Oregon Department of Fish and Wildlife
Salmon and Trout Enhancement Program

Fish Propagation Project Application

New: ☐ **Renewal:** ☒

Project Name: Warrenton High School

PART 1 – APPLICANT INFORMATION

Applicant: Steve Porter-Warrenton High School

501(c)(3) tax exempt status: **Yes** ☒ **No** ☐

Contact Name: Steve Porter

Address: 1700 SE Main

City: Warrenton **State:** OR **Zip:** 97146

Phone: (503) 842-2741 **Email:** porters@whsd.k.12.or.us

Signature: [signature] **Date:** 1/9/16

A goal of the Salmon and Trout Enhancement Program (STEP) is to achieve the recovery and sustainability of Oregon's native stocks of salmon and trout. Through STEP, Oregonians can submit a proposal to ODFW and the Fish and Wildlife Commission to conduct a project consistent with this goal.

The following sections of the STEP Fish Propagation Project Application will ask you to provide the information needed to thoroughly review your proposed project and determine if it is consistent with STEP goals. The review will also determine whether a project is consistent with the Native Fish Conservation Policy (NFCP) and contributes to the broader goals of the Oregon Plan for Salmon and Watersheds (OPSW) to restore salmon runs, improve water quality, and achieve healthy watersheds.

As a STEP volunteer, become familiar with these important plans and policies that guide and direct STEP activities. As you complete this application, consider and explain how your proposed project will help STEP to achieve its goals and will contribute to Oregon's efforts to recover native fish and establish healthy watersheds.

PART 2 – TYPE OF REARING PROJECT AND OBJECTIVE

Fish Species to be Reared: Fall Chinook, Coho, and Winter Steelhead

Intent of Rearing Project (check only one):

- ☒ **Type 1** Increase fishing and harvest opportunities
- ☐ **Type 2** Enhance existing natural production
- ☐ **Type 3** Restore fish to vacant habitat
- ☐ **Type 4** Develop broodstock

Note: OAR 635-009-0125 defines STEP fish propagation projects as the following:

Supplementation – A project involving continued planting to maintain or increase fish abundance where natural production is insufficient to meet management objectives (Type 1)

Rehabilitation – A project in which fish are released to rebuild a currently depressed run (Type 2 and 3)

Broodstock Development – A project in which reared fish are released and the resulting adults return to a recapture facility to provide an egg source for management program (Type 4)

Project Start Date: 5/1/16 **Project End Date:** 5/1/2021

Project Duration:

If Type 1: ☒ 5 years

If Type 2, 3, or 4:

☐	3 years	Coho salmon
☐	4 years	Chum salmon
☐	5 years	Chinook salmon
☐	4 years	Steelhead
☐	4 years	Trout

Note: Projects that continue beyond the above-listed time periods must apply for renewal at the end of that time period.

Describe how the proposed project (please answer all that apply):

(a) Addresses ODFW fish management needs as outlined in subbasin fish management, species, recovery or conservation, or other plans (please cite specific plan, goal, objective, etc.)

The purpose of the WHS Aquaculture Program is primarily educational. It may supplement to a small degree, the sport and commercial fisheries in the lower Columbia River. Because of the relatively small number of fish released however, this program probably does not play any major role in contribution to these fisheries. The main benefit the program provides is the increased awareness and understanding of our fisheries resources that it develops in the students and surrounding community. This program is also involved in collaborative educational research projects with partners such as Warrenton High School Fisheries Inc. (WarHF, Inc.), Clatsop County Fisheries (CCF) Project, Skipanon Watershed Council, National Marine Fisheries Service (NMFS), Columbia River Estuary Task Force (CREST), and others. On occasion the WHS Aquaculture Program may request a small number of eggs for various research projects to give students an understanding of how the scientific process works. These eggs would be released in a closed water body as not to interfere with the propagation release numbers for the WHS Aquaculture Program.

(b) Will contribute to fisheries. Identify the fisheries and note any current special regulations such as "adipose fin-clipped only" that would affect the proposed project operation.

Fish, upon return as adults, are exposed to sport and commercial harvest in the ocean, commercial fisheries in the Columbia River and Youngs Bay, and harvesting by recreational fishers in the Columbia River, Youngs Bay and Skipanon areas.

(c) Addresses the factors limiting adequate natural production in the basin (lack of spawning habitat, poor rearing habitat). Also, please cite any information that supports that determination.

This program is educational and is not currently designed to specifically address any limiting factors. However, the class encompasses other projects involving the watershed council which may attempt to identify and address some of these factors.

(d) Contribute to other STEP, OPSW, and salmon and/or watershed recovery needs (education, citizen participation, other social benefit, etc.).

The primary focus of the WHS Aquaculture Program is educational. The school offers a multi-stage class that rotates emphasis every year. It stresses watershed, habitat, ecosystem stasis, salmon lifecycle, morphology and habits. The first semester is primarily academic, and the second semester is primarily kinesthetic and field work. Every year salmon propagation techniques are learned and applied. Students must make presentations to educate the public and legislature of what research is being done by the program and its partners. This propagation facility functions as a hands-on training station where students can acquire practical skills pertaining to aquaculture and fisheries in addition to conducting the necessary maintenance and upkeep procedures of the facility. In addition to production identified in Part 4, WHS Aquaculture Program may request additional gametes from up to 4 females and 4 males (of either 13 stock Co or ChF) for educational and experimental purposes. The educational purpose of this request is for the students to run an experiment using the scientific method in a STEM related environment. The Student will be evaluated based on their experimental design and the written conclusion witch will contain the data and results. The student will be making all

decisions about the experiment design with minimal input from the instructor. This project is intended for all the students in the class. At completion of the button up-swim up stage these offspring will either be destroyed or released into Coffenbury Lake as unfed fry. Although hatchery techniques are a major component of the class, water quality and overall watershed health is also emphasized. Students also work with the local watershed council, NOAA, and other groups to conduct water quality testing and participate in riparian restoration projects. Students in this program also participate in a major avian predation study with NMFS.

(e) Is addressed under an existing Hatchery Genetic Management Plan or Hatchery Management Plan.

Big Creek Hatchery: Fall Chinook HGMP, Coho HGMP, and Winter Steelhead HGMP

(f) Is consistent with the goals of the Hatchery Management Policy and the NFCP (please answer all that apply):

a. Fosters and sustains opportunities for sport, commercial, and tribal fishers consistent with the conservation of naturally produced native fish.

Released fish, although relatively small in numbers, do have the potential to contribute to local fisheries.

b. Contributes toward the sustainability of naturally produced native fish through the responsible use of hatcheries and hatchery-produced fish.

Release numbers are relatively small and fish are released low in the system (tidewater) to minimize interaction with naturally produced fish.

c. Maintains genetic resources of native fish spawned or reared in captivity.

Not applicable. No spawning or rearing of native fish occurs at this facility.

d. Minimizes adverse ecological impacts to watersheds caused by hatchery facilities and operations.

If needed ODFW pathologists are available should disease become an issue. Released numbers are small and fish are released low in the system (tidewater) to minimize hatchery/wild interactions. Fish are fed high quality food and monitored to avoid over feeding.

PART 3 – LOCATION OF REARING PROJECT OR FACILITY

County: Clatsop **Basin or Watershed:** Skipanon

Stream: Skipanon River

And one of the following:

Road Address: 1700 SE Main, Warrenton, OR

River or Stream Mile: RM 3 (includes Skipanon Waterway)

Legal (Township / Range / Section): T8N R10W Sec. 28

UTM Coordinate: 10 0428569 E, 5110824 N

Please include a map showing the project location within the watershed.

Other salmon, steelhead and/or trout species present in basin:

Species	Run	Hatchery or Naturally Produced?	State or Federally Listed?
Cutthroat		Naturally Produced	
Coho		Hatchery	
Steelhead	Winter	Hatchery	
Chinook	Fall	Hatchery	
Coho		Naturally Produced	Federal
Steelhead	Winter	Naturally Produced	
Chinook	Fall	Naturally Produced	Federal
Chinook	Spring	Hatchery	
Chum		Naturally Produced	Federal

List all other propagation programs in the basin or watershed:

Species	Responsible Agency or Organization	Number Released	Program Objective
ChF, Select Area Brights (SAB)	Klaskanine Hatchery	750,000	Released in N FK Klaskanine R. to contribute to ocean and Columbia R. sport & commercial fisheries.
ChF (SAB)	Youngs Bay Net Pens (CCF)	750,000	Released in Youngs Bay to contribute to associated fisheries
ChF (SAB)	CCF	700,000	Released into S FK Klaskanine R. to contribute to associated fisheries
StW	Klaskanine Hatchery (ODFW)	40,000	Released in the N FK Klaskanine R. to create consumptive fishery.
StW	*Warrenton High School*	*400*	*Released in Skipanon R. as part of STEP program*
ChS	Marion Forks & McKenzie Hatchery (ODFW) /Youngs Bay	950,000	Released in Youngs Bay to contribute to associated fisheries
Co	ODFW/Youngs Bay	825,000	Acclimated & released in Youngs Bay to contribute to associated fisheries
Co	CCF	500,000	Released into S FK Klaskanine R. to contribute to associated fisheries
Co	Klaskanine Hatchery	1,720,000	Released in the N FK Klaskanine R. to contribute to associated fisheries
Co	*Warrenton High School*	*5,000*	*Released in Skipanon R. as part of STEP program*
Co	Astoria High School	4,000	Released in Skipanon R. as part of STEP program
ChF (Tule)	Klaskanine Hatchery	2,100,000	Released in Youngs Bay to contribute to associated fisheries
ChF (Tule)	Astoria High School	25,000	Released in Youngs Bay as part of STEP program
ChF (Tule)	*Warrenton High School*	*16,500*	*Released in Skipanon R. as part of STEP program*

Programs in this renewal are identified in italics

If other propagation programs exist, what is the relationship of the proposed project to these other programs?
Eyed eggs are received from Big Creek Hatchery. Some collaboration (mostly consulting) exists between Astoria High School and CCF.

PART 4 – OPERATION

Please explain the proposed operation including the following (where applicable) or attach a copy of the existing Hatchery Genetic Management Plan (HGMP) or Hatchery Management Plan (HMP):

(a) Source of broodstock.

The Program uses 13H stock Coho, Fall Chinook, and Winter Steelhead eggs from Big Creek Hatchery.

(b) Number of eggs needed.

20,000 ChF, 6,000 Co, and 500 StW

(c) Number of broodstock (males and females) needed.

Specific fish not obtained for this program. Broodstock collected as part of Big Creek Hatchery's overall take to meet production.

(d) Mating procedures.

Matrix spawning conducted by ODFW staff at Big Creek Hatchery.

(e) Number of fry needed.

Not applicable. Since this program is mainly educational, no target numbers of fish at each stage have been established. It is expected the number of fry will be around 18,000 ChF, 5,500 Co, and 500 StW.

(f) Number of fingerling needed.

Not applicable. It is expected the number fingerling to be around 16,500 ChF, 5,000 Co, and 450 StW.

(g) Number of pre-smolt needed.

Program is educational in nature and no target for release has been established. It is expected that approximately 16,500 ChF, 5,000 Co, and 400 StW will be released as pre-smolts at the end of the school year.

(h) Number of smolt needed.

None, fish are released as pre-smolts.

(i) Anticipated or historical losses at each stage.

Historically, survival rates have been extremely variable and highly dependent on water quality. Though past tidegate improvements have helped some poor water quality has continued to effect results. During the summer of 2009, and 2014-15 improvements to the water system described in Section 5 were completed. These improvements have addressed and substantially reduced losses due to water quality.

(j) Anticipated or historical number of adult returns resulting from rearing project.

Unknown

(k) How returning adults will be collected.

Adults are not collected at this site.

(l) Disposition of collected adults.

N/A

(m) Other projects that may receive eggs or reared fish from this project.

Small numbers of eggs (<30) may be used for educational displays at local schools as outreach.

Release Program (summarize proposed fish releases):

Number Released	Date of Release	Size (fish/lb) or Stage	% Marked	Release Location
16,500 ChF	May	30/f/lb.	100	Skipanon River (on site)
5,000 Co	May	40/f/lb.	100	Skipanon River (on site)
400 StW	May	100/f/lb.	100	Skipanon River (on site)

If fish are marked, please describe the type of mark and the reason for marking.
Adipose fin clip, so fish may contribute to the commercial and recreational "adipose fin-clip only" fisheries. Fin clipping also provides students with practical experience and allows for tracking of fish and contribution to various fisheries. Marking of fish is consistent with other area hatchery releases.

PART 5 – FACILITY INFORMATION

Please describe (or provide attachments that describe) the facility including:

(a) Design- include a diagram or sketch that shows structures, water diversions, water distribution system, settling ponds, fish ladders, adult traps, etc.

See attached diagram.

(b) Water supply – identify source, quantity available, quantity needed, and provide existing water quality and temperature (daily, weekly, monthly) data.

The primary water system utilizes rain water collected from the Rearing & Research Facility roof and WHS gymnasium roof. This system deposits water into a converted 10,000 gallon raceway and is pumped through a series of filters consisting of dual 10 micron sand filter and an 8 chamber ultraviolet filter. This is followed by a low-head oxygenation unit where it is supersaturated to 130%. The water is used in the tanks and returns to the raceway where it is recycled. A 5,000 gallon water tank was installed in 2014 and covered in 2015 provides reserve water from the rain system, or de-chlorinate domestic supplies. If necessary water supply can be switched to the former system using water pumped from the Skipanon through a sand filtration system

(c) Incubation, rearing, and/or broodstock holding facilities – dimensions, capacity, water required, etc.

Rearing facility contains Three9-tray flow-through heath incubators, four 3' diameter fiberglass tanks (approx. 80 gallons each), eight 4' diameter fiberglass tanks (approx. 175 gallons), one 6' diameter fiberglass tank (approx. 300 gallon), two 8' diameter fiberglass tanks (approx. 500 gallons) and one deep matrix incubator.

(d) Adult trapping, holding and handling facilities.

Although an old concrete fish ladder and raceway for collecting and holding adults exists onsite, it is not currently operational and no adults are currently collected or handled at this facility.

(e) Water treatment (if applicable) and discharge process. Please also note whether a National Pollutant Discharge Elimination (NPDES) Permit is required.

No NPDES permit is required. System is flow through with direct removal and discharge back into Skipanon River.

(f) Known existing or potential disease issues or considerations.

Coldwater Disease, though UV filtration system should address issues.

(g) Process for disease monitoring.

This facility utilizes ODFW fish health staff for disease monitoring as needed. In addition, students and staff monitor fish appearance and behavior as an indicator of stress or diseases on a daily basis. Big Creek or Klaskanine Hatchery staff are also available to assist with disease issues if needed.

(h) Anticipated facility operation and maintenance costs.

The anticipated cost to operate this facility is estimated to be approximately $2,000.00 per year to operate. Funding for the project is covered by Warrenton High school and WarHF.

Documents attached that demonstrate legal access to the site or property rights:

Lease(s)	☐	Access Agreement	☐
Option(s)	☐	Water Right	☐
Easement	☐	Other written Authorization	☒

Attach a written statement from the appropriate local planning authorities of the county or jurisdiction within which the proposed facility is located stating whether the proposed operation is in compliance with all local comprehensive land-use and/or estuary plans.

Note: It is the responsibility of the project sponsor to obtain all water rights, access agreements, easements, use permits or any other permits needed to undertake the project.

PART 6 – PROJECT MONITORING AND EVALUATION

Please explain how this project will be monitored and evaluated and by whom (volunteer, ODFW or other) including:

(a) Monitoring for disease.

ODFW pathologists are available should the need arise. In addition, students and staff monitor fish appearance and behavior as an indicator of stress or diseases on a daily basis. Big Creek or Klaskanine Hatchery staff are also available to assist with disease issues if needed.

(b) Monitoring of juvenile survival and/or distribution (if applicable).

Occasional seining of key points on the Skipanon to determine presence/absence.

(c) Monitoring of adult returns to this or other collection facilities (if applicable).

N/A, no adults are collected or handled at this facility. Returning fish trapped at Big Creek Hatchery.

(d) Monitoring of adult returns to natural spawning areas (if applicable).

N/A

(e) Contribution to sport or commercial fisheries (if applicable).

No monitoring for contribution to the various fisheries is currently conducted as release numbers are insignificant compared to other releases within the system. Contribution is assumed to be minimal.

(f) Estimated monitoring costs.

N/A

If this is a project renewal, please identify or provide a summary of past monitoring information including:

(a) Results of disease monitoring (please attach appropriate reports).

N/A.

(b) Results of any surveys (juvenile, adult trapping, spawning, creel, etc.)

N/A

(c) Reports, management plans, technical documents, or journal articles that reference the project.

Big Creek Fall Chinook HGMP

Please identify any potential social consequences resulting from project returns and how those will be monitored or evaluated.
No significant social consequences are expected to occur and no plans to monitor potential consequences have been developed.

PART 7– OTHER SUPPORTING INFORMATION

Please attach additional documents or provide information that details the project history, how the project may have evolved from the original design, or any changes / improvements that have been made to the operation.
The Warrenton High School fish hatchery has been constructed over the years in a piece-meal fashion largely through student and volunteer labor, donated funds and equipment from community member and businesses. It started in the 1950s with a few buckets and grew into a full fledged hatchery program in the 1970s. Unfortunately, very little has been updated since that time and the building itself has begun to deteriorate. Currently, efforts are underway to completely revamp the facility and update all of its equipment through a series of donations and grants.

This program was developed prior to the existence of STEP. In the early 60s, chum eggs were being hatched in streamside hatchboxes. By the mid-60s, net pens had been added to the program and students were raising Coho and Chinook salmon. During that time, broodstock were collected from the Skipanon River through seining, spawned by students and reared until release as pre-smolts. By the early 1970s, the project had expanded further to include the rearing of tens of thousands of fish in net pens which were located in the Skipanon River and in the city sewer lagoons. The sewer lagoon provided a nutrient rich environment but the net pen project was short-lived due to environmental and health concerns involving students, salmon and sewage. During this time period, the existing hatchery building and concrete raceway were built by students and members of the community.

Over the years, budget cuts have led to the failure to adequately maintain the facilities and further budget cuts led to the closure of the program in 2003. Renewed interest by students and many members of the community led to the reopening of the program in 2005. In 2009-10 a new system was installed which utilizes rain water collected from the Rearing & Research Facility roof and WHS gymnasium roof. This system deposits water into a converted 10,000 gallon raceway and is pumped through a series of filters consisting of dual 10 micron sand filter and an 8 chamber ultraviolet filter. This is followed by a low-head oxygenation unit where it is supersaturated to 130%. The water is used in the tanks and returns to the raceway where it is recycled. A 5,000 gallon water tank was installed in 2014 and covered in 2015 provides reserve water from the rain system, or de-chlorinate domestic supplies. When necessary water supply can be switched to the former system using water pumped from the Skipanon through a sand filtration system

ODFW Use Only

Reviewer	Name	Date	Approve[1]	Do Not Approve[1]
STEP Biologist	Ryan Rahm	1-11-16	✓	
District Fish Biologist		1/15/16	✓	
Watershed Manager		1/16/16	✓	
Regional Supervisor				
Fish Propagation				
Engineering				
Conservation & Recovery				
STEP Coordinator				
Fish Division Administrator				
F & W Commission[2]				

[1] Please attach any comments that explain your position or will aid the project review.
[2] Projects that release more than 100,000 fish must be authorized by the Fish and Wildlife Commission to do so.

ODFW Use Only

Reviewer	Name	Date	Approve[1]	Do Not Approve[1]
STEP Biologist	Ron Reh	1-11-16	✓	
District Fish Biologist		1/15/16	✓	
Watershed Manager		1/20/16	✓	
Regional Supervisor		1/20/16	✓	
Fish Propagation				
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[2] Projects that release more than 100,000 fish must be authorized by the Fish and Wildlife Commission to do so.

Oregon
Kate Brown, Governor

Department of Fish and Wildlife
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Fax (503) 842-8385
www.odfw.com

January 15, 2016

STAC Board Members:

I would like to take this opportunity to encourage you to approve the propagation proposal submitted by Warrenton High School. This program has been in operation since the 1950s (before the existence of STEP), providing thousands of students with interactive natural resources education and the opportunity to give something back to the environment and their community.

This proposal has been reviewed by North Coast Watershed District staff to ensure that they support management objectives for the district. Releases from these programs are relatively small (in the thousands) compared to the numerous other releases in the basin numbering in the millions. The fish raised by Warrenton High School are released low in the system (Skipanon River) and are marked in a manner to be consistent with other basin releases.

This program has resulted from and sustained itself over the years with the strong community support it has developed. It is this strong support that has led to the creation of a non-profit organization Warrenton High Fisheries Inc. (WarHF Inc.) which has acquired funding to make substantial upgrades to the facility.

Steve Porter has been the current instructor for this program for many years, and also an active member of the local watershed council. He and his students have worked hard over the years to get the school hatchery program back up and running after having been suspended due to budget cuts. With this program, through studies and hands on activities, students learn the complexity and fragility of salmonid life cycles and their associated habitats. Such a cooperative effort, serves to engage students in community activities, science inquiry, and natural resource management.

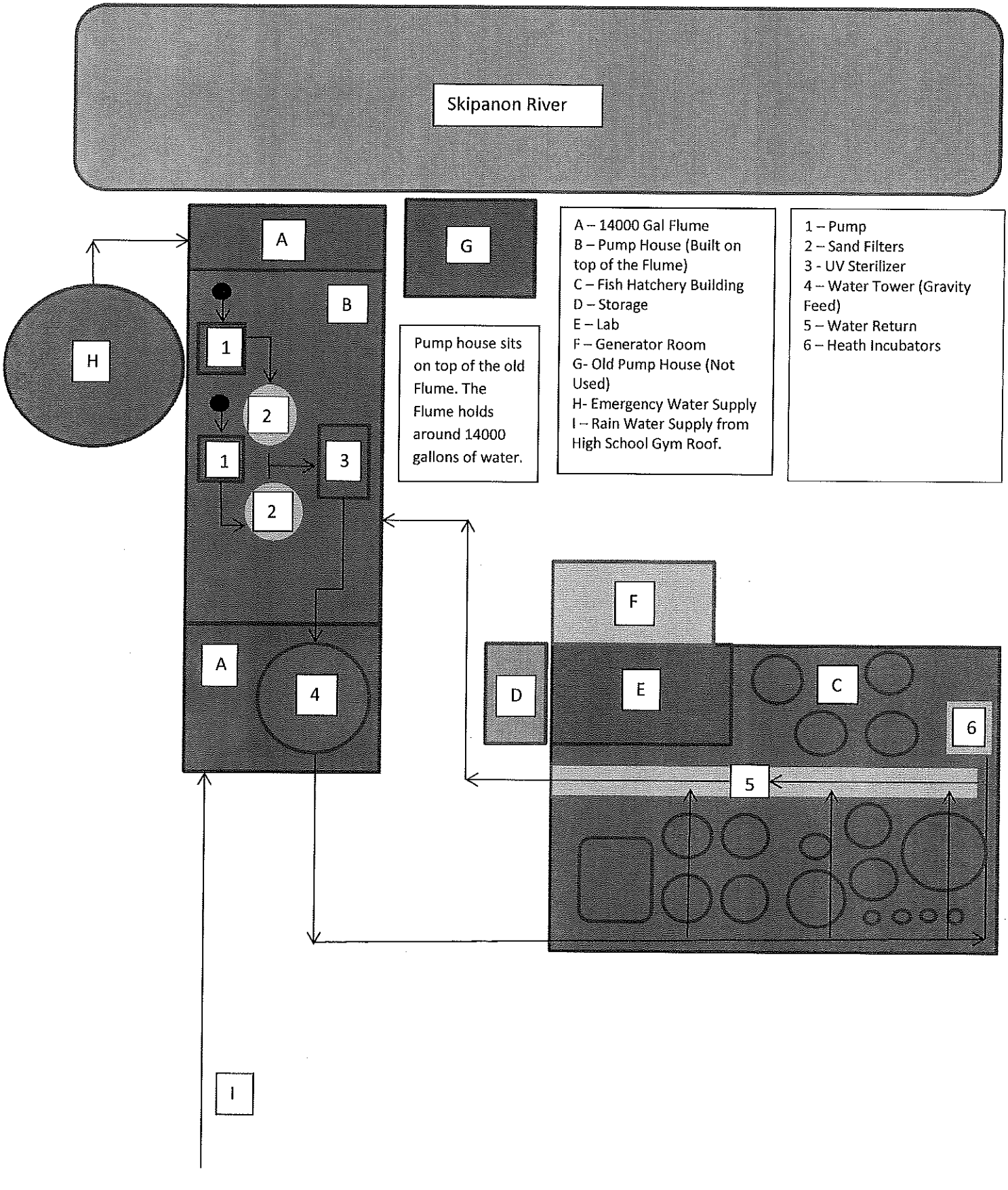
For all the reasons stated above, this STEP program and associated propagation proposals should be approved.

Sincerely,

Robert W. Bradley
Acting District Fish Biologist
Oregon Department of Fish and Wildlife
North Coast Watershed District
4907 Third St
Tillamook, OR 97141
503-842-2741 x253 (w)
503-842-8385 (fax)

Warrenton High School
Propagation Proposal
Attachments

Warrenton High Fish Hatchery 2015

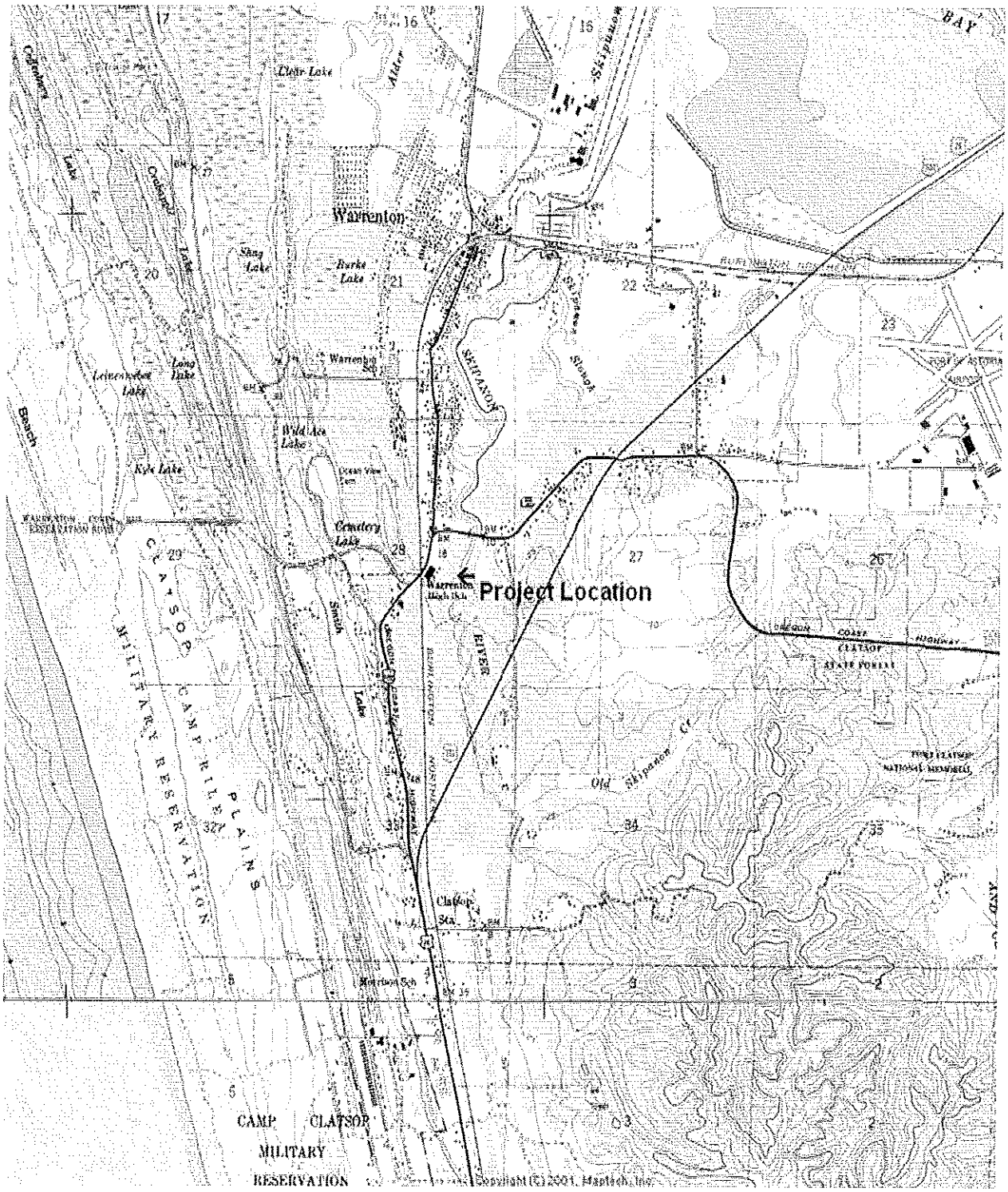


Pump house sits on top of the old Flume. The Flume holds around 14000 gallons of water.

A – 14000 Gal Flume
B – Pump House (Built on top of the Flume)
C – Fish Hatchery Building
D – Storage
E – Lab
F – Generator Room
G- Old Pump House (Not Used)
H- Emergency Water Supply
I – Rain Water Supply from High School Gym Roof.

1 – Pump
2 – Sand Filters
3 - UV Sterilizer
4 – Water Tower (Gravity Feed)
5 – Water Return
6 – Heath Incubators

Site Map


Warrenton
Project Location
CAMP CLATSOP
MILITARY
RESERVATION
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"Making a difference through excellence of service"

CITY OF WARRENTON

January 12, 2016

Ron Rehn
North Coast STEEP Biologist
Oregon Department of Fish and Wildlife
4907 Third Street
Tillamook OR 97141

Re: Warrenton High School Fish Propagation Renewal

The City of Warrenton Department of Building and Planning continues to support the Warrenton High School Fish Propagation program and facility under ODFW's STEP. The zoning at the local facility remains Open Space Institutional, where educational programs are permitted uses, and the facility complies with the city's land use and development regulations.

Please call me at 503.861.0920 if you have any questions.

Very truly yours,

Skip Urling
Community Development Director

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