DRAFT - WALLA WALLA BASIN INTEGRATED FLOW ENHANCEMENT STUDY	
PRELIMINARY PROJECT PROPOSAL TEMPLATE	
1. Title: **Pine Ck 45,800 Ac/Ft Storage Reservoir** **39,300 Acre Foot usable Storage**	**2. Proposal Preparer(s):** **Brian Wolcott**

3. Project Status: *Identify whether the proposed project is a past, ongoing or new project and briefly explain the status of the project, including the requested role of the Flow Study in further consideration of the project. If past project, some of the questions below may not be applicable.*

X a. NEW PROJECT □ b. ON-GOING PROJECT □ c. PAST PROJECT

A $99,980 study is nearing completion for reservoir site construction, conveyance analysis and costings. Corps studied extensively in 2009. CH2M is the current engineering firm.

4. General Description of Proposal: *Identify the category(s) and briefly explain the proposed project (e.g. location, infrastructure requirements, maintenance requirements, connection to other new, ongoing or past projects, other stakeholders, various sizing or phasing, etc.).*

□ a. Water Conservation & Infrastructure □ b. Aquifer Recharge & Aquifer Storage and Recovery
□ c. Surface – Groundwater Source Switch X d. Surface Water Storage □ e. Pump Exchange
□ f. Water Right Transactions □ g. Point of Diversion Transfers □ h. Other

A 45,800 acre foot reservoir located in the Pine Creek drainage approximately 2 miles upstream of the Klein residence just prior to where the Pine Creek drainage emerges out onto the Walla Walla valley. The study will identify costs for this Walla Walla River flow improvement project. An initial USACE study (2009) sponsored by the Confederated Tribes of the Umatilla identified this potential reservoir site to provide water for many of the irrigated farms in the Walla Walla Valley so they can leave their Walla Walla River irrigation water rights in the river at the Little Walla Walla Diversion at Cemetery Bridge and at GFID's Burlingame Diversion near Beet Road to improve flows for fish. The Corps study was considered expensive to build and operate. This study will utilize relevant information from the Corps' study, but look at a farm-based approach, and also include senior water users along the downstream Washington portion of the Walla Walla River to ensure fish flow benefits are protected to the confluence with the Columbia River. Also, conveyance to the reservoir can be enhanced with a larger diversion on the Walla Walla River. An additional diversion on upper Dry creek and Mill Creek at Bennington Reservoir outlet, both delivering water to the reservoir pool on gravity. This upper Pine Creek reservoir site will require less pumping, of Summer irrigation water back uphill to Milton-Freewater irrigators on WWRID. This cost could be offset be a hydropower plant which could generate power when water is delivered on gravity to lower HBDIC, GFID, and Lowden ditch water users.

OWRD has looked at water availability from the Walla Walla River, Pine Creek, and Dry Creek and after subtracting out existing water rights, there is 47,330 acre feet available. This will need to be reduced to comply with Oregon Environmental Flow requirements. Approximately 35,000 acre feet is needed to meet CTUIR goals. This larger capacity reservoir would be able to store water from years with higher water yields for future use. Initial analysis indicates a 35,000 fill would occur 60% of each water year, depending on instream flow requirements.

5. Source of Produced Water: *Mark all applicable and identify (water right number, shallow or deep basalt aquifer, stream name).*

□ a. Existing Water Right

□ b. Groundwater

X c. Surface Water

□ d. Other

6. Quantity/Timing/Location of Produced Water Instream: *Estimate average amount of water, when and where. Can project be considered at various sizes(flow outputs) and/or considered in phases?*

a. Acre-feet and/or Cubic-feet-per-second:
39,300 acre feet of usable storage. Fill frequency to 39,300 AF may be 50%.
50 cfs summer Milton-Freewater (Nursery Bridge)
75 cfs spring through July 1, Fall September-November Milton-Freewater (Nursery Bridge)
75 cfs Spring through July 1, and Fall Oct 1 to Dec 1at Burlingame Diversion
15 cfs Summer Lowden diversion (McDonald Bridge)

b. Timeframe(s):

Spring Summer Fall

c. Stream Reach Location(s):

Milton-Freewater/Nursery Bridge
Burlingame Diversion/Beet Road/McDonald Road

d. UNKNOWN - Need more work (engineering/design/modeling, etc.) to estimate potential instream flow outputs of project. Will results of this work be concluded within one year to inform potential project flow outputs? Describe additional work needed and cost estimate.

Site needs to be evaluated for suitability: geology, porosity, seismic, dam material, water availability, water production, pumping costs if any, hydropower potential. Conveyance costs approximately $70,000,000. Reservoir costs approximately $240,000,000. Total cost $310,000,000.

7. Ability to Protect Produced Water Instream: *Briefly explain how the produced water will be quantified, monitored and protected instream or why it is not currently protectable.*

□ a. YES - protection under existing regulations expected to WW River mouth or in limited reach?

Surface storage may be easier to protect than other types of produced water.

□ b. NO or X c. UNKNOWN – Results and implementation of flow protection study likely necessary to ensure flow protection.

Protection is unknown

8. Cost Estimates: *Provide known and estimated costs to develop and implement the project.*

a. Project Development and Design:

$12,000,000 (CH2M study)

b. Project Construction:
$310,000,000 (CH2M study) add $17,000,000 if piping 2000 acre feet from Bennington Reservoir on Mill Ck.

c. Construction cost per AF and/or CFS:
$8,857/AF (CH2M study) $177/AF over 50 years

d. Project Annual O&M:
$260,000 (CH2M study)

□ c. UNKNOWN - Need engineering/design work to estimate costs

9. Secured Costs: *Has any funding been secured in the past or currently and what is source?*

$99,980 secured for cost estimates and water availability assessment

10. Other Potential Project Advantages: *In addition to helping address flow targets and basin-wide flow issues (Endangered Species Act, Tribal Water Rights, Clean Water Act, etc.), briefly explain other potential benefits (e.g. reduced O&M costs, restores/mimics ecological processes, cropping flexibility,)*

Could provide seasonal recreation and wildlife benefits

11. Other Potential Project Disadvantages: *Briefly explain potential drawbacks of the proposal (e.g. reduced GW supply - recharge mitigation need, increased O&M costs, legal implications)*

O&M costs of
Will likely impact wildlife and ESA fishery in Walla Walla River and Pine Creek

12. Estimated Time Frame to Implement Project?

10-20 years