



Oregon

Theodore R. Kulongoski, Governor

Water Resources Department

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August 24, 2009

Rich Barstad, P.E.
Public Works Director
306 S. Water Street
Silverton, OR 97381

RE: Dam Inspection Silver Creek Dam August 21, 2009 (S-66)

On August 21, 2009, I performed a limited inspection that was focused on seepage from the toe drains because I had received a couple of inquiries about possible change in seepage on the dam. To summarize, I looked at 9 drains near the toe and the rates from each are similar to what I have seen in past inspections (actually lower but the reservoir level was lower during this inspection) and the flow from each were clear. Here is a summary of what I found:

- Drain #1 was running heavy but clear – I did not measure discharge (Figure 1).
- Drains 2-3 were dripping slowly.
- Drains 4 running moderately heavy
- Drains 5 and 6 very light to dripping.
- Drains 7,8,9 running very light or dripping
- All drains flowing clear
- No drains that discharge into spillway were flowing
- Seepage on left side along abutment very light if non-existent (green vegetation but no live flow – probably more due to a spring).

I also did a visual inspection of the rest of the dam and found that the woody vegetation (Scotch Broom) had been removed. An inspection sheet is attached. The cap was still missing on the piezometer on the crest of the dam. The borrowing activity from animals on the dam was minor if non-existent. There continues to be concrete spalling on the left side of the spillway. There was also spalling on the right side of the spillway. Based on our phone conversation today there will be activity to fix this and also create a ramp to allow debris to pass better and not hang up.

As we have communicated on the last inspection, this dam really needs to have an Emergency Action Plan (EAP). Silver Creek dam is a high hazard dam (in that if it ever failed rapidly it could create a great deal of downstream damage and loss of life). For high hazard dams, we require EAPs for new applications and aggressively try to get entities to create and maintain them for older dams. I know that you have made a lot of progress on the EAP over the last year and have reviewed two drafts so far. I am awaiting the final draft of this plan.

Overall the maintenance for this dam is good but there are lingering issues such as the concrete spalling which based on a phone call are going to be addressed next month. The creating of an EAP remains a priority issue as well. Please let me know if you have any questions.

We look forward to continued mutual cooperation to insure the safety and stability of this dam.

Sincerely;



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Dam Safety Coordinator
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cc Barry Norris (OWRD)
Mike McCord (Watermaster, OWRD)



Figure 1a. Pipes 1,2,3 note that pipe 1 (middle) is flowing heavy while other two dripping.



Figure 1b. Pipe 4 flowing moderately.



Figure 1c. Pipes 6 and 7 with 6 flowing light and 7 barely flowing.



Figure d. Pipe 8 flowing lightly.



Figure 1e. Pipe 9 flowing lightly/dripping.



Figure 1f. “Seepage” or spring along left abutment with change in vegetation but no live water flowing.



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Dam Safety Inspection Form

Name of Dam or Reservoir: Silverton Res. Date: 8/21/09
 Permit/Certificate: R-5948 District: 16 NID #: OR-01622 File #: 5-66
 Height: 65' Storage: 1300 AF Photos: File Hazard (Check): Low Significant High
 Inspector(s): Robison Weather: Sunny - Warm ~ 80°F Inspected on this date
 Prior Inspection Date: 1/21/09 Next Inspection Date: 2010 Special Issues Req. Expedited Inspection: due to citizen complaint

Rating Criteria: Observed Structural or Mechanical Condition or state of maintenance (see separate instructions on how to rate).
 5-Very Good/Praiseworthy; 4-Acceptable; 3-Unacceptable, should be addressed; 2-Serious issue; 1-Repair or replace, may cause dam failure

Component	Observation and Remarks	Rating
I. Primary Dam	Crest Dam Type: <input checked="" type="checkbox"/> Parthen <input type="checkbox"/> Rock Zoned <input type="checkbox"/> Concrete <input type="checkbox"/> Other: Specify _____	
Upstream Slope	OK - Some Light Rodent	4
Crest	OK - However there was a top off Piezometer	4*
Downstream Slope	Light Rodent Activity Stay on top of	4
Right Abutment	OK	4
Left Abutment	OK	4
Toe	Some toe drains running See Pics - Tree on toe	3
Auxiliary dam/dike?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, include on separate inspection form or use slashes	

II. Reservoir	Pool Level/Elevation	Point of Reference	Spillway Control
Floating Debris/Trash	On Bank but small much removed		4
Landslides/Erosion	NO		4
Log Boom	May want to consider "Ramp" to Spillway to better allow flushing of debris		3

III. Instrumentation	Flow Rate	Water Level	Description/Condition
Toe Drains	All		1-Running Heavy 2.3 Drip 4.56 → Running 3*
Weirs/Rhines			7.89 (Pictures) Should monitor
Monitoring wells (see above)			This for changes...
Other			

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IV. Primary/Outlet	Check: <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Power Assist <input type="checkbox"/> Other (Specify)	Rating
Trickle Tube	NA	1
Inlet Structure	Submerged	1
Outlet Structure	OK	4
Control Works/Stem	OK	4
Low Level Conduit	Diameter: <u>Not inspected</u>	1
Valve Sluice Gate	Date last fully cycled Month: <u>Recent</u> Year: <u>Recent</u>	4
Trash Rack	Submerged	1
Secondary outlet??	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If "Yes," include on separate inspection form.	

V. Emergency Spillway	Earthen/Sod <input type="checkbox"/> Rock <input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Other (Specify)	Rating
Flashboards	NA	1
Control gate	NA	1
Approach Channel	OK	4
Discharge Channel	OK - However some spalling see pic	3
Stilling basin	OK	4
Auxiliary Spillway??	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If "Yes," include on separate inspection form or use slashes.	

VI. Security	Not required Updated <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Comments below:	Rating
Fencing, signage	Yes	4
Vehicle access road	Yes	4
On Site Dam Tender/Contact	On site? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Name: <u></u>	4
Emergency Plan	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not required Updated <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Comments below: <u>Needs EAP and Emergency Warning System and Monitoring Plan during heavy weather or other EQ!</u>	2

Comments: