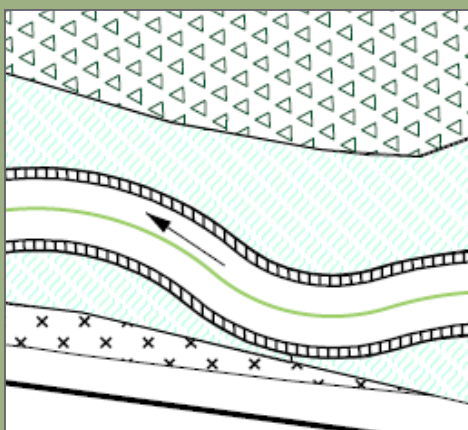
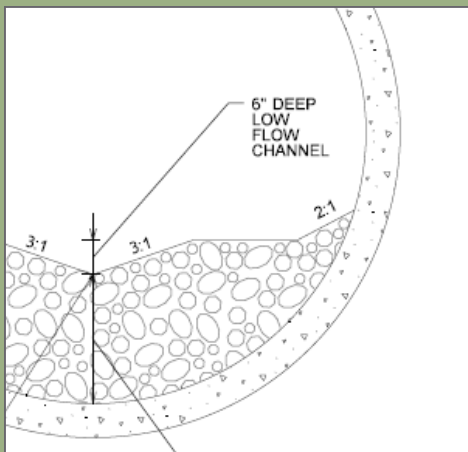
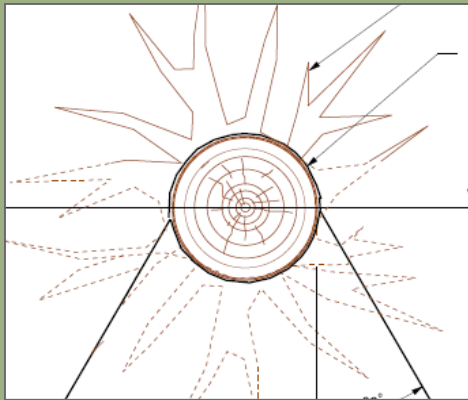


2011

Complete Permit Application Drawing Guidance

For projects using the Joint Aquatic Resources
Permit Application (JARPA)



Prepared by:
WSDOT Environmental Services Office



**Washington State
Department of Transportation**

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ACRONYMS

	C
CAD/CAE	Computer Aided Drafting/Computer Aided Engineering
CAO	Critical Areas Ordinance
Corps	U.S. Army Corps of Engineers
	D
DNR	Washington Department of Natural Resources
	E
Ecology	Washington Department of Ecology
	G
GIS	Geographic Information Systems
	J
JARPA	Joint Aquatic Resources Permit Application
	P
PANTON	Private Aids to Navigation
	W
WDFW	Washington Department of Fish and Wildlife

Chapter 1 Introduction

WSDOT worked closely with federal and state regulatory agencies to develop this complete permit drawing guidance for projects using the JARPA. JARPA stands for Joint Aquatic Resources Permit Application. Multiple regulatory agencies joined forces to create one application that people can use to apply for more than one permit at a time. This guidance will help you understand what needs to be included in your permit drawings and how they should be formatted. You can avoid delays by developing complete JARPA drawings. Applicants are required to quantify aquatic impacts and develop permit drawings as supporting information.

1.1 Why should I use this guidance?

You can improve your likelihood of meeting the regulatory agencies expectations if you adhere to this guidance. We wanted to create a resource for designers, permitting staff, and consultants that would help them create consistent and complete JARPA drawings. If you plan on using MicroStation for your drawings, we tell you where you can locate some standard Computer Aided Drafting/Computer Aided Engineering (CAD/CAE) conventions. Following this guidance will help you:

- Reduce JARPA drawing preparation timelines and costs.
- Avoid an incomplete application notification for submitting incomplete or illegible drawings.
- Reduce the number of comments on the JARPA.
- Reduce regulatory agency permit approval timelines.

What does a JARPA submittal consist of?

A JARPA submittal is comprised of three main parts:

- Application form.
 - **JARPA drawings.**
 - Supplemental reports and information.
-

Is MicroStation the only program I can use to produce JARPA drawings?

No, you can use other computer applications to create good drawings such as Geographic Information Systems (GIS) software. You can view JARPA drawing examples created using GIS by visiting the [WSDOT Permitting SharePoint Site](#).

- Improve overall project delivery timelines.

1.2 Which permits does this guidance apply to?

Your permit drawings can be used to obtain a variety of federal, state, and local permits. Use the JARPA to apply for any or all of the permits and approvals below:

Federal

- U.S. Army Corps of Engineers (Corps): Section 10 and 404 permits.
- U.S. Coast Guard: General Bridge Act permits and Private Aids to Navigation (PANTON) permits.

State

- Washington Department of Ecology (Ecology): 401 Water Quality Certifications.
- Washington Department of Fish and Wildlife (WDFW): Hydraulic Project Approvals and Fish Habitat Enhancement Exemptions.
- Washington Department of Natural Resources (DNR): Use Authorizations for State-Owned Aquatic Lands.
 - The DNR has an additional [application](#) to use if you are applying for their Use Authorization.

Local

- Shoreline Conditional Use Permits.
- Shoreline Substantial Development Permits.
- Shoreline Variances.
- Shoreline Exemptions.
- Floodplain Development Permits.
- Critical Areas Ordinance (CAO) Approvals.

1.3 How do I use this guidance?

Read Chapter 2 to understand formatting requirements and to review the list of items to include in your JARPA drawings. You

Time Saving Tip

By knowing which permits your project needs, you can identify the agencies that will be reviewing your drawings. Each agency has different requirements for what you need to include in your drawings and how to format them. You can save yourself time and frustration by knowing these requirements up front!

WARNING: Not all cities and counties accept the JARPA

Contact your local city or county government before you get started to confirm their permit application requirements. Some cities and counties will NOT accept a completed JARPA for their local permits or approvals. You may have to adhere to a separate application process for local permits.

may be able to eliminate some of the drawing requirements depending on which agencies will be reviewing your drawings. For example, if you don't need a federal Corps permit, you can use 11" x 17" sheets for your drawings instead of being limited to 8.5" x 11" letter sized sheets.

This guidance can be used to perform internal quality assurance and quality control checks before submitting your JARPA drawings to the regulatory agencies. A stand-alone "Permit Drawing Reviewer's Form" has been included in Appendix A to assist you with this. Encourage consultants, helping you produce the JARPA drawings, to use this checklist.

This guidance is not a substitute for early coordination and communication. Review this guidance with your Environmental Coordinator, Corps and Ecology liaisons, and the WDFW Area Habitat Biologist before you get started. Discuss which items apply to your project and how to best show them in the drawings.

1.4 Is this guidance mandatory?

No, each region and mode needs to have flexibility on how they prepare JARPA drawings for their specific projects. The details and number of sheets you create will depend on the extent of your project's impacts and the permits you are seeking. You may need to deviate from CAD/CAE standards to make your drawing clear and legible for the permitting agencies. If you are using GIS or another application to prepare your JARPA drawings, then ignore the references to MicroStation in this guidance.

Helpful Hint

Print out WSDOT's [Complete Permit Application Guidance](#) to learn more about permit application requirements. Use both guidance documents together to develop a complete JARPA package and get it right the first time!

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Chapter 2 Complete Permit Application Drawing Guidance

This chapter tells you what to include in your JARPA drawings. Each section describes the elements that are required for that type of permit drawing. You may be able to eliminate some of the drawing requirements if they do not apply to your project. Drawing requirements from this Chapter have been included in a stand-alone JARPA Drawing Reviewer's Form (see Appendix A). Complete the form to ensure your project drawings contain all of the required elements before submitting them to the regulatory agencies.

2.1 What are the basic drawing components?

Your JARPA drawings need to show where the project is located and how it affects wetlands, streams, sensitive area buffers, and shorelines. Your project may include on-site and off-site mitigation efforts that need to be called out in the drawings.

The drawings are normally composed of these main components:

- A vicinity map.
- Sheet layout.
- Impact plan view sheets with impact cross-section view and table of impacts.
- Wetland or stream mitigation plan sheets.

The list above outlines the drawing order as they are numbered and presented in a JARPA drawing set. Before you start, determine which office(s)/programs are responsible for

What is a "sheet layout"?

A "sheet layout" shows where each drawing sheet is located in relation to the entire project. A sheet layout is necessary on linear projects that involve numerous impacts over a large area. You can view examples at the [WSDOT Permitting SharePoint site](#).

preparing the drawings. If landscape architecture staff are responsible for the development of planting plans or mitigation drawings be sure to coordinate with them early to discuss drawing needs and elements.

2.2 What are the general standards?

All JARPA sheets have standard formatting and every sheet type has a specific standard. WSDOT employees can view a variety of JARPA drawing examples by visiting the [WSDOT Permitting SharePoint site](#) or you can call Eric Wolin at (360) 705-7487 for examples (if you don't have SharePoint access).

All of your drawings should adhere to the following standards:

- 8 ½ x 11-inch white paper for all drawings going to the Corps (11 x 17-inch paper is permissible for the other regulatory agencies).
- Arial font in black (can be in color but must be legible when reproduced in black and white).
- North arrow on all drawings with the top of the sheet oriented north.
- Least number of sheets possible to describe the project.
- Sequential numbering of sheets (for example, 1 of #, 2 of #, 3 of #, and so on).
- A graphic scale on all drawings.
- Items in the drawings labeled as either “proposed” or “existing.”
- Title block on each sheet located at the bottom of the page.
- A layout sheet for projects requiring more than three plan sheets (include page numbers on each sheet).
- Equal vertical and horizontal scales for submittals to the Corps (only applies to cross sections).
- Use of a standard JARPA sheet template (which includes a title block, legend, scale, and north arrow as a default starting point).

2.3 Where can I find WSDOT MicroStation templates and drawing standards for JARPA drawings?

Use the WSDOT Menu within MicroStation. You'll have to use the search function to find the JARPA elements.

Helpful Hint

You may submit larger drawings to the Corps (in addition to the 8 ½" x 11" drawings) that are more legible and easier to discern. You can also submit additional exhibits that include photographs of the site to better help the reviewer understand the project. This could speed up the review process.

Can I use color for my drawings?

Yes, but the drawings must be clear and legible when reproduced in black and white. The Corps or Ecology may need to provide adjacent property owners with a non-color copy of the submittal as part of the public notice requirements. Color drawings make it easier for the reviewer to differentiate between impact types.

If you can use consistent drawing standards and layouts it makes it easier for WSDOT staff and regulatory agencies to review. This will reduce guesswork about what font type, hatch patterns, colors, and symbols to use.

2.4 What is a title block and what are the standards?

A title block is a rectangular frame that must be placed on every sheet in your set of drawings. It identifies the applicant and contains information about your project.

In MicroStation, a standard title block and border (SH_PS_PSECorpsofEngineersSheet) is located in the MicroStation cell library (waestate.cel). Use the WSDOT Toolbox and choose “Sheet Utilities” then Place\Label\Stamp Sheet to place the title block. Make sure to select “Place Sheets” and then choose “Corps of Engineers Sheet” for the sheet type and pick the plot location. If you do not need a permit from the Corps, then you can create your drawings on 11” x 17” sheets. To do this, choose the “Plan Sheet” option for an 11 x 17 sheet.

If you are not using MicroStation, be sure to include the following elements in your title block:

- Project Name.
- Purpose (project purpose).
- Location.
- Datum (vertical).
- Adjacent property owners.
- Reference Number (to be provided by the Corps if applicable).
- Applicant.
- County (county the project is located within).
- Near (nearest town or community).
- Name of water body (identify as unnamed when not named).
- Date (drawing completed).
- WSDOT (logo and agency title spelled out).
- Sheet number (Sheet # of #).

2.5 What is the vicinity map and what are the standards?

The vicinity map shows where your project is located within the larger regional area. Scale the vicinity map to show the

nearest town or city, water bodies, major roads, and city/county limits. This allows agencies to identify the local streams and water bodies within the project area.

The following are the standards for a vicinity map:

- Format the sheet in portrait view (for submittals to the Corps).
- Include a north arrow with the top of the sheet oriented north.
- Show and label all highways.
- Identify the project limits using SR mile posts to the nearest tenth.
- Indicate latitude and longitude at the beginning and end of the project site(s) to the nearest second.
- Indicate the section, township, and range.
- Include a graphic scale.
- Show roads, streets, and railroads.
- Include mileage to the nearest town or city limit.
- Show and label all waterways (i.e., rivers, streams, tributaries, lakes, ponds, tidal waters, and sloughs).
- Show and label stream or wetland mitigation sites associated with the project.
- Include a small regional or state map in one of the corners if your vicinity map does not show the larger regional area.

2.6 What is the impact plan view and what are the standards?

The plan view sheets show the aquatic impact to wetlands, streams, and other water bodies. Below are the items to include on these sheets. It is important to not show too much information. Unnecessary information clutters the drawing and can confuse reviewers. Remember that the plan view sheets are not engineering documents. The following items need to be shown in the plan view (some items might not be applicable to your project):

- Roadway centerline and stationing or mile post (shown to the nearest tenth).
- Outer limits of existing paved shoulders and sidewalks.
- New outer limits of paved shoulder and sidewalks.
- Existing ditches, culverts, and structures.
- New ditches, culverts, and structures.
- Cut and fill lines.

Note:

The scale of your vicinity map will be affected by the size of your project and the proximity of elements (e.g. mitigation sites, etc.)

Do I have to show wetlands on my vicinity map?

No, it is not a requirement for the vicinity map. Sometimes project teams will show wetlands on the vicinity map because it helps the agencies with their review.

Do I need to create sheets for areas where only temporary impacts or buffer impacts will occur?

The Corps needs a drawing for temporary wetland impacts, but not for buffer only impacts. On rare occasions a plan sheet may be asked for where there would be indirect wetland impacts from the buffer impacts (e.g., coniferous forested buffer eliminated, exposing full shade wetland plants).

- Shorelines of lakes, rivers, streams, tidal areas and their respective names.
- Mean High Water line (MHW line) for structures in tidal waters.
- Mean Higher High Water line (MHHW line) for fills in tidal waters.
- Ordinary High Water line (OHW line) for lakes and streams.
- Federal harbor lines and navigation channels where established.
- Right of Way lines and construction easements.
- Dimensions of regulated bridge and culvert structures when not to scale.
- Wetland boundaries (including wetland number labels).
- Buffer boundaries for wetlands and streams.
- Sensitive areas covered by local Critical Areas Ordinances (CAO) such as steep hillsides or critical aquifer recharge areas (if using your JARPA drawings to obtain local permits).
- Jurisdictional ditches (including labels).
- Direction of flow for all existing and new streams, channels, ditches, and drainages.
- Direction of currents (e.g., tidal ebb and flood).
- Wetland impact locations (including permanent and temporary).
- Wetland impact area quantified in acres to the nearest 10th in the table of impacts.
- Stream and Wetland buffer impact locations (including permanent and temporary). Quantify the area of impact in acres to the nearest 10th in the table of impacts.
- Stream impact locations (including permanent and temporary). Quantify the area of impact in acres to the nearest 10th in the table of impacts.
- Jurisdictional ditch impact locations (including permanent and temporary). Quantify the area of impact in acres to the nearest 10th in the table of impacts.
- CAO impact locations (if using your JARPA drawings to obtain local permits).

Can I modify the density of the impact hatching?

Yes, the agencies reviewing the drawings need to be able to decipher the difference between temporary and permanent impacts. Therefore, you may need to modify the scale or density of the impact hatching to fit your project needs.

2.7 What are the legend standards?

Each drawing sheet needs to have a legend identifying the elements shown. The legend may change from sheet to sheet but it must identify lines and patterns used. If you are using MicroStation to prepare your JARPA drawings, you can access JARPA legend standards through the WSDOT Menu. You have to use the search function to find the JARPA elements.

When an item is not in the legend use the WSDOT standard line or pattern used within your plan sheets. For example, railroad tracks are not shown in the legend since a standard line/pattern is already called out in the Plans Preparation Manual. Add these symbols or lines to the legend.

Include the following items in the legend (if applicable to the specific plan sheet). List the elements that have an asterisk (*) next to them as “existing” or “proposed”:

- Structures (buildings, bridges, and others)*.
- Utilities being permitted under the JARPA application*.
- Ditch lines*.
- Jurisdictional ditches.
- Culverts*.
- Streams and rivers.
- OHW line.
- MHW line (for tidal areas only).
- MHHW line (for tidal areas only).
- Right of way boundaries and easements.
- Wetland boundaries.
- Wetland and stream buffer boundaries.
- Wetland impact locations (including permanent and temporary).
- Buffer impact locations (including permanent and temporary).
- Stream impact locations (including permanent and temporary).
- Railroad tracks or access roads.
- Roadway centerline and centerline stationing.
- Edge of pavement*.
- Other information as requested by your JARPA reviewer.

2.8 What is the impact cross section view and what are the standards?

Cross sections show a vertical view through an impact area and give a 3-D perspective to the impact. The regulatory agencies (particularly the Corps and WDFW) require all JARPA drawing sets to have cross section views where impacts are proposed. The cross section should be located with the plan view when possible. This location makes review much easier for agency staff. If you cannot locate the cross section on the same sheet, then locate it on the following sheet. Cross section views need to be in agreement with the applicable portion of the plan view. The vertical and horizontal scales need to be the same (1H:1V). Do not exaggerate the vertical scale of a cross-section.

The following items need to be shown in the cross section view. Some items might not be applicable to your project:

- Shorelines, MHW line, MHHW line, OHW line, streams, ditches, wetland boundary, and buffers.
- Existing and proposed topographic elevations, water depths, horizontal dimensions of any proposed structure or fill, and vertical dimensions to top and base of any proposed structure or fill.
- Special aquatic sites that are affected by the project (for example, sanctuaries or refuges, wetlands, mud flats, vegetated shallows such as eelgrass beds, and riffle and pool complexes).

2.9 What is a table of impacts and what are the standards?

The table of impacts quantifies the type of impact (i.e., permanent or temporary) to each wetland, stream, buffer, or jurisdictional ditch. A biologist should help to determine the type of impact. Be sure to coordinate with your biologist to make sure you are classifying impacts correctly. Include a table of impacts on each plan view drawing that shows an

How many cross sections should I include?

A cross section for each stream is necessary, but not always needed for each wetland, and rarely needed for a ditch. If the impact is similar throughout a large area (e.g., retaining wall, roadway side slope, etc.) only one cross section may be necessary. Coordinate early with the regulatory agencies to determine where to include cross sections.

What if I need to exaggerate the vertical scale?

Your project may have some impacts where there is very little gradient change. If you feel that you need to exaggerate the vertical scale, be sure to first check with the Corps to make sure they are ok with it.

impact. Document the area of impact in acres to the nearest 10th and volume of impact in cubic yards.

If a resource such as a wetland spans across multiple sheets, it is recommended that you include a table of impacts on each sheet showing the total quantity of impacts for that resource.

Include the following information in your table of impacts (as applicable to the project):

- Wetland number.
- Wetland rating (per the Ecology rating system).
- Total wetland area.
- Permanent wetland impact area.
- Temporary wetland impact area.
- Permanent buffer impact area.
- Temporary buffer impact area.
- Permanent stream impact area.
- Temporary stream impact area.
- Permanent jurisdictional ditch impacts.
- Temporary jurisdictional ditch impacts.

2.10 Do I need to show adjacent property owners in the JARPA drawings?

Federal and State agencies do not require adjacent property owners to be shown on JARPA drawings. However, they DO need you to provide this information for public notice requirements. You can simply attach a list of adjacent property owners to the written JARPA form to meet this need.

Local (city or county) governments may require adjacent property owners to be shown on JARPA drawings. Coordinate with your Environmental Coordinator to determine if you need to show adjacent property owners on the drawings for any of the local permits.

What about indirect impacts?

Indirect impacts can occur when we do work adjacent to a wetland such as cutting down a forested wetland buffer. Indirect impacts should be identified and described within the wetland report and do not need to be shown in the permit drawings.

Helpful Hint

Perform a consistency check before you submit your application to the agencies. Make sure the impacts listed in the drawings are consistent with the impact quantities summarized in the application narrative. It very important to loop back with the design engineers to make sure the JARPA impact numbers reflect the most recent design.

Chapter 3 Ensuring Quality and Consistency

Preparing a quality set of permit drawings is no easy task! The drawings need to be accurate and include all the necessary elements, but they shouldn't be difficult to read. Taking the time up front to conduct internal reviews can pay off big time! Ensuring quality and consistency will reduce frustration among the regulatory agencies and speed up their review time.

Organize a thorough review before the drawings are submitted to the regulatory agencies to catch any inconsistencies or omissions. Make sure you allow enough time to revise the permit drawings to address the comments and suggestions from your team. Use the stand-alone JARPA Drawing Reviewer's Form (included in Appendix A) to document that the drawings are complete. Below are some helpful questions to consider when reviewing draft JARPA drawings.

3.1 Do you know your audience?

Before you complete the Permit Drawing Review Form, be sure that you know which permits the project team is seeking. Knowing which regulatory agencies will be reviewing your drawings, will help you confirm their expectations have been met. For example, if you're only seeking an HPA permit, then you would want to focus your review on areas where work will affect a water body. As described in Chapter 2, the regulatory agencies have different needs and formatting requirements when it comes to permit drawings so make sure to consider your audience!

3.2 Are you dealing with a mountain or a mole hill?

How extensive is the project being proposed? Are there a lot of sensitive environmental resources within your project area? If so, does the proposed work pose a risk to these resources? Your review effort should be sized accordingly. Review the written JARPA narrative to understand the proposed project. If the project involves a new bridge with wetland and stream impacts and includes wetland mitigation, allow more time for review.

3.3 Are the drawings easy to understand?

Did you know that you can include additional color exhibits with the JARPA submittal to help the agencies understand what WSDOT is proposing? For example, you can include photographs of the site. Aerial photos and photos looking toward the shoreline from the water are particularly helpful. Visit the [WSDOT Permitting SharePoint site](#) to see some good exhibit examples. You may submit larger drawings in addition to the 8 ½" x 11" that are more legible and easier to discern. This could speed up the review process.

3.4 Who prepared the permit drawings?

Was there good coordination between the environmental staff and the person responsible for the permit drawing development? Has this person prepared JARPA drawings in the past? Close coordination between the Environmental Coordinator, biologists, designers, and the regulatory agencies is extremely important during JARPA drawing development. Less coordination typically results in more issues and inconsistencies with the permit drawings.

List of Appendices

Appendix A: JARPA Drawing Reviewer's Form

Appendix B: JARPA Comments for MicroStation

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Appendix A: JARPA Drawing Reviewer's Form

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JARPA Drawing Reviewer's Form

Purpose: To help you evaluate permit application drawings before they are submitted to the regulatory agencies as part of the Joint Aquatic Resources Permit Application (JARPA).

Use this form to perform an internal quality assurance check. Check on [WSDOT's Permitting Website](#) for an updated version. Answer the questions below to determine if your team has prepared a complete set of JARPA drawings that meet the requirements of the regulatory agencies. If the JARPA drawings **do not** satisfy the requirements, identify the deficient element(s) in the "Comment/Recommendation" field. For documentation purposes, attach a completed copy of this form to the JARPA application in the project file.

Project Information

Project Name: _____

SR and Milepost Number: _____

Contract Number: _____

Environmental Coordinator: _____

Person Responsible for the Permit Drawings: _____

Reviewer's Name and Phone Number: _____

Permit Drawing Review Date: _____

JARPA Drawing Element Requirements

Note: The questions below address the major JARPA drawing elements the regulatory agencies need for their review. Discuss project-specific drawing needs with your staff and the regulatory agencies **before** you submit your application. You may need to include additional information in your drawings that is not listed here. If the answer to any of these questions is "No", then your team may be at risk for **not** having complete permit drawings. Revise the drawings accordingly.

1. General

- A. Is the drawing set comprised of 8 ½ x 11-inch white paper for all drawings going to the Corps (11 x 17-inch paper is permissible for the other regulatory agencies)? Yes No
- B. Is the text in the drawings Arial font in black and is it readable (drawings can be in color but must be legible when reproduced in black and white)? Yes No

- C. Is there a North arrow on all the drawings with the top of the sheet oriented north? Yes No
- D. Was the least number of sheets possible used to depict the project? Yes No
- E. Do the sheets have sequential numbering (for example, 1 of #, 2 of #, etc.)? Yes No
- F. Is there a graphic scale on all drawings? Yes No
- G. Are elements in the drawings labeled as either "proposed" or "existing"? Yes No
- H. Is there a title block on each sheet located at the bottom of the page? Yes No
- I. For permit drawings consisting of more than three plan sheets, has a sheet layout been included (are the sheets numbered on the layout)? Yes No
- J. Is there a legend included on each sheet? Yes No

Comment/Recommendation:

2. Title Block

- A. Is there a title block and border on each sheet? Yes No
- B. Is a brief project purpose identified? Yes No
- C. Is the project name listed? Yes No
- D. Is the project location listed (i.e., latitude and longitude, mileposts)? Yes No
- E. Is the datum used in the plan and section views identified? Yes No
- F. Are adjacent property owners listed or was a reference included to where this information will be provided? Yes No
- G. Is a U.S. Army Corps reference number included (if applicable)? Yes No
- H. Is the applicant listed? Yes No
- I. Is the county where the project will occur identified? Yes No
- J. Is the nearest city to where the project will occur listed? Yes No
- K. Is the water body where the project will occur listed? Yes No

- L. Is the date the drawings were completed identified? Yes No
- M. Is the WSDOT logo and agency name spelled out? Yes No
- N. Is the sheet number listed (i.e., Sheet # of #) Yes No

Comment/Recommendation:

3. Vicinity Map

- A. Is the sheet presented in portrait view (required for submittals to the Corps)? Yes No
- B. Is a north arrow included and is the top of the sheet oriented north? Yes No
- C. Are highways shown and clearly labeled? Yes No
- D. Are the project limits identified using SR mileposts to the nearest tenth? Yes No
- E. Does the map indicate latitude and longitude at the beginning and end of the project site(s) to the nearest second? Yes No
- F. Does the map indicate the section, township, and range? Yes No
- G. Is there a graphic scale on the map? Yes No
- H. Does the map show roads, streets, railroads, and identify mileage to the nearest town or city limits? Yes No
- I. Are waterways shown and labeled (i.e., rivers, streams, tributaries, lakes, ponds, tidal waters, and sloughs)? Yes No
- J. Are stream or wetland mitigation sites associated with your project shown and labeled? Yes No
- K. Does the vicinity map clearly show the location of the project in relation to the larger regional area? If not, is a small regional or state map included? Yes No

Comment/Recommendation:

4. Impact Plan View Sheets

- A. Is the roadway centerline and stationing or mile post (to the nearest tenth) shown? Yes No
- B. Are outer limits of the existing paved shoulders and sidewalks shown? Yes No
- C. Are the new limits of the paved shoulders and sidewalks shown (include permanent gravel roads)? Yes No
- D. Are existing ditches, culverts, and structures shown? Yes No
- E. Are new ditches, culverts, and structures shown? Yes No
- F. Do the drawings show the proposed cut and fill lines for the project? Yes No
- G. Are lake shorelines, rivers, streams, and tidal areas shown and labeled with their names? Yes No
- H. Is a Mean High Water line (MHW line) shown where structures are proposed in tidal waters? Yes No N/A
- I. Is a Mean Higher High Water line (MHHW line) shown where a fill will occur in tidal waters? Yes No N/A
- J. Is an Ordinary High Water line (OHW line) for lakes and streams shown? Yes No N/A
- K. Are federal harbor lines and navigation channels shown (where established)? Yes No N/A
- L. Are right of way lines and construction easements shown? Yes No N/A
- M. Are the dimensions of regulated bridge and culvert structures shown if they are not to scale? Yes No N/A
- N. Are existing wetlands shown (are wetland numbers labeled)? Yes No N/A
- O. Are existing wetland and stream buffer boundaries shown? Yes No N/A
- P. Are sensitive areas covered by local Critical Areas Ordinances (CAO) such as steep hillsides or critical aquifer recharge areas shown (important if you plan on using your JARPA drawings to obtain local permits)? Yes No N/A
- Q. Are jurisdictional ditches shown (including labels)? Yes No N/A

- R. Is the direction of flow for all existing and new streams, channels, ditches, and drainages shown? Yes No N/A
- S. Is the direction of currents (e.g., tidal ebb and flood) shown? Yes No N/A
- T. Are wetland impact locations (including permanent and temporary) shown? Yes No N/A
- U. Are wetland and stream buffer impact locations (including permanent and temporary) shown? Yes No N/A
- V. Are stream impact locations (including permanent and temporary) shown? Yes No N/A
- W. Are jurisdictional ditch impact locations (including permanent and temporary) shown? Yes No N/A
- X. Are Critical Areas Ordinance (CAO) impact locations shown (if using your JARPA drawings to obtain local permits)? Yes No N/A
- Y. Have the wetland, stream, and jurisdictional ditch impact areas been quantified in the table of impacts? Yes No N/A

Comment/Recommendation:

5. Legend

- A. Has a legend been included on each sheet? Yes No N/A
- B. Does the legend identify the lines and patterns being used in the drawing? Yes No N/A
- C. Existing and proposed structures (buildings, bridges, others)? Yes No N/A
- D. Existing and proposed utilities (permitted under the JARPA)? Yes No N/A
- E. Existing and proposed ditch lines? Yes No N/A
- F. Jurisdictional ditches? Yes No N/A
- G. Existing and proposed culverts? Yes No N/A
- H. Streams and rivers? Yes No N/A

- I. Ordinary High Water (OWH) line? Yes No N/A
- J. Mean High Water (MHW) line? Yes No N/A
- K. Mean Higher High Water (MHHW) line? Yes No N/A
- L. Right of way boundaries? Yes No N/A
- M. Wetland boundaries? Yes No N/A
- N. Wetland and stream buffer boundaries? Yes No N/A
- O. Wetland impact locations (including temporary and permanent)? Yes No N/A
- P. Steam and wetland buffer impact locations (both temporary and permanent)? Yes No N/A
- Q. Stream impact locations (including temporary and permanent)? Yes No N/A
- R. Railroad tracks or access roads? Yes No N/A
- S. Roadway centerline and centerline stationing? Yes No N/A
- T. Existing and proposed edge of pavement? Yes No N/A
- U. Other information as requested by the agencies? Yes No N/A

Comment/Recommendation:

6. Impact Cross Section View

- A. Has a cross section been included for each impact? Yes No
- B. Is the cross section located on the plan view sheet where the impact will occur (or on the following page)? Yes No
- C. Is the information shown in the cross section consistent with what is shown in the applicable part of the plan view? (not applicable for typical cross sections) Yes No
- D. Are shorelines, MHW line, MHHW line, OHW line, streams, ditches, wetland boundary, and buffers shown? Yes No
- E. Are existing and proposed topographic elevations shown? Yes No

- F. Are existing and proposed water depths shown (if they will be affected by the project)? Yes No
- G. Are horizontal dimensions of any proposed structure or fill, and vertical dimensions to top and base of any proposed structure or fill shown? Yes No
- H. Are the vertical and horizontal scales the same (1H:1V)? Yes No
- I. Are special aquatic sites that are affected by the project (for example, sanctuaries or refuges, wetlands, mud flats, vegetated shallows such as eelgrass beds, and riffle and pool complexes) shown? Yes No
- J. Are impacts called out by their type (temporary or permanent)? Yes No
- K. Does the cross section have a label? Yes No

Comment/Recommendation:

7. Table of Impacts

- A. Has a table of impacts been included on each plan view sheet that shows an impact? Yes No
- B. Are the impact areas quantified in acres to the nearest tenth and impact volumes quantified in cubic yards? Yes No
- C. Are the wetland impacts listed by wetland number? Yes No N/A
- D. Is the wetland rating listed (per the Ecology rating system)? Yes No N/A
- E. Is the total wetland area listed? Yes No N/A
- F. Is the permanent wetland impact area listed? Yes No N/A
- G. Is the temporary wetland impact area listed? Yes No N/A
- H. Is the permanent buffer impact area listed? Yes No N/A
- I. Is the temporary buffer impact area listed? Yes No N/A
- J. Is the permanent stream impact area listed? Yes No N/A
- K. Is the temporary stream impact area listed? Yes No N/A

- L. Is the permanent jurisdictional ditch impact listed? Yes No N/A
- M. Is the temporary jurisdictional ditch impact listed? Yes No N/A
- N. Do all the numbers in the tables match the quantities listed in the written JARPA narrative form? Yes No N/A

Comment/Recommendation:

Reviewer's Conclusion

Note: If the answer to any of the above questions is "No", check "No" in response to the question below and check the box next to the element(s), below, that do not satisfy the requirements.

Do the permit application drawings satisfy the requirements of the Complete Permit Application Drawing Guidance?

Yes No

If "No" the designer must revise the drawing elements checked below and resolve the comments provided by the reviewer in the associated sections above.

- 1. General
- 2. Title Block
- 3. Vicinity Map
- 4. Impact Plan View Sheets
- 5. Legend
- 6. Impact Cross Section View
- 7. Table of Impacts

Resources


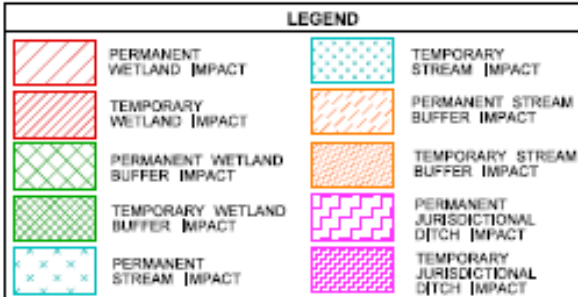
*You can obtain a copy of the WSDOT Complete Permit Application Drawing Guidance at the following site: <http://www.wsdot.wa.gov/Environment/Programmatics/permittools.htm>.

**You can view examples of JARPA drawings and exhibits at the WSDOT Permitting SharePoint site: <http://sharedot/srvcs/envs/Permitting/Shared%20Documents/Forms/AllItems.aspx>.































Appendix B: JARPA Comments for MicroStation

Please Read: The JARPA elements for MicroStation are undergoing refinement.

The HQ Design Office is currently in the process of developing the next generation of environment that will be deployed with the next Bentley (MicroStation) application version. The Environmental Services Office received some good comments from the regions regarding issues associated with the JARPA elements and templates in MicroStation. We shared the comments with the HQ Design Office and they are looking at accommodating each of the items in the new MicroStation environment. Below is a summary of the comments we received along with responses mentioning how we plan to address the comments.

Review Comment	Response
I believe this template is set up for 8 1/2 by 11 sheets used for Corps submittals. Does WDFW require this size sheet?	No, WDFW will accept 11" x 17" sheets. I have communicated the need for a "Non-Corps" template to be set up in MicroStation and the HQ Design Office is working on making this happen.
OHW line type is not practical on 8-1/2 x 11 sheets. They are already crowded enough and when you have ----OHW---- every 1/2" you can't see any of the other details around it, and these are usually the details that people want to see. Suggest a dashed line with a call-out saying it's the OHW. This is how we do it on contract plan sheets when it gets too crowded.	I agree. A revised OHW symbol consisting of a single line and single OHW label was provided to HQ CAE Office as shown below: 
Hatching patterns for permanent Wetland Impacts and temp. wetland buffer impacts should be changed to allow visibility through the hatch. They can tend to be too cluttering to small areas, or areas with other details being called out.	Agree. Revised hatching patterns for various impact types were provided to the HQ CAE Office. Also, we added a text box on page 2-5 mentioning that the designer may need to modify the scale or density of the impact hatching to fit the project. 

<p>Is this to be incorporated into the Plans Prep Manual or to be a stand-alone document? The PPM seems a logical place for it, since the PPM already provides other drafting guidance and standards to the target audience for this guidance. It would be more efficient if designers and drafters only have one source for drafting guidance.</p>	<p>I met with Clint Hill (HQ CAE Office) and he told me to not include references to the PPM in this document because their office will be taking all the drawing elements out of the PPM and they will become part of the Electronic Engineering Data Standards (EEDS) manual. I will work with the HQ Design Office see if I can add a reference to the EEDS manual and a link telling designers where the drawing guidance is located on our web-site.</p>
<p>Appendix A, 1-17 - What is the third example?</p>	<p>Appendix A has been replaced with the JARPA Drawing Reviewer's Checklist.</p>
<p>The detention pond symbol seems way too heavy if the pond is small. Is there flexibility to modify symbols? Another example is the spacing on the ditch bottom symbols. What if it is a short ditch at a small scale? You might not get the entire symbol, which could make it look like an arrow, not a line. Furthermore, if you got just the arrow portion, it would look just like the ditch bottom new symbol. If I were allowed to make the symbol shorter, it would represent the feature much better. Please allow for flexibility.</p>	<p>We DO have the ability to modify JARPA elements. I will pass your suggestions along to the HQ Design Office and we will follow-up with you. It sounds like we may need to develop cells and instructions for how to use the JARPA elements within MicroStation.</p>
<p>The sheets place as described in lines 28-33, however, the place labels feature does not work with the Corps of Engineers Sheets.</p>	<p>According to Clint Hill (HQ Design), "This will require adjusting the WSDOT custom Label Sheets utility to accommodate the new template and 8x11.5 sheets. The current environment – associated with MicroStation XM – is being “frozen” meaning that development for other than bugs has been halted. The new environment will be out by March/April of 2011."</p> <p>"We're focused on our new environment and this will be included in that development. We're looking at accommodating each of your items in that environment."</p>
<p>All of the EV levels and line styles do not show up in the WSDOT toolbox menu under EV Environmental. The CADD operator is forced to look in more than one place to accomplish the task of finding the many texts and line styles used in the document.</p>	<p>According to Clint Hill, "In our current environment, the custom WSDOT Menu includes two main breakouts of our elements based on discipline standards; PSE Plans and Right of Way. Elements in these collections are owned/controlled by Design Liaison and R/W to match the Plans Prep Manual. Two other collections (Mapping and User Levels) contain elements for design workflows and other deliverables.</p> <p>Discussion to add a collection for JARPA has challenged the philosophy of the WSDOT Menu collections and we are working towards a solution that will effectively make elements available while preventing excessive navigation."</p>

<p>When sheets are placed two 8 1/2 x 11 sheets are placed on one 11 x 17 sheet when following these directions. How are we supposed to print two sided sheets in this format? Are there options for using only half of a sheet to minimize paper?</p>	<p>According to Clint Hill at the HQ Design Office, "For our current environment, I will look into a method that I think will allow this to work - in our current environment. This method may use a modified JARPA sheet cell and a native print option."</p>																				
<p>(EV WL HighWaterLine) does not exist as a level or line style yet. Ideally it would look like the OHW line style but have HWL in its place. I make this line style every time the PS&E changes for some projects. Let's make this easily identifiable on the plan sheets so it doesn't need to be labeled with offset text.</p>	<p>According to Clint Hill, "This will be added in the new environment." The Environmental Services Office will work with you to develop this element in the new MicroStation environment.</p>																				
<p>EV WL Indirect Wetland Impact cell is missing the graphic under examples. Should it be placed at a scale of 1 with row and column spacing set to 0?</p>	<p>We spoke with the Army Corps and they mentioned that it is not necessary to show indirect wetland impacts in the JARPA drawings. Therefore, this cell will be removed from the CAD Standards.</p>																				
<p>Using line styles that are unique show the viewer what features they are looking at without having additional text on the page telling them what the line is representing. Many of the JARPA pages get reproduced and copied in black and white. When this occurs the color pages are reduced to lines that are the same weight and color representing different things. The Perm Stream buffer Impact, Perm Stream Impact, Temp Stream Impact and Temp Wetland Impact lines are all the same weight, color and line style. They could easily be different line styles to guide the reader to their true meaning. I recommend using as many different line styles as needed to have each one unique to the feature it represents. This will make it easier for the color-blind population to view too.</p>	<p>Agree. Revised hatching patterns for various impact types were provided to the HQ CAE Office. Also, we added a text box on page 2-5 mentioning that the designer may need to modify the scale or density of the impact hatching to fit the project.</p> <div data-bbox="808 905 1385 1199" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">LEGEND</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;"></td> <td style="width: 50%; text-align: left; padding-left: 5px;">PERMANENT WETLAND IMPACT</td> <td style="width: 25%; text-align: center;"></td> <td style="width: 25%; text-align: left; padding-left: 5px;">TEMPORARY STREAM IMPACT</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">TEMPORARY WETLAND IMPACT</td> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">PERMANENT STREAM BUFFER IMPACT</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">PERMANENT WETLAND BUFFER IMPACT</td> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">TEMPORARY STREAM BUFFER IMPACT</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">TEMPORARY WETLAND BUFFER IMPACT</td> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">PERMANENT JURISDICTIONAL DITCH IMPACT</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">PERMANENT STREAM IMPACT</td> <td style="text-align: center;"></td> <td style="text-align: left; padding-left: 5px;">TEMPORARY JURISDICTIONAL DITCH IMPACT</td> </tr> </table> </div>		PERMANENT WETLAND IMPACT		TEMPORARY STREAM IMPACT		TEMPORARY WETLAND IMPACT		PERMANENT STREAM BUFFER IMPACT		PERMANENT WETLAND BUFFER IMPACT		TEMPORARY STREAM BUFFER IMPACT		TEMPORARY WETLAND BUFFER IMPACT		PERMANENT JURISDICTIONAL DITCH IMPACT		PERMANENT STREAM IMPACT		TEMPORARY JURISDICTIONAL DITCH IMPACT
	PERMANENT WETLAND IMPACT		TEMPORARY STREAM IMPACT																		
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	PERMANENT STREAM IMPACT		TEMPORARY JURISDICTIONAL DITCH IMPACT																		
<p>Some of the symbols in the legend appear to be made up of many patterns and outlines. Some of which are Permanent Wetland Impact, Indirect Wetland Impact, Temp. Wetland Impact, Permanent Stream Impact and Existing Stream OHW. The symbols that have multiple patterns should include the settings for spacing, rotation and scale as well as which patterns and outlines need to be used to come up with the final product.</p>	<p>Agree. See my comment response above.</p>																				

<p>Would having a Microstation cad cell of the “table of impacts” be of some value for convenience and consistency?</p>	<p>Yes, we should explore this recommendation. Keep in mind that the table of impacts may only need to list wetland impacts on one drawing and may need to list stream impacts on another. Therefore, the cell would need to be able to be customized for each sheet. For now we are putting together a library of JARPA drawing examples that we can review to decide the best format to use for a table of impacts. This may need to be a region-by-region decision because HQ does not want to tell the regions how to do it and limit flexibility. You can view examples at the WSDOT Permitting SharePoint site.</p>
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SUGGESTED LEGENDS FOR JARPA

LEGEND	
	WETLAND
	WETLAND BUFFER
	STREAM BUFFER
	EXISTING DITCH
	PROPOSED DITCH
	ORDINARY HIGH WATER
	EXISTING CULVERT
	PROPOSED CULVERT
	EXISTING VEGETATION
	CUT LINE
	FILL LINE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	ALIGNMENT & STATION
	RIGHT OF WAY
	EXISTING EDGE OF PAVEMENT
	PROPOSED EDGE OF PAVEMENT
	OVERHEAD UTILITY
	EXISTING FENCE
	PROPOSED FENCE
	RAILROAD TRACKS
	BUILDING STRUCTURE
	EXISTING WALL
	PROPOSED WALL

LEGEND			
	PERMANENT WETLAND IMPACT		TEMPORARY STREAM IMPACT
	TEMPORARY WETLAND IMPACT		PERMANENT STREAM BUFFER IMPACT
	PERMANENT WETLAND BUFFER IMPACT		TEMPORARY STREAM BUFFER IMPACT
	TEMPORARY WETLAND BUFFER IMPACT		PERMANENT JURISDICTIONAL DITCH IMPACT
	PERMANENT STREAM IMPACT		TEMPORARY JURISDICTIONAL DITCH IMPACT

LEGEND	
	PERMANENT WETLAND IMPACT
	TEMPORARY WETLAND IMPACT
	PERMANENT WETLAND BUFFER IMPACT
	TEMPORARY WETLAND BUFFER IMPACT
	PERMANENT STREAM IMPACT
	TEMPORARY STREAM IMPACT
	PERMANENT STREAM BUFFER IMPACT
	TEMPORARY STREAM BUFFER IMPACT
	PERMANENT JURISDICTIONAL DITCH IMPACT
	TEMPORARY JURISDICTIONAL DITCH IMPACT

LEGEND			
	WETLAND		RIGHT OF WAY
	WETLAND BUFFER		EXISTING EDGE OF PAVEMENT
	STREAM BUFFER		PROPOSED EDGE OF PAVEMENT
	EXISTING DITCH		OVERHEAD UTILITY
	PROPOSED DITCH		EXISTING FENCE
	ORDINARY HIGH WATER		PROPOSED FENCE
	EXISTING CULVERT		RAILROAD TRACKS
	PROPOSED CULVERT		BUILDING STRUCTURE
	EXISTING VEGETATION		
	CUT LINE		
	FILL LINE		
	EXISTING CONTOUR		
	PROPOSED CONTOUR		
	ALIGNMENT & STATION		

T2N R1E WM



LEGEND			
	PERMANENT WETLAND IMPACT		TEMPORARY STREAM IMPACT
	TEMPORARY WETLAND IMPACT		PERMANENT STREAM BUFFER IMPACT
	PERMANENT WETLAND BUFFER IMPACT		TEMPORARY STREAM BUFFER IMPACT
	TEMPORARY WETLAND BUFFER IMPACT		PERMANENT JURISDICTIONAL DITCH IMPACT
	PERMANENT STREAM IMPACT		TEMPORARY JURISDICTIONAL DITCH IMPACT

WETLAND QUANTITIES	
WETLAND #	5
DOE CATEGORY	III
WETLAND AREA	1.25 ACRES
PERMANENT WETLAND IMPACT	0.15 ACRE
TEMPORARY WETLAND IMPACT	0.30 ACRE
PERMANENT WETLAND BUFFER IMPACT	0.27 ACRE
TEMPORARY WETLAND BUFFER IMPACT	0.15 ACRE

LEGEND			
	WETLAND		RIGHT OF WAY
	WETLAND BUFFER		EXISTING EDGE OF PAVEMENT
	STREAM BUFFER		PROPOSED EDGE OF PAVEMENT
	EXISTING DITCH		OVERHEAD UTILITY
	PROPOSED DITCH		EXISTING FENCE
	ORDINARY HIGH WATER		PROPOSED FENCE
	EXISTING CULVERT		RAILROAD TRACKS
	PROPOSED CULVERT		BUILDING STRUCTURE
	EXISTING VEGETATION		
	CUT LINE		
	FILL LINE		
	EXISTING CONTOUR		
	PROPOSED CONTOUR		
	ALIGNMENT & STATION		

PROJECT NAME:	REFERENCE:	 Washington State Department of Transportation
PURPOSE:	APPLICANT:	
PROPOSED:	COUNTY:	
LOCATION:	NEAR:	
DATUM:	WATER BODY:	
ADJACENT PROPERTY OWNERS:	DATE:	
	SHEET:	OF:

PROJECT NAME:	REFERENCE:	 Washington State Department of Transportation
PURPOSE:	APPLICANT:	
PROPOSED:	COUNTY:	
LOCATION:	NEAR:	
DATUM:	WATER BODY:	
ADJACENT PROPERTY OWNERS:	DATE:	
	SHEET:	OF: