R & E Grant Application 13 Biennium

Project #: 13-061

COLE RIVERS TROUGH AND PIPE PURCHASE

Project Information

R&E Project Request:	$89,920.00
Match Funding:	$93,296.31
Total Project:	$183,216.31
Start Date:	7/21/2014
End Date:	6/30/2015
Project Email:	deborah.a.winner@state.or.us
Project Biennium:	13 Biennium
Organization:	ODFW - Cole M. Rivers Fish Hatchery

Technical Contact

Name:	DAVID PEASE
Address:	200 COLE M. RIVERS DRIVE TRAIL, OR 97541
Telephone:	541-878-2235
Telephone 2:	541-951-7077
Fax:	541-878-3959
Email:	DAVID.A.PEASE@STATE.OR.US

Applicant Information

Name:	Deborah Winner
Address:	200 Cole M. Rivers Drive Trail, OR 97541
Telephone:	541-878-2235
Telephone 2:	541-878-2090
Fax:	541-878-3959
Email:	deborah.a.winner@state.or.us

Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Project Summary

This project is part of ODFW's 25 Year Angling Plan.

Activity Type:	Propagation - ODFW
Summary:	Phase 1 of 2 phase project-Replace old, failing,troughs with new efficient Rieff

troughs to restore the rearing environment from unacceptable levels of disease outbreaks and fish loss to a healthier rearing environment and provide adequate flow of pathogen free water which will help to alleviate the need for fish treatments.

Objectives: The project objective is to fund the purchase of 16 Reiff Fiberglass Rearing Troughs to reduce disease and mortality and meet production goals (primarily early rearing of steelhead and trout) at Cole Rivers Hatchery. Work to improve conditions in the hatch house is ongoing. This is being accomplished by; increasing our water flow for a higher concentration of oxygen; treating our water for impurities; covering the wet well and aeration tower to prevent contamination by pathogens; and the use of hand sanitizers and footbaths. The completion of this project will immediately enhance our rearing capacity, decrease the mortality rate, and lower our disease rate by helping to alleviating stress on the fish while helping to prevent the need for treatments.

Fishery Benefits: Cole Rivers Hatchery produces fish that are released throughout ODFW's SW Region. In recent years, particularly with the elimination of production at Butte Falls Hatchery, the infrastructure at Cole Rivers Hatchery has been pushed to early fish rearing limits. Improvement and expansion of the troughs used for early rearing will reduce fish densities, along with replacement of the water supply line (Phase 2), will reduce disease and stress issues that have caused some of the programs to fall short of production goals. Anglers will also directly benefit from increased numbers of fish stocked because of this project.

State funded programs that will benefit from this project are listed below (note that some of the mitigation programs at Cole Rivers experience higher densities and risk due to the increased production levels).

- Winter steelhead released in the Tenmile Lake watershed
- Winter steelhead released in the Coos River
- Legal, large and trophy trout released in the Tenmile, Coos, Coquille District
- Fingerling trout release at Howard Prairie Reservoir and Hyatt Lake
- Legal, large and trophy trout released into Fish Lake, Emigrant Lake, Lake Selmac, Dutch Herman Pond, Burma Pond, Spalding Pond, Reinhart Park Pond, and Expo Pond
- Legal trout released in the South Coast District

Watershed Benefits: Fish culture protocols require hatchery fish to be cleared by Fish Health Specialists prior to release. Increased trough capacity and improved rearing conditions will reduce the risk of disease in the hatchery, and potentially in released fish. This would reduce the risk of transferring diseases to release waterbodies. Hatchery rainbow trout and steelhead are used to provide fish for recreation and harvest, thereby reducing harvest pressure on wild fish.

Current Situation: The water supply system to the hatch house has been upgraded by hatchery staff for improved water treatment and flow capacities to provide a pathogen free water supply by replacing water some supply lines and increasing water flow from 300 GPM to 900 GPM. We have also installed a UV sterilizer unit and Orival water filters that increased our filtration capacity from 420 GMP TO 840 GPM. This system (improvements funded by the Corps of Engineers) is in place and in operation with the 12 Canadian troughs we are currently using. These improvements will be adequate for the additional four troughs as well.
In addition, we have covered the wet well that is open to the elements and enclosed the aeration tower to prevent entry of contaminates. We are also using secondary UV treatment at incubator stacks and troughs. However, not all of these efforts have been enough to decrease disease. By replacing the structurally failing Canadian troughs with the larger, stronger Reiff Fiberglass Rearing Troughs, we should lower densities, thereby, lowering our disease rate, and alleviate stress on the fish and preventing the need for treatments.
Furthermore, our 12” water supply line is corroded and has large amounts of rust build up, allowing pathogens to embed and be transmitted to eggs and fry even when thoroughly disinfected. The planned replacement in phase 2 will be a PVC line that helps to prevent the buildup of corrosion, allowing the system to be properly disinfected each cycle. Replacing the metal pipeline will contribute to a safer healthier rearing environment.

Alternatives:	As an alternative, we considered using the Canadian Troughs as they are, and continuing to implement disease treatments. We did not consider this a viable alternative, and it would continue to risk production goals. We also considered adding a few troughs to the hatch house. However, with this alternative the most limiting factor is space and configuration of the current troughs vs. space in the hatch house. The current 12 Canadian Troughs are 21'L x 2'W, which does not allow enough space to place any additional troughs for the amount of fish in the space that is left. The hatchery must follow the Density index, which is used to estimate the maximum number of fish that can occupy a rearing unit based on the rearing unit's size. By replacing the 12 Canadian troughs with 16 Reiff Rearing Troughs, we can increase our capacity to the prescribed density, decrease or eliminating our need for treatments for disease and meet our increased production goals.
Designer:	Tank design - David Reiff from Reiff Manufacturing, Project – David Pease and Craig Erwin managers of Cole Rivers Hatchery, Assistance with text - Dan Van Dyke, Supervisory F&W Biologist, Rogue District
Methods:	The capable personnel at Cole Rivers Hatchery will perform the labor for prep, installation, and finish construction for this project. The staff will also monitor and maintain the system.
Inspector:	David Pease, Manager, Cole Rivers Hatchery will monitor daily.
Funding Elements:	R&E Funds will be used for purchasing and delivery of the Reiff rearing troughs, screens, piping, and valves to connect the troughs. Hatchery staff will perform labor.
Partners:	Yes ODFW, Fish Districts; Rogue, Tenmile, Coos, and Coquille are benefactors of this project.
Existing Plan:	Yes The hatchery fish programs affected by this project are part of existing Basin Fish Management Plans, Hatchery & Genetic Management Plans (HGMP), and ODFW' s 25-year Angling Enhancement Plan.
Affected Contacted:	Yes
Affected Supportive:	Yes
Affected Comments:	Mike Gray, District Fish Biologist, Coos-Coquille-Tenmile District Gary Vonderohe, Assistant District Fish Biologist, Coos-Coquille-Tenmile District. Dan Van Dyke, Supervisor Fisheries Biologist-Rogue District

Mike Gray—"In recent years, there have been difficulties at Cole Rivers Hatchery with meeting production goals for Tenmile and Coos winter steelhead smolts, primarily due to disease issues. Improvements in rearing infrastructure that will improve survival to smolt, will help to ensure that we are able to maintain a successful and viable sport fishery in these basins. "

Gary Vonderohe--I am writing to support the ODFW Cole Rivers Hatchery's R&E grant application to purchase 16 Reiff Fiberglass Rearing Troughs and a new water line. Purchase of this new equipment will help reduce disease and mortality during the early life stages for steelhead and rainbow trout raised at the Hatchery.

Cole Rivers Hatchery raises all of the Winter Steelhead smolts for the Coos and Tenmile basins. ODFW staff and volunteers in the Coos and Tenmile basins spend a lot of time collecting broodstock and spawning adult Steelhead so eggs can be sent to Cole Rivers Hatchery to be reared until they return as smolts a year later to be released back into the rivers. In recent years, we have sent enough steelhead eggs to Cole Rivers to cover full production with "normal" levels of mortality but each year the number of steelhead smolts being acclimated is under our production goals. For example, this past spring in the Coos Basin we only acclimated and released 30% of our full production of winter steelhead. This is a direct impact to the steelhead anglers in the number of adult steelhead available for harvest when adults return in two years.

Cole Rivers Hatchery also raises all the legal size and fall "trophy" trout that are stocked into Coos County lakes and ponds. These trout fisheries are very popular with local anglers along with many anglers from the I-5 corridor that travel to the area each year. During the fall, we typically stock five different lakes with "trophy" size rainbow trout but because trout production was down this past year, we had to reduce the number of lakes to be stocked down to three. We received several phone calls this past fall from anglers dissatisfied with the unplanned reduction in stocked rainbow trout.
These much need improvements to Cole Rivers Hatchery will have a direct benefit to steelhead and trout anglers in our District.

Dan Van Dyke— Improvements in rainbow trout survival in the hatchery and at release will become increasingly important as ODFW faces rising feed costs and illegal fish introductions. The Rogue District will be emphasizing quality in our rainbow trout production over the coming years as a way to meet angler needs. This project will contribute to the health of rainbow trout releases in Southwest Oregon, including critically important releases at Howard Prairie Reservoir. By decreasing stress in the rearing environment, we will be able to decrease pathogens.
At least 11 release groups reared for release in the Rogue watershed since 2009 have been under production goals. The situation has become critical. I fully support this proposal because of the benefits for Oregon's anglers for state-funded

programs at Cole Rivers Hatchery.

Project Schedule/Participants/Funding

Activity	Date	Participants
Submit bid for fiberglass tanks to be made and delivered.	12/13/2013	Reiff Manufacturing
Receive tanks prior to end of R&E funding cycle.	2/4/2014	Reiff and Cole Rivers Staff
Install 16 rearing troughs in hatchery building and pump inflows and outflows.	7/21/2014	Cole Rivers Staff
Replace aging water supply line.	8/1/2014	Cole Rivers Staff

Affected Species:

Chinook Salmon
Coho Salmon
Rainbow Trout
Steelhead

Project Permits

Name	Issued By	Secured?	Date Secured	Date Expected
None Required	n/a	No	1/1/0001	1/1/0001

Project Monitoring

Organization	Address	Activity	Frequency
ODFW, Cole Rivers Hatchery	200 Cole M. Rivers Drive Trail, OR 97541	Manage and monitor project	Daily

Project Maintenance

Organization	Address	Activity	Frequency
ODFW, Cole Rivers Hatchery	200 Cole M. Rivers Drive Trail, OR 97541	Operate and Maintain	Daily

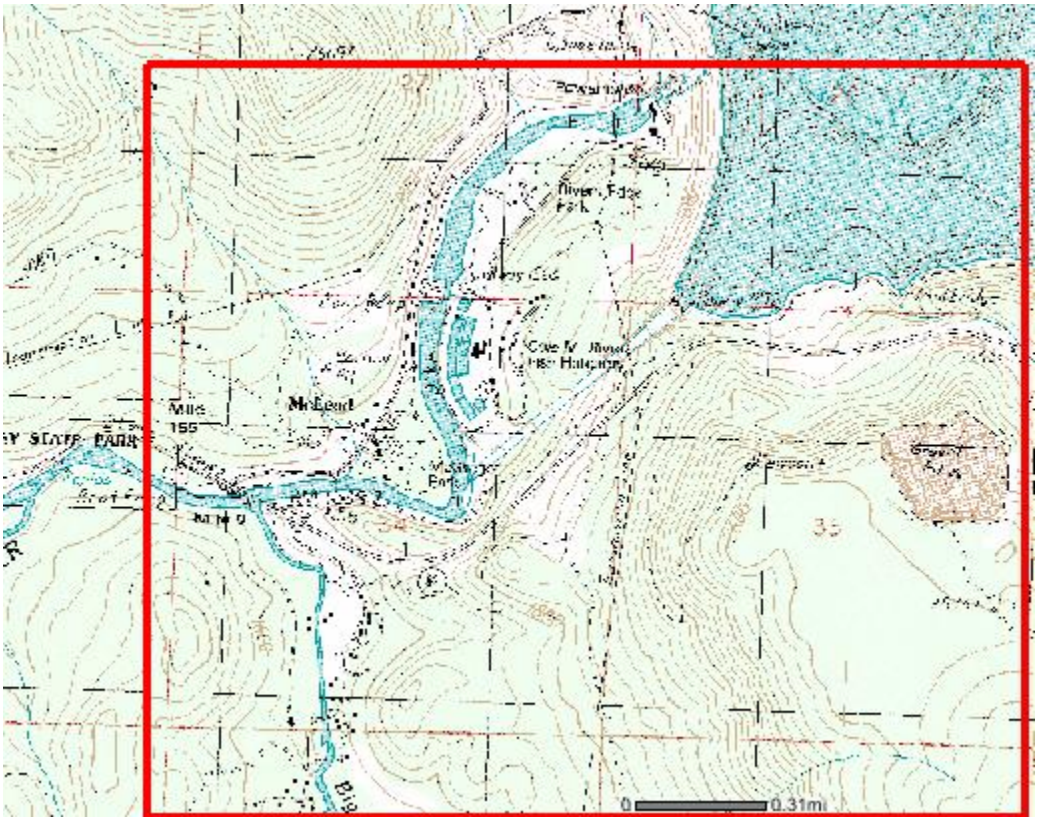
Project Match Funding

Funding Source	Cash	In-Kind	Other	Description	Total	Secured?	Conditions?	Comments
R&E Request	$89,920.00	$0.00	$0.00	R&E Funds	$89,920.00	Yes	No	Requested amount
USACE/ODFW	$93,296.31	$0.00	$0.00	Sterilization, filters and prep work.	$93,296.31	Yes	Yes	Work already completed and labor to be performed.
				Total Match Funding:	$183,216.31			

Project Budget

Item	Item Type	Units	Unit Cost	R&E Funds	Match Funds	Total
Orival Controller	Equipment	1	$1,536.77	$0.00	$1,536.77	$1,536.77
Orival Water Filter System	Equipment	1	$51,766.96	$0.00	$51,766.96	$51,766.96
Sump Pump	Equipment	1	$262.57	$0.00	$262.57	$262.57
UV Analyzer	Equipment	1	$1,640.00	$0.00	$1,640.00	$1,640.00
UV Ballast	Equipment	1	$2,655.75	$0.00	$2,655.75	$2,655.75
UV Lamps	Equipment	24	$28.96	$0.00	$695.04	$695.04
UV Sterilizer	Equipment	1	$4,999.00	$0.00	$4,999.00	$4,999.00
Hardware	Supplies/Materials /Services	1	$3,611.81	$0.00	$3,611.81	$3,611.81
Pipe, Fittings , misc.	Supplies/Materials /Services	1	$18,000.00	$18,000.00	$0.00	$18,000.00
Pipes and Valves	Supplies/Materials /Services	1	$23,147.21	$0.00	$23,147.21	$23,147.21
Pump Wiring	Supplies/Materials /Services	1	$2,981.20	$0.00	$2,981.20	$2,981.20
Reiff Fish Troughs	Supplies/Materials /Services	16	$3,745.00	$59,920.00	$0.00	$59,920.00
Screens for Troughs	Supplies/Materials /Services	48	$250.00	$12,000.00	$0.00	$12,000.00
					Total Budget:	$183,216.31

Project Map



Additional Files

Click a link to view that particular file.

Cole Rivers R&E support Letter

CR_HH Support Document

Grant signature Page CRH

Hatch House 001

Hatch House 002

Hatchery Bldg floor plan

HH New floor plan

New Reiff Quote

Pitted and scratched troughs

Pitted and scratched troughs 002

Oregon
John A. Kitzhaber, MD, Governor

Department of Fish and Wildlife
Charleston District Office
63538 Boat Basin Drive
PO box 5003
Charleston, OR 97420
(541) 888-5515
(541) 888-6860

November 29, 2011

To the R&E Board:

I am writing in support of the R&E grant application for new troughs and other equipment and infrastructure at Cole Rivers Hatchery. The installation of the requested equipment will allow the Hatchery to improve incubation and rearing conditions, leading to increased survival of juvenile fish raised for numerous programs around Southwest Oregon.

Cole Rivers Hatchery (CRH) raises fall Chinook, winter steelhead, and rainbow trout that are transported and released in our area of responsibility, the Coos-Coquille-Tenmile Fish District. In recent years, with the closure of Butte Falls Hatchery, CRH has encountered difficulties in helping us to reach our fish management goals, primarily due to disease or other causes of mortality that have reduced the number of juvenile fish available for release.

The equipment/infrastructure requested by this grant application is expected to help alleviate the fish cultural deficiencies and disease/stress issues that have caused us to fall short in some years. Jerry Jones (ODFW Fish Health Services) describes this in his support letter to this same grant.

I encourage your support of this application toward improved fish cultural conditions at Cole Rivers Hatchery, and the benefits that are expected to accrue to sport anglers and commercial fishers by better meeting our fish production goals.

Sincerely,

[redacted]

Mike Gray
District Fish Biologist
ODFW--Charleston Field Office

cc: Tim Walters, ODFW Roseburg
Josie Thompson, ODFW Salem HQ

Oregon

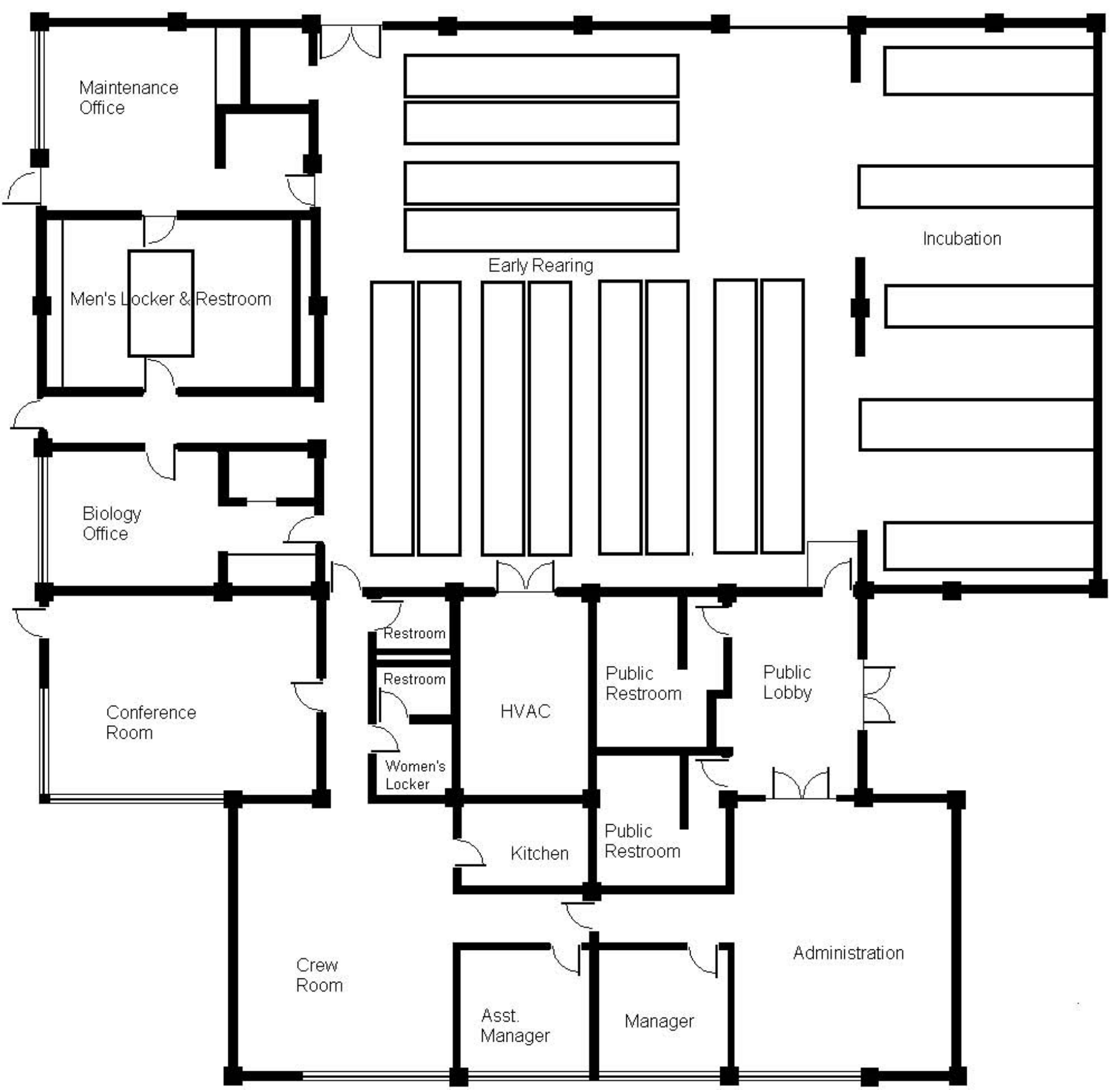
Department of Fish and Wildlife
Fish Health Services
Nash Hall Room 220
Department of Microbiology
Oregon State University
Corvallis, Oregon 97331
Voice: 541-737-6041
Fax: 541-737-0496
jonesge@onid.orst.edu

To: Devin Garlock, David Pease November 4, 2011
From: Jerry Jones
Subject: Hatch House Improvement Project

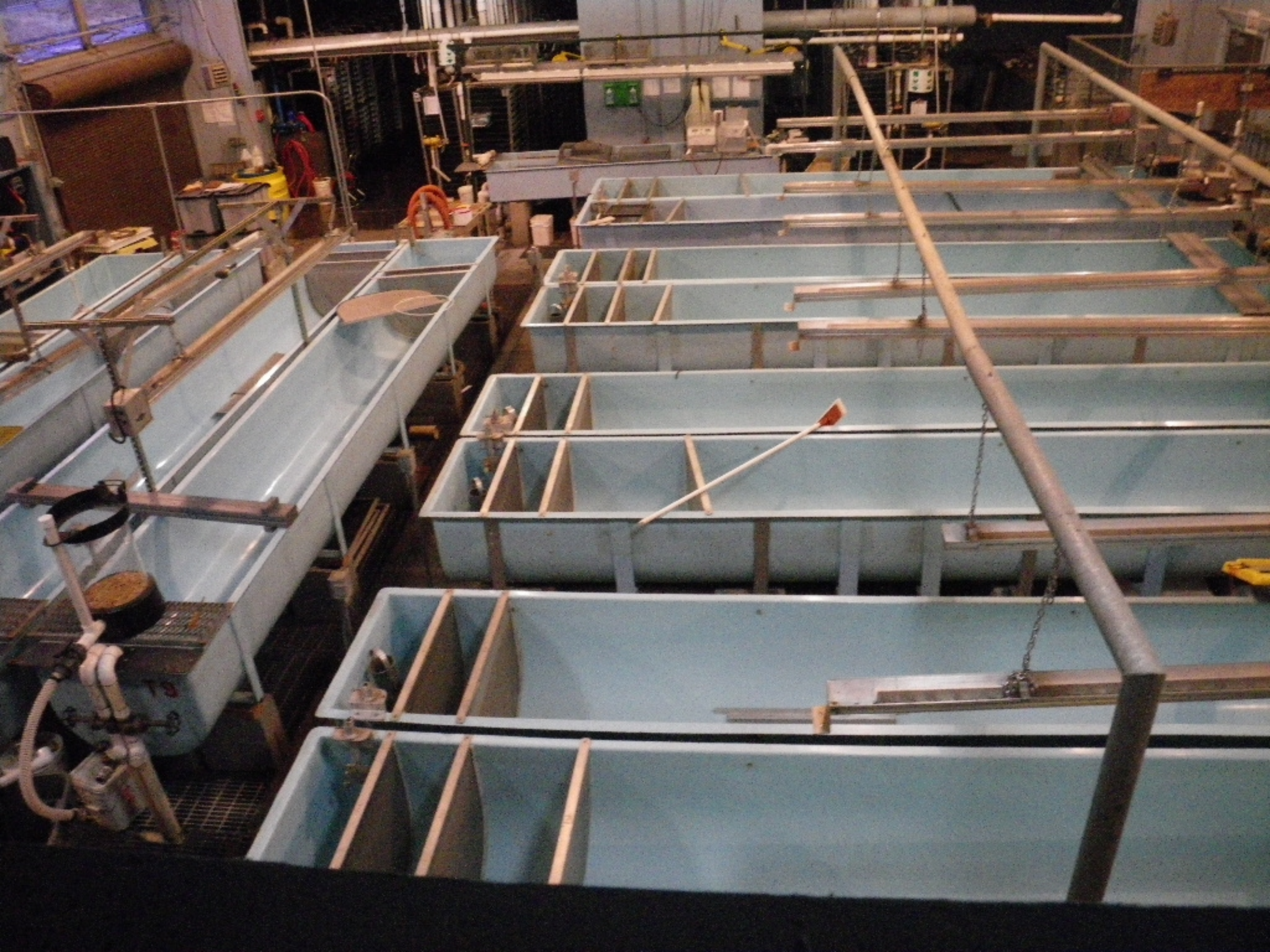
The primary goal from a fish health standpoint for an early rearing facility is to provide an environment where egg maturation, fry emergence, swim-up and early development can take place without the negative effects of poor water quality and disease. The recent history of the hatch house at Cole M. Rivers suggests that we are not meeting that goal by a long shot. We routinely have needed to treat fry for Coldwater Disease at a very early point in their development, as well as having to treat fry for external parasites that were introduced from outside ponds.

~~This~~ These events point~~s~~ to failures in both water supply treatment and husbandry practices. The improvements to the water treatment outlined in this grant proposal will give us an essential part of the bio-security (-protecting the fry from pathogens) program. Clean water, better flows and improved rearing tanks will undoubtedly give us a good start towards the goal of healthier fish. We also need to make steps to ensure that the hatch house is protected from contamination from outside with procedures in place to limit traffic, well placed foot and hand washing stations, and overall an awareness that we need to be very pro-active when it comes to protecting the hatch ~~house from~~house from outside contamination. If we can protect fry at an early stage, we can take advantage ~~of technologies~~of technologies such as vaccines, that can be very effective, but need to be administered to fry that are naïve (have not been introduced to the pathogen) and of a size and health status that allows them to respond appropriately to the vaccine. I heartily support the proposed improvements, and feel they are essential to give your fish a good start.

c
e
Scott Patterson
John Thorpe
Larry Cooper
Tony Amandi


Maintenance Office
Men's Locker & Restroom
Biology Office
Conference Room
Early Rearing
Incubation
Restroom
Restroom
Women's Locker
HVAC
Public Restroom
Public Lobby
Kitchen
Public Restroom
Crew Room
Asst. Manager
Manager
Administration

Hatch House New Trough Plans



Reiff Manufacturing
www.reiffman.com
670 B Street, Walla Walla, WA 99362 (800) 835-1081

December 13, 2013

Quote: Craig Erwin – Cole M. Rivers Hatchery
Trough Dimmensions Inner: approximately 30” wide 37.5” deep and 15’8” long
Outer: approximately 38” wide 41.5” deep and 16’4” long

Tank Construction:

- Manufactured off of highly polished male monolithic mold
- Glossy inner gelcoat layer 25 mils thick (your choice of colors)
- 0.180” inner fiberglass layer
- 2x3 wood framing
- 7/16” outer osb
- 0.180” outer fiberglass layer
- Texture outer gelcoat layer 25 mils thick (your choice of colors)
- 4” x 3/8” thick perimeter flange
- (3) ¾” x ¾” screen slots in the sides and bottom
- (2) 4” drain fitting fiberglass reinforced to bottom of tank

Your cost per tank $3,745.00 each based on a quantity of (16) ordered
Total for (16) troughs would be $59,920.00
Screens:

- 0.062” thick aluminum
- 1/16” perforations on 1/8” staggered centers
- 5/8” x 1-1/2” PVC border on two side and bottom
- 1” aluminum angle on top for handle

Your cost per screen $250.00 each

Estimated delivery fee $1,500.00 delivered to Cole M. Rivers Hatchery in Trail, Oregon.

Best regards,

Kenny Ray
Director of Sales
Reiff Manufacturing
Kenny@reiffman.com


EXIT

Reiff Manufacturing

670 B Street, Walla Walla, WA 99362 (800) 835-1081

Rearing Trough Tank Specifications

WALLS AND FLOOR

Inner gelcoat layer, 25 mils, glossy smooth, 1/8" minimum seamless fiberglass inner tank produced over male monolithic mold; 3/16" for applications over 24" deep. Intermediate layer is dependent upon tank depth. Assuming 4" freeboard, troughs between 18" and 24" have an inner 1/8" FRP layer/4mm coremat layer/exterior 1/8" FRP layer. Tanks 24" to 32" in depth consist of an intermediate layer of 2x4 framework, 7/16" OSB sheeting and an exterior layer of 3/16" FRP (insulation available). Tanks from 32" to 42" depth have an inner layer of 3/16" FRP, an intermediate layer of double 2x4 framework on each 30" center (insulation available), and exterior layer 3/16" of FRP. Tanks from 42" to 54" in depth consist of double 2x6 framework on 30" centers (insulation available). Tanks from 54" to 60" in depth consist of double 2x6 framework on 24" centers with ¼" inner FRP layer and 7/16" OSB sheeting with ¼" outer FRP layer. Gel coat finish both inside and out, with urethane clear coat on outdoor tanks.

FLANGE

The rearing trough flange reinforces the deflection resistance of the tank. Tanks between 18" and 24" depth have a 2" wide flange, 5/16" thick FRP. Tanks from 24" to 32" in depth have a 4" flange with 2x4 reinforcement, 7/16" FRP. Tanks from 32" to 42" in depth have a 4"-8" flange, ½" FRP with 2x4 or 2x6 reinforcement and tanks in excess of 42" depth have a 10" flange plus additional reinforcement under the flange.

DRAIN FITTINGS

Drain fittings are completely at the discretion of the customer. We advise slip fittings such as straight couplers for easy connection. Drain fittings are choice of slip, ell, and adapter, fiberglassed into tank and flush with tank bottom. Drain fittings are NOT bulkhead style; they do not protrude into the inner tank. Drain fittings are typically slip style on tank side to allow for a slip in standpipe.

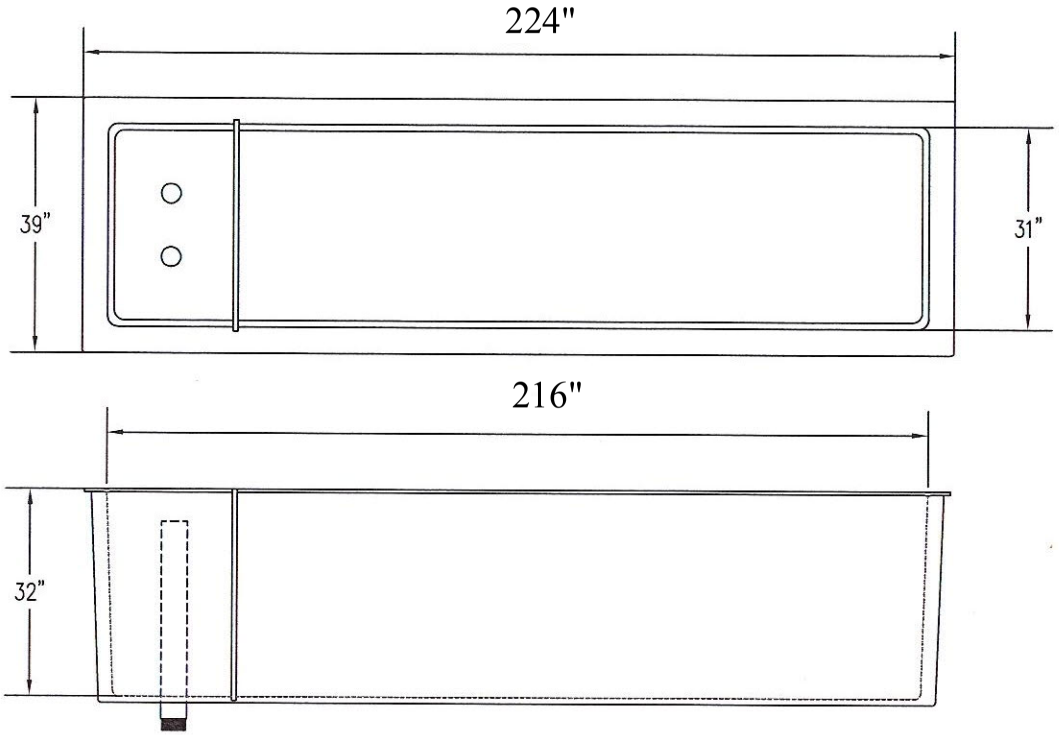
DESIGN LOADS

All Reiff MFG rearing troughs are designed to provide a maximum 1/8" deflection per side at midpoint, top of trough with 4" freeboard. All deflection is tested on each job after the tank is produced. Deflections results are available upon request.** Seismic testing is available, although is not standard.

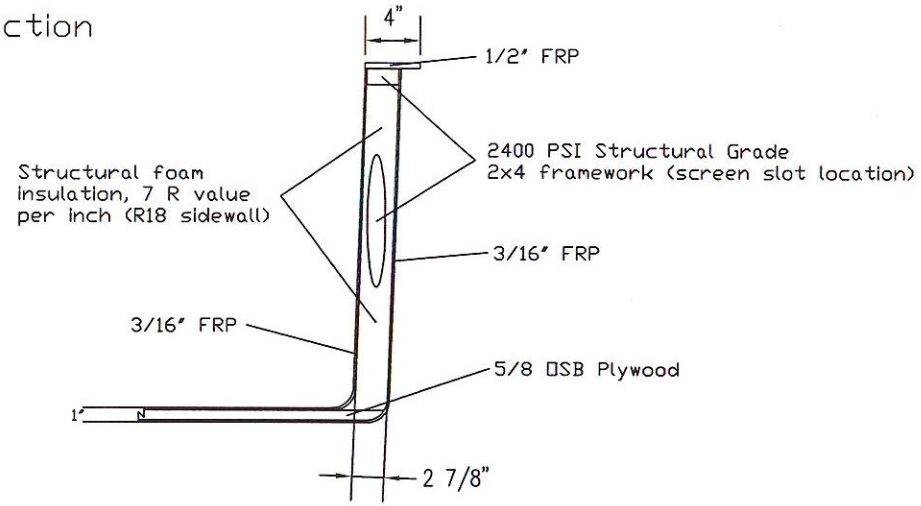
SCREEN DESIGN

Our recommended method is the best combination of fit and friendly operation with the tank and fish: typical screening material is .063" thick aluminum perforated material. Standards are 1/8" round perforations on 3/16" staggered centers OR 1/16" round perforations on 1/8" staggered centers. There is a 5/8" thick PVC border approximately 1.5" high around the screen perimeter that fits into a ¾" molded screen slot in the tank. There are other screening methods we offer, including a US Fish & Wildlife Service standard consisting of SS screen guide and slotted screens. We also offer a screen slot for closer tolerance requirements, details upon request.

Reiff Manufacturing 18' Rearing Trough



Tank Sidewall and Floor Construction



Drawing is Proprietary and Confidential:
To Be Used with Reiff MFG ONLY

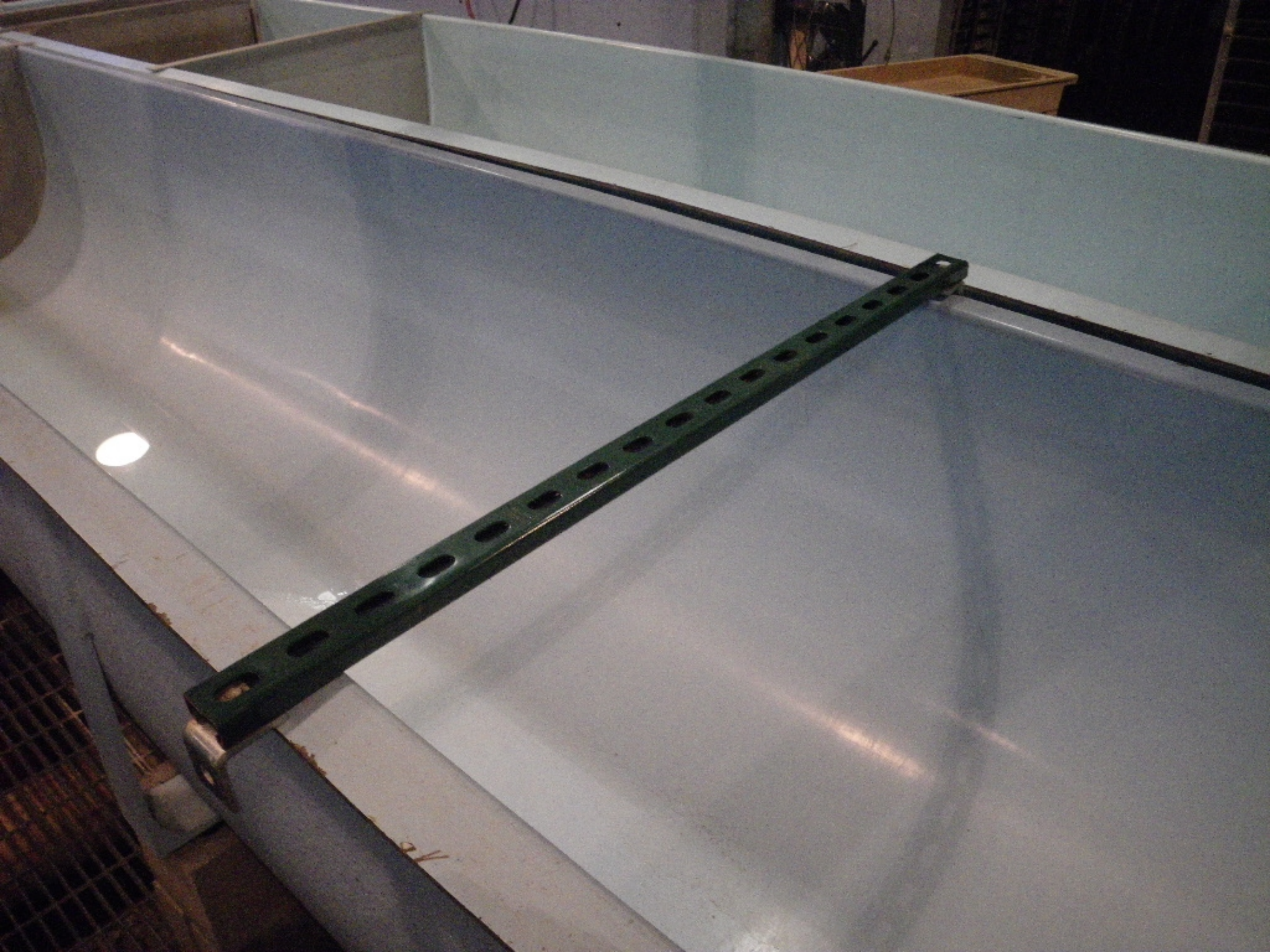
REV.	DESCRIPTION	BY	DATE
FOR APPROVAL:	TO SHOP:	TO FIELD:	
R & R APPROVAL		AS BUILT:	

18' TROUGH DIMENSIONS AND CONST

REIFF MFG.
CITY/COUNTY AIRPORT
670 B STREET
WALLA WALLA, WA. 99362
PHONE: 509-525-1081

DRAWN BY: RLA	CHECKED BY:
SCALE: N.T.S.	
DATE: 13 DEC 05	
JOB NUMBER #	SHEET: 1 OF 1

DESCRIPTION:



Signature Authorization Page

I hereby make an application for financial assistance under the terms and conditions of the R&E Program as described in my project application.

I understand that if my project is approved for funding, the following will apply:

- All project sponsors must sign a grant agreement containing the terms and conditions on which funding will be released.
- Project expenses which occur before the grant agreement is signed or after the expiration date will not be paid by the R&E Program.
- Copies of all necessary permits must be submitted to the R&E Program.
- Project sponsors must certify compliance with local, state, and federal regulations and laws.
- Landowner, monitoring and maintenance agreements must be submitted to the R&E Program.
- Regular progress reports may be required, and at the end of each project a Completion Report must be submitted.
- Educational products resulting from projects are public domain.
- All information submitted to either party under this application is subject to the federal Freedom of Information Act.

Project: COLE RIVERS TROUGH AND PIPE PURCHASE

Applicant: David Pease [redacted]

Date: 12/13/13

Regional Hatchery Coordinator: LARRY D. Co~~Russ Stauff~~ [redacted]

Date: 12-13-13

Scott Patterson
ODFW, Fish Propagation Program Manager
4034 Fairview Industrial Drive SE
Salem, Oregon 97302
(503) 947-6218

December 16, 2013

Dear Bob Bumstead, Chair, R&E Board:

I am writing to express my support for the pending decision to fund the replacement of old Fiberglass rearing troughs at Cole Rivers with larger ones.

An increasing problem with fish culture at Cole Rivers is loss of fish due to cold water disease bacteria partially attributed to small early rearing troughs. Fish Health staff has suggested larger rearing troughs will lower rearing density and may result is fewer fish lost. These new tanks will lower density by approximately 25%.

The desired fix is to replace and upgrade the entire hatchery UV system, pipes, valves, and troughs. ODFW engineering staff is current working on the design, but cost will be substantial. My request is you consider the project in three phases:

Phase 1: Replacement of the troughs and screens
Phase 2: Upgrade of the UV equipment
Phase 3: Replacement of rusty pipes and fittings

The priority is phase 1.

In past years, I did not consider Cole Rivers for R&E funding due to its 100% federal funds. Therefore, the project is not on the hatchery statewide list. I was reminded that Cole Rivers is primarily funded with federal money, but approximately 23% is currently funded with state and Sport Fish Restoration funds for statewide projects. I agreed. Hence, I am writing this letter in support.

Sincerely,

[redacted]

Scott D. Patterson