

## Final Report

### Project #07-1865, Peshastin Irrigation District Pipeline

Submitted by Alan Schmidt on 09/27/2012

Accepted by Marc Dubois on 09/27/2012

#### CONTACTS

**Primary Sponsor:** Chelan Co Natural Resource

**Project Contact:** Michael Kaputa  
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**Lead Entity:** Chelan County LE

**Billing Contact:** Kathy Bangs  
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**Managing Agency:** Rec. and Conserv. Office

**RCO Grant Manager:** Marc Dubois  
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#### DESCRIPTION OF THE COMPLETED PROJECT

**Project Start Date:** 12/13/2007

**FundingEnd Date:** 12/31/2011

**RCO Closure Date:**

Approximately 9900 ft of the Peshastin Irrigation District Canal was converted from an open canal to a closed pipeline. The construction of a pipeline eliminated seepage in that reach. The upstream end of the proposed pipeline was constructed in 2005 by Peshastin Irrigation District. After this project was completed, the downstream most 3 miles of the Peshastin Canal has been converted from open canal to pipeline (see attached Figure). The reduction in seepage and water savings from this pipeline project are conservatively estimated to be 1.2 cfs (Kolk, pers. comm. 2007). The total water savings from both pipeline projects is estimated to be 3 to 4 cfs (Anchor, 2007). The water savings will result in reduced diversions from Peshastin Creek and increased instream flow. The 1.2 cfs saved with this project will enhance passage for Chinook salmon and bull trout and will go into the state's Trust Water Rights Program. The project was completed in 2 phases known as Schedule A and Schedule B. The Schedule A portion was completed in April 2010. This portion installed 6000 lineal feet of pipe and 2 flow control structures. The Schedule B portion completed the remaining 4000 lineal feet pipe replacing the open ditch. This project also included a cast in place concrete distribution structure. The Schedule B portion was completed December 2011. As of April 2012 the Peshastin Irrigation District reports that the system is performing to expectations.

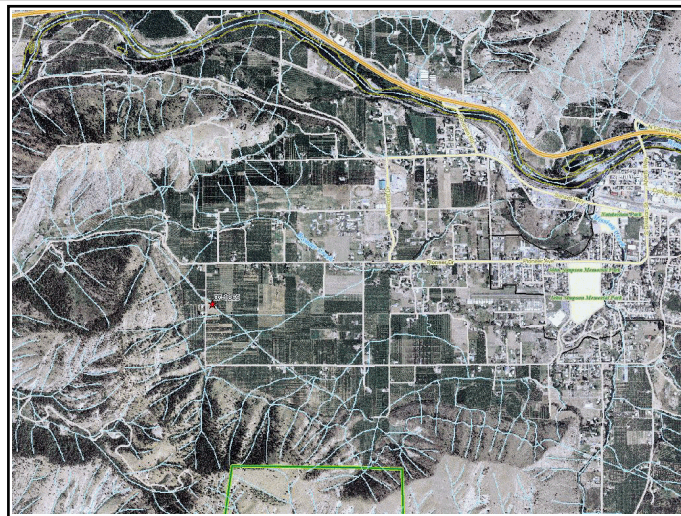
Increasing streamflow in Peshastin Creek is recommended in the Upper Columbia Biological Strategy, the Upper Columbia Salmon Recovery Plan, the Wenatchee Watershed Plan and the TMDL submittal to EPA for Peshastin Creek. This type of project is classified as a Tier 1 project in the Biological Strategy and is needed before implementing other habitat enhancement actions.

#### SITE LOCATION

**General Area of Project:** The Peshastin Irrigation District diversion is located on Peshastin Creek 2.4 miles upstream from its confluence with the Wenatchee River near Dryden.

##### Waterbodies:

**Cong District:** 04  
**County:** Chelan  
**HUC:** Wenatchee  
**Leg District:** 12  
**Salmon Recov Reg 05:** Upper Columbia  
**Section:** 06  
**Township/Range:** T23NR19E  
**WAU:** Mission Creek  
**WRIA:** Wenatchee



##### Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

## PROJECT NARRATIVE

### Peshastin Irrigation District Piping Project Description

The goal of this project is to implement the conversion of 6000 lineal feet of open canal to closed pipeline. Updates to diversion and water screening are included. Water savings will be part of the states Trust Water Rights Program.

The Chelan County Natural Resources Department began project planning in February of 2006. Working with the Peshastin Irrigation District, Bureau of Reclamation and Anchor Environmental to identify project goals and methods the Natural Resource Department concluded water savings would increase instream flows of Peshastin Creek.

#### Public Outreach

The design team met with the Peshastin Irrigation District Board of Commissioners to get their support for the project. Conceptual design criteria and funding estimates were established. The District notified their growers as to the project proposal and received support for the conversion of the conveyance canal to a piped system.

#### Construction

Anchor Environmental completed construction contract plans and specifications in September of 2010. The Construction Construction contract was awarded to Mountain West Construction on September 21, 2009. Materials were ordered and stockpiled at the Peshastin Irrigation District equipment yard anticipating beginning of construction in mid March 2010. All work was completed and accepted by the Peshastin Irrigation District by April 15, 2010. Lessons learned, a complete and accurate topographical survey is absolutely necessary for design engineers to provide pipe lengths, grades and flow rates. A better provision for orchardists to connect their system to the new pipe conveyance system would help reduce design changes during construction.

Final Change Order #2 results in the addition of \$505.73 to original contract amount for Schedule A of \$633,189.40.

### Peshastin Irrigation District Piping Project Description

The goal of the Schedule B project is to complete the remainder of the piping project started with the completion of Schedule A in 2010. The entire project completes the conversion of 10,000 lineal feet of open canal to closed pipeline. Updates to diversion and water screening are included. Water savings will be part of the Washington State Department of Ecology's Trust Water Rights Program.

The Chelan County Natural Resources Department began project planning in February of 2006. Working with the Peshastin Irrigation District, (PID) the U.S. Bureau of Reclamation (Reclamation) and Anchor QEA, LLC (formerly Anchor Environmental LLC) to identify project goals and methods, the Chelan County Natural Resource Department concluded that water savings would increase instream flows of Peshastin Creek.

#### Public Outreach

The design team met with the Peshastin Irrigation District Board of Commissioners to get their support for the project. Conceptual design criteria and funding estimates were established. The District notified their growers as to the project proposal and received support for the conversion of the conveyance canal to a piped system.

#### Construction

The Schedule A portion of the project was completed on April 15, 2010.

The Schedule B construction documents were completed and reviewed by the PID manager early during the irrigation season in 2011. Advertisement for construction bids and a pre-bid walk through were performed during August 2011. The Contract was awarded to Olin Excavation on September 6, 2011. Notice to Proceed was issued on September 26, 2011. The Contractor mobilized equipment and materials to project site early in October 2011. Work began with demolition of the old distribution box (also referred to as the "Rabbit Warren" structure) and forming of the replacement structure. Work began with demolition of the old distribution box and forming of the replacement structure (rabbit warren). Turnouts from the distribution box were modified from nine 4-inch turnouts to three 4-inch, five 6-inch and one 8-inch turnouts. (price increase included in Change Order #1) The size of pipe was increased from 10-inch to 12-inch at the upstream end of the project as requested by the PID manager during construction, to reduce pressure losses at the pipe inlet. After consulting with Peshastin Irrigation District operations manager it was decided to add an additional 1220 lineal feet to the waste water system. Turnout locations were modified to better fit the adjoining orchardist water delivery system. Construction proceeded on schedule with no major delays or conflicts. Soils encountered during trench excavation provided for pipe bedding and backfill. The road crossing at Tigner Road was accomplished with pavement restoration completed in one day. All pipe and turnout fittings were installed by December 9. Pressure testing each section was completed with all sections meeting contract specifications. Exceptionally good weather during late October and early November assisted with the project completion. A project walkthrough with the PID manager and contractor was completed on December 16 with remaining cleanup items agreed on. As of June 2012 the Peshastin Irrigation District has operated the new conveyance system with no disruptions of service to district members. Based on the positive relationship resulting from the successful conclusion of this project Chelan County and the Peshastin Irrigation District have begun discussions regarding a pump back system to replace the Districts diversion from Peshastin Creek.

**AMENDMENTS**

#	Type	Applied Date	Description
3	Time Extension	11/16/2010	The project period of 12/13/2007 to 12/31/2010 is extended to allow the contracting party until 12/31/2011 to complete the project.
2	Cost Change	08/19/2010	The sponsor, Chelan County Natural Resources, needs an additional \$100,000 to cover higher than anticipated construction costs. This project will convert nearly two miles of open irrigation canal to a piped system saving water for Peshastin Creek, and important tributary to the Wenatchee River.
1	Time Extension	10/26/2009	The project period of 12/13/2007 to 10/31/2009 is extended to allow the contracting party until 12/31/2010 to complete the project.

**OVERALL PROJECT COSTS**

Funding Formula:	Requested		Original		Final	
Salmon Federal Projects:	\$0.00	(0%)	\$653,019.00	(74%)	\$753,019.00	(74%)
Salmon State Projects:	\$653,019.00	(74%)	\$0.00	(0%)	\$0.00	(0%)
Sponsor Match:	\$225,000.00	(26%)	\$225,000.00	(26%)	\$259,447.00	(26%)
<b>Total:</b>	<b>\$878,019.00</b>	<b>(100%)</b>	<b>\$878,019.00</b>	<b>(100%)</b>	<b>\$1,012,466.00</b>	<b>(100%)</b>
<b>Paid To Date:</b>	\$753,019.00		<b>Last Released Billing:</b> 09/28/2012			
<b>Remaining RCO Funds:</b>	\$0.00		<b>Pending Billing:</b> No			
<b>Advance Balance:</b>	\$0.00		<b>Match Bank:</b>	\$0.00		
<b>Admin Limit:</b>	\$0.00	5.00%	<b>Admin Spent:</b>	\$0.00		
<b>A&amp;E Limit:</b>	\$233,646.00	30.00%	<b>A&amp;E Spent:</b>	\$121,229.09	11.97%	

Billed Cost Summary:	Original Agreement	Expended	Non-Reimbursable	Total Billed
Restoration				
Construction	\$778,820.00	\$789,063.37	\$136,866.43	\$925,929.80
A&E	\$233,646.00	\$55,086.75	\$66,142.34	\$121,229.09
Restoration Total	\$1,012,466.00	\$844,150.12	\$203,008.77	\$1,047,158.89
Total	\$1,012,466.00	\$844,150.12	\$203,008.77	\$1,047,158.89

Project Cost Metrics:	Original Agreement	Final
PCSRF Federal Funds:		\$753,019.00
State Funds:		
Pending Billing - RCO Share Approved:		
Retainage - RCO amount retained:		\$0.00
Amount of other monetary funding:		\$294,140.00
Value of Donated Unpaid Labor (Volunteers):		\$0.00
Value of Donated Paid Labor:		\$0.00
Value of Other In-Kind Contributions:		\$0.00
Project identifier for the other monetary funding:		DOE G1000385 DOE G1200111 CCNRD 180040
Source of In-Kind contributions:		
Source of other monetary funding:		
Number of hours volunteers contributed to the project:		0
Describe how the value of the volunteers was determined:		
Description of other In-Kind contributions:		

PROJECT METRICS

	Original Agreement	Final
Completion Date		
Projected date of completion:		12/30/2011
Project Goals		
Goals, purpose, and expected benefits:		This project successfully reduced water wastage by improving the irrigation district conveyance system. Water savings were formalized with Washington State Water Trust Program.

## WORKSITE #1: Peshastin Irrigation Canal

**Worksite Description:** The Peshastin Irrigation District diversion is located on Peshastin Creek 2.4 miles upstream from its confluence with the Wenatchee River near Dryden. The affected reach is the lower 2.4 miles of Peshastin Creek, a tributary of the Wenatchee River. This project aims to convert approximately 9900 ft of the Peshastin Irrigation district Canal from open canal to closed pipeline, eliminating seepage throughout that reach.

**Driving Directions:** From Wenatchee:

Take US Highway 2 West/US Highway 97 South for approximately 7.5 miles to Cashmere.

Turn left onto Aplets Way (turns into South Division Street) and travel for approximately ½ mile.

Turn right onto Pioneer Avenue (turns into Pioneer Drive).

The downstream end of the project is located on the left side of Pioneer Drive approximately 1.1 miles from the Division Street turnoff (250 feet east of Wohlers Road intersection with Pioneer Drive).

The upstream end of the project is located on the left side of Pioneer Drive approximately 1.7 miles west of the downstream end of the project.

**Coordinates for Worksite Directions - Latitude:** 0.00 **Longitude:** 0.00

**Sponsor Clarifications:**

Sponsor verified the above information is correct and complete.

## WORKSITE #1 COSTS

Worksite Billed Cost:	Estimated	Expended	Non-Reimbursable	Total Billed
A&E	\$190,500.00	\$55,086.75	\$66,142.34	\$121,229.09
Construction	\$687,519.00	\$789,063.37	\$136,866.43	\$925,929.80
Worksite Total	\$878,019.00	\$844,150.12	\$203,008.77	\$1,047,158.89

Worksite Costs by Category:	Original Agreement	Final
Fish Screen Funding:		\$1.00
Instream Flow Funding:		\$911,792.00
Cultural resource funding:		\$6,136.00
Permits Funding:		\$8,001.00
Architectural & Engineering Funding:		\$121,229.09

## WORKSITE #1 METRICS

	Original Agreement	Final
Targeted salmonid ESU/DPS:		Chinook Salmon-Upper Columbia River Spring-run ESU
Targeted species (non-ESU species):		Bull Trout
Miles Of Stream Treated/Protected:		0.00
Project Identified In a Plan or Watershed Assessment:		Wenatchee Watershed Management Plan
		Upper Columbia Salmon Recovery Plan
Type Of Monitoring:		None
Monitoring Location:		No monitoring completed
<b>Fish Screening Project</b>		
Quantity Of Water Protected By Screens (acre feet per year):		0
<b>Fish screens installed</b>		
Number Of Fish Screens Installed:		0
The Flow Rate Of Screened Water:		0.00
Change in water flow (fish screen project)(cu feet):		0.00
<b>Instream Flow Project</b>		
Miles Of Stream 'Protected' For Adequate Flow:		2.40
Change In Water Flow:		2
<b>Irrigation practice improvement</b>		
Initial Start Date of irrigation practice improvement:		04/01/2010

Final End Date of irrigation practice improvement:	12/01/2011
Acre Feet Of Water Conserved:	1376
Cfs (Cubic Feet Per Second) Of Water Conserved:	2

#### Cultural Resources

##### Cultural resources

Cultural resource work completed : Acres excavated:	14
Acres surveyed for cultural resources:	13.66

#### Permits

##### Obtain permits

Number of permits required for implementation of project:	2
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#### Architectural & Engineering

##### Architectural & Engineering (A&E)

Did A&E costs exceed billed amount (Yes/No):	No
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### PROPERTY DESCRIPTION (Peshastin Irrigation Canal)

Activity: Restoration

#### Control & Tenure:

Instrument Type: Sponsor owned property

Timing: Existing

Term Length: Perpetuity # yrs:

Expiration Date:

Landowner Type: Private

Note:

#### Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

#### Sponsor Clarifications:

### SPONSOR CERTIFICATION

☒ I certify that this project has been completed in accordance with the project agreement.

☒ I certify that, to the best of my knowledge, the information in the Final Report is true and correct.

Submitted by Alan Schmidt on 09/27/2012