

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**BENEFICIAL USE FIELD REPORT**

**A. GENERAL INFORMATION**

Permit No: 72-7549

Exam Date: 8/11/2011

1. Current Owner: STATE OF IDAHO  
DEPT OF FISH & GAME  
PO BOX 1336  
SALMON ID 83467-1336  
(208)756-2271
2. Accompanied by: Benny Walker (IDWR)

**3. SOURCE**

SQUAW CREEK

**TRIBUTARY**

SALMON RIVER

**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: None
2. Other water rights with the same point of diversion: None (note that irrigation right 72-136 is diverted from a pump SQC4 site tag A0013669 just upstream, and separate, from this point of diversion)

**C. DIVERSION AND DELIVERY SYSTEM****1. LOCATION OF POINT(S) OF DIVERSION:**

SQUAW CREEK

SW1/4SE1/4

Sec. 21, Twp 11N, Rge 17E, B.M.

CUSTER County

Method of Determination: IDWR spatial data point for SQC3 site tag A0013668

2.

**PLACE OF USE:** FISH PROPAGATION

| Twp | Rge | Sec | NE        |           |           |           | NW        |           |           |           | SW        |           |           |           | SE        |           |           |           |               |
|-----|-----|-----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
|     |     |     | <u>NE</u> | <u>NW</u> | <u>SW</u> | <u>SE</u> | <u>NE</u> | <u>NW</u> | <u>SW</u> | <u>SE</u> | <u>NE</u> | <u>NW</u> | <u>SW</u> | <u>SE</u> | <u>NE</u> | <u>NW</u> | <u>SW</u> | <u>SE</u> | <u>Totals</u> |
| 11N | 17E | 28  | X         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |               |

Method of Determination: GIS, aerial photography, and field observation

**D. FLOW MEASUREMENTS**

Conversations with the Water District 170 watermaster indicated that historical diversion data is nonexistent for this particular diversion. In addition, the local subdistrict 72D watermaster was reportedly having difficulty measuring this particular diversion due to inadequate training according to the 170 watermaster. A copy of a discharge table for the measuring device(s) at this particular diversion was obtained from the 170 watermaster. During the field exam, later in the summer, it was noted that not much water was flowing through the pond relative to the permitted amount of 4.5 cfs. Conversations with Tom Curet of the IDF&G indicated that the IDF&G adjusts the gate(s) and that diversions into the pond vary as flows in Squaw Creek vary throughout the days and season. Mr. Curet indicated that IDF&G field staff may have some field notes that might shed some light on diversion amounts. I asked if he could provide me with these notes, which he e-mailed to me at a later date. These notes consisted of over 20 measurements in 2010 and 2011, with most of the measurements occurring in 2010. Examination of the "intake" column on these notes revealed numbers that appeared to be flow amounts in cfs that corresponded to flow values listed on the discharge table for the measuring device(s) at this particular diversion that was obtained from the 170 watermaster. In particular, the 4/26 notes appear to indicate a gate adjustment from 4 inches to 3 inches and the corresponding values on the notes (3.93 and 3.29) match the corresponding flow amounts on the discharge table. Examination of these field notes indicates that flows appear to vary considerably, sometimes day to day, but it appears that on 4/18/2010 4.55 cfs was diverted. Lacking any other information to the contrary, it appears that the system can divert, and has diverted, at least the permitted amount of 4.5 cfs. Therefore, it is recommended that the license be issued for the permitted amount of 4.5 cfs.

**E. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation: N/A
2. Volume Calculations for Other Uses:

As discussed in the Flow Measurements Section (item D) above, due to the lack of available historical diversion data and variability in the diversion rate throughout the time period that water is diverted, assumptions have to be made in order to estimate the annual volume diverted. During a telephone conversation, Mr. Curet indicated that water is not diverted year round at the facility due to cold weather issues. Depending on springtime weather and ice, the beginning diversion date can vary, but water is typically diverted by late March. Water is diverted to the facility through the spring and summer with gate (diversion) adjustments being made periodically throughout the season. He also indicated that water is typically diverted through about mid September, and then the diversion is shut off for the winter. Based on this conversation, a period of use of March 15 – September 15 appears to be reasonable and would reflect how water is actually diverted into the facility. As indicated previously, actual amounts of water diverted vary considerably throughout the season.

Due to lack of any other records, the field notes provided by Tom Curet of IDF&G were utilized to provide some sort of estimate of annual water diverted. The records provided by Tom Curet reflect 20 measurements of flow, with 17 of these measurements occurring during the 2010 season and three measurements occurring during the 2011 season. It was assumed that all 20 measurements reflect representative typical types of flow measurements for that particular day, regardless of year. Therefore, all 20 measurements were utilized to estimate an annual volume of water diverted.

Utilizing a period of use beginning on March 15<sup>th</sup> and ending on September 15<sup>th</sup>, a diversion rate for a particular day was assumed by utilizing the closest flow measurement (by day) listed on the field notes provided by Tom Curet of IDF&G. For example, the field notes indicate that on 4/7/10 an apparent diversion rate of 3.8 cfs was measured and the gate(s) was adjusted to provide a flow of 4.02 cfs. It was therefore assumed that on a typical year that from March 15<sup>th</sup> through April 6<sup>th</sup>, 3.8 cfs of water would have been diverted each day with the flow changing to 4.02 cfs on April 7<sup>th</sup>. A running total daily volume for each day of the period of use based on the assumed daily diversion rate was kept (see attached spreadsheet results). Using this methodology it is estimated that on a typical year 1,275.9 acre-feet of water would be diverted to the facility. Note that this methodology utilizes assumed daily diversion rates based on measurements from two different years, although most of the measurements (85%) did occur in the same year. It is also possible, that a diversion rate can vary from day to day, or even throughout the day, but the methodology assumes a constant diversion rate from one measurement date to the next.

The system consists of a headgate and a pipeline to a pond. Utilizing the Department's GIS system revealed that the pond has a surface area of 1.0 acre. Examination of design drawings for the facility indicates that the normal water surface of the pond is elevation 54.0 ft while the deepest point in the bottom of the pond is elevation 48.0 feet. Using this 6 foot elevation difference and the 1.0 acre surface area indicates that the pond has a storage volume of no more than 6.0 ~~ac-ft~~ <sup>ac-ft</sup>. Using the permitted and recommended license diversion rate of 4.5 cfs indicates that the pond could easily be filled within a 24 hour period (no need for storage volume to be described).

**F. NARRATIVE/REMARKS/COMMENTS**

Application for permit 72-7549 was filed by the IDF&G with IDWR on May 21, 1987 for the appropriation of 4.5 cfs from Squaw Creek for fish propagation use. The application for permit described a headgate and pipeline to a steelhead pond. Permit 72-7549 was issued on August 13, 1997 for 4.5 cfs for fish propagation use. The permit included a condition indicating that the fish propagation use was for a steelhead acclimation and release pond. Proof of beneficial use was not filed in a timely manner resulting in the permit lapsing. Proof of Beneficial Use was eventually filed on October 26, 2000 and the permit was reinstated advancing the priority to the October 26, 2000 date. On August 11, 2011, while in the area, Benny Walker and I visited the pond site in an attempt to conduct a licensing exam. Since that date, while gathering information and discussing the system with IDF&G personnel, it was discovered that the pond was constructed in a different 40 acre tract than what was originally permitted. A licensing amendment was solicited from the IDF&G in an attempt to correct the place of use. The signed licensing amendment and fee (via interagency billing # BILL0296) was recently received from IDF&G allowing for the licensing of 72-7549.

Water right 72-7549 diverts water from Squaw Creek via the SQC3 headgate (site tag A0013668) into a pipeline that feeds a pond that is used to improve steelhead populations and provide public fishing opportunity. Note that the IDF&G asked that the fish propagation use be described as "hatchery rainbow trout sport fishery and steelhead acclimation and release pond." Water from the pond returns to Squaw Creek via an overflow pipeline &/or an overflow channel. As indicated on the previous page of this report, it is recommended that license 72-7549 be issued for a diversion rate of 4.5 cfs for fish propagation use from 3/15 to 11/15 with an annual diversion volume of 1,275.9 acre-feet.

Have conditions of permit approval been met? ☒ Yes ☐ No

**G. RECOMMENDATIONS****1. Recommended Amounts**

| <u>BENEFICIAL USE</u> | <u>PERIOD OF USE</u> | <u>DIVERSION RATE</u> | <u>ANNUAL VOLUME</u> |
|-----------------------|----------------------|-----------------------|----------------------|
| FISH PROPAGATION      | 03/15 to 09/15       | 4.500 CFS             | 1,275.90 AF          |
| <u>Totals:</u>        |                      | 4.500 CFS             | 1,275.90 AF          |

**2. Recommended Amendments**

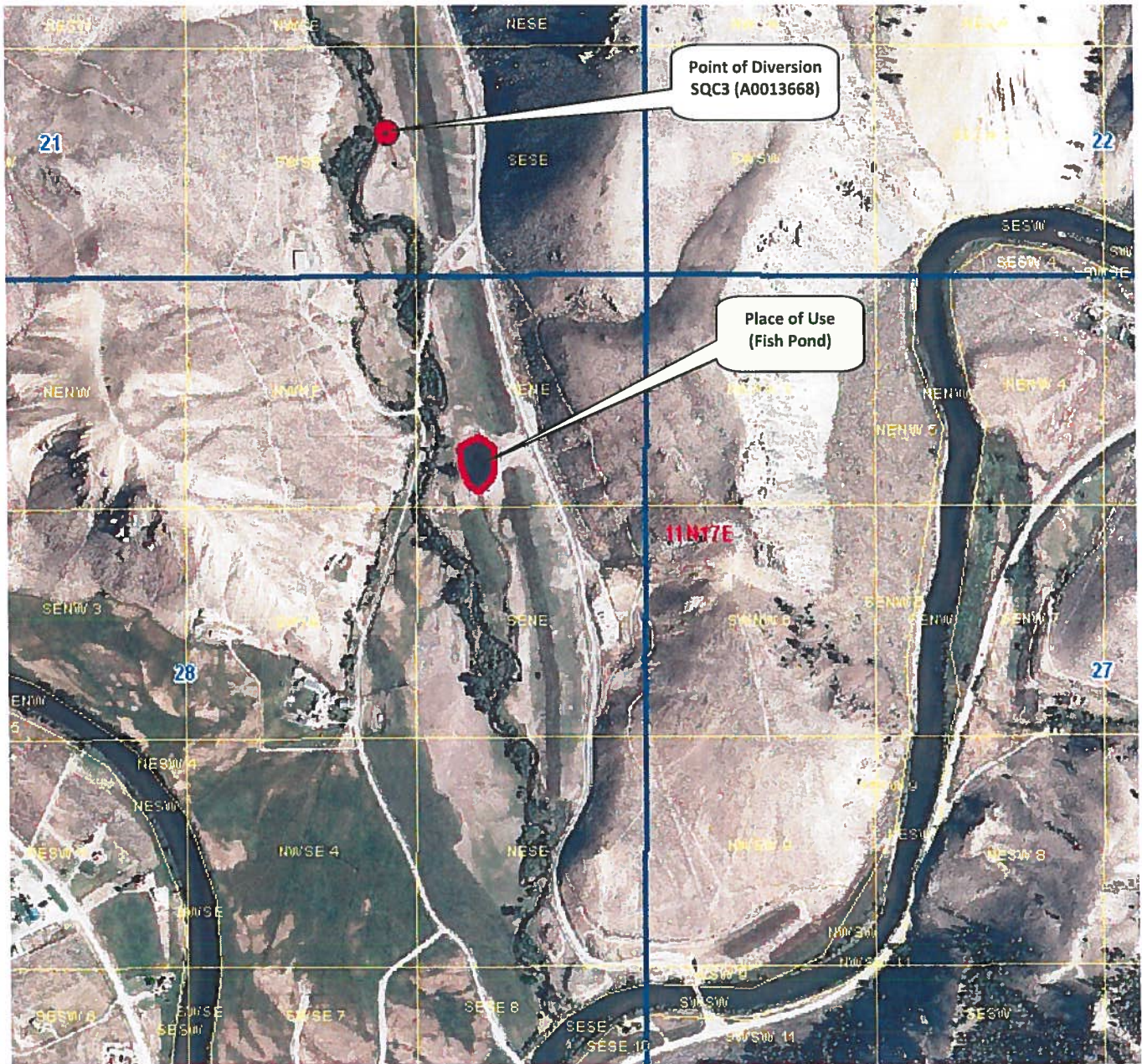
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

**H. AUTHENTICATION**

Field Examiner's Name Gay Shim Date 1/14/2013  
 Reviewer Chris Smith Date 1/18/2013

7549  
72-7549 Point of Diversion and Place of Use Map



## Point of Diversion and Place of Use Photos for 72-7549



**ABOVE:** View of head gate that serves as the point of diversion for 72-7549 (SQC3 site tag # A0013668). The pump in the foreground is the diversion for irrigation right 72-136 (SQC4 site tag # A0013669). Note that this picture was taken on a different date than the licensing exam and was obtained from IDWR Water Distribution Section files (\\A006\Water Measurement\Water Districts by Basin\WD 170 Upper Salmon\Photos\DIVERSION INVENTORY\BASIN 72 TRIBS\Squaw Creek\SQC3).

**BELOW:** View of entrance to Squaw Creek Steelhead Pond on 8/11/2001 (date of exam) showing interpretive sign, public restroom facilities, and pond in background.



## Place of Use Photos for 72-7549



**ABOVE:** View from the southwest portion of the pond on 8/11/2001 (date of exam) looking upstream across the pond showing reservoir level and locations of points of interest.

**BELOW:** Picture obtained from IDWR Water Distribution Section files ([\\A006\Water Measurement\Water Districts by Basin\WD 170 Upper Salmon\Photos\DIVERSION INVENTORY\BASIN 72 TRIBS\Squaw Creek\SQC3](#)). This view is from below the pond on the south end showing overflow from the overflow structure and flow in the open channel back to Squaw Creek. Note that this picture was taken on a different date than the licensing exam.



SQC3

| 18" Waterman Model CM-10 Canal Gate Opening, inches |                | 0.25 | 0.50 | 0.75 | 1.00 | 1.25 | 1.50 | 1.75 | 2.00 | 2.25 | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 | 5.50 | 6.00 | 6.50 | 7.00 | 7.50 | 8.00 | 8.50 | 9.00 | 9.50 | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 17.00 | 18.00 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |   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| Differential Head, inches                           | Discharge, cfs | 0.04 | 0.10 | 0.17 | 0.24 | 0.30 | 0.37 | 0.43 | 0.50 | 0.56 | 0.62 | 0.68 | 0.74 | 0.80 | 0.86 | 0.92 | 1.00 | 1.06 | 1.12 | 1.18 | 1.25 | 1.31 | 1.38 | 1.44 | 1.50 | 1.56  | 1.62  | 1.68  | 1.74  | 1.80  | 1.86  | 1.92  | 1.98  | 2.04  | 2.10 | 2.16 | 2.22 | 2.28 | 2.34 | 2.40 | 2.46 | 2.52 | 2.58 | 2.64 | 2.70 | 2.76 | 2.82 | 2.88 | 2.94 | 3.00 | 3.06 | 3.12 | 3.18 | 3.24 | 3.30 | 3.36 | 3.42 | 3.48 | 3.54 | 3.60 | 3.66 | 3.72 | 3.78 | 3.84 | 3.90 | 3.96 | 4.02 | 4.08 | 4.14 | 4.20 | 4.26 | 4.32 | 4.38 | 4.44 | 4.50 | 4.56 | 4.62 | 4.68 | 4.74 | 4.80 | 4.86 | 4.92 | 4.98 | 5.04 | 5.10 | 5.16 | 5.22 | 5.28 | 5.34 | 5.40 | 5.46 | 5.52 | 5.58 | 5.64 | 5.70 | 5.76 | 5.82 | 5.88 | 5.94 | 6.00 | 6.06 | 6.12 | 6.18 | 6.24 | 6.30 | 6.36 | 6.42 | 6.48 | 6.54 | 6.60 | 6.66 | 6.72 | 6.78 | 6.84 | 6.90 | 6.96 | 7.02 | 7.08 | 7.14 | 7.20 | 7.26 | 7.32 | 7.38 | 7.44 | 7.50 | 7.56 | 7.62 | 7.68 | 7.74 | 7.80 | 7.86 | 7.92 | 7.98 | 8.04 | 8.10 | 8.16 | 8.22 | 8.28 | 8.34 | 8.40 | 8.46 | 8.52 | 8.58 | 8.64 | 8.70 | 8.76 | 8.82 | 8.88 | 8.94 | 9.00 | 9.06 | 9.12 | 9.18 | 9.24 | 9.30 | 9.36 | 9.42 | 9.48 | 9.54 | 9.60 | 9.66 | 9.72 | 9.78 | 9.84 | 9.90 | 9.96 | 10.02 | 10.08 | 10.14 | 10.20 | 10.26 | 10.32 | 10.38 | 10.44 | 10.50 | 10.56 | 10.62 | 10.68 | 10.74 | 10.80 | 10.86 | 10.92 | 10.98 | 11.04 | 11.10 | 11.16 | 11.22 | 11.28 | 11.34 | 11.40 | 11.46 | 11.52 | 11.58 | 11.64 | 11.70 | 11.76 | 11.82 | 11.88 | 11.94 | 12.00 | 12.06 | 12.12 | 12.18 | 12.24 | 12.30 | 12.36 | 12.42 | 12.48 | 12.54 | 12.60 | 12.66 | 12.72 | 12.78 | 12.84 | 12.90 | 12.96 | 13.02 | 13.08 | 13.14 | 13.20 | 13.26 | 13.32 | 13.38 | 13.44 | 13.50 | 13.56 | 13.62 | 13.68 | 13.74 | 13.80 | 13.86 | 13.92 | 13.98 | 14.04 | 14.10 | 14.16 | 14.22 | 14.28 | 14.34 | 14.40 | 14.46 | 14.52 | 14.58 | 14.64 | 14.70 | 14.76 | 14.82 | 14.88 | 14.94 | 15.00 | 15.06 | 15.12 | 15.18 | 15.24 | 15.30 | 15.36 | 15.42 | 15.48 | 15.54 | 15.60 | 15.66 | 15.72 | 15.78 | 15.84 | 15.90 | 15.96 | 16.02 | 16.08 | 16.14 | 16.20 | 16.26 | 16.32 | 16.38 | 16.44 | 16.50 | 16.56 | 16.62 | 16.68 | 16.74 | 16.80 | 16.86 | 16.92 | 16.98 | 17.04 | 17.10 | 17.16 | 17.22 | 17.28 | 17.34 | 17.40 | 17.46 | 17.52 | 17.58 | 17.64 | 17.70 | 17.76 | 17.82 | 17.88 | 17.94 | 18.00 | 18.06 | 18.12 | 18.18 | 18.24 | 18.30 | 18.36 | 18.42 | 18.48 | 18.54 | 18.60 | 18.66 | 18.72 | 18.78 | 18.84 | 18.90 | 18.96 | 19.02 | 19.08 | 19.14 | 19.20 | 19.26 | 19.32 | 19.38 | 19.44 | 19.50 | 19.56 | 19.62 | 19.68 | 19.74 | 19.80 | 19.86 | 19.92 | 19.98 | 20.04 | 20.10 | 20.16 | 20.22 | 20.28 | 20.34 | 20.40 | 20.46 | 20.52 | 20.58 | 20.64 | 20.70 | 20.76 | 20.82 | 20.88 | 20.94 | 21.00 | 21.06 | 21.12 | 21.18 | 21.24 | 21.30 | 21.36 | 21.42 | 21.48 | 21.54 | 21.60 | 21.66 | 21.72 | 21.78 | 21.84 | 21.90 | 21.96 | 22.02 | 22.08 | 22.14 | 22.20 | 22.26 | 22.32 | 22.38 | 22.44 | 22.50 | 22.56 | 22.62 | 22.68 | 22.74 | 22.80 | 22.86 | 22.92 | 22.98 | 23.04 | 23.10 | 23.16 | 23.22 | 23.28 | 23.34 | 23.40 | 23.46 | 23.52 | 23.58 | 23.64 | 23.70 | 23.76 | 23.82 | 23.88 | 23.94 | 24.00 | 24.06 | 24.12 | 24.18 | 24.24 | 24.30 | 24.36 | 24.42 | 24.48 | 24.54 | 24.60 | 24.66 | 24.72 | 24.78 | 24.84 | 24.90 | 24.96 | 25.02 | 25.08 | 25.14 | 25.20 | 25.26 | 25.32 | 25.38 | 25.44 | 25.50 | 25.56 | 25.62 | 25.68 | 25.74 | 25.80 | 25.86 | 25.92 | 25.98 | 26.04 | 26.10 | 26.16 | 26.22 | 26.28 | 26.34 | 26.40 | 26.46 | 26.52 | 26.58 | 26.64 | 26.70 | 26.76 | 26.82 | 26.88 | 26.94 | 27.00 | 27.06 | 27.12 | 27.18 | 27.24 | 27.30 | 27.36 | 27.42 | 27.48 | 27.54 | 27.60 | 27.66 | 27.72 | 27.78 | 27.84 | 27.90 | 27.96 | 28.02 | 28.08 | 28.14 | 28.20 | 28.26 | 28.32 | 28.38 | 28.44 | 28.50 | 28.56 | 28.62 | 28.68 | 28.74 | 28.80 | 28.86 | 28.92 | 28.98 | 29.04 | 29.10 | 29.16 | 29.22 | 29.28 | 29.34 | 29.40 | 29.46 | 29.52 | 29.58 | 29.64 | 29.70 | 29.76 | 29.82 | 29.88 | 29.94 | 30.00 | 30.06 | 30.12 | 30.18 | 30.24 | 30.30 | 30.36 | 30.42 | 30.48 | 30.54 | 30.60 | 30.66 | 30.72 | 30.78 | 30.84 | 30.90 | 30.96 | 31.02 | 31.08 | 31.14 | 31.20 | 31.26 | 31.32 | 31.38 | 31.44 | 31.50 | 31.56 | 31.62 | 31.68 | 31.74 | 31.80 | 31.86 | 31.92 | 31.98 | 32.04 | 32.10 | 32.16 | 32.22 | 32.28 | 32.34 | 32.40 | 32.46 | 32.52 | 32.58 | 32.64 | 32.70 | 32.76 | 32.82 | 32.88 | 32.94 | 33.00 | 33.06 | 33.12 | 33.18 | 33.24 | 33.30 | 33.36 | 33.42 | 33.48 | 33.54 | 33.60 | 33.66 | 33.72 | 33.78 | 33.84 | 33.90 | 33.96 | 34.02 | 34.08 | 34.14 | 34.20 | 34.26 | 34.32 | 34.38 | 34.44 | 34.50 | 34.56 | 34.62 | 34.68 | 34.74 | 34.80 | 34.86 | 34.92 | 34.98 | 35.04 | 35.10 | 35.16 | 35.22 | 35.28 | 35.34 | 35.40 | 35.46 | 35.52 | 35.58 | 35.64 | 35.70 | 35.76 | 35.82 | 35.88 | 35.94 | 36.00 | 36.06 | 36.12 | 36.18 | 36.24 | 36.30 | 36.36 | 36.42 | 36.48 | 36.54 | 36.60 | 36.66 | 36.72 | 36.78 | 36.84 | 36.90 | 36.96 | 37.02 | 37.08 | 37.14 | 37.20 | 37.26 | 37.32 | 37.38 | 37.44 | 37.50 | 37.56 | 37.62 | 37.68 | 37.74 | 37.80 | 37.86 | 37.92 | 37.98 | 38.04 | 38.10 | 38.16 | 38.22 | 38.28 | 38.34 | 38.40 | 38.46 | 38.52 | 38.58 | 38.64 | 38.70 | 38.76 | 38.82 | 38.88 | 38.94 | 39.00 | 39.06 | 39.12 | 39.18 | 39.24 | 39.30 | 39.36 | 39.42 | 39.48 | 39.54 | 39.60 | 39.66 | 39.72 | 39.78 | 39.84 | 39.90 | 39.96 | 40.02 | 40.08 | 40.14 | 40.20 | 40.26 | 40.32 | 40.38 | 40.44 | 40.50 | 40.56 | 40.62 | 40.68 | 40.74 | 40.80 | 40.86 | 40.92 | 40.98 | 41.04 | 41.10 | 41.16 | 41.22 | 41.28 | 41.34 | 41.40 | 41.46 | 41.52 | 41.58 | 41.64 | 41.70 | 41.76 | 41.82 | 41.88 | 41.94 | 42.00 | 42.06 | 42.12 | 42.18 | 42.24 | 42.30 | 42.36 | 42.42 | 42.48 | 42.54 | 42.60 | 42.66 | 42.72 | 42.78 | 42.84 | 42.90 | 42.96 | 43.02 | 43.08 | 43.14 | 43.20 | 43.26 | 43.32 | 43.38 | 43.44 | 43.50 | 43.56 | 43.62 | 43.68 | 43.74 | 43.80 | 43.86 | 43.92 | 43.98 | 44.04 | 44.10 | 44.16 | 44.22 | 44.28 | 44.34 | 44.40 | 44.46 | 44.52 | 44.58 | 44.64 | 44.70 | 44.76 | 44.82 | 44.88 | 44.94 | 45.00 | 45.06 | 45.12 | 45.18 | 45.24 | 45.30 | 45.36 | 45.42 | 45.48 | 45.54 | 45.60 | 45.66 | 45.72 | 45.78 | 45.84 | 45.90 | 45.96 | 46.02 | 46.08 | 46.14 | 46.20 | 46.26 | 46.32 | 46.38 | 46.44 | 46.50 | 46.56 | 46.62 | 46.68 | 46.74 | 46.80 | 46.86 | 46.92 | 46.98 | 47.04 | 47.10 | 47.16 | 47.22 | 47.28 | 47.34 | 47.40 | 47.46 | 47.52 | 47.58 | 47.64 | 47.70 | 47.76 | 47.82 | 47.88 | 47.94 | 48.00 | 48.06 | 48.12 | 48.18 | 48.24 | 48.30 | 48.36 | 48.42 | 48.48 | 48.54 | 48.60 | 48.66 | 48.72 | 48.78 | 48.84 | 48.90 | 48.96 | 49.02 | 49.08 | 49.14 | 49.20 | 49.26 | 49.32 | 49.38 | 49.44 | 49.50 | 49.56 | 49.62 | 49.68 | 49.74 | 49.80 | 49.86 | 49.92 | 49.98 | 50.04 | 50.10 | 50.16 | 50.22 | 50.28 | 50.34 | 50.40 | 50.46 | 50.52 | 50.58 | 50.64 | 50.70 | 50.76 | 50.82 | 50.88 | 50.94 | 51.00 | 51.06 | 51.12 | 51.18 | 51.24 | 51.30 | 51.36 | 51.42 | 51.48 | 51.54 | 51.60 | 51.66 | 51.72 | 51.78 | 51.84 | 51.90 | 51.96 | 52.02 | 52.08 | 52.14 | 52.20 | 52.26 | 52.32 | 52.38 | 52.44 | 52.50 | 52.56 | 52.62 | 52.68 | 52.74 | 52.80 | 52.86 | 52.92 | 52.98 | 53.04 | 53.10 | 53.16 | 53.22 | 53.28 | 53.34 | 53.40 | 53.46 | 53.52 | 53.58 | 53.64 | 53.70 | 53.76 | 53.82 | 53.88 | 53.94 | 54.00 | 54.06 | 54.12 | 54.18 | 54.24 | 54.30 | 54.36 | 54.42 | 54.48 | 54.54 | 54.60 | 54.66 | 54.72 | 54.78 | 54.84 | 54.90 | 54.96 | 55.02 | 55.08 | 55.14 | 55.20 | 55.26 | 55.32 | 55.38 | 55.44 | 55.50 | 55.56 | 55.62 | 55.68 | 55.74 | 55.80 | 55.86 | 55.92 | 55.98 | 56.04 | 56.10 | 56.16 | 56.22 | 56.28 | 56.34 | 56.40 | 56.46 | 56.52 | 56.58 | 56.64 | 56.70 | 56.76 | 56.82 | 56.88 | 56.94 | 57.00 | 57.06 | 57.12 | 57.18 | 57.24 | 57.30 | 57.36 | 57.42 | 57.48 | 57.54 | 57.60 | 57.66 | 57.72 | 57.78 | 57.84 | 57.90 | 57.96 | 58.02 | 58.08 | 58.14 | 58.20 | 58.26 | 58.32 | 58.38 | 58.44 | 58.50 | 58.56 | 58.62 | 58.68 | 58.74 | 58.80 | 58.86 | 58.92 | 58.98 | 59.04 | 59.10 | 59.16 | 59.22 | 59.28 | 59.34 | 59.40 | 59.46 | 59.52 | 59.58 | 59.64 | 59.70 | 59.76 | 59.82 | 59.88 | 59.94 | 60.00 | 60.06 | 60.12 | 60.18 | 60.24 | 60.30 | 60.36 | 60.42 | 60.48 | 60.54 | 60.60 | 60.66 | 60.72 | 60.78 | 60.84 | 60.90 | 60.96 | 61.02 | 61.08 | 61.14 | 61.20 | 61.26 | 61.32 | 61.38 | 61.44 | 61.50 | 61.56 | 61.62 | 61.68 | 61.74 | 61.80 | 61.86 | 61.92 | 61.98 | 62.04 | 62.10 | 62.16 | 62.22 | 62.28 | 62.34 | 62.40 | 62.46 | 62.52 | 62.58 | 62.64 | 62.70 | 62.76 | 62.82 | 62.88 | 62.94 | 63.00 | 63.06 | 63.12 | 63.18 | 63.24 | 63.30 | 63.36 | 63.42 | 63.48 | 63.54 | 63.60 | 63.66 | 63.72 | 63.78 | 63.84 | 63.90 | 63.96 | 64.02 | 64.08 | 64.14 | 64.20 | 64.26 | 64.32 | 64.38 | 64.44 | 64.50 | 64.56 | 64.62 | 64.68 | 64.74 | 64.80 | 64.86 | 64.92 | 64.98 | 65.04 | 65.10 | 65.16 | 65.22 | 65.28 | 65.34 | 65.40 | 65.46 | 65.52 | 65.58 | 65.64 | 65.70 | 65.76 | 65.82 | 65.88 | 65.94 | 66.00 | 66.06 | 66.12 | 66.18 | 66.24 | 66.30 | 66.36 | 66.42 | 66.48 | 66.54 | 66.60 | 66.66 | 66.72 | 66.78 | 66.84 | 66.90 | 66.96 | 67.02 | 67.08 | 67.14 | 67.20 | 67.26 | 67.32 | 67.38 | 67.44 | 67.50 | 67.56 | 67.62 | 67.68 | 67.74 | 67.80 | 67.86 | 67.92 | 67.98 | 68.04 | 68.10 | 68.16 | 68.22 | 68.28 | 68.34 | 68.40 | 68.46 | 68.52 | 68.58 | 68.64 | 68.70 | 68.76 | 68.82 | 68.88 | 68.94 | 69.00 | 69.06 | 69.12 | 69.18 | 69.24 | 69.30 | 69.36 | 69.42 | 69.48 | 69.54 | 69.60 | 69.66 | 69.72 | 69.78 | 69.84 | 69.90 | 69.96 | 70.02 | 70.08 | 70.14 | 70.20 | 70.26 | 70.32 | 70.38 | 70.44 | 70.50 | 70.56 | 70.62 | 70.68 | 70.74 | 70.80 | 70.86 | 70.92 | 70.98 | 71.04 | 71.10 | 71.16 | 71.22 | 71.28 | 71.34 | 71.40 | 71.46 | 71.52 | 71.58 | 71.64 | 71.70 | 71.76 | 71.82 | 71.88 | 71.94 | 72.00 | 72.06 | 72.12 | 72.18 | 72.24 | 72.30 | 72.36 | 72.42 | 72.48 | 72.54 | 72.60 |

## Skinner, Corey

---

**From:** Curet, Tom [tom.curet@idfg.idaho.gov]  
**Sent:** Friday, October 07, 2011 10:09 AM  
**To:** Skinner, Corey  
**Subject:** FW:  
**Attachments:** 20111007100017603.tif

Corey - ~ 3 weeks ago we visited regarding flow measurements at our Squaw Creek pond site near Clayton. I mentioned that our staff had taken flow measurements at the intake and at the outlet of the pond.

Attached are the records they were able to provide. If you have any questions please feel free to contact me. Thanks tc

-----Original Message-----

**From:** [xerox copier@idfg.idaho.gov](mailto:xerox_copier@idfg.idaho.gov) [mailto:[xerox copier@idfg.idaho.gov](mailto:xerox_copier@idfg.idaho.gov)]  
**Sent:** Friday, October 07, 2011 3:00 PM  
**To:** Curet, Tom  
**Subject:**

This E-mail was sent from "PTR-R7-LAN540c" (MP C4000/LD540C).

Scan Date: 10.07.2011 10:00:17 (-0400)  
Queries to: [xerox\\_copier@idfg.idaho.gov](mailto:xerox_copier@idfg.idaho.gov)

# Squaw Pond Discharge (cfs) 2010

| Date | Damboards | vs                    | Intake                                                       |
|------|-----------|-----------------------|--------------------------------------------------------------|
| 4/6  | 1.26      |                       | Ice in Head tube                                             |
| 4/7  | 1.92      |                       | Ice <sup>in tube</sup> (3.8 open 1" 4.02) *?                 |
| 4/8  | 1.92      |                       | Ice <sup>in tube</sup> 2.63                                  |
| 4/9  | .24       |                       | Ice 1.70 Ice against grate                                   |
| 4/10 | 1.26      |                       | ICE 2.63 Ice in head tube and on grate                       |
| 4/11 | 1.92      |                       | 3.04 No Ice                                                  |
| 4/12 | 1.92      |                       | 3.04 Ice in tube                                             |
| 4/15 | 2.31      |                       |                                                              |
| 4/17 | 3.54      |                       | NO ICE 4.16 small ice chunk in lower tube                    |
| 4/18 | 4.44      |                       | NO ICE to 4.55 @ 7" open adjusted down to 4.0 cfs @ 4" open. |
| 4/19 | 3.09      |                       | little ice 3.93 ok                                           |
| 4/21 | 3.09      |                       | No Ice 4.16                                                  |
| 4/24 | 2.70      |                       | 4.16                                                         |
| 4/25 | 2.70      |                       | 4.05                                                         |
| 4-26 | 3.09      |                       | 3.93 @ 4" open adjusted down to 3" @ 3.29 cfs                |
| 4-29 | 1.59      |                       |                                                              |
| 5-01 | 1.26      |                       | 3.25 cfs                                                     |
| 5-03 | 1.59      |                       | 3.20 cfs                                                     |
| 5-5  | 1.59      |                       | 3.12                                                         |
| 5-9  | 1.92      |                       | 3.12                                                         |
| 5-12 | 1.92      |                       |                                                              |
| 6-11 | 2.10      |                       |                                                              |
| 6-29 | 1.74      | 58° @ 4:00            |                                                              |
| 7-10 | 2.10      |                       | 3.29                                                         |
| 7-21 | 1.41      | 64° @ 3:30 fish plant |                                                              |

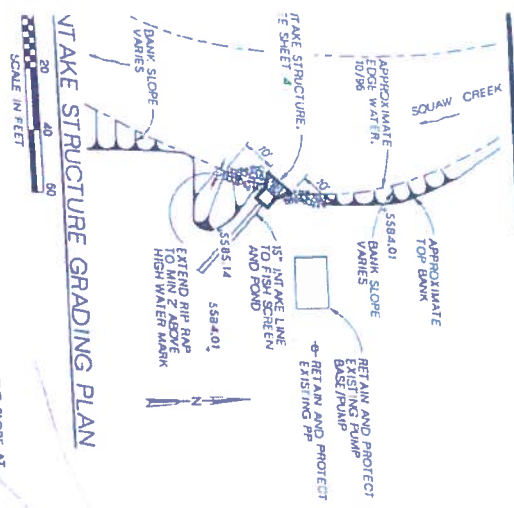
1.46  
1.43  
4.14

# 2011 Discharge AND 2010 Squaw Pond Discharge (CFS)

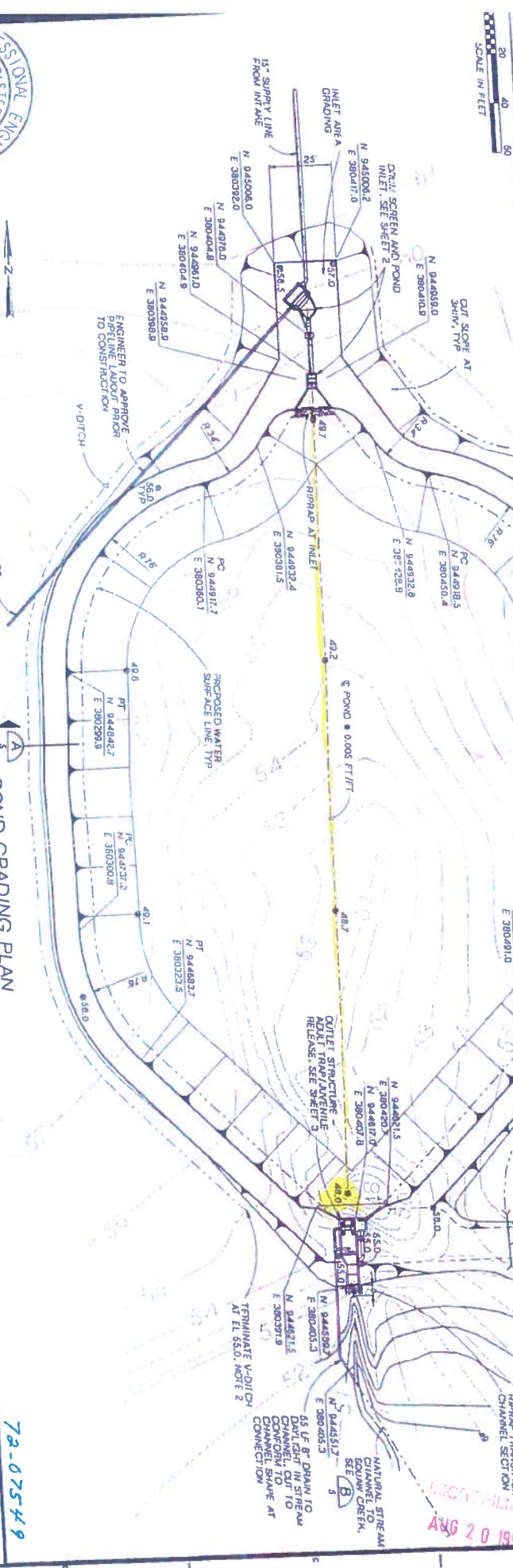
| <u>Date</u> | <u>Dam boards</u>       | <u>Intake</u>           |
|-------------|-------------------------|-------------------------|
| 7/25        | 2.10 cfs                | 3.03                    |
| 5-20-11     |                         | 3.89 DF                 |
| 8/25/11     | 1 $\frac{3}{4}$ .57 cfs | 3.20 LR Before Cleaning |
| 8/26/11     |                         | 3.29 LR after Cleaning  |



mid September per Tom Curet 3/28/2012 telecom  
then shut off for winter



INTAKE STRUCTURE GRADING PLAN



- NOTES
1. CUT V-DITCHES FROM CORNER OF INLET AREA GRADING ALONG EAST AND WEST SIDES OF POND FROM EL. 58.0 TO EL. 55.0. SEE 1

V-DITCH DETAIL 1



SCALE IN FEET  
0 20 40 60

ENGINEER TO APPROVE  
TO CONSTRUCTION

10' BYPASS PIPE  
SLOPE AT 0.005 FT/FT

REUSE OF DOCUMENTS

STATE OF IDAHO  
ACCOMPLISHMENT

INTAKE STRUCTURE AND  
POND GRADING PLANS

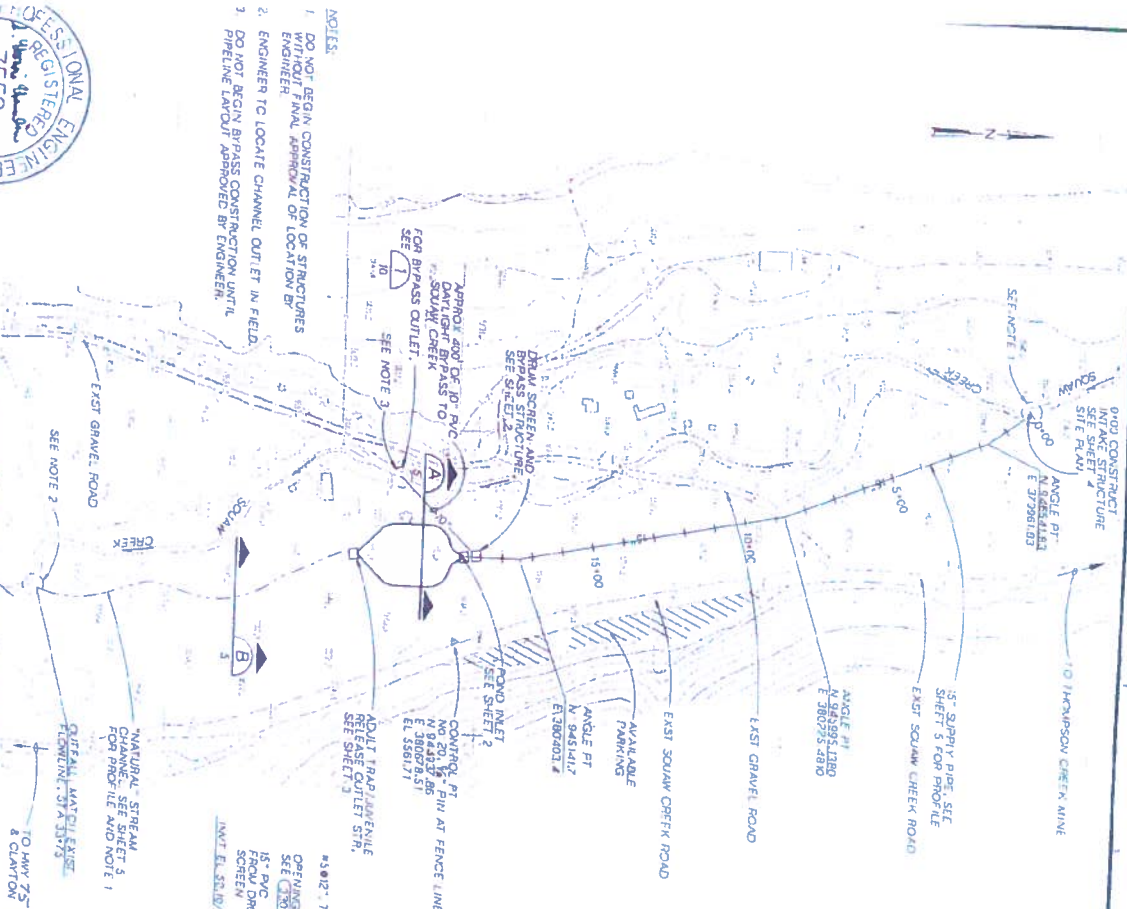
DATE: JUNE 97  
PROJECT: 72-07549

486 2 0 1982

PROFESSIONAL ENGINEER  
 STATE OF IDAHO  
 7559  
 6/27/97  
 KOSKINEN HENRIKSON

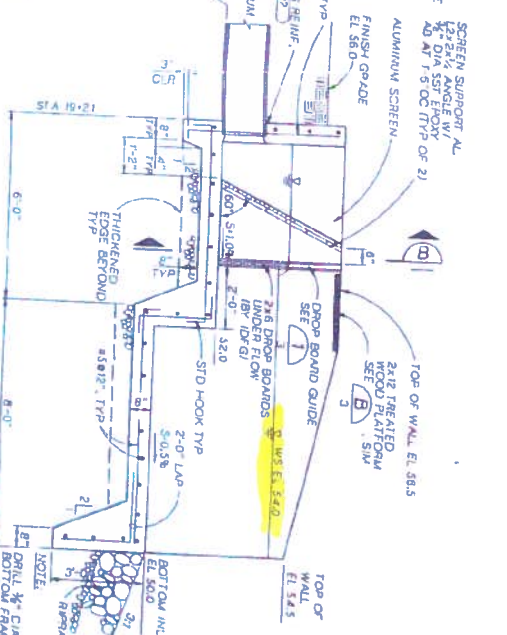
CHMILL  
 100-2B RATER  
 10 DATE

SQUAW CREEK SITE & ACCLIMATION POND PLAN

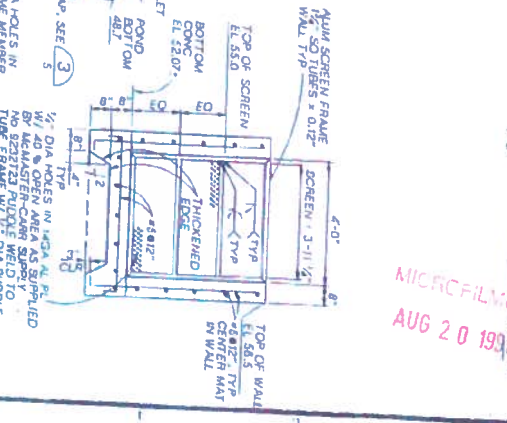


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SECTION A



SECTION B

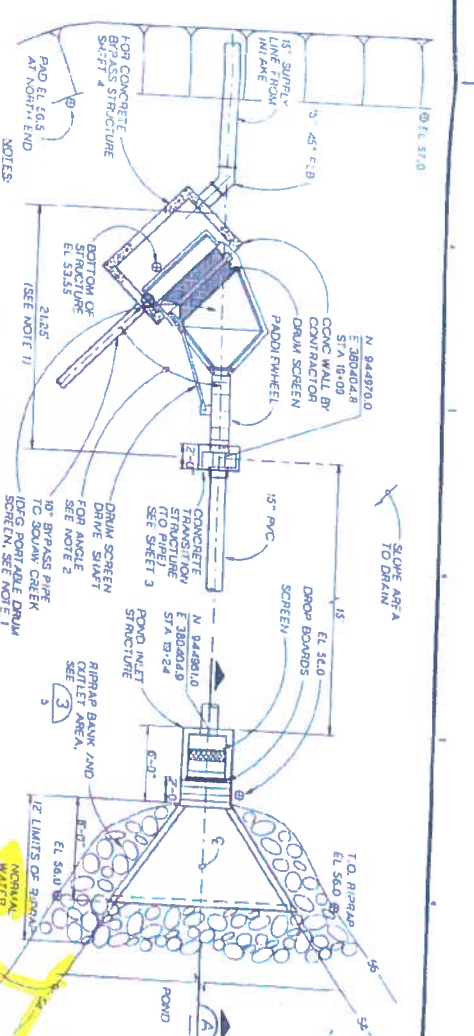


DRUM SCREEN

POND INLET

NOTES:

- STANDARD 10" PORTABLE DRUM SCREEN DIMENSIONS.
- DRUM SCREEN SUPPLIED BY IDG, INSTALLED BY CONTRACTOR.
- ALIGNMENT FOR SHORTEST DISTANCE TO SQUAW CREEK OUTLET.
- AT A MIN SLOPE OF 0.005 1/1.



MICROFILM  
 AUG 20 1997

## 72-7549 Annual Volume Calculations

| Date | Flow (CFS) | Daily Volume (AF) | Total Volume (AF) |
|------|------------|-------------------|-------------------|
| 3/15 | 3.80       | 7.5373            | 7.5373            |
| 3/16 | 3.80       | 7.5373            | 15.0746           |
| 3/17 | 3.80       | 7.5373            | 22.6119           |
| 3/18 | 3.80       | 7.5373            | 30.1492           |
| 3/19 | 3.80       | 7.5373            | 37.6865           |
| 3/20 | 3.80       | 7.5373            | 45.2238           |
| 3/21 | 3.80       | 7.5373            | 52.7611           |
| 3/22 | 3.80       | 7.5373            | 60.2984           |
| 3/23 | 3.80       | 7.5373            | 67.8357           |
| 3/24 | 3.80       | 7.5373            | 75.3730           |
| 3/25 | 3.80       | 7.5373            | 82.9103           |
| 3/26 | 3.80       | 7.5373            | 90.4476           |
| 3/27 | 3.80       | 7.5373            | 97.9849           |
| 3/28 | 3.80       | 7.5373            | 105.5222          |
| 3/29 | 3.80       | 7.5373            | 113.0595          |
| 3/30 | 3.80       | 7.5373            | 120.5968          |
| 3/31 | 3.80       | 7.5373            | 128.1341          |
| 4/1  | 3.80       | 7.5373            | 135.6714          |
| 4/2  | 3.80       | 7.5373            | 143.2087          |
| 4/3  | 3.80       | 7.5373            | 150.7460          |
| 4/4  | 3.80       | 7.5373            | 158.2833          |
| 4/5  | 3.80       | 7.5373            | 165.8206          |
| 4/6  | 3.80       | 7.5373            | 173.3579          |
| 4/7  | 4.02       | 7.9737            | 181.3316          |
| 4/8  | 2.63       | 5.2166            | 186.5482          |
| 4/9  | 1.70       | 3.3720            | 189.9201          |
| 4/10 | 2.63       | 5.2166            | 195.1367          |
| 4/11 | 3.04       | 6.0298            | 201.1666          |
| 4/12 | 3.04       | 6.0298            | 207.1964          |
| 4/13 | 3.04       | 6.0298            | 213.2263          |
| 4/14 | 3.04       | 6.0298            | 219.2561          |
| 4/15 | 3.04       | 6.0298            | 225.2859          |
| 4/16 | 3.04       | 6.0298            | 231.3158          |
| 4/17 | 4.16       | 8.2514            | 239.5671          |
| 4/18 | 4.00       | 7.9340            | 247.5011          |
| 4/19 | 3.93       | 7.7952            | 255.2963          |
| 4/20 | 3.93       | 7.7952            | 263.0914          |
| 4/21 | 4.16       | 8.2514            | 271.3428          |
| 4/22 | 4.16       | 8.2514            | 279.5942          |
| 4/23 | 4.16       | 8.2514            | 287.8455          |
| 4/24 | 4.16       | 8.2514            | 296.0969          |
| 4/25 | 4.05       | 8.0332            | 304.1301          |

|      |      |        |          |
|------|------|--------|----------|
| 4/26 | 3.29 | 6.5257 | 310.6558 |
| 4/27 | 3.29 | 6.5257 | 317.1815 |
| 4/28 | 3.29 | 6.5257 | 323.7072 |
| 4/29 | 3.29 | 6.5257 | 330.2329 |
| 4/30 | 3.29 | 6.5257 | 336.7586 |
| 5/1  | 3.25 | 6.4464 | 343.2050 |
| 5/2  | 3.25 | 6.4464 | 349.6514 |
| 5/3  | 3.20 | 6.3472 | 355.9986 |
| 5/4  | 3.20 | 6.3472 | 362.3458 |
| 5/5  | 3.12 | 6.1885 | 368.5343 |
| 5/6  | 3.12 | 6.1885 | 374.7228 |
| 5/7  | 3.12 | 6.1885 | 380.9113 |
| 5/8  | 3.12 | 6.1885 | 387.0999 |
| 5/9  | 3.12 | 6.1885 | 393.2884 |
| 5/10 | 3.12 | 6.1885 | 399.4769 |
| 5/11 | 3.12 | 6.1885 | 405.6654 |
| 5/12 | 3.12 | 6.1885 | 411.8539 |
| 5/13 | 3.12 | 6.1885 | 418.0425 |
| 5/14 | 3.12 | 6.1885 | 424.2310 |
| 5/15 | 3.12 | 6.1885 | 430.4195 |
| 5/16 | 3.12 | 6.1885 | 436.6080 |
| 5/17 | 3.12 | 6.1885 | 442.7965 |
| 5/18 | 3.12 | 6.1885 | 448.9851 |
| 5/19 | 3.12 | 6.1885 | 455.1736 |
| 5/20 | 3.89 | 7.7158 | 462.8894 |
| 5/21 | 3.89 | 7.7158 | 470.6052 |
| 5/22 | 3.89 | 7.7158 | 478.3210 |
| 5/23 | 3.89 | 7.7158 | 486.0368 |
| 5/24 | 3.89 | 7.7158 | 493.7527 |
| 5/25 | 3.89 | 7.7158 | 501.4685 |
| 5/26 | 3.89 | 7.7158 | 509.1843 |
| 5/27 | 3.89 | 7.7158 | 516.9001 |
| 5/28 | 3.89 | 7.7158 | 524.6159 |
| 5/29 | 3.89 | 7.7158 | 532.3317 |
| 5/30 | 3.89 | 7.7158 | 540.0475 |
| 5/31 | 3.89 | 7.7158 | 547.7634 |
| 6/1  | 3.89 | 7.7158 | 555.4792 |
| 6/2  | 3.89 | 7.7158 | 563.1950 |
| 6/3  | 3.89 | 7.7158 | 570.9108 |
| 6/4  | 3.89 | 7.7158 | 578.6266 |
| 6/5  | 3.89 | 7.7158 | 586.3424 |
| 6/6  | 3.89 | 7.7158 | 594.0583 |
| 6/7  | 3.89 | 7.7158 | 601.7741 |
| 6/8  | 3.89 | 7.7158 | 609.4899 |
| 6/9  | 3.89 | 7.7158 | 617.2057 |
| 6/10 | 3.89 | 7.7158 | 624.9215 |
| 6/11 | 3.89 | 7.7158 | 632.6373 |

2010 measurement

\* 2011 measurement

|      |      |        |          |
|------|------|--------|----------|
| 6/12 | 3.89 | 7.7158 | 640.3531 |
| 6/13 | 3.89 | 7.7158 | 648.0690 |
| 6/14 | 3.89 | 7.7158 | 655.7848 |
| 6/15 | 3.89 | 7.7158 | 663.5006 |
| 6/16 | 3.89 | 7.7158 | 671.2164 |
| 6/17 | 3.89 | 7.7158 | 678.9322 |
| 6/18 | 3.89 | 7.7158 | 686.6480 |
| 6/19 | 3.89 | 7.7158 | 694.3638 |
| 6/20 | 3.89 | 7.7158 | 702.0797 |
| 6/21 | 3.89 | 7.7158 | 709.7955 |
| 6/22 | 3.89 | 7.7158 | 717.5113 |
| 6/23 | 3.89 | 7.7158 | 725.2271 |
| 6/24 | 3.89 | 7.7158 | 732.9429 |
| 6/25 | 3.89 | 7.7158 | 740.6587 |
| 6/26 | 3.89 | 7.7158 | 748.3746 |
| 6/27 | 3.89 | 7.7158 | 756.0904 |
| 6/28 | 3.89 | 7.7158 | 763.8062 |
| 6/29 | 3.89 | 7.7158 | 771.5220 |
| 6/30 | 3.89 | 7.7158 | 779.2378 |
| 7/1  | 3.89 | 7.7158 | 786.9536 |
| 7/2  | 3.89 | 7.7158 | 794.6694 |
| 7/3  | 3.89 | 7.7158 | 802.3853 |
| 7/4  | 3.89 | 7.7158 | 810.1011 |
| 7/5  | 3.89 | 7.7158 | 817.8169 |
| 7/6  | 3.89 | 7.7158 | 825.5327 |
| 7/7  | 3.89 | 7.7158 | 833.2485 |
| 7/8  | 3.89 | 7.7158 | 840.9643 |
| 7/9  | 3.89 | 7.7158 | 848.6801 |
| 7/10 | 3.29 | 6.5257 | 855.2059 |
| 7/11 | 3.29 | 6.5257 | 861.7316 |
| 7/12 | 3.29 | 6.5257 | 868.2573 |
| 7/13 | 3.29 | 6.5257 | 874.7830 |
| 7/14 | 3.29 | 6.5257 | 881.3087 |
| 7/15 | 3.29 | 6.5257 | 887.8344 |
| 7/16 | 3.29 | 6.5257 | 894.3602 |
| 7/17 | 3.29 | 6.5257 | 900.8859 |
| 7/18 | 3.29 | 6.5257 | 907.4116 |
| 7/19 | 3.29 | 6.5257 | 913.9373 |
| 7/20 | 3.29 | 6.5257 | 920.4630 |
| 7/21 | 3.29 | 6.5257 | 926.9887 |
| 7/22 | 3.29 | 6.5257 | 933.5144 |
| 7/23 | 3.29 | 6.5257 | 940.0402 |
| 7/24 | 3.29 | 6.5257 | 946.5659 |
| 7/25 | 3.03 | 6.0100 | 952.5759 |
| 7/26 | 3.03 | 6.0100 | 958.5859 |
| 7/27 | 3.03 | 6.0100 | 964.5959 |
| 7/28 | 3.03 | 6.0100 | 970.6059 |

2010 measurement

\* 2011 measurement

|      |      |        |           |
|------|------|--------|-----------|
| 7/29 | 3.03 | 6.0100 | 976.6159  |
| 7/30 | 3.03 | 6.0100 | 982.6259  |
| 7/31 | 3.03 | 6.0100 | 988.6359  |
| 8/1  | 3.03 | 6.0100 | 994.6459  |
| 8/2  | 3.03 | 6.0100 | 1000.6559 |
| 8/3  | 3.03 | 6.0100 | 1006.6659 |
| 8/4  | 3.03 | 6.0100 | 1012.6759 |
| 8/5  | 3.03 | 6.0100 | 1018.6859 |
| 8/6  | 3.03 | 6.0100 | 1024.6959 |
| 8/7  | 3.03 | 6.0100 | 1030.7059 |
| 8/8  | 3.03 | 6.0100 | 1036.7159 |
| 8/9  | 3.03 | 6.0100 | 1042.7260 |
| 8/10 | 3.03 | 6.0100 | 1048.7360 |
| 8/11 | 3.03 | 6.0100 | 1054.7460 |
| 8/12 | 3.03 | 6.0100 | 1060.7560 |
| 8/13 | 3.03 | 6.0100 | 1066.7660 |
| 8/14 | 3.03 | 6.0100 | 1072.7760 |
| 8/15 | 3.03 | 6.0100 | 1078.7860 |
| 8/16 | 3.03 | 6.0100 | 1084.7960 |
| 8/17 | 3.03 | 6.0100 | 1090.8060 |
| 8/18 | 3.03 | 6.0100 | 1096.8160 |
| 8/19 | 3.03 | 6.0100 | 1102.8260 |
| 8/20 | 3.03 | 6.0100 | 1108.8360 |
| 8/21 | 3.03 | 6.0100 | 1114.8460 |
| 8/22 | 3.03 | 6.0100 | 1120.8560 |
| 8/23 | 3.03 | 6.0100 | 1126.8660 |
| 8/24 | 3.03 | 6.0100 | 1132.8760 |
| 8/25 | 3.03 | 6.0100 | 1138.8860 |
| 8/26 | 3.29 | 6.5257 | 1145.4117 |
| 8/27 | 3.29 | 6.5257 | 1151.9375 |
| 8/28 | 3.29 | 6.5257 | 1158.4632 |
| 8/29 | 3.29 | 6.5257 | 1164.9889 |
| 8/30 | 3.29 | 6.5257 | 1171.5146 |
| 8/31 | 3.29 | 6.5257 | 1178.0403 |
| 9/1  | 3.29 | 6.5257 | 1184.5660 |
| 9/2  | 3.29 | 6.5257 | 1191.0918 |
| 9/3  | 3.29 | 6.5257 | 1197.6175 |
| 9/4  | 3.29 | 6.5257 | 1204.1432 |
| 9/5  | 3.29 | 6.5257 | 1210.6689 |
| 9/6  | 3.29 | 6.5257 | 1217.1946 |
| 9/7  | 3.29 | 6.5257 | 1223.7203 |
| 9/8  | 3.29 | 6.5257 | 1230.2460 |
| 9/9  | 3.29 | 6.5257 | 1236.7718 |
| 9/10 | 3.29 | 6.5257 | 1243.2975 |
| 9/11 | 3.29 | 6.5257 | 1249.8232 |
| 9/12 | 3.29 | 6.5257 | 1256.3489 |
| 9/13 | 3.29 | 6.5257 | 1262.8746 |

\* 2011 measurement

|      |      |        |           |
|------|------|--------|-----------|
| 9/14 | 3.29 | 6.5257 | 1269.4003 |
| 9/15 | 3.29 | 6.5257 | 1275.9260 |

Actual Measurement Taken