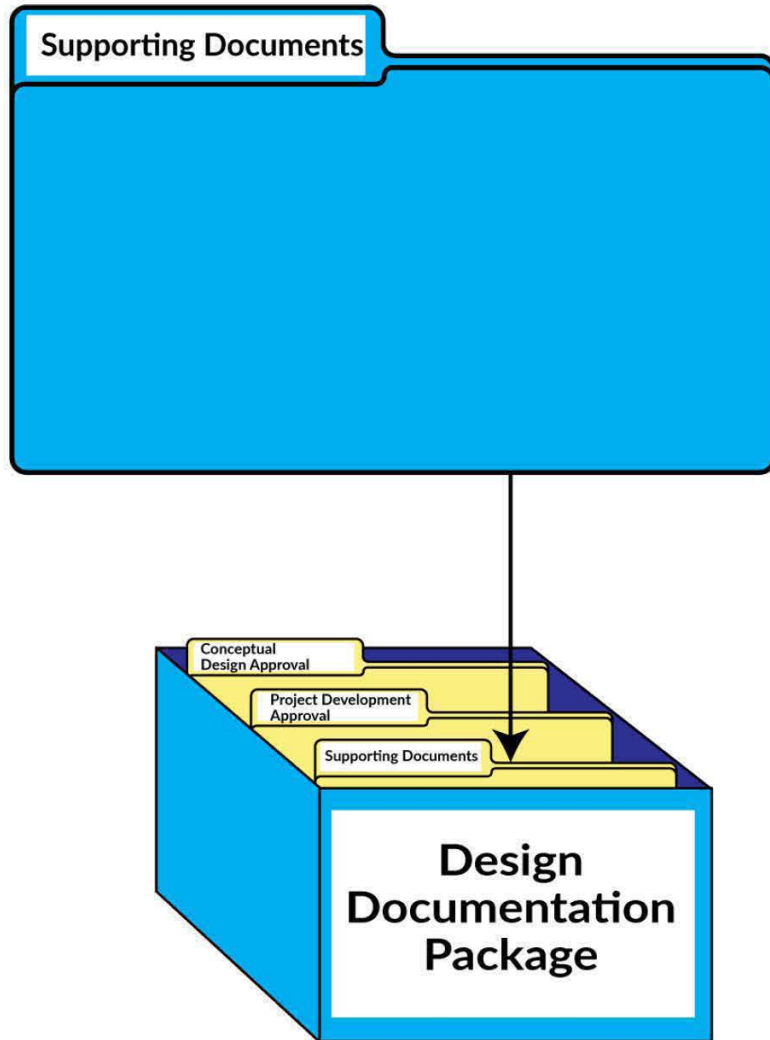
CDA = Conceptual Design Approval

Project Development Approval – Design-Build



- Completed by the design builder
- Contents the same as design bid build and detailed in the RFP
- Completed prior to project completion

Supporting Documents – Design-Build



- Documents can be completed during Design Approval or Project Development Approval
- Only final documents
- If document is completed for Design Approval and then changed for Project Development Approval, there will be two final documents

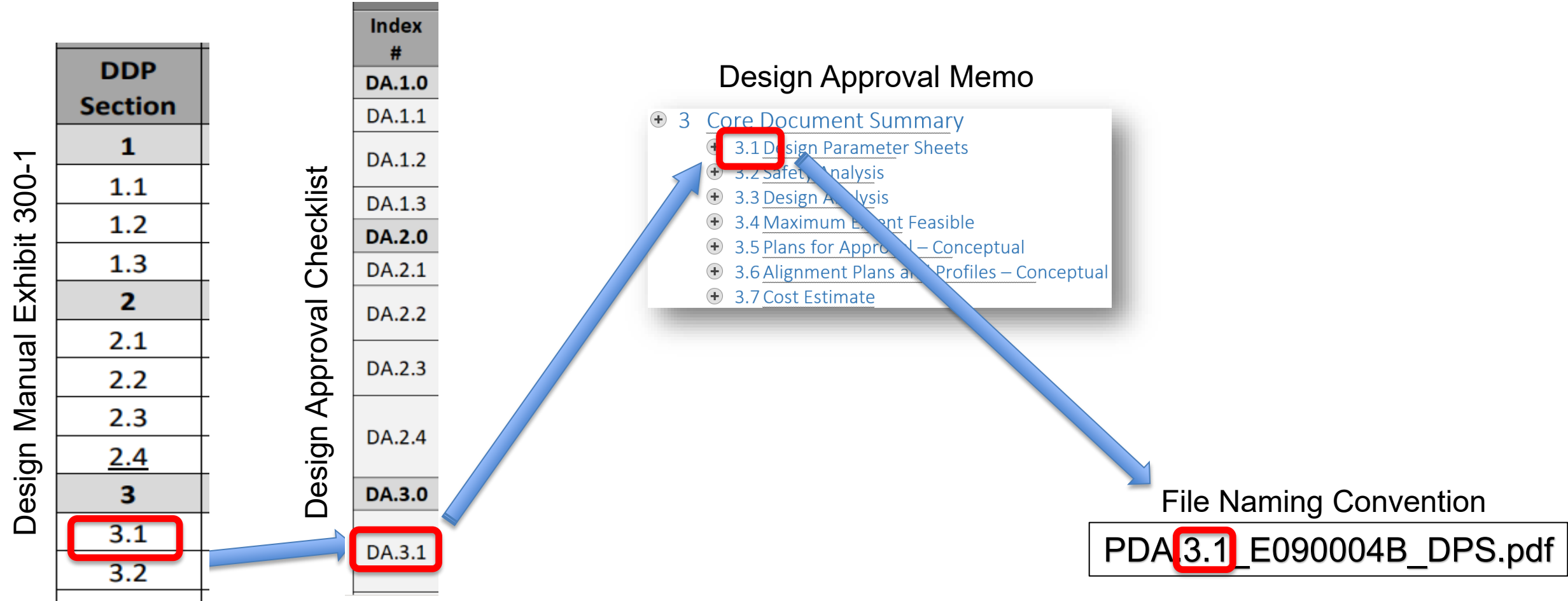
DDP Organization

Design Manual Exhibit 300-1

		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	Complete Streets					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U

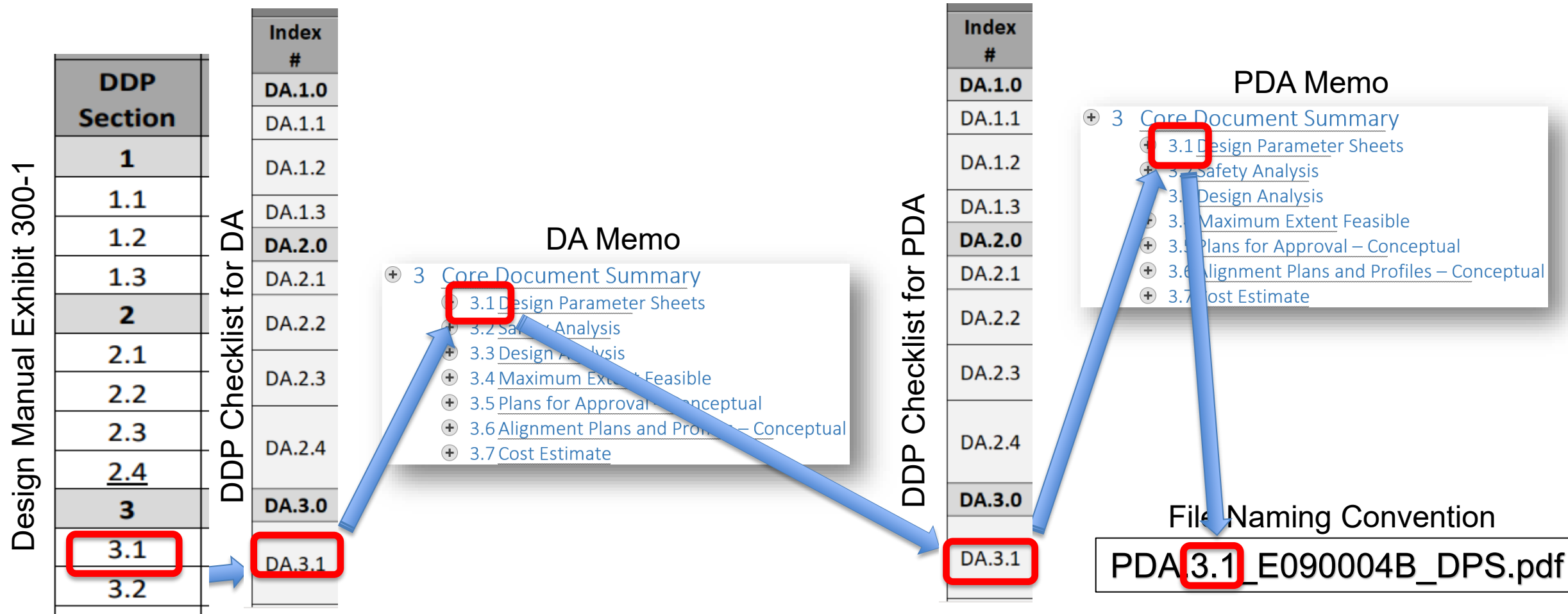
DDP Organization

For Design Approval



DDP Organization

Design Manual to DA through PDA



Approval Authorities

Design Manual Exhibit 300-2

Valid for 3-Years

Project Type	BOD Approval	Design Analysis Approval [1]	Design Approval, Conceptual Design Approval, and Project Development Approval
Project of Division Interest (PoDI)	[2]	[2]	[2]
Interstate [3]			
Non-Preservation Projects	HQ Design	HQ Design	HQ Design
Preservation Projects	HQ Design	HQ Design	Region
National Highway System (NHS)			
Projects on all limited access highways, or on managed access highways outside of incorporated cities and towns	Region ‡	HQ Design	Region
Projects on managed access highways within incorporated cities and towns: Inside curb or EPS [4] [7]	Region ‡	HQ Design	Region
Projects on managed access highways within incorporated cities and towns outside curb or EPS [7]	City/Town	HQ LP	City/Town

Approval Authorities

Design Manual Exhibit 300-3 Approvals

Item	Approval Authority		
	Region	HQ	FHWA
Program Management ←			
Project Profile		X [10]	
Work Order Authorization		X	X [1]
Public Hearings ←			
Corridor Hearing Summary		X [2]	
Design Hearing Summary		X [3]	X [8]
Limited Access Hearing		X [4]	
Access Control ←			
Limited Access Break: Interstate		[7]	X
Limited Access Break: non-Interstate		X	
Environmental Document ←			
Environmental Review Summary	X		
NEPA – Environmental Impact Statement (EIS)		[7]	X
NEPA – Categorical Exclusion (CE)	X		
NEPA – Environmental Assessment (EA)		[7]	X

Definitions

MINIMUM: The least dimension allowed

MAXIMUM: The greatest dimension allowed

DESIGN UP: Start with lowest dimension first

DESIRABLE: Try to achieve this level



Washington State
Department of Transportation

Design Manual

M 22-01.21

September 2022

Division 1 – General Information

Division 2 – Hearings, Environmental, and Permits

Division 3 – Project Documentation

Division 4 – Surveying

Division 5 – Right of Way and Access Control

Division 6 – Soils and Paving

Division 7 – Structures

Division 8 – Hydraulics

Division 9 – Roadside Development

Division 10 – Traffic Safety Elements

Division 11 – Practical Design

Division 12 – Geometrics

Division 13 – Intersections and Interchanges

Division 14 – HOV and Transit

Division 15 – Pedestrian and Bicycle Facilities

Division 16 – Roadside Safety Elements

Division 17 – Roadside Facilities

Engineering and Regional Operations
Development Division, Design Office

Levels of Documentation

 **CONSIDER:** To think carefully about, especially in order to make a decision.

Engineer of Record determines HOW or IF it is documented

 **DOCUMENT** (verb): Including a short note to the DDP that explains a decision.

Engineer of Record determines HOW it is documented

 **JUSTIFY:** Preparing a memo to the DDP identifying the reasons for the decision.

A Design Decision is written. Use the Design Analysis Template.

Design Decisions follow the same process as a Design Analysis but are only approved by the Engineer of Record.

Changes to Approved Documents

- Errata
 - Typo or error corrections
 - Cannot change conclusion
- Supplement
 - Additional information
- Amend
 - Changes marked on original
 - Limited in scale
- Supersede
 - Original document is replaced

Re-approval
not required

Same
approval
required as
original
document

**BREAK
TIME!**



Design Documentation

**Design Approval/
Conceptual Design Approval**

Access Control & Jurisdiction



RCW 47.24

Limited Access Control

WSDOT has full jurisdiction, responsibility, and control



Managed Access Control

County: WSDOT has full jurisdiction, and responsibility

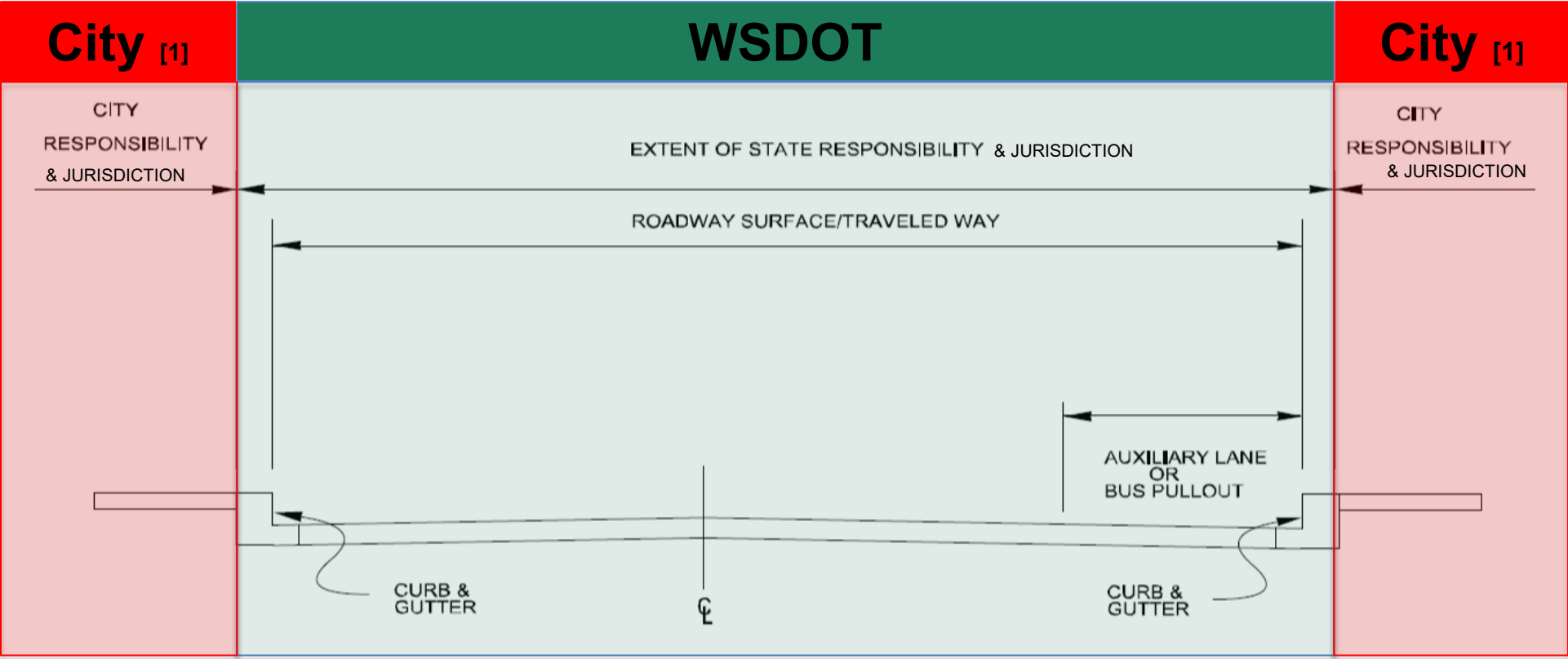
City: Cities shall exercise full responsibility for and control over any such street beyond the curbs

City Streets as Part of State Highways

"This report documents agreed upon guidelines that have been reached by the Washington State Department of Transportation (State) and the Association of Washington Cities (AWC) on the interpretation of construction, operations and maintenance responsibilities of the state and cities for such city streets."

See [City Streets as Part of State Highways](#) agreement

Jurisdiction & Responsibility: Managed Access



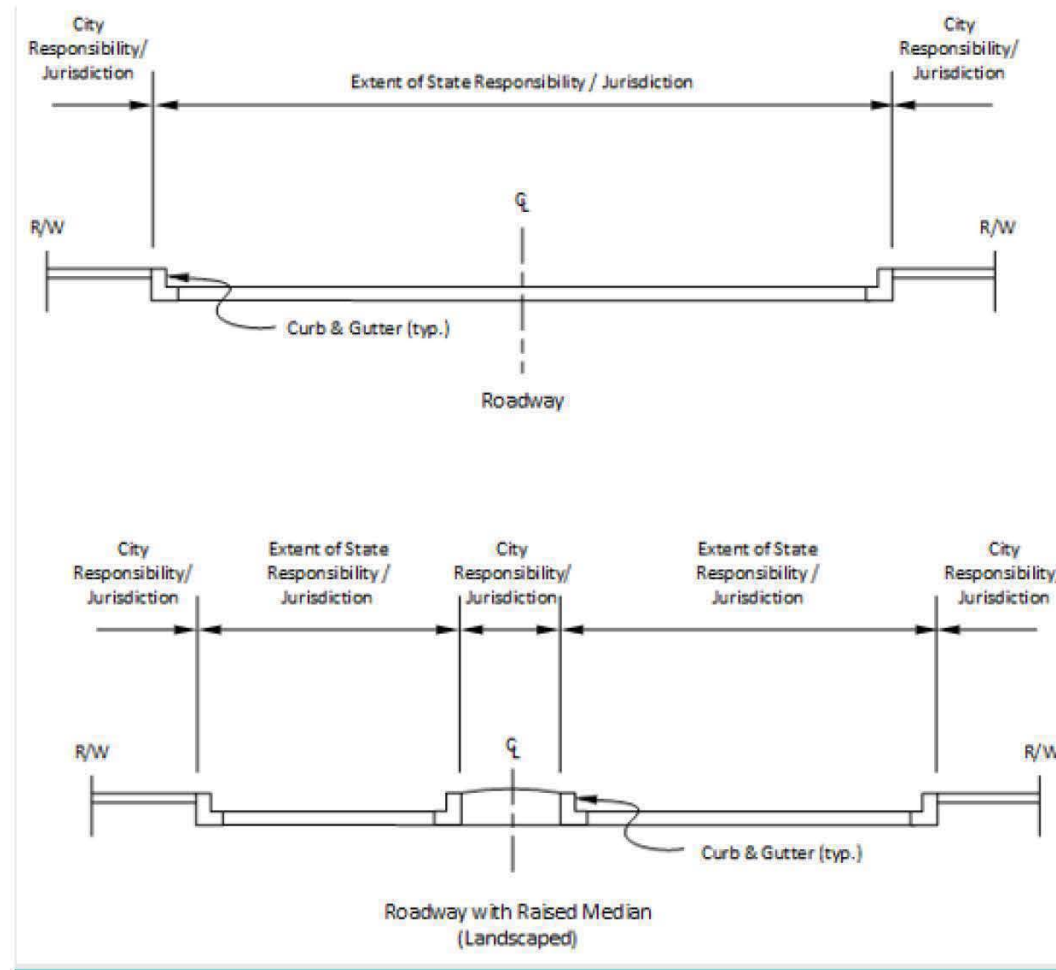
[1] RCW 47.24.020

[2] RCW 35.78.040

Local Programs
Approval [2]

Design Manual Acknowledgement

Exhibit 100-1 State and City Jurisdictional Responsibilities



Design Manual Acknowledgement



Exhibit 300-2 Approval Authorities

Project Type	BOD Approval	Design Analysis Approval [1]	Design Approval and Project Development Approval
Project of Division Interest (PoDI)	[2]	[2]	[2]
Interstate			
Non-Preservation Projects	HQ Design	FHWA [3] HQ Design	HQ Design
Preservation Projects	HQ Design	FHWA [3] HQ Design	Region
National Highway System (NHS)			
Projects on all limited access highways, or on managed access highways outside of incorporated cities and towns	Region ‡	HQ Design	Region
Projects on managed access highways within incorporated cities and towns: Inside curb or EPS [4]	Region ‡	HQ Design	Region
Projects on <u>managed access</u> highways within incorporated cities and towns <u>outside curb or EPS</u>	City/Town	HQ LP	City/Town
Non-National Highway System (Non-NHS)			
Improvement projects on all limited access highways, or on managed access highways outside of incorporated cities and towns	Region ‡	HQ Design	Region
Improvement projects on managed access highways within incorporated cities and towns [5]: Inside curb or EPS [4]	Region ‡	HQ Design	Region
Improvement projects on <u>managed access</u> highways within incorporated cities and towns [5] <u>outside curb or EPS</u>	City/Town	HQ LP	City/Town
Preservation projects on limited access highway, or on managed access highways outside of incorporated cities and towns, or within unincorporated cities and towns [6]	Region	Region	Region
Preservation projects on managed access highways within incorporated cities and towns [6]: Inside curb or EPS [4]	Region	Region	Region
Preservation projects on <u>managed access</u> highways within incorporated cities and towns [6] <u>outside curb or EPS</u>	City/Town	HQ LP	City/Town

‡ HQ Design concurrence required

FHWA = Federal Highway Administration

HQ = WSDOT Headquarters

HQ LP = WSDOT Headquarters Local Programs Office

EPS = Edge of paved shoulder where curbs do not exist

NHS = National Highway System

*RCW 35.78.040

Local Agency Guidelines (LAG)

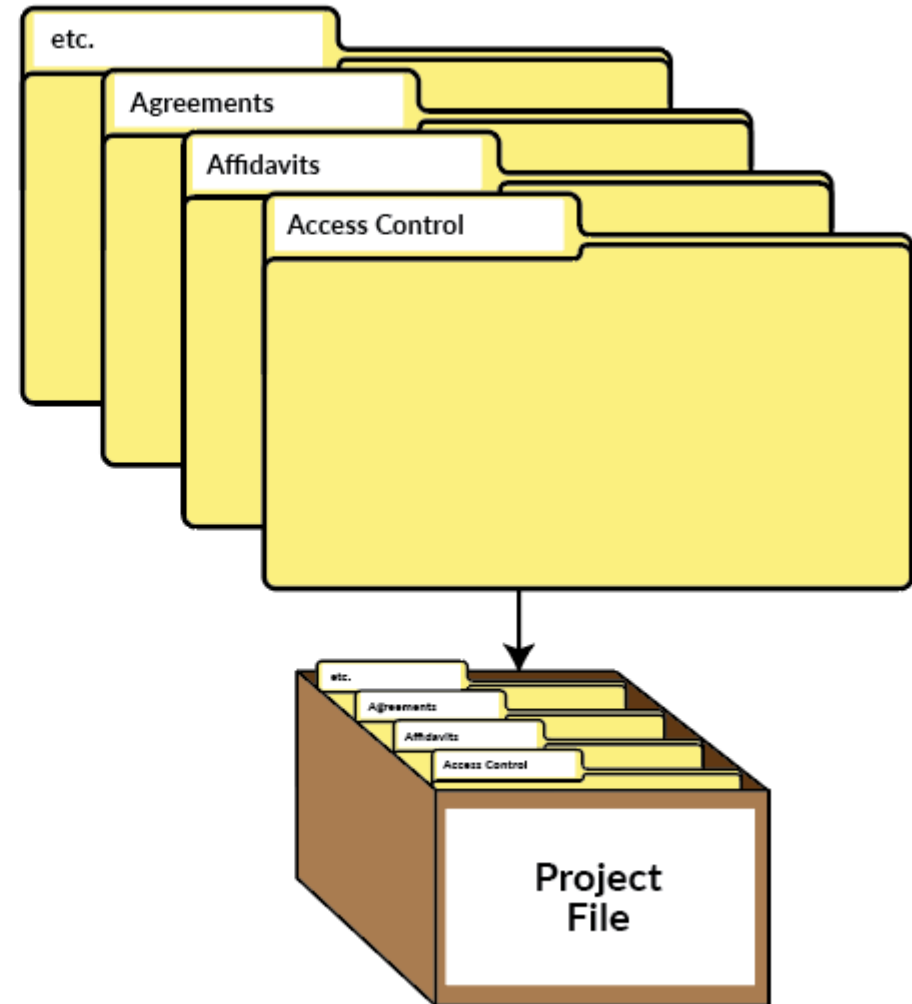
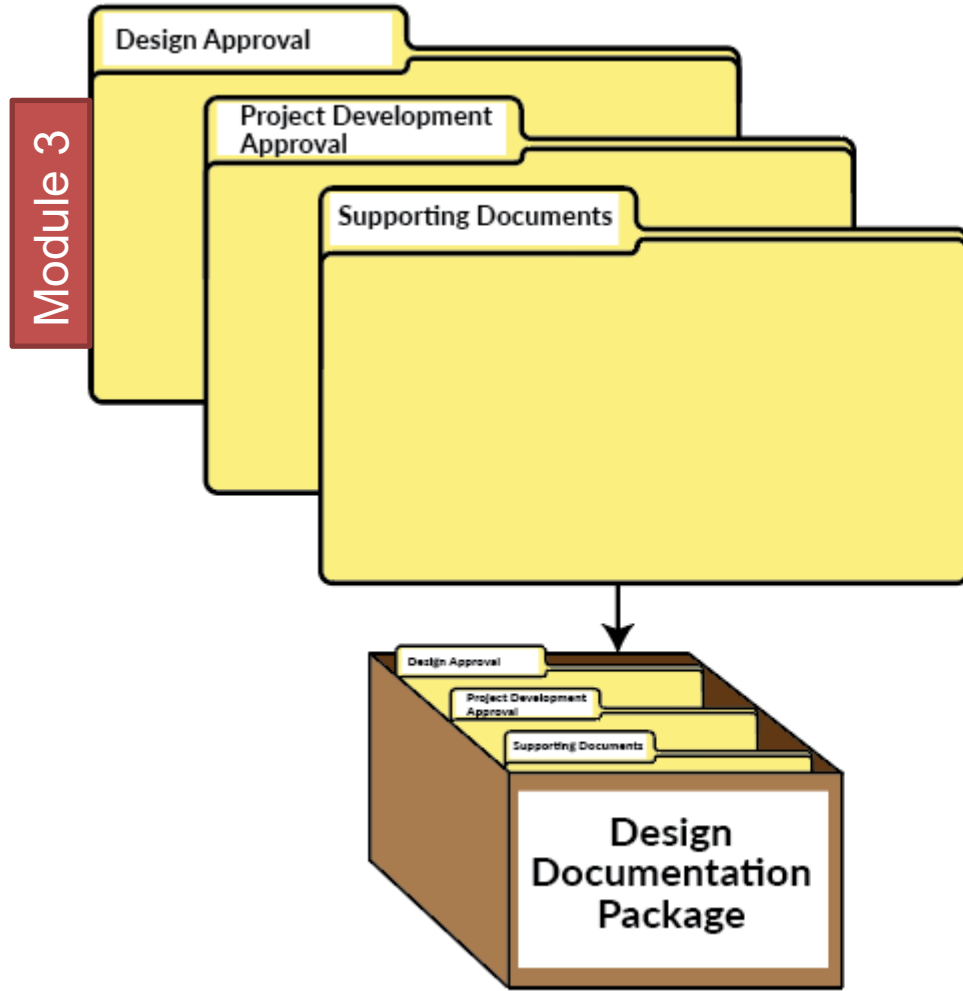
Acknowledgement



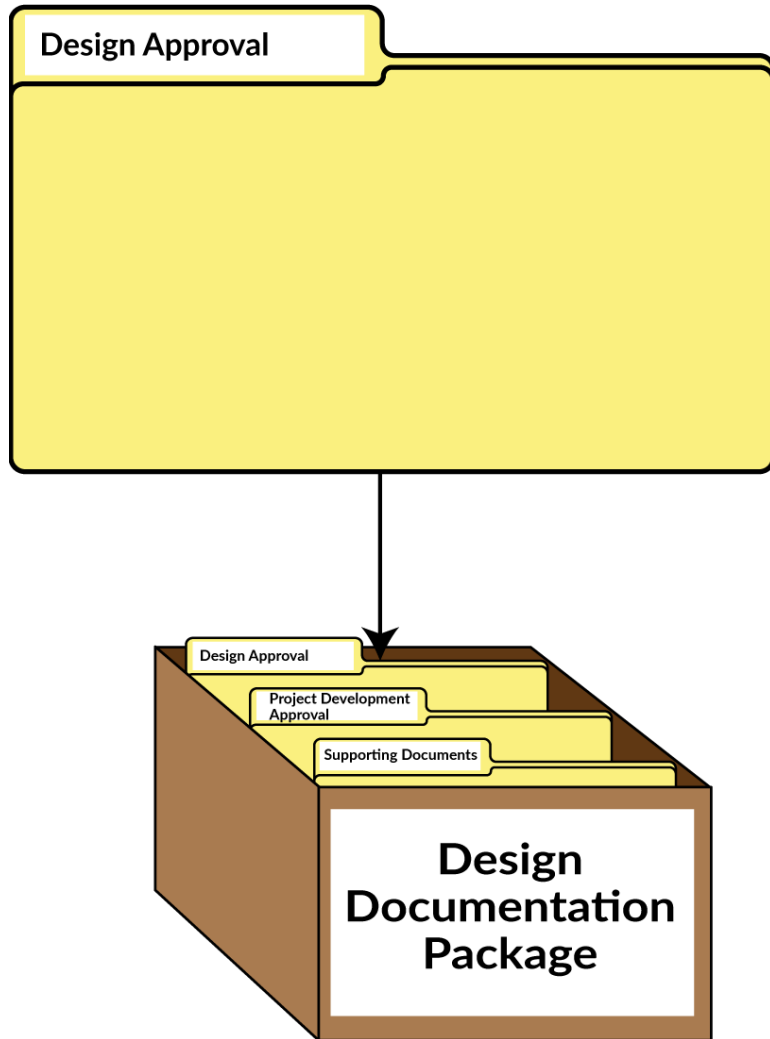
Facility	Design Standards	Deviation Approval	Design Approval
Interstate			
New/Reconstruction	WSDOT <i>Design Manual</i>	WSDOT/FHWA	WSDOT/FHWA
ITS Over \$1,000,000	WSDOT <i>Design Manual</i>	WSDOT HQ	WSDOT HQ
All Other	WSDOT <i>Design Manual</i>	WSDOT HQ	WSDOT Region
National Highway System (NHS)			
State Highways outside of incorporated cities, or on a limited access highway	WSDOT <i>Design Manual</i>	WSDOT HQ	WSDOT Region
State Highways within incorporated cities between back of curb to back of curb	WSDOT <i>Design Manual</i>	WSDOT HQ	WSDOT Region
State Highways <u>within incorporated cities</u> <u>beyond curb line</u>	*City and County Design Standards See Chapter 42	WSDOT Local Programs	City
City Streets (non-State highways)	*City and County Design Standards See Chapter 42	WSDOT Local Programs	City
County Roads	*City and County Design Standards See Chapter 42	WSDOT Local Programs	County

*RCW 35.78.040

Design Documentation



Design Approval



Design Approval Sections:

1. Introductory Documents
2. Project Summary Documents
3. Core Documents
4. Environmental Documentation
5. Supporting Documents
6. Other Approvals and Justifications
7. Other Items

These seven sections are the same for Design Approval, Conceptual Design Approval, Combined DA/PDA, and Project Development Approval.

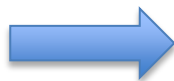
Design Approval

Introductory Documents

DDP Section	Document	Design-bid-build			Design-Build	
		DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R	U	R	R	U
3.4	Maximum Extent Feasible	R	U	R	R	U
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

Introductory Documents are the same for DBB and DB

Design Approval



DESIGN APPROVAL				
Index #	Item Abbr.	Description	In DA	Notes
DA.1.0	Introductory Documents			
DA.1.1	TOC	Table of Contents	Required	The Table of Contents is this document.
DA.1.2	Memo	Memorandum	Required	See the Memorandum Templates on the Design Support website .
DA.1.3	VM	Vicinity Map	Required	See Plans Preparation Manual.
DA.2.0	Project Summary Documents			
DA.2.1	PP	Project Profile	Required	Printout from TEIS.
DA.2.2	ERS	Environmental Review Summary	Required	Printout from TEIS.
DA.2.3	BOD	Basis of Design	Required	If BOD exempt, include email from the appointing authority.
DA.2.4	CS	Complete Streets	Required	Include the signed CS Screening Worksheet, Design Decision for deferral (if warranted), and any other CS documentation.
DA.3.0	Core Documents			
DA.3.1	DPS	Design Parameter Sheets	Choose an item.	Complete to the level known at this stage of the project. If N/A is chosen, then state why in the Memorandum (DA.1.2).
DA.3.2	SA	Safety Analysis	Choose an item.	See WSDOT Safety Analysis Guide . If N/A is chosen, then state why in the Memorandum (DA.1.2).
DA.3.3	DA	Design Analysis	Choose an item.	A new Design Analysis known at this stage of the project. DM 300.03(2)(a)
DA.3.4	MEF	Maximum Extent Feasible	Choose an item.	A new MEF known at this stage of the project. DM 1510.03.
DA.3.5	PFA	Plans for Approval	Choose an item.	Conceptual Intersection and/or Interchange Plans . A Region may have a more detailed checklist.
DA.3.6	APP	Alignment Plans and Profiles	Choose an item.	If significantly modified.
DA.3.7	CostE	Cost Estimate	Choose an item.	Compare to the budget.

DA.1.1_TOC: Table of Contents

DDP Checklist = Table of Contents

Design-Bid-Build checklist

For design-bid-build projects, use the [Design-Bid-Build Design Documentation Package checklist \(DDP\) \(DOCX 27KB\)](#) to determine the contents of the DDP.

For design-build projects, use the [Design-Build Design Documentation Package checklist \(DB-DDP\) \(DOCX 55KB\)](#). The content of the DDP is fixed for every project and retained for 75 years.

Design-Build checklist

Checklist available on [ASDE Design Support Website](#)

DA.1.1_TOC: Table of Contents

- Start with the Checklist Instructions Page
- Checklist Version #.# (listed in the footer)
- Depending on your situation use DA, PDA, **or** Combined DA/PDA for the first three sections. Delete the others.
- Before Submittal:
 - Instructions Page is deleted
 - Red Text is deleted

[Insert Project Name]

DESIGN APPROVAL				
Index #	Item Abbr.	Description	In DA	Notes
DA.1.0		Introductory Documents		
DA.1.1	TOC	Table of Contents	Required	The Table of Contents is this document.

PROJECT DEVELOPMENT APPROVAL				
Index #	Item Abbr.	Description	In PDA	Notes
PDA.1.0		Introductory Documents		

COMBINED DA/PDA				
Index #	Item Abbr.	Description	In PDA	Notes
PDA.1.0		Introductory Documents		

CONCEPTUAL DESIGN APPROVAL				
Index #	Item Abbr.	Description	In CDA	Notes
Introductory Documents				
CDA.1.0		Introductory Documents		
CDA.1.1	TOC	Table of Contents	Required	The Table of Contents is this document.
CDA.1.2	Memo	Memorandum	Required	See the Memorandum Templates on the Design Support website .
CDA.1.3	VM	Vicinity Map	Required	See Plans Preparation Manual.
Project Summary Documents				
CDA.2.0		Project Summary Documents		
CDA.2.1	PP	Project Profile	Required	Printout from TEIS.
CDA.2.2	ERS	Environmental Review	Required	Printout from TEIS.

DA.1.1_TOC: Template

Instructions to Designers are in red text

[Insert Project Name]

DESIGN APPROVAL				
Index #	Item Abbr.	Description	In DA	Notes
DA.1.0	Introductory Documents			
DA.1.1	TOC	Table of Contents	Required	The Table of Contents is this document.
DA.1.2	Memo	Memorandum	Required	See the Memorandum Templates on the Design Support website .
DA.1.3	VM	Vicinity Map	Required	See Plans Preparation Manual.
DA.2.0	Project Summary Documents			
DA.2.1	PP	Project Profile	Required	Printout from TEIS.
DA.2.2	ERS	Environmental Review Summary	Required	Printout from TEIS.
DA.2.3	BOD	Basis of Design	Required	If BOD exempt, include email from the appointing authority.

DDP Checklist Version 1.5 – November 2023

DA.1.1_TOC: Example

Updated TOC with red text or instructions to designers have been deleted

XL 1234: SR 999 / Smith Creek Fish Passage

COMBINED DA/PDA				
Index #	Item Abbr.	Description	Required?	Comments
PDA.1.0		Introductory Documents		
PDA.1.1	TOC	Table of Contents	Required	Included
PDA.1.2	Memo	Memorandum	Required	Included
PDA.1.3	VM	Vicinity Map	Required	Included
PDA.2.0		Project Summary Documents		
PDA.2.1	PP	Project Profile	Required	Included
PDA.2.2	ERS	Environmental Review Summary	Required	Included
PDA.2.3	BOD	Basis of Design	Required	Project received a BOD exemption. Email approving the exemption is included.

DA.1.1_TOC: Example

Some items have “Choose an item.”

For example, the Combined DA/PDA has these are dropdowns. Select “Choose an item.” and pick the appropriate item.

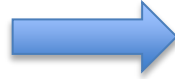
PDA.3.0		Core Documents		
PDA.3.1	DPS	Design Parameter Sheets	Required	
PDA.3.2	SA	Safety Analysis	Required	See WSDOT Safety Analysis Guide.
PDA.3.3	DA	Design Analysis	<div>Included in DA? Choose an item.</div>	
PDA.3.4	MEF	Maximum Extent Feasible	<div>Choose an item. Yes N/A</div> <div>item. N/A</div>	

DA.1.1_TOC: Example

What happens if you have three design analyses?

PDA.3.0		Core Documents		
PDA.3.1	DPS	Design Parameter Sheets	Required	Included
PDA.3.2	SA	Safety Analysis	Required	Included
PDA.3.3	DA	Design Analysis	Yes	There are three design analyses on this project.
	3.3.1	Design Analysis #1 Lane and Shoulder Width		
	3.3.2	Design Analysis #2 Off-Ramp Taper		
	3.3.3	Design Analysis #3 Superelevation		
PDA.3.4	MEF	Maximum Extent Feasible	N/A	No MEFs required on this project.

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	Complete Streets					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	N/A	R
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.1.2_Memo: Memorandum

Design-Bid-Build
Memorandum

To complete the DDP checklist, you will need the following:

- [Project Memo - DBB, Version 2.2 \(DOCX 39KB\)](#) (for design-bid-build projects)
- [Project Memo - DB, Version 2.1 \(DOCX 37KB\)](#) (for design-build projects)
- [Design Clear Zone Inventory form \(XLSX 21KB\)](#)
- [Design Parameters \(XLSX 33KB\)](#)
- [Design Analysis, Version 1.3 \(DOCX 31KB\)](#)
- [Design Decision - CS Deferral, Version 1.5 \(DOCX 71KB\)](#)
- [Design Decision - CS Deferral - Fish Passage, Version 1.4 \(DOCX 60KB\)](#)
- [Maximum Extent Feasible \(MEF\) template, Version 2.1 \(XLSX 1MB\)](#)
- [Plan for Approval Checklist, Version 1 \(DOCX 28KB\)](#)

Design-Build
Memorandum

The [Project File Checklist \(DOCX 21KB\)](#) contains project documentation that is deemed neces

Memorandum template available on [ASDE Design Support Website](#)

DA.1.2_Memo: Memorandum

- Check the Version #.# on the cover page

SIGNATURES

Template
Version 2.2

- **Red Text** is deleted
- Where it says “Choose an item.” select from the dropdown

Current Version
is 2.2

Choose an item.

Choose an item.

DESIGN APPROVAL

PROJECT DEVELOPMENT APPROVAL

COMBINED DESIGN APPROVAL AND PROJECT DEVELOPMENT APPROVAL

DA.1.2_Memo: Memorandum

Memorandum is built using Microsoft Word outline

- ⊕ Choose an item. MEMORANDUM
- ⊕ Project Description
- ⊕ 1 Introductory Documents
- ⊕ 2 Project Summary Documents
- ⊕ 3 Core Document Summary
 - ⊕ 3.1 Design Parameter Sheets
 - ⊕ 3.2 Safety Analysis
 - ⊕ 3.3 Design Analysis
 - ⊕ 3.4 Maximum Extent Feasible
 - ⊕ 3.5 Plans for Approval – Conceptual
 - ⊕ 3.6 Alignment Plans and Profiles – Conceptual
 - ⊕ 3.7 Cost Estimate
- ⊕ 4 Environmental Documentation
- ⊕ 5 Supporting Documents Summary
- ⊕ 6 Other Approvals and Justifications
- ⊕ 7 Other Items

—

DA.1.2_Memo: Memorandum

Signatures are on the first page

For DB projects,
there is no
signature on the
stamp

SIGNATURES		Template Version 2.2
ENGINEER OF RECORD	REGION APPROVAL	
<p>This document has been prepared under my direct supervision in accordance with RCW 18.43 and appropriate WSDOT manuals.</p> <p><i>PE stamp must be electronically signed using a digital representation of your handwritten signature per WAC 196-23. Include a date stamp with the electronic signature.</i></p> <p>Name, Title, Company, & Address:</p>	<p>Apply electronic signature using Adobe or Bluebeam including name and date.</p> <p><i>[insert title]</i></p>	
	ASSISTANT STATE DESIGN ENGINEER APPROVAL	
	<p>Consult Design Manual Chapter 300. If ASDE approval is not required, simply type "Not Applicable per Design Manual Chapter 300." in this box.</p>	
	FHWA APPROVAL	
<p>Consult Design Manual Chapter 300. If FHWA approval is not required, simply type "Not Applicable per Design Manual Chapter 300." in this box.</p>		

See Exhibit 300-2

DA.1.2_Memo: Instructions

The memorandum template has extensive instructions on what is addressed in each section

NOTE TO READERS

This Choose an item. consist of several documents that are individual files. The final versions of these individual files have been stored on the Region network drive at [***insert file directory***] and given a file name in accordance with Design Bulletin #2021-01. These files will be uploaded into the WSDOT Enterprise Content Management system and then deleted from the Region network drive.

This memorandum provides an executive summary of the entire Choose an item. as required by Design Manual Exhibit 300-1 and the Design Documentation Package (DDP) Checklist. The structure of this memorandum follows the structure of the DDP Checklist that was used for this project. The DDP Checklist can be found in the project documentation as file Choose an item._WIN#_TOC.pdf. The items listed in the DDP Checklist were developed under my supervision or under the supervision of a licensed professional as required by Design Manual Chapter 300 and Executive Order 1010.

DA.1.2_Memo: More Instructions

The memorandum template has extensive instructions on what is addressed in each section

3 Core Document Summary

The following sections and their numbering line up with the index numbering that you will use for the DA/PDA from Exhibit 300-1 of the Design Manual and the [DDP Checklist](#). Using this numbering system will make it easy to connect the highlights you are including in this DA/PDA memorandum with the detail that can be found later in the DA/PDA. If a particular section below is not applicable, write a statement on why it was not applicable rather than just stating not applicable.

3.1 Design Parameter Sheets

The [Design Parameters Sheets](#) compare a design element dimensions (e.g. Width Tangent Roadway) between Existing, Design Manual, and Proposed. Provide a high clip discussion of any design elements that were unique on how they were chosen. List the design elements that do not meet Design Manual Guidance and indicate that there is a Design Analysis for each of these elements in Section 3.3 of the DA/PDA.

DA.1.2_Memo: Multiple Design Analysis

If there is more than one item under a topic, add sub bullets

3.3 Design Analysis

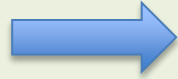
List all of the design analyses for the project. Provide a high clip summary of each. Indicate if the approval was FHWA, HQ Design, or Region.

3.3.1 Design Analysis #1

3.3.2 Design Analysis #2

3.3.3 Design Analysis #3

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	Complete Streets					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	N/A	R
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

Design Approval

Project Summary Documents

** See 300.04(3) for non-WSDOT funded projects

		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	Complete Streets					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis				R*	R
3.4	Maximum Extent Feasible				R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/ChannelizationInterchange Plans				C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

Project Summary Documents are the same for DBB and DB

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	Complete Streets					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	N/A	R
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.2.1: Project Profile

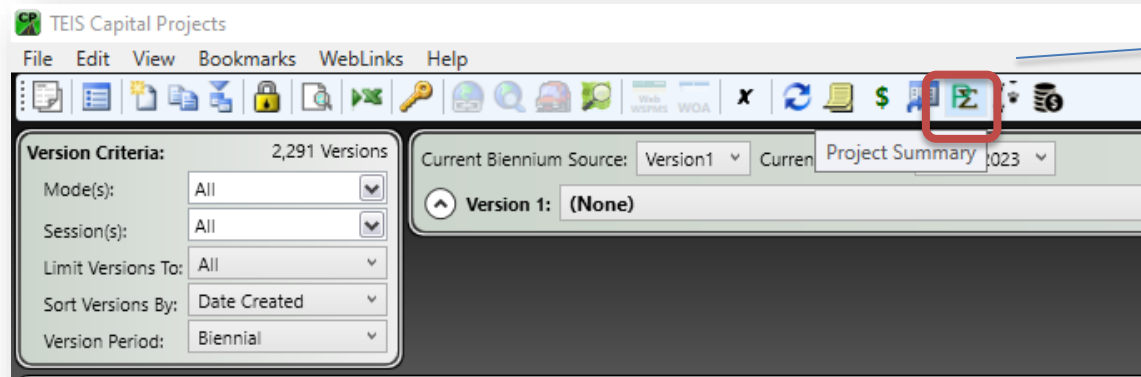


TEIS Capital Projects v4.0

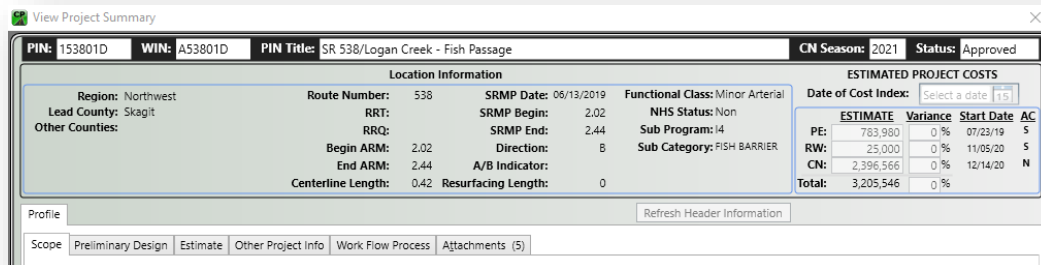
App

Open the TEIS Capital Projects app
Get the Project Profile by selecting Project Summary

TEIS is available to all
WSDOT employees



Find your project in the project list that appears



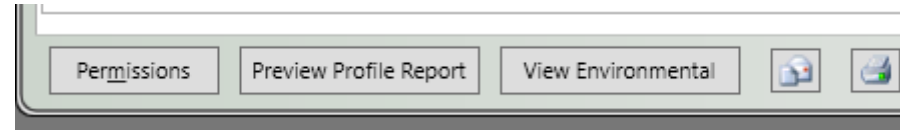
DA.2.1: Project Profile



TEIS Capital Projects v4.0

App

Select Preview Profile Report in the bottom left of the screen



The Project Profile Report will appear



Project Profile Report

PIN / Title: 153801D SR 538/Logan Creek - Fish Passage

WIN: A53801D

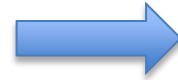
Type of Work:

Region: Northwest	Route: 538	SRMP Date: 6/13/2019	Func Class: Minor Arterial	Date of Cost Index:			
Lead County: Skagit	RRT:	SRMP Begin: 2.02	NHS Status: Non	Est	Var	StartDate	AC
Other Counties:	RRQ:	SRMP End: 2.44	Sub Prog: I4	PE:	783,980	0%	07/23/19 S
	Begin ARM: 2.02	Direction: B	Sub Cat: FISH BARRIER	RW:	25,000	0%	11/05/20 S
	End ARM: 2.44	A/B Indicator:		CN:	2,396,566	0%	12/14/20 N
	Centerline Length: 0.42	Resurface Len: 0		Tot:	3,205,546	0%	

SCOPE

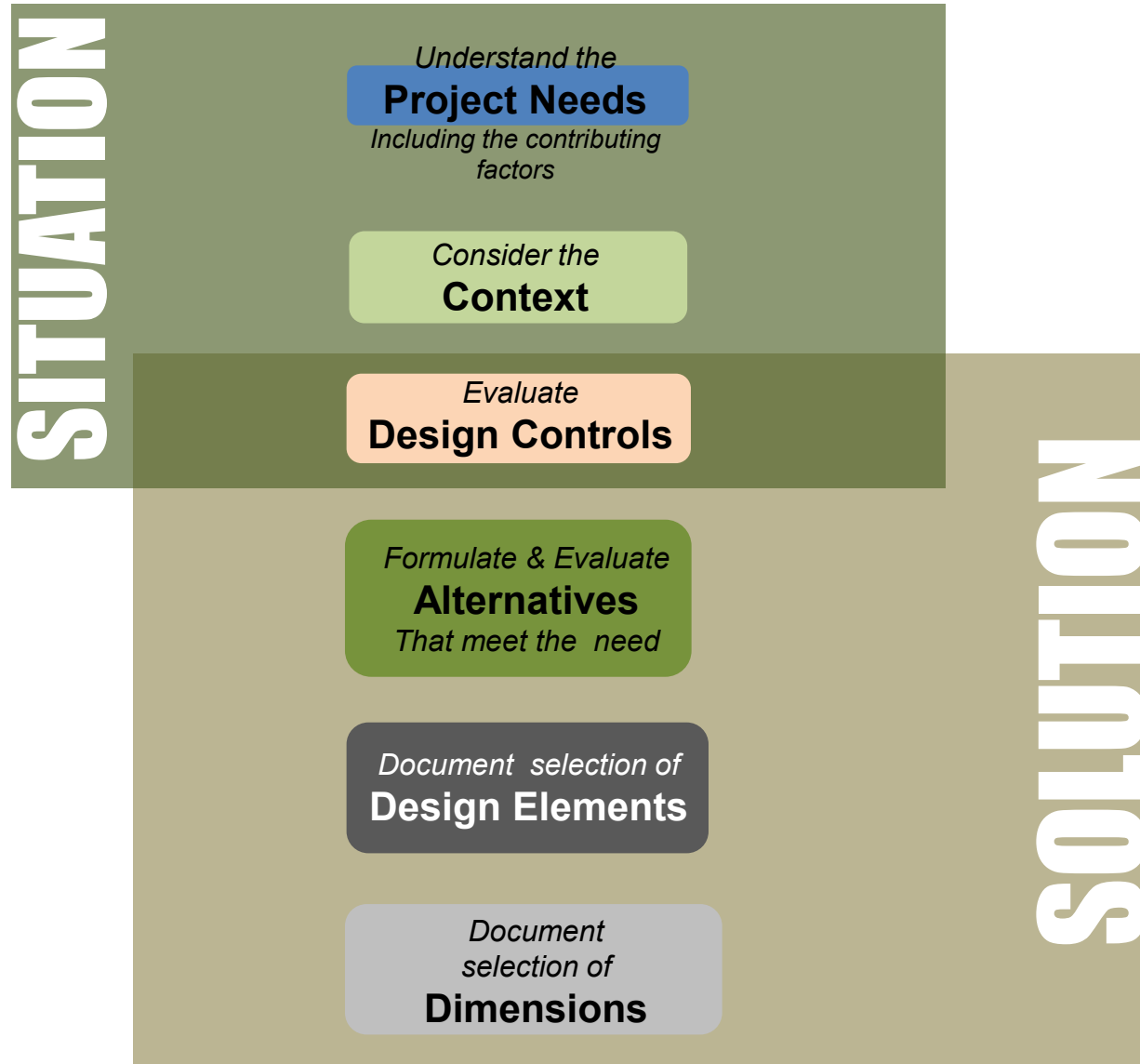
Project Purpose:	This project proposes to replace dual steel culverts passing Logan Creek under SR 538 at MP 2.18 with a new structure designed in accordance with stream simulation methodology to remove the barrier for migratory fish passage.
Need or Deficiency:	The dual steel arch culverts are a barrier to migratory fish.
Description of Work:	Remove and replace dual steel arch pipe with a 15' x 104' box culvert. A stream simulation design will include stream bed gravel similar to the existing stream channel.
Project Delivery Method:	Design Bid Build

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
<u>2.4</u>	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.2.2: Basis of Design



DA.2.2: Basis of Design

Why is Basis of Design (BOD) so important ?

- Think of the BOD as the “Cliff Notes” of the project
- Has a 75-year retention period
- Supports future Design Decisions
- Concludes the Pre-design phase
 - project profile, environmental review summary (ERS) & the BOD approval (10% - 30% design level)
- Kicks off the PE phase

DA.2.2_BOD: Basis of Design

Basis of Design

- Select a BOD template
 - compact roundabouts
 - fish passage
 - or all other projects

[Project Title]

[State Route], MP [Begin] to MP [End]
[Enter multiple SR and MP as necessary]

[Work Order Number], [WIN Number], [PIN Number]
[Month Day, Year]

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

Choose an item.

[City], Washington

May need to replace
“Approval” with
“Concurrence” per
DM Exhibit 300-2

SIGNATURES		Template Version 2.2						
PREPARED BY	REGION APPROVAL							
	Consult PDM #22-03 to determine if the BOD must be signed by the Regional Administrator (insert title)							
ASSISTANT STATE DESIGN ENGINEER APPROVAL								
Consult Design Manual Chapter 300. If ASDE approval is not required, simply type “Not Applicable per Design Manual Chapter 300.” in this box.								
PRACTICAL DECISION MAKING								
<p>Practical decision making is a philosophy that considers each situation, aligns with our financially constrained budget environment, and encourages incremental, flexible, and sustainable investments by focusing on identified performance needs and engaging stakeholders at the right time.</p> <p>There are six core principles that capture the essence of practical decision making:</p> <table border="0"><tr><td>• Starts with a clear purpose and need</td><td>• Considers resource constraints and life cycle cost</td></tr><tr><td>• Engages stakeholder and looks for partnerships</td><td>• Considers overall system performance</td></tr><tr><td>• Considers incremental, phase solutions</td><td>• Applies innovation and creativity</td></tr></table> <p>These six core principles are incorporated throughout the document.</p>			• Starts with a clear purpose and need	• Considers resource constraints and life cycle cost	• Engages stakeholder and looks for partnerships	• Considers overall system performance	• Considers incremental, phase solutions	• Applies innovation and creativity
• Starts with a clear purpose and need	• Considers resource constraints and life cycle cost							
• Engages stakeholder and looks for partnerships	• Considers overall system performance							
• Considers incremental, phase solutions	• Applies innovation and creativity							

Templates are available on [ASDE Design Support Website](#)

DA.2.2: Basis of Design

Related Documents and Technical Reports

Insert a list of documents and reports that were integral to the origination of this project. Use Chicago style referencing, a Chicago Citation Generator is available here: [Free Chicago Citation Generator \[Updated for 2022\] \(mybib.com\)](https://mybib.com).

Related Document Example

- **Use Chicago Style Referencing**
- Related documents include Planning documents, local agency studies, technical reports, other pertinent information
- Do not include reports referenced in other documents
- CMARS are not required when Complete Streets applies
- Link – <https://Mybib.com>

Related Documents and Technical Reports

Heilman, Julie. 2023. Review of **SR 525 MP 15.03 Unnamed Tributary to Deer Lagoon (WDFW ID: 991805) Preliminary Hydraulic Design Report**. Edited by WSDOT Headquarters Hydraulics Office. Olympia, WA: WSDOT.

Dreier, Jeff. 2023. Review of [Wildlife Habitat Connectivity](#) for **SR 525 Unnamed to Deer Lagoon (PIN 152525) Fish Passage Project**. State Route 525, MP 15.03. WSDOT.

Stamey, Mark. 2023. Review of **SR 525/Unnamed to Deer Lagoon – Fish Passage: [Environmental Review Summary](#)**. Edited by WSDOT – Mount Baker Area Environmental. Burlington, WA: WSDOT

Tabuena, Vivianne. 2024. Review of [Safety Analysis](#) for **SR 525 MP 14.96 to 15.10 UNT to Deer Lagoon FP**. Edited by WSDOT – NWR Traffic Operations – Mt Baker Area. Burlington, WA: WSDOT

Sjostrom, Elizabeth. 2023. Review of [Complete Streets Project Screening Worksheet](#) for **SR 525/Unnamed to Deer Lagoon – Fish Passage**. Edited by WSDOT – Mount Baker Area Planning. Burlington, WA: WSDOT

Island County. 2016. Review of **ISLAND COUNTY 2036 – 2016 GMA Periodic Review ORD C-139-16: Island County Comprehensive Plan**. Edited by Island County. Coupeville, WA

DA.2.2: Basis of Design

Route Information	Project Information and Background	Future and Related Projects	Major Enviro Considerations
-------------------	------------------------------------	-----------------------------	-----------------------------

General Project Information								
Route Information	SR	NHS (Y/N)	<u>Functional Class</u>	<u>City</u>		<u>County</u>		
Project Information	Begin SRMP	End SRMP	Budget	Funding Sub-Program	Posted Speed	<u>AADT</u>	<u>Truck %</u>	Clear Purpose and Need
Important Project History or Background								
Future and Related Projects								
Major Environmental Considerations								

**BREAK
TIME!**



DA.2.2: Basis of Design

Understand the
Project Needs
Including the contributing factors

Section 1) Project Needs
Baseline Needs (BN)
BN1 – TITLE Background: <i>Write a short paragraph providing the background behind why this is a baseline need for the project. Make sure you address what are the contributing factors to this baseline need. If this project is a preservation project that would normally be BOD exempt per DM 1100.04(1)(a), state such here and mark the metric and target as "N/A".</i> Metric: <i>What are you going to measure? This needs to be a simple statement or a few words.</i> Target: <i>What is the project's target for the above metric? Keep this simple.</i>
BN# – TITLE Background: <i>Write a short paragraph providing the background behind why this is a baseline need for the project. Make sure you address what are the contributing factors to this baseline need.</i> Metric: <i>What are you going to measure? This needs to be a simple statement or a few words.</i> Target: <i>What is the project's target for the above metric? Keep this simple.</i>

BASELINE NEEDS:
 Need(s) that triggered the project or are brought by a funding partner

METRIC and TARGET for each baseline need.
 Targets may be quantitative or qualitative

Baseline need(s) – must be addressed by the project

DA.2.2: Basis of Design

Understand the
Project Needs
Including the contributing factors

Examples

Fish Passage

BN1: Fish Passage

Background: *The existing culvert has been identified as a barrier to fish.*

Metric: Fish passage water crossing

Target: Allow fish to move freely at all flows when fish are expected to move

Compact Roundabout

BN1 – Safety

Background: To reduce the potential for fatal and serious crashes at intersections by constructing compact roundabouts per the I2 Prevention Systemic Safety Programmatic strategy.

Metric: Potential for fatal and serious crashes

Target: Reduce fatal and serious crash potential

DA.2.2: Basis of Design

Understand the
Project Need
Including the contributing
factors

All projects are assessed to determine if Complete Streets applies

- If **CS applies** fill out highlighted sections

Complete Streets Needs
Does Complete Streets apply to the project? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <i>Refer to the Complete Streets Project Screening Worksheet. If the result of the worksheet was a complete streets analysis was required, then check Yes and provide highlights of the Project Screening Worksheet in this box. Leave the remainder of the Complete Streets Model Process for Sections 2 and 4 of the BOD. If Complete Streets is not applicable, check "no" and insert a statement as to why and delete the next two rows of this BOD. If the Complete Streets Model Process results in a "no" that involved a determination by the Regional Administrator (see PDM #22-03), summarize the decision here and have the Regional Administrator sign in the "Region Approver" box on the signature sheet of this BOD (Page 1).</i>
Complete Streets for Pedestrians <i>Delete this cell if you are not a Complete Street project.</i> Background: <i>Write a short paragraph providing the background behind complete streets for pedestrians.</i> Metric: Pedestrian Level of Traffic Stress (PLTS) Target: <i>2 or better</i>
Complete Streets for Bicyclists <i>Delete this cell if you are not a Complete Street project.</i> Background: <i>Write a short paragraph providing the background behind complete streets for bicyclist. Delete this cell if you are not a Complete Street project.</i> Metric: Bicycle Level of Traffic Stress (BLTS) Target: <i>2 or better</i>

- If **CS does not apply** delete highlighted sections and fill out the appropriate parts of Section 2 of the BOD

Complete Streets Needs
Does Complete Streets apply to the project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>Refer to the Complete Streets Project Screening Worksheet. If the result of the worksheet was a complete streets analysis was required, then check Yes and provide highlights of the Project Screening Worksheet in this box. Leave the remainder of the Complete Streets Model Process for Sections 2 and 4 of the BOD. If Complete Streets is not applicable, check "no" and insert a statement as to why and delete the next two rows of this BOD. If the Complete Streets Model Process results in a "no" that involved a determination by the Regional Administrator (see PDM #22-03), summarize the decision here and have the Regional Administrator sign in the "Region Approver" box on the signature sheet of this BOD (Page 1).</i>
Complete Streets for Pedestrians <i>Delete this cell if you are not a Complete Street project.</i> Background: <i>Write a short paragraph providing the background behind complete streets for pedestrians.</i> Metric: Pedestrian Level of Traffic Stress (PLTS) Target: <i>2 or better</i>
Complete Streets for Bicyclists <i>Delete this cell if you are not a Complete Street project.</i> Background: <i>Write a short paragraph providing the background behind complete streets for bicyclist. Delete this cell if you are not a Complete Street project.</i> Metric: Bicycle Level of Traffic Stress (BLTS) Target: <i>2 or better</i>

DA.2.2: Basis of Design

Understand the
Project Need
Including the contributing
factors

CONTEXTUAL NEEDS:
Non-baseline needs that will
be used to rank alternatives

Contextual Needs (CN)
CN# – TITLE ... add CN1, CN2, etc. If no contextual needs are identified, insert "N/A" for the TITLE.
Background: Write a short paragraph providing the background behind why this is a contextual need for the project. Make sure you address what are the contributing factors to this contextual need. If there are no contextual needs identified, state such in this background section and put "N/A" for the metric and target.
Metric: What are you going to measure? This needs to be a simple statement or a few words.
Target: What is the project's target for the above metric? Keep this simple.

METRIC and TARGET
for each need.
Targets may be
quantitative or qualitative

Contextual Needs – may or may not be addressed by project

DA.2.2: Basis of Design

Understand the
Project Need
Including the contributing
factors

SAFETY ANALYSIS
See Safety Analysis Guide

Safety Analysis

Was a Safety Analysis performed ☐ No ☐ Yes

If YES, enter the title and date. If NO enter why it was not needed. See DM Chapter 321 and the Safety Analysis Guide.

Place Safety Analysis in the
Design Approval

DA.2.2: Basis of Design

Understand the
Project Need
Including the contributing factors

Existing Variance

Are there existing Design Variances within the Project Limits? ☐ No ☐ Yes

If YES, can this project correct any of the existing design variances?

Existing Design Variances (Design Exceptions, Design Deviations, & Design Analyses) are stored in the WSDOT ECM Portal.

- Search ECM to find existing variances
- If there are existing variances, discuss if they can be corrected here

Link to the [WSDOT ECM Portal](#)

Consider the
Context

DA.2.2: Basis of Design

List your Multidisciplinary WSDOT
Team Members:
Tribes, Local Agencies, Community
Stakeholders, etc.

Section 2) Context			
Roadway _____ MP _____ to MP _____ <i>[Duplicate this section as necessary to reflect distinct segments with different context]</i>			
Multidisciplinary Team Members	List the agencies, community stakeholders, and divisions involved in determining the context for this project. Include the partners from Step 3 of the Complete Streets Model Process.		
Community Engagement	Describe past and planned community engagement. For Complete Streets projects, seek feedback from the affected community (as part of normal M3 coordination) on preliminary concepts developed by the predesign team. Incorporate M3 and community feedback as appropriate. Provide a summary here of how that feedback influenced the final alternatives documented in Section 4.		
Freeway	<input type="checkbox"/> Rural <input type="checkbox"/> Urban		<input type="checkbox"/> Interstate <input type="checkbox"/> Non-Interstate
Non-Freeway	Existing	<input type="checkbox"/> Rural <input type="checkbox"/> Suburban <input type="checkbox"/> Urban <input type="checkbox"/> Urban Core <i>See DM Chapter 1102.02(1)</i>	
	Future	<input type="checkbox"/> Rural <input type="checkbox"/> Suburban <input type="checkbox"/> Urban <input type="checkbox"/> Urban Core	

Describe your community
engagement; did it
influence the alternatives?

Land Use Context

DA.2.2: Basis of Design

If **Complete Streets** does not **apply**, complete these sections

If **Complete Streets** **applies**, skip these sections ... but don't forget the canned text in the comments

Bicycles – Complete Street? <input type="checkbox"/> No <input type="checkbox"/> Yes <i>If you are a Complete Street, select “Yes” and skip this section.</i>					
Accommodation	Prohibited	Low	Med	High	Involve Multidisciplinary Team Members
Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Comments	<i>Describe any special design considerations that apply. If this is a complete street project, state “This project has been identified as a complete street and bicycle accommodation is taken into consideration in Sections 1 and 4 of the BOD.”</i>				
Pedestrians – Complete Street? <input type="checkbox"/> No <input type="checkbox"/> Yes <i>If you are a Complete Street, select “Yes” and skip this section.</i>					
Accommodation	Prohibited	Low	Med	High	Involve Multidisciplinary Team Members
Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Comments	<i>Describe any special design considerations that apply here. If this is a complete street project, state “This project has been identified as a complete street and pedestrian accommodation is taken into consideration in Sections 1 and 4 of the BOD.”</i>				

DA.2.2: Basis of Design

Freight						
Classification	T-1	T-2	T-3	T-4	T-5	See Truck Freight Classification
Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Comments	<i>Coordinate with Multidisciplinary Team Members. Describe any special design considerations that apply here. If the project will be a complete street, confirm that freight is accommodated during alternatives development.</i>					
Transit						
Fixed route type	None	Local	Limited Stops	Express	Transit Agencies	
Current	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>List all transit agencies that operate within the project limits.</i>	
Future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Comments	<i>See DM 1102.03(5). Coordinate with Multidisciplinary Team, describe special design considerations. If the project will be a complete street, confirm that transit vehicles and riders are accommodated during alternatives development.</i>					

- See [Truck Freight Classification](#)
- Talk to Local Transit Agency

DA.2.2: Basis of Design

Section 3) Design Controls	
Roadway _____ MP _____ to MP _____ <i>[Duplicate this section as necessary to align with the Context described in Section 2]</i>	
Design Year	<i>Design year and how it was determined (see DM 1103.02).</i>
Design Vehicle	<i>Describe the intersection design vehicles for all intersections that will be modified by the project. State the Design Vehicle for each leg of the intersection (see DM 1103.03(4)).</i> <i>Describe the mainline design vehicle used for determining lane widths.</i> <i>See DM 1310.02(5) for more information about accommodating vs. designing for vehicles.</i>

Example - year of opening

For each leg of intersections and mainline include the design vehicle, accommodated vehicle (if you have one),

DA.2.2: Basis of Design

Terrain	<input type="checkbox"/> Level	<input type="checkbox"/> Rolling	<input type="checkbox"/> Mountainous	See WSDOT State Highway Log
Access Control	Existing	See Access Master Plan Database		
	Planned	See Access Master Plan Database		
	Proposed			
Target Speed	Report the Target Speed(s) to be used on the project and describe how it was determined (see DM 1103.05).			

DA.2.2: Basis of Design

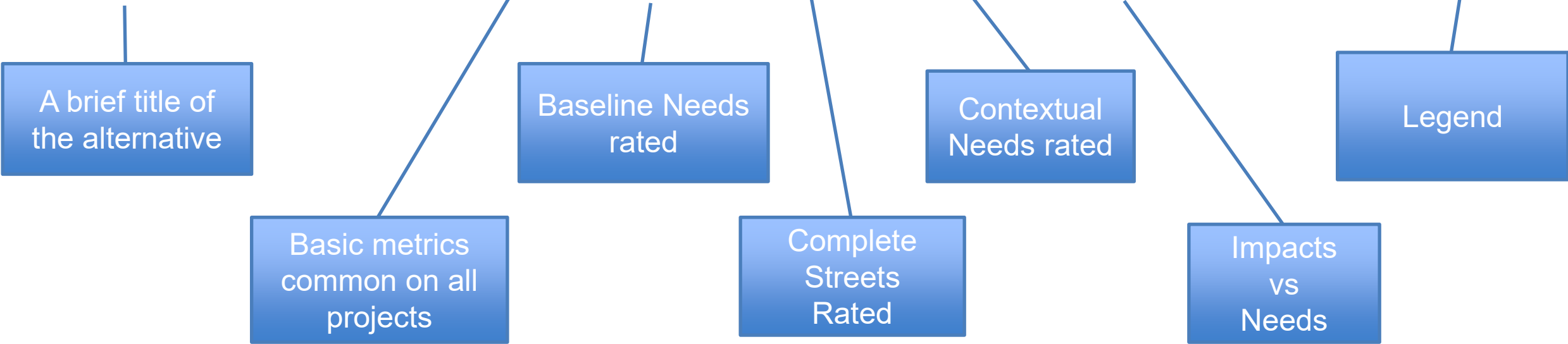
Formulate & Evaluate
Alternatives
That meet the need

Section 4) Alternatives																				
Alternatives Comparison Table																				
Alternative ID	Description		Cost	Operations	Safety	Baseline Needs ↓	BN1 Name	BN# Name (Add columns for more BNs)	Complete Streets Needs ↓	Pedestrian LTS	Bicycle LTS	Route Directness Index	Contextual Needs ↓	CN1 Name	CN2 Name (Add columns for more CNs)	Other Impacts ↓	Other Impacts	Add or delete columns as necessary.	Legend: ○ = Worst ◐ = Worse ◑ = Average ◒ = Better ◓ = Best	
A			Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate			Rate
B			Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate			Rate
C			Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate			Rate
D			Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate			Rate
E			Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate			Rate

Legend:

- = Worst
- ◐ = Worse
- = Average
- ◑ = Better
- = Best

Add or delete columns as necessary.



DA.2.2: Basis of Design

Formulate & Evaluate
Alternatives
That meet the need

This is an example of the table filled out for a Fish Passage project using the Fish Passage BOD template

Section 4) Alternatives																
Alternatives Comparison Table																
Alternative ID	Description	Cost	Operations	Safety	↓ Baseline Needs ↓	BN1: Fish Passage	↓ Complete Streets Needs ↓	Pedestrian LTS	Bicycle LTS	↓ Contextual Needs ↓	CM1: Maintenance Clearance	CM2: Wildlife Habitat Connectivity	CM3: Bicycle and Pedestrian Accommodation	↓ Other Impacts ↓	Wetland Impacts	Utility Impacts
A	Replace with a fish passable structure, and provide 10-foot vertical clearance	\$\$\$\$	●	●		Met		N/A	N/A		●	●	●		●	●
B	Replace with a fish passable structure and provide 6-foot vertical clearance.	\$\$\$\$	●	○		Met		N/A	N/A		●	○	●		●	●
C	Replace with a fish passable structure, provide 10-foot vertical clearance, and provide additional 17-foot culvert length for future widening of a shared use path.	\$\$\$\$\$	●	●		Met		N/A	N/A		●	●	●		○	○
D	Replace with a fish passable structure, provide vertical clearance of 6 feet for maintenance, and a culvert length of 17' longer than the existing roadway width for future widening of a shared use path.	\$\$\$\$\$	●	○		Met		N/A	N/A		●	○	●		○	○

Legend:

○ = Worst

○ = Worse

○ = Average

● = Better

● = Best

Legend:

○ = Worst

○ = Worse

○ = Average

● = Better

● = Best

Formulate & Evaluate
Alternatives
That meet the need

DA.2.2: Basis of Design

Alternative ID	Description	Cost	Operations	Safety	Baseline Needs ↓	BN1 Name	BN# Name (Add columns for more BNs)	Complete Streets Needs ↓	Pedestrian LTS	Bicycle LTS	Route Directness Index	Contextual Needs ↓	CN1 Name	CN2 Name (Add columns for more CNs)	Other Impacts ↓	Other Impacts	Other Impacts
A		Rate	Rate	Rate	↓	Rate	Rate	↓	LTS	LTS	Rate	↓	Rate	Rate	↓	Rate	Rate
B		Rate	Rate	Rate	↓	Rate	Rate	↓	LTS	LTS	Rate	↓	Rate	Rate	↓	Rate	Rate
C		Rate	Rate	Rate	↓	Rate	Rate	↓	LTS	LTS	Rate	↓	Rate	Rate	↓	Rate	Rate
D		Rate	Rate	Rate	↓	Rate	Rate	↓	LTS	LTS	Rate	↓	Rate	Rate	↓	Rate	Rate
E		Rate	Rate	Rate	↓	Rate	Rate	↓	LTS	LTS	Rate	↓	Rate	Rate	↓	Rate	Rate

Cost Summary:

Detail.

Operations:

Detail.

Safety:

Detail.

Baseline Need Summary:

Detail.

Complete Streets Need Summary:

Detail.

Contextual Need Summary:

Detail.

Other Impacts Summary:

Detail.

Preferred Alternative ____ was selected because:

Detail.

A summary
writeup for each
section of the
table

Formulate & Evaluate
Alternatives
That meet the need

DA.2.2: Basis of Design

Alternative ID	Description	Cost	Operations	Safety	Baseline Needs ↓	BN1 Name	BN# Name (Add columns for more BNs)	Complete Streets Needs ↓	Pedestrian LTS	Bicycle LTS	Route Directness Index	Contextual Needs ↓	CN1 Name	CN2 Name (Add columns for more CNs)	Other Impacts ↓	Other Impacts	Other Impacts
A		Rate	Rate	Rate	↓	Rate	Rate	↓	LTS	LTS	Rate	↓	Rate	Rate	↓	Rate	Rate
B		Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate	Rate
C		Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate	Rate
D		Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate	Rate
E		Rate	Rate	Rate		Rate	Rate		LTS	LTS	Rate		Rate	Rate		Rate	Rate

Cost Summary:
Detail.

Operations:
Detail.

Safety:
Detail.

Baseline Need Summary:
Detail.

Complete Streets Need Summary:
Detail.

Contextual Need Summary:
Detail.

Other Impacts Summary:
Detail.

Preferred Alternative ____ was selected because:
Detail.

The preferred alternative is stated and a summary of the decision is provided.

DA.2.2: Basis of Design

- Show what design element will be changing
- See DM Chapter 1105 Design Element Selection
- Column headers should be the project alignments
- Combine similar alignments (i.e. mainlines, ramps)
- Place a X on items you are affecting (or Yes, No, or N/A)
- Use the [Design Parameters Worksheet](#) to show dimensions & locations

Section 5) Design Element Selection						
For each design element below, identify whether or not the design element is included in the preferred alternative for each alignment or location. You can group alignments into a single location if desired. You may need to add or delete columns.						
Design Element	Alignment #1- SR 999	Alignment #2	Alignment #3	Alignment #4	Alignment #5	Alignment #6
1. Lane	X					
2. Median / Buffer	X					
3. Shoulder	X					
4. Streetside / Roadside Zone						
5. Pedestrian Facility						

DA.2.2: Basis of Design

Non-Interstate and Non-WSDOT Projects

- WSDOT Design Jurisdiction is Curb to Curb
 - [RCW 47.24.020](#)
- Summary of Design (SOD) or BOD (if applicable)
 - Developed for use on non-WSDOT projects (e.g. Local Agency, Tribal, Developer projects) within WSDOT design jurisdiction
 - SOD not applicable on Interstate projects
 - All other elements of Design Approval are still required

DA.2.2: Basis of Design - Exemptions

- All Projects - a BOD may be waived if the only design elements changed are:
 - ADA
 - Clear Zone
 - Roadside Safety Hardware
 - Signing (replacing existing)
 - Delineation (replacing existing in same location)
 - Illumination
 - ITS
 - Signal Hardware
- Written ASDE approval is needed

DA.2.2: Basis of Design - Exemptions

Preservation Projects

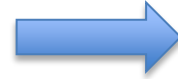
- BOD is not required if you're only changing the following elements:
 - Adjust existing features (i.e. monuments, catch basins, manhole covers)
 - ADA
 - Vertical Clearance
 - Barriers & Terminals
 - Horizontal Chain-Link Fence Rails
 - Cross Slope (Lane or Shoulder)
 - Delineation Material
 - Pavement Edge
- This BOD exemption is allowed per the Design Manual and does not require approval

DA.2.2: Basis of Design - Exemptions

Safety Projects

- Approved Crash Analysis Report (CAR) or Intersection Control Evaluations (ICE) may suffice for a BOD provided they discuss
 - project need(s),
 - alternatives considered,
 - and performance tradeoffs used in the alternative selection
- Contact your ASDE for a possible exemption

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
<u>2.4</u>	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.2.3: Environmental Review Summary

ERS Standard Report

PIN/Title: 102045F - SR 20/Haggen Dr to N Skagit St - ADA Compliance **WIN:** A02045E

WSDOT Approval

Contributors	Phone	Approval
Kevin Stuber	+1 360-757-5994	Maas, John
Steve Shipe	+1 206-440-4531	
Lindsay Taylor	+1 206-440-4549	
Lindsey Jungbluth	+1 206-440-4506	
Dani Northouse	+1 206-440-4543	
Patrick Svoboda	+1 360-570-6696	
Joelle Blais	+1 360-757-5962	
Jason Cooper	+1 206-440-4525	

4/12/2019
Regional Environmental manager Date

Part 1 - Project Description

Description of Work: Evaluate and update/alter curb ramps as necessary to meet ADA accessibility criteria per WSDOT Design Manual guidance.

Needs & Purpose: Upgrade ADA ramps to meet regulatory guidelines.

Statement of Purpose: Provide ADA ramps that meet regulatory guidelines.

Project Location

SR: 020 Begin MP: 59.74 End MP: 61.05 WSDOT Region: Northwest
County/Counites: Skagit

Right of Way

Will ROW be needed for this project?

Will ☐ People and/or ☐ Businesses be relocated and/or displaced? No

Will early acquisition be necessary? No





ROW Notes: For scoping purposes it was assumed that construction easements would be required for 25% of ramps addressed.

Section, Township, Range: Sect. 6, T. 34 N., R. 4 E., and Sect. 27, 28, 31, 32, 33, T. 35 N., R 4 E.

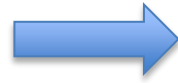
1 of 6

- Completed by the Environmental Office
- Stored in TEIS
- Print to PDF for the DDP

Delivery Method: Design Bid Build ADT: 16251 Truck % : 4.5 Speed limit: 30 mph

Permissions Preview Profile Report **View Environmental**   Basis Of Design Not Required: ☒ Environmental Not Required: ☐  Save  Close

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
<u>2.4</u>	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">• Intersection/Channelization Plans• Interchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.3.1: Design Parameters Worksheet

If there is an “X” in Section 5 of the BOD, Fill out the corresponding section in the Design Parameters Worksheet ... and vice-versa.

General Design Elements	Detailed Design Elements (Parameters)	Changed Elements See Note 1	Physical Feature/Location	Existing Dimension	Design Manual Dimension	Proposed Dimension	Reference/Notes
1. Lane	Number of Lanes	x	HWDX 15+85 to HWDX 25+81.23 ML 71+93.67 to ML 76+79.35	N/A (new DA Off-ramp)	1 lane		DM 1420.01 (Nov. 2015)
	Lane Type	x	HWDX 15+85 to HWDX 25+81.23 ML 71+93.67 to ML 76+79.35	N/A (new DA Off-ramp)	Left-side direct access connection	DM 1420.01 (Nov. 2015)	DM 1420.01(3) (Nov. 2015)
	Width Tangent Roadway	x	HWDX 15+85 to HWDX 25+81.23 ML 71+93.67 to ML 76+79.35	N/A (new DA Off-ramp)	12'	Varies 12' to 14'	See Lane Width Table and See Design Analysis 1
	Width Turning Roadway	x	HWDX 15+85 to HWDX 25+81.23 ML 71+93.67 to ML 76+79.35	N/A (new DA Off-ramp)		DM 1420.01 (Nov. 2015)	See Lane Width Table and Turning Roadway Width Table and see Design Analysis 1
	Lane Reduction						
	OTHER						

Place an “X” here if you affect this element

Insert the location of the feature. Stations or MPs

List the Existing, Design Manual guidance and Proposed Dimensions

Reference DM Section or other Reference Notes

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.3.2: Safety Analysis Guide

- Safety Analysis structured by funding category (I1, I2, P1, P2, etc.)
- Will include a table that details:
 - Trigger
 - Study Area
 - Study Period
 - Scope of an Analysis
 - Methodology
 - Tools
 - Goals (What we are trying to accomplish by an analysis)
 - Documentation

DA.3.2: Crash Analysis Report vs. Safety Analysis

Done Before
Pre-Design

Crash Analysis Report (CAR)	Safety Analysis
Crash Analysis Report (CAR) Only required in I-2 safety projects	Safety Analysis Required on other project types
A CAR has all 4 parts: <ol style="list-style-type: none">1. Describe the existing safety problem.2. Determine the excess number of crashes.3. Determine effective countermeasures4. Compare alternatives to determine a preferred alternative.	A Safety Analysis has some of these, but not all.
A CAR chooses a preferred alternative.	A Safety Analysis <u>does not</u> choose a preferred alternative.
A CAR needs to be stamped and signed.	A Safety Analysis does not need to be stamped and signed.

Done during
Pre-Design

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.3.3: What is a Design Analysis?

[Design analysis class](#) available from the ASDEs in The Learning Center

Design Manual 300.03(2)(a)

“A Design Analysis is a process and tool used to document important design decisions, summarizing information needed for an approving authority to understand and support the decision.”

DA.3.3: When do I need a Design Analysis?

- Specifically stated as required
- Required for design elements that do not meet a value or fall within a range of values
- Constraints sometimes found in Exhibits
- Design analyses known during Design Approval must be completed at that time

DA.3.3: Design Analysis Approvers

WSDOT Projects

Classification	Project Type	Approver
Interstate & Projects of Division Interest	All	ASDE
National Highway System (NHS)	All	ASDE*
Non-NHS	Improvement	ASDE*
Non-NHS	Preservation	Region Project Development Engineer*

*Design Analysis for elements that are City responsibility must be approved by HQ Local Programs

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.3.4: Maximum Extent Feasible

This document (MEF) is prepared for ADA features that cannot be installed per Design Manual guidance

- MEF template on [Design Support](#) website
- Approved by Region and ASDE
- Concurrence from OEC ADA Coordinator

OEC – Office of Equity and Civil Rights

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
<u>2.4</u>	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.3.5: Plans for Approval

- Basic PFA requirements are found in the PFA Checklist
- From [ASDE Website](#):

To complete the DDP checklist, you will need the following:

- [Design Approval and Project Development Approval memorandum \(DOCX 39KB\)](#) (for design-bid-build projects)
- [Conceptual Design Approval memorandum \(DOCX 37KB\)](#) (for design-build projects)
- [Design Clear Zone Inventory Form \(XLSX 21KB\)](#)
- [Design Parameters \(XLSX 33KB\)](#)
- [Design Analysis Template \(DOCX 31KB\)](#)
- [Plan for Approval Checklist \(DOCX 28KB\)](#)

- A Region may have its own custom checklist
- May be conceptual for Design Approval and Conceptual Design Approval

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
<u>2.4</u>	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.3.6: Alignment Plans and Profiles

- Conceptual plans
- Only necessary for Design Approval
- Sets right of way limits
- Helps convey limits of environmental impact

Design Approval



		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
<u>2.4</u>	<u>Complete Streets</u>					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	<u>N/A</u>	<u>R</u>
5	Supporting Documents	As Needed See DDP Checklist				
6	Other Approvals and Justifications					
7	Other Items as Deemed Necessary					

DA.3.7: Cost Estimate

- Include the EBASE printout

PS&E JOB NO: 19X305		WASHINGTON STATE DEPARTMENT OF TRANSPORTATION				DATE: 03/02/2020		PAGE: 5	
CONTRACT NC 0000		ESTIMATES AND ANALYSIS SYSTEM				TIME: 09:00		VER: 1	
WORK ORDER : XL5238		*** PRELIMINARY ESTIMATE - BY ITEM ***				DOT-RGG100			
ITEM	STD.		UNIT						PRE-
NO.	NO.	ITEM DESCRIPTION	MEAS	UNIT PRICE	QUANTITY	AMOUNT			QUAL
OTHER ITEMS									
105	7715	FORCE ACCOUNT LOW FLOW CHANNEL GRADING	EST.			5,000.00			A1
106	7715	FORCE ACCOUNT STREAMBED SAND	EST.			10,000.00			A1
107	7725	REIMBURSEMENT FOR THIRD PARTY DAMAGE	EST.			5.00			A1
108	7728	MINOR CHANGE	CALC			-1.00			A1
109	7730	FUEL COST ADJUSTMENT	CALC			1.00			A1
110	7731	STEEL COST ADJUSTMENT	CALC			1.00			A1
111	7732	AGGREGATE COMPLIANCE PRICE ADJUSTMENT	CALC			-11.00			A1
112	7736	SPCC PLAN	L.S.			3,500.00			A1
113	9004	PROJECT PARTNERING	CALC			10,000.00			A1
114		FOUR RAIL BOARD FENCE	L.F.	45.00	238.00	10,710.00			C6
115		DSM	C.Y.	305.00	1,301.00	396,805.00			F2
BASE TOTAL :						6,621,970.20			

Design Approval

		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval	C	R	R	R	R
	· Intersection/Channelization Plans					
	· Interchange Plans					
3.6	Alignment Plans and Profiles	C	N/A	N/A	R	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	R	N/A

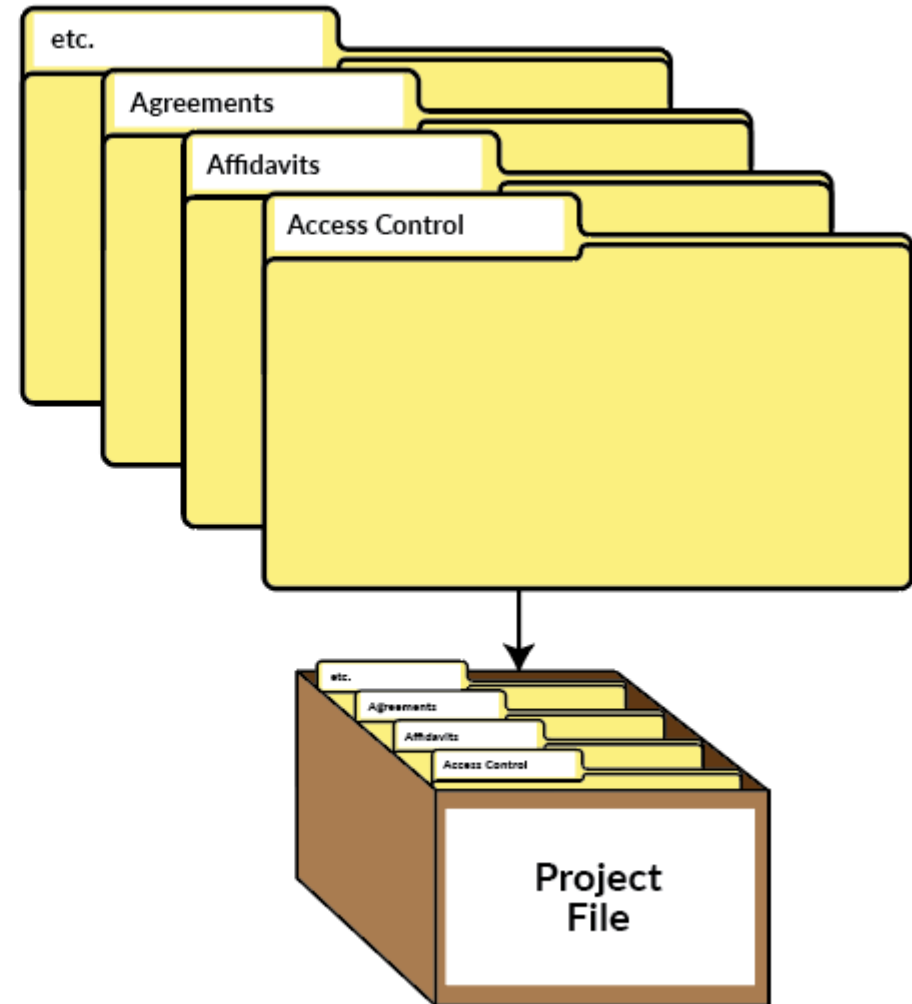
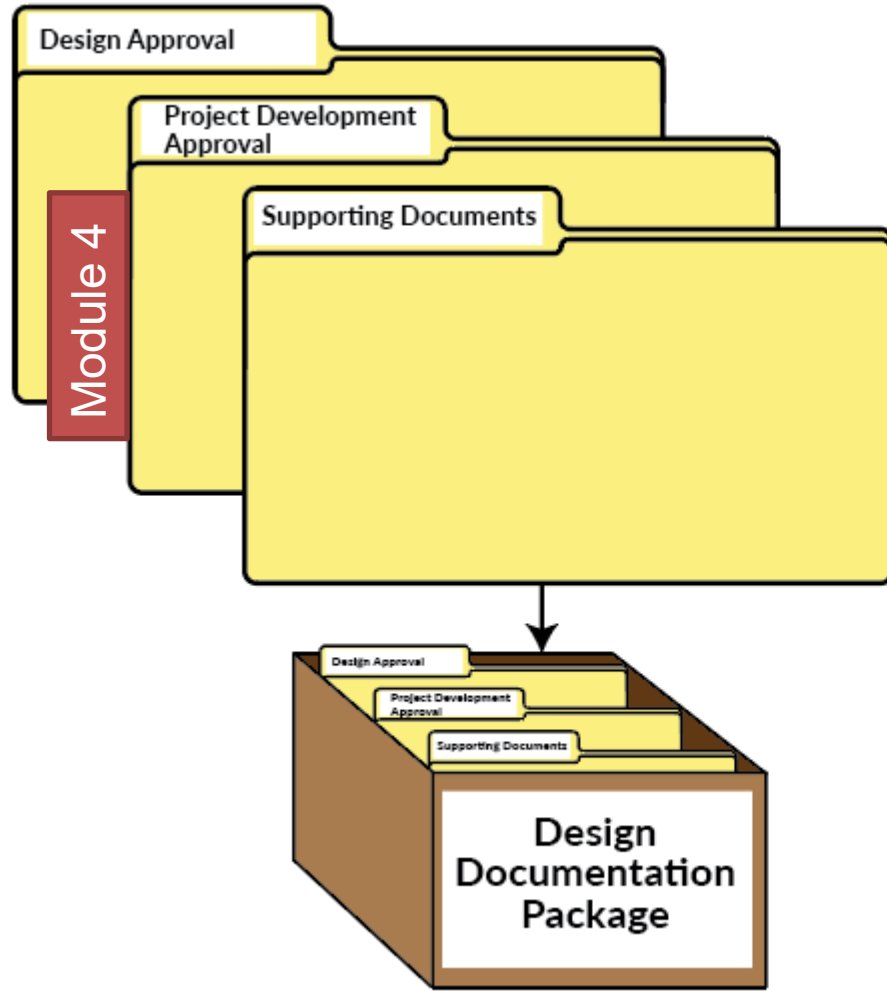
Not
Applicable
for Design
Approval

Required
for
Combined
DA/PDA

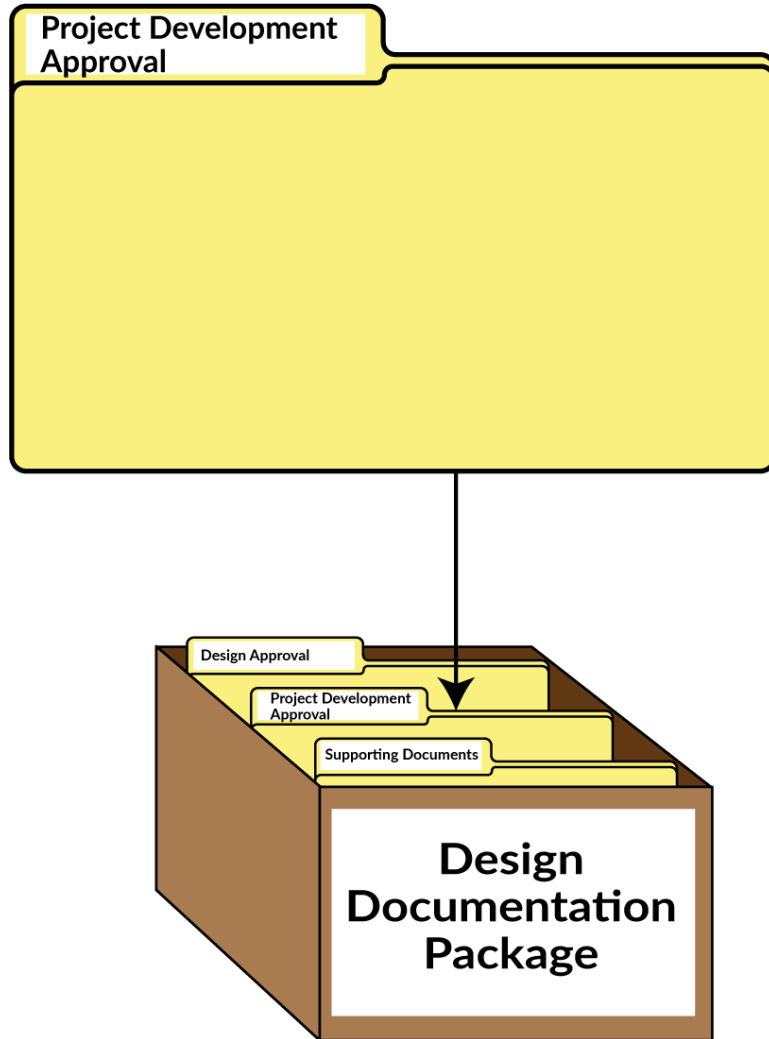
Design Documentation

Project Development Approval (PDA)

Design Documentation



Project Development Approval



PDA Sections:

1. Introductory Documents
2. Project Summary Documents
3. Core Documents
4. Environmental Documentation
5. Supporting Documents
6. Other Approvals and Justifications
7. Other Items

DDP Organization

Design Manual Exhibit 300-1

		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U

Project Development Approval

Design-Bid-Build

- PDA completes the DDP Checklist (with updated DA documents)
- Cannot be granted until ALL project development documents are complete
- Items completed during Design Approval DO NOT need to be reinserted
- Items changed or added after Design Approval ARE inserted

Design-Build

- Completed by the design-builder
- Environmental done prior to RFP (except progressive design-build)
- Required prior to project completion
- Follow the RFP language

Exhibit 300-1 Design Documentation Package

		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
2.4	Complete Streets					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U
3.3	Design Analysis	R*	R	R	R*	R
3.4	Maximum Extent Feasible	R*	R	R	R*	R
3.5	Plans for Approval <ul style="list-style-type: none">Intersection/Channelization PlansInterchange Plans	C	R	R	C	R
3.6	Alignment Plans and Profiles	C	N/A	N/A	C	N/A
3.7	Cost Estimate	R	U	R	R	N/A
4	Environmental Documentation	N/A	R	R	N/A	R

- U = Update required if changed after Design Approval
- R = Required
- N/A = Not Applicable

Design-Build
different than
Design-Bid-Build

Section 4 - NEPA Approvals



- The following NEPA document must be included:
 - Draft and Final Environmental Impact Statement (EIS) and Record of Decision (ROD), or
 - Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), or
 - Categorical Exempt (CE) Documentation
 - Signed Environmental Classification Summary, or
 - Memorandum excluding the project from CE, or
 - CE Checklist
- The above documents must be originals (if they have wet signatures).

SEPA Approvals



- The following SEPA document must be included:
 - Draft and Final EIS, or
 - Determination of Non-Significance and Checklist, or
 - Categorical Exempt (CE) Documentation
 - Signed Environmental Classification Summary, or
 - Memorandum excluding the project from CE, or
- The above documents must be originals (if they have wet signatures).

Project Development Approval

DDP Checklist

Many items have “Choose an item.”
For example, for Vicinity Map select “Choose an item.”
and pick the appropriate item.

PROJECT DEVELOPMENT APPROVAL					
Index #	Item Abbr.	Description	In PDA		Notes
PDA.1.0	Introductory Documents				
PDA.1.1	TOC	Table of Contents	Choose an item.		The Table of Contents is this document.
PDA.1.2	Memo	Memorandum	Choose an item.		See the Memorandum Templates on the Design Support website .
PDA.1.3	VM	Vicinity Map	Choose an item.		See Plans Preparation Manual.
PDA.2.0	Summary Documents				
PDA.2.1	PP	Project Profile	Choose an item.		Printout from TEIS.
PDA.2.2	ERS	Environmental Review Summary	Choose an item.		Printout from TEIS.

Project Development Approval

DDP Checklist

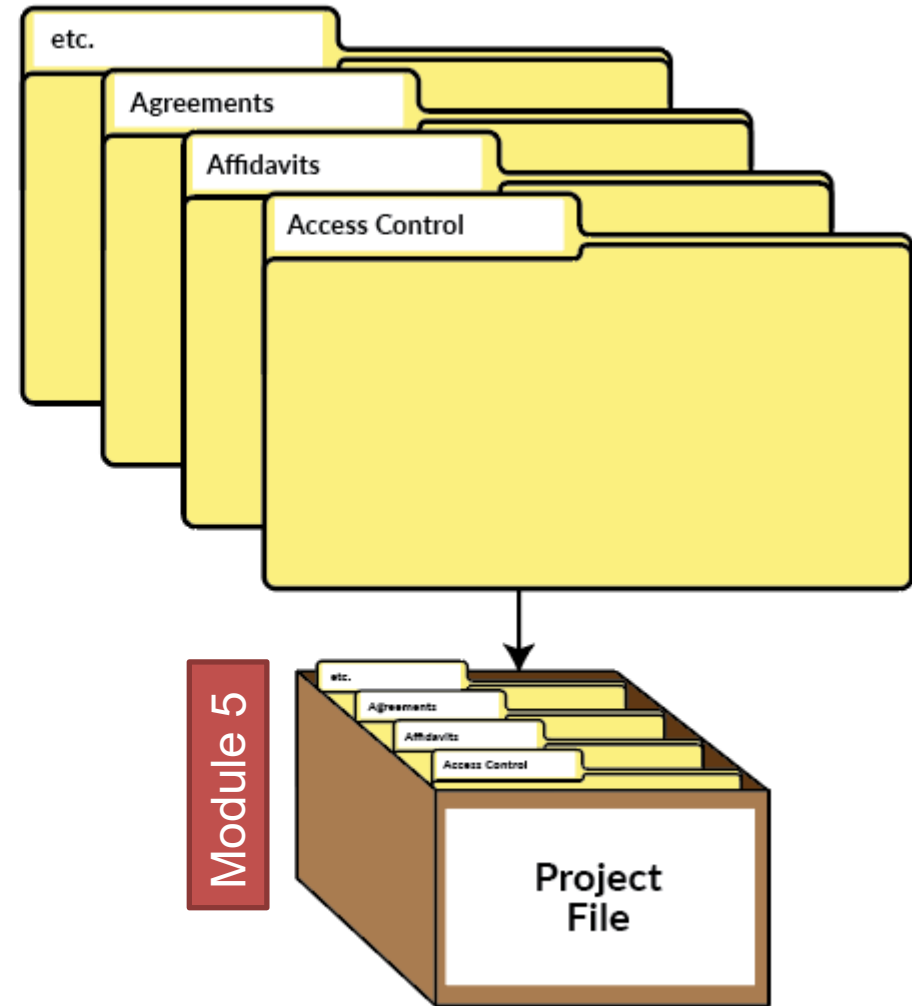
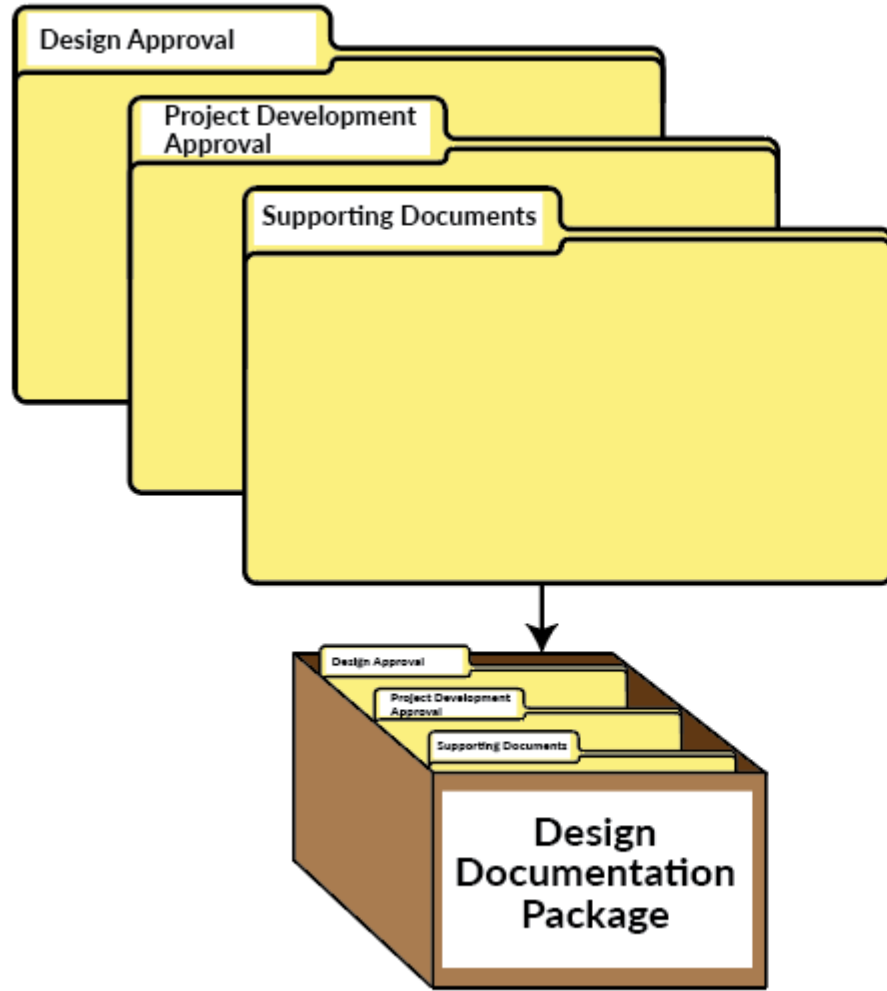
Supporting Documents are added as necessary.
Check the box “DA”, “PDA”, or “N/A”.

5 - DDP SUPPORTING DOCUMENTS						
Index #	Item Abbr.	Description	Included In			Comments
			DA	PDA	N/A	
SD.5.1	ARR	Access Revision Report & Non-Access Feasibility Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SD.5.2	AH	Access Hearing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SD.5.3	AR	Access Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SD.5.4	<u>LoN</u>	Barrier Length of Need Calculations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
SD.5.5	<u>VertC</u>	Bridge Vertical Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Design Documentation

Project File

Design Documentation



Project File

The Project File includes other documentation from:

- Planning
- Scoping
- Program Management
- Traffic
- Utilities
- Maintenance
- Local Agency
- Backup Calculations
- Materials
- Geotech
- Bridge
- Real Estate Services
- Advertisement and award
- Construction
- Environmental

Project File

The [Project File checklist](#) is a list of documents other than DDP Documents:

WSDOT Project File Checklist

These are Project File (PF) items that are not retained long term in the Design Documentation Package. See Design Manual 300.03(3) for further information regarding the PF.

References listed below are Design Manual chapters unless otherwise noted (see Reference notes.)

Description	Ref.	Comments/Action Strategy/Approvals
Public Agency Coordination	210	
Affidavits	210	
Prehearing Packets	210	
Public Agency Coordination	210	
Open Houses	210	
Hearings	210	

Project File

Comments / Action Strategy / Approvals

Description	Ref.	Comments/Action Strategy/Approvals
Public Agency Coordination	210	
Affidavits	210	
Prehearing Packets	210	
Public Agency Coordination	210	

This column is a place for you to help future readers understand what is in the project file.

Project File

The Project File is:

Scalable:

- Delete things from the list that are not in your project

Not all inclusive:

- Add anything to the list that is unique to your project

The checklist is:

- A Tool to help construction understand what is included in the project file

Project File

Retention Policies

- All Project File documents should be purged **3 Years** after Final Contract Voucher Certification
- PF is retained by the region office responsible for the project
- DDP items are kept for 75 years

Design Documentation

Combined DA/PDA

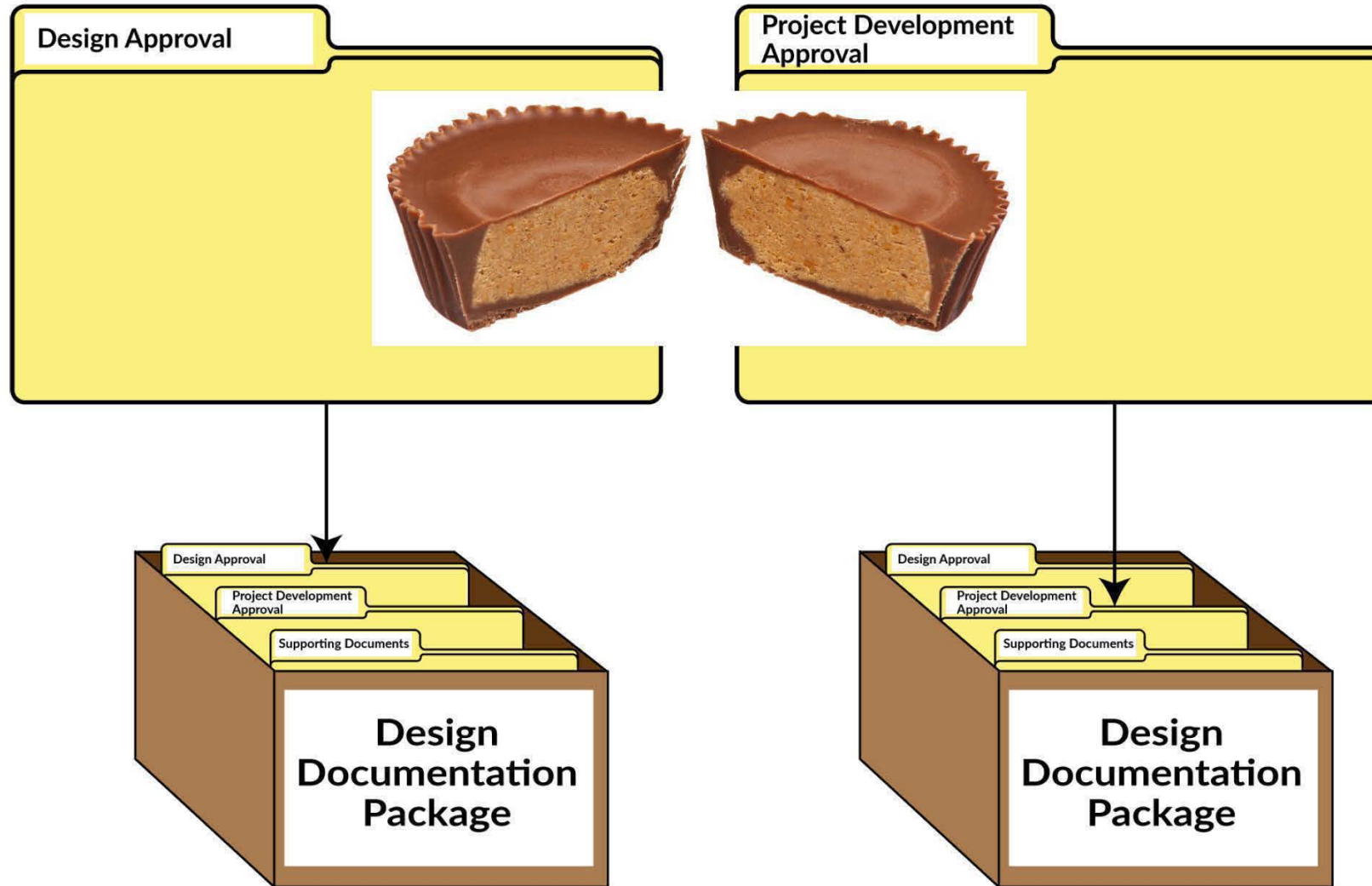
File Naming Convention

Indexing

Enterprise Content Management (ECM)

Process Review

Combined DA/PDA



Combined DA/PDA

- Design Approval and PDA may be combined on short or simple projects
- Only available on Design-Bid-Build

		Design-bid-build			Design-Build	
DDP Section	Document	DA	PDA	Combined DA/PDA	CDA	PDA
1	Introductory Documents					
1.1	Table of Contents	R	U	R	R	R
1.2	Memorandum	R	U	R	R	R
1.3	Vicinity Map	R	U	R	R	R
2	Project Summary Documents **					
2.1	Project Definition or Project Profile	R	U	R	R	U
2.2	Basis of Design (BOD)					
2.3	Environmental Review Summary					
3	Core Documents					
3.1	Design Parameters Sheets	R	U	R	R	U
3.2	Safety Analysis	R	U	R	R	U

Combined DA/PDA

- Use the Combined DA/PDA section of the DDP Checklist

COMBINED DA/PDA				
Index #	Item Abbr.	Description	Required?	Comments
PDA.1.0		Introductory Documents		
PDA.1.1	TOC	Table of Contents	Required	<i>Print this checklist with the "In DA?" column complete and "Notes" included as appropriate. Include this checklist as the Table of Contents.</i>
PDA.1.2	Memo	Memorandum	Required	<i>See the Memorandum Templates on the Design Support website.</i>
PDA.1.3	VM	Vicinity Map	Required	
PDA.2.0		Project Summary Documents		
PDA.2.1	PP	Project Profile	Required	

Combined DA/PDA

- Use the same Memo template and choose Combined DA and PDA

Choose an item.

Choose an item.

DESIGN APPROVAL

PROJECT DEVELOPMENT APPROVAL

COMBINED DESIGN APPROVAL AND PROJECT DEVELOPMENT APPROVAL

[Work Order Number] [WIN Number] [PIN Number]

[Month Day, Year]

Combined DA/PDA

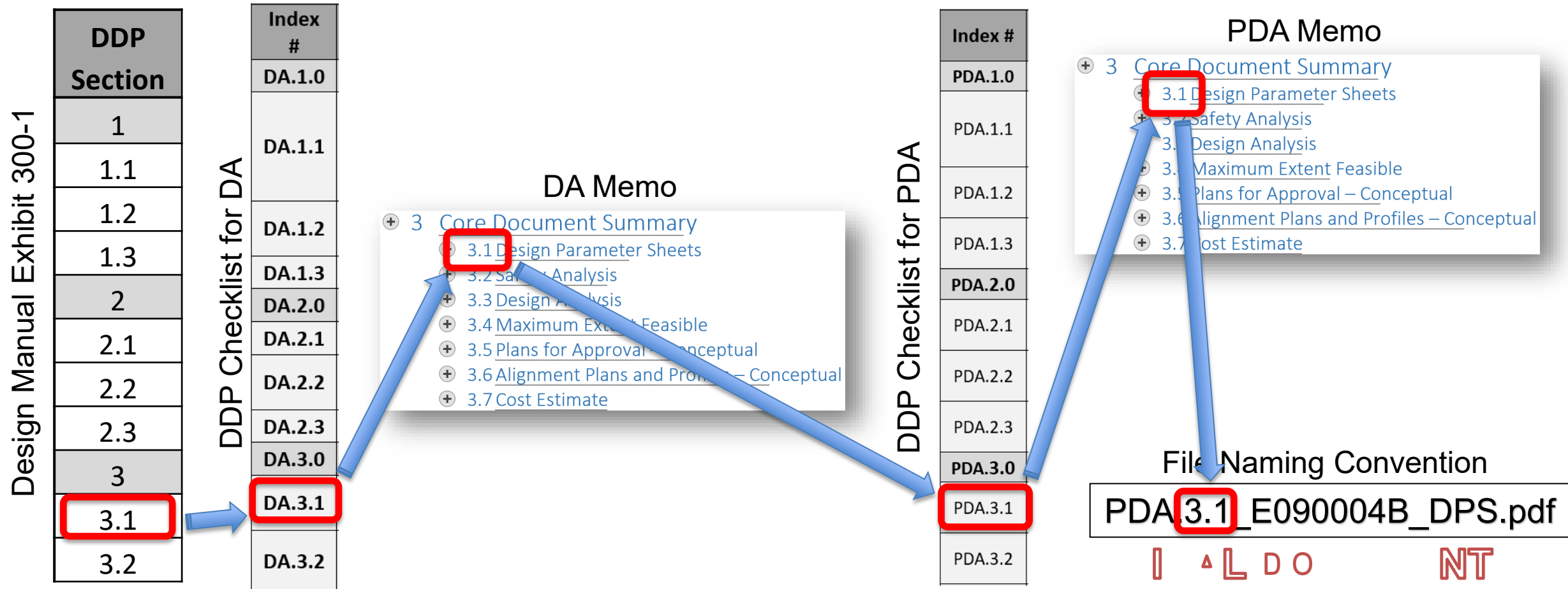
- Follow the approval requirements for PDA

Project Type	BOD Approval	Design Analysis Approval [1]	Design Approval, <u>Conceptual Design Approval</u> , and Project Development Approval
Project of Division Interest (PoDI)	[2]	[2]	[2]
Interstate [3]			
Non-Preservation Projects	HQ Design	HQ Design	HQ Design
Preservation Projects	HQ Design	HQ Design	Region
National Highway System (NHS)			
Projects on all limited access highways, or on managed access highways outside of incorporated cities and towns	Region ‡	HQ Design	Region

Exhibit 300-2

DDP Organization

Organization carries through the entire DDP process



File Naming

Each document will have the following filename convention in ECM:

Index#	WIN#	ItemAbbr.	pdf
--------	------	-----------	-----

Index#_WIN#_ItemAbbr.pdf

- Index# = DA#.#, PDA#.#, CDA#.#, or SD#.#. For example PDA.1.1. If there are multiple related elements, add other subsections. For example PDA.1.1.1, PDA.1.1.2.
- WIN# = (Work Identification Number). For example D50117A
- ItemAbbr.= abbreviated name for document. For example TOC = Table of Content.
- pdf – all files will be in pdf format

Example: PDA.1.1_D50117A_TOC.pdf

- Abbreviations are found in the [DDP checklist](#)

File Naming - Example

We want to build up a folder on the G drive for **SR 501/I-5 to Port of Vancouver** project using the project WIN which is **D50117A**.

- This project requires a Combined DA/PDA design document
- The PDA checklist = Table of Contents
- For Table of Content use the index **PDA.1.1**

SR 501/I-5 to Port of Vancouver – ADA/ D50117A

COMBINED DA/PDA				
Index #	Name	Description	Required?	Comments
PDA.1.0	Introductory Documents			
PDA.1.1	TOC	Table of Contents		
PDA.1.2	MEMO	Memorandum		
PDA.1.3	VM	Vicinity Map		





















Filename: **PDA.1.1**_D50117A_TOC.pdf

File Naming – Example

- Multiple Design Analyses
- Give each design analysis its own index number
 - Design Analysis #1: Lane Width
 - DA.3.3.1
 - Design Analysis #2: Shoulder Width
 - DA.3.3.2
 - Design Analysis #3: Ramp Taper
 - DA.3.3.3

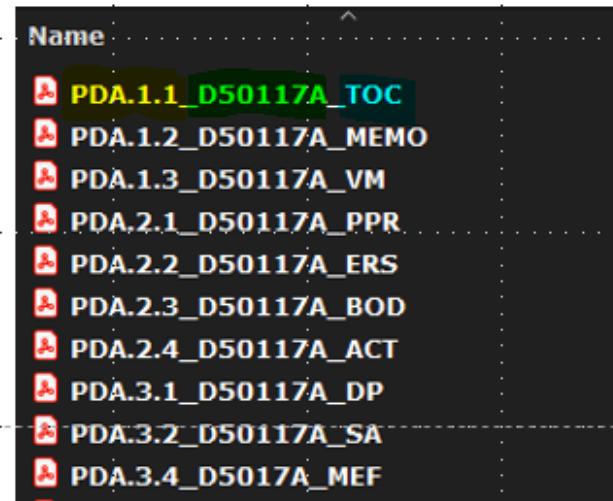
Design Doc. Folder content

The content of the folder will look like:

Name	Status	Date modified	Type	Size
 PDA.1.1_D50117A_TOC		5/25/2021 12:04 PM	Adobe Acrobat Do...	844 KB
 PDA.1.2_D50117A_MEMO		1/28/2021 11:03 AM	Adobe Acrobat Do...	296 KB
 PDA.1.3_D50117A_VM		9/17/2019 3:31 PM	Adobe Acrobat Do...	122 KB
 PDA.2.1_D50117A_PPR		5/15/2019 11:27 AM	Adobe Acrobat Do...	171 KB
 PDA.2.2_D50117A_ERS		5/25/2021 11:42 AM	Adobe Acrobat Do...	477 KB
 PDA.2.3_D50117A_BOD		1/12/2021 12:24 PM	Adobe Acrobat Do...	357 KB
 PDA.2.4_D50117A_ACT		4/27/2021 4:57 PM	Adobe Acrobat Do...	744 KB
 PDA.3.1_D50117A_DP		4/27/2021 4:57 PM	Adobe Acrobat Do...	650 KB
 PDA.3.2_D50117A_SA		1/5/2021 10:49 AM	Adobe Acrobat Do...	1,206 KB
 PDA.3.4_D5017A_MEF		11/3/2020 2:32 PM	Adobe Acrobat Do...	4,654 KB

Direction for filing

- See [Design Bulletin #21-01](#)
- For projects starting PE phase **September 2021 or later**, utilize the new file naming structure and file all DDP documents in ECM.



- Any project that has a PE phase **before September 2021**, the DDP may be filed as a standalone document in ECM. For Legacy Design Documentation, use LDD for the item abbreviation



Archiving – Enterprise Content Management (ECM)

Goals:

- Understand regional needs and develop **directory structure for electronic documentation filing**
- Archived files in pdf format
- Develop digital archiving process for records
- Develop quality control process for digitally scanned documents
- Present Metadata for each record
- Search by words and not just file names.

In order to achieve these goals, the content of the DDP must have a **uniform file format and file structure**.

Data input in ECM Production

Coordinate with Region ECM power user to help you search and file documents. The power user will use <https://wsdotecm/capture/> to file documents as shown below

The screenshot shows the WSDOT ECM capture web application. The left sidebar contains input fields for document metadata, and the main area displays a table of document types.

Document Input Fields:

- Work Item Number: D50117A
- Work Order Number: XL5707
- Project Name: SR 501/I-5 to W 26th Ave Ext Vic Including Couplet
- Discipline: Combined DA/PDA
- Document Type: Table of Contents
- Document Description: PDA.1.1_D50117A_TOC
- Document Date: 5/25/2021
- Status: Final
- File Name: PDA.1.1_D50117A_TOC.pdf
- File Import Path: C:\Users\shibyh\OneDrive - Washington State Depar

Document Table:

COMBINED DA/PDA				
Index #	Name	Description	Required?	Comments
PDA.1.0 Introductory Documents				
PDA.1.1	TOC	Table of Contents		
PDA.1.2	MEMO	Memorandum		
PDA.1.3	VM	Vicinity Map		
PDA.2.0 Project Summary Documents				
PDA.2.1	PPR	Project Profile		
PDA.2.2	ERS	Environmental Review Summary		
PDA.2.3	BOD	Basis of Design		
PDA.2.4	ACT	Alternatives Comparison Table		
PDA.3.0 Core Documents				
PDA.3.1	DP	Design Parameter Worksheets		
PDA.3.2	SA	Safety Analysis		
PDA.3.3		Design Analysis	N/A	
PDA.3.4	MEF	Maximum Extent Feasible	Yes	See SD.7.10 MEF attachments

New File Name

ECM Portal output

Use the following link <https://wsdotecm/portal> to search for a document in ECM.

The screenshot displays the WSDOT ECM Portal interface. The left sidebar contains a list of search options, with 'Project Design Search' highlighted. The main content area shows a search result table with the following columns: View, Region, WIN, Project Name, Work Orders, Phases, Discipline, Document Type, Document Description, Document Date, Received Date, Is Administrative Record, Is Attorney-Client Privilege, and Is Construction Final Record. The first row of data is highlighted in yellow, showing a document with the title 'PDA.1.1_D50117A_TOC'. A red arrow points from a box labeled 'New File Name' to the 'Document Description' column of this row.

View	Region	WIN	Project Name	Work Orders	Phases	Discipline	Document Type	Document Description	Document Date	Received Date	Is Administrative Record	Is Attorney-Client Privilege	Is Construction Final Record
<input type="checkbox"/>	SW	D50117A	SR 501/I-5 to W 26th Ave Ext Vic Including Couplet - ADA	XL5707	PE	Combined DA/PDA	Table of Contents	PDA.1.1_D50117A_TOC	05/25/2021				

Project Process Review

What - Review of region project development and PS&E processes

Why - To provide reasonable assurance that projects meet established policies and procedures with sufficient records to show compliance

Who - WSDOT (ASDE) and possibly FHWA (Area Engineer)

When - Annually

Project Process Review

What could be Reviewed?

Design Documentation Package

- Basis of Design
- Design Parameters Worksheet
- Design Decisions, Design Analyses, Maximum Extent Feasible
- Basis of Estimate
- Electronic Signatures
- FHWA / Local Agency Involvement
- Region Quality Management Plan

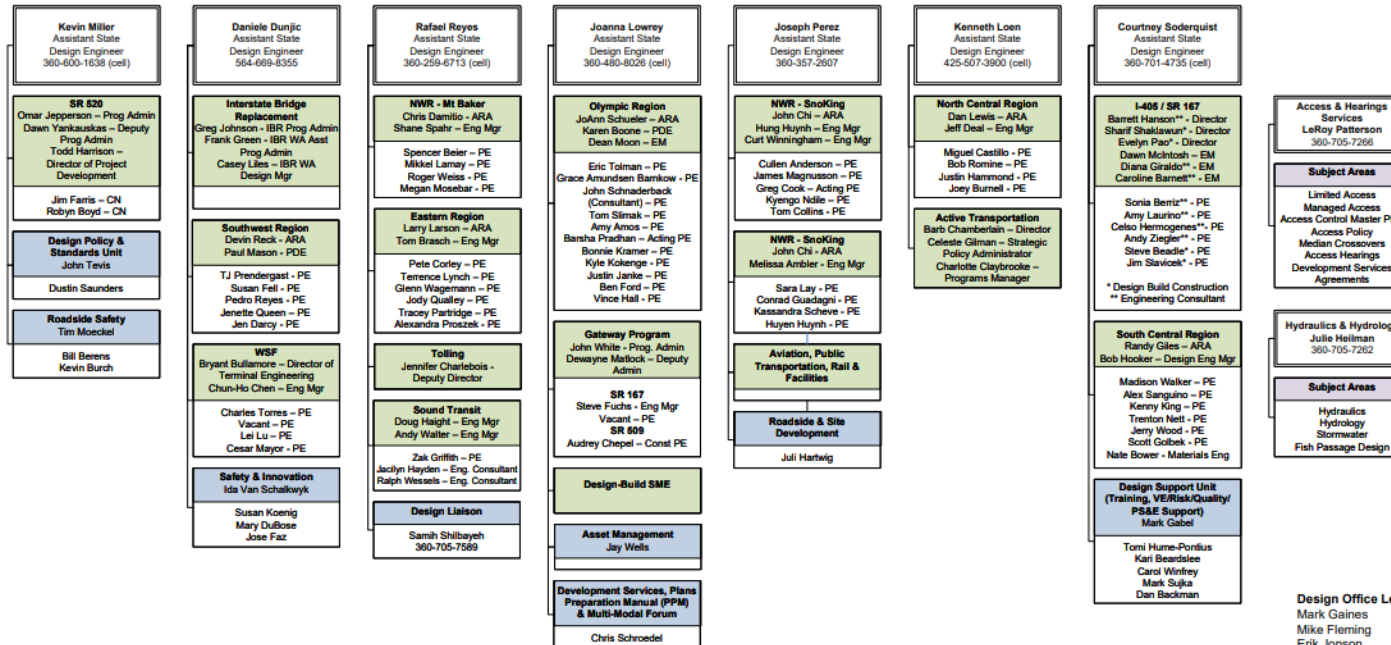
Project File and any other project development documents

Which Projects are Reviewed?

- Projects that have been awarded within the last year

Contact Info and Assignments

MULTIMODAL DEVELOPMENT and DELIVERY DEVELOPMENT DIVISION DESIGN OFFICE



Design Office Leadership
Mark Gaines 705-7231
Mike Fleming 705-7233
Erik Jonson 705-7106

Administrative Staff:
Leann George 705-7230
Lisbeth Panush 705-7452
Jennifer Capps 705-6978

Street Address:
310 Maple Park Ave SE
Olympia, WA 98504

Mailing Address:
PO Box 47329
Olympia, WA 98504-7329

<https://wsdot.wa.gov/publications/fulltext/design/ASDEAssignments.pdf>

The End

THANK YOU!