ADMINISTRATIVE MEMORANDUMS INDEX

As of January 15, 2016

Please note that these Administrative Memorandums will include many memos that have become outdated due to changes in rules, statutes or current Department policy. Some memos have been amended or superseded by others, and some may no longer be applicable.

APPLICATION PROCESSING			
No.	**Title**	**Signed**	**Amended or Superseded**
1.	**Desert Lands** Application approval requirements-must file w/ BLM at same time filing for a WR Permit	**4-7-75**	
2.	**Recommended Rate of Diversion (Domestic)** Diversion rate for domestic use recommended at 0.04 cfs per family and measuring device required for domestic, stock, irrigation when ≥ 0.70 cfs	**4-7-75**	
3.	**Annual Use of Water for Stock water Purposes** Rate and volume chart for range and dairy cattle including rate and volume formulas per head	**4-7-75**	
4.	**Carey Act** Application handling when developer transfers sprinkler system to water co. vs transferring to individual owners	**4-7-75**	
5.	**Processing of Applications for Water Rights Permits Filed on Federally Owned Land** Files that need to be sent to state office (DLE, Carey Act, major dam project) where approval will be delayed	**4-7-75**	
6.	**Significant Figures for Numeric Values** Rate of flow, volume, and area standards for applications, advertising, licensing, transfers and orders	5-12-75	11-20-79 **5-8-80**
7.	**Policy Regarding Supplemental Filings** Permits authorizing >0.02 cfs/acre will be denied but supplemental may be approved with combined use conditions	**6-23-75**	
8.	**Water Right Applications and Claims** Procedure for receiving applications and claims with > 1 point of diversion with separate systems vs > 1 point of diversion on one system	6-23-75	**5-2-80**
9.	**Corrections on Applications for Permit** Procedure for amending/correcting an application for permit or any other application. Note: the department never should write on an application w/o the applicant's initials	6-23-75	5-10-82 **1-12-00**
10.	**Right-of-Way Across the Land of Another** Permit processing when the point of diversion is not on applicants land and conditions that apply	6-23-75	**8-4-75**
11.	**Applications for Permit - Item 4, 5 & 8c** Permit handling in regional office before forwarding to state office-Overlap review and supervisory approval of application	**6-23-75**	

APPLICATION PROCESSING			
No.	**Title**	**Signed**	**Amended or Superseded**
12.	**Staff Analysis Sheets** Adding additional fields to staff analysis sheet to include any field knowledge	**2-9-76**	
13.	**Boise River Appropriations** Hold on new appropriations upstream of Lucky Peak	7-11-77	**1-22-80**
14.	**Applications for Permit for Storage Rights** Guidance on how to fill out an application and advertising when storage is the use	**6-21-78**	
15.	**Fish Propagation Applications for Water Rights** Additional information to submit includes construction plan, proof of possessory interest, and no diminished quality conditions. Includes trout hatchery water requirements graph	**8-7-79**	
16.	**Signatures on Applications for Water Right Permit** Signature on application must be applicants	**5-9-78**	
17.	**Acceptable Rates of Irrigation Flow for Small Acreages** Higher diversion rate when irrigation is ≤5 acres of 0.03 cfs per acre due to system requirements	**9-19-79**	
18.	**Definition of "Municipal"** Uses include domestic, irrigation, stock, fire protection, recreation, commercial, and industrial. Describes who can apply for a municipal right.	11-5-79	**10-19-09**
19.	**Excessive Flows for Irrigation Purposes** Analysis guidance for determining if extra rate is necessary. Includes additional form for applicant to fill out when applying for irrigation over 5 acres and is asking for >0.02 cfs/acre	1-28-80	**Amended 3-14-83**
20.	**Big Wood River Appropriations** Hold on new appropriations upstream from Magic Reservoir. Includes map of Big Wood River Drainage	**1-22-80**	
21.	**Subordination of Water Rights for Power Purposes** All new appropriations or licenses will be subordinate to other beneficial uses except for single family power projects	**3-3-80**	
22.	**Definition of "Domestic"** Single household domestic includes stock and irrigation as long as it uses ≤13,000 gpd and general domestic is for multi-home water systems. Includes rate of flow vs # of houses graph	**6-4-80**	
23.	**Rate of Flow for Heating Use** Methods for determining rate of flow for geothermal heating systems for initial permit review	9-8-80	5-9-84 **9-28-92**
24.	**Approval of Permits for Power Purposes** Processing guidance for regional and state offices, FERC and PUC requirements, and method for calculating reasonable rate of flow	12-1-80	**6-19-86**
25.	**Measuring Device Requirement Guidelines for Applications for Permit** Measuring device condition flow chart—contains out of date conditions	**1-27-81**	
26.	**Bear River Appropriations**	**2-1-82**	

APPLICATION PROCESSING			
No.	**Title**	**Signed**	**Amended or Superseded**
	Hold on new appropriations from Bear River and its tributaries		
27.	**Appropriation of Water Within Irrigation Districts and Canal Company Areas** No permits issued without permission in writing when using a constructed conveyance, and certain conditions apply when using a constructed drain or natural channel that may interfere with the canal company or irrigation district.	**9-8-81**	
28.	**Show Cause Orders for Non-Appearance** These need not be sent to protestants appearing at a hearing where a memorandum decision is prepared	**1-5-83**	
29.	**Commencement of Works Process** “blue” postcards procedures—no longer is applicable	**3-31-83**	
30.	**Recording of Water Rights for Fire Protection** It is not necessary to record a WR for the random diversion o water from a public source for fire suppression purposes	**5-18-83**	
31.	**In-Stream Stock watering** The water user doesn’t have to file an application for in-stream stockwater, however, the only way to develop a new water right for a system where there is a diversion from a surface water source is by filing an application for permit	**9-6-84**	
32.	**Applications for Permit for Power Purposes - Number of Projects per Application** One hydro project per application for permit	**11-8-84**	
33.	**Processing Water Rights in the Snake River Drainage Basin** Initial response to basic questions regarding water right in the SRDB	**5-30-85**	
34.	**Procedure for Application and Permit Processing** Swan Falls and Non-Swan Falls area application processing guidance	**8-15-85**	
35.	**Statewide Publication of Water Right Applications** Applications >10 cfs or >1000 acres get statewide advertising	**8-13-85**	
36.	**Acknowledgement of Submittal of an Application for Permit** Acknowledgement letter template for new application of permit received by mail—must be mailed in a timely manner	**1-24-86**	
37.	**Voiding Applications for Permit with Respect to Section 42-204, Idaho Code.** Adverse action terminology: continue, cancel, void, reject, deny, or partially approve. See memo for definitions and when to apply them.	3-10-86	**3-16-89**
38.	**Development Period on Applications for Permit** Development period should reflect actual time to complete development and initiate use. Anything beyond reasonable should be adjusted by staff	**6-10-86**	
39.	**Process for Voiding, Canceling or Rejecting Applications and Permits** It’s preferable to give applicant notice prior to the issuance of a final order in writing with a response time. See example letter within memo	**9-11-86**	

APPLICATION PROCESSING			
No.	**Title**	**Signed**	**Amended or Superseded**
40.	**Interim Approvals for Use of Trust Water** Procedures and conditions	**1-13-87**	
41.	**Interim Approvals for Use of Trust Water** Revision of Memo #40 Canceling interim approvals and no more interim approvals will be granted	**12-16-87**	
42.	**Location of Springs-Legal Description** Must be described to the 10 acre tract except when it is not possible, then the point of diversion must be identified by landmarks and maps	**1-6-88**	
43.	**Scheduling and Conduct of Conferences and Hearings** The regional supervisors responsibilities prior to a hearing with a state office rep.	**12-27-88**	
44.	**Legal Advertisements** Adding the regional offices contact information to the legal notice to avoid confusion on the location of the application for permit/transfer	**1-30-89**	
45.	**Processing of Applications in the Non-Trust Water Area** Most DCMI and non-consumptive applications for permit can be processed w/o special conditions and irrigation will be on a case by case basis	**3-1-89**	
46.	**Mud Lake Moratorium** Purpose is to prevent new irrigation development during the USGS study of the area which will take ~ 3 years	**12-26-89**	
47.	**Domestic and Stock water Filings in Critical Groundwater Areas and Groundwater Management Areas** Follow any existing management plan for GWMA or CGWMA; permits will be issued for 42-111 domestic uses and permits will be issued in a GWMA for a community well but not in a CGWMA	2-1-90	5-20-92 & **9-17-92**
48.	**Idaho Code Section 42-203A, Conservation Criterion** Added for the purpose of helping to regulate the out of state diversion of Idaho's water	**10-9-90**	
49.	**Applications Proposing Direct Diversion from the Snake River for Irrigation Use Associated with Domestic Use** In trust water area DCMI are exempt from restrictions. Note: irrigation must be ≤3 acres and be associated with a domestic use	**12-31-90**	
50.	**Fish Propagation Application Approval Guidelines** Point system to be used on processing new applications on a new or enlarged facility upstream from an existing facility	**4-1-91**	
51.	**Rate of Flow and Volume for Water Rights with Source of Ground Water** When conducting a field exam there will be certain times when using a theoretical measurement is acceptable—use the flow chart w/i this memo. This memo also provides procedure for calculating rate of flow and formulas	**5-7-91**	

APPLICATION PROCESSING			
No.	**Title**	**Signed**	**Amended or Superseded**
52.	**Standards for Irrigation Consumptive Use Requirements, Irrigation Field Headgate Requirements, and Irrigation Season of Use** Maps and guidelines on standard season; use the standard regardless of what's on the application for permit. When dealing w/ a transfer use what was decreed or licensed—can use condition to include new standard	4-27-92	**10-12-99**
53.	**Approval of Applications in the Snake River Basin and Bear River Basin Moratorium Areas** Moratorium exemptions include 42-111 domestics, non-consumptive use and supplemental irrigation from groundwater.	**6-17-92**	
54.	**Approval of Applications in the Snake River Basin Moratorium Area** Memo regarding pre-1987 moratorium exception is repealed.	**7-1-92**	**3-3-06** Repealed
55.	**Consideration of Water Right Applications for Fish Propagation** Must have DEQ certification to move forward w/ application to maintain water quality standards	**11-16-92**	
56.	**Implementation of Senate Bill No. 1054 Temporary Water Appropriation Approval Authority** Guidance on processing temporary approvals. Includes application for temporary approval and the bill	**5-5-93**	
57.	**Addition of Condition of Approval to New Applications** Implementation of condition regarding floodway	**6-7-93**	
58.	**Multiple Sources on One Application for Permit** There should only be one source per application unless the systems are physically connected	**8-2-93**	
59.	**Processing of Applications to Appropriate Water in the Lower Boise River Basin (Basin 63)** Surface water upstream of Star Bridge will be denied or require mitigation. Groundwater shallower than 200 ft in designated area will be held (see map and exceptions). Development of Boise Front GWMA and SE Boise GWMA	6-20-96	**2-22-08**
60.	**Irrigation Diversion Rate for Turf Grass in Public Areas** These may require higher diversion rate. To calculate irrigation diversion rate, divide diversion rate based on continuous operation by the ratio of actual hours of operation/day to 24 hrs/day.	**8-15-96**	
61.	**Water Right Filing Requirements for Industrial Waste Water Use and Treatment (Interim Policy)** Waste water treatment can be authorized under industrial use as long as it doesn't exceed the current water right's constraints. If treatment method is changed to land application for beneficial use a transfer must be filed to include the new use.	**9-27-96**	
62.	**Public Interest Consideration - Small Stream Appropriations** When new appropriation from a stream is requested, staff must get comments from IDFG. Public interest must be protected.	**7-28-98**	

APPLICATION PROCESSING			
No.	**Title**	**Signed**	**Amended or Superseded**
63.	**Municipal Water Rights** System-wide changes, system capacity—RAFN guidance and forfeiture of municipal water rights—municipalities are not exempt	6-15-99	**11-15-13 REPEALED**
64.	**Review of Applications for Permit on a State Protected River Reach or within a Minimum Stream Flow Reach** A copy of the application should be provided to the Water Planning Bureau for review and comment if the action will affect a MSF reach	**8-16-99**	
65.	**Diversions from State Protected River Reaches** All applications on a protected stream reach need to be conditioned to avoid prohibitions defined in the Comprehensive State Water Plan	**1-24-00**	
66.	**Further Guidance on SB 1337, Amending Section 42-221, I.C.** Transfer fees are based on quantity being transferred.	**1-2-01**	
67.	**Permitting Requirements for Ponds** **Spreadsheet – Maximum Daily Water Use for Domestic Purposes** Water right required when water is diverted and/or when there is a beneficial use of water. This applies to the following: diffused surface water, incidental ponds, distribution ponds, wastewater treatment, and natural ponds. Guidance is provided for evaluation of the above and also domestic exemption.	**2-28-03**	
68.	**Conditional Protest Withdrawal for Resolution of a Contested Application** If protest withdrawal proposes conditions the department must determine they are appropriate. If they are unacceptable a letter of explanation must be sent, if they are acceptable then an acknowledgment of withdrawal should be made.	**7-29-03**	
69.	**Permitting Requirements for Low Temperature Geothermal Wells Used for Domestic Purposes** Requirements for filing an application for permit from a low temperature geothermal well for domestic purposes.	8-5-08	**2-26-10**
70.	**Partial Decrees for Wild & Scenic River Water Rights, Stipulation for Settlement of Wild & Scenic River Dispute** Subordination provisions, partial decree provisions, permitting and licensing in Wild & Scenic watersheds, administration and regulation	**10-30-09**	
71.	**Water Rights Dedicated for Mitigation Protected from Forfeiture** Scenarios where mitigation right will not be forfeited: change in use of right to ground water recharge, mitigating a transfer, permit, or exchange by non-use, release of storage water, or water to be left in a ditch or canal.	**05-03-10**	
72.	**Evaluation of Mitigation Plans for Water Right Permits** Mitigation plan is necessary when an area is closed to new appropriations or where water supply isn't sufficient. The applicant must submit a depletion analysis, type of plan (I,II), source of mitigation water, quantity, method & location of delivery, proof that confirms validity of right and ownership documentation.	**05-03-10**	

APPLICATION PROCESSING			
No.	**Title**	**Signed**	**Amended or Superseded**
73.	**Utilization of the 24-Hour Fill Allowance for Impoundments** Statement of the policy and practical implementation of the 24-hour fill allowance that historically been used by the Department.	**04-18-13**	
74.	**RAFN Municipal Water Right Handbook** Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer.	**11-13-13**	**3-16-15**
75.	**Term Limits for Hydropower Use** General guidance regarding lengths of terms for hydropower rights and how the terms will be stated in the conditions of future water rights for power generation.	**1-13-14**	
76.	**Seepage Loss Standards for Ponds and Reservoirs** **Spreadsheet - Pond Loss Calculation** Memo establishing guidelines for reviewing seepage losses from ponds and reservoirs to ensure that water rights for storage promote efficiency by meeting a reasonable conservation standard.	**3-5-15**	

April 7, 1975

-Desert Lands-

OPERATIONS DIVISION
ADMINISTRATOR'S MEMORANDUM

Casey Ret-Email 1

TO: Bureau Chiefs and District Engineers

FROM: A. Kenneth Dunn

Prior to approving any application, the applicant must show possessory interest in the land. This may be done either by establishing the ownership through a contract purchase or having a desert entry application number or other documents to show the applicant does, in fact, have possessory interest to the land and that it is not speculation. In the case of desert lands, the applicant should file with the BLM prior to, or at the same time as filing the application for a water right permit. If he has not filed with BLM at the time of our review, the application would be considered speculation and denied.

A. Kenneth Dunn

1. Applicant first applies to BLM for a desert entry. BLM then gives pink slip w/ an ident. no. to applicant.
2. Applicant can then apply for water permit. (Dept receives app, & advertises but doesn't approve).
3. BLM eventually will "classify land suitable for entry" if feasible.
4. Dept can then approve the app. & issue permit. (Time for development starts w/ issuance of permit)
5. BLM can then "allow the entry" after the water permit is issued.

Application Processing No. 2
April 7, 1975

OPERATIONS DIVISION
ADMINISTRATOR'S MEMORANDUM

Domestic Rates & Meas requirements

TO: District Offices
FROM: A. Kenneth Dunn
SUBJECT: Recommended Rate of Diversion (Domestic Use)

A survey was recently conducted of pump manufacturers and retailers on the most common size of domestic systems installed. We feel that the rate of diversion being recommended by the Department should reflect the amount actually diverted. Therefore, the following change in the Department of Water Resources procedure has been adopted:

> The domestic rate of diversion recommended by the Department of Water Resources should normally be 0.04 cfs per family, instead of the 0.03 cfs recommended in the past.

Related to this change is the measuring device requirement for domestic use. For the sake of uniformity, a measuring device shall be required on all domestic filings providing for ~~1.0~~ .70 ~~0.30~~ cfs or more. (~~This means that seven families at 0.04 cfs each will not require a measuring device; however, more than seven families will require a measuring device~~).

Please advise all Department personnel of these changes.

*Measuring devices are now required as follows:

Irrigation - ~~1.00~~ .70 cfs or greater

Domestic - ~~0.30 cfs or greater~~ .70 – 10 or more connections (families)

Stockwater - ~~1.00~~ .70 cfs or greater

*These are simply guidelines and do not prevent measuring devices from being recommended in any problem area or situation.

A. Kenneth Dunn

Application Processing No. 3
April 7, 1975

OPERATIONS DIVISION
ADMINISTRATOR'S MEMORANDUM

TO: District Office
FROM: A. Kenneth Dunn
SUBJECT: Annual Use of Water for Stockwater Purposes

No. of Stock (head)	RANGE CATTLE Rate* c.f.s. (1	RANGE CATTLE Volume AF/yr. (1	DAIRY CATTLE Rate* c.f.s. (2	DAIRY CATTLE Volume AF/yr. (2
0 - 10	0.02	0.2	0.02	0.4
11 - 25	0.02	0.4	0.02	1.0
26 - 50	0.02	0.7	0.04	2.0
51 - 100	0.03	1.4	0.07	4.0
101 - 200	0.05	2.7	0.13	7.9
201 - 300	0.07	4.1	0.20	12.0
301 - 400	0.09	5.4	0.26	16.0
401 - 500	0.12	6.7	0.33	20.0
501 - 600	0.14	8.1	0.39	24.0
601 - 700	0.16	9.4	0.46	28.0
701 - 800	0.19	11.0	0.52	32.0
801 - 900	0.20	12.0	0.58	36.0
901 - 1000	0.23	14.0	0.65	40.0
1001 - up (3				

(1 The amounts shown are based on 12 gpd/head with a 12 month period of use. (i.e. for range cattle, horses and mules). The amount does not include a loss (i.e. thru conveyance, etc.)

2. The amounts shown are based on 35 gpd/head with a 12 month period of use. (i.e. for dairy cattle). The amount does not include a loss. (i.e. thru conveyance, etc.).

3. For annual use calculations which involve more than 1000 head, round the number of head up to the next even one hundred, and

Volume

a) for livestock use @ 12 gpd/hd, N (0.0134).

b) for dairy use @ 35 gpd/hd, N (0.0391).

Rate

a) for livestock use @ 12 gpd/hd, N (0.00022).

b) for dairy use @ 35 gpd/hd, N (0.00065).

The answer should be rounded up to the nearest whole acre-foot.

*The rate is based upon approx. 2 hr/day diversion to obtain daily requirement.

A. Kenneth Dunn

April 7, 1975

CAREY ACT

OPERATIONS DIVISION
ADMINISTRATOR'S MEMORANDUM

TO: District Engineers & Bureau Chiefs

FROM: A. Kenneth Dunn

The questions has come up as to what should be done with sprinkler systems which will be used on Carey Act projects or other project developments.

If is is the intent of the developer to have the system transferred to a water company to operate the system after the development costs have been re-paid, then the entire project can be covered under one application.

f is is the intent of the developer to transfer ownership of each well to the individual owner after the pay out period, then each well must be covered by a separate application.

A. Kenneth Dunn

April 7, 1975

ADMINISTRATOR'S MEMORANDUM
OPERATIONS DIVISION

TO: District Offices

FROM: A. Kenneth Dunn

SUBJECT: Processing of Applications for Water Right Permits Filed on Federally Owned Land

Applications for Permits that will be held for an extended period of time without approval, should be sent to the State office upon completion of the advertising process.

The recommendations of the District should be completed, but the analysis sheet should be clearly marked that the recommendation is contingent upon the applicant gaining access to the land. The file folder should also be marked with a white label affixed near the application number indicating Desert Land Entry#, Carey Act, F.S. easement, Lynn Crandall Dam, etc. A copy of the application and other pertinent information should be retained for your files.

The type of files that should be sent to the State office include those applications made in conjunction with a Desert Land Entry, a Carey Act Project, a major dam project where approval will be delayed, ~~and an easement across state or Federal land~~.

A. KENNETH DUNN, Administrator
Operations Division

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: May 8, 1980

RE: Significant Figures For Numeric Values
(This replaces my memo of November 20, 1979)

In the interest of uniformity and due to computer formatting, the following will be adopted as standard procedures in the preparation of water right applications, advertising, licenses, transfers, and orders:

1. Rate of Flow
   All rates of flow should be shown in cubic feet per second with a maximum of three significant figures, and no more precision than hundreths. Examples: 0.01, 0.05, 0.51, 0.60, 2.39, 3.00, 13.4, 60.0, 134, 200, 3450, 4000.

2. Volume
   Volumes should be shown in acre-feet with a maximum of three significant figures, and no more precision than tenths. Examples: 0.1, 0.6, 2.0, 2.4, 13.5, 13.0, 128, 3220, 45500.

3. Area
   Areas should be shown in acres with a maximum precision of one acre in each forty acre tract. If a more precise determination of acreage is desirable, the remark "Ac. Irr. = No." can be used where No. = total number of acres.

   Fractions of acres should be rounded up to the nearest acre to be entered into the computer.

ADMINISTRATOR' MEMORANDUM
OPERATIONS DIVISION

TO: Water Rights Section
FROM: A. Kenneth Dunn
SUBJECT: Policy regarding supplemental filings

It is the policy of the Department of Water Resources that we will not issue permits which, when considered with previous permits, licensed rights, or decrees, would provide for diversion of more than one miner's inch per acre of land. However, there may be occasions when an individual may file for supplemental water when his prior filings provide for one miner's inch per acre of land, and in such occasions the new permit may be issued but it should contain the following language:

> "No more water may be diverted under this permit, when combined with other rights appurtenant to the lands in question, than one miner's inch for each acre of land served."

It will be the department policy to consider water rights, however acquired, or earliest priority as the primary rights of particular use and all other later priority rights as supplemental thereto.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocations Section

FROM: Norman C. Young Norman C Young

DATE: May 2, 1980

RE: Water Right Applications and Claims
(This replaces a previous Admin. Memo dated 06-23-75)

When receiving applications or claims with more than one point of diversion, with separate systems, an application or claim for each diversion is required. However, if more than one point of diversion is to be used under one system, then we can accept both points of diversion under one application or claim. These points of diversion can divert from more than one source, even if the sources are not interrelated.

For example, a domestic water system for one household with two sources, a well and a supplemental spring, can be represented by one application or claim. As another example, when domestic water is provided by a well through one system and lawn irrigation is provided by a spring through another system, two water rights must be filed.

MEMORANDUM

To: Regional Offices
Water Allocation Bureau

Amended Application Processing No. 9
Transfer Processing No. 20
Supplement to Permit Processing No. 5

From: Norman C. Young NCY

RE: **CHANGES TO WATER RIGHT APPLICATIONS**

Date: JANUARY 12, 2000

This memo supercedes Application Processing Memorandum No. 9 dated May 10, 1982. This memo replaces the portion of Permit Processing Memorandum No. 5 under the heading Amending and Application for Permit.

Applications for Permit

Changes to an application for permit must be made by the applicant, not by department staff. If an application for permit is not acceptable because it is incomplete according to the criteria set forth in Water Appropriation Rule 35.03, the department should return the original application to the applicant as directed in Water Appropriation Rule 35.01.d. Department staff should not complete or change the application unless the applicant signs written permission to do so or the applicant is present to initial and date the change. No priority will be established by an incomplete application. To resubmit the original application form, the applicant may line out (not erase or white out) any original entry in a manner that it can still be read and then insert the new information and initial and date the change. The applicant may also submit a new application form in place of the original. When the application is complete, whether on the original form or on a replacement, it will be treated in all respects like a new application.

If an application is acceptable but the applicant wants to amend the application as described in Water Appropriation Rule 35.04, the applicant may make changes on the original application form or may submit a replacement application to the department. Amendments to an original application form must be made by lining out (not erasing or whiting out) the original entry in a manner that it can still be read and then having the applicant initial and date the changes. A replacement application must be identified as "amended" on its face and the original application must be retained in department files to document the date of filing or fee submittal. Because of the need to retain the original application, applicants should be encouraged to submit a replacement application or to visit the office to initial and date changes on the original. If the changes must be made through the mail, the department should keep the original application and encourage the applicants to make the amendments on a replacement

application form. This way, if the application is not amended in a reasonable time period, the original application can still be processed. Consult Water Appropriation Rule 35.04 to determine when amending an application requires advancing the priority date, collecting an additional fee, and/or re-advertising the application.

For changes other than those addressed in Water Appropriation Rule 35.04, it is not always necessary for department staff to seek an amended application from the applicant. It should be a general rule that a "mistake", such as a legal description that does not match the attached map, should be corrected by the applicant prior to publication of the legal notice. However, the department can clarify some items, such as source names that do not conform to the department's data entry standards, by documenting the water right file in the manner set forth below. Standard seasons of use for irrigation purposes can also be addressed by documenting the file with a memorandum. The department can also affect a change by issuing the permit for less than requested in the application. It is not possible in this memorandum to list all the items that might be addressed as "mistakes" or "clarifications" or by partial approval. When in doubt about the appropriate method, it is probably safest to have the applicant make the change or to obtain written permission for the change from the applicant.

When an application is complete but additional information is needed to support some aspect of the application, department staff should request the additional information in writing. Section 42-204, *Idaho Code*, authorizes the department to void the record of an application for permit if an applicant does not provide the requested information within thirty (30) days.

Explanatory information or "clarifications" concerning an application may be added to the "comments" field in the water rights database, but it should not be added to the paper document by department staff. A memo to the file may also be appropriate to further explain an application as long as it is not the mechanism for a change to the application document. Printouts of "comments" and memorandums should be placed on the right side of a water right file so they are not perceived to be part of the actual application, which is placed on the left.

Other Applications

For the most part, the department should treat other kinds of water right applications, including applications for transfer and applications to amend permits, the same as it does applications for permit. As with applications for permit, department staff should not complete or change other kinds of applications unless the applicants are present to initial and date the changes. However, because the filing date of other kinds of applications does not establish a priority date, it is not necessary to keep originals or copies of applications that have been replaced by amended applications unless the amendments were made after publication of the legal notice.

ADMINISTRATOR'S MEMORANDUM
OPERATIONS DIVISION

TO: All District Offices

DATE: June 23, 1975
Rev. 8-04-1975

FROM: A. Kenneth Dunn

SUBJECT: Right-of-way across the land of another.

Applications for water rights that indicate the point of diversion is located on land owned by a private individual, other than the applicant, should be processed in the same manner as other applications. Applications that indicate the point of diversion is on land owned by the Federal Government should also be processed in the same manner and in addition, the District Office will advise the appropriate Federal Agency that we have received an application involving access through Federal land.

All permits that propose to convey water across another's land must contain the condition that "The issuance of this permit in no way grants any right-of-way or easement across the land of another person."

A. Kenneth Dunn

ADMINISTRATOR'S MEMORANDUM
OPERATIONS DIVISION

June 23, 1975

TO: District Offices

FROM: A. Kenneth Dunn

RE: Applications for Permit - Item 4, 5 & 8c

The State office has recently received a number of applications for permit that show nothing with regard to Item 8c. This item should be filled out on each application, and especially if we assist the applicant in its preparation. You should also check your plats, or source indices, for overlapping rights for every application received, and show appropriate comments on your staff review sheet before forwarding it to the State office. This procedure is very important since we are prohibited by statute from issuing, without justification, permits for more than 1 cfs for each 50 acres irrigated.

After some consideration, I've concluded that since the application is a permanent document, the district supervisors or his representative, should make his recommendation for approval or denial on page four of the application before forwarding it to the State office for review.

Application No. _____

RECOMMENDED

CONDITIONS OF APPROVAL

☐ A measuring device of a type approved by (this Department) the Director shall be permanently installed and maintained as part of the diverting works.

☐ Measuring devices of a type approved by (this Department) the Director shall be permanently installed and maintained at the point of diversion and the point of effluent discharge.

☐ Use of water under this permit is supplemental to all existing water right with the same purpose and place of use.

☐ Maximum rate of diversion shall not exceed _____ c.f.s.

☐ Settling ponds shall be installed which are capable of reducing the silt load in the return water to such a level that the quality of the waters of _____ Creek will not be impaired for other beneficial uses.

☐ Return water shall be treated to insure that the effluent meets (interstate) (intrastate) stream water quality standards.

☐ Use of water under this permit is subject to control by the watermaster of State Water District No. _____, _____ River.

☐ The proposed well shall not be drilled within _____ feet of another well.

☐ The issuance of this permit in no way grants any right-of-way or easement across the land of another person.

☐ The permit shall not be assigned or sold without first securing the written approval of the ~~Department of Water Administration~~ Director of the Dept of Water Resources.

☐ This permit cannot be assigned, mortgaged, or conveyed without complying with Section 42-208, Idaho Code.

☐ Other: _____

No. 12

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Cecil D. Andrus
Governor

R. Keith Higginson
Director

Statehouse
Boise, Idaho 83720
(208) 384-2215

February 9, 1976

MEMORANDUM

TO: District Supervisors

FROM: A. Kenneth Dunn, Administrator
Operations Division

SUBJECT: Staff Analysis Sheets

Please modify the staff analysis sheets you are using to provide the following:

Field Checked by_____

Date_____

Comments_____

_____

The purpose of this is to provide a record of our knowledge of the waters being appropriated and to determine if anyone has looked at the "spring" or "drain" or "stream," etc., to know what the affects of the diversion are. The field check need not have been only for the purpose of the application. If you have prior knowledge of the waters being appropriated, that should be indicated. This should bring to our attention those applications for which additional information is needed before taking action. If there has not been a field check of the proposed diversion, so indicate.

AKD:lm
cc: Bob Fleenor

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

TO: Staff January 22, 1980

FROM: C. Stephen Allred

RE: Boise River Appropriations.
This memo supercedes my memo of July 11, 1977.

Effective immediately, no additional water right permits for consumptive use* of water during the period of June 15 to November 1 will be issued on the Boise River and tributaries in the reach upstream from Lucky Peak Reservoir.

The water in this reach of the river has been determined to be fully appropriated by the existing waterusers, and therefore, no water is available for any additional consumptive uses.

Persons wishing to file applications for permit in this area should be advised of the limited season of use and possible denial of the permit.

Applications for permit downstream from Lucky Peak must still be evaluated individually to determine whether water is available.

*For purposes of this memo, the consumptiveness of a use must be evaluated on a case-by-case basis. Irrigation and municipal uses are always consumptive, but industrial, commercial, mining, stockwater, recreation, wildlife, fish propagation, power, heating, cooling and aesthetics may or may not be consumptive depending on the circumstances of the use. Domestic can be considered to be non-consumptive, but a condition will be added that no water can be used for irrigation, lawn or garden watering as a part of the domestic water right.

No. 19

State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 373 W. Franklin Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 384-2215

MEMORANDUM

TO: Regions

June 21, 1978

FROM: Bob Fleenor BF

SUBJECT: Applications for Permit for storage rights

Attached are four examples that should be followed in completing application for permit forms for storage and also four illustrations of how the applications should be advertised.

Please enter these examples in the procedures manual and also in the administrative memoranda of the applications process.

If you have any questions about this, please let me know.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 373 W. Franklin Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 384-2215

June 1, 1978

MEMO

TO: CHIEFS, OPERATIONS BUREAU AND REGIONAL OFFICES BUREAU

FROM: NORM YOUNG NCY

RE: Application for Permit for storage rights

This standard format, as shown in the following examples, should be used to enter the information on storage rights on application for permit forms and typical advertisements.

I. ON-STREAM STORAGE (No Direct Flow)

4. Water will be used for the following purposes:

Amount 60 AF (cfs or acre-feet per annum) for storage for irrigation purposes from Jan. 1 to Dec. 31 (both dates inclusive)

Amount 60 AF (cfs or acre-feet per annum) for irrigation from storage purposes from Apr. 1 to Nov. 1 (both dates inclusive)

Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

a. _____ cubic feet per second and/or b. 60 acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc.

b. Height of storage dam _____ feet, active reservoir capacity 60 acre-feet; total reservoir capacity _____ acre feet, materials used in storage dam:

Period of year when water will be diverted to storage Nov. 1 (Month/Day) to June 1 (Month/Day) inclusive.

II. ON-STREAM (Including Direct Flo

4. Water will be used for the following purposes:

Amount 60AF (cfs or acre-feet per annum) for Storage for Irrigation purposes from Jan. 1 to Dec. 31 (both dates inclusive)

Amount 60AF (cfs or acre-feet per annum) for Irrigation from storage purposes from Apr. 1 to Nov. 1 (both dates inclusive)

Amount 2.0cfs (cfs or acre-feet per annum) for Irrigation purposes from Apr. 1 to Nov. 1 (both dates inclusive)

Amount (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

a. 2.0 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. _____

b. Height of storage dam _____ feet, active reservoir capacity 60 acre-feet; total reservoir capacity _____ acre-feet, materials used in storage dam: _____

Period of year when water will be diverted to storage Feb. 1 (Month/Day) to June 1 (Month/Day) inclusive.

c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.

III. OFF-STREAM STORAGE (No Direct Flow)

4. Water will be used for the following purposes:

Amount 5.0cfs (cfs or acre-feet per annum) for Diversion to Storage purposes from Feb. 1 to June 1 (both dates inclusive)

Amount 60AF (cfs or acre-feet per annum) for Storage for Irrigation purposes from Jan. 1 to Dec. 1 (both dates inclusive)

Amount 60AF (cfs or acre-feet per annum) for Irrigation from storage purposes from Apr. 1 to Nov. 1 (both dates inclusive)

Amount (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

a. 5.0 cubic feet per second and/or b. 60 acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. _____

b. Height of storage dam _____ feet, active reservoir capacity 60 acre-feet; total reservoir capacity _____ acre-feet, materials used in storage dam: _____

Period of year when water will be diverted to storage Feb. 1 (Month/Day) to June 1 (Month/Day) inclusive.

IV. OFF-STREAM (including direct flow)

1. Water will be used for the following purposes:

Amount 5.0cfs (cfs or acre-feet per annum) for Diversion to storage purposes from Feb. 1 to June 1 (both dates inclusive)

Amount 60AF (cfs or acre-feet per annum) for Storage for Irrigation purposes from Jan. 1 to Dec. 1 (both dates inclusive)

Amount 60AF (cfs or acre-feet per annum) for Irrigation from storage purposes from Apr. 1 to Nov. 1 (both dates inclusive)

Amount 2.0cfs (cfs or acre-feet per annum) for Irrigation purposes from Apr. 1 to Nov. 1 (both dates inclusive)

5. Total quantity to be appropriated:

a. 5.0 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. _____

b. Height of storage dam _____ feet, active reservoir capacity 60 acre-feet; total reservoir capacity _____ acre-feet, materials used in storage dam:

Period of year when water will be diverted to storage Feb. 1 (Month/Day) to June 1 (Month/Day) inclusive.

c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.

Note that in each case, the storage use is separated from the direct flow use to avoid confusion in maximum rates of diversion. Also, a diversion to storage parameter is necessary for all off-stream storages.

THE APPLICATION FOR PERMIT FEE IS BASED UPON THE DIVERSION RATE OR THE AMOUNT OF STORAGE, WHICHEVER IS GREATER.

CASE 1 ---- ON STREAM STORAGE (no direct flow)

Notice is hereby given that _____

_____

has on _____ submitted Application No. _____

for a permit to appropriate 60 acre feet

per annum of water from _____

by means of a dam located _____

within the _____

_____

_____

to be used from April 1 to Nov. 1 _____

for the irrigation of ? acres _____

_____

within the _____. The water will be diverted to storage from

Nov. 1 to June 1 each year.

_____

If issued, this permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Director of the Idaho Department of Water Resources, (regional office address)

on or before _____.

C. STEPHEN ALLRED
Director

Published in the _____

on _____ and _____.

CASE 2 ON STREAM STORAGE (including direct flow)

Notice is hereby given that _____

_____

has on _____ submitted Application No. _____

for a permit to appropriate 2.0 cubic feet per second ~~or acre feet~~

~~per annum~~ of water from _____

by means of a dam located _____

within the _____

_____

_____

to be used from April 1 to Nov. 1 _____

for the irrigation of ? acres. _____

_____

within the _____. Sixty (60) acre feet of water will also be stored for irrigation purposes. The water will be diverted to storage from February 1 to June 1 each year.

If issued, this permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Director of the Idaho Department of Water Resources, _____ (regional office address) _____ on or before _____.

C. STEPHEN ALLRED
Director

Published in the _____

on _____ and _____.

CASE 3 OFF STREAM STORAGE (no direct flow)

Notice is hereby given that _____

_____

has on _____ submitted Application No. _____

for a permit to appropriate 60 acre feet

per annum of water from _____

by means of a headgate and ditch

within the _____

_____

_____

to be used from April 1 to November 1

for the irrigation of _____

_____

within the _____. The water will be diverted to storage at a rate of 5.0 cfs from February 1 to June 1 each year. The dam is located within the

_____

If issued, this permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Director of the Idaho Department of Water Resources, _____ (regional office address)

on or before _____.

C. STEPHEN ALLRED
Director

Published in the _____

on _____ and _____.

CASE 4 OFF STREAM STORAGE (including direct flow)

Notice is hereby given that _____

_____

has on _____ submitted Application No. _____

for a permit to appropriate 2.0 cubic feet per second XXXXXXXXX

XXXXXXXXX of water from _____

by means of a headgate and ditch

within the _____

_____

_____

to be used from April 1 to November 1

for the irrigation of acres

_____

within the _____. Sixty (60) acre feet of water will also be stored for irrigation purposes. The water will be diverted to storage from February 1 to June 1 each year at a rate of 5.0 cfs. The dam is located within _____.

If issued, this permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Director of the Idaho Department of Water Resources, (regional office address) on or before _____.

C. STEPHEN ALLRED
Director

Published in the _____

on _____ and _____.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 373 W. Franklin Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 384-2215

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Dave Shaw DBS

DATE: August 7, 1979

RE: Fish Propagation Applications for Water Rights

Due to the unique nature of applications for water to be used for fish propagation, the following additional information will be required on all applications for 1.0 CFS or greater:

a. Construction plan to include sizes and number of ponds, and total proposed facility volume.

b. Proof of "possessory interest"* of land at place of use.

c. No assignment / no diminished quality conditions

In addition are the following requirements for all fish propogation applications of 25.0 CFS or greater, as authorized in Section 42-202, Idaho Code:

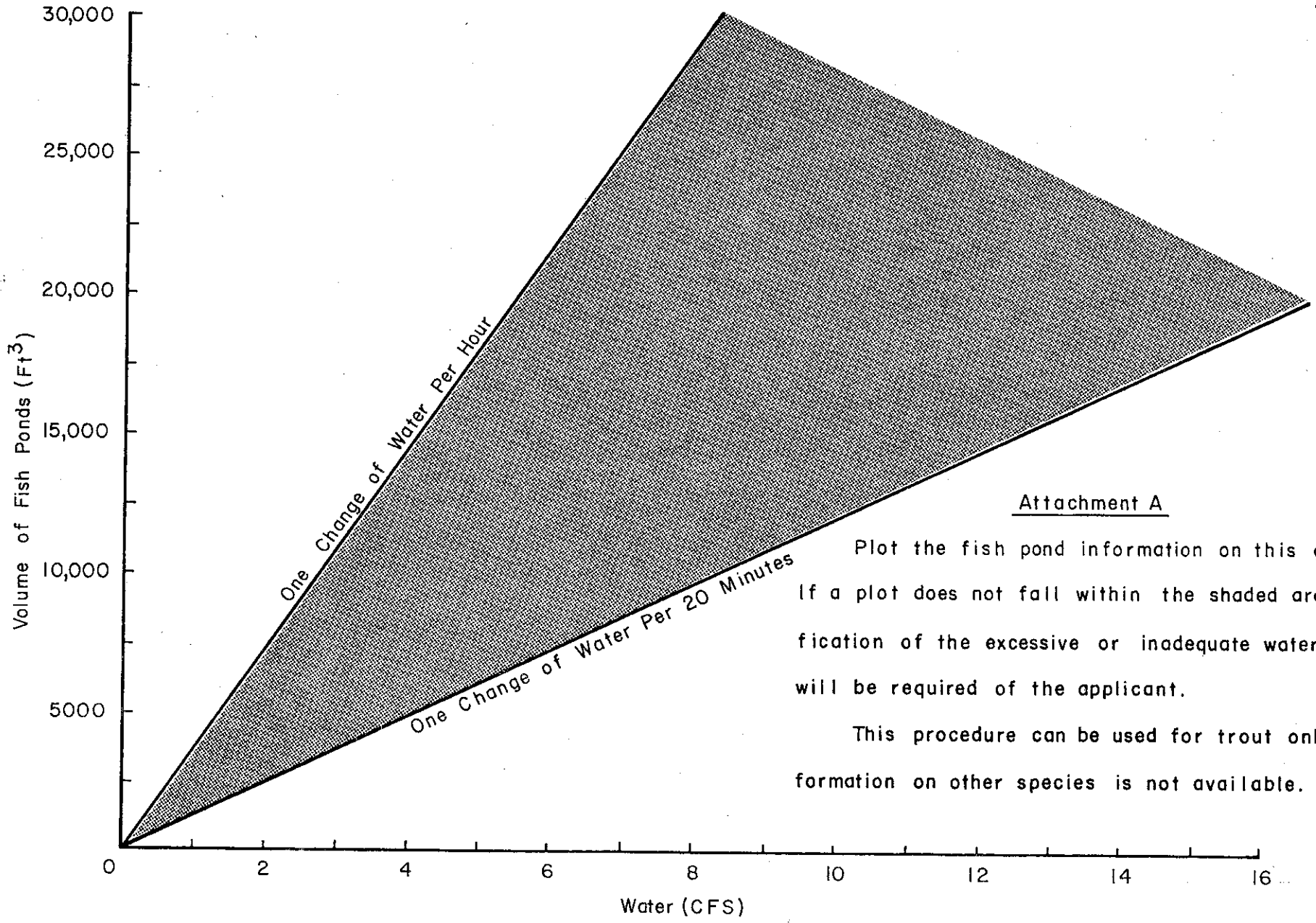
a. A statement of financial resources of the corporation, association, firm or person making the application and the means by which the funds necessary to construct the proposed works are to be provided.

b. A detailed estimate of construction costs, to include estimated costs of each major component of the construction plan.

* As defined in Administrator's Memorandum dated 4-7-1975

The rate of flow requested in the application must be evaluated by two criteria: (1) Attachment A, and (2) The rate of flow available considering the nature of the source. If the rate of flow requested appears to be excessive, justification for the high rate must be obtained from the applicant.

Measuring devices should be required at both the point of diversion from the source and the point of effluent discharge back to the source when the source is highly appropriated or is regulated by a watermaster. For otherwise unused, unregulated sources, no measuring device is normally necessary.



Attachment A

Plot the fish pond information on this graph. If a plot does not fall within the shaded area, jus fication of the excessive or inadequate water supp will be required of the applicant.

This procedure can be used for trout only. I formation on other species is not available.

Water Requirements For Trout Rear Facilities Based On Total Volume Of Po s

Trout Hatchery Water Requirements

Idaho Fish and Game Department

Trout Rearing Raceways

Maximum annual production of trout in raceways in southern Idaho is 1 1/2 to 2 pounds of trout per cubic foot of water.

A water change of 2 1/2 times per hour is required to maintain adequate oxygen for trout. A raceway 6 feet wide, 2 1/2 feet deep, and 100 feet in length requires 1 1/4 c.f.s. flow. Water can be reused up to a maximum of 500 feet if it is aerated by dropping it 6 to 12 inches each 100 feet.

A rule of thumb for a profitable trout hatchery is not less than 5 c.f.s of 50 to 60 degree Fahrenheit water. A good trout hatchery will produce about 8,000 pounds of trout annually for each c.f.s. of water flow if water is reused. This should be considered as maximum production.

Earthen Rearing Ponds or Small Lakes

Commercial producers often use earthen ponds or small lakes to rear trout. In this case trout density should not exceed 1/2 pound per cubic foot of water. Greater densities will lead to diseases that are difficult to handle in earthen ponds.

small fish feed in upper ½ of raceway. 1, 2½ feet in depth

State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 373 W. Franklin Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 384-2215

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices

FROM: Norm Young

RE: Signatures on Applications for Water Right Permit

The signature on an application must be the signature of the applicant. There is no longer a reason to require that the signature be identical to line one of the application as long as the signature is that of the applicant.

A person may sign by making only a mark or "X". In which case, the person's name must be printed or typed nearby and the mark must have been witnessed and the application signed by the witness.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 373 W. Franklin Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 384-2215

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norm Young NCY

DATE: September 19, 1979

RE: ACCEPTABLE RATES OF IRRIGATION FLOW FOR SMALL ACREAGES

A rate of flow in excess of .02 cfs/acre is often necessary for irrigation of a small acreage, due to restricted system design mechanics and poor economy of scale. To correspond with practical design procedures, the Department will henceforth accept rates of diversion as high as .03 cfs/acre for irrigation of up to five acres without justification that a rate greater than 0.02 cfs is necessary.

ADMINISTRATOR'S MEMORANDUM

To: Regional Offices
Water Allocation Bureau

App. Processing No. 18
Licensing No. 1

From: Jeff Peppersack

Re: **PROCESSING APPLICATIONS AND AMENDMENTS AND DETERMINING BENEFICIAL USE FOR NON-RAFN MUNICIPAL WATER RIGHTS**

Date: October 19, 2009

This memorandum supersedes Application Processing Memo No. 18 dated November 5, 1979 and Licensing Memo No. 1 dated April 7, 1975.

The 1996 Municipal Water Rights Act recognized common law practices (case law) for growing communities to provide for a municipal water supply for reasonably anticipated future needs (RAFN). There are times when a municipal provider will choose to file an application to appropriate water solely for water needed in the short-term without the burden of demonstrating future needs over an established planning horizon. This memorandum provides guidance to Department staff when permitting and determining the extent of beneficial use for licensing purposes for non-RAFN municipal water right permits.

This guidance provided in this memo pertains to the review and processing of permits to be issued after the date of this memorandum. Existing permits issued prior to the date of this memorandum should be handled on a case-by-case basis when determining beneficial use for licensing purposes. Determination of beneficial use for permits pre-dating this memorandum may depend on the date the permit was issued in relation to the 1996 Municipal Water Rights Act and/or any specific intent to limit the beneficial use that could be developed under the permit at the time it was issued.

PAST DEPARTMENT POLICY AND PRACTICE

Prior to the 1996 Municipal Water Rights Act, the Department acknowledged the need for some flexibility in licensing water rights due to the growth of municipalities and other small communities under two concepts as described below.

Installed Capacity for Municipalities

An incorporated city or a municipal provider serving an incorporated city could perfect a water right based on the maximum instantaneous diversion rate for the pumping system that was installed and operational during the development period of the permit (limited by the permitted amount), even if the city did not beneficially use the entire capacity during the development period of the permit. Note that even though a municipal system may have included multiple wells and pumps, the Department typically licensed a water right based on the diversion capacity of an individual well and pump listed as a single point of diversion on the water right. The Department typically did not review the overall

system capacity and evaluate the new well as an additional increment of diversion capacity or beneficial use under the entire system due to that point of diversion.

When licensing a municipal water right, the Department did not include an annual volume limit on the license. In addition, the place of use was described as the city limits and was allowed to change as the city limits expanded. A city's water use under a license could expand over time as demand for water increased by pumping the maximum rate over longer periods that may have included storage tanks to provide for higher peak demands.

Stub-in Practice for Subdivisions

For unincorporated cities and other small communities that did not qualify as municipalities, and therefore could not obtain a municipal water right, the Department could only license water rights for domestic and associated irrigation, commercial and other uses based on actual diversion and application of the water to beneficial use accomplished during the authorized development period of the permit. The Department provided some flexibility in determining beneficial use for domestic purposes in subdivision developments under the "stub-in" practice. Under the "stub-in" practice, the Department issued water right licenses for domestic purposes in subdivisions if the water diversion and distribution systems were in place, including a service line to each lot, even if water had not yet been put to beneficial use on all the buildable lots. The Department's stub-in practice recognized that the full build out of a subdivision can take longer than the number of years the Department could authorize for completion of a water appropriation project. By issuing a water right license for domestic uses that were yet to be completed, the Department avoided a parade of individual water right filings as each lot was sold. The stub-in practice also helped subdivision developers obtain financing by providing some assurance to lending institutions that a development project would not fail due to water right availability issues that may have arisen as the individual lots were built out over time. The Department's stub-in practice was applied to each home that would individually qualify as a domestic use as defined in Section 42-111(1)(a), Idaho Code.

The stub-in practice was not applied in all subdivision development situations. For example, suppose the Department issued a permit for development of 100 homes in a subdivision and proof was submitted for 100 homes based on the stub-in practice. Many years later, the Department completes an exam and finds only 20 homes were built and using water. The remaining lots remained vacant and undeveloped except for the stubbed-in service line. The Department would only issue a license based on the actual diversion and use of water because sufficient time would have passed to complete development of the subdivision.

1996 MUNICIPAL WATER RIGHTS ACT

The 1996 Municipal Water Rights Act allows municipal providers to obtain water rights for RAFN. Full completion of diversion works and beneficial use is not required during the development period of the permit, under specific conditions (see Application Processing Memo No. 63). The Municipal Water Rights Act also expanded the types of entities that can qualify for municipal water rights and defined expanding service areas for those entities. See Section 42-202B, Idaho Code for definitions.

To appropriate water for RAFN, the municipal provider carries an extra evidentiary burden to establish a planning horizon and to submit population and other planning data in support of the anticipated needs within the planning horizon. If a municipal provider seeks a water right for RAFN, the planning horizon and supporting data cannot be inconsistent with its comprehensive land use plans.

Furthermore, water rights for RAFN cannot be granted to a municipal provider in areas overlapped by conflicting comprehensive land use plans.

Municipal providers can receive the full benefit of the 1996 Municipal Water Rights Act if they file an application for RAFN and demonstrate future needs over an established planning horizon consistent with requirements in Chapter 2, Title 42, Idaho Code. The intent of a municipal provider to seek water for RAFN must be documented with the application for municipal use.

There are times when a municipal provider will choose to file an application to appropriate water solely for use to meet needs in the short-term (limited up to 5 years with possible extension up to an additional 5 years pursuant to Section 42-204, Idaho Code) without the burden of demonstrating future needs over an established planning horizon. The Department considers the definitions for "municipality," "municipal provider," "municipal purposes," and "service area" from the 1996 Municipal Water Rights Act to apply to non-RAFN permits. The following sections provide guidance to Department staff when permitting and determining the extent of beneficial use for licensing purposes for non-RAFN municipal water right permits. Note that some small community water systems (less than 10 homes) do not qualify as municipal providers and would still be subject to licensing under the past stub-in practices described above as a domestic use.

INCORPORATED CITIES AND MUNICIPAL PROVIDERS SERVING INCORPORATED CITIES

Incorporated cities, or municipal providers serving incorporated cities ("city" or "cities") have historically benefitted from common law practices allowing for appropriation of water and acquisition of water rights for long-term growth. Municipal providers in this category may include a city incorporated under Section 50-102, Idaho Code, an entity regulated by the Public Utilities Commission serving water to an incorporated city, or a Water District or Water and Sewer District established pursuant to Chapter 32, Title 42, Idaho Code serving an incorporated city. The 1996 Municipal Water Rights Act does not prohibit the Department from issuing a non-RAFN permit or license to a city without a volume limitation. Issuing a permit and license without a volume limitation would provide for some limited growth, consistent with pre-existing common law practices for municipalities.

Application for Permit

An applicant for a non-RAFN municipal application must demonstrate short-term needs to justify the amount of water required for appropriation. This information should be requested pursuant to the additional information requirements provided under Water Appropriation Rule 40.05.d.i:

> Information shall be submitted on the water requirements of the proposed project, including, but not limited to, the required diversion rate during the peak use period and the average use period, the volume to be diverted per year, the period of year that water is required, and the volume of water that will be consumptively used per year.

The applicant must also demonstrate that the new appropriation is not intended for RAFN by providing total system capacity and existing demand within the municipal service area and comparing that capacity and demand to the entire municipal portfolio of water rights. If existing municipal water rights exceed existing demand and short-term needs, then an application for RAFN would be necessary for an additional appropriation of water. If the applicant desires additional points of diversion without

the need for a new appropriation of water, then an application for transfer to change existing rights would be appropriate.

An applicant for a permit not proposing municipal use for RAFN cannot later amend the application to gain the benefits of a RAFN permit without first demonstrating future needs over an established planning horizon consistent with requirements in Chapter 2, Title 42, Idaho Code. Pursuant to Section 42-211, Idaho Code, an amendment to an application to gain the benefits of a RAFN permit shall be republished and the priority date shall be changed to the date of the application for amendment.

Permit

The permit should not be limited by volume except under circumstances where a volume limitation is necessary to protect the water source or, in the case of an amendment of permit, when the original permit was issued or intended for a use other than municipal. The rate of flow must be reasonable when considered against the water flows available from the source (e.g., it may not be in the public interest to dewater a stream to satisfy the municipal needs). The place of use can be described generally for the service area as defined under Section 42-202B, Idaho Code.

A non-RAFN application for municipal use that includes additional rate justified for fire protection purposes should not be permitted for that additional rate under a municipal use, particularly where the applicant has not sought water for RAFN and offered no evidence to support the future appropriation and use of additional water. Doing so would allow the additional rate to be used for flows that may be required for future long-term growth of the municipality. Additional rate solely for fire protection should be listed as a separate use on the water right or permit to ensure that the rate, if approved, does not create a de facto water right for RAFN.[1]

As an example, suppose an application for permit is submitted by a municipality for a non-RAFN municipal use and the application indicates that 3 cfs is required for the regular and continuous needs of the city and an additional 7 cfs is required to provide water for fire protection on an as-needed basis. The Department should not issue a permit for municipal use for 10 cfs, which would allow for additional rate to be used by the city in the future to meet the regular and continuous needs of the city. Instead, if the application is otherwise approvable, the Department should issue a permit for municipal use in the amount of 3 cfs and for fire protection in the amount of 7 cfs.

The complexity of some municipal systems makes it difficult to ascertain, at the time of a field exam, if an additional increment of beneficial use has been developed pursuant to a permit. To facilitate future licensing, the permit should include a condition requiring the permit holder to submit a report in connection with proof of beneficial use that describes how the water diverted under the permit provides an additional increment of capacity for the municipal water system as opposed to an alternate point of diversion for existing municipal water rights. In addition, the report should describe how the beneficial use intended under the permit (i.e. the reason used to justify the new appropriation of water) was accomplished.

[1] Permits and licenses issued for fire protection purposes to fight an existing fire do not require a volume limitation since the volume would be variable and unpredictable for firefighting purposes. A volume limitation is required for fire protection storage where water is stored to fight a future fire.

A permit issued to a municipal provider that does not provide for RAFN cannot be later amended to gain the benefits of an RAFN permit.

License

When licensing a permit for municipal use for an entity serving an incorporated city, the extent of beneficial use established under a non-RAFN permit should be determined based on the installed capacity developed and operational during the development period of the permit and cannot exceed the amount permitted. However, beneficial use may be further limited if the intended use described in the application as justification for the permit was not accomplished. The license should not be limited by volume except under circumstances where the permit was limited for reasons described above. The place of use listed on the license can be described generally for the service area as defined under Section 42-202B, Idaho Code.

When determining the installed capacity for licensing purposes, the entire municipal portfolio of water rights must be considered to determine the actual increase in installed capacity provided by the permit for the municipal use. Note that the installed capacity of the system is not necessarily the sum of the individual capacities for each pump or diversion into the system.

In situations where a new point of diversion authorized under the permit is developed, but an additional increment of capacity or beneficial use is not developed for the municipal system, a license may be issued limiting the diversion rate in combination with other rights in the municipal system to the existing capacity of the municipal system.

OTHER MUNICIPAL PROVIDERS

Municipal providers that do not serve incorporated cities can receive the full benefit of the 1996 Municipal Water Rights Act if they file an application for RAFN, provide qualifications as a municipal provider, and demonstrate future needs over an established planning horizon consistent with requirements in Chapter 2, Title 42, Idaho Code. For such municipal providers, if they choose not to file an application for an RAFN permit, the ability of the municipal provider to acquire a water right for municipal purposes is limited to the amount that can be diverted and beneficially used based on development during the period authorized under a non-RAFN permit, as described below.

Application for Permit

For an application for permit seeking to divert water for domestic use or some combination of domestic and other uses for a subdivision or other multiple ownership service area, the use would be more properly described as municipal use within the service area if the uses fall under the definition of municipal purposes and the applicant would also qualify as a municipal provider pursuant to Section 42-202B, Idaho Code. An exception would be the use of water for fire protection. Additional rate for fire protection should be listed as a separate use to ensure that the rate, if approved, does not become part of the flows under the permit that may be required for future use of the municipal provider (see fire protection discussion above for permits under Incorporated Cities).

An applicant for a non-RAFN municipal application must demonstrate short-term needs to justify the amount of water required for appropriation. This information should be requested pursuant to the additional information requirements provided under Water Appropriation Rule 40.05.d.i:

> Information shall be submitted on the water requirements of the proposed project, including, but not limited to, the required diversion rate during the peak use period and the average use period, the volume to be diverted per year, the period of year that water is required, and the volume of water that will be consumptively used per year.

The applicant must also demonstrate that the new appropriation is not intended for RAFN by providing total system capacity and existing demand within the municipal service area and comparing to the entire municipal portfolio of water rights. If existing municipal water rights exceed existing demand and short-term needs, then an application for RAFN would be necessary for an additional appropriation of water. If the applicant desires additional points of diversion without the need for a new appropriation of water, then an application for transfer to change existing rights would be appropriate.

An applicant for a permit not proposing municipal use for RAFN cannot later amend the application to gain the benefits of a RAFN permit without first providing qualifications as a municipal provider and demonstrating future needs over an established planning horizon consistent with requirements in Chapter 2, Title 42, Idaho Code. Pursuant to Section 42-211, Idaho Code, an amendment to an application to gain the benefits of a RAFN permit shall be republished and the priority date shall be changed to the date of the application for amendment.

Permit

The permit, if approved, shall include both a rate of flow and an annual volume limitation for the municipal use based on the amount justified. As described above, additional rate justified solely for fire protection should be listed as a separate use on the permit to ensure that the rate, if approved, does not create a de facto water right for RAFN.[1] The place of use can be described generally for the service area as defined under Section 42-202B, Idaho Code.

A permit issued to a municipal provider that does not provide for RAFN cannot be later amended to gain the benefits of an RAFN permit.

License

When licensing a permit for municipal use for a municipal provider that does not serve an incorporated city, the extent of beneficial use established under a non-RAFN permit should be described with both a rate of flow and a volume limitation.[2] Beneficial use shall be based on development within the service area during the authorized development period of the permit and shall include stubbed-in lots for domestic purposes (i.e. a service line is available for each lot to hook up to the municipal delivery system). The rate should be determined based on the installed capacity if reasonable to serve the needs

[2] Beneficial Use Rule 35.01.j indicates that "[t]he field examiner does not need to show total volume of water for municipal and fire protection uses on the field report unless the project works provide for storage of water." Although not required on the field exam, any license issued to a municipal provider that does not serve an incorporated city for a non-RAFN municipal use shall include an annual volume limitation based on the amount justified and approved under the permit and beneficially used as described in this memorandum.

within the established service area.[3] The annual volume limitation should be determined based on the water requirements for the established service area (including stub-ins). The place of use listed on the license can be described generally for the service area as defined under Section 42-202B, Idaho Code.

As described above for municipal providers serving incorporated cities, when determining the installed capacity for licensing purposes, the entire municipal portfolio of water rights must be considered to determine the actual increase in installed capacity provided by the permit for the municipal use.

In situations where a new point of diversion authorized under the permit is developed, but an additional increment of capacity or beneficial use is not developed for the municipal system, a license may be issued limiting the diversion rate in combination with other rights in the municipal system to the existing capacity of the municipal system.

[3] The installed capacity may not represent beneficial use if significantly greater than the diversion required to meet the needs of the developed service area (including stub-ins), even if it does not exceed the amount permitted. For example, if fewer lots are stubbed-in than permitted, the required diversion rate would likely be smaller than the permitted rate.

State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-2190

A M E N D E D
Administrator's Memorandum No. 19

Operations Bureau

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: March 14, 1983

RE: Evaluating Water Needs for Irrigation Purposes

The Department occasionally receives applications for permit to appropriate flows in excess of .02 cfs per acre for irrigating purposes. A method of evaluating these requests has been developed by the Local Support Section of the Project Studies Bureau. A copy of the methodology is attached. The Local Support Section will evaluate the application on an individual basis as a step in the state office portion of the staff review.

Information required for evaluating excessive flows is tabulated on the attached fact sheet. The sheet should be completed and submitted to the Local Support Section with the applications in this category.

When evaluating applications for excessive flows, the common Best Practical Method (BPM) for an irrigation system common or readily adaptable to the area should be used as a standard in determining the flow required to properly irrigate the proposed site. This BPM will neither be the most efficient possible method, which may be economically prohibitive, nor will it necessarily be the existing local-custom technique of irrigation. One of this agency's purposes is to further the efficient use of the water resources in the state.

September 27, 1982

WATER NEEDS EVALUATION

The evaluation by the Local Support Section (IDWR) of water needs for irrigation in Idaho is determined from site-specific data and criteria developed and published for planning and design use. This relates to the water holding capacity of the soils, field slopes, consumptive use requirements of the crop (which accounts for climatic conditions), and the method of irrigation. Soils data is obtained from soils maps (normally SCS) or from field studies. Consumptive use requirements are obtained from the Soil Conservation Service Irrigation Guide for Idaho, University of Idaho Bulletin No. 516 entitled, "Consumptive Irrigation Requirements for Crops in Idaho", and from SCS Technical Bulletin No. 21.

The method of irrigation in relationship to the type of soils and field slope determine the field application efficiencies to be expected with an expected level of water management. These recommended efficiencies are in the SCS Irrigation Guide.

The soil profile within the root zone of the crop serves as a storage tank that supplies water to the plant. It is necessary that irrigation applications are made frequent enough and in the amount needed to replenish the soil moisture before an allowable percentage of the available moisture in the soil is depleted. Depletions beyond this are harmful to the crop.

The amount of moisture needed to refill the soil profile, the frequency required for this refilling, and the efficiency at which this refilling takes place determines the stream size or flow requirements needed for the irrigation of lands under a system. Unless soil leaching is needed, water used in excess of crop needs is harmful to the crop and wasteful.

Because of varying soils, crops, and climatic conditions, it is necessary to evaluate each system individually to determine the water needed and put to beneficial use.

The following referenced sources are used in making this evaluation:

I. Consumptive Irrigation Requirement

A. Peak Monthly C.U. (two sources compared - U of I Bulletin used most often)

a. U of I Bulletin No. 516 - The 80% chance of occurrence is used in determing peak design need.

b. SCS Irrigation Guide for Idaho

B. Peak Period Daily C.U.

Table 5, SCS Technical Release No. 21

II. Available Water in Crop Root Zone

This determination is made from soil profile data obtained from soil survey maps or from actual field testing.

III. Moisture Withdrawal

The moisture withdrawal from the available moisture in the crop root zone shall not exceed 67% for least sensitive crops. This may be limited to 50% for some crops, such as potatoes.

IV. Irrigation Efficiencies

Physical conditions such as soil intake rate, field slope, topograph, average wind velocities, depth of application, and length of run, affect irrigation efficiencies. The efficiencies recommended in the SCS irrigation guide are used in determining peak flow requirements for the specified kind of irrigation system used for applications of water.

For the adjudication of existing water rights, the existing or, if improvements have not been made, historical methods and practices of irrigating the lands involved as well as those used for surrounding lands will be taken into consideration in determining irrigation efficiencies for peak flow requirements.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: January 28, 1980

RE: Excessive Flows for Irrigation Purposes

Recently the Department has received several applications for permit to appropriate flows in excess of .02 cfs per acre for irrigation purposes. A method of evaluating these requests has been developed by the Local Support Section of the Project Studies Bureau. This section will evaluate the applications on an individual basis as a step in the state office portion of the staff review.

Information required for evaluation of excessive flows is tabulated on the attached fact sheet. The sheet should be completed and submitted with applications in this category.

Ident. No._____

FACT SHEET
for
Excessive Irrigation Flows

This information is to be submitted with any application for permit for which the irrigation rate of flow requested is more than .02 cfs per acre. One exception is that .03 cfs per acre is allowed for up to five (5) acres.

Soil type and soil profile:_____

Soil water holding capacity:_____

Soil intake family (if known):_____

Field slope:_____

Anticipated crops:_____

Method of irrigation:_____

Remarks_____

_____

_____

_____

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State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

TO: Staff

January 22, 1980

FROM: C. Stephen Allred

RE: Big Wood River Appropriations.

Effective immediately, no additional water permits for consumptive use* of surface water during the period June 15 to November 1 will be issued on the Big Wood River and tributaries in the reach upstream from the Magic Reservoir damsite.

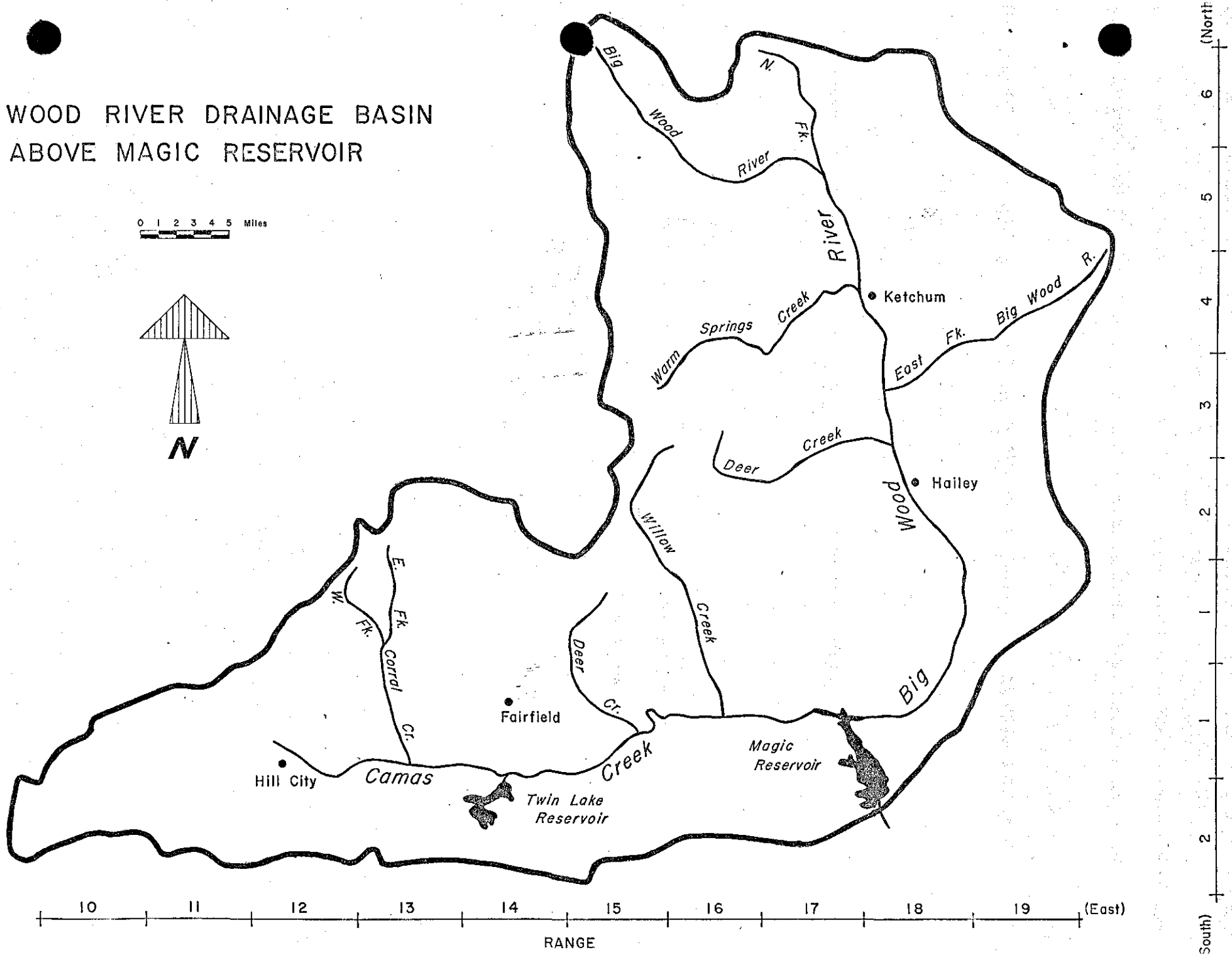
The water in this reach of the river has been determined to be fully appropriated by the existing waterusers, and therefore, no water is available for any additional consumptive uses.

Persons wishing to file applications for permit in this area should be advised of the limited season of use and possible denial of the permit.

Applications for permit downstream from the Magic Reservoir damsite must still be evaluated individually to determine whether water is available.

*For purposes of this memo, the consumptiveness of a use must be evaluated on a case-by-case basis. Irrigation and municipal uses are always consumptive, but industrial, commercial, mining, stockwater, recreation, wildlife, fish propagation, power, heating, cooling and aesthetics may or may not be consumptive depending on the circumstances of the use. Domestic can be considered to be non-consumptive, but a condition will be added that no water can be used for irrigation, lawn or garden watering as a part of the domestic water right.

BIG WOOD RIVER DRAINAGE BASIN
ABOVE MAGIC RESERVOIR



State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Bureau Chiefs, Regional Supervisors

FROM: Norm Young Norman C Young

DATE: March 3, 1980

RE: Subordination of Water Rights for Power Purposes

Problems and questions have recently risen relative to existing water rights for power production purposes preventing or hindering later-in-time use of water for agricultural and other beneficial uses. Some direction and decision relative to this matter likely will be forthcoming in the pending Idaho Power Lawsuit.

The Department has in the past, issued some permits for power purposes conditioned with the following language: "This project shall be operated in a manner that will not conflict or interfere with the future upstream diversion of water for irrigation or other beneficial consumptive uses." This language essentially "subordinates" a water use for power to other future uses of the water.

In view of the pending law suit and the policies described in the State Water Plan, the following language shall be shown on all future permits and licenses for power production purposes except for the exceptions noted below.

> "This permit (license) shall be subject to future operation so that use of water under this permit (license) will not conflict or interfere with the future upstream diversion of water for irrigation or other beneficial consumptive uses or with future instream flows authorized by state law."

Exceptions are that single family power production applications or applications for power production in a remote non-competitive area such as the primitive area do not need to be so conditioned.

SUBORDINATION PROVISION

If this [permit] [license] is for hydropower purposes, the rights for the use of water [acquired under this permit] [confirmed in this license] shall be junior and subordinate to all rights for the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this [permit] [license] and shall not give rise to any right or claim against any future rights for the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this [permit] [license].

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocations Section

FROM: Norman C. Young

DATE: June 4, 1980

RE: Definition of "Domestic"

The Department's interpretation of "domestic", as defined relative to beneficial use for the establishment of a water right, must be divided into two categories: First, the single household domestic use, and second, the general domestic use.

SINGLE HOUSEHOLD DOMESTIC

Single household domestic use must be accurately defined because many water rights within this category are exempt from recording requirements. The current definition is provided by section 42-230(d), Idaho Code, which states:

> "Domestic purposes" is water for household use or livestock and water used for all other purposes including irrigation of up to one half (½) acre of land in connection with said household where total use is not in excess of thirteen thousand (13,000) gallons per day. For the purposes of the exception in section 42-227, Idaho Code, "domestic purposes" shall not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments.

All surface and groundwater rights within this category are exempt from the mandatory claim filing requirement. Surface water rights developed for single household domestic use after May 20, 1971, must be represented by an application for permit.

Note that "domestic purposes" is defined as water for household use or livestock, so a stockwater well not connected with a household is considered to be included in the definition. Since range cattle consume about twelve (12) gallons per day per head, about 1000 head can be watered within the 13,000 gallon per day limit of the definition.

An interpretation of the definition must be carefully made when a second hookup is attached to an existing single household domestic system. The resulting two-household system can be considered as either a multiple system or two single household systems, depending on intent. If the system was designed and built for multiple hookups, then it must be considered to be a multiple system and subject to the recording requirement. However, if the system was designed and built for one household, and the second household was added later in time, two distinct single household domestic water rights may have been established from one well.

GENERAL DOMESTIC

"Domestic" has in the past been interpreted to include a variety of uses for multi-household water systems. Henceforth this term should be used to identify only the in-house or culinary aspect for these systems. For example, the water right description for a housing subdivision should identify irrigation, recreation and fire protection in addition to domestic use. In this way acre-foot values can be assigned to each parameter for an accurate volumetric description of the water right.

A reference to section 42-111, Idaho Code, indicates that the heating of dwelling houses comes within the meaning of "domestic purposes". However, since the 1922 court case from which that statement was taken, the interpretation of the domestic use has been narrowed considerably. Heating should be designated as a unique use.

A quantification of the rate of flow necessary for the in-house or culinary use for multi-household systems has been identified in Figure 1, attached. The flow identified on this graph should be used as a guideline in determining and reviewing domestic use rates of flow on applications for permit with more than one hookup. Greater flows can be accepted if justified.

Use .6 AFA when irrigation is separated (per household)
Use 1.2 AFA when " " included (per household)

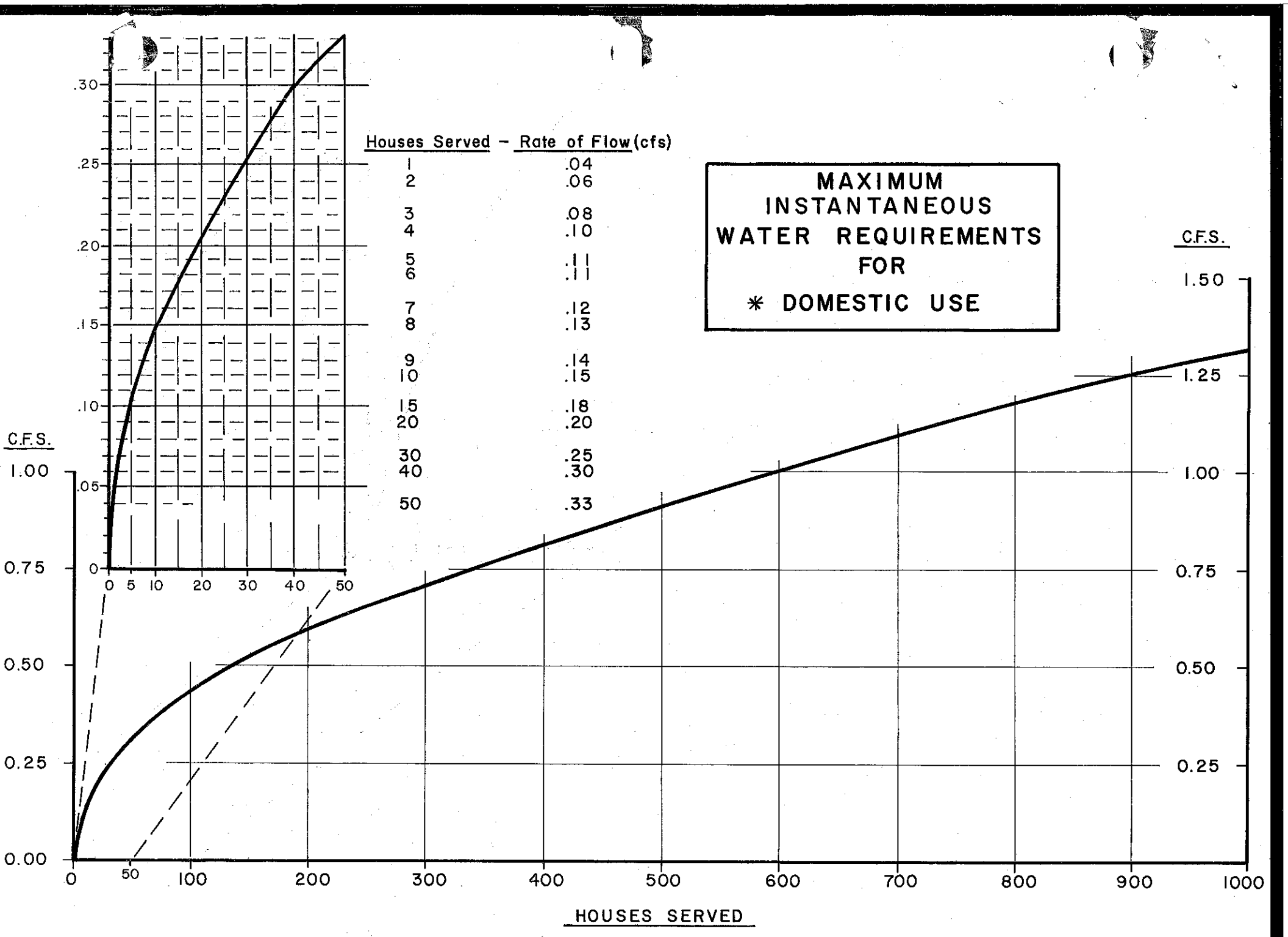


FIG. 1.

* (From Community Water Systems Source Book, J. Ameen, 1977, Technical Proceedings, North Carolina.)

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: September 28, 1992 (Replaces version dated May 9, 1984)

RE: Rate of Flow for Heating Use

Application Processing No. 23 (Amended)

The attached guidelines entitled "Method for Estimating Residential Space Heating Load", and "Method for Estimating Rates of Flow for Geothermal Heating Systems" are intended to assist with computation of reasonable rates of flow of geothermal water for heating purposes. The methods are designed to provide straightforward initial estimates for evaluation of applications for permit and are not to be used for final engineering design.

METHOD FOR ESTIMATING RATES OF FLOW FOR GEOTHERMAL HEATING SYSTEMS

The flow needed from a geothermal heat source depends on the maximum anticipated heat load (design heat load) and the temperature drop across the system (ΔT_s).

Design Heat Load

The design heat load must first be estimated. This can be done several ways. Some examples are:

1) Take name plate ratings from equipment
2) Take meter readings from existing processes.
3) Estimate by heat transfer and/or thermodynamic calculations.

If space heating is required, see attached method for estimation.

Temperature Drop Across System

To determine this, some information about the temperature requirements of the system is required. For instance, for residential space heating a temperature of 70°F is commonly assumed, for drying purposes a temperature of 120°-160° is adequate and to make steam at atmospheric pressure a temperature higher than 212°F is required. Once the system temperature requirement is established, the system temperature drop can be estimated from the formula -

$$\Delta T_s = (0.3)(S-t)$$ where

ΔT_s = Temperature drop across system °F
S = Geothermal source temperature °F
t = Temperature required by system °F

Note that the source temperature must always be higher than the system temperature unless a heat pump is to be used. If a heat pump is used, the temperature required at the evaporator becomes the system temperature.

Flow Rate Required

Once the heat load and temperature drop are estimated, the flow rate can be estimated from the equation -

$$W = \frac{Q}{(500)\ (\Delta T_s)}$$ where

W = Flow rate in gallons per minute

Q = System heat load in BTU/Hr

ΔT_s = Temperature drop across system °F

These calculations should not be used to design a geothermal heating system, but will give an indication of the approximate flow needed from a geothermal resource when applying for a water right from this Department. An engineer who is knowledgeable about the design of heating systems should be consulted for the actual design.

Example

The following is an example to estimate the flow required to heat a house with a design heat load of 50,000 BTU/hr from a geothermal well with 200°F water.

The heat load is given - 50,000 BTU/hr.

Since the heat load is space heating for comfort, the system temperature is assumed to be 70°F.

The temperature drop across the system is determined from the equation -

$$\Delta T_s = (0.3)(S-t)$$

for this case:

$$\Delta T_s = (0.3)(200°-70°)$$

$$\Delta T_s = 39°F$$

The flow rate is determined from

$$W = \frac{Q}{(500)(\Delta T_s)}$$

for this case:

$$W = \frac{50,000\ BTU/Hr}{500\ (39°F)}$$

$$W = 2.56\ GPM$$

Therefore, 3 GPM would be a reasonable estimate.

METHOD FOR ESTIMATING RESIDENTIAL SPACE HEATING LOAD

The following is a method to estimate a residential design heat load for sizing heating systems for typical residential buildings.

Design Heat Load

This varies for Idaho from a low of 25 BTU/hr-sq.ft. for a well insulated home in Boise to a high of 75 BTU/hr-sq.ft. for an average insulated home in Soda Springs. These values are appropriate for a single story house. If the house is two stories, then multiply the BTU/hr-sq.ft. ($e \cdot \Delta T$) value by 0.8.

A more precise determination of the BTU's required for a given house can be determined from the formula:

$E = [e \cdot \Delta T] A$ where

E = BTU/hr required

e = House efficiency factor BTU/hr-sq.ft.-°F

ΔT = Design temperature difference ($t_i - t_o$) in degrees Fahrenheit for residence

A = Area of livable floor space in the house in sq. ft.

For a two story house the formula becomes $E = [e \cdot \Delta T] 0.8 \times A$.

And,

t_i = the inside design temperatures (approximately 70°F)

t_o = the outside design temperature

Suggested Outside Design Temperatures *	
Boise	4°F
Lewiston	6°F
Pocatello	-8°F

---

* From (American Society of Heating, Refrigeration & Air Conditioning Engineers), Handbook of Fundamentals, 1972.

Values for (e) are as follows:

.28 = Best energy efficiency -

Insulation in addition to that found in the average house, walls are now R19 (5 inches of blanket insulation in a 6 inch wall space), ceilings are R33 (approximately 9 inches of blanket insulation), all windows and doors are caulked and weather stripped.

.44 = Better energy efficiency -

All windows and doors caulked and weather stripped, no additional insulation above the average residence.

.67 = Average residence -

Modern home with no weatherproofing and the following insulation: walls R13 (3-1/2 inches of blanket insulation), ceiling R25 (6 inches of blanket insulation), double pane windows, or single pane with storm windows, concrete floor or concrete block basement wall.

1.11 = Poor energy efficiency -

Older home with the following insulation: walls are approximately R6 (typical frame construction with no insulation between the stud), ceiling R10 (3 inches of loose fill insulation), single pane windows with no storm windows and no weather stripping of the doors and windows.

Table 1 shows some typical BTU's/sq.ft.-hr for the four types of house efficiencies at a variety of design temperatures.

TABLE 1

$e \cdot \Delta T$ = BTU's/sq.ft.-hr for Different House Efficiencies

House Efficiency	Best e = .28	Better e = .44	Average e = .67	Poor e = 1.11
Design Temperature Difference $T = (t_i - t_o)$				
50°	14	22	33	56
60°	17	26	40	67
70°	20	31	47	78
80°	22	35	54	89
90°	25	40	60	100
100°	28	44	67	111

Example:

The following is an example problem to determine the design heat load for a hypothetical house. The house is a single story house with 1,250 ft.^{2} of floor with average insulation located in Boise.

The design heat load is estimated from the equation:

$$E = [e \cdot \Delta T] A$$

Where for this case:

e = .67 BTU/hr-ft.^{2}-°F (average insulation)

ΔT = (70-4)°F (assume a 4°F design temperature for Boise)

A = 1,250 ft.^{2}

Putting these numbers in the equation gives:

$$E = [.67 \times (66)]1250 = 55,275 \text{ BTU/hr}$$

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

App. Processing No. 24 (Amended)

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: June 19 , 1986 (Replaces version dated December 1, 1980)

RE: Approval of Permits for Power Purposes

Changes in Federal Energy Regulatory Commission (FERC) processing requirements have precipitated a modification in Department policy regarding applications for permit for hydropower*. This memorandum provides updated information regarding three unique aspects of hydropower applications: (1) current requirements of the Idaho Public Utilities Commission (PUC) and FERC; (2) Department processing guidelines for Applications for Permit; and (3) a method for calculating a reasonable rate of flow.

(1) CURRENT REQUIREMENTS OF THE PUC AND FERC

PUC

The determination of which power producers are subject to PUC regulation and which are not remains a complex issue. In general, the PUC regulates and requires applications from investor-owned utilities that market power, such as Idaho Power Company, or independent small power producers. Systems that are not regulated include those owned

* This memorandum is written specifically for hydropower use, and the terms power and hydropower are considered to be interchangeable herein. The use of water for purposes associated with thermal and nuclear power plants should be classified as cooling use, and an Application for Permit for this use is not subject to the provisions specified herein.

by public entities (co-ops, municipalities, irrigation districts, etc.), private systems for personal use, and entities meeting the requirements of a qualifying facility (QF*) under PURPA**. If there is a question about jurisdiction in a specific instance, PUC will provide a letter stating their position.

Processing a PUC application requires a public hearing in most cases. Processing time by PUC is usually 3 months to 1 year, and final approval by PUC, in the form of the issuance of a Certificate of Public Convenience and Necessity (CPCN), can be completed prior to approval of the water right application by the Department.

*A QF is defined as a facility that:

A. Is owned by an individual or a corporation (including municipalities), but not more than 50% of the equity interest in a facility may be owned by an electric utility.
B. Produces electric energy primarily by use of a renewable resource (water power is considered to be a renewable resource at both new and existing dams).
C. Has a power production capacity of no more than 80 megawatts.

**Public Utility Regulatory Policies Act of 1978

FERC

Water power development comes within FERC jurisdiction when the project:

A. Is located on federal land, or
B. Is located in or uses water from a navigable stream, or
C. Uses water impounded by a federal dam, or
D. Provides power to a FERC regulated (interstate) power grid.

Where FERC is found to have jurisdiction, frequently the first step toward project development is to obtain a preliminary permit from FERC. A preliminary permit requires minimal information and establishes filing priority for subsequent license or exemption applications. It is not an approval to begin construction, and is not required by FERC.

Project development approval can be obtained by securing either a license or an exemption. An exemption relieves the project of some FERC requirements. Exemptions are generally available for projects that do not use dams or that utilize an existing conduit originally built primarily for non-power purposes.

Three types of license applications are available -- a short form for all projects 5 MW or less, a slightly longer form for projects greater than 5 MW at existing dams, and a long form for major unconstructed or major modified projects greater than 5 MW. Processing times vary depending on the complexity and environmental impact of the projects and can range from several months to several years. A graphical representation of FERC filing categories is depicted in Attachment A.

A change in FERC processing is that in the past FERC required the project applicant to obtain an approved water right permit prior to issuing a FERC license, whereas now FERC will issue a license before a state water right is approved, contingent on the licensee obtaining state water right approval.

DEPARTMENT PROCEDURE WITH RESPECT TO FERC & PUC

The Department does not require FERC &/or PUC approvals to be prerequisites for issuance of a water right permit. However, many of the issues regarding local public interest that are evaluated by the Department are also evaluated by FERC &/or PUC. Thus, the Department normally does not take final action on an application for permit until the application for license or exemption or application for CPCN together with supporting documents have been filed with FERC &/or the PUC. An applicant, however, can request Department action on an application for permit prior to the application submittal to FERC &/or PUC if the applicant provides to the Department all of the information needed for the Department to evaluate the proposed project. Henceforth in this memorandum, in the situations where FERC &/or PUC have jurisdiction, the alternatives of providing either (1) an application for a CPCN from PUC &/or an application for license or exemption from FERC, or (2) information for the evaluation of the proposed project, will be identified as "PUC &/or FERC approvals or alternatives."

(2) DEPARTMENT PROCESSING GUIDELINES FOR APPLICATIONS FOR PERMIT

Rule 4 of the Department's Water Appropriation Rules and Regulations provide general considerations to be met by a hydropower applicant. In addition, special processing guidelines have been developed for power applications for permit based on (1) the potential for speculation, (2) Sections 42-205 thru 42-210, Idaho Code, (3) Idaho case law, and (4) interagency coordination. The guidelines are divided into regional office processing and state office processing as follows:

Regional Office Processing

A. Upon receipt of an application for permit for hydropower use, the applicant should be advised, via either a documented conversation or correspondence, of the unique requirements for processing a hydropower water right. Requirements are as follows:

1. Requirements for All Power Applications

a. An affidavit establishing residency and ownership of facilities (Form 205/206).

b. Information that shows whether or not the project will be regulated by FERC &/or PUC.

c. If the project will be regulated by FERC &/or PUC, FERC &/or PUC approvals or alternatives.

2. In the past, the Department basically considered power projects in either a small or large category based on certain criteria. The adopted water appropriation rules and regulations when considered with existing statutes suggest additional categories with different related requirements.

An application for permit (application) for 5 cfs or less and for an installed capacity of 0.37MW or less usually will require no additional information.

An application with a diversion rate greater than 5 cfs will require the submittal of all information described in Rule 4,5,3., Water Appropriation Rules and Regulations.

An application for 5 cfs or less but for an installed capacity of more than 0.37MW will require a financial statement.

An application for more than 25 cfs, or for an installed capacity of more than 5MW will require all of the information described in Rule 4,5,3., Water Appropriation Rules and Regulations in addition to an engineering design.

B. In situations where FERC &/or PUC have jurisdiction, the conference/hearing for a protested application should be delayed until FERC &/or PUC approvals or alternatives are provided.

C. Unprotested applications should be forwarded to the state office when all requirements have been met except FERC &/or PUC approvals or alternatives.

State Office Processing

A. The state office should insure that documentation describing the completion of all requirements is in the file, with the exception of FERC &/or PUC approvals or alternatives.

B. Applicants should be required by the state office to update the file on an annual basis regarding the status of obtaining FERC &/or PUC approval. An exception is that if the applicant receives approval of a preliminary permit, an update is not needed until the permit expires. The applicant must maintain applications with PUC &/or FERC in a valid status to be entitled to the Department processing delays described herein.

C. Applications for permit that would be denied by the Director for reasons other than failure to receive approval from PUC &/or FERC will be denied at the earliest possible time and will not be held pending comments submitted by those agencies.

Attachment B shows standard conditions of approval which are associated with approvals for Applications for Permit for power purposes.

One unique aspect of power applications regards possessory interest. For most water right applications, the applicant must show some "vested interest", or "color of title" to the place of use before the application is deemed valid (see Lemmon v Hardy, 95 Idaho 778, 1974). However, an application for power may be an exception to this requirement since the place of use for power purposes can in some cases be obtained by the applicant through eminent domain after the water right has been obtained. Therefore, a power application may be approved even though possessory interest has not been demonstrated, if all other requirements are satisfied.

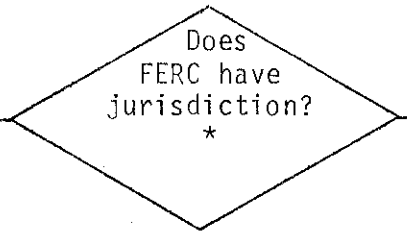
(3) FLOW CALCULATION

Attachment C entitled "Individual Hydropower Production" has been prepared to assist in the determination of a reasonable rate of flow based on (1) the power requirements of the applicant, (2) the type of hydroelectric system to be installed, and (3) available head. The instructions provide a basic method to assess the adequacy of flow requested, but this brief method should not be used to calculate final design flows. If the calculated flows are either much lower or much higher than those shown on the application, the applicant should be required to justify the rate of diversion shown.

ATTACHMENT A

FERC Filing Categories

Each power project can be categorized at a unique location on this chart. Boxes represent categories for which FERC approval is normally required before IDWR issues a permit.



YES → FERC Has Jurisdiction

Category of filing required depends on the size and nature of the project. Three categories are available.

NO → FERC Does Not Have Jurisdiction

No filing with FERC required. IDWR processing procedes without regard to FERC.

Exemption - Used when project meets criteria--this is the simplest and quickest means of obtaining FERC approval.

- Exemption of Small Conduit Hydroelectric Facilities
- Exemption of Small Hydroelectric Power Projects of 5 MW or less.

Preliminary Permit - Used when applicant needs to study project feasibility prior to filing for a license. Establishes a study period of 18 to 36 months after which a license application can be filed.

License - Used when sufficient information is known about project. A Preliminary Permit is not a prerequisite.

- License for Minor Water Power Project or Major Water Power Project of 5 MW or less.
- License for Major Project - Existing Dam
- License for Major Unconstructed Project and Major Modified Project

*FERC has jurisdiction when the proposed development:

(A) Is located on federal land, or
(B) Is located on or uses water from a navigable stream, or
(C) Uses water impounded by a federal dam, or
(D) Provides power to a FERC regulated (interstate) power grid.

Source: Federal Energy Guidelines, FERC Statutes and Regulations, Vol. 1, Subchapter B - Regulations Under the Federal Power Act, Part 4, par 2,000 et seq.

ATTACHMENT B

A measuring device and lockable controlling works of a type acceptable to the Department shall be permanently installed and maintained as part of the diverting works.

*

The permit holder shall either install a measuring device or a flow measurement port or provide a certified measurement or computation of flow based upon system design to be prepared by a professional engineer.

The issuance of this permit in no way grants any right-of-way or easement across the land of another.

Use of water under this permit is subject to control by the watermaster of State Water District No. <number and name>.

* This permit is subject to the provisions of Sections 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit.

* Water used under this permit if discharged into a natural channel or subsurface system shall meet Idaho Water Quality Standards.

The diversion and use of water under this permit and any license subsequently issued is subject to review by the Director thirty-five (35) years from the date of issuance of this permit. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

*

The diversion and use of water under this permit and any license subsequently issued is subject to review by the Director on the date(s) of expiration of any license issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

* The water right acquired under this permit for hydropower purposes shall be junior and subordinate to all rights to the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this permit and shall not give rise to any right or claim against future rights to the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this permit.

* This permit does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.

* Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.

* Use of water under this permit shall be non-consumptive.

A separate stream alteration permit from the IDWR is required for any activity in the stream channel other than construction and/or maintenance of the diversion structure. If your proposed construction or operation involves construction of an outfall or any other work in the stream channel other than a water diversion, you must contact the Department and obtain a Stream Channel Alteration permit prior to the start of construction.

Power apps from a groundwater source:

Water shall not be diverted solely for power production purposes, however, power may be produced utilizing water diverted for other uses.

*Conditions with an asterisk are used for every hydropower application approved by IDWR. Brackets signify alternative choices based on ancillary parameters.

ATTACHMENT C

INDIVIDUAL HYDROPOWER PRODUCTION

The following is an acceptable means of evaluating water requirements for planning a small scale hydropower facility. This method is general and intended to provide approximate results for use in filing a water right permit application for development of such a facility. Sizing and selection of equipment for installation is much more complicated and should not be attempted without proper technical guidance. Any one of the following four variables can be determined by mathematical or graphical methods providing the other three are known or assumed: (See Figure 1).

1) Power (kilowatts)

2) Gross Head (feet)

3) Design Flow (cubic feet per second)

4) Efficiency

Definition and Explanation of Terms

For turbines, pelton wheels and overshot water wheels, the above variables are defined as follows:

A) Power (P)

System power production capability or system capacity is the amount of electrical power that can be generated by the hydropower system. Power demand is the amount of electrical power that is required by the user to supply electrical appliances. In order to have an operational system, power production capability must be greater than or equal to power demand. Power is commonly measured in kilowatts.

Maximum power demand can be estimated by summing the demand of all electrical appliances that may reasonably be in use at one time. The demand requirements of individual electrical appliances can usually be obtained from power suppliers or are listed on the appliances. An estimate of normal household demand can also be obtained from the following table:

Table 1: Maximum Household Power Demand

Electrical Power Use	Demand (Watts/ft^2)
Lighting and refrigeration only	2
Lighting, refrigeration, water heating, cooking and clothes drying	4-7
Total electric home	10-15

Maximum power demand in watts can be computed by multiplying demand in watts per square foot by the home size in square feet. Divide by 1000 to convert watts to kilowatts.

B) Gross Head (H)

1) Pelton Wheel or Hydraulic Turbine

Gross head for a pelton wheel or hydraulic turbine is the total vertical elevation difference in feet between the upper end of the penstock and the lower end of the penstock.

2) Overshot Water Wheel

Gross head for an overshot water wheel is the total vertical elevation difference in feet between the bottom of the discharge flume and the water surface of the tail-water.

C) Design Flow (Q)

The flow in cubic feet per second (cfs) at which the system is designed to operate.

D) Efficiency (e)

The fraction of total hydraulic energy available that can be converted to electrical energy and delivered to the consumer. For estimating purposes, use .50 for pelton wheels and turbines and .40 for overshot water wheels.

EXAMPLE PROBLEM

Problem Statement

A person with a 2000 ft^2 total electric home has a stream near his house which flows a minimum of 15 cfs and has a vertical drop of 400 ft. in the mile upstream from his house. The person desires to supply all of the electrical requirements of his home with a hydropower generating system. How much water does he need?

Solution

This will be a graphical solution using Figure 1 and assuming the use of a pelton wheel or hydraulic turbine system.

1) Determine home electrical power demand.

Using Table 1

Maximum Demand = 2000 ft^2 (15 watts/ft^2)
= 30,000 watts = 30 kw

2) Assume System Efficiency

Since power is assumed to be generated by a pelton wheel or hydraulic turbine, a reasonable system efficiency might be 50%. Assume e = .5.

3) Determine H x Q Requirement to Produce the Desired Power

Enter the graph (Figure 1) at 30 kw. Cross to the 50% efficiency line and proceed down to the lower axis and find H x Q = 708.

4) Select a Head and Solve for the Flow

H x Q = 708; therefore

$$Q = \frac{708}{H}$$

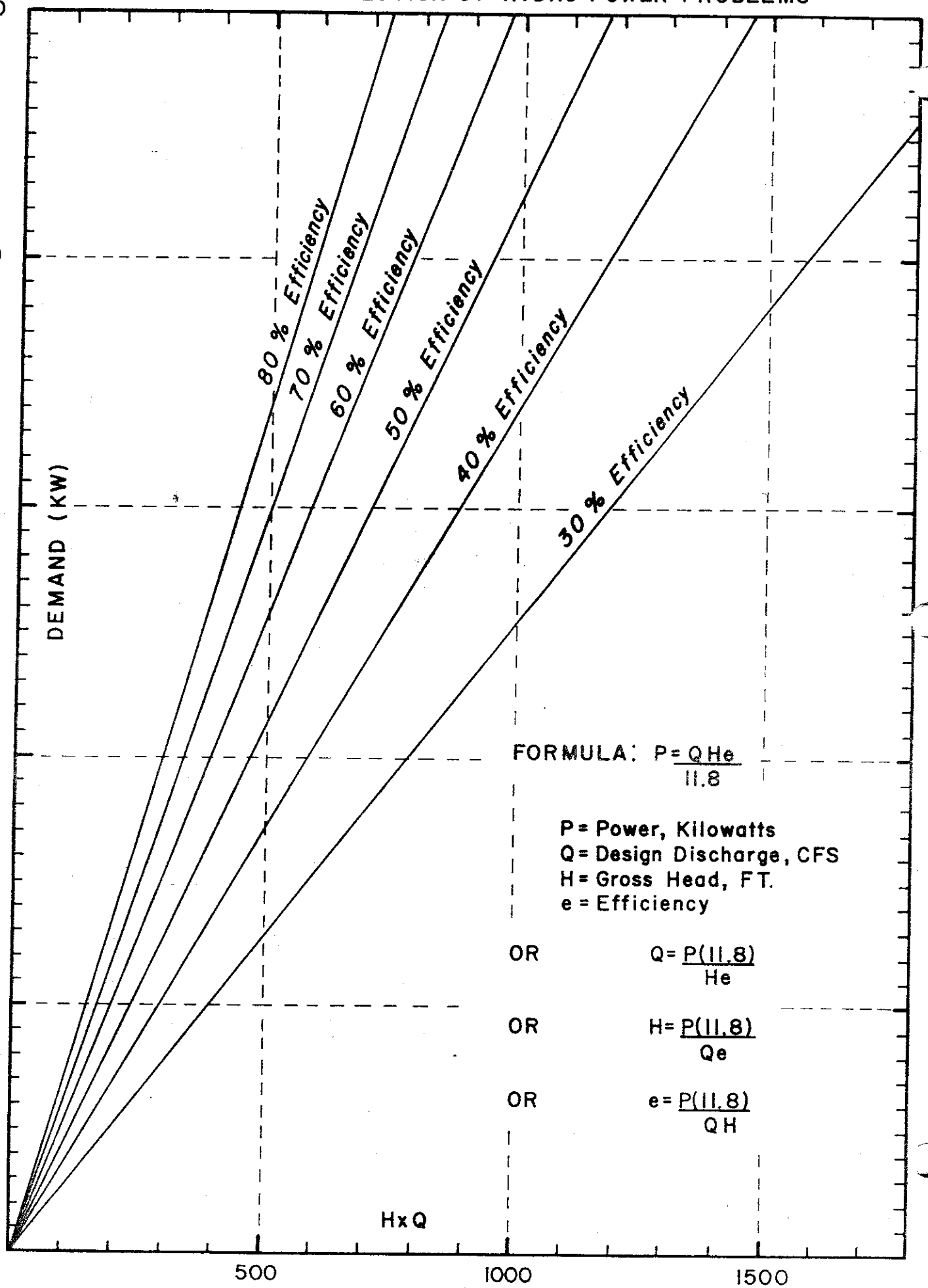
If H = 400 ft.; $Q = \frac{708}{400} = 1.8$ cfs

If H = 200 ft.; Q = 3.5 cfs

If H = 50 ft.; Q = 14.2 cfs

(It should be noted that there are an infinite number of possible solutions for H x Q = 708 that provide 30 kw of power.)

FIGURE I: GRAPHICAL SOLUTION OF HYDRO POWER PROBLEMS



FORMULA: $P = \frac{QHe}{11.8}$

P = Power, Kilowatts
Q = Design Discharge, CFS
H = Gross Head, FT.
e = Efficiency

OR $Q = \frac{P(11.8)}{He}$

OR $H = \frac{P(11.8)}{Qe}$

OR $e = \frac{P(11.8)}{QH}$

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

MEMORANDUM

TO: Glen Saxton VAS
Bob Fleenor BDF

FROM: Norm Young NCY

DATE: February 23, 1984

RE: Approval of Hydropower Rights

Please do not approve any application having hydropower as a purpose until the legislature has completed its consideration of subordination and until further direction is received from Ken Dunn.

State of Idaho
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STATE OFFICE, 450 W. State Street, Boise, Idaho

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Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

MEMORANDUM

March 22, 1984

TO: Glen Saxton
Bob Fleenor

FROM: Norm Young NEY

RE: APPROVAL OF HYDROPOWER RIGHTS
(Supersedes memo dated February 23, 1984)

Applications proposing power generation may be approved assuming the following usual factors have been considered:

a) the guidelines of the existing administrative memo dated 12-1-1980 and 3-3-1980 are met

b) appropriate conditions of approval including subordination are shown.

In addition, all permits issued for power purposes or including power as a use (excluding the exceptions in my 3-3-1980 administrative memo) should have the following conditions of approval:

"The diversion and use of water under this permit and any license subsequently issued is subject to review by the Director thirty (30) years from the date of issuance of this permit or the date of FERC approval expiration (if applicable). Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised."

"Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control."

ADMINISTRATOR'S MEMORANDUM

App. Processing No. 25

TO: Water Allocation Section and Regional Offices

FROM: Norman C. Young NCY

DATE: January 27, 1981

RE: Measuring Device Requirement Guidelines for Applications For Permit.

Measuring device requirements to be applied to new applications for permit should be based on the Measuring Device Condition Flowchart, attached.

Note that the flow chart uses 0.70 cfs as a minimum rate of flow for the access port requirement. This flow was computed as the lowest design flow for a 6" diameter pipe*.

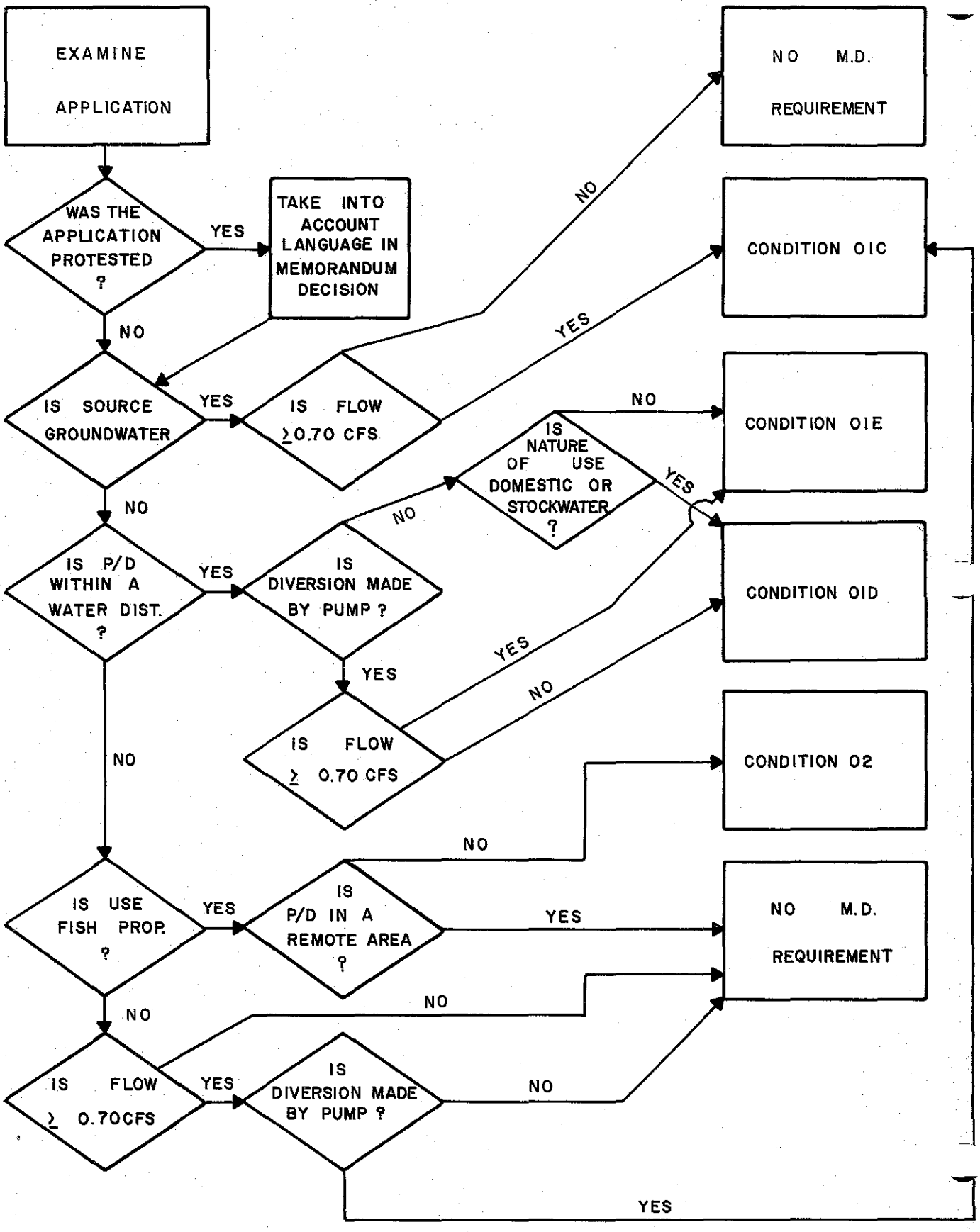
The regional office staff should place the appropriate condition of approval code on the staff analysis sheet prior to sending a new water right application to the state office for final action.

The regional office supervisor retains the authority to recommend a measuring device condition that departs from the guidelines herein, based on unique circumstances (e.g. an exchange application for permit or a surface water diversion not within a water district where the flow is greater than 0.70 cfs and is pumped but would be more amenable to a sparling meter than an access port.)

*Pipe of 6" diameter or greater is used when the velocity in the next smaller pipe (5") exceeds 5 feet per second.

$$\left[2\tfrac{1}{2} \text{ inch radius} \times \frac{1 \text{ foot}}{12 \text{ inches}} \right)^{2} (\pi) \ (5\text{fps}) = .68 \approx 0.70 \text{ cfs} \Bigg]$$

MEASURING DEVICE CONDITION FLOWCHART



See Description of Conditions on Attached Page

CODE	CONDITION
01	A measuring device of a type approved by the Department shall be permanently installed and maintained as part of the diverting works.
01A	For licensing purposes, a scientific measurement of the diversion rate of the system as it is normally operated shall be provided by either properly installing an approved type of measuring device or by having a professional engineer certify the rate of diversion to the Department prior to submitting proof of beneficial use of water.
01B	The permit holder shall either install a measuring device or provide a certified measurement by a professional engineer or install an access port or other device as specified by the Department.
01C	An access port or measuring device acceptable to the Department shall be installed by the permit holder to provide for the determination of the rate of diversion by the Department.
01D	A lockable device, subject to the approval of the Department, shall be installed on the diverting works in a manner that will provide the watermaster suitable control of the diversion.
01E	A measuring device and lockable controlling works of a type acceptable to the Department shall be permannently installed and maintained as part of the diverting works.
02	Measuring devices of a type approved by the Department shall be permanently installed and maintained at the point of diversion and the point of effluent discharge.

Each of the above are currently used except for conditions 01, 01A and 01B, which are obsolete but are included because they are shown on some existing permits.

State of Idaho
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STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

TO: Staff Application Processing No. 26

FROM: A. Kenneth Dunn

DATE: February 1, 1982

RE: Bear River Appropriations

Effective immediately, no additional water permits for consumptive use* of surface water during the period April 15 to October 15 will be issued on the Bear River and tributaries, Basins 11 and 13.

The water tributary to the Bear River in these two basins has been determined to be fully appropriated by the existing water users, and therefore no water is available for any additional consumptive uses.

Persons wishing to file applications for permit for surface water in these basins should be advised of the limited season of use and possible denial of the permit.

*For purposes of this memo, the consumptiveness of a use must be evaluated on a case-by-case basis. Irrigation and municipal uses are always consumptive, but industrial, commercial, mining, stockwater, recreation,wildlife, fish propagation, power, heating, cooling and aesthetics may or may not be consumptive depending on the circumstances of the use. Domestic can be considered to be non-consumptive, but a condition will be added that no water can be used for irrigation, lawn or garden watering as a part of the domestic water right.

App Processing No. 27

MEMORANDUM

TO: Staff

FROM: A. Kenneth Dunn
Director

DATE: September 8, 1981

RE: Appropriation of Water Within Irrigation District & Canal Company Areas

Applications to appropriate water within the boundaries of irrigation districts and within the service areas of canal companies cause several uncertainties in administration;

1. Is the water under the control of the district or canal company and not available for appropriation?
2. Is return flow available for appropriation if some water leaves the service area?

A proper and equitable administration of water demands that we adopt guidelines for the appropriation of water within the service area of canal companies and irrigation districts. The following guidelines will be followed in all permits issued in the future:

1. Constructed conveyances. When an additional use is to be made of water from a manmade canal, ditch or other constructed conveyance, whether for consumptive or nonconsumptive use, the appropriator must obtain the permission of the conveyance owner before he can divert any water. The source of water is the natural stream or river from which the conveyance heads. Therefore, the department will not issue a permit without evidence of a right of way to use the point of diversion and conveyance system and/or the written

permission of the owner of the conveyance works.

2. Natural channel conveyances or constructed drains. In many irrigation districts and canal companies, constructed drains and natural channels are used as integral parts of the delivery system. Runoff and seepage water collected in the drains and channels are used to supply water to shareholders lower in the project.

   a. When an appropriation from a natural channel, within which a substantial proportion of the flow is water injected into the channel and diverted from the channel by the irrigation district or canal company, is proposed for consumptive or nonconsumptive use, the potential exists for interference with the operation of the irrigation district or canal company. To insure that this local public interest is protected, any such permit issued will be conditioned as follows:

      > Water shall not be diverted under this permit until a written agreement with the irrigation district or canal company serving the area containing the point of diversion is filed with the department providing for coordination of the permitted use with the irrigation district or canal company operation.

   b. Usually the canal company either owns the land through which a constructed drain flows or has an easement for the drain. Any permit issued to appropriate water from a constructed drain within a canal company service area or an irrigation district boundary will carry the following condition:

      > Water shall not be diverted under this permit until

an easement or right of way with the owner of the drain providing for access to the drain is filed with the department.

The natural channel and drain is no longer considered a part of the conveyance system below the last point of diversion from which the canal company or irrigation district delivers water.

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STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Water Allocation Section and Regional Office Bureau

FROM: Norman C. Young NCY

DATE: January 5, 1983 Application Processing No. 28

RE: Show Cause Orders for Non-Appearance

Show cause orders are presently sent to all parties who do not appear at the department's hearings. They provide the non-appearing party an opportunity to explain why they did not appear.

Seldom has the response to the show cause order resulted in another hearing. Especially in those instances where there are multiple protestants and a hearing was held; the sending of the show cause order has been unproductive.

Therefore, show cause orders for non-appearance need not be sent to protestants not appearing at a hearing where a memorandum decision is prepared. The protests should be set aside for non-appearance in the decision.

Show cause orders must continue to be sent when the applicant or the sole protestant fails to appear or to those parties who did not appear at the hearing where the dispute was resolved and no memorandum decision is necessary.

State of Idaho
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STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

MEMORANDUM

TO: Water Allocation Section and Regional Offices

FROM: A. Kenneth Dunn

App. Processing No. 29

DATE: March 31, 1983

RE: Commencement of Works Process

The Amendment to Section 42-204, Idaho Code, enacted last year, provided one year for construction of works to commence for existing permits, where the rate of flow is 25.0 cfs or less. Therefore, June 30, 1983, marks the date when several thousand blue "Commencement of Works" postcards are due in our office. As the date approaches, we can anticipate receiving many inquiries regarding action required by permit holders if construction is not commenced by that date.

The statute states that:

> "Every holder of a permit which shall be issued under the terms and conditions of an application filed hereafter appropriating twenty-five (25) cubic feet or less per second must, within one (1) year from the date upon which said permit issues from the office of the department of water resources, commence the excavation or construction of the works by which he intends to divert the water, and must prosecute the work diligently and uninterruptedly to completion, unless temporarily interrupted through no fault of the holder of such permit by circumstances, over which he has no control."

Since the statute provides no guidance regarding action to be taken to enforce this statute, the Department anticipates doing the following:

1. The blue Commencement of Works postcards which have been submitted, are collected and filed numerically in a box at the state office. They serve as evidence that works have been commenced on specific projects.

2. There are no provisions in the amended statute for the Department to grant an "extension of time" to commence construction of works. If extenuating circumstances prevent commencement within one year, the permit holder will be advised to compile his own file of supporting data to demonstrate the reason(s) for the delay, in case action is taken to cancel the permit. He could also send a letter to the Department describing reasons for the delay. The letter would be filed in the water right folder.

3. The Department does not currently have adequate personnel to follow up on "Commencement of Works" postcards. We will maintain the cards which are submitted; however, based on current staffing and workload, the state office does not anticipate initiating procedures to send follow-up notice or to cancel permits for which such cards have not been received.

Permit holders should be concerned about compliance with the provisions of Section 42-204, since action to cancel a specific permit based on non-compliance could be initiated by another wateruser or conceivably the Department at some time in the future.

ADMINISTRATOR's

MEMORANDUM

TO: Water Allocation Section and Regional Offices

FROM: Norman C. Young NCY

DATE: May 18, 1983

SUBJECT: Recording of Water Rights for Fire Protection

It is the department's policy that fire protection is an "implied" use for any water right up to the maximum amount of that water right.

It is also appropriate that the use of water actually diverted from a public source and used for fire suppression purposes, regardless of whether or not that diversion is associated with another water right, be recognized and protected. Typically, water diverted for fire suppression is taken randomly, without the quantifying characteristics of a recordable water right; however, the use of water for fire suppression does benefit the public.

It is the department's policy that it is not necessary to record a water right, for historical or future use, for the random diversion of water from a public source for fire suppression purposes. This policy is limited to that water which is actually diverted from a public source for fire suppression purposes.

State of Idaho
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STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: September 6, 1984

RE: IN-STREAM STOCKWATERING Application Processing No. 31

The Idaho Court of Appeals addressed the issue of in-stream stockwater rights in R.T. Nahas Co. v. Hulet, ___Idaho___, 674 P.2d 1036 (ct. App. 1983). In-stream stockwater use also has been recognized by the 1984 Legislature with the passage of S.B. 1236, codified at Section 42-113, Idaho Code.

In Nahas, the court held that, "[F]or the purpose of establishing the existence of a stock watering right by the constitutional method of appropriation, a diversion device is not required." The court further said, "This is not to say that the Department of Water Resources might not reasonably impose a requirement for the use of physical diversion or measuring devices. Such a requirement could serve a valid regulatory purpose by aiding the Department in determining the location and quantity of water use."

Section 42-113, Idaho Code, provides in pertinent part as follows:

> A permit may be issued, but shall not be required for appropriation of water for the in-stream watering of livestock. In the consideration of applications for permits to appropriate water for other purposes, the director of the department of water resources shall impose such reasonable conditions as are necessary to protect prior downstream water rights for in-stream livestock use...

The Department's policy with respect to the filing of an application for in-stream livestock watering is similar to our policy for single-family domestic use of water from a groundwater source, except that there is no statutory limit on the amount of water which a person may beneficially use for in-stream livestock watering purposes. More specifically, an application may be filed or not filed depending upon the preference of the water user.

Due to the many variables involved, general guidelines for the quantification of a reasonable amount of water to remain in a stream, either to protect prior downstream water rights for in-stream livestock use or to satisfy the needs of new permits for the in-stream watering of livestock, are difficult to establish. When it is necessary to determine the amount of water reasonably required for the in-stream watering of livestock, the Department will do so on a case-by-case basis.

With respect to the mandatory claims requirements of Section 42-242, et seq., Idaho Code, it is the Department's policy that in-stream stockwater use may be claimed after June 30, 1983 without being considered a late claim. Just as with the single-family domestic use of water from a groundwater source, the date of priority of an in-stream stockwater right established by beneficial use is the date of first beneficial use. Thus, unlike other claims for surface water, the priority date for an in-stream stockwater use can be after May 20, 1971. The filing of a claim under these statutes is at the option of the water user.

In-stream stockwater rights may exist in water systems which have previously been, or are in the process of being, adjudicated. With respect to future adjudication proceedings, an advance determination should be made by the district court as to whether in-stream stockwater rights shall be included or excluded from the adjudication. With respect to current adjudication proceedings, the issue of in-stream stockwater rights should be addressed in the Findings of Fact and Conclusions of Law.

Development of a water right based on out-of-stream watering of livestock is not affected by Section 42-113, Idaho Code. Therefore, the only way to develop a new water right for a system where there is a diversion from a surface water source is by filing an Application for Permit.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY Application Processing No. 32

DATE: November 8, 1984

RE: Applications for Permit for Power Purposes - Number of Projects Per Application

In the past the Department has accepted multiple hydropower project proposals on one Application for Permit if the projects were to use a common water supply. Please be advised that the Director is considering a change in that policy to require a separate application for each project. Henceforth, allow only one project per application unless an exception is approved by the Director.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

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Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: May 30, 1985

RE: Processing of Water Rights in the Snake River Drainage Basin

Application Processing No. 33

The purpose of this memorandum is to establish interim guidelines concerning processing of water rights in the Snake River Drainage Basin (SRDB) in view of the Swan Falls negotiations and 1985 legislation. The memorandum is intended to be used by IDWR staff as guidance for processing water rights and for providing assistance to SRDB waterusers who contact our offices with water right questions.

Primary references for review and processing of water rights in the SRDB consist of: standard references including Title 42, Idaho Code; the Swan Falls Contract to Implement (Contract) dated October 25, 1984; the Swan Falls Agreement dated October 25, 1984; SB1008 (effective 7/1/85), which amends Section 42-203, Idaho Code; HB71 (effective 7/1/85), which establishes presumptions of water rights in basin-wide adjudications; Memorandum from the Director, dated November 16, 1984, entitled "Processing of Applications Within the Swan Falls Impact Area"; and a letter and interim approval given to Simon Martin on Application No. 31-7878 dated April 22, 1985, which identifies criteria for interim approval of ground water with replacement of potential river flow reductions from stored water.

Groundwater v. Surface Water

Based on conjunctive use interpretations, water rights for all groundwater aquifers upgradient from Swan Falls are managed the same as surface water sources, with the exception that water right restrictions in groundwater aquifers within Groundwater Management Areas and Critical Groundwater Areas are in no way reduced or changed by other water right review considerations described in this memo.

Purpose of Use

Pursuant to the Contract, applications for permit for water uses qualifying as DCMI (Domestic, Commercial, Municipal or Industrial) as defined within the Contract are not protested by Idaho Power Company and are currently being processed without special considerations. Also, applications for non-consumptive uses which are not considered to impact downstream water supplies are not subject to considerations intended to protect Idaho Power Company interests.

Questions to be Answered

1. Which applications can be processed now?

   Applications that can be processed now include all applications with source downstream from Swan Falls and all applications with source upstream from Swan Falls for which the uses are either non-consumptive or fall within the provisions of the Contract. Uses which fall within the provisions of the Contract include certain DCMI uses and irrigation uses which had a "substantial investment in irrigation wells and irrigation equipment" prior to November 19, 1982, pursuant to a water right filed prior to November 19, 1982.

   Any applications dismissed by Idaho Power Company from the Swan Falls "7500 lawsuit" (Ada County Civil Case No. 81375) may be processed. All applications which do not fit in the category of being eligible for processing now will be held for processing after July 1, 1985, following adoption of rules and regulations to implement 42-203C, Idaho Code.

2. What advice do we give to permit holders that have not developed?

   Permit holders for sources downstream from Swan Falls may pursue development, being mindful of the requirements for commencement of construction of works. Holders of permits upstream from Swan Falls should be advised that any part of the permit not placed to a beneficial use prior to July 1, 1985 will be subject to reprocessing under the provisions of Sec. 42-203D. Any permit for which development prior to July 1, 1985 has not been confirmed through the filing of proof of beneficial use prior to July 1, 1985 will be presumed to require reprocessing pursuant to 42-203D, Idaho Code.

3. What advice do we give to those who have developed prior to October 1, 1984 and have not made a filing to record the use?

a) New development prior to mandatory permit dates
Advice: File a notice of claim before July 1, 1985 to obtain benefits of subordination per the Swan Falls Agreement.

b) Expanded development of either an adjudicated or unadjudicated right prior to the mandatory permit dates
Advice: File a notice of claim before July 1, 1985 to obtain the benefits of subordination per the Swan Falls Agreement. A decreed right holder may choose to claim the priority date of the decreed right for the expansion. Those expanding a non-adjudicated right should claim a priority of the day the expansion occurred.

c) New development subsequent to mandatory permit dates
Advice: File an application for permit. If the development occurred prior to October 1, 1984, the application should be filed prior to July 1, 1985 to obtain benefits of subordination per the Swan Falls Agreement.

d) Expanded development of an adjudicated right after the mandatory permit dates
Advice: File an application for permit noting in the comments section that the application is for development already in place, and that the application is being made to insure that the benefits of subordination per the Swan Falls Agreement are obtained. The applicant may also want to note that he intends to claim the priority of the adjudicated right in accordance with HB71, if a basin wide adjudication occurs at a later date. This filing also needs to be made prior to July 1, 1985 to benefit from the Swan Falls Agreement, assuming that the development occurred prior to October 1, 1984.

e) Expanded development of an unadjudicated right after the mandatory permit dates
Advice: File an application for permit noting in the comments section that the application is for development already in place, and that the application is being made to insure that the benefits of subordination per the Swan Falls Agreement are obtained. The applicant may also want to note that he intends to claim the priority date of when the expansion occurred in accordance with HB71, if a basin wide adjudication occurs at a later date. This filing also needs to be made prior to July 1, 1985 to benefit from the Swan Falls Agreement, assuming that the development occurred prior to October 1, 1984.

4. Who can be aided by the temporary approvals using stored water?

An applicant upstream from Swan Falls who wishes to beneficially use water this year under a valid water right can request a temporary replacement (in the form of an application for permit) based on the criteria established in the approval of application for permit 31-7878. Note that approval of this type of water use is temporary only and does not guarantee that stored water will be available for replacement in subsequent years or that trust water will be granted for the use upon reprocessing of the permit. This type of approval will not be a basis for obtaining a water right for Carey Act or DLE development, and probably will not be useful to those needing long term financing.

The intent of this memorandum is to provide initial responses to basic questions that have arisen regarding water rights in the SRDB. This memorandum is not intended to be comprehensive in response, but rather to provide some temporary guidelines regarding Department direction in the interim period before SB1008 becomes effective and rules and regulations for allocating trust water are adopted. Advice to the public, and processing of water rights based on this memorandum, should be tentative in nature and considered to be our best guidance at this time but subject to change. Additional guidance will be issued as modifications to or clarification of information herein is determined.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

MEMORANDUM

RECEIVED
AUG 15 1985
Department of Water Resources
Western Regional Office

TO: Operations Bureau and Regional Office Bureau

FROM: Norm Young, Administrator NCY

DATE: August 15, 1985

RE: Procedure for Application and Permit Processing
Application Processing No. 34/ Permit Processing No. 7

The amendment to Section 42-203, Idaho Code, became effective July 1, 1985 which requires changes to our processing of Applications and Permits. This memo describes some procedures to be used by the department until Rules and Regulations are adopted for Section 42-203, Idaho Code. The applications and permits for projects within the Swan Falls impact area will be treated differently than those located throughout the remainder of the state.

I. Swan Falls Area (Swan Falls dam upstream)

A. Application

1) Applications for DCMI (Domestic, Commercial, Municipal and Industrial) uses as defined in the S1180 contract and other essentially non-consumptive uses of water such as fire protection, fish propagation, hydropower, etc., which were advertised prior to July 1, 1985, must be re-advertised notifying the public that they may be protested with respect to the new public interest criteria of Section 42-203, Idaho Code. If no protests are received and the applications are otherwise approvable, they may be approved.

2) Applications for DCMI uses within the context of the S1180 contract and other essentially non-consumptive uses of water which are advertised after July 1, 1985 should be advertised in the usual manner with a notation in the advertisement that they can be protested with respect to the new public interest criteria. If protests are not received and the applications are otherwise approvable, they may be approved.

3) Applications for all other uses should not be advertised until the rules and regulations are adopted.

B. Permits

Existing permits in the Swan Falls area will have to be reviewed pursuant to requirements of Section 42-203D after rules and regulations have been promulgated. Permit holders will be advised by letter of the requirements of 42-203D.

II. Non-Swan Falls Area

A. Applications

1) Applications will be processed as in the past with the exception that the applications for a rate of diversion of 10 cfs or greater or 1000 acre feet or greater must be advertised statewide.

B. Permits

1) Permits will not be reviewed pursuant to Section 42-203D until after the department has had an opportunity to seek legislative clarification of Section 42-203D. Permit holders will be advised of the requirements of Section 42-203D by letter.

III. Statewide

A. Transfers, Amendments and Extensions of Time will be processed and action will be taken as in the past.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

App. Processing No. 35

TO: Operations Bureau
Regional Office Bureau

FROM: Norman C. Young NCY

DATE: August 13, 1985

RE: Statewide Publication of Water Right Applications

Section 42-203, Idaho Code, as amended now requires that all applications for permit to divert more than 10 cubic feet per second or 1000 acre feet per year must be advertised statewide.

Statewide circulation will be achieved by having the legal notice published in a newspaper of general circulation in the county in which the point of diversion is located, as has been done in the past and in addition, having the legal notice published at least once each week for two sucessive weeks in at least one daily newspaper (Sec. 60-107) in each of the department's four regions.

The publications should occur simultaneously so the final date for protesting will coincide.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

DATE: January 24, 1986

TO: Water Allocation Section and Regional Offices

FROM: Norman C. Young NCY

RE: Acknowledgement of Submittal of an Application for Permit

Application Processing No. 36

When a customer visits one of the Department's offices to file an Application for Permit, the application is typically immediately reviewed and receipted, and the applicant is given the receipt and advised of standard application processing procedures. However, when an Application for Permit is received by mail, there is sometimes a delay of several weeks before the applicant is advised of the receipt or status of the application.

The purpose of this memorandum is to require that an applicant be advised in a timely manner regarding the disposition of an Application for Permit. Applicants who file in person must be given a receipt for the fee and have the processing procedure discussed with them. Applicants filing by mail must be sent the fee receipt by the regional office along with a letter outlining the basic processing procedures. A convenient time to send this letter is at the time of advertising, for applications ready to be advertised or for applications not yet eligible for advertisement, such as those pending review under the trust water procedure, at the time when the initial staff review is completed.

Attached is a sample letter which demonstrates the type of notice required for applications that have been received by mail and are ready for advertising. A similar letter describing the reasons for delay should be prepared if the application will be held pending additional processing prior to advertisement. This advisement procedure should begin immediately.

State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-2190

Sample of letter to be sent to each applicant who mails in an Appliction for Permit, and for which the application is ready for advertisement.

date

name
address
city state zip

Re: Application for Permit No.

Dear Water Right Applicant:

The Department of Water Resources acknowledges receipt of your water right application for permit. The application has been assigned identification no._____. Please refer to this number in all further correspondence.

This office is currently in the process of advertising the application in the _____. The advertisement will be published for two weeks, and a period of ten days following the second publication will be allowed for the submittal of protests.

If the application is protested, you will be sent a copy of the protest. The protest must be resolved before the application is approved or denied. If the protest is not resolved voluntarily, this Department will conduct a conference and/or hearing on the matter.

If the application is not protested, it will be forwarded to our state office in about five weeks. State office personnel will conduct a complete review prior to final processing of the application and will notify you of the outcome of this review. When a permit is issued, you will be sent a copy. A typical processing time for an unprotested application is about eight weeks.

Enclosed please find your receipt no. _____ for the amount of $_____.

Please feel free to contact this office if you have any questions regarding this procedure.

Sincerely,

DAVID R. TUTHILL, JR., P. E.
Western Region Manager

DRT:jp

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

MEMORANDUM

Rev: App. Proc No. 37

To: Water Allocation Bureau and Regional Managers

From: L. Glen Saxton

RE: TERMINOLOGY OF ADVERSE ACTION ON VARIOUS WATER RIGHT FILINGS

Date: March 16, 1989

Department staff are frequently involved in actions to remove water right filings from our records for various reasons. It is important that any order to show cause or pending order to take some action reference the code section being used and be written using the specific terms provided in the code section authorizing the action.

The following is an outline of various actions which are commonly taken in connection with such filings.

42-203A(5) Department can:

A) PARTIALLY APPROVE an application,

B) DENY an application (Re: 42-204 I.C.)

C) REJECT an application if:

1) Use will reduce the quantity of water under existing rights,

2) Water supply itself is insufficient for the purpose intended,

3) Application is not made in good faith, but is made for delay or speculative purposes,

4) Applicant does not have sufficient financial resources to complete the project, or

5) Application will conflict with the local public interest.

Aggrieved party can:

A) If a hearing was not held, request a hearing before the director within 15 days after receipt of the denial or conditioned approval. re: 42-1701A(3), I.C.

B) If a hearing was held and proposed decision issued, file exceptions and briefs and/or request oral argument on the matter within 15 days of mailing of the proposed decision. Re: 42-1701A(3) and 67-5211, I.C. and Practice and Procedure Rule 10,2,1.

C) File with the district court within 30 days after service of final decision. Re: 42-1701A(4), 67-5215 and 67-5216, I.C.

42-203D Department can:

A) CANCEL a permit

B) CONTINUE a permit

Aggrieved party can request a hearing. Re: 42-1701A, 67-5209 thru 67-5215, I.C.

42-204 Department can:

A) VOID application if:

1) Application is returned and corrected application is not resubmitted, or

2) Additional information is requested and is not provided within 30 days.

B) DENY application for reasons described in 42-203C, I.C.

Aggrieved party can:

A) Request hearing before the director within 15 days after receipt of the denial or conditional approval. Re: 42-1701A(3), I.C.

B) File with district court within 30 days after service of director's final decision (Re: 42-1701A(4), 67-5215 and 67-5216, I.C.

42-208 Department can CANCEL and REVOKE a permit for power purposes for non-compliance with the act.

Aggrieved party can:

A) Request a hearing before the director within 15 days after receipt of cancellation notice. Re: 42-1701A(3), or

B) File with the district court within 30 days after service of decision. Re: 42-1701A(4), 67-5215 and 67-5216, I.C.

42-211 Department can:

A) DENY the application for amendment,

B) REJECT application for amendment, or

C) PARTIALLY APPROVE the application for amendment.

Aggrieved party can:

A) If no hearing - request hearing before the department within 15 days after receipt of denial or conditional approval. Re: 42-1701A(3), I.C.

B) If hearing was held - file with the district court within 30 days after service of decision. Re: 42-1701A(4), I.C.

42-219 Department can:

VOID a permit if the exam shows permit holder has not fully complied with the law and conditions of the permit.

Aggrieved party can:

A) Request hearing within 15 days. Re: 42-1701A(3), I.C.

B) File with the district court within 30 days. Re: 42-1701A(4), 67-5215 and 67-5216, I.C.

42-222 Department can:

DENY an application for transfer.

Aggrieved party can:

A) Request hearing within 15 days. Re: 42-1701A(3), I.C.

B) File with the district court within 30 days. Re: 42-1701A(4), 67-5215 and 67-5216, I.C.

42-311 Department can:

CANCEL a permit if:

A) permit holder has refused or failed to comply with the conditions of the permit or with the provisions of the law governing the permit.

Aggrieved party can:

A) Request administrative hearing within 21 days of the service of the order.

B) File with the district court within 30 days. Re: 67-1701A(4), 67-5215 and 67-5216, I.C.

42-350 Department can:

REVOKE a license if:

1. Licensee has ceased to apply the water to a beneficial use for a period of 5 continuous years,

2. Licensee has wilfully or intentionally failed to comply with any conditions in the license,

3. Licensee has wilfully or intentionally failed to comply with provisions of the law governing the license.

Aggrieved party can:

1. Request an administrative hearing within 21 days of the date of service of the order,

2. File with the district court within 30 days. Re: 42-1701A, I.C.

3. Waive the right to an administrative hearing and file a complaint with the district court within 42 days of the service of the order to show cause.

Practice and Procedure Rule 9.2

Department can DENY or DISMISS a petition, application or complaint for failure to appear at a hearing.

Aggrieved party can file a petition with the district court within 30 days after service of the final decision of the department. Re: 67-5215, I.C.

Water Appropriation Rule 4,2,2,4.

Department can VOID an application for permit for failure to pay the readvertising fee.

Aggrieved party can request a hearing pursuant to 42-1701A(3), I.C.

Water Appropriation Rule 4,2,3,4.

Department can CANCEL a permit for failure to pay the readvertising fee.

Aggrieved party can request a hearing pursuant to 42-1701A(3), I.C.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: June 10, 1986

RE: Development Period on Applications for Permit

Application Processing No. 38

The development period requested on an Application for Permit should reflect actual time required to complete development and initiate use. Applications requesting more time than which appears to be reasonable should be adjusted to a reasonable time period according to judgement and the facts associated with the filing or must justify the need for the period requested. Factors to be considered include the following:

(1) A minimum of one construction and beneficial use period should be allowed following a reasonable period to develop a final detailed design, to obtain financing, procure drillers or other contractors, and to order, receive, and install necessary equipment. For example, an irrigation filing involving a well and sprinkler system approved in the spring should be given until the fall of the following year to file proof on the project.

(2) Applications for large projects should include a schedule of time required to develop the project.

For purposes of this memo, the following criteria also should be used as a guide:

(a) Projects which require other approvals, such as a FERC license or a BLM/DLE allowance, should be approved only when such approvals have been received. The development period should reflect the considerations identified in item (1).

(b) Applications submitted after a development and use have already occurred may be approved with less than a one (1) year development period.

(c) Certain municipal developments by the nature of growth of the city may require the maximum allowable development period.

If the time period recommended or approved is different from the time period requested, justification should be adequately documented with a memo to the file or a note on the staff analysis sheet.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

ADMINISTRATOR'S MEMORANDUM

TO: Regional Offices and Water Allocation Section

FROM: Norman C. Young NCY

DATE: September 11, 1986

RE: Process for Voiding, Cancelling or Rejecting Applications & Permits — Application Processing No. 39, Permit Processing No. 9

Various circumstances arise in the processing of applications and permits where action is taken to reject, void or cancel a water right filing with the Department. Typically, the Department has mailed a couple of letters to the applicant, then issued a show cause order and finally issued an order of final action. Although this process graciously gives an applicant every chance to respond to Department inquiries, the process exceeds the requirements which must be afforded to an applicant to pass minimum due process standards.

The term "procedural due process" has its genesis in constitutional law which provides that no person shall be deprived of property by the state without proper constraints on how the deprivation is accomplished. Where the property right is a government grant of property to the individual citizen with restrictions or conditions attached to the retention of the property by the individual, the owner must be given notice and an opportunity to be heard prior to the taking of the property by the state.

The measure of what procedural guarantees must be given to the property owner hinges on what property right is being affected. Where there is no property right, no constitutional process need be given.

It might be argued that an application to appropriate water is not a property right at all, but is merely a request to obtain a permit, which, upon approval, ripens into personal property. The Idaho Constitution, Art. XV, Section 3, provides, however, that "[t]he right to appropriate the unappropriated waters of any natural stream to beneficial uses, shall never be denied. . .." Whether the constitutional provision could be interpreted as an inchoate, or broad property right, is uncertain. For purposes of Department procedure, applications should be considered as an attempt by the applicant to exercise a general right given by the State Constitution. Whether a permit or an application is being processed for rejection, cancellation or voiding, the applicant should be given notice and an opportunity to be heard.

The extent of procedural formality required in the giving of notice and opportunity for hearing also depends on the nature of the property right affected. Service of an order with no prior correspondence, accompanied by a notice that the applicant can request a hearing if he desires to contest the order, may be sufficient.

It would be preferable, however, to give each applicant notice prior to the issuance of a final order because: (1) the shock of service of a final order as first notification may additionally strain an already touchy situation, and (2) pre-notice allows an opportunity for resolution without the applicant being required to petition for a hearing.

Sufficient pre-order notice can be given to an applicant by the mailing of a single letter informing the applicant of facts giving rise to the conclusions reached from the facts. A period of time for response should be imposed, accompanied by a statement of what action will be taken if the applicant fails to respond. The letter would carry greater legal emphasis if a heading was centered and capitalized, directly under the salutation, stating that the letter is "NOTICE OF _____", similar to the format currently used in the Notice of Lapsing letter. Finally, rather than send the letter by certified mail, the letter could be mailed with a mailing certificate attached, and signed by the person who sealed and mailed the letter. A copy of a sample letter is attached hereto as Exhibit "A".

By sending a letter in the above format, orders to show cause could be dispensed with, except where statutorily mandated as in Section 42-311 and 42-350, Idaho Code. In cases where an order to show cause is required, the order to show cause could replace the initial letter.

When the final order is sent, it would be advisable that the applicant be informed that he may petition the Director for a hearing if one has not previously been held. The time within which the petition must be filed should also be included.

The abrogation of the show cause order in most cases will enhance efficiency and save costs without depriving the public of courteous pre-notification and required procedural due process.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

EXHIBIT A

September 30, 1986

Speck U. Later
I-5, Exit 289
Burbank, CA 99999

Re: Application to Appropriate Water No. 65-4321

Dear Mr. Later:

NOTICE OF PENDING ORDER REJECTING APPLICATION

On October 6, 1977, you filed with the Department of Water Resources an application to appropriate water, numbered 65-4321, to irrigate 320 acres of land located in Section 21, T9S, R13E, B.M. You stated on the application that you were seeking ownership of the lands by means of a Desert Land Entry (DLE) Application.

It has recently come to our attention that Earl Y. Bird, P.O. Box 2, Hayden Lake, Idaho 83835, has been granted the right to enter and develop the lands listed in your application to appropriate water. Furthermore, we have searched the records of the Bureau of Land Management and have been unable to find any record of a DLE application in your name.

The purpose of this letter is to request that you withdraw your application or explain why the Department should not reject your application. Enclosed is a withdrawal form that should be signed and returned to me, unless you have some explanation that would prevent the Department from rejecting your application.

If you fail to respond to this inquiry within thirty (30) days of the date of this letter, the Department will act to reject your application. The application will be rejected on the grounds that it is speculative in that you do not have a possessory interest in the proposed place of use.

Respectfully,

GARY SPACKMAN
Supervisor, Water Allocation Section

I hereby certify that on this _____ day of _____, 1986, I sent the original copy of this letter, postage prepaid, to the person and address listed above.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

~~JOHN V. EVANS~~ Cecil D. Andrus
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

MEMORANDUM
Application Processing No. 40

TO: Water Allocation Staff & Regional Offices

FROM: A. Kenneth Dunn
Director

DATE: January 13, 1987

RE: Interim Approvals for Use of Trust Water

Implementation of the Swan Falls Agreement continues to be delayed pending FERC recognition of the agreement. Processing of applications and reprocessing of undeveloped permits seeking allocation of trust water for consumptive uses will be delayed awaiting FERC review of the agreement or congressional action to cause FERC to recognize the agreement.

For the past two years, IDWR has issued interim approvals to allow projects to proceed using trust water, but water users were required to obtain replacement water from existing storage facilities for release to the Snake River to resolve Idaho Power Company's (IPCo) protest against depletion of flow through its hydropower facilities.

Compliance with the public interest criteria of Sec. 42-203C, Idaho Code, was deferred.

I will continue the interim approval procedure to provide a water supply for persons who can show a sufficient need to divert and use water for the coming season. Interim approvals issued for groundwater diversions within the boundaries of the area described in Water Appropriation Rule 1,5,1,2. (trust water area) will be conditioned to require acquisition of replacement water. Interim approvals outside the boundaries of the area described by Rule 1,5,1,2. will not be cond itioned to require acquisition of replacement water. The following procedure is intended to provide information to potential users on the availability of interim approvals, to protect the water rights of other users and to assure compliance with interim approval conditions.

Notice of Interim Approval Procedure

Water Allocation Section will take the following actions prior to January 15, 1987 to inform water users and the general public of the interim approval procedure.

1. Place notices in the Boise, Idaho Falls, Pocatello, and Twin Falls newspapers describing the interim approval process. The notices should be in the form of paid advertisements.

2. Issue press releases to the media.

3. Publicity should stress the risks to the water user and that interim approvals will not be issued for development of federal desert ground under DLE, Carey Act or Reclamation programs.

Processing of Interim Approval Requests

(Assumes that 20,000 acre/year limitation does not apply)

Those interested in receiving an interim approval to use trust water in 1987 should:

1. Inform the department in writing of their intent to divert and use water.

2. Have on file an application or approved permit that accurately describes the proposed diversion and use.

3. If replacement water is required, provide IDWR evidence to demonstrate that storage water has been rented from the Water District 01 rental pool or from some other acceptable source. (2 A-F of storage water for each acre irrigated.) The rental water shall be assigned to the Director of IDWR for replacing reductions in flow of trust water.

4. Pay in advance, the advertising fee if the filing has been previously advertised and needs to be readvertised.

Upon receipt of the above listed information, the regional office will publish legal notice of the filing and the request for interim

approval. The notice shall comply with Rule 4,2,1. of the Water Appropriation Rules and Regulations. If protests are received, a hearing will be scheduled to consider the interim approval and any issues related to 42-203A, Idaho Code.

Approval Conditions

A. The following conditions apply to all interim approvals.

1. Subject to all prior water rights.

2. A measuring device or an access port of a design approved by IDWR shall be installed prior to diverting water under the interim approval.

3. The water user acknowledges that the interim approval does not convey a continuing right to divert water and does not convey any right to divert water except as specifically provided in the interim approval.

4. The water user assumes all risk that he or she will be successful in obtaining a permit for water which may be reallocated under the Water Appropriation Rules and Regulations. The water user accepts all risk that storage water will be available and obtainable from the rental pool in future years to allow the interim approval procedure to continue, if storage water is required.

5. Violation of interim approval conditions, provisions of the Idaho Code, or the Water Allocation Rules and Regulations is cause for cancellation of the interim approval and denial of future requests.

6. By accepting and commencing diversion of water under this interim approval, the water user acknowledges and agrees that the Director of IDWR is authorized to disconnect the power supply from the pump motor used to divert water under the interim approval or to take other reasonable steps to insure that water is not diverted during any period the interim approval is suspended or revoked.

7. The director may impose additional conditions not a part of the original interim approval conditions as determined by the director.

8. The filing on which the interim approval is given may be reprocessed under the provisions of Section 42-203C, Idaho Code, at the request of the water user or as determined by the Director in compliance with pertinent adopted rules and regulations and statutes.

9. Investments made by the water user to divert and use water under the interim approval will not be considered by IDWR when reprocessing the filing under the provisions of 42-203C, Idaho Code.

B. The following additional conditions also apply to interim approvals in the trust water area.

1. The volume of stored water required to be rented from the Upper Snake River Water Supply Bank shall be equal to the volume of water consumptively used as determined by the Director. For irrigation use, the volume shall be two (2) acre feet per acre.

2. Water shall not be diverted unless storage water is available, rented, and on assignment to the Director of IDWR for purposes of replacing reductions of flow in the Snake River.

3. The Director of IDWR will retain jurisdiction of this interim approval to enforce the provisions of the interim approval and to revise the volume of stored water, if appropriate.

4. By accepting and commencing diversion of water under this interim approval, the water user acknowledges and agrees that the Director of IDWR may suspend the interim approval to divert water during any period that the required storage water supply is not available.

Follow-up of Interim Approvals

Water Allocation Section will provide IPCo. a letter listing the names, filing numbers, acreage and stored water amounts for the interim approvals issued and active in 1987. IPCo. shall file a schedule of release of water with the department by November 1st of

each year. IPCo. shall use the accumulated storage water by December 31st or the stored water accumulated will be considered forfeited.

By January 15 each year, Water Allocation Section will mail a notice to each holder of an interim approval within the trust water area of the need to rent stored water or make other arrangements for replacement water for the upcoming water year.

By April 1 each year, Water Allocation Section will mail notice of intent to cancel the interim approval on May 1 for those interim approvals within the trust water area for which evidence of the replacement water acquisition has not been received. On May 1, cancellation notices will be sent when appropriate.

Regional offices will field inspect the place of use for each interim approval the first year it is issued to determine that acreage irrigated is not exceeded. The region will send a memo to Water Allocation Section describing their findings.

When an interim approval is cancelled, the regional office will field inspect to determine if water is or will be diverted. A memo of field inspection findings will be submitted to Water Allocation Section.

Regional offices will document violations and recommend enforcement action. Responsibility for enforcement actions is assigned to Water Allocation Section working through the Legal Staff.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 1301 North Orchard Street Boise, Idaho 83706-2237 • (208) 334-4440

CECIL D. ANDRUS
Governor

R. KEITH HIGGINSON
Director

MEMORANDUM

Date: December 16, 1987 Application Processing No. 41

To: Department Staff

From: R. Keith Higginson

RE: INTERIM APPROVALS FOR THE USE OF TRUST WATER

APPLICATION PROCESSING MEMORANDUM NO. 40 - REVISED
(Supercedes Application Processing No. 40)

This memo supercedes prior memos dated January 13, 1987 (Application Processing Memo No. 40) and July 16, 1987 relative to interim approvals for the use of trust water.

The issuance of interim approvals has essentially provided a conditioned approval for the use of trust water without regard for the priority of the pending application or for any pending applications which pre-date a particular application for interim approval. In order to minimize the obstacles to the orderly processing of applications once the Swan Falls settlement is fully effective, the following will be department policy with respect to the interim approvals for the upcoming water year.

The department will not grant additional interim approvals for the use of trust water. Interim approvals which have been granted in the past, however, will be recognized by the department assuming the conditions of the approvals are met by the respective grantees.

By January 15, 1988, Water Allocation Section should mail a notice to each holder of an interim approval within the trust water area of the need to rent stored water or make other arrangements for replacement water for the upcoming water year. Since the availability of storage water available for rental likely will not be known in mid-January, the notice should be appropriately written.

By April 1, 1988, Water Allocation Section should mail notice of intent to cancel the interim approval on May 1 for those interim approvals within the trust water area for which evidence of the replacement water acquisition has not been received. On May 1, 1987, cancellation notices will be sent when appropriate.

When an interim approval is cancelled, the regional office will field inspect to determine if water is or likely will be diverted. A memo of field inspection findings should be submitted to Water Allocation Section.

Regional offices will document violations and recommend enforcement action. Responsibility for enforcement actions is assigned to the department's legal section. Water Allocation Section will coordinate data collection for the enforcement action.

ADMINISTRATOR'S MEMORANDUM

Date: January 6, 1988 Application Processing No. 42

To: Regional Offices and Water Allocation Section

From: Norman C. Young NCY

RE: LOCATION OF SPRINGS - LEGAL DESCRIPTION

Rule 3,3,2,3. of the Water Appropriation Rules and Regulations and Rule 7,1,3. of the Beneficial Use Examination Rules and Regulations require the location of springs on applications for permit and on field examinations to be described to the nearest ten acre tract.

Whenever the location of a spring can not be accurately determined to a ten acre tract because the land has not been surveyed, the location of the spring can be shown to the nearest forty acre tract. The spring must be uniquely identified, however, by reference to permanent unmistakable land marks, a sketch map and must be differentiated from any other springs in the area.

Exceptions to the ten acre rule need to be justified with a statement of explanation on the application or on the field examination.

MEMORANDUM

To: Regional Managers
Water Allocation Bureau
Resource Protection Bureau
Adjudication Bureau

Application Processing No. 43

From: Norman C. Young NCY

RE: SCHEDULING AND CONDUCT OF CONFERENCES AND HEARINGS

Date: December 27, 1988

Associated with reorganization will be a shift in responsibilities some of which are immediate and some of which will evolve over a period of time. One such responsibility is in connection with water right hearings.

Hearings on protested water right applications is a function of Water Allocation Bureau. Pending decisions on matters already heard, however, in most cases should be completed by the original hearing officer(s) for efficiency reasons.

As Water Allocation Bureau evolves into the hearing process, some aspects of the hearing procedure will be changed. More specifically, past experience has shown that many matters set for conference and/or hearing often are resolved in a conference forum without the need for a hearing. Matters which can not be resolved in a conference often can not immediately go to hearing, since the parties often are not prepared, do not have their evidence or witnesses available or simply did not understand what a hearing involves.

In order to determine which matters require a hearing, the regional supervisor should schedule a conference with the involved parties not later than 60 days of receipt of the protest. In some cases, a prior field visit will resolve a protest.

If a matter can not be resolved by a field visit or at a conference, the regional supervisor should, when possible, formulate and simplify the issues, obtain admissions of fact and of documents which will avoid unnecessary proof, arrange for the exchange of proposed exhibits or prepared expert testimony prior to the hearing, limit the number of witnesses, consolidate the examination of witnesses and advise the parties of the procedure which will be followed at the hearing to be scheduled. A state

office representative then will conduct the hearing together with the regional supervisor.

Hopefully, this procedure will allow the department to more effectively use its personnel in the screening and hearing of contested matters.

With respect to appeals, or requests for rehearing in connection with proposed decisions or decisions, the state office will assign a hearing officer which may or may not be the same hearing officer who first heard the matter.

Water Allocation Bureau will set up a callup/action file to expedite the drafting and issuance of decisions once the record has closed. The goal the department should obtain is to issue the proposed decision within 30 days after the record closes.

In order to facilitate the scheduling of hearings, the regions may use the following time frames as a general guide:

Northern Region - Week of each month with the first Monday.

Southern Region - Week of each month with the second Monday.

Eastern Region - Week of each month with the third Monday.

Western Region - Week of each month with the fourth Monday.

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 334-7900

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

ADMINISTRATOR'S MEMORANDUM

To: Water Management Division

From: Norman C. Young NCY

RE: LEGAL ADVERTISEMENTS

Date: January 30, 1989

Application Processing No. 44
Permit Processing No. 13
Transfer Processing No. 11
Claim Processing No. 3

Attached is a copy of Section 60-113, Idaho Code, which is self-explanatory.

In order to comply with the code section, the department should prepare its legal notices in compliance with paragraph (b) of the section. We can simply add a statement to our legal notice which states something like "For additional information concerning the property location, call _____ Regional Office at _____(phone number)".

This change in our advertising procedure should be relatively easy to implement and should satisfy the requirements of Section 60-113, Idaho Code.

The recommended change has been selected since, most of the legal descriptions which appear in the notices prepared by the department do not have a related street address. In addition, most legal notices are prepared from the computer based data which can not readily accommodate the preparation of a legal notice which involves language such as "... which is located 2 miles West of the Mountain Home Air Force gunnery range and 5 miles south of the intersection of Simco Road and Interstate Highway 84".

MEMORANDUM

To: Eastern and Southern Region

From: Norman C. Young NCY App. Processing No. 45

RE: PROCESSING OF APPLICATIONS IN THE NON-TRUST WATER AREA

Date: March 1, 1989

The Director recently sent a letter (copy Attached) to Gary Slette who represented the petitioners seeking inclusion of ground water in the non-trust water area into Water District 1, or alternatively a moratorium on processing in the area.

As described in the letter, applications which have been held as a result of the Swan Falls controversy or because of the petitions, which have subsequently been withdrawn, can be considered for processing. Enclosed is a list of applications which the State Office shows as pending in the non-trust water area. The application numbers with checks in the left margin next to the numbers are applications held in the State Office. The State Office will review those applications presently in this office.

Most DCMI and non-consumptive applications can be processed and approved without special conditions. Applications for irrigation need to be reviewed on a case by case basis to determine compliance sith Section 42-203A, Idaho Code, and any applicable special conditions associated with approval.

The advertisement of the pending applications may need to be spread out over some time to provide opportunity for adequate review and determination of appropriate approval conditions.

Although many of the pending applications will not be readvertised, the department has agreed to provide reasonable information upon request to interested parties as processing of filings proceeds.

ADMINISTRATOR'S MEMORANDUM

TO: REGIONAL MANAGERS AND STAFF, WATER ALLOCATION AND RESOURCE PROTECTION BUREAUS

FROM: NORM YOUNG NCY

DATE: December 26, 1989

RE: MUD LAKE MORATORIUM APPLICATION PROCESSING #46

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On December 1, 1989, the department issued an order establishing a moratorium in the Mud Lake area (see attached order and area map). The purpose of the moratorium is to prevent new irrigation development during the USGS study of the area which is slated for three years. Nearly all of the moratorium area lies within the trust water area. However, portions of the moratorium area's most eastern boundary are located within the "non-trust" area.

Applications for permit proposing irrigation of new land (from either a groundwater or surface water source) which have been held as a result of the Swan Falls litigation and are pending review under Section 42-203C, and applications for transfer proposing irrigation of new lands will be held without action pending the outcome of the study described in the order.

Applications at the state office will be returned to the regional office. The regional office should mark those files and place them on hold with those applications already at the region. New applications with irrigation uses filed after the date of the order establishing the moratorium may be accepted by the department, but should also be held in the regional office.

Applications for non-consumptive uses and DCMI uses of 1.00 cfs or less may be approved. Filings made for which development was complete prior to the designation date of the moratorium area and supplemental filings for which development was complete prior to the designation date may be approved.

MEMORANDUM

To: Regional Offices
Water Allocation Bureau

From: Norman C. Young NCY

RE: **APPROVAL POLICY - SUPPLEMENT TO APPLICATION PROCESSING MEMO NO. 47, AMENDED MAY 20, 1992**

Date: September 17, 1992

Clarification of Application Processing Memo. No. 47 (Amended) issued on May 20, 1992 as contrasted with the Application Processing Memo No. 47 issued on February 1, 1990 has been requested by regional office staff.

The 1990 memo provided that the department would issue permits for domestic, stockwater and non-consumptive uses within the boundaries of Ground Water Management Areas (GWMAs) and Critical Ground Water Areas (CGWAs) provided that domestic uses were limited to inhouse use.

The 1992 memo was intended to supercede the prior memo and provided that the department would issue a permit in GWMAs if the use was within the limits of "domestic purposes" as described in Section 42-111, Idaho Code. Note that this was a "loosening" of the prior memo since the approvable domestic use no longer was limited to inhouse use. The 1992 memo also provided that the department would not issue water right permits in a CGWA.

Neither memo addressed treatment of a "community" well where a community well means a well which provides domestic water to more than one domestic unit.

Department policy with respect to the filing of applications for permit and subsequent department action on the applications in GWMAs and CGWAs is as follows:

GROUND WATER MANAGEMENT AREAS

- Department staff should follow provisions of any existing management plan which has been prepared for a specific GWMA. If a plan does not exist, the provisions of this memo apply.

- The department will issue a water right permit for non-consumptive uses and for other uses which do not exceed the rate and volume limitations of the "domestic purposes" definition described in Section 42-111, Idaho Code. Note that

these approvable uses are not limited to inhouse use.

- The department will issue a water right permit for "community" domestic wells provided that each domestic unit served by the community well does not exceed the rate and volume limitations of the "domestic purposes" definition described in Section 42-111, Idaho Code and individually would be exempt from the filing of an application for permit as provided in Section 42-227, Idaho Code. Note that these approvable uses also are not limited to inhouse use.

CRITICAL GROUND WATER AREAS

- Staff should follow provisions of any existing management plan which has been prepared for a specific CGWA. If a plan does not exist, the provisions of this memo apply.

- The department will issue a water right permit for non-consumptive uses.

- The department will issue a water right permit for uses which do not exceed the rate and volume limitations of the "domestic purposes" definition described in Section 42-111, Idaho Code. Note, however, that these approvals will not provide for the irrigation of any land.

- The department will not issue a water right permit for community domestic wells in CGWAs.

MEMORANDUM

To: Water Management Division Staff

From: Norman C. Young NCY

RE: **DOMESTIC USE IN MORATORIUM AREAS, GROUND WATER MANAGEMENT AREAS AND CRITICAL GROUND WATER AREAS**

Date: May 20, 1992 App. Proc. Memo. No. 47 (Amended)

A question recently arose inquiring whether a prospective water user is required to obtain a water right permit for the construction of a well for stockwater use in a moratorium area, ground water management area or critical ground water area (administrative areas) and the limits, if any, which may apply to the stockwater use.

A water user is not required to file for a water right permit if the proposed ground water diversion will not exceed an instantaneous discharge of 0.04 cubic feet per second (18 gallons per minute) and a daily diversion of 2,500 gallons per day, or a daily diversion volume of 13,000 gallons per day and otherwise meets the domestic purpose definition of Section 42-111, Idaho Code. The department will, however, issue a water right permit if the use is within a ground water management area, but not in a critical ground water area. The water user must obtain a drilling permit from the Department for construction of the well.

If a water user represents that the instantaneous rate of diversion will exceed 0.04 cfs and a daily volume of 2,500 gallons per day or the daily volume will exceed 13,000 gallons per day, the use will not be allowed without a water right permit.

To determine if the proposed stockwater use meets the domestic purposes definition, information on the number and kind of livestock must be known. i.e. A daily diversion volume of 13,000 gallons will supply the water water requirement for approximately 1,000 head of range cattle at 12 gallons per day per animal.

To determine the daily water requirement volume for various types of livestock, refer to Table 3, "Non-Irrigation Water Requirements" in the Field Examiner Handbook.

MEMORANDUM

To: Water Management Division Staff

From: Norman C. Young NCY

RE: SECTION 42-203A, IDAHO CODE - CONSERVATION CRITERION

Date: October 9, 1990

Application Processing No. 48

Effective July 1, 1990, Section 42-203C, Idaho Code, provides a sixth (6th) criterion to consider in the approval of an application for a permit. The criterion reads as follows:

"(f) that it is contrary to conservation of water resources within the state of Idaho;"

This criterion was added to the Idaho Code by a legislative committee for the purpose of helping to regulate the out-of-state diversion of Idaho's water. The term "conservation" is not defined in the legislative intent or in the amendment. The department's water appropriation rules and regulations will address the meaning and application of the word "conservation", but until the rules are amended in compliance with the Administrative Procedures Act, the general use and application of the term should be as described below.

"Conservation" can be interpreted to relate to a standard of efficiency either in conveyance efficiency, application efficiency, energy production or energy consumption associated with a proposed use of water. The term may also be interpreted to allow limitation or denial of certain water uses in order to "conserve" the water for other water uses deemed to be more beneficial. Due to lack of stated legislative intent, the department will apply the criterion in terms of efficiency as is generally suggested by the term.

ADMINISTRATOR'S MEMORANDUM

To: Water Allocation Bureau and Regional Offices

From: Norman C. Young NCY

RE: APPLICATIONS PROPOSING DIRECT DIVERSION FROM THE SNAKE RIVER FOR IRRIGATION USE ASSOCIATED WITH DOMESTIC USE

Date: December 31, 1990

Applic. Proc. No. 49

The "Contract to Implement" and "Agreement" signed on October 25, 1984, in connection with resolution of the Swan Falls water right controversy provided that irrigation uses of up to 2 1/2 acres in connection with a domestic use would not need to be reviewed in the detail required of other filings in the trust water area hydraulically upstream of Swan Falls Dam. For practical reasons, the acreage was rounded to 3 acres.

Water Appropriation Rule 5,2,3. provides that a direct diversion of water from the Snake River for irrigation purposes between Milner Dam and Swan Falls dam is presumed to cause a significant reduction. Water Appropriation Rule 5,2,4. excludes DCMI uses from this presumption.

Water Appropriation Rule 5,3,9. provides that a direct diversion of water for irrigation purposes from the Snake River is presumed not to be in the public interest. Water Appropriation Rule 5,3,10. excludes DCMI uses from this presumption unless protested.

Because of the exemptions provided for DCMI uses in the Water Appropriation rules, the department will consider approval of direct diversions of water from the Snake River for irrigation purposes where such diversions are for the irrigation of not more than three (3) acres and the irrigation use is associated with a domestic use.

MEMORANDUM

App. Proc No. 50

To: Water Management Division

From: Norman C. Young NCY

RE: FISH PROPAGATION APPLICATION APPROVAL GUIDELINES

Date: April 1, 1991

The Idaho Aquaculture Association has provided information to the department which uses a point rating system to evaluate the potential affect of a proposed new fish propagation facility (facility) upon other existing facilities. The rating system is intended to be used as a guide and is not intended to negate the obligation of an applicant to comply with all other local, state and federal requirements applicable to a proposed facility and appropriation of water.

The common factors and parameters which determine the affect of one facility upon another include disease, oxygen level, carbon dioxide, ammonia, nitrates, settleable solids and water temperature.

The point system described below should be used in the department's evaluation of applications proposing a new or enlarged facility which is upstream from an existing facility. The number of cumulative points associated with the new facility can then be used as a guideline to determine the potential affect of the new facility on existing facilities. Depending on the amount of the affect, new appropriations can be approved, denied or approved with specific conditions to prevent or minimize injury to existing water rights for fish propagation purposes.

An applicant needs to provide enough information to allow the department to evaluate a proposed facility using the parameters in this memo.

Considering the characteristics associated with a proposed new facility, determine the number of points shown to the right of each of the seven (7) categories below:

1. Type of water supply currently used by existing facility.

a.	Surface with fish cultured upstream	1
b.	Surface with no fish cultured upstream	2
c.	Spring with fish cultured upstream	3
d.	Spring with no fish cultured upstream	4

2. Average percent of existing facility's water to be used by the proposed facility.

a. Less than 10%	1
b. 10% but less than 25%	2
c. 25% but less than 50%	3
d. 50% but less than 75%	5
e. 75% or more	7

3. Distance between existing facility intake and proposed facility discharge.

a. 1.0 mile or more	1
b. 0.50 mile to less than 1.0 mile	2
c. 0.25 mile to less than 0.5 mile	3
d. 0.10 mile to less than 0.25 mile	5
e. Less than 0.10 mile	7

4. Change in elevation between discharge of new facility and the intake of the existing facility.

a. 50 feet or more	1
b. More than 20 feet but less than 50 feet	2
c. More than 10 feet but less than 20 feet	3
d. More than 5 feet but less than 10 feet	5
e. Less than 5 feet	7

5. Anticipated temperature change in new facility

a. Less than 1 degree F.	1
b. 2 degrees F.	2
c. 3 degrees F.	3
d. 4 degrees F.	5
e. 5 degrees F.	7

6. Existing facility consideration

a. Raises fish seasonally and proposed facility is a year around facility	-3
b. Hatches eggs	5
c. Is a certified disease free facility	7

7. Proposed new facility

a. Spring or well source with no fish facility above	-3

The points associated with the characteristics of the new facility should be added and then compared to the following guideline:

TOTAL POINTS	GUIDELINE
0 - 15	Generally approve
16 - 20	Approve with conditions
21 or more	Generally disapprove

DIRECTOR'S MEMORANDUM

TO: Regional Offices, Water Allocation Bureau and Adjudication Bureau

FROM: R. Keith Higginson

RE: Rate of Flow and Volume for Water Rights With Source of Ground Water

DATE: May 7, 1991

Application Processing No. 51
Permit Processing No. 16
Adjudication Memo No. 31

A review of field examination procedures relative to measurement of rate of flow for diversions from ground water has resulted in the identification of certain water uses for which a theoretical computation is an acceptable substitute for measurement of rate of flow. The purpose of this memorandum is to describe situations where utilization of the theoretical computation is permissible.

The determination of which situations require measurement of rate of flow for a ground water right is outlined in Appendix 1. The procedure for determining rate of flow is described in Appendix 2. This memorandum shall be the authority for removal of flow measurement requirements from water right permits that are shown by Appendix 1 not to require measurement.

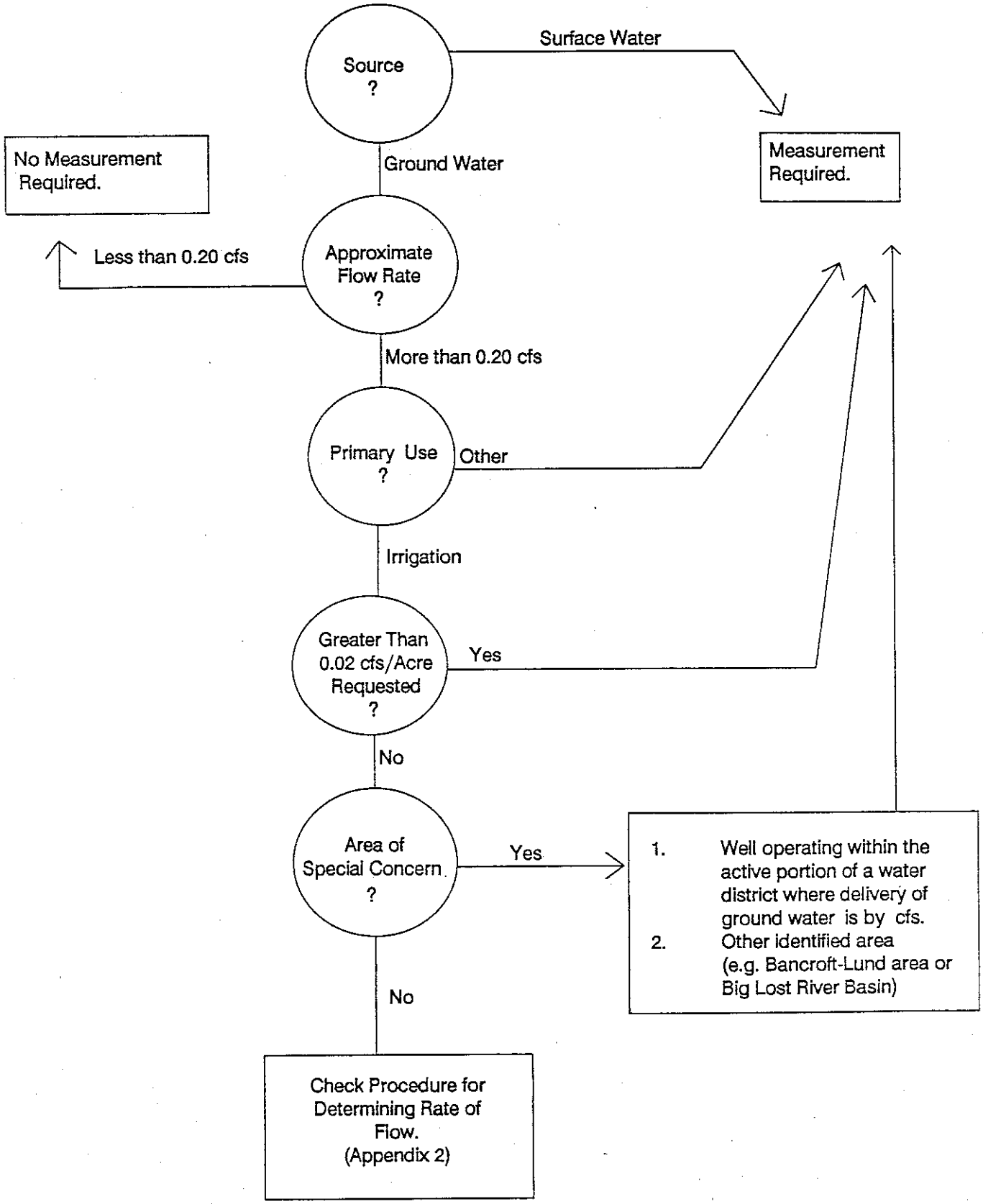
This procedure applies to rate of flow determinations for the preparation of water right licenses and adjudication Director's Reports.

Appendix 1 - Flow Chart for Determining if Flow Measurement is Required

Appendix 2 - Procedure for Determining Rate of Flow

APPENDIX I

FLOW CHART FOR DETERMINING IF FLOW MEASUREMENT IS REQUIRED



Appendix 2

Procedure for Determining Rate of Flow

(Use this procedure in conjunction with Appendix 1)

A. Measure the rate of flow of the system whenever it is possible at time the examination is conducted, even if it is not required.

B. The licensed or decreed rate of flow is not always determined by the system capacity. This is the case when the system capacity obviously exceeds the permitted or claimed flow rate. In such cases no significant effort needs to be made to determine system capacity.

C. An acceptable method of determining a rate of flow for licensing or the director's report for a system not requiring a measurement is as follows:

1. Evaluate whether system capacity is likely to be the limiting factor. If not, base the recommended rate for licensing or decree on the lessor of the permitted or claimed amount or the duty of water.

2. If the system capacity appears to be the limiting factor, make an acceptable estimate by refining the theoretical calculation. Compute the theoretical calculation as described below:

a. Basic equation:

$$Q = \frac{(8.8) \times (HP) \times (E)}{H}$$

Where Q = rate of flow in cubic feet per second,
HP = brake horsepower of the pump motor,
E = pump efficiency, and
H = total head.

b. For purposes of field calculations, parameters are determined in the following manner:

1. HP is obtained from the motor nameplate.

2. E is considered to be the highest operating efficiency of the system, which is assumed to be 70% unless a higher efficiency can be demonstrated by the operator.

3. H is computed as the sum of the dynamic lift (elevation distance between water surface during pumping and location of pressure reading) and the pressure head at the pump, computed as 2.31 times the pressure in psi.

Procedure for Determining Rate of Flow (Cont.)

c. Procedure:

1. Determine HP from motor nameplate.

2. Determine dynamic pumping level (water level during pumping), based on a **combination** of at least two of the following:

   a. Discussions with well owner.

   b. Measurement with a steel tape, pressure tube, or electric well probe (plus a drawdown factor).

   c. Information from exams conducted on nearby wells, if in a homogeneous aquifer, (including the amount of anticipated drawdown).

   d. Information provided on a well log, particularly where the well driller shows pump test data with discharge and draw down.

   e. Information from water level contour maps, such as in the Snake Plain Aquifer.

3. Measure pressure of mainline near the pump, or estimate this pressure based on the type of operating system (high pressure pivot, open discharge, etc.).

4. Compute the theoretical rate of flow.

d. Example:

An irrigation system is found to have a 50 HP motor, a dynamic depth to water of 100 feet, and a pressure of 80 psi near the pump.

$$Q = \frac{(8.8)\ X\ (HP)\ X\ (E)}{H} = \frac{(8.8)\ X\ (50)\ X\ (.70)}{(100 + \{2.31 * 80\})} = 1.08 \text{ cfs}$$

e. Limitations: There are some situations where use of this equation is not applicable, for example where there is no means of determining even an estimate of the dynamic pumping level, and where artesian pressure creates a flowing well. In these situations either measurement is required or alternate techniques must be used to quantify estimated flow rates. Acceptable measurement techniques for these situations include (1) sprinkler measurements for pressurized systems, (2) timed fills of trapezoidal ditches for gravity flow systems, and measurement with a polysonic measuring device.

3. Refine the theoretical measurement by a variety of techniques, including reading the power meter if the system is operating to determine horsepower actually being used, evaluation of whether friction losses are relevant, review of pump design information to improve the estimate of efficiency, or obtaining information on measurements taken by pump installers, electrical companies, etc.

D. When developed in conformance with Appendices 1 and 2, the theoretical rate of flow is an acceptable substitute for a measured rate of flow.

ADMINISTRATOR'S MEMORANDUM

To: Water Management Division
Adjudication Bureau

Application Processing Memo #52
Licensing Memo #9
Transfer Processing Memo #16
Adjudication Memo #39

From: Norman C. Young NCY

Re: STANDARDS FOR IRRIGATION CONSUMPTIVE USE REQUIREMENTS, IRRIGATION FIELD HEADGATE REQUIREMENTS, AND IRRIGATION SEASON OF USE

Date: October 12, 1999

A new 1:1,000,000 scale map of the "Irrigation Season of Use" presents a new standard for use in water right adjudication and water right licenses, permits, and transfers. A reduced reproduction of the map is attached to this memo; the reduced reproduction is for illustrative purpose only. The official version of the map is in digital format and can be accessed by contacting the Adjudication Bureau. A full-size copy of the map is available in the SRBA map case.

The 1:1,000,000 scale map of the state of Idaho dated December 1991 and entitled "Consumptive Irrigation Requirement, Field Headgate Requirement and Season of Use" is still necessary for the Consumptive Irrigation and Field Headgate Requirements. A reduced reproduction of the map is also attached to this memo; the reduced reproduction is for illustrative purpose only. An official copy of the map is available in the SRBA map case.

The purpose of these maps is to provide consistent standards in a simple format. Further information concerning the foundation for these standards is available from Jeff Peppersack.

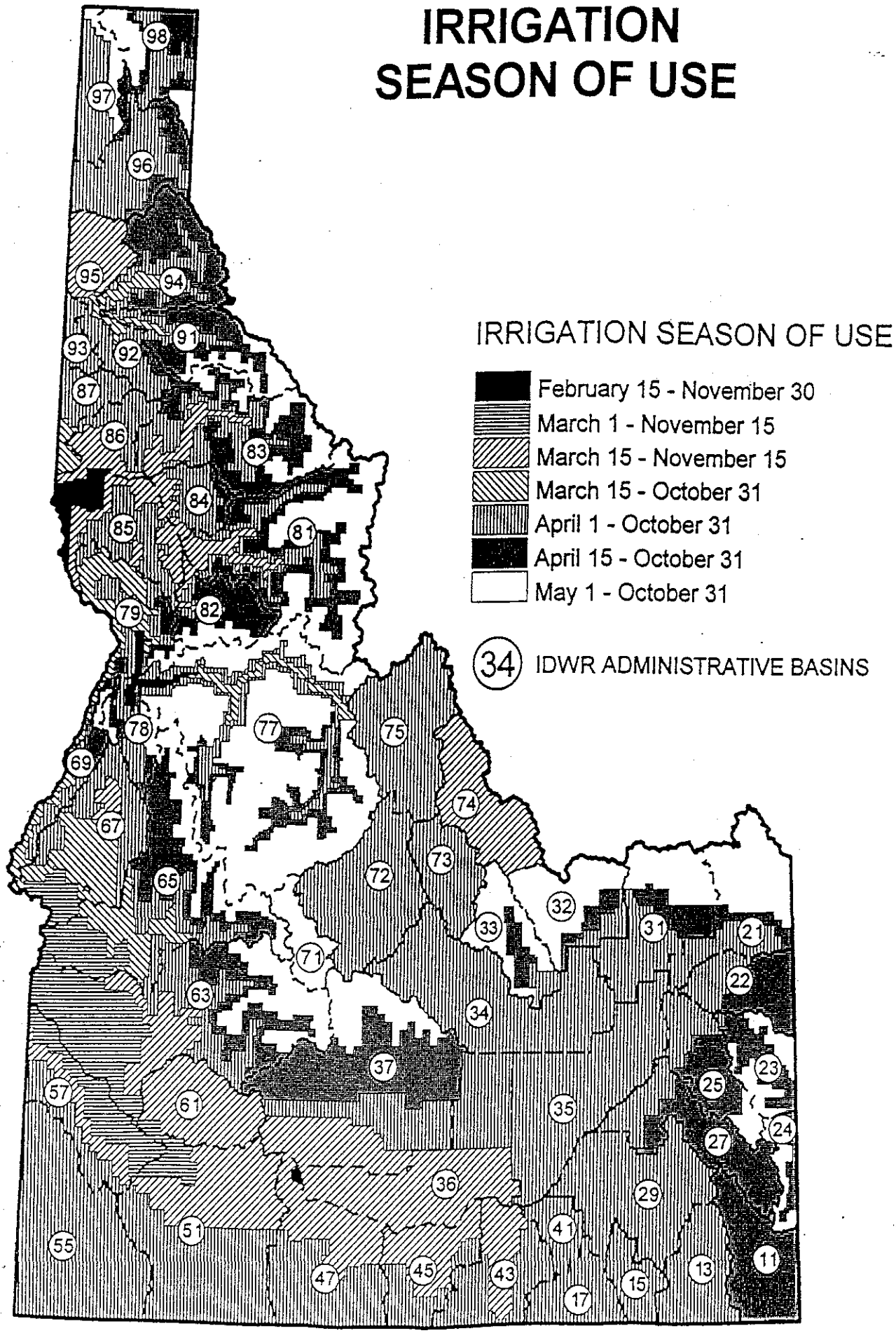
The standard season from the new map is to be used for a new permit regardless of the season stated on the application unless it can be shown to the satisfaction of the director that a different season of use is necessary. Likewise, the standard season from the new map is to be used for a new license regardless of the season stated on the permit unless it can be shown to the satisfaction of the director that a different season of use is necessary.

For a transfer of a license or decreed water right, the transfer approval should retain the licensed or decreed season. However, when the new standard season is longer than the licensed or decreed season, an approval condition like the following may be added:

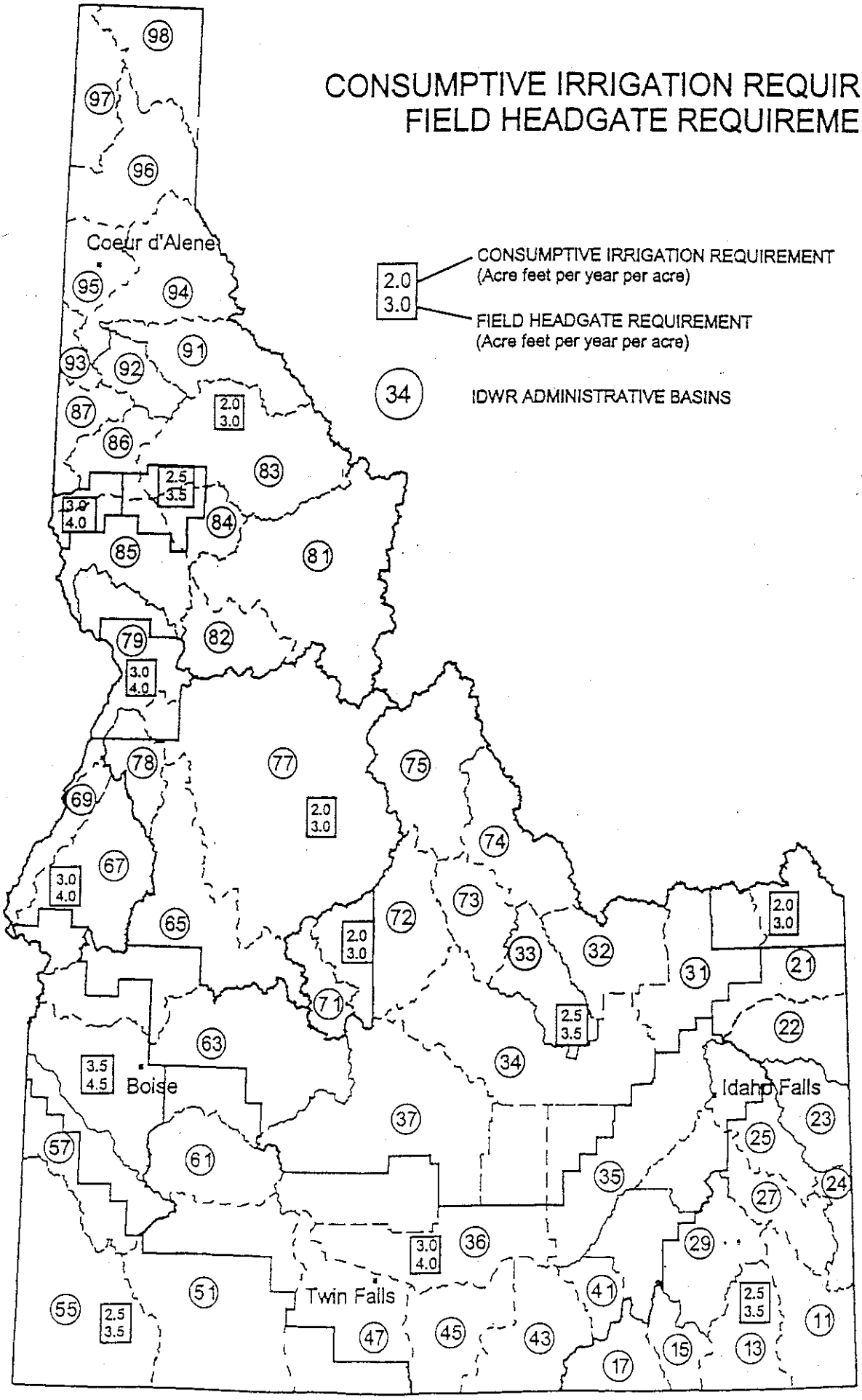
> The period of use for the irrigation described in this approval may be extended to a beginning date of *new standard* and an ending date of *new standard* provided that beneficial use of the water can be shown and other elements of the right are not exceeded. The use of water before *licensed or decreed date* and after *licensed or decreed date* is subordinate to all water rights having no subordinated early or late irrigation use and a priority date earlier than the date of this approval.

The standard season from the new map is to be used for recommendations in the SRBA as described in the Claim Investigation Handbook.

IRRIGATION SEASON OF USE



CONSUMPTIVE IRRIGATION REQUIREMENT, FIELD HEADGATE REQUIREMENT



ADMINISTRATOR'S MEMORANDUM

TO: Regions and Water Allocations Bureau
FROM: Norm Young NCY
DATE: June 17, 1992 Application Processing No. [redacted]53

RE: Approval of Applications in the Snake River Basin and Bear River Basin Moratorium Areas

On May 15, 1992, the Director, by moratorium order, prohibited further approval of water right applications for surface and groundwater within the Snake River Basin and the Bear River Basin. The Director exempted some narrow uses from the moratorium prohibition. The exemptions are:

1. Supplemental irrigation, from groundwater, of cultivated land normally delivered a full supply of surface water which is not available due to the drought.

2. Domestic uses as defined in Idaho Code § 42-111.

3. Nonconsumptive uses as defined in Idaho Code § 42-605A.

The moratorium only applies to pending applications, or applications filed in the future. Development pursuant to already approved permits may be completed.

All water right applications prohibited by the moratorium will be held in the regional offices without advertising. When an applicant files an application for permit with the Department, the applicant should be informed of the moratorium, and his application should be evaluated to determine whether his proposed use is exempt. He should be granted an opportunity to submit information to qualify for the exemption.

We cannot refuse to accept an application. By filing the application, the applicant can establish an earlier date of priority.

Each of the exemptions and the method of processing is explained below:

EXEMPTIONS

Supplemental Groundwater Irrigation Supply

An applicant seeking approval for supplemental irrigation must show that he has irrigated his land with a full supply of

surface water which is not available due to the drought. Where there has been ample storage water in the past, such as in the Boise River and upper Snake River areas, the review of application for supplemental irrigation from groundwater should be cursory. In other areas where there is very little storage, and some surface water sources have not provided a full supply of irrigation water, we must scrutinize the applications more carefully. For instance, a recent application seeking a groundwater diversion stated that its normal supply of water is cut-off about June 15 of each year. A high water right does not qualify as a full supply of water, and we cannot process a supplemental groundwater application. Where water rights may be deliverable through a portion of the year, we will review the applications on a case-by-case basis.

Any supplemental irrigation approval will expire at the end of the 1992 irrigation season. The application will be retained in the files of the Department of Water Resources, and the proposed date of priority will be preserved. If the drought persists in subsequent years, the applicant can petition the Department of Water Resources for an additional one year approval. The Department will continue to hold the application, as well as other applications which are not exempt. If the current drought cycle ends, and the Director determines that the moratorium should be lifted, the applications can then be processed in their order of proposed priority.

At the time of reprocessing an application for permit which has previously received temporary approval, but is now being processed for a permanent water right, notice of the application must be republished. The applicant must pay a readvertisement fee.

The cover letter mailed to all supplemental permit holders states that when the permit expires, the water user must make the pump and motor inoperable. The pump and motor may be made inoperable by proper abandonment of the well, removal of the pump or power supply, interruption of the power supply at the transformer fuses, or other assurances of regulation to prevent diversion without approval.

The holder of a temporary permit is not entitled to use groundwater as a primary source of water. The surface water must remain appurtenant to his land, and be used, to the extent possible, on the traditional place of use. Any violation of the condition results in the automatic revocation of the right to divert groundwater. Applicants should be cautioned that the sale, transfer, lease or use of their surface water on other lands not authorized for diversion may be a violation of the condition.

A condition of approval requires location of any new wells at least 500 feet from existing wells, unless waived by the Department. The Department recognizes that 500 foot well spacing may not be possible for smaller tracts of land. The Department also recognizes that wells drilled for smaller tracts of land will not impact other users to the degree a larger well will. The water right holder is responsible for requesting approval of spacing less than 500 feet.

Domestic Uses

The definition of domestic use is found in Idaho Code § 42-111. Idaho Code § 42-111 describes domestic use as the use of water for homes if the total irrigation does not exceed one-half acre of land and total use does not exceed 13,000 gallons per day. The statute specifically excludes multiple owner subdivisions unless the diversion rate and volume limitations are satisfied.

The moratorium did not intend to prohibit development of multiple unit subdivisions served by a single community well. A subdivision with platted lots of less than one-half acre is exempt from the moratorium. A condition must prohibit irrigation or use of water on any lot upon which there is no domestic dwelling constructed. Furthermore, the construction of two or three domestic dwellings on a single lot does not justify irrigation of one-half acre for each of the dwellings. Only one-half acre may be irrigated per single platted lot.

Nonconsumptive Uses

The moratorium order exempts nonconsumptive uses as defined by Idaho Code § 42-605A. Idaho Code § 42-605A defines nonconsumptive use as "a water right . . . designated by provisions of the permit or license issued by the Department of Water Resources, or otherwise so designated by the Director, or by the decree of court allowing use of the right to continue when diversion of earlier priority water rights from the same source has been reduced or stopped by action of the watermaster."

Proposals for nonconsumptive uses must be evaluated on a case-by-case basis. Traditional uses that have been termed "nonconsumptive" may actually have a consumptive component which must be quantified. For instance, aesthetic or recreational ponds seep and evaporate. The evaporation from a pond with one acre surface area is approximately equivalent to the consumptive use of one acre of alfalfa. Furthermore, if a surface water source is being stored, and the seepage into groundwater is significant, the loss may injure other surface water rights.

The applicant must demonstrate that his use is truly nonconsumptive, or must somehow compensate for any water lost by obtaining and transferring an existing water right.

MISCELLANEOUS ISSUES

Municipal uses are not exempt from the moratorium. The domestic component of a municipal right is exempt, however. If the municipality agrees that no new parks, golf courses or common areas will be irrigated after the new well is approved without obtaining water rights elsewhere to irrigate the property, the municipal right can be approved with conditions.

Industrial and commercial uses are difficult to categorize because of their variety. Some industrial and commercial uses may qualify for the small domestic exemption in Idaho Code § 42-111B. Other industrial and commercial uses may be totally nonconsumptive. Some, however, may have large consumptive components. Commercial and industrial use applications which are consumptive are prohibited by the moratorium, and users must obtain water by acquiring and transferring an existing water right.

The Department will also review applications for pre-existing use to determine whether they should be approved. In some cases, the Department has held an application without cause, and our failure to review and approve the application resulted in the application now being held by the terms of the moratorium. These applications should be processed.

The moratorium does not supersede existing GWMA, CGWA, or moratoria. Water management in these designated areas will be in accordance with the previously issued existing order.

The moratorium will be reviewed from time to time and lifted when drought conditions are no longer widespread.

MEMORANDUM

DATE: March 3, 2006 Application Processing #54

TO: Water Appropriation Bureau and Regional Offices

FROM: Gary Spackman

RE: Application Processing Memorandum No. 54 is Repealed

Application Processing Memorandum No. 54 is repealed. The memorandum, which was issued in 1992, authorized the processing of applications for new water rights in the Snake River Basin moratorium areas if the uses were established before the commencement of the Snake River Basin Adjudication on November 19, 1987.

On November 19, 2005, the Director issued a "Final Declaratory Ruling RE: Pre-1987 Processing and Interlocutory Order Denying Motion for Stay" in the matter of application for permit no. 36-16125 (Delis Farms). In the order, the Director wrote:

> It is further ordered and declared that there is no existing valid exception from the processing prohibition of the Non-Trust Water Moratorium or the Trust Water Moratorium for applications for permits that propose appropriation of water for beneficial uses completed on or before November 19, 1987. Any applicants proposing appropriation of water from ground water in the Non-Trust Water Moratorium and the Trust Water Moratorium for beneficial uses of water completed on or before November 19, 1987, must mitigate for the predicted depletions to the Snake River and tributary springs that will be caused by the proposed diversion and use of ground water.

IDWR staff may have applied the pre-1987 moratorium exception in other restricted areas outside the Non-Trust Water Moratorium and Trust Water Moratorium areas. Use of the pre-1987 exception should cease in those areas as well.

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

MEMORANDUM TO: Staff

FROM : R. Keith Higginson

DATE : July 1, 1992

SUBJECT : Snake River Basin Moratorium Application Processing #54

As expected, the moratorium on new uses of surface and ground water of the Snake River Basin upstream from the Weiser gaging station has generated several questions concerning intent.

You will recall that the moratorium provided several exceptions:

domestic uses
nonconsumptive uses
drought wells
drilling permits to replace or deepen

It appears that a number of situations have been identified where applications for permits have been filed to cover presently existing uses of water. I see no reason to hold up the processing and approval of such permits since it will make no difference on the quantity of water that is being withdrawn in the basin during this drought period. If we are not going to consider issuing permits to cover such existing uses then we need to issue cease and desist orders to stop the use. I don't want to take that action where there is an alternative.

Therefore, the purpose of this memo is to advise that it is the intent of the moratorium order issued on May 15, 1992 to hold up the issuance of permits authorizing new or expanded uses of water within the Snake River Basin. The moratorium may be interpreted to allow the continued processing and approval of applications proposing to cover an existing use. Such existing use must predate the start of the Snake River Basin Adjudication in November 1987.

MEMORANDUM

TO: Regions and Water Allocations Bureau
FROM: Norman C. Young NCY
DATE: November 16, 1992

ADMINISTRATIVE MEMORANDUM
APPLICATION PROCESSING #55

RE: Consideration of Water Right Applications for Fish Propagation

The courts have held that the Department cannot approve an application which will violate Idaho water quality standards. The courts' determination was specifically related to fish propagation proposals in the Middle Snake area. Consideration of applications for permit to appropriate water for fish propagation must be coordinated with the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) to determine whether the use of water proposed by the application will be consistent with the local public interest.

DEQ has been developing industry discharge standards for river segments throughout the state, particularly in the Middle Snake River. During the development of industry standards, DEQ will not certify any project which will result in a net increase in nutrient discharge to the river. As a result, the Department of Water Resources has approved only one application for fish propagation which DEQ stated could satisfy the no-net-increase standard. After receiving information from DEQ regarding the likely future DEQ standards, it appeared that the no-net-increase standard is likely to remain in place following the adoption of industry standards. However, the final decision on this standard will be made in early 1993.

The Department is sending a letter to all applicants informing them that processing will be resumed upon submittal of plans and specifications to the Department, including a certificate by DEQ, that the project will not increase nutrients in the receiving stream in accordance with the standards to be adopted.

We will continue to withhold action on pending applications for fish propagation until DEQ certification is provided that the project can be built and operated in conformance to the established standards. I regret the continuing delay in being able to issue a decision on the applications, some of which have been pending a long time.

NCY:GS:js

MEMORANDUM

To: Regional Offices App. Processing No. 56
Water Allocation Bureau

From: Norman C. Young, Administrator NCY

RE: IMPLEMENTATION OF SENATE BILL NO. 1054 - TEMPORARY WATER APPROPRIATION APPROVAL AUTHORITY

Date: May 5, 1993

Attached is a copy of Senate Bill No. 1054 (codified as Section 42-202A, Idaho Code) enacted during the last regular session of the legislature which authorizes IDWR to grant approvals for the temporary appropriation and use of water for minor uses of short duration. The purpose of this memo is to provide additional guidance. The legislation is now effective since the bill was enacted with an emergency clause.

The authority to grant temporary approvals in accordance with the statute and this memo is hereby delegated to the Water Allocation Bureau Chief, Permits Section Supervisor, and to each of the Regional Managers.

Applications for temporary approval should be processed as follows:

1. Staff review to insure the information provided adequately complies with the statute and this memorandum.

2. The application should be assigned an identification number which will be provided by calling the State Office for the next available number.

   The identification number will contain a two letter prefix "TP", a basin number and a number which shows how many temporary permits have been issued in a given basin. i.e. TP-63-1

3. The approved temporary approval should be sent to the state office where it will be filed in the vault. The region should retain a copy for its records.

Depending on how many temporary approval applications are received, a data entry method of tracking the applications may be developed in the future.

If the temporary approval is within the boundaries of an irrigation district or will involve water delivered by a canal company or other water delivery organization, the department should

seek and consider comment from the district, company or organization before granting a temporary approval.

Temporary approval applications which propose to use ground water in critical ground water areas, ground water management areas and moratorium areas must be reviewed by the director prior to issuance.

IDWR's authority to grant temporary approvals extends only to natural water sources. Applications seeking approval to use water from a ditch or canal must identify the natural water source and the applicant must provide written approval of the owner of the canal/ditch system allowing use of the diversion/conveyance of the water. Similarly, applications from constructed drains will require written proof of access.

Temporary approvals do not authorize construction of new diversion facilities from surface water sources or any alteration to the stream channel.

Temporary approvals do not authorize construction of new wells.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

INSTRUCTIONS FOR FILING
APPLICATION FOR TEMPORARY APPROVAL OF WATER APPROPRIATION
(5 AF or less)

Senate Bill No. 1054 (codified as Section 42-202A, Idaho Code) enacted by the 1992-1993 session of the Idaho Legislature authorized the Department of Water Resources to grant expedited approvals for the temporary appropriation and use of water for minor uses of short duration. The intent of this legislation is to provide flexibility to the department in authorizing minor requests for water use. Application must be made on department Form 202a and must be accompanied by a $50 non-refundable application fee.

Some facts which you may need to consider before submitting an application for temporary approval include the following:

- The total amount of water which can be approved under a temporary approval can not exceed 5 acre feet. This volume of water is equal to 1,630,000 gallons.
- Use of water under a temporary approval is subject to all existing water rights.
- The applicant assumes all risk that the temporary approval may injure other water rights.
- The approval is not valid for more than one year.
- A temporary approval does not authorize the use of privately owned diversion and/or conveyance facilities.
- The department may cancel the approval at any time the department identifies an injury to other water rights or public values.

Your completed application and fee may be submitted to one of the following offices of the department:

Northern Region
Idaho Dept of Water Resources
1910 Northwest Blvd., Suite 210
Coeur d'Alene, ID 83814
Phone - (208) 765-4639
FAX - 765-2088

Eastern Region
Idaho Dept of Water Resources
900 N. Skyline
Idaho Falls, ID 83402
Tel. - (208) 525-7161
FAX - 525-7177

Southern Region
Idaho Dept of Water Resources
222 Shoshone St. East
Twin Falls, ID 83301
Tel. - (208) 736-3033
FAX - 736-3037

Western Region
Idaho Dept of Water Resources
2735 Airport Way
Boise, ID 83705
Tel. - (208) 334-2190
FAX - 334-2348

State Office
Idaho Dept of Water Resources
1301 N. Orchard St
Boise, Idaho 83706
Tel. - (208) 327-7900 FAX - (208) 327-7866

Form 202a

Ident. No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TEMPORARY APPROVAL OF WATER APPROPRIATION

(5 AF or less)

Name of Applicant _____ Phone _____.

Post Office address _____.

1. Source of water _____ Tributary to _____.

2. Location of point of diversion _____ 1/4 _____ 1/4, Sec. _____ Township _____, Range _____

B.M., County _____.

3. Location of place of use _____ 1/4 _____ 1/4. Sec. _____ Township _____, Range _____

B.M., County _____.

4. Proposed use of water _____

_____

_____

_____.

5. Amount of water:

Maximum rate of diversion _____ cfs or _____ gpm.
Volume:
Max. daily vol. _____ AF, Total vol. _____ AF.

6. Duration of diversion: From _____ to _____.
Day-month Day-month

7. Proposed diverting works _____.

8. Who owns the property at the requested point of diversion? _____

_____.

9. Describe the arrangement allowing access to the water _____

_____.

10. Remarks _____

_____

_____.

I hereby acknowledge that I assume all risk if the diversion and use of the water under this approval injures other water rights. I certify this is a temporary use and that I am not seeking a continuing right to use water.

_____ _____
Date Applicant

Received by _____ Date_____ Time_____

$50.00 fee receipted by _____ # _____ Date_____

Watermaster Comments received?_____ Date_____

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that the department has examined this application for temporary approval to use water under the provisions of Section 42-202a, Idaho Code, and has determined that:

___ a) The application for temporary approval should be denied.

___ b) The application for temporary approval should be approved, since

1. The temporary approval can be properly administered.

2. Other water sources are not readily available.

3. The approval is in the public interest.

4. The approval will not injure known public values associated with the water source or any known water rights.

This application is therefore hereby:

___ a) DENIED

___ b) APPROVED, subject to the following conditions:

1. Diversion and use of water under this approval is subject to all valid existing water rights.

2. The applicant assumes all risk the use of water under this approval may injure other water rights.

3. This approval authorizes a maximum diversion of _____ AF and a maximum rate of diversion of _____ cfs.

4. This approval does not grant a right-of-way across the land of another, does not create a continuing right to use water and may not be used in connection with a use which requires a continuing water supply.

5. The department may cancel this approval at any time if the department identifies injury to other water rights.

6. This approval expires on _____.

7. This approval does not create a continuing right to use water.

8. The holder of this temporary permit shall not divert at a rate or in a manner that will significantly reduce the flow in the water source or otherwise adversely affect fish, wildlife or other public values.

9. Other: _____

_____

DATED this _____ day of _____, 199___.

_____
For the Director

LEGISLATURE OF THE STATE OF IDAHO

Fifty-second Legislature — First Regular Session — 1993

IN THE SENATE

SENATE BILL NO. 1054

BY RESOURCES AND ENVIRONMENT COMMITTEE

AN ACT

RELATING TO THE APPROPRIATION OF WATER IN THE STATE OF IDAHO; AMENDING CHAPTER 2, TITLE 42, IDAHO CODE, BY THE ADDITION OF A NEW SECTION 42-202A, IDAHO CODE, TO PROVIDE FOR THE TEMPORARY APPROVAL OF APPROPRIATIONS OF WATER BY THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES; PROVIDING AN EXCEPTION FOR FIRE FIGHTING; AND DECLARING AN EMERGENCY.

Be It Enacted by the Legislature of the State of Idaho:

SECTION 1. That Chapter 2, Title 42, Idaho Code, be, and the same is hereby amended by the addition thereto of a NEW SECTION, to be known and designated as Section 42-202A, Idaho Code, and to read as follows:

42-202A. TEMPORARY APPROVAL -- APPLICATION -- CRITERIA -- EXCEPTIONS. (1) Any person, association or corporation hereafter intending to use the waters of any natural streams, springs or seepage waters, lakes or ground water, or other public waters in the state of Idaho, for a minor use of short duration may make application to the department of water resources for temporary approval.

(2) Application for temporary approval shall be upon forms provided by the department of water resources and shall be accompanied by a fifty dollar ($50.00) fee.

(3) The director of the department of water resources is not required to publish notice of the application pursuant to the provisions of section 42-203A, Idaho Code, and is not required to make findings as provided in section 42-203A or 42-203C, Idaho Code. The director may, however, give notice of an application as he determines appropriate and may grant a temporary approval upon completion of the application form, payment of the filing fee, a determination by the director that the temporary approval can be properly administered, a determination that other sources of water are not available, a determination that approval is in the public interest and a determination that the temporary approval will not injure public values associated with the water source or any other water right. If the temporary approval is within a water district, the director shall seek and consider the recommendations of the watermaster before granting a temporary approval. The director may issue a temporary approval with the conditions determined by the director to be necessary to protect other water rights and the public interest.

(4) The recipient of any temporary approval issued pursuant to the provisions of this act shall assume all risk that the diversion and use of the water may injure other water rights, or otherwise not comply with the criteria described in section 42-203A(5), Idaho Code. Any applicant for a temporary approval who is aggrieved by a denial of the director of a temporary approval pursuant to this act may file an application to appropriate water as provided in section 42-202, Idaho Code.

(5) A temporary approval shall only be granted for a use not intended to become an established water right and for a use which will not exceed a total

diverted volume of five (5) acre feet for the duration of the approval, which shall not exceed one (1) year. Approvals issued under the provisions of this section constitute a waiver of the mandatory permit requirements of section 42-201(2), Idaho Code, and do not create a continuing right to use water. Temporary approvals shall not be issued as an interim water supply for a use which requires a continuing water supply.

(6) The provisions of this section do not require a temporary approval before diverting and using water to extinguish or prevent the spread of an existing wildfire on private or public lands, facilities or equipment, including the use of water by personnel engaged in fighting an existing wildfire.

SECTION 2. An emergency existing therefor, which emergency is hereby declared to exist, this act shall be in full force and effect on and after its passage and approval.

MEMORANDUM

Date: June 7, 1993

Application Processing no. 57

From: L. Glen Saxton

To: Regional Managers
Permits Section

Subject: Addition of condition of approval to new applications and proposed changes to exiting water rights.

==========

In follow up to my memorandum of April 23, 1993 concerning certain applications for permit. The following condition has been prepared and should be used when appropriate.

Condition Code: 063
If the proposed diversion facility used under this permit could adversely impact a designated floodway, the permit holder is responsible for obtaining permission from the local community entity which administers the floodway.

The condition will be considered on applications and point of diversion changes diverting surface water of quantities greater than 90 gpm or 0.20 cfs. If an application for smaller flow rates contains specific concern on impact to the floodplain the condition will also be applied.

MEMORANDUM

To: Regional Offices
Water Allocation Bureau

From: L. Glen Saxton LGS App. Proc. Memo 58

RE: MULTIPLE SOURCES ON ONE APPLICATION FOR PERMIT

Date: August 2, 1993

A question concerning whether more than one spring may be shown on a Forest Service application for permit recently was presented to the State Office in view of Adjudications Memo #12 and Water Appropriation Rule 3,3,2,2. (new rule no. 35.03.b.ii).

Adjudications Memo #12 reads in part as follows:

"If there is more than one spring on the claimant's parcel of land and the use of water for stockwatering was initiated on all of the springs at the same time or as part of the same project, then all of the springs can be claimed as one water right."

Water Appropriation Rule 35.03.b.ii reads in part as follows:

"Only one source shall be listed on an application unless the application is for a single system which will have more than one source."

Since my poll of the regional offices and the state office does not show consistency of action, administrative clarification of the matter is appropriate.

In connection with new appropriations of water, applications for permit should be consistent with Water Appropriation Rule 35.03.b.ii and should show only one source per application unless part of a single system. For purposes of rule explanation, two (2) different springs should be treated as two different sources, even though both are surface water. A "single system" requires that a system with more than one source must be physically interconnected.

Even though one system per application or permit is the desired objective, the department generally will continue to issue a license in parts such as A and B, if more than one separate system is found during an examination.

MEMORANDUM

DATE: February 22, 2008 Amended Application Processing No. 59

TO: Water Management Division

FROM: Gary Spackman

RE: Processing of Applications to Appropriate Water in the Lower Boise River Basin

---

This memorandum replaces the original Application Processing Memorandum No. 59 issued in 1996.

Until further instructions are given, the following provisions apply to the processing of applications to appropriate water in the Boise River Basin (Administrative Basin 63) downstream from Lucky Peak dam.[1]

1. Surface water in the Boise River or tributary to the Boise River upstream from Star Bridge is fully appropriated during the irrigation season and during much of the rest of the year. As stated in the May 3, 1995, Amended Moratorium Order for the Boise River drainage:

   > Applications which propose use of surface water upstream from Star Bridge will be denied unless the applicant files an acceptable plan to mitigate or avoid any material injury to existing water rights.

2. Surface water in the Boise River or tributary to the Boise River downstream from Star Bridge is generally available for appropriation. Applications to appropriate surface water in this reach shall be evaluated on a case-by-case basis in accordance with applicable Idaho law and the Water Appropriation Rules.

3. The map on page 4 depicts an area in which ground water shallower than 200 feet below ground surface is probably tributary to the Boise River upstream from Star Bridge. New applications for consumptive uses of ground water in this area, including applications for municipal purposes, should be held without further processing unless one or more of the following conditions applies:

   A. The applicant demonstrates that the holders of water rights to divert from the Boise River will not be injured by the proposed appropriation or the applicant files an acceptable plan to mitigate for a water use that would otherwise cause injury to existing water rights from the Boise River.

---

[1] For guidance regarding applications to appropriate water upstream from Lucky Peak Dam, see Application Processing Memorandum No. 13.

B. The application seeks the appropriation of ground water for domestic purposes as such term is defined in Idaho Code § 42-111.

C. The application seeks the appropriation of ground water for multiple ownership subdivisions or mobile home parks in which each unit satisfies the definition for the exemption of requirement to file an application for permit as described in Idaho Code § 42-111.

D. The application proposes to appropriate ground water deeper than 200 feet below ground surface. Applications meeting this criterion shall be evaluated on a case-by-case basis in accordance with applicable Idaho law, the Water Appropriation Rules, and the May 3, 1995, Amended Moratorium Order for the Boise River drainage.

4. Applications to appropriate ground water outside the area depicted in the attached map shall be evaluated on a case-by-case basis in accordance with applicable Idaho law, the Water Appropriation Rules, and the May 3, 1995, Amended Moratorium Order for the Boise River drainage.

5. The May 3, 1995, Amended Moratorium Order for the Boise River drainage states that the advertisement for each ground water application shall include the proposed depth interval from which the applicant wants to withdraw water. IDWR will adhere to this advertising directive. However, the depth interval shall be required in the conditions of approval for permits only within the area where ground water shallower than 200 feet below ground surface is tributary to the Boise River, as shown on the attached map, or when otherwise deemed necessary by IDWR on a case-by-case basis. In the area where ground water shallower than 200 feet below ground surface is tributary to the Boise River, the depth interval shall be included in the conditions of approval for each ground water permit, regardless of whether the proposed depth is more or less than 200 feet below ground surface.

6. IDWR has established two ground water management areas, the Boise Front GWMA and the Southeast Boise GWMA, in the Boise River Basin. (See the map on page 4.) These instructions do not change, affect, or override instructions or management plans issued for the administration of water within any Ground Water Management Area or Critical Groundwater Area that is designated or may be designated within the Boise River Basin.

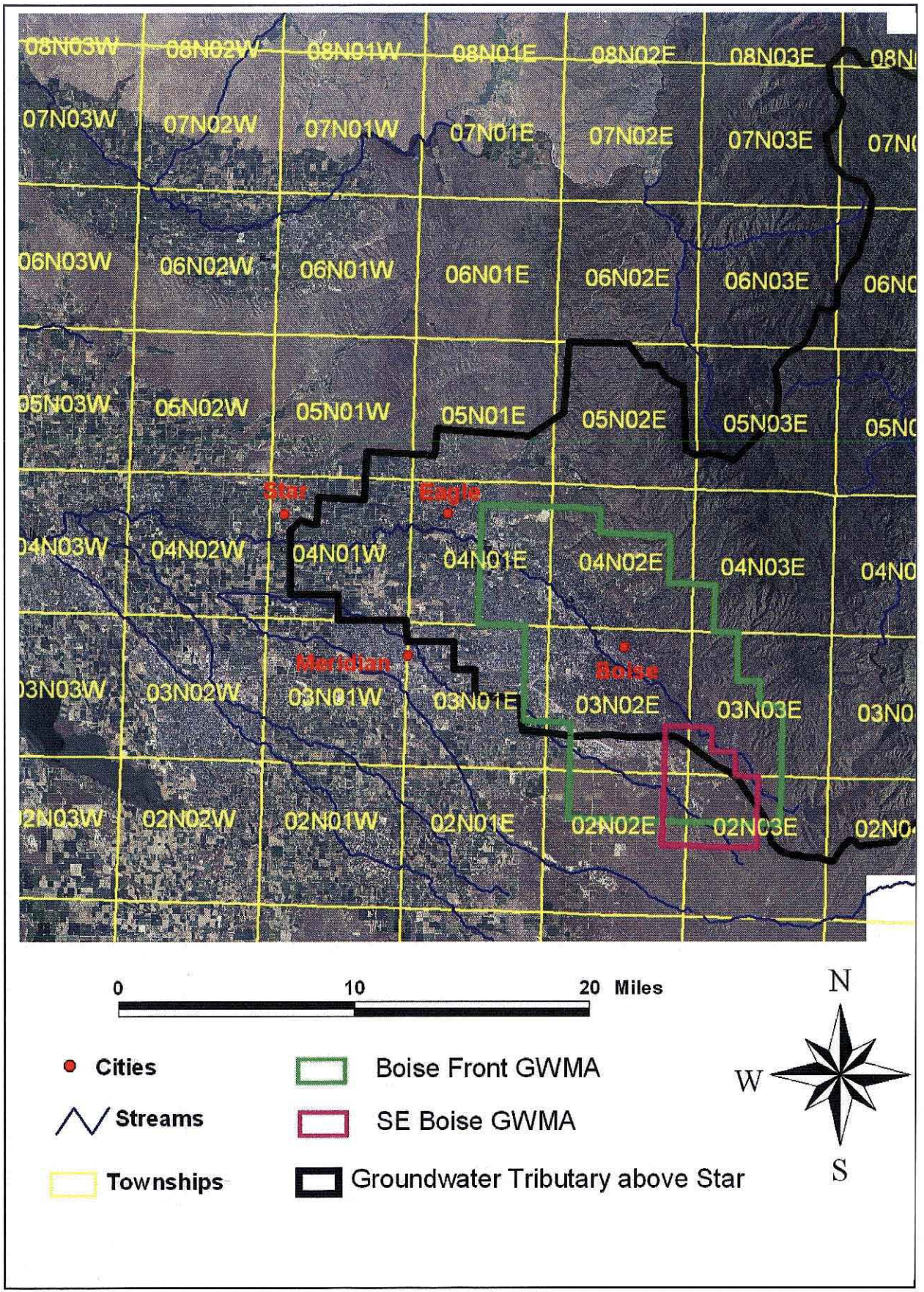
7. These instructions do not prevent the Director from reviewing for approval on a case-by-case basis an application which otherwise would not be processed and/or approved at this time if:

A. The public interest, as determined by the Director, requires immediate consideration of approval of the application, or

B. The Director determines that the development and use of the water pursuant to an application will have no effect on prior surface and ground water rights because of its location, insignificant consumption of water, or mitigation provided by the applicant to offset injury to other rights.

8. Applications being held pursuant to the previous version of this memorandum shall be processed in accordance with this memorandum as time, resources, and competing priorities allow. The "thirty (30) applications for permit per month" limitation in the May 3, 1995, Amended Moratorium Order can be exceeded.

Map Depicting the Area in which Ground Water Shallower than 200 Feet Below Ground Surface is Tributary to the Boise River Upstream from Star Bridge.



ADMINISTRATOR'S MEMORANDUM

Application Processing Memo # 60
Adjudication Memo # 44

To: Water Management Division
Adjudication Bureau

From: Norman C. Young NCY

Re: Irrigation Diversion Rate for Turf Grass in Public Areas

Date: August 15, 1996

Irrigation of turf grass in public areas such as golf courses, parks, schools, and cemeteries often requires that the irrigation occur during the night or early morning hours. Since water cannot be applied continuously over a 24-hour period, the irrigation diversion rate is often higher than the statutory standard of 0.02 cfs per acre.

In some cases, a holding pond or regulation pond may eliminate the necessity of diverting a higher rate from the source. A holding pond is used to store the daily requirements of the irrigation system. The diversion rate from the source to the holding pond is based on the continuous-use irrigation requirement and the diversion rate from the pond to the irrigation system is based on the actual hours of operation of the system.

In situations where a holding pond is not practical, a higher rate is considered reasonable and necessary. The diversion rate for a new water right should be based on the requirements of a modern irrigation system with proper management. In an adjudication of water rights, the diversion rate recommended cannot exceed the historical diversion rate nor the amount determined to be reasonably necessary using acceptable irrigation practices. In both cases, a condition is required that limits the daily volume of water diverted.

To calculate the irrigation diversion rate for turf grass for irrigation systems that can not apply water continuously, divide the diversion rate based on continuous operation by the ratio of actual hours of operation per day to 24 hours per day.

Example: A golf course irrigates every day from 10 p.m. to 6 a.m. (eight hours per day). Based on an analysis of the irrigation diversion requirements, the irrigation diversion rate is calculated to be 0.02 cfs per acre under continuous operation. The diversion rate based on the reduced operation time would be 0.06 cfs per acre (0.02 divided by 8/24). The diversion rate of 0.06 cfs per acre is considered reasonable and necessary due to the operation time limitations of the system. This water right must include a condition which limits the daily volume of water diverted.

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

ADMINISTRATOR'S MEMORANDUM

APPLICATION PROCESSING MEMORANDUM NO. 61

TO: WATER ALLOCATION BUREAU, ADJUDICATION BUREAU AND REGIONAL OFFICES

FROM: NORM YOUNG

SUBJECT: WATER RIGHT FILING REQUIREMENTS FOR INDUSTRIAL WASTE WATER USE AND TREATMENT (INTERIM POLICY)

DATE: September 27, 1996

PURPOSE OF MEMORANDUM

Because much of southern Idaho is included within areas covered by moratoriums or other designations that prevent or limit approval of new applications to appropriate water, water users are seeking innovative ways of using water for new and expanded projects. The waste water from industrial processes is one source of water for such uses. In addition, more restrictive water quality requirements are causing industrial water users to implement land disposal methods, create wetlands, capture and reuse waste water, and to provide for on-site containment of waste water.

The administrative requirements addressing the use of industrial waste water have not been clearly set forth. Direction is needed to guide staff and water users concerning the types of applications, if any, that need to be made, the criteria for considering such applications, and conditions that may be appropriate for approved applications. This memorandum addresses the water right filing requirements for the treatment of waste water and the reuse of waste water from industrial processes.

This memorandum provides interim guidance pending additional determination of policy and requirements through changes to law, adoption of rules or court rulings. Because a basic premise of this memorandum is that the consumptive use authorized by a water right for industrial purposes can be 100% of the amount diverted, depending on particular factual issues, this memorandum does not apply to waste water from uses which could not be 100% consumptive.

For purposes of this memorandum "waste water" is effluent, treated or untreated, from authorized beneficial uses under an industrial or other potentially 100% consumptive water right, prior to its being returned to a public water source. Waste water may contain solid waste and other contaminates, but for purposes of this memorandum it is a liquid, fluid enough to flow in an open channel or unpressurized pipeline.

AN EXAMPLE OF A TYPICAL SITUATION

An industrial user has for many years disposed of waste water diverted from the aquifer under a licensed right through a series of ponds which evaporate part of the water with the remainder seeping to the regional aquifer. In this instance, DEQ is requiring that water not be allowed to seep to the aquifer and has suggested land application. The land available for disposing of the waste is in sagebrush and does not have an irrigation water right. Each gallon of waste water land applied will have to be diluted with 3 to 4 gallons of fresh water. The net depletion from the aquifer will be increased 400 af/yr by the new water treatment requirements. Are water right related approvals required from IDWR to authorize surface disposal of the waste water?

LEGAL PRINCIPLES

The continuum of options for considering this mattter is bounded by two principles. At one end of the continuum, the treatment necessary to comply with water quality requirements may be a part of the diversion and beneficial use authorized under the industrial water right. If the industrial right is a fully consumptive right, then as water quality requirements require a change in treatment, the amount of the water consumed can be increased. However, the diversion rate, annual volume diverted, and season of use established under the right cannot be increased. Any fresh water needed to dilute the waste water must be within the quantity elements of the industrial right or be covered by another water right.

At the other end of the continuum, the industrial right may be construed to authorize only the beneficial use established and historically used under the industrial right. Any increase in consumptive use (or other element of the right) would require a new water right. Depending upon the availability of water for appropriation, this may require the holder of the industrial right to mitigate injury to other users or obtain an existing right to cover the expanded consumption.

A brief review of the legal and administrative precedents (see Phil Rassier's attached memorandum) indicates that the existing law in Idaho does not provide strong guidance as to whether the land application of industrial waste water initiated to comply with water quality requirements should be considered to come within the original purpose of use of the industrial right, whether it should be treated as an added beneficial use of the water requiring a new water right, or whether some intermediate consideration should be used.

APPLICATION OF PRINCIPLES

IDWR will apply the following policies until or unless further guidance is provided:

1. Waste water treatment necessary to meet adopted state water quality requirements will be considered to be a part of the use authorized under the industrial right. The method of treatment must be "reasonable." IDWR will consider a treatment method to be reasonable if it is in accordance with best management practices recognized by Idaho Division of Environmental Quality, the U.S. Environmental Protection Agency, or other responsible state or federal agency.

2. Consumptive use can increase up to the amount determined to be consistent with the original water right as reasonably necessary to meet treatment requirements. Diversion rate, annual volume diverted, and season of use cannot exceed the permitted, licensed or decreed amounts for these parameters.

3. If the treatment method for industrial waste water is changed to land application on cultivated fields or any other method that beneficially uses the water, the industrial right must be changed to include the new use. This will require a transfer application to be filed, processed and approved in accordance with Section 42-222, Idaho Code, to include a new location for a waste treatment practice, such as land application, and other conditions of approval that may be necessary to prevent injury to other valid water rights.

4. For new uses of industrial waste water that are not necessary to meet water quality requirements, an application for permit to appropriate water should be filed as required by Section 42-107, Idaho Code.

5. Fresh water required to dilute the waste water for treatments such as land application must be diverted in accordance with a water right. This can be the industrial right if adequate rate and volume are available under the right. If not, another right must be provided. In areas where new allocations are limited or prevented by moratorium orders or other designations, establishment of a new right will require appropriate provisions to mitigate the depletion from the source.

Attachment: P. Rassier's Memorandum

MEMORANDUM

TO: Norm Young

FROM: Phil Rassier PJR

RE: Land Application of Industrial Effluent

DATE: September 5, 1996

You have asked for legal guidance regarding the water right implications created when a private industrial water user elects to land apply its industrial effluent because the company is required by environmental constraints to prohibit its waste water effluent from continuing to reach a public water source. The water rights issue created when an industrial water user adopts a land-application method of disposing of its effluent is whether the change results in an impermissible enlargement of its underlying water right by increasing the amount of water consumptively used. Previously, some percent of the water in the effluent was returned to a public stream or allowed to percolate into the ground water. The goal of land application of the effluent is that it all will be absorbed by the growing crops or evaporated to the atmosphere. The use of water under the industrial water right thus becomes 100 percent consumptive where before it was not.

The case law addressing this issue appears to deal almost exclusively with the disposal of municipal effluent. In the case of municipalities, the majority view is that the proper disposal of effluent from waste treatment facilities comes within the parameters of the beneficial use of a municipal water right. One of the most frequently cited cases is *Arizona Public Service Co. v. Long,* 773 P.2d 988 (Ariz. 1989). In this case, the owners of downstream junior water rights that had historically used the effluent for irrigation following upstream discharge sued the City of Phoenix alleging that the city had no right to contract with a utility for the transport and use of the effluent in the cooling towers of a nuclear power plant. The court upheld the contract, holding that sewage effluent was neither surface water nor ground water, but was simply a noxious by-product which the city must dispose of without endangering the public health and without violating any federal or state pollution laws. In reaching it decision, the Arizona Court quoted from a much earlier Wyoming decision which upheld the sale by a city of effluent discharged directly into the buyer's ditch, but also held that effluent discharged into a stream became public water subject to appropriation. *Wyoming Hereford Ranch v. Hammond Packing Co.,* 236 P.2d 764 (Wy. 1925). The *Arizona Public Service* case generally holds that cities may put their sewage effluent to any reasonable use that would allow them to maximize their use of the appropriated water and dispose of it in an economically feasible manner. Beck, *Waters and Water Rights*, § 16.04(c)(6) (1991).

In an even more recent Arizona case, the court upheld a city contract for the disposal of its effluent noting that the effluent from the city of Bisbee delivered to Phelps Dodge for copper leaching operations was not useable for drinking water, irrigation, or fire protection purposes and

that it was only useful for the leaching operation. The city contract had been challenged by the local water utility that otherwise would have provided water for the leaching operation.

Other cases reviewed have reached results similar to that in Arizona for municipal entities without as much emphasis on the distinct character of effluent. In a more recent Wyoming case, the court held that the City of Roswell could recapture its sewage effluent before it is discharged as waste or drainage and reuse it for municipal purposes. *Reynolds v. City of Roswell*, 654 P.2d 537 (Wy. 1982). The court characterized sewage effluent as artificial water and therefore primarily private and subject to beneficial use by the owner and developer thereof because treated sewage effluent depends upon the acts of man.

In the early Colorado case of *Pulaski Irrigation Ditch Co., et al v. City of Trinidad, et al*,203 P. 681 (Colo. 1922), the court held that where a city had voluntarily chosen to treat its effluent in a manner that produced surplus water, it did not have the right to sell its purified water. The court went on to recognize, however, that where there is no other practicable method of disposing of the sewage, public policy might permit its disposal by the evaporation of the water. 203 P. at 683. A more recent Colorado case, *Metropolitan Denver Sewage Disposal District No. 1 v. Farmers Reservoir & Irrigation Co.*, 499 P.2d 1190 (Colo. 1972) merely holds that changes in the points of return of waste water to a stream are not governed by the same rules as changes of points of diversion and that there is no vested right in downstream appropriators to maintenance of the same point of return of irrigation waste water or effluent from a municipality or a sanitation district. In *Barrack v. City of Lafayette*, 829 P.2d 424 (Colo. App. 1992), the court held that impossibility of performance relieved the city from any obligation to deliver effluent to plaintiffs after state regulation made such delivery illegal. The court concluded that plaintiffs had no property right to the delivery of untreated water that could no longer be legally delivered.

In 1991, Nevada and Oregon each enacted legislation addressing the reuse of effluent or reclaimed water. The Oregon statute defines "reclaimed water" as "water that has been used for municipal purposes and after such use has been treated in a sewage treatment system and that, as a result of treatment, is suitable for a direct beneficial purpose or a controlled use that could not otherwise occur. OR. REV. STAT. § 537.131. The new legislation requires any person who is using or intends to use reclaimed water to file a Reclaimed Water Registration form with the Oregon Water Resources Department. The statute provides the circumstances under which potentially affected water users must be notified of the proposal and of their rights of preference to the use of the water under certain circumstances. The Nevada statute, by contrast, merely provides a statement of legislature policy encouraging and promoting the use of effluent, where that use is not contrary to the public health, safety or welfare, and where that use does not interfere with federal obligations to deliver water of the Colorado River. N.R.S. § 533.024.

The review of existing case law provides significant guidance with respect to the handling

of municipal effluent. None of the reported cases I have reviewed, however, address whether the same or some different analysis should be applied when the effluent is produced by a private industrial user rather than by a municipality. This issue was raised but not addressed in *Wyoming, et al v. Husky Oil Company*, 575 P.2d 262 (Wy. 1978). The case arose as an action for declaratory relief by Husky Oil seeking a determination that its plan to impound and evaporate effluent water rather than continue to discharge it to a natural stream was not subject to the jurisdiction of the State Engineer and did not infringe upon any rights of downstream water appropriators. The majority of the Court voted to remand the case to the trial court for a full factual trial and to join other indispensable parties to the action. A lengthy dissent, however, proceeded to analyze the merits of the case. The dissent characterized the proposed change as an expansion of the original industrial water right for the refining process to now include the additional use of pollution abatement. The dissent concluded that Husky should be required to apply to the State Engineer for a permit for the additional use.

Before the Department, we have the precedence of issuing waste water permit nos. 29-7437 and 29-7431 to the J.R. Simplot Company and to the City of Pocatello respectively in 1978. The two permits were for the use of waste water from the city's sewage treatment plant and from the Simplot Fertilizer Plant at Pocatello. The waste water from both facilities was previously discharged to the Portneuf River. The applications specified 3,124 acres of land on which the water would be used for irrigation. Some 1,613 of these acres were not owned by the city or the J.R. Simplot Company but were covered by user agreements with the owners of the land. The decision does not address any concern that may have existed about discontinuing the practice of discharging the effluent to the river. The concerns with the project revolved more around the health and safety implications of the project.

Existing law in Idaho does not provide strong guidance as to whether the land application of industrial effluent initiated to comply with water quality requirements should be considered to come within the original purpose of use of the industrial water right, or should be treated as an added beneficial use of the water requiring a new water right to be obtained or established. If the Department determines that a new separate water right should be required, the option of allowing the user to appropriate the industrial waste water for the new purpose of pollution abatement through land application of the effluent should be considered. This approach is consistent with that taken by the Department in 1978 with the City of Pocatello and J. R. Simplot filings.

Please let me know if you desire further review or discussion of these issues.

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

ADMINISTRATIVE MEMORANDUM

Application Processing No. 62

To: Regional Managers
Water Allocation Bureau

From: L. Glen Saxton

RE: **PUBLIC INTEREST CONSIDERATION - SMALL STREAM APPROPRIATIONS**

Date: July 28, 1998

When an application for permit is submitted to the department which seeks to appropriate water from a surface water source, the department must seek comment on the application from the Department of Fish and Game. The usual means of contact should be by sending a copy of the application to Fish and Game asking for comments by a certain date. The notice of mailing should be noted on the staff analysis sheet in the water right file.

An application which will "dry up" a stream or likely will adversely affect fish and wildlife is not in the public interest. The department is required to protect the "local public interest" whether an application is protested or not.

ADMINISTRATOR'S MEMORANDUM

Application Processing No. 64
Transfer Processing No. 19
Dam Safety Processing No. 2
SCA No. 13

To: Water Management Division

From: Norman C. Young NCY

RE: **REVIEW OF APPLICATIONS FOR PERMIT ON A STATE PROTECTED RIVER REACH OR WITHIN A MINIMUM STREAM FLOW REACH**

Date: August 16, 1999

The Water Resource Board has adopted Comprehensive State Water plans for certain drainages in Idaho to protect designated reaches of waterways and associated riparian buffers from activities that would degrade the aesthetics and recreational values of the reaches. In addition, minimum streamflows have been approved for approximately 70 stream reaches in Idaho.

In order to assure that various approvals for programs administered by Water Management Division do not conflict with protected rivers in an adopted Comprehensive State Water Plan (plan) or Minimum Stream Flow reach ("minimum flow reach"), staff is directed to seek and consider comment from Planning and Policy Division as described below.

Upon receipt of an application which proposes an activity in a protected river or minimum flow reach, as shown by maps or digital layers provided to Water Management Division by Policy and Planning Division, Water Management staff should provide a copy of the application to Water Planning Bureau for review and comment. This notification should be in addition to Planning and Policy Division's review of the weekly water right print out available on the department's home page. Comments provided by Water Planning Bureau need to be considered before recommending action on such applications.

Examples of permitting activities which require this review include stream channel alteration activities, dam construction, diversion works authorized by a water right permit or transfer.

ADMINISTRATOR'S MEMORANDUM

Application Processing No. 65
Transfer Processing No. 21

To: Regional Offices
Water Allocation Bureau

From: Norman C. Young NCY

Re: **DIVERSIONS FROM STATE PROTECTED RIVER REACHES**

Date: January 24, 2000

The purpose of the Water Resource Board's designation of certain river and stream reaches as "protected" is to ensure that the aesthetic and recreational value of those reaches and associated riparian buffers is maintained. To ensure compliance with that purpose, any applications for water right permits or transfers seeking authorization for construction to divert water from a protected reach must be conditioned to avoid prohibitions defined in the Comprehensive State Water Plan.

For example, construction of a well outside the riparian area to intercept the ground water hydraulically connected with the stream would provide the opportunity to divert water without violating a prohibition for construction of diversion works in a protected reach. The riparian area is defined in Section 42-1731(10) *Idaho Code* as the area within 100 feet of the mean high water mark of a waterway. The source would be listed as ground water tributary to the stream. The water right would be administered as if it were part of the stream because of the close hydraulic connection between the well and the stream. This would include a provision to be regulated by the watermaster within a water district if applicable.

If it is not possible to construct a well with a close hydraulic connection to the stream, the applicant should be provided the opportunity to submit alternate ways of protecting the aesthetic and other public interest values associated with the protected steam. A suction hose placed in the stream to divert water, although not considered construction, usually would not be sufficient protection of those values.

MEMORANDUM

TO: **DISTRIBUTION LIST**

FROM: **NORM YOUNG** NCY

RE: **FURTHER GUIDANCE ON SB 1337, AMENDING SECTION 42-221, IDAHO CODE. (AUGMENTING THE GUIDANCE MEMORANDUM, DATED JUNE 26, 2000, ISSUED UNNUMBERED BY GLEN SAXTON)**

DATE: **January 2, 2001**

Application Processing No.: 66
Permit Processing No.: 19
Transfer Processing No. 23

Senate Bill 1337 enacted by the 2000 Legislature and effective on July 1, 2000 revised the fee schedule for filing applications for permits to appropriate water and for applications to transfer existing water rights. Initial guidance for determining transfer fees was provided in a memorandum from Glen Saxton dated June 26, 2000. Experience applying the new fee schedule indicates that additional consideration needs to be given to determine the appropriate fee for an application proposing to change the use of only a part of a water right(s).

Section 42-221, Idaho Code, provides for basing the filing fee upon the "quantity" of water being transferred. Thus, if an application proposes a change to an entire water right, the fee should be based upon the quantity of the right. However, if the application for transfer involves a change to only a part of a water right, the filing fee should be determined by the quantity of the part to be changed. One variation of a change that only affects a part of a right is if the right is to be split into one or more parts and a separate diversion and delivery system is used for each part. The June 26, 2000 memorandum describes the procedure for determining an appropriate fee when the right is split.

A second variation is if the change does not split the right even though the change affects the use of only a part of a right. This memorandum provides additional guidance to be used to determine the appropriate fee in this case. This variation can occur under several scenarios including the following examples:

a. The point of diversion is to be changed to divert a part of the quantity authorized under the right from a new location with the remainder of the right to be diverted without change. For example, one of several wells listed as points of diversion

on a water right is to be relocated to a different 40-acre subdivision with no other changes to the use of the right. In this case, the applicant should identify as additional information on Part 1 of the application the maximum quantity to be diverted at the new location and the fee should be based upon this quantity. If the application is approved, the approval should be conditioned to limit the quantity of water allowed to be diverted at the new point to no more than the amount indicated on the application.

b. A part of the place of use is to be changed to a new location. For example, a specific 40 acre tract of a 1000 acre place of use is to be switched to another 40 acre tract without a change to the remaining 960 acres in the place of use and the diversion/distribution system will otherwise be unchanged. The filing fee should be based upon the proportionate quantity of water appurtenant to the part of the place of use that is being changed. If the applicant proposes a change in the quantity different than the proportionate share, the application should be filed reflecting a split in the right.

c. The nature of use of a part of a right is proposed to be changed. For example, 10 cfs of a 50 cfs irrigation right is proposed to be changed to recharge purposes. The filing fee should be based upon the 10 cfs proposed to be changed assuming no other changes are proposed.

d. If changes are proposed to both the place of use and the point of diversion which involve only a part of the right, the fee should be based upon the larger of the two changes assuming that the two changes can appropriately be shown on the same application; i.e., still use in a common system and ownership is not split.

The need to advertise a transfer application statewide should be based upon the quantity of water being changed by the transfer rather than the full quantity represented by the right(s) being changed. Legal notices should be streamlined to avoid duplicate and unnecessary information.

Applicants should be advised early in the process that staff time spent researching an application involving multiple rights will be recorded. When appropriate, the applicant will be billed for cost of researching the rights in accordance with Section 42-221(J), Idaho Code.

I anticipate that these examples will not cover all of the possible scenarios. I encourage you to bring to the attention of Water Rights Permit Section situations, as they arise, that do not fit the available guidance.

MEMORANDUM

To: Distribution List

From: L. Glen Saxton

RE: **GUIDANCE ON SB 1337 AMENDING SECTION 42-221, I.C.**

Date: June 26, 2000

Senate Bill 1337 was enacted by the legislature during the last session and becomes effective on July 1, 2000. The bill which amended section 42-221, Idaho Code, provides for increased filing fees for applications for permits and for applications for transfer. The total fee for filing an application for transfer should be based on the summation of the diversion rates for the rights shown on the application. As an example, if an application for transfer proposes to change three rights, one in the amount of 0.8 cfs, a second in the amount of 0.3 cfs and the third in the amount of 0.2 cfs, the total filing fee should be $290 based on the summation of 0.8 cfs, 0.3 and 0.2 cfs = 1.3 cfs.

As a variation of this example, assume the same three rights above are conditioned to not exceed a combined rate of diversion of 0.8 cfs. In this case, the fee should be based on the combined rate of diversion of 0.8 cfs and should equal $250.

If an application for transfer proposes a change to part of a water right, the filing fee should be based on the part to be changed, if a separate diversion and distribution system will be used for the part to be changed and the right will be split. A change to part of a water right with a separate diversion will require a split.

A transfer accompanied by evidence of a change in ownership of the water right(s) will not require a separate filing of a change in ownership as required by Section 42-248, I.C. or Section 42-1409 (6), I.C.

Per section 42-240(2) Idaho Code, filing fees for water right exchanges are the same as for transfers.

The state office will issue appropriate press releases after July 1, 2000. The state office will also provide new instructions reflecting the changes. Old transfer instructions can be used after July 1 as long as the old fee amount is removed and the new fee schedule is inserted into the instructions. Inserts will be provided by the state office.

Attached is a copy of the senate bill in underlined, struck-out format and new instructions for filing an application for permit and an application for transfer.

ADMINISTRATOR'S MEMORANDUM

Application Processing No. 67

TO: **WATER MANAGEMENT DIVISION**

FROM: **NORMAN C. YOUNG, ADMINISTRATOR** NCY

RE: **PERMITTING REQUIREMENTS FOR PONDS**

DATE: **February 28, 2003**

This memorandum provides general guidance on the permitting requirements for impounding and using water in a pond. Its primary focus is to describe circumstance for which a water right is needed to retain and use water while impounded in a pond. This narrow focus is appropriate because it is generally understood and accepted that a water right is needed to divert water to a pond for beneficial use in the pond or to divert water from a pond for a beneficial use outside of the pond.

The direction provided in this memorandum is intended to clarify the Department's policy regarding ponds constructed or proposed to be constructed after the date of this memorandum and to changes in use of existing ponds, where the change in use occurs or is proposed to occur after the date of this memorandum. It is not intended to direct Department staff to initiate investigative or regulatory action for ponds existing prior to the date of this memorandum or to address the need for a claim to be filed in an ongoing adjudication of water rights. If a written complaint is filed with the Department showing probable injury to an existing water right where the injury is alleged to be related to the use of a pond developed prior to the date of this memorandum, staff is instructed to forward the complaint to the division administrator for case-by-case guidance.

A simple "yes" or "no" answer to the question "Is a permit needed?" often cannot be given because of the variety of circumstances associated with construction and use of ponds. Whether or not a permit is needed or can be issued is to be determined on a case-by-case basis by applying the concepts discussed in this memorandum.

GENERAL CONSIDERATIONS

A water right is required to use public water if: (1) it is diverted, (2) a beneficial use is made of the water and (3), traditionally, the diverter intends to protect the right to divert and use the water against later-in-time diversion and use from the source. However, the third parameter for requiring a water right is not now strictly applicable in Idaho because Section 42-201, Idaho Code, makes it unlawful to divert or use public water without a valid water right. Public water sources must be regulated to assure diversion occurs only in accordance with a valid water right. Excavation or other activities, incidental to the purposes of an activity, can create ponds or enlarge existing ponds resulting in the impoundment of water which the developer or owner does not intend to beneficially use and does not intend to defend their continued access to this water against subsequent appropriators. Even so, in accordance with Section 42-201, Idaho Code, a water right is needed for such incidental ponds or timely action must be taken to avoid impounding water.

CONSTRUCTED PONDS

Generally, a water right is needed to beneficially use water in a constructed pond. This is true for ponds constructed by: (1) excavation to create a basin that fills naturally with water, (2) excavation that is filled by physical action to divert water into the basin, (3) or by constructing an embankment or other structure to create a reservoir that fills or is filled with water. Prior to beginning construction of a pond, the developer must file an application for and receive a permit to appropriate water or file an application and receive an approval to transfer an existing water right for the purpose of pond. Water Appropriation Rule 35.03b (IDAPA 37.03.08) provides that the annual storage volume shown on an application shall not exceed the storage capacity of the structure unless the application describes a plan for refilling the reservoir. This would include any plan to replace water lost from a constructed pond due to evaporation and/or seepage. The application fee is based on the annual storage volume proposed in the application, which should include any proposed refills.

An application for a pond to be constructed by excavation below the ground water level to be filled naturally from ground water must include the annual volume required to replace evaporation losses in addition to the volume to be stored in the pond. Ponds constructed in this manner should list ground water as the source on the permit.

Off-stream storage ponds requiring additional flow-through water to maintain water quality require a flow component in addition to a the diversion-to-storage and storage components on the permit. For applications including uses quantified as a combination of rate and volume, the application fee is based on the amount providing the greater fee.

There are several circumstances that can alter the general statement that a water right is needed and can be issued to store water in a constructed pond. Some examples are described below.

Incidental Ponds

An excavation made for another purpose (e.g. gravel or mineral extraction) that fills naturally with water does not require a permit if the excavation will be filled in or otherwise reclaimed to obliterate the pond within a reasonable time. A permit is required if the resulting pond will be retained for aesthetics, recreation or other beneficial uses. For gravel or mineral extractions, a reclamation plan filed with the Department of Lands can provide information on the intended disposition of the excavation.

Diffused Surface Water

A water right permit is not required to construct and use a pond with diffused surface water as its sole source (see Adjudication Memo No. 11 for a detailed discussion of diffused surface water). Diffused surface water is not considered to be public water and is therefore not subject to appropriation. Diffused surface water is water on the surface of the land from precipitation and snowmelt prior to entering a natural watercourse. One example of the capture of diffused surface water is an excavation or embankment constructed to capture rainwater or snowmelt runoff from a subdivision or parking lot prior to the runoff entering a natural watercourse. A landowner is entitled to capture and use diffused surface water before it enters a natural stream, lake or other public source. However, if the diffused surface water is a source of supply to a natural watercourse and the landowner's use significantly depletes that supply, it may cause injury to a senior appropriator who may seek to enjoin the use.

Regulation/Distribution Ponds

A water right permit is not required to construct and use a pond or ponds that are part of a system used to distribute and use water in accordance with a valid water right if the pond or ponds do not impound a larger volume of water than authorized for diversion within a 24-hour period under the water right or rights associated with the project. One example would be a pond constructed as part of an irrigation system to provide a higher rate of flow over a short period of time as required in some border irrigation systems.

Similarly, a water right permit is not required to construct and use a pond or ponds to collect and re-use irrigation runoff as long as the water is used on the lands from which the runoff occurred for the use authorized under an existing right. Collection must occur prior to the runoff entering a natural watercourse where it becomes available for public appropriation. The principal use of the pond or ponds in these cases must be for purposes of distributing and using or

re-using the water under the existing right. If the principal use is some other beneficial use, a water right for storage in the pond is required.

Wastewater Treatment

Based upon the concepts in the Department's interim industrial waste water policy (see Application Processing Memo No. 61 dated September 27, 1996), a water right permit is not needed to construct and use a pond that is necessary to comply with water quality standards and treatment requirements for a beneficial use that already has a water right. The policy does not include a restriction on pond size.

Domestic Exemption

A water right permit is not required to construct and use a pond that meets the statutory requirements for exemption for domestic uses (Sections 42-111 and 42-227, Idaho Code). If the pond is excavated and fills naturally with ground water or is constructed in any manner and is filled by pumping ground water, the total use of the pond and the other domestic uses exempted from permitting must not exceed 13,000 gallons per day for uses under part (1)(a) of Section 42-111, Idaho Code or 0.04 cubic feet per second and 2,500 gallons per day for uses under part (1)(b). Determination of the water use for a pond should take into account the fill rate of the pond (for ponds not filled naturally with ground water), evaporation and seepage from the pond, flow-through water to refresh the pond, and any other water used or discharged from the pond. Evaporation should be based upon a typical maximum daily evaporation rate rather than an annual average rate.

The attached spreadsheet was developed to estimate domestic water use to help determine an allowable pond size for domestic exemptions (**Note that the allowable surface area for a pond exempt from the water right permit requirement is determined by application of this spreadsheet and is not necessarily ½ acre**). The spreadsheet calculates a maximum daily water use in gallons per day by accounting for in-house, lawn and garden, pond, and other related domestic uses.

If a water user desires to file an application for permit for a pond even though the use meets the statutory requirements for exemption for domestic uses, the use would normally be approved as a domestic use with a standard diversion rate and no storage component. The application fee would be based on the diversion rate. An application for permit for a use complying in all respects with the requirements to be exempt from permitting under the domestic exemption may be processed unless otherwise provided in the management plan adopted for a ground water management area, critical ground water area or moratorium area.

Other Considerations

Ponds constructed and beneficially used prior to the mandatory permit dates can claim a beneficial use right. A beneficial use right could also have been established if the claimant can show that the right was commenced before the mandatory permit dates and the appropriation was completed with due diligence after the mandatory dates (see Adjudication Memo No. 23). For example, if a pond was excavated for gravel extraction prior to 1963, but was not used for aesthetics or recreation until after that date, a right could have been established as long as the use was completed in a reasonable period of time. The priority date of such rights is the date the appropriation was completed.

Approval is required under the Safety of Dams Act (Section 42-1709, *et. seq.*, Idaho Code, if the impoundment meets the requirements to be classified as a dam (Ref. Dam Safety Rule 10.06, IDAPA 37.03.06).

The Department should actively investigate citizen complaints concerning new construction and use of ponds. If the pond is not exempt from permitting requirements, the Department should seek an appropriate application for permit or transfer of an existing water right if processing of an application for permit cannot proceed because of a moratorium order or other designation affecting the area. The owner of the pond may be required to provide appropriate mitigation to offset reduction in water available to prior rights.

NATURAL PONDS

Generally, a water right is not needed and cannot be issued to protect, in place, the waters of a natural pond. Natural ponds include those formed and existing under natural conditions and those that were created when natural basins filled with seepage or return flows from water lost by irrigation and other development projects. Because a physical diversion does not occur when a beneficial use is made of water in a natural pond, a water right is not needed and cannot be issued.

There are several circumstances that result in an answer different from the general statement that a water right is not needed and cannot be issued. First, under Chapter 15, Title 42, Idaho Code, the Water Resource Board is authorized to obtain a right (exempt from filing fees) for a minimum lake level without the need to divert the water. This provision can be used to appropriate, in place, the waters of a natural pond. If a pond is characterized as "private water" under Section 42-212, Idaho Code, the appropriation can only be made with the permission of the owner of the land on which the pond is located.

A second circumstance that could require a water right permit is expansion of the water holding capacity of a natural pond by excavating to deepen it or increase its surface area or by constructing an embankment or other structure to raise the

water level in the pond. A water right permit is required for the additional increment of water contained in the pond. The water right permit can only be issued for the additional storage created, not the entire volume of the pond. The application fee would be based on the volume added to the pond and any refills as proposed in the application. If a water right permit is not obtained, a stream alteration permit or lake protection permit is required for the excavation or other work done in the pond.

A similar circumstance arises from excavation of a stream channel either to deepen or widen it or by adding a check structure in the stream to create a pond. If the purpose is to provide for beneficial use of the ponded water, including uses such as aesthetics or recreation, a water right permit is needed for the increment of water (including any proposed refills) added by the excavation or structure. If a water right permit is not obtained, a stream alteration permit may be required.

Water Appropriation Rule 35.01c (IDAPA 37.03.08) provides that the use of a natural lake (or pond) for watering livestock without the use of a constructed diversion works is exempt from permitting requirements. If a water user desires to file an application for permit even though the use is exempt from permitting requirements under this rule, the use would normally be approved as stockwater with an appropriate diversion rate and no storage component. The application fee would be based on the diversion rate.

FILE NUMBER ----------
REVIEWER ----------
DATE ----------

EXAMPLE TO BE LOADED ONTO WENET FOR USE

MAXIMUM DAILY WATER USE FOR DOMESTIC PURPOSES

INPUTS		NOTES/SUGGESTED VALUES	RESULTS		FORMULAS
IN-HOUSE USE (AFY)	0.6	IF UNKNOWN, USE IDWR STANDARD OF 0.6 AF FOR EACH HOUSE	**TOTAL IN-HOUSE USE**	536 GPD	CONVERSION: 1 AFY = 892.74 GPD 1 AF = 325,850 G
LAWN AND GARDEN IRRIGATION					
ACRES IRRIGATED (AC)	0.5	CANNOT EXCEED 1/2 ACRE FOR PART A DOMESTIC*			
ETpk80 (IN/DAY)	0.4	IF UNKNOWN, USE REFERENCE ETpk80 FOR TURF EXAMPLE 0.40 IN/DAY FOR HAGERMAN EXAMPLE 0.30 IN/DAY FOR STANLEY			
APPLICATION EFF. (%)	70%	IF UNKNOWN, USE 70% FOR SPRINKLERS			
			TOTAL LAWN AND GARDEN IRRIGATION	7758 GPD	FORMULA: ((ETpk80/EFF.) * IRRIG. AREA) = GPD CONVERSION: ETpk80 = IN/DAY * FT/12IN = ACRE-FT/DAY PER ACRE 1 AF = 325,850 G
POND					
SURFACE AREA (SQFT)	10890				
AVERAGE DEPTH (FT)	3.00		CAPACITY	32670 CUFT 244372 G	FORMULA: SURFACE AREA * AVERAGE DEPTH = CAPACITY CONVERSION: 1 CUFT = 7.48 G
FILL OR REFILL RATE (CFS)	0.04	USE 0 IF FILLED NATURALLY FROM GW TOTAL DOMESTIC RATE CANNOT EXCEED 0.04 CFS FOR PART B DOMESTIC*	CONVERT TO GPD	25851 GPD	NOTE: GPD LIMITED BY POND CAPACITY CONVERSION: 1 CFS = 646,272 GPD
			REFERENCE EXAMPLE: ESTIMATED NUMBER OF DAYS TO FILL BASED ON PROVIDED INPUTS	*9.45 DAYS* *227 HR*	*FORMULA: CAPACITY / FILL RATE = TIME TO FILL*
EVAPORATION (IN/DAY)	0.4	IF UNKNOWN, USE REFERENCE ETpk80 FROM ABOVE	CONVERT TO GPD	2715 GPD	FORMULA: EVAP * SURFACE AREA = POND EVAP CONVERSION: ETpk80 = IN/DAY * FT/12IN = ACRE-FT/DAY PER ACRE 1 AF = 325,850 G NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE
SEEPAGE RATE (FT/DAY)	0.00	SUGGESTED VALUES FOR DIFFERENT SOIL TYPES: 0 = NATURALLY FILLED FROM GW, OR LINED 0.5 = CLAY SOILS 1.5 = LOAMS 3.0 = GRAVELS	CONVERT TO GPD	0 GPD	FORMULA: SA * SEEPAGE LOSS = POND SEEPAGE (CUFT/D) CONVERSION: 1 CUFT = 7.48 G NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE
FLOW-THROUGH (CFS) (REFRESH RATE)	0.04	TOTAL DOMESTIC RATE CANNOT EXCEED 0.04 CFS FOR PART B DOMESTIC*	CONVERT TO GPD	0 GPD	FORMULA: IF FILL RATE = 0 THEN GPD IS BASED ON CONTINUOUS FLOW IF FILL TIME > ONE DAY THEN GPD = 0 IF FILL TIME < ONE DAY THEN GPD = (24 HR - FILL TIME) * FLOW THROUGH RATE CONVERSION: 1 CFS = 646,272 GPD
			REFERENCE EXAMPLE: ESTIMATED NUMBER OF DAYS TO REFRESH BASED ON PROVIDED INPUTS	*9.45 DAYS* *227 HR*	*FORMULA: CAPACITY / FLOW RATE = REFRESH TIME*
			TOTAL POND	28566 GPD	TOTAL = FILL RATE + EVAP + SEEPAGE + FLOW THROUGH
OTHER (GPD)	0.00	STOCKWATER, SMALL BUSINESS USE, ETC. EITHER FROM POND OR SEPARATE USE	**TOTAL OTHER**	0 GPD	
			TOTAL WATER USE	**36860 GPD**	TOTAL = IN-HOUSE USE + IRR + POND + OTHER

* NOTE: MAXIMUM VOLUME FOR EXEMPTION = 13,000 GPD FOR PART A DOMESTIC
MAXIMUM VOLUME FOR EXEMPTION = 2,500 GPD FOR PART B DOMESTIC

FILE NUMBER ----------
REVIEWER ----------
DATE ----------

MAXIMUM DAILY WATER USE FOR DOMESTIC PURPOSES

INPUTS		NOTES/SUGGESTED VALUES	RESULTS			FORMULAS
IN-HOUSE USE (AFY) ----------	0.6	IF UNKNOWN, USE IDWR STANDARD OF 0.6 AF FOR EACH HOUSE	**TOTAL IN-HOUSE USE ----------**	536	GPD	CONVERSION: 1 AFY = 892.74 GPD 1 AF = 325,850 G
LAWN AND GARDEN IRRIGATION						
ACRES IRRIGATED (AC) ----------	0.5	CANNOT EXCEED 1/2 ACRE FOR PART A DOMESTIC*				
ETpk80 (IN/DAY) ----------	0.4	IF UNKNOWN, USE REFERENCE ETpk80 FOR TURF EXAMPLE 0.40 IN/DAY FOR HAGERMAN EXAMPLE 0.30 IN/DAY FOR STANLEY				
APPLICATION EFF. (%) ----------	70%	IF UNKNOWN, USE 70% FOR SPRINKLERS				
			TOTAL LAWN AND GARDEN IRRIGATION ----------	7758	GPD	FORMULA: ((ETpk80/EFF.) * IRRIG. AREA) = GPD CONVERSION: ETpk80 = IN/DAY * FT/12IN = ACRE-FT/DAY PER ACRE 1 AF = 325,850 G
POND						
SURFACE AREA (SQFT) ----------	10890					
AVERAGE DEPTH (FT) ----------	3.00		CAPACITY ----------	32670 244372	CUFT G	FORMULA: SURFACE AREA * AVERAGE DEPTH = CAPACITY CONVERSION: 1 CUFT = 7.48 G
FILL OR REFILL RATE (CFS) ----------	0.04	USE 0 IF FILLED NATURALLY FROM GW TOTAL DOMESTIC RATE CANNOT EXCEED 0.04 CFS FOR PART B DOMESTIC*	CONVERT TO GPD ----------	25851	GPD	NOTE: GPD LIMITED BY POND CAPACITY CONVERSION: 1 CFS = 646,272 GPD
			REFERENCE EXAMPLE: ESTIMATED NUMBER OF DAYS TO FILL BASED ON PROVIDED INPUTS ----------	*9.45* *227*	*DAYS* *HR*	*FORMULA: CAPACITY / FILL RATE = TIME TO FILL*
EVAPORATION (IN/DAY) ----------	0.4	IF UNKNOWN, USE REFERENCE ETpk80 FROM ABOVE	CONVERT TO GPD ----------	2715	GPD	FORMULA: EVAP * SURFACE AREA = POND EVAP CONVERSION: ETpk80 = IN/DAY * FT/12IN = ACRE-FT/DAY PER ACRE 1 AF = 325,850 G NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE
SEEPAGE RATE (FT/DAY) ----------	0.00	SUGGESTED VALUES FOR DIFFERENT SOIL TYPES: 0 = NATURALLY FILLED FROM GW, OR LINED 0.5 = CLAY SOILS 1.5 = LOAMS 3.0 = GRAVELS	CONVERT TO GPD ----------	0	GPD	FORMULA: SA * SEEPAGE LOSS = POND SEEPAGE (CUFT/D) CONVERSION: 1 CUFT = 7.48 G NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE
FLOW-THROUGH (CFS) ---------- (REFRESH RATE)	0.04	TOTAL DOMESTIC RATE CANNOT EXCEED 0.04 CFS FOR PART B DOMESTIC*	CONVERT TO GPD ----------	0	GPD	FORMULA: IF FILL RATE = 0 THEN GPD IS BASED ON CONTINUOUS FLOW IF FILL TIME > ONE DAY THEN GPD = 0 IF FILL TIME < ONE DAY THEN GPD = (24 HR - FILL TIME) * FLOW THROUGH RATE CONVERSION: 1 CFS = 646,272 GPD
			REFERENCE EXAMPLE: ESTIMATED NUMBER OF DAYS TO REFRESH BASED ON PROVIDED INPUTS ----------	*9.45* *227*	*DAYS* *HR*	*FORMULA: CAPACITY / FLOW RATE = REFRESH TIME*
			TOTAL POND ----------	28566	GPD	TOTAL = FILL RATE + EVAP + SEEPAGE + FLOW THROUGH
OTHER (GPD) ----------	0.00	STOCKWATER, SMALL BUSINESS USE, ETC. EITHER FROM POND OR SEPARATE USE	**TOTAL OTHER ----------**	0	GPD	
			TOTAL WATER USE ----------	**36860**	**GPD**	TOTAL = IN-HOUSE USE + IRR + POND + OTHER

* NOTE: MAXIMUM VOLUME FOR EXEMPTION = 13,000 GPD FOR PART A DOMESTIC
MAXIMUM VOLUME FOR EXEMPTION = 2,500 GPD FOR PART B DOMESTIC

ADMINISTRATOR'S MEMORANDUM

Application Processing Memo No. 68
Transfer Processing Memo No. 25

To: Regional Offices
Water Allocation Bureau

From: L. Glen Saxton

Re: **CONDITIONAL PROTEST WITHDRAWAL FOR RESOLUTION OF A CONTESTED APPLICATION**

Date: July 29, 2003

The purpose of this memorandum is to provide guidance to Department staff regarding the procedure to be followed upon receipt of a conditional withdrawal of a protest to a water right application.

Protests to water right applications are often resolved through stipulated agreement resulting from negotiations between parties. In some cases, an agreement between parties includes a statement that the protest is withdrawn provided the Department includes specific language as conditions of approval of the water right application. Sometimes, however, the stipulations proposed in the "conditional" withdrawals are not acceptable to the Department for a variety of reasons. Department Rule of Procedure 612 provides that "When a settlement is presented to the presiding officer, the presiding officer will prescribe procedures appropriate to the nature of the settlement to consider the settlement."

The Department should encourage settlement of contested cases through informal means and should make every effort to facilitate such settlements. To increase the likelihood that the settlement agreement will be acceptable to the Department, staff that conduct pre-hearing conferences should advise the parties that proposed settlement conditions may be considered unacceptable if the conditions are:

- Contrary to law or rules of the Department
- Outside Department jurisdiction
- Unreasonably burdensome upon the Department including staff time and Department resources
- Inconsistent with Department policy
- Inconsistent with proper management of the water resource or orderly administration of water rights
- Unclear or ambiguous meaning or intent.

Instruction should be provided at the conference stage before negotiations commence, if possible, and parties should be informed that this guidance does not prohibit or limit settlement agreements between the parties separate from requirements of the Department.

If a conditional protest withdrawal proposes settlement conditions to be applied to an approval, the Department must determine if the conditions are appropriate prior to determining that a protest is withdrawn. Regional Managers facilitating protest resolutions have broad discretion to determine the acceptability of proposed conditions but in some questionable cases, may want to seek legal or administrative review.

If the settlement conditions are determined to be unacceptable, the Department should prepare a letter to inform the parties that the conditional protest withdrawal is not acceptable and should list the reasons why the conditions cannot be accepted. The letter should also inform the parties that the protests will not be considered by the Department as withdrawn, that the pending application remains an active contested case before the Department, and that the parties have further opportunity to resolve the contested matter through continued negotiations.

If the settlement conditions are determined to be acceptable, and the application is otherwise approvable, the Department should acknowledge receipt of the conditional withdrawal of protest. The acknowledgement letter should inform the parties that the Department may modify the conditions as written to fit the approval format or may substitute a standard condition of the Department with essentially the same language and intent. Minor revisions can be made to help clarify certain references within a condition such as the addition of water right or transfer numbers, and well or other diversion locations. Standard conditions of the Department may be used to accommodate data entry and help avoid conflicting interpretations by Water Masters, Department staff and other water users. However, in preparation of an approval document, Department staff should not modify or replace specific language that relates only to interaction of the parties or the factual circumstances unless a change is necessary to prevent conflicting interpretations. In such cases, or in cases where acceptability is questionable, State office staff should consult with the Regional Manager and other staff who facilitated the protest resolution and, if significant changes appear to be warranted, the Department should notify the parties in writing of the changes or concern, prior to issuance of an approval. If a party objects in writing to the proposed changes, IDWR will inform the parties that the protest is not considered withdrawn, that the pending application remains an active contested case before the Department, and that the parties have further opportunity to resolve the contested matter through continued negotiations.

When multiple parties protest an application, one or more of the parties may withdraw their protests prior to hearing. If a withdrawal of protest agreement does not resolve the entire contested case, failure to determine acceptability of proposed condition language at the time of withdrawal could result in a later rejection of the proposed language after the dispute between the other parties is resolved. Conditional language proposed in a withdrawal agreement between the applicant and less than all of the protestants should be reviewed prior to hearing on the matter and a letter issued stating whether the proposed language would be acceptable to IDWR if the application is ultimately approved. Care should

be exercised in issuing the letter, however, if, by finding the proposed condition to be acceptable, IDWR might be viewed as having predetermined the outcome of the contested case.

Approvals are issued as preliminary orders of the Department and also must be provided to all parties involved in the conditional withdrawals. Parties can petition for reconsideration of a preliminary order for any reason, including disagreement with the conditions of approval, if any were modified, substituted or added by the Department.

This guidance does not limit or prohibit the use of settlement agreements that do not impose conditions on the approval. In such cases, the existence of an agreement can be recognized with a standard condition of the Department as follows:

> The diversion and use of water described in Transfer <00000> may be subject to additional conditions and limitations agreed to by the protestant(s) and the right holder under a separate agreement to which the Department is not a party and which may be enforceable by a court of law.

ADMINISTRATIVE MEMORANDUM

Adjudication No. 54
Application Processing No. 69
Well Construction No. 7

DATE: February 26, 2010

TO: Water Management Division

FROM: Jeff Peppersack

RE: Permitting Requirements for Low Temperature Geothermal Wells Used for Domestic Purposes

This memo supersedes Adjudication No. 54, Application Processing No. 69 and Well Construction No. 7 dated August 5, 2008.

On April 17, 2008, the Director extended a five-year moratorium for a portion of the Twin Falls Ground Water Management Area (TFGWMA). The moratorium order prohibits approval of applications to appropriate water and limits development under existing permits to divert and use water from the artesian, thermal ground water aquifer. In addition to extending the moratorium, the Director ordered that the moratorium applies to domestic purposes as defined by Section 42-111, Idaho Code based on the following conclusions:

> A domestic ground water right from low temperature geothermal water cannot be perfected by beneficial use, but must be established by the filing of an application with the Department and subsequent approval by the Department as a water right.
>
> Low temperature geothermal water rights must be represented by an approved water right, and the Director has authority to refuse to process applications to appropriate low temperature geothermal water for domestic use.

The conclusions from the order are based on requirements in Section 42-233, Idaho Code. Section 42-233 recognizes the validity of domestic water rights for use of low temperature geothermal water perfected by beneficial use prior to July 1, 1987. Section 42-233 requires the filing and approval of a domestic water right for low temperature geothermal water when the use of water was completed after July 1, 1987.

This memo is intended to inform staff of the requirements for filing an application for permit to appropriate water from a low temperature geothermal well for domestic purposes. In the past, the Department has issued well drilling permits for low temperature geothermal wells to be used for domestic purposes without a water right permit, based on the exception provided under Section 42-227, Idaho Code. Staff should work with owners of those domestic wells constructed after July 1, 1987 to ensure that they file an application for permit to appropriate water if the use is not authorized by an existing water right. In addition, the Department should notify the general public through news releases, the Department's website and/or other available means of the requirement to file an application.

For low-temperature geothermal wells, the following shall apply for domestic uses statewide:

- A valid water right permit, license or decree is required to divert and use water from any low temperature geothermal well, except for rights based on beneficial use established prior to July 1, 1987. Note that deferrable domestic uses not claimed in the Snake River Basin Adjudication ("SRBA") qualify for the exception; however, deferrable uses were limited to those currently defined under Section 42-111(1a), Idaho Code.

- Domestic rights from low temperature geothermal wells that were decreed in the SRBA are valid rights decreed by the court; however, the Department should no longer recommend domestic water rights from low temperature geothermal wells based on beneficial use established on or after July 1, 1987.

- An application to appropriate water from a low temperature geothermal well shall include documentation to demonstrate that the use will be primarily for heat value pursuant to Section 42-233, Idaho Code, or shall include a request to exempt the proposed use with documentation demonstrating that the exemption is warranted based on the statutory criteria.

- Water right or permit holders authorized to divert and use water from a well in a cold water aquifer, who "un-intentionally" encounter a low temperature geothermal resource during construction, modification, or replacement of a well, must cease construction of the well and seek further instruction from the Department regarding measures to protect the resource while any water right issues are pending. Except for those measures required to protect the resource, the water right or permit holder may only resume construction after obtaining authorization to appropriate water from the low temperature geothermal resource or an exemption from the requirement to use the water primarily for heat value pursuant to Section 42-233, Idaho Code.

- A valid water right or permit authorizing a well for diversion and use of a low temperature geothermal resource must exist prior to issuance of a well drilling permit to construct a new well or modify or replace an existing well. Bonding and typically more stringent well construction provisions are applicable for construction for low temperature geothermal wells pursuant to Section 42-233, Idaho Code and Rule 30 of IDAPA 37.03.09.

- Start cards are not valid to construct, modify or replace a well seeking to appropriate a low temperature geothermal resource, or encountering a low temperature geothermal resource during construction. In addition, use of start cards may be prohibited for specific areas that may encounter low temperature geothermal resource as designated by the Department. An incidental or unintentional encounter of low temperature geothermal water while drilling a well authorized by a start card will require the filing of a new drilling permit application. A drilling permit upgrade fee of $125 must accompany the drilling permit application.

Applications to appropriate water from a well using a low temperature geothermal resource for domestic purposes within a moratorium area or other area limiting or prohibiting further development of the resource can only be approved in accordance with the order governing the designated area. An exception will be provided for moratorium areas or other areas limiting or prohibiting further development of the resource that were established or are actively extended or modified by order dated prior to April 17, 2008. In those restricted areas, for situations where development of a domestic use

was commenced prior to April 17, 2008, the Department will only consider a new application to appropriate water from a low temperature geothermal well provided that each of the following requirements are met:

- Development of the domestic use proposed under the new application was commenced prior to April 17, 2008 (for example, this may include a situation where a well was drilled just prior to April 17 and development has continued uninterrupted even though water was not diverted and used from the well for domestic purposes until shortly after April 17; however, it would not include a situation where the domestic use was not at least in initial stages of construction prior to April 17)
- The use is limited to domestic use as defined in Section 42-111, Idaho Code; the domestic use must be primarily for heat value and within the limits of parts A or B of the domestic definition, unless the domestic use qualifies for an exemption from the heating requirements pursuant to Section 42-233, Idaho Code.
- The well complies with drilling permit requirements for wells drilled on or after July 1, 1987

Applications that meet these requirements and are otherwise acceptable for processing shall be advertised and may be approved if the criteria in Section 42-203A, Idaho Code are satisfied. Note that current moratorium areas prohibiting further development of a low temperature geothermal resource may also be subject to other moratoriums or restrictions such as the Eastern Snake River Plain moratorium area; however, those areas may provide exceptions for domestic purposes and will require review on a case by case basis for applications in each area.

Any low temperature geothermal water use or well construction for domestic purposes, not authorized by a water right permit, license or decree (unless right based on beneficial use established prior to July 1, 1987) and/or well drilling permit shall be subject to an administrative enforcement action and/or abandonment of the well pursuant to Chapter 2, Title 42, Idaho Code and Rules of the Department. Department staff are instructed to work with water users to ensure that the appropriate applications are filed to obtain permits or authorization for existing uses.

ADMINISTRATOR'S MEMORANDUM

To: Regional Offices and Water Allocation Bureau
From: Jeff Peppersack
Date: October 30, 2009

RE: PARTIAL DECREES FOR WILD & SCENIC RIVER WATER RIGHTS, STIPULATION FOR SETTLEMENT OF WILD AND SCENIC RIVER DISPUTE

Table of Contents

I. Introduction

During the summer of 2004, the State of Idaho, the United States of America, and other interested parties (referred to hereafter as "the parties") signed a stipulation for settlement of objections to instream federal reserved water rights claimed pursuant to the Wild and Scenic Rivers Act. The stipulated agreement is referred to herein as the "Wild & Scenic Agreement." Under the Wild & Scenic Agreement, the parties agreed to recognize federal reserved instream water rights on the Main Salmon, Middle Fork Salmon, Rapid, Selway,

Lochsa, and Middle Fork Clearwater Wild & Scenic Rivers. These water rights will be referred to hereafter as the "Wild & Scenic Water Rights." The parties developed recommendations to the Snake River Basin Adjudication (SRBA) Court for those water rights and attached them to the agreement as Attachments 1 through 6.

The Wild & Scenic Agreement resolves the objections through both the objectors and claimants accepting the following:

- That the Wild & Scenic Water Rights are subordinate to certain existing and future water uses.
- That existing and future uses are subject to detailed administration to ensure water use conforms to all elements of the water rights.

The parties to the Wild & Scenic Agreement stipulated that the Wild & Scenic Water Rights would be subordinate to existing appropriations of water and some future appropriations of water and anticipated that IDWR would perform detailed administration of existing and new water rights following execution of the agreement and issuance of the recommended partial decrees by the SRBA Court.

The partial decrees for the Wild & Scenic Water Rights were decreed by the SRBA Court on November 16, 2004. The decreed water rights are numbered as shown in the table below.

Table 1. Decreed Water Right Numbers for the Wild & Scenic Water Rights

Wild & Scenic River	Decreed Water Right Numbers
Main Salmon River	75-13316 & 77-11941
Middle Fork Salmon River	77-13844
Rapid River	78-11961
Selway River	81-10472
Lochsa River	81-10513
Middle Fork Clearwater River	81-10625

This memorandum interprets language within the Wild & Scenic Agreement and the partial decrees for the Wild & Scenic Water Rights for purposes of recording, tracking, and administering water rights in the watersheds of the Wild & Scenic Water Rights.

II. Definitions/Global Concepts

a. Effective Date

The text of the Wild & Scenic Agreement establishes September 1, 2003, as the effective date of the agreement.

b. Hydraulic Connection

IDWR interprets the term "hydraulically connected sources" to mean all sources of water (including ground water) within the surface water drainages of the Wild & Scenic Rivers. Additionally, IDWR assumes that all such "hydraulically connected" sources of water remain connected to the Wild & Scenic River at all times. All surface water rights and ground water rights diverted from sources hydraulically connected to the Wild and Scenic River reaches upstream from the ending points will be recorded, tracked and administered as anticipated under the provisions of the Wild & Scenic Agreement.

IDWR has created GIS shape files depicting the areas where diversions of water will be recorded, tracked and administered as anticipated under the provisions of the agreement. The shape files have been posted on IDWR's Internet site and made available to staff members in IDWR's internal GIS database.

c. Conjunctive Management

IDWR will conjunctively manage the ground water and surface water in the Wild and Scenic River Basins. At a minimum, ground water users must account for their diversion of water. Ground water rights that do not enjoy the benefits of subordination will be curtailed in times of shortage.

Appropriations from all sources of water hydraulically connected to the Wild and Scenic River reaches, including ground water appropriations, must be included in the cumulative totals of water rights enjoying the benefits of subordination (see part III below).

III. Subordination Provisions of the Partial Decrees

Each partial decree for the Wild & Scenic Water Rights bears a provision stating that the water right is subordinate to certain existing and future water rights and uses. This means that, although the Wild & Scenic Water Right may be senior in priority, some junior water rights will not be regulated to provide water to satisfy the Wild & Scenic Water Right.

a. Subordination to Certain Junior Water Rights and Uses

All of the Wild & Scenic Water Rights are subordinate to eight classes of junior water rights and uses with points of diversion or impoundment and places of use within the Wild & Scenic basin upstream of the ending point of the Wild & Scenic instream water right. The eight classes are as follows:

1. All water right claims filed in the SRBA as of September 1, 2003, if ultimately decreed in the SRBA.
2. All water right licenses, permits, and applications bearing priority dates earlier than September 1, 2003, for which proof of beneficial use was due after November 19, 1987.
3. Domestic use as defined by Idaho Code § 42-111(1)(a) and (b) and consistent with Idaho Code § 42-111(2) and (3). Multiple ownership subdivisions do not enjoy the benefits of subordination as domestic uses unless the use meets the diversion rate and volume limitations set forth in Idaho Code § 42-111(1)(b).
4. De minimis stockwater uses as defined by Idaho Code § 42-111 and Idaho Code § 42-1401A(11).
5. Nonconsumptive water rights.
6. Water rights of the United States.
7. Instream flows.
8. Replacement water rights as defined in the partial decrees.

The Wild & Scenic Water Rights for the Main Salmon River are subordinate to the eight classes of water rights listed in section (a) above, and also to the following:

1. Municipal water rights bearing a priority date later than September 1, 2003. Hookups with a capacity less than 2 cfs will enjoy the benefits of subordination. However, any hookups with a capacity equal to or greater than 2 cfs (except if for fire protection) will enjoy subordination under the finite future use limit to the extent that the limit has not been met at the time the hookup is developed. Municipal is defined more narrowly than the statutory definition.

The other Wild & Scenic Water Rights are not subordinate to municipal uses. This is probably because there is so much federal land in those basins that there is not, and probably will never be, any municipal use within or upstream from the other Wild & Scenic River reaches.

b. Subordination to Finite Future Uses

Section 10.b.(6) of the partial decree for the Main Salmon River and 10.b.(5) of the remainder of the Wild & Scenic partial decrees provides that the federal reserved water rights in each Wild & Scenic basin will be subordinate to a limited amount of future development that would not otherwise enjoy the benefits of subordination under other provisions of the partial decrees. Each watershed within and upstream of the Wild and Scenic River reach was evaluated to determine limitations of uses and these limitations were incorporated into the development limitations. The amount of future development in each basin that will enjoy the benefits of subordination is summarized in Table 2 and is limited to a total combined diversion rate, only a portion of which is to be for purposes of irrigation.

Table 2. Future Use Amounts to which the Wild & Scenic Water Rights will be Subordinate

Partial Decrees	Flow Rate (cfs)	Irrigation Limit (acres at 0.02 cfs/acre)	Other
Main Salmon River	150	5,000	Subordinated to an additional 225 cfs/10,000 acres (at <= 0.02 cfs/acre) when the mean daily flow at the Shoup Gage is >1,280 cfs.
Middle Fork Salmon River	60	2,000	Subordinated to an additional 5 cfs of diversion from specific areas for commercial or industrial use or storage for such uses, where storage capacity is <= 100 acre-feet.
Rapid River	10	300	None
Selway River	40	500	None
Lochsa River	40	500	None
Middle Fork Clearwater River	40	500	None

The partial decree for the Main Salmon federal reserved water rights states that "if a portion of the acreage permitted within" the "150 cfs is to be idled for a year or more, an equal number of acres permitted for irrigation within the 225 cfs . . . can be substituted to take advantage of the subordination when the river is less than 1,280 cfs for the period of years the original acres are idled." Although the flow rate quantities authorized by the water rights in each group determine whether the rights will be within the first 150 cfs block of water rights or the second 225 cfs block of water rights, for purposes of administration, portions of water rights within the first 150 cfs block not used during an entire calendar year will be temporarily removed from the 150 cfs subordination block of water rights. The earliest priority water rights in the second 225 cfs block of water rights will become a part of the 150 cfs block up to 150 cfs total diversion rate authorized by the first block of water rights.

The language in the partial decrees for the Wild & Scenic Water Rights is not entirely clear as to how much future irrigation use the federal reserved rights will be

subordinate to. Each partial decree bears language similar to that of the Main Salmon partial decree, which provides that the federal reserved rights will be subordinate to future appropriations with "... a total combined diversion of 150 cfs (including not more than 5,000 acres of irrigation with a maximum diversion rate of 0.02 cfs/acre."

Conservation of water resources within Idaho requires water users to be reasonably efficient. Modern irrigation methods typically do not require more than 0.02 cfs per acre of irrigation. Approving new irrigation water rights for more than 0.02 cfs in the areas tributary to the Wild & Scenic Rivers could be contrary to the subordination provisions of the partial decrees, and it could further limit the number of irrigated acres that can benefit from the subordination provisions of the Wild & Scenic water rights. Therefore, recognizing that each federal reserved water right has its own limits, but using the Main Salmon as the example, IDWR interprets the future appropriation statements of the partial decrees to mean the following:

1. The federal reserved water rights will be subordinate to a combined total of 150 cfs of new appropriations that do not already enjoy the benefits of subordination under other provisions of the partial decree.
2. Not more than 100 cfs (5,000 acres at 0.02 cfs/acre) of new irrigation appropriations will enjoy the benefits of subordination.
3. The federal reserved water rights will be subordinate to a new appropriation listing irrigation as a beneficial use only if the total diversion under all existing rights appurtenant to the place of use for that appropriation is less than or equal to 0.02 cfs/acre.

The above interpretation implies that some new appropriations will not enjoy the benefits of subordination even though the future use limits may not have been reached. This is discussed in more detail in the section of this document entitled *Permitting and Licensing Guidelines.*

Storage water rights are specifically excluded from the future use subordination provisions of the partial decrees for the Wild & Scenic Water Rights. Because water rights for storage volumes cannot be easily converted to a flow rate that can be counted against the flow rates to which the Wild & Scenic water rights are subordinate, IDWR will treat on-stream storage rights in the same way that instream flow water rights and nonconsumptive water rights are treated in the partial decrees; they will not be deducted from the flow rate limitations to which the Wild & Scenic water rights will be subordinate.

If a water right that enjoys the benefits of subordination is forfeited or abandoned, the future use subordination amount available is increased by the amount of the water right that was forfeited or abandoned. If a water right (other than for domestic, stockwater, or municipal uses) that is senior to the federal reserved water rights is forfeited or abandoned, the State of Idaho may petition the SRBA court for an increase in the future use amounts equal to that of the forfeited or abandoned senior rights.

c. Accounting of Subordination to Finite Future Uses

To ensure adherence to subordination limitations for the Wild & Scenic Water Rights, diversion rates and irrigated acres must be totaled for all applications proposing appropriations from the "future use subordination" provisions in each Wild & Scenic partial decree. These summaries will change from time to time because of additional

appropriations, reduced development, lapsing or licensing of permits, or abandonment, voiding or forfeiture of water rights to which the Wild & Scenic water rights are subordinate.

The Wild & Scenic Agreement states that water rights enjoying the benefits of subordination shall be recorded, tracked, and made available via modern electronic means. The Water Rights Section shall diligently pursue computer programming assistance to create capability within the Enterprise database and access to the database information through queries available on IDWR's Internet site. As an interim measure, a spreadsheet has been created and is maintained as a temporary method for recording and tracking the water right records enjoying the benefits of subordination. IDWR staff in the regions and the state office will share responsibility for updating the spreadsheet as part of their regular data entry functions for new applications, permits, and licenses. IDWR shall post the spreadsheet to the IDWR Internet site at least once a month.

IV. Other Provisions of the Partial Decrees

a. Publicly Available Information

As anticipated under the Wild & Scenic Agreement, IDWR will maintain "publicly available" information in its databases about water rights "above the ending point of each Wild and Scenic federal reserved water right." All water rights (decreed, licensed, or permitted) enjoying the benefits of subordination must be separately identified.

b. Out of Basin Transfers Prohibited

Each partial decree contains language prohibiting new appropriations or transfers of any water right that would result in the transfer of water from within the watershed of the Wild & Scenic River (upstream of the ending point of the instream reach) to points outside of the of the watershed of the Wild & Scenic River. The partial decrees do not prohibit transfers of points of diversion from above the ending point to below the ending point of the same instream reach. The language does not prohibit approval of new water rights or water right transfers proposing use of water within the Wild & Scenic Watersheds. Although the partial decrees each use the phrase, "This water right precludes any diversion of water out of the watershed ..." the partial decrees are not meant to prohibit the use of rights already authorized to divert water from within the basin to lands outside the basin.

V. Permitting and Licensing in Wild & Scenic Watersheds

a. Permitting and Licensing Guidelines

- Published notices of water right applications must contain information about subordination of the Wild & Scenic Water Rights.

  If the application is for single domestic use, de minimis stock water use, or instream flow; or if it is a United States right, a nonconsumptive use, or a replacement right, language similar to the following text should be included in each published notice:

> This application proposes the diversion and use of water from <ground water tributary to/a tributary of> the _____ Wild & Scenic River. The decreed minimum stream flow rights for the federal Wild & Scenic Rivers are subordinate to certain categories of water use and to specific amounts of water use established after the minimum stream flow. The water use proposed in this application will benefit from the subordination provision because it is for _____ purposes.

If the use is NOT a single domestic, a de minimis stockwater use, a nonconsumptive use, a United States right, a replacement right, or an instream flow, language similar to the following text should be included in each published notice:

> This application proposes the diversion and use of water from <ground water tributary to/a tributary of> the _____ Wild & Scenic River. The decreed minimum stream flow rights for the federal Wild & Scenic Rivers are subordinate to certain categories of water use and to specific amounts of water use established after the minimum stream flow. The water use proposed in this application will benefit from the subordination provision because the diversion rate <<and acres>> will be applied to the subordination amounts specified in the decree for the Wild & Scenic River listed above.

- Permits for irrigation of more than 5 acres of new development will be issued with a diversion rate of no more than 0.02 cfs/acre – this diversion amount and acreage will be deducted from the future use amounts.
- Permits for irrigation of 5 acres or less of new development will be issued at a diversion rate of no more than 0.03 cfs/acre – this diversion amount and acreage will be deducted from the future use amounts.
- Permits for irrigation of existing irrigated acres that result in an overall diversion rate of more than 0.02 cfs/acre will not enjoy the benefits of subordination and will not be deducted from the future use subordination amounts. This applies even if the new license authorizes 0.02 cfs/acre or less, as long as the total diversion rate (including existing rights) for the irrigated acres exceeds 0.02 cfs/acre.
- Permits for municipal uses within the Main Salmon River drainage (basins 71 through 75) to which the Main Salmon Wild & Scenic Water Right will be subordinate based on paragraph 10.b.(5) of the partial decree must be conditioned to require the right holder to report when diversions commence and to submit to IDWR by January 31 of each year thereafter, a report listing the size, capacity, and location of all new connections greater than 4 inches in diameter.
- When a new application for appropriation is filed, a permit or license is issued, or, by order or operation of law, is voided, forfeited, abandoned, or lapsed, IDWR's action should be posted to the "subordination accounting database." Until that database is developed, this information should be posted to the tracking spreadsheet described in section III.c of this document.
- The Wild & Scenic Agreement anticipates that all permits or licenses issued for non-de minimis uses from sources of water in a Wild & Scenic River basin after September 1, 2003 will be conditioned to require a lockable controlling works, a measuring device, and a data logger or other suitable

device to record diversion rates at each point of diversion. The term "de minimis" is not defined in the agreement. IDWR coordinated with the federal government (U.S. Forest Service) to determine de minimis uses and the timing of requirements based on anticipated administration of rights through a water district. Please refer to the flow chart *"Measuring Device, Lockable Controlling Works, and Water District Conditions for Applications for Permit"* for specific information on these conditions. The flow chart is subject to revision, but the current version is available from the Water Rights Permits Section.

b. Current Moratoriums

The order establishing a moratorium on the appropriation of surface water in the Salmon River and Clearwater River basins dated April 30, 1993, and the order establishing a moratorium on the appropriation of surface and ground water in areas within and tributary to wilderness areas, dated October 26, 1999, were rescinded by order executed on November 9, 2005.

For additional guidance, see the information sheet *"Applying for a Permit to Appropriate Water in the Salmon and Clearwater River Basins"*, and the flow chart *"Water Right Application Review Process for the Salmon and Clearwater River Basins."* These documents are subject to revision, and the most current versions are available from the Water Rights Permits Section.

VI. Administration and Regulation

In the portion of the Wild & Scenic Agreement titled "Administration of Water Rights" subparagraph 2.a., titled "Enforcement," states:

> The State, through the Idaho Department of Water Resources ("IDWR") and local water districts created and supervised by IDWR pursuant to Idaho Code §§ 42-604 et seq., shall distribute water to the federal reserved water rights set forth in this Stipulation and the Partial Decrees and all other hydraulically connected water rights, regardless of sub-basin location, above the ending point of the respective federal reserved water rights . . . . [A]ll new water rights that are hydraulically connected with the Wild and Scenic Rivers federal reserved water right will be administered as a single source.

The following IDWR tasks are anticipated or implied under the agreement:

1. Insure the accuracy of the decreed water rights in basins 71, 72, 73, 74, and 75. Create user lists of water users for the purpose of notifying the water users of the need to create a water district.
2. Create the Upper Salmon Water District. Help water users find a watermaster suitable for election and appointment, determine place of work, determine number of deputy watermasters, and establish a budget and appropriate assessments for the water users. Determine interaction of the larger district with existing water districts.
3. Conduct a systematic inventory of diversions for watermaster oversight.
4. Measure existing diversions with a current meter and require adherence to water right limitations. Require installation of lockable controlling works, measuring devices, and data loggers where necessary.
5. Require installation of lockable controlling works, measuring devices, and data loggers for all new non-de minimis water permits and licenses issued after September 1, 2003 regardless of priority. See Section V.a for details regarding implementation of this task.

6. Collect and report diversion data quarterly. Collect and report diversion data daily in times of shortage "as necessary to properly administer water rights."

7. Conduct periodic coordination meetings with the watermaster, the federal government and other water users for the purposes listed below:
   - to agree upon management goals;
   - to identify and prioritize stream reaches or other locations needing improved management;
   - to identify sources of funding for regulation, equipment and facilities;
   - to identify needs for creation of additional sub-districts;
   - to share data and other information and assess progress in meeting management needs.

   The requirement for periodic meetings will continue to be met through meetings of the WD170 Advisory Committee, to be attended by the watermaster and representatives of IDWR.

a. Regulation of the Main Salmon River

The partial decree for the Salmon River Wild & Scenic water rights states that water rights within the watershed of the Salmon River Basin upstream of Long Tom Bar will be administered to ensure the satisfaction of the Wild & Scenic water right through out the Wild & Scenic reach. The instream flows established by the Wild & Scenic Water Rights can be diminished by diversions of water under the water rights enjoying the benefits of subordination, but junior water rights that do not enjoy the benefits of subordination will be regulated when the Wild & Scenic Water Rights are not being satisfied. The mean daily flow of the Salmon River at the Shoup Gage is used to determine whether the Salmon River Wild & Scenic water right is considered satisfied. The water rights have both a high flow and a normal flow component.

- **High Flow Component.** Section 3.b of the partial decree for the Salmon Wild & Scenic water rights provides that the United States is entitled to all flows up to 28,400 cfs at times when the flow at the Shoup gage is greater than 13,600 cfs, or would be greater than 13,600 cfs if not for junior upstream depletions. In other words, the total of depletions to the flow at Shoup due to junior water rights must be added to the flow at Shoup to determine whether the flow at Shoup is 13,600 cfs or more. Because the actual depletion is unknown, we must use an estimate. Although the depletion to the flow is not necessarily equivalent to the diversions from the system, the diversion amounts provide a conservative estimate of the depletions in the sense that it is less likely that the estimate will under-represent the depletions. As many of the junior diversions are not routinely measured, an upper limit of the diversions can be estimated based on the water rights.

  The IDWR database currently shows approximately 21,434 cfs of water rights junior to 7/23/1980. This includes water rights enjoying the benefits of subordination. All but approximately 740 cfs are minimum stream flow water rights, and approximately 290 cfs is non-consumptive (fish propagation and power), leaving approximately 450 cfs of junior water rights that may deplete flows to the Shoup gage. However, not all of these water rights are diverted at a given time, and the actual depletion is likely less than 100% of the diversion. Nevertheless, without having a well-founded estimate of how much of the 450 cfs is diverted at a given time, the assumption that it is all diverted and results in a depletion equal to 450 cfs at the Shoup gage will result in a conservative estimate of the depletions. As such, the 13,600 trigger occurs when the mean

daily flow at the Shoup Gage is 13,150 cfs. This value should be adjusted periodically as additional water is appropriated and as additional depletion information becomes available.

- **Normal Flow Component.** If the mean daily flow on a given date at the Shoup gage is less than 13,600 cfs, but equal to or greater than the amount shown in Table 3 for that date, then the water right is considered satisfied. Table 3 summarizes the regulatory action required to satisfy the federal reserved water rights.

Table 3. Quantity of Salmon Wild & Scenic Water Right when Flow at Shoup is Less than 13,600 cfs

Period of Use	Flow Rate at Shoup (cfs)	Regulatory Action
All Dates	> 13,150 and <= 28,400	All junior rights not enjoying the benefits of subordination will be regulated*
All Dates	> 28,400	No regulation necessary to satisfy W&S rights.
January 1-15	< 1440	Junior rights not enjoying the benefits of subordination will be regulated on a priority basis to supply the flow shown for the corresponding date* *See Section III for a description of rights enjoying the benefits of subordination. When the flow at Shoup is > 1280 cfs, the 225 cfs block of future uses enjoy the benefits of subordination and will not be regulated.
January 16-31	< 1450	
February 1-15	< 1500	
February 16-28(29)	< 1550	
March 1-15	< 1510	
March 16-31	< 1540	
April 1-15	< 1590	
April 16-30	< 2470	
May 1-15	< 3920	
May 16-31	< 7310	
June 1-15	< 9450	
June 16-30	< 7790	
July 1-15	< 4730	
July 16-31	< 2700	
August 1-15	< 1390	
August 16-31	< 1240	
September 1-15	< 1200	
September 16-30	< 1400	
October 1-15	< 1570	
October 16-31	< 1700	
November 1-15	< 1820	
November 16-30	< 1730	
December 1-15	< 1600	
December 16-31	< 1510	

b. Upper Salmon Water District

The Wild & Scenic Agreement states that "[w]ithin six months of issuance of the Partial Decrees confirming the Wild and Scenic Rivers federal reserved water rights, the parties will file a joint petition with the SRBA Court . . . for an order for interim administration of basins 71 and 72 and IDWR will establish a water district for the Upper Salmon River Basin." The petition for interim administration in basins 71 and 72 was filed on May 16, 2005 and was granted on September 29, 2005. On March 6,

2006, the Director issued Final Order Creating Water District No. 170. That order was amended in response to an objection by Thompson Creek Mining Company and reissued on April 6, 2006 as Amended Final Order Creating Water District No. 170. Thompson Creek Mining Company appealed the order and a decision was issued by the Idaho Supreme Court on October 27, 2009 upholding the Director's creation of the water district. The water district IDWR created will be referred to herein as "WD170" or the "Upper Salmon Water District."

Ultimately, the Upper Salmon Water District will be enlarged to include basins 73, 74, and 75. The director has recommended rights for the SRBA in basins 73, 74 and 75. A petition for interim administration of basin 74 has been submitted to the SRBA Court and was granted by the court on May 1, 2006. The Wild & Scenic Agreement states that additional petitions for orders of interim administration would be filed with the SRBA Court within six months of the filing of the SRBA recommendations for each basin. However, discussions with the SRBA Court and the United Sates have resulted in the decision not to petition for interim administration for basins 73 and 75 pending resolution of objections and/or issuance of the bulk of the partial decrees for water rights in those basins. As this occurs, these basins will be brought into WD170.

The Upper Salmon Water District envelopes existing water districts within its boundaries. The existing water districts have become sub-districts within the larger Upper Salmon Water District but retain much of the control over deputy watermaster selection, budgets and administration of water rights in the sub-districts as contemplated by the Wild & Scenic Agreement. As the district is expanded to encompass the remaining basins, preexisting water districts in those basins may be revised to become sub-districts of WD170.[1] For purposes of efficient administration, the Director may designate additional sub-districts within WD170.

Although not expressly written in the Wild & Scenic Agreement, the agreement contemplates a steady ramp up rather than full immediate operation of water district activities within the Upper Salmon Water District.

c. Regulation and Administration of Remaining W&S Rivers

The Wild & Scenic Agreement does not contemplate that a water district will be formed to administer any of the remaining Wild & Scenic Water Rights. However, section 2.b.(1) of the agreement states the following:

> IDWR will establish water districts as necessary to assist IDWR in the administration of water rights. The parties agree that, regardless of whether a water district has been established for an area, IDWR will: A) collect and record diversion data; B) enforce the water rights in priority; and C) curtail unauthorized or excessive diversions as necessary.

This anticipates that IDWR will perform some level of measurement and control in the other Wild & Scenic River basins. Presently, as these areas are not under watermaster control, measurement and control are accomplished on an as-needed basis in response to user complaints and/or whenever IDWR is aware that illegal use of water is occurring.

[1] Water District Nos. 72-B and 72-C were merged to form Water District No. 72-A, a sub-district within WD170, by order of the Director on February 16, 2007. A sub-district was created to administer rights in basin 71 by order of the Director on December 11, 2008.

Although the current and near future anticipated level of permitted rights that enjoy subordination in these basins does not warrant a need for water districts, section 2.b.(3) of the Wild & Scenic Agreement acknowledges that any party may file a petition for administration and IDWR will evaluate the need for water districts in these areas at that time.

MEMORANDUM

To: Regional Offices
Water Allocation Bureau

Application Processing Memo # 71
Transfer Processing Memo # 27

From: Jeff Peppersack

Re: **Describing Mitigation in Water Right Records**

Date: November 4, 2015

This memorandum supersedes Application Processing Memorandum #71 and Transfer Processing Memorandum #27 issued May 3, 2010.

Idaho Code § 42-223(10), as amended in 2004, protects water rights from forfeiture if they are not used because they are serving as mitigation for some other water use. The statute states:

> **(10) No portion of any water right shall be lost or forfeited for nonuse if the nonuse results from the water right being used for mitigation purposes approved by the director of the department of water resources including as a condition of approval for a new water right appropriation approved pursuant to section 42-203A, Idaho Code, a water right transfer approved pursuant to section 42-222, Idaho Code, a water exchange approved pursuant to section 42-240, Idaho Code, or a mitigation plan approved in accordance with rules promulgated pursuant to section 42-603, Idaho Code.**

This statute supports IDWR's recognition of mitigation as a beneficial use. Dedication of a water right for mitigation by not using it is dissimilar to other beneficial uses of water, however, because the beneficial use is a non-use. This dichotomy is reflected in the statute above where a water right is protected for "non-use" when it is "being used for mitigation purposes."

The statutory recognition of mitigation as a defense to forfeiture raises the issue of what processes are necessary to document a mitigation plan in water right records. Mitigation activity takes two possible forms:

- Type I -- Diversion and delivery of replacement water to offset injury or depletion
- Type II -- Non-use of water to offset injury or depletion

Because there are two ways to use water rights for mitigation, it is necessary to distinguish between the two in water right records and processes. "Mitigation by non-use" means that water is not diverted. Rather, the water is left in its naturally occurring location. This contrasts with water that is diverted and delivered as replacement water for depletion caused by some other water use.

The process for obtaining authorization for the mitigation activity depends on which of the mitigation forms is being employed. This memo is intended to help staff identify and distinguish between the processing requirements for mitigation by non-use and the processing requirements for other forms of mitigation. This memorandum does not address mitigation plans for replacement water associated with delivery calls under rules of the Department for Conjunctive Management of Surface and Ground Water Resources, unless addressed through an application for permit, transfer, or exchange.

If water can be diverted pursuant to a valid water right, leaving it in the source stream or in the ground for mitigation purposes is mitigation by non-use. Because of the protection from forfeiture given by Idaho Code § 42-223 and the provision that the director may approve the mitigation plan as a condition of

approval when it accompanies a new application to appropriate water (or application for transfer or exchange), an additional application for transfer or placement of the water right in the Water Supply Bank is not necessary to change the beneficial use of water right to mitigation by non-use.

In contrast, mitigating by releasing water from storage to the stream does not constitute non-use. Likewise, diversion of surface water to a recharge facility and percolating it into the ground as mitigation for a ground water withdrawal is not non-use. These and other forms of Type I mitigation (replacement water) are additional beneficial uses of water that must be authorized by the Department through applications for transfer or exchange, or rentals of water from the Water Supply Bank. The steps for changing a water right so that it serves as Type I mitigation are established by the necessary application process – transfer, exchange, or Water Supply Bank rental.

Because an application process is not necessary for Type II mitigation (non-use), the following steps should be taken for mitigation plans proposing **non-use** of water:

(1) A Type II mitigation plan typically accompanies an application for a new beneficial use of water. The water right or portion of a water right offered for mitigation by non-use must be identified within the application it accompanies. Sufficient information should be submitted with the application for IDWR to determine that the water right or part thereof will not be used. IDWR must verify that the mitigation rights are valid and that the applicant has the authority to commit them to use as mitigation. If necessary, IDWR staff should correspond with the applicant to request the documentation needed for verification of the rights in a manner similar to that employed in transfer processing.

(2) The published legal notice for the application must generally describe the mitigation plan.

(3) Even though "mitigating rights" will not be lost due to non-use, effective water right administration requires IDWR to identify and track the rights and portions of rights that will not be used. The department record of the water right or portion of a water right dedicated to mitigation by non-use will be modified to show "mitigation by non-use" as the purpose of use. Examples of common scenarios are provided later in this memo. A new water right number will not be issued for a portion of a right dedicated to mitigation unless there is a change of ownership for a portion of the right.

(4) If the water right or portion of a water right offered for mitigation is owned by a canal company, irrigation district, or other water delivery entity, the proponent of the mitigation plan must submit an agreement or consent document, signed by an authorized officer of the delivery entity, stating that the delivery entity agrees (a) to the use of its water right for mitigation and (b) that the water right records(s) of IDWR can be changed to reflect the non-use of the water for mitigation purposes. If the consent or agreement states that the delivery entity retains authority to revoke the agreement to allow the non-use of its water for mitigation, IDWR will condition the water right that it is subject to cancellation or revocation if notified by the delivery entity that the water right can no longer be used for mitigation.

Additional Processing Guidelines for Common Scenarios

The following examples may be useful for determining whether a particular mitigation proposal is Type I (replacement water) or Type II (non-use).

Type I - Replacement Water Scenarios

Scenario #1: Mitigation by Change in Nature of Use of an Existing Right

The first scenario is where a new permit or exchange is mitigated by changing the nature of use of other pre-existing rights to ground water recharge or some other offsetting direct use. For

example, an application for permit for municipal use of ground water in a moratorium area is offset by the transfer of surface water irrigation rights to ground water recharge via an infiltration basin. Another example would be the diversion and use of water under an existing water right to provide make-up water for the evaporative losses from a pond proposed under a new appropriation. The nature of use of the mitigating right is changed through a transfer to the ultimate purpose of the pond such as aesthetics, wildlife or recreation. A variant of this scenario could be the transfer of storage water to the new use, such as ground water recharge from storage, to accomplish mitigation.

Examples: City of Gooding (Transfer 78927 mitigates for 37-22850)
Dry Lot LLC (Transfer 74449 mitigates for 37-22252)

Scenario #2: Mitigation by Storage Release

The second scenario is where the injury or depletion caused by uses under a new permit, exchange or transfer will be mitigated by release of storage water under an existing storage right. An example would be the transfer of an existing ground water right authorizing irrigation use to a new location within the ESPA for an industrial use, where release of storage to a specified reach of the Snake River would provide mitigation for an increase in depletion to the reach due to the industrial use. This method is only approvable if the storage supply is reliable and assured either by pre-purchase or through other accepted operation plans within a rental pool. In this situation, a transfer is required to change the nature of use of the storage right to "mitigation by delivery storage" and "mitigation by delivery from storage" because the storage water is released and made available at a specific location in the stream as mitigation for any depletion caused by the new permit, exchange or transfer.

Note that in some cases approval may be granted pursuant to existing rental pool procedures in lieu of a transfer. For storage releases through an existing rental pool, authority to use the water for mitigation purposes is addressed through the rental pool procedures. The official record for the storage right will not require changes in the form of data entry for comments, changes in use or modification of the place of use. Therefore, documentation of the water right file for the mitigating right(s) is not necessary.

Example: RMH Company (Storage releases mitigate for 63-12521)

Scenario #3: Continued Diversion to Maintain Shared Conveyance Losses

The third scenario is where water is proposed to be left in a ditch or canal shared by multiple users to mitigate for injury that would be caused by a) transferring a water right out of the canal or b) non-use of an existing right from the canal for mitigation purposes (Scenario 5). Multiple water users in a common ditch or canal rely on the combined flow of all the water rights to overcome conveyance losses associated with delivery of the rights through the canal for their respective beneficial uses. Under this scenario, injury could occur to other water users if the flow in the canal is reduced due to a transfer or "mitigation by non-use" of one of the rights from the canal because the beneficial use under the remaining rights would be reduced. Injury can be mitigated by continued diversion of a portion of the authorized flow into the canal for conveyance loss.

If a water right is transferred out of the canal or committed to mitigation by non-use, the flow left behind to cover conveyance loss for the beneficial uses of the remaining rights will remain an unchanged part of the original right (i.e. do not change to mitigation use, and the right should not be reduced in volume or acres). The point of diversion for the canal will continue to be described as one of the authorized points of diversion of the right. The order authorizing the transfer out of

the canal or designating a portion of the right to mitigation by non-use will impose a condition describing the requirement to continue diversion of a portion of the authorized diversion rate into the canal to offset injury to other users from the canal.

Example: The Cross Creek Trust 37-4F (The source of 37-4F is ground water, but 0.02 cfs of surface water from the Big Wood River shall continue to be diverted into the Hiawatha Canal for conveyance losses, and 0.07 cfs of surface water remains in the river to mitigate the use of ground water.)

Scenario #4: Mitigation by Delivery (Delivery Call)

The fourth scenario is where a junior water right holder provides water directly to a senior water right holder who is being injured. For example, fish propagation facility #1 makes a delivery call on right 00-0000 (priority date 1962) to IDWR, which claims that its right is not being fulfilled. The call will cause IDWR to determine if injury is occurring and, if so, order curtailment of ground water right holders junior to 1962. A coalition of ground water appropriators who hold rights junior to right 00-0000 proposes a transfer to mitigate injury to the fish propagation facility, and ultimately prevent curtailment.

The coalition enters into an agreement with a nearby fish hatchery (fish propagation facility #2) to utilize a portion of its water right, and files a transfer proposing to pump and deliver water from springs (near fish propagation facility #2) to the head of an upstream creek near fish propagation facility #1, in order to mitigate material injury to the facility. The transfer requests to change 10 cfs of "fish propagation" use and a portion of the existing "fish propagation" place of use from fish propagation facility #2 to the fish propagation facility #1 site.

In this scenario, the coalition uses spring water to augment creek water, which is fish propagation facility #1's source. Therefore, this is an example of "mitigation by delivery." For the 10 cfs involved in the transfer, the point of diversion should be listed as the springs near fish propagation facility #2, but the place of use should be at the point where water is delivered to benefit fish propagation facility #1. The nature of use should be "mitigation by delivery." The use is described as "mitigation by delivery" instead of "fish propagation" because the junior right holder's obligation is to provide replacement water, regardless of the ultimate beneficial use which the junior right holder does not control. A variant of this scenario could be the release and delivery of storage water to fish propagation facility #1 to accomplish mitigation. If storage water is used, the nature of use should be "mitigation by delivery storage" and "mitigation by delivery from storage."

Example: SeaPac of Idaho Inc. (Transfer 79560 modifies Right 36-7072)

Type II – Mitigation by Non-use Scenarios

Scenario #5: Mitigation by Non-use (New Permit or Exchange)

The fifth scenario is where a new permit or exchange will be mitigated by the non-use of water under other water rights. An application for transfer is not necessary for such a change because non-use is not a change in use. In situations where the new use is mitigated by the non-use of water under other rights, IDWR uses the approval order for the new permit or exchange to approve the mitigation plan and to provide a vehicle for changing the official record for the mitigating right(s) that will no longer be used. The approval order shall include the following standard condition or a similar condition.

To mitigate for the depletion of water resulting from the use of water under this right and to prevent injury to senior water right holders, the right holder shall cease <diverting and> using water as authorized by the following water rights for the purposes and amounts specified below. Moreover, the official record for the following water rights will be changed to show that <diversion and> use of water is not authorized because the rights, or portion(s) thereof, are being dedicated to mitigation purposes.

Right No.	Use Changed to Mitigation by Non-use	Mitigation Rate	Mitigation Volume	Mitigation Acres
00-00000	Use	00.00	00.0	00
00-00000	Use	00.00	00.0	00

The land that will no longer be irrigated under these rights is located within the <XX ¼ XX ¼, Section 00, Township 00 North, Range 00 East, B.M.>

If a specified mitigating right, or portion thereof, is sold, transferred, leased, used on any place of use, or is not deliverable due to a shortage of water or a priority call, then the amount of water authorized for diversion under this <permit or exchange> approval shall be reduced by the same proportion as the reduction to the mitigating right.

When dealing with scenario #5, Department staff will complete data entry for the mitigating right(s) after issuing the approval document for the new permit or exchange. Data entry shall include a comment referring to the reason for the update and the number of the file where the approval order can be found. Data entry shall also include an update to the nature of use for the mitigating right(s) (or portion thereof) to show "mitigation by non-use" as the purpose of use and an update to the place of use to reflect the non-use at the original location. The place of use update should include modification of the place of use shape file(s) to designate the portion of the place of use that will no longer be irrigated. The approving office shall document the water right file for the mitigating right(s) by forwarding a proof report depicting the changes to the WR Permits Section for inserting into the left side of the water right file. The proof report should show the comment described above and the appropriate changes reflecting the mitigation use.

Example: City of Boise (A condition of approval for 63-33341 changes a portion of 63-243G to mitigation by non-use)

Scenario #6: Mitigation by Non-use (Transfer)

A related scenario is where a transfer is mitigated by the non-use of water under other pre-existing rights. An example would be the transfer of an existing ground water right authorizing irrigation use to a new location within the ESPA for a dairy, where non-use of another irrigation right would provide mitigation for an increase in depletion to a reach of the Snake River. In this situation, the "mitigation by non-use" rights are treated in the transfer processing similar to other associated rights and are altered in the Workflow process for the transfer and included in the approval of the transfer. The nature of use for the mitigating rights will be updated to show "mitigation by non-use" as the purpose of use and the corresponding place of use will be updated as necessary. The mitigating rights do not need to be listed on the transfer application under the rights being transferred and will not be considered in calculation of the application fees.

Transfers in the ESPA that result in increased reach depletions in the Snake River can be mitigated by increased reach gains from other proposed ESPA transfers (offsetting transfers). This type of mitigation requires the transfer applications to be submitted together as part of a plan to mitigate or offset the effects of each individual transfer. This type of mitigation requires unique conditions of approval for the offsetting transfers to address future changes and differences in priority dates between rights to prevent injury in the event of delivery calls. See Transfer Memo No. 24 for additional details.

Example: Foster Land & Cattle (Reduction of 25-14398 and other rights mitigates for the changes authorized by Transfer 78938)

Scenario #7: Mitigation by Abandonment

The seventh scenario is where a new permit, exchange, or transfer is mitigated by the abandonment of one or more existing water rights. Abandonment of a water right may provide adequate mitigation if non-use of the right offsets the depletion associated with the proposed use at the appropriate time and location; however, abandonment would not be the most desirable method because, if the permit were approved, the permit holder would not have the ability to rely on the abandoned right to divert out of priority under the permit. Furthermore, abandonment is permanent. Even if the permit is not developed, the abandoned right remains abandoned.

Example: Daniel G. Ward and/or Karla Ward (45-14424 abandoned to mitigate for Transfer 78100)

Undoing a Mitigation Plan

Occasionally a water use approved on the basis of a mitigation plan is not developed at all. Either the permit lapses or the transfer is not accomplished. In those cases, the mitigation plans must be undone so the mitigating rights can revert to their original beneficial uses. For a mitigation plan authorized in a transfer approval, the Department should undo the mitigation by issuing an order rescinding the transfer approval and returning the mitigating rights to their pre-mitigation beneficial use(s). For a mitigation plan approved without a separate transfer, usually a Type II plan, the Department should undo the mitigation by issuing an order reverting the "mitigation by non-use" designation on the mitigating right to its original beneficial use.

Sometimes a permitted water use is only partly developed, and the approved mitigation is not needed in its entirety. For Type I mitigation approved in a transfer, a new transfer application is required to return the unneeded mitigation to its original beneficial use. For Type II mitigation, the water right license for the mitigated use can be used as the order diminishing the mitigation requirement and reverting some of the "mitigation by non-use" on the mitigating right to its original beneficial use. For this purpose, the Department can modify the approval condition described in Scenario #5, above.

MEMORANDUM

To: Regional Offices
Water Allocation Bureau

Application Processing Memo # 72

From: Jeff Peppersack

Re: **Evaluation of Mitigation Plans for Water Right Permits**

Date: November 4, 2015

This memorandum supersedes Application Processing Memorandum #72 issued May 3, 2010.

The purpose of this memorandum is to provide guidance to Department staff regarding the evaluation of mitigation plans submitted with an application for permit to appropriate water. The Department requires mitigation for applications for permit to appropriate water: 1) in areas of the state that are closed to new consumptive appropriations, or 2) where the water supply is not sufficient for the purpose sought and approval of a new appropriation would injure other water rights. This memorandum does not address mitigation plans for replacement water associated with delivery calls under rules of the Department for Conjunctive Management of Surface and Ground Water Resources, unless addressed through an application for permit.

An adequate mitigation plan must replace or offset depletions to a water source at the time, location and quantity that water is depleted due to the new appropriation. Water quality may be another factor for consideration of an adequate mitigation plan. Department staff members have discretion to adapt the requirements set forth in this memorandum according to the nature and complexity of a proposed mitigation plan. A mitigation plan should ultimately ensure protection of other water rights while providing for efficient implementation and administration by the water user and the Department.

SPECIAL ADMINISTRATION AREAS REQUIRING MITIGATION

An area where new appropriations require mitigation is generally designated by a Department order creating a management area or moratorium area to protect existing water rights and/or the local public interest or to foster the conservation of water resources within the state. The order and/or supporting documentation often provides details about the water source and mitigation requirements. The following are examples of areas that may require a mitigation plan to process an application for a new appropriation of water.

Ground Water Management Area (GWMA) or Critical Ground Water Area (CGWA) – The Director issues an order creating the administrative area because the ground water withdrawals in the area are exceeding (for a CGWA) or near to exceeding (for a GWMA) the average rate of return of annual recharge. The Southeast Boise Groundwater Management Area is an example of a GWMA with a management policy that provides for mitigation. The Director has issued orders creating GWMAs to protect fully appropriated surface water sources where ground water and surface water are considered to be hydraulically connected. The Bear River GWMA is an example; mitigation requirements are specified in the Management Plan associated with the order.

Moratorium Area – The Director normally issues an order to prevent further depletions to the water supply in an area. The purpose of a moratorium is to protect the water supply and/or existing water rights by prohibiting new appropriations seeking consumptive use of water. The Eastern Snake River Plain Moratorium Area is an example; the order allows approval of applications where mitigation is provided to offset depletion and injury to other rights.

Fully Appropriated Source – Some sources within the state are appropriated to the extent that any new consumptive appropriation of the source would injure existing water rights. Consumptive applications can be approved where mitigation is provided to offset injury to other rights. Surface water in the Bear River basin is an example; an Administrator's Memo provides the direction to Department staff.

Temporary Administrative Hold Area – The Director directs staff by memorandum or other informal means to temporarily cease processing new applications to appropriate water due to concerns about further depletions to the water supply and potential injury to existing rights in an area. An "administrative hold" on application processing may result in a significant backlog of applications that have not been processed. An applicant proposing processing ahead of the pending applications must mitigate for the depletion that would result from approval of his out-of-filing-order application. The past administrative hold on processing applications for ground water appropriation in Basin 63 is an example of an administrative hold area.

INSUFFICIENT WATER SUPPLY AND INJURY TO OTHER WATER RIGHTS

Water Appropriation Rule 45.01.a provides criteria for determining whether a proposed use will injure other water rights. The criteria include 1) the reduction of water quantity available under an existing water right, 2) forcing an existing right holder to unreasonable effort or expense to divert, and 3) reduction of water quality available under an existing water right to an unusable extent. Rule 45.01.a.iv provides that "An application that would otherwise be denied because of injury to another water right may be approved upon conditions which will mitigate losses of water to the holder of an existing water right, as determined by the director."

When the Department determines that the source of water is not sufficient to supply the proposed appropriation of water (Rule 45.01.b), and approval would result in injury to other water rights, the applicant may mitigate for the injury to avoid denial of the application by the Department. An example of an insufficient supply where approval may cause injury is where the applicant proposes to appropriate water from a ground water aquifer of limited volume or from a stream with limited flows and a new appropriation would reduce the supply available to existing right holders.

ANALYSIS OF DEPLETION

Development of a mitigation plan requires an analysis of the quantity of water that will be depleted from the source due to the appropriation. It is the applicant's responsibility to ensure that a depletion analysis is completed and submitted with the application. In addition to quantity depleted, the analysis must address the location and timing of the depletion. For complex situations, the services of a qualified professional (engineer, geologist, or hydrologist) may be required for a proper analysis to determine depletion from the source.

The depletion analysis must consider the consumptive nature of the proposed water use. In addition, a proposed use normally considered to be non-consumptive may require mitigation in cases where the water is not returned to the original source or is returned to the original source in a different location. For example, diversion and use of water may be considered consumptive to the source when the water is impounded (e.g. pond fill), when return flow is discharged to a separate source, or when the timing or location of return flow is such that other right holders will be injured.

IDENTIFICATION OF SOURCE OF MITIGATION WATER AND TYPE OF PLAN

Mitigation water may be provided from a variety of water sources, and a mitigation plan may take several forms, but mitigation generally falls into one of two types. Type I is replacement water from an existing water right, and Type II is non-use of water under another water right from the same source or a connected source. See Application Processing Memorandum No. 71 for more discussion of Type I and Type II mitigation and examples of each type.

A mitigation plan must identify the source of water (including water rights) to be used for mitigation and must describe the quantity, method, and location of delivery to ensure that the source is adequately compensated. The plan must include ownership documentation or authority to use the source of water and/or water rights. In addition, the mitigation plan must include information confirming the validity and historic use of any rights to be used for mitigation.

In general, if the applicant proposes to mitigate by diverting and using water differently than authorized under a valid water right, the applicant must file an application for transfer (or rental of natural flow or storage water from the Water Supply Bank or Rental Pool) together with the application for new appropriation and mitigation plan. For more about the filing requirements for particular mitigation scenarios, see Application Processing Memorandum No. 71.

Although rental of water rights from the Water Supply Bank could substitute for a transfer to provide mitigation, rental from the Bank is often a short-term transaction and could provide a source of mitigation water where mitigation is only required on a temporary basis (e.g. filling a pond). For applications seeking to appropriate water for development of subdivisions or other long-term uses with significant investment and reliance on the water supply, a short-term rental may not be used as a source of mitigation water without a long-term source of mitigation water being identified and ready to approve as a condition of a new permit.

A mitigation plan that proposes diversion and use of canal company, irrigation district, or other water delivery entity water rights or non-use of the same would not be acceptable without an application for transfer (for replacement water with changed diversion and use) or written consent (for non-use) from the entity. Non-use of the water right(s) would also require written acknowledgement from the entity that the Department may update their water right record(s) to reflect the mitigation use (see Application Processing Memo No. 71). A mitigation plan which involves use of a conveyance system owned by a canal company, irrigation district or other water delivery entity would also require written consent from the entity for use of the system and a plan for accounting of water deliveries to confirm that mitigation is accomplished.

EVALUATION OF MITIGATION PLAN

A mitigation plan must offset the depletion of water associated with a new appropriation in quantity, time, and location. The word "location" for ground water means both the land surface site and the aquifer from which the water is being withdrawn. The word "location" for surface water means within a reasonable distance of the point of diversion, taking into account other water right diversions and possible environmental[1] concerns. In this case, "time" means that the positive impacts of mitigation must occur at the same time as the depletions.

A mitigation plan must be supported by technical analysis and/or modeling of the effects of the plan unless instruction is otherwise provided within a management plan (for a GWMA) or order of the Department. For complex situations, the services of a qualified professional (engineer, geologist, or hydrologist) may be required for a proper analysis to demonstrate that the mitigation plan will be adequate.

Evaluation of a mitigation plan by Department staff requires confirmation of the following:

Depletion from Source

- Identification of source of water being depleted and Special Administration area
- Analysis estimating quantity, timing and location of depletion

Availability and Adequacy of Mitigation Water

- Source of mitigation water including water right(s)
- Description of plan demonstrating how water is delivered (for Type I - Replacement Water) and how the delivery will be verified or identification of acres or use to be terminated (for Type II - Non-Use of Water) and how mitigation is accomplished. For unregulated surface water sources, one obstacle would be the potential for diversion and use of the mitigation water by junior appropriators, consequently enlarging the use of the junior rights without mitigating for the new appropriation.
- Ownership or authority to use the mitigation source including water right(s) and consent from any water delivery entity for use of water and updates to water right records
- Validity of the water right(s) used for mitigation including analysis of forfeiture, historic use, overlapping rights and availability of water. Historic use must be sufficient to offset the proposed depletion. Mitigation by storage release is only approvable if the storage supply is reliable and assured either by pre-purchase or through other accepted operation plans within a rental pool and if the mitigation water can be delivered at the time and to the location where depletion occurs.[2] To mitigate using certain Boise River rights or any other water rights that receive a percentage cutback prior to full curtailment, the mitigation plan must include an evaluation of the historic cutbacks and provide sufficient water to mitigate even when the usage has been cut but not curtailed. In other words, these rights cannot be taken at their face value for mitigation purposes because they may be only partially available at times.[3] The

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[1] For example, allowing a stream segment to be dried up may not be in the local public interest, even though no water rights are injured.

[2] See memorandum from Tony Olenichak dated August 1, 2008 entitled, "Delivery of Mitigation Storage to Surface Water Diversions" for a discussion of timing and location for delivery of mitigation storage water in Water District #1.

[3] See memorandum from Dan Stanaway dated October 30, 2015 entitled "Analysis of the Availability of Water Rights in the Stewart Decree."

proposed changes to the mitigating rights will not cause further depletion or injury. For example, non-use of a right from a community canal may require leaving a portion to offset conveyance losses.

- Transfer or rental agreement or purchase agreement for water/right as necessary
- Technical analysis or modeling of effects to demonstrate adequacy of the plan. Staff may need to seek review of the analysis from the Department's Hydrology Section.
- Adequacy of mitigation to address delayed impacts if the permit holder/successor ceases to divert and/or is no longer in business
- Suitability of the quality of water relative to the source being compensated

Verification of Mitigation

- Plan outlining reasonable method for measurement of water and verification of mitigation
- Consultation with Watermaster within a Water District

PROCESSING, APPROVAL AND VERIFICATION

A permit requiring a mitigation plan cannot be processed until a mitigation plan is submitted. The Department must determine the acceptability of the mitigation plan prior to final processing and approval of a permit. Application Processing Memo No. 71 provides Workflow processing guidance for specific mitigation scenarios. Approval conditions should refer to the mitigation plan, state any measuring, monitoring, and reporting requirements, and explain the consequences for failure to comply with the plan.

Permits and licenses will be conditioned to describe or reference mitigated right(s) and mitigating right(s). Permits and licenses issued in accordance with a mitigation plan will include conditions requiring installation and maintenance of measuring devices on the diversion to assure the mitigation water is being delivered in accordance with the approved mitigation plan. Permits and licenses will be conditioned to require reporting in accordance with Chapter 7, Title 42, Idaho Code, as necessary, to document compliance with conditions of the water right and the associated mitigation plan. In complex situations, the Department may require a condition for measurement, reporting, and monitoring by a qualified professional (engineer, geologist, hydrologist) to ensure that the mitigation plan is accomplished. In addition, approvals will be conditioned to require curtailment of the diversion and use of water anytime the mitigation requirements are not met.

Failure of the holder of the right to implement and continuously comply with the requirements of an approved mitigation plan, while continuing to divert and use water, constitutes a violation subject to enforcement action under Sections 42-311, 350, 351, and/or 1701B, Idaho Code. Any approval must be conditioned that failure to mitigate as described by the plan of mitigation, while still diverting water under the permit, is cause for the director to cancel a water right permit or revoke a subsequently approved water right license.

ADMINISTRATOR'S MEMORANDUM

To: Regional Offices,
Water Allocation Bureau

Application Processing No. 73
Licensing No. 12
Transfer Processing No. 28

From: Jeff Peppersack

Re: UTILIZATION OF THE 24-HOUR FILL ALLOWANCE FOR IMPOUNDMENTS

Date: April 18, 2013

Department practices and policies have recognized the use of the 24-hour fill allowance (aka the "24-hour rule") in establishing the maximum impoundment volume allowed in association with a water right permit, license, or decree, for which a storage component identified as an element of the water right is not required (AP Memo 67[1]). The Department has not provided additional guidance for implementation of this policy; consequently, the 24-hour fill allowance has been implemented by staff in a variety of ways. Additional guidance is necessary to avoid a proliferation of ponds on new or existing water diversion systems that may result in additional consumptive use and lack of control of the water to the detriment of other water users. It is important to note that this memo does not represent promulgated rules, but is instead a statement of the policy and practical implementation of the 24-hour fill allowance that has historically been used by the Department.

The guidance provided in this memo is intended to provide clarity, consistency, and detail in the implementation and use of the 24-hour fill allowance for ponds constructed or proposed to be constructed after the date of this memorandum and to changes in use of existing ponds, where the change in use occurs or is proposed to occur after the date of this memorandum. It is not intended to direct Department staff to initiate investigative or regulatory action for ponds existing prior to the date of this memorandum, that otherwise met past interpretations of the 24-hour fill allowance, or to address the need for a claim to be filed in an ongoing adjudication of water rights. If a written complaint is filed with the Department showing probable injury to an existing water right where the injury is alleged to be related to the use of a pond developed prior to the date of this memorandum, staff is instructed to forward the complaint to the division administrator for case-by-case guidance.

[1] Application Processing Memorandum No. 67 Permitting Requirements for Ponds, signed by Norm Young on February 28, 2003, states in part "A water right permit is not required to construct and use a pond or ponds that are part of a system used to distribute and use water in accordance with a valid water right if the pond or ponds do not impound a larger volume of water than authorized for diversion within a 24-hour period under the water right or rights associated with the project."

Historic utilization of the 24-hour fill allowance came about as recognition that many diversion structures will incidentally impound a certain amount of water to either raise the water level or otherwise facilitate diversion into a canal or other conveyance or distribution system, or to provide for short-term detention (24-hours) to facilitate operation of the distribution system for the purpose of use authorized under the water right. An example of the first case is creation of a small pool of water to ensure proper submergence of the suction piping in a pumping system. An example of the second case is detention of water in a small pond to provide a delayed, adjusted rate of diversion for night-time irrigation of a golf course or other facility where continuous irrigation during the day is not practical. Recognition of the 24-hour fill allowance for such uses is beneficial to the Department and water users because it eliminates the need to describe a storage component on a large number of water rights, allowing for faster processing of water right applications.

Further application of the 24-hour fill allowance by Department staff over time included its use for aesthetic, wildlife and/or recreation ponds. However, such application goes beyond the original intent of the 24-hour fill allowance because the pond is the end use of the water and the water right should include a storage component to properly describe the use. A storage component as part of the water right is necessary for such uses to ensure that the Department can address consumptive use associated with the pond and to describe any quantities, period of use or conditions necessary to limit the use to avoid injury to other water users.

Due to the lack of formal resources addressing the 24-hour fill allowance, questions are often raised by Department staff regarding its implementation. The following explanation and scenarios are intended to illustrate proper use of the 24-hour fill allowance and to prevent future misunderstandings of the policy by Department staff and water users.

DIVERSION RATE USED TO CALCULATE THE 24-HOUR FILL ALLOWANCE

The volume of water provided under the 24-hour fill allowance is calculated by multiplying the diversion rate by a 24-hour time period. As a simple example, if a water right recognizes a diversion rate of 1 cfs for irrigation, an impoundment volume less than or equal to 1.98 ac-ft used to facilitate pumping would not require a storage component on the water right.[2] Conversely, for the same water right, an impoundment volume greater than 1.98 ac-ft would require that the water right contain an element describing the entire storage component consistent with Water Appropriation Rule 35.03 (b) iv and v (*IDAPA 37.03.08)*.

When applying the 24-hour fill allowance to calculate the maximum volume of a pond, series of ponds, reservoir, or series of reservoirs (henceforth referred to as a pond) associated with a specific water right, the diversion rate used in the calculation is limited to the authorized diversion rate associated with the water right and is further limited by the available water supply or the capacity of the works at the inlet to the pond. Regardless of availability of water, diversion rates in excess of that authorized on the water right

[2] 1.98 ac-ft = (1 ft^3/s)*(86,400 s/day)*(1 ac/43,560 ft^2). This conversion is simplified as 1.984 ac-ft per cfs per day.

or rights, specifically utilizing the pond in question, are inappropriate for use in the 24-hour fill allowance calculation.

An example of inappropriate diversion rate includes a natural stream flow rate for an on-stream pond—an extreme variant of this is relying on the peak stream flow rate for analysis and pond sizing. This can be encountered when reviewing on-stream hydropower water rights. In such instances, the 24-hour fill allowance should be limited to the volume derived from the authorized diversion rate of the water right, and consideration of any excess available natural flow rates associated with the stream channel is inappropriate. Another example of a diversion rate that is inappropriate for consideration includes a diversion rate in a delivery system associated with other unrelated water rights for which the pond does not facilitate operation. This may include downstream water rights that use the system for conveyance (e.g. downstream irrigators), or water rights with additional beneficial uses that are not facilitated by the pond (e.g. stockwater used above the irrigation works in the system).

The appropriate diversion rate used to calculate the 24-hour fill allowance volume cannot exceed the fully authorized diversion rate associated with a specific water right; however, oftentimes the actual diverted (measured) rate is something less than the fully authorized rate. In these instances it is the rate that is actually being diverted, not the authorized diversion rate, that should be used in the calculation to determine the 24-hour fill allowance volume. For example, if an irrigation water right authorizes 5 cfs of diversion, but in actuality only 3 cfs of the total rate is conveyed into a part of the system incorporating the pond under consideration, and the remaining diversion rate is used in a separate part of the system, then the 24-hour fill allowance calculation is limited to a diversion rate of 3 cfs.

Combination of Beneficial Uses and/or Multiple Water Rights

It has been the Department's practice to allow for a combined pond volume based on the 24-hour fill allowance calculation of multiple beneficial uses under the same water right, and/or multiple water rights associated with the same system. As an example of the first case, if a golf course resort plans to develop a water right that includes a pond to facilitate a golf course irrigation component (2.5 cfs) and a commercial (equipment washing) component (1.2 cfs for two hours), the appropriate combined 24-hour fill allowance volume is 5.16 ac-ft.[3] As an example of the second case, if an irrigation system includes a pond and has two water rights associated with the system for 2 cfs and 3 cfs respectively, then the appropriate combined 24-hour fill allowance volume is 9.92 ac-ft.[4] Note, both examples are contingent upon the diversion or operation being facilitated by the pond.

Seepage & Evaporation in Conjunction with the 24-Hour Fill Allowance

When calculating the 24-hour fill allowance volume, no consideration should be given to gains and losses to the pond volume associated with precipitation, evaporation, or seepage. The volume calculation is based solely on the product of the appropriate diversion rate associated with the water right and a 24-hour diversion period. No adjustments up or down should be made to the diversion rate or allowable pond volume to reflect actual water balance conditions.

[3] 5.16 ac-ft = (2.5 cfs)*(1.984 ac-ft/cfs/day) + (1.2 cfs)*(2 hrs)/(24 hrs/day)*(1.984 ac-ft/cfs/day)
[4] 9.92 ac-ft = (2 + 3 cfs)*(1.984 ac-ft/cfs/day)

TYPES OF IMPOUNDMENTS

Off-Stream Impoundments to Facilitate Diversion or Operation of the Distribution System

Application of the 24-hour fill allowance to address off-stream impoundments is appropriate when the impoundment is used to facilitate the diversion of water or operation of a distribution system for the authorized purpose of use. Such impoundments may include sumps for pumping systems or short-term detention ponds for irrigation systems.

Off-Stream Impoundments for Recreation, Wildlife and Aesthetic Uses

As a general rule, it is not appropriate to utilize the 24-hour fill allowance for off-stream impoundments where the impoundment represents the end use of the water such as aesthetics, recreation and or wildlife uses.[5] Such impoundments, which may include wide meanders and/or pools within the conveyance channel, must include a storage component as part of the water right authorizing the use.

On-Stream Impoundments to Facilitate Diversion or Operation of the Distribution System

Application of the 24-hour fill allowance to address on-stream impoundments is limited to impoundments that facilitate diversion of water or operation of a distribution system for the authorized purpose of use. Such impoundments may include use for on-stream hydropower facilities or on-stream diversions for authorized off-stream water uses.

In regards to run-of-the-river (ROR) hydroelectric water uses, application of the 24-hour fill allowance to support incidental on-stream impoundment is an acceptable application. ROR hydroelectric projects are those with small or no reservoir capacity. In the strictest sense of the definition, this implies that water passing through the facility must be used at that moment, or must be allowed to bypass the dam. Oftentimes in practice ROR facilities are actually operated in a "load following" manner. Load following indicates a practice where power output is adjusted to meet the fluctuating demand throughout a 24-hour period. Load following requires that a small amount of storage occur upstream of the dam to provide water releases to meet the peak daily demand for electrical generation. The Lower Salmon Falls Hydroelectric facility is one such example. Traditionally the Department has not required a storage water right in association with ROR facilities if the volume of water impounded upstream of the dam in support of a load following operation satisfies the 24-hour fill allowance calculation. Note that conditions of a hydropower water right, or conditions of other permits associated with the use (e.g. a FERC license) may preclude such practice.

On-Stream Impoundments for Recreation, Wildlife and Aesthetic Uses

Similar to off-stream impoundments for such uses, it is not appropriate to utilize the 24-hour fill allowance for on-stream impoundments where the impoundment represents the end use of the water such as aesthetics, recreation and or wildlife uses. Furthermore, such use would constitute a minimum in-stream

[5] A storage component may not be necessary if the total use falls within the statutory definition of a domestic or stockwater right.

flow because the water right quantity would be described as a flow rate, and consistent with Idaho Code Title 42, Chapter 15, Minimum Stream Flow, only the Idaho Water Resource Board (IWRB) can file an application and hold a minimum stream flow water right.

OTHER CONSIDERATIONS

Water Tanks

Many water users incorporate tanks or cisterns in their distribution system. Such features are generally not considered storage and are not required to be covered under a specific storage water right. Some circumstances, especially where a tank or cistern is added to an established non-municipal water right, may raise injury and/or enlargement concerns and may require a storage component.

Timing of Fill

The diversion of water to a pond where impoundment is only allowed by implementation of the 24-hour fill allowance, and where no storage component is identified on the water right, can only occur during the season of use described on the water right. As an example, if an irrigation water right includes a pond with a volume established by the 24-hour fill allowance, diversion of water to fill that pond can occur no earlier than the first day of the irrigation season of use. It would be an illegal diversion of water if the pond were filled when the water right is out of season, to take advantage of water availability (i.e. early season runoff).

Drainage of Pond

Once diverted, water impounded to facilitate diversion or operation is considered beneficially used and water users are not expected to drain the pond or return the water to the source at the end of the season or when the water is off due to a priority cut. However, significant amounts of water routinely held at the end of the period of use may raise questions regarding the intent of the pond or impoundment and may result in the need for a water right for an alternate use such as aesthetics or recreation storage.

MEMORANDUM

TO: Regional Offices
Water Allocation Bureau

FROM: Mat Weaver MW

RE: Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer

DATE: March 16, 2015

Application Processing No. 74
Permit Processing No. 20
License Processing No. 13
Transfer Processing No. 29

See attached Amended RAFN Municipal Water Right Handbook

IDAHO DEPARTMENT OF WATER RESOURCES

Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer

March 2015

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Appendix

1. Introduction

This document is intended to provide guidance and support to Idaho Department of Water Resources (the Department) staff in evaluating and processing applications for reasonably anticipated future needs (RAFN) water rights and can be used to provide assistance to applicants seeking RAFN water rights throughout the application, permit, license, and transfer processes. Guidance does not have the force and effect of law. Rather, it is designed to serve as a primary reference tool to assist agency staff and to assist those impacted by agency actions to comply with the law. The appendix includes a number of resources and support items related to RAFN analysis including the following: "*Municipal Water Right Permit Evaluation" checklist* (Item 5), which can be utilized by the applicant when applying for RAFN water rights; methods for estimating residential demand (Item 3); and a detailed example of the determination of RAFN for a small community that implements the methodology described in this document (Item 6).

RAFN vs. non-RAFN Prior to 1996, common law practices allowed municipalities to establish water rights greater than immediate needs. The 1996 Municipal Water Rights Act provided a statutory process for establishing a municipal water supply for reasonably anticipated future needs (RAFN). The 1996 Municipal Water Rights act was codified in Idaho Statutes in the form of amendments to Idaho Code (I.C.) §42-202, the addition of I.C. §42-202B, amendments to I.C. §42-217, amendments to I.C. §42-219, and amendments to I.C. §42-222. A key distinction of the RAFN right is the allowance of components of the water right, namely the diversion rate, to be perfected without physically completing diversion and use in establishing beneficial use during the development period of the permit.

There are times when a municipal provider will choose to file an application to appropriate water solely for use to meet needs in the near-term (up to five years) without the burden of demonstrating future needs over an established planning horizon. This type of municipal water right has been termed a non-RAFN municipal right. Municipal water rights that are not defined as RAFN in conditional language are by default non-RAFN water rights. *Application Processing Memo #18* presents and discusses the distinctions between both types of municipal water rights and provides guidance to Department staff for processing permits and determining extent of beneficial use for licensing of non-RAFN municipal water right permits. It is not the intent of this document to repeat or duplicate the material presented in AP Memo #18. The focus of this document will be on RAFN municipal water rights. When a water right application has been determined to be for a non-RAFN municipal beneficial use, Department staff should consult AP Memo #18 for processing guidance.

In addition to water rights with a designated municipal beneficial use, municipal providers may also own water rights for non-municipal uses such as domestic, irrigation, commercial, etc. These water rights are often associated with uses such as parks, golf courses, cemeteries, and buildings that are not directly connected to a municipal provider's primary municipal water delivery system. These water rights are sometimes acquired from previous non-municipal water right holders with the acquisition of land by the municipality. In other instances they may have been developed directly by the municipal provider for a demand not distributed throughout the entire existing water service area, or not otherwise qualified as a municipal use. When conducting a review of a municipal provider's suite of water rights, these water rights should be considered along with any existing water rights used for municipal needs, and any evaluation of RAFN should take into consideration beneficial use already being met by these types of water rights.

Types of Municipal Providers
Idaho Code §42-202 provides, in relevant part:

> An application proposing an appropriation of water by a municipal provider for reasonably anticipated future needs shall be accompanied by sufficient information and documentation to establish that the

applicant qualifies as a municipal provider and that the reasonably anticipated future needs, the service area and the planning horizon are consistent with the definitions and requirements specified in this chapter.

Idaho Code §42-202B(5) defines three types of municipal providers:

a) A municipality that provides water for municipal purposes (i.e. incorporated cities);

b) Any corporation or association holding a franchise to supply water for municipal purposes, or a political subdivision of the state of Idaho authorized to supply water for municipal purposes, and which does supply water, for municipal purposes to users within its service area (e.g. Water and Sewer Districts; United Water Idaho, a private company that supplies public drinking water to much of Ada County); or

c) A corporation or association which supplies water for municipal purposes through a water system regulated by the state of Idaho as a "public water supply" as described in I.C. § 39-103(12), Idaho Code. (e.g. developers; subdivision home owner associations).

As set forth in M3 Eagle Final Amended Order[1] (M3 Final Amended Order) a corporation or association seeking to qualify as a municipal provider under subsection c above for RAFN must qualify as a municipal provider at the time application is considered by the Department. In other words, at the time of application, the applicant must already supply water for municipal purposes through a water system that is regulated by the state of Idaho as a public water supply. It is insufficient for the applicant to merely be "*ready, willing, and able*" to be a municipal provider once the permit is issued.

2. Evaluating Reasonably Anticipated Future Needs

This section outlines and develops a fundamental protocol that should be considered by the applicant and Department staff in evaluating reasonably anticipated future water needs for qualified municipal providers.

As discussed above, Idaho law allows a municipal provider to secure water rights for RAFN purposes without relying on immediate diversion and use to establish beneficial use. For a qualified municipal provider, a RAFN estimate has four fundamental components:

1. Service Area (I.C. §42-202B (9)),
2. Planning Horizon (I.C. §42-202B (7)),
3. Population Projections within the Planning Horizon, and
4. Water Demand (necessary to serve the population during the planning horizon throughout the service area)

This protocol explains each one of these four components in order, and then describes how they should be used to evaluate a municipal provider's RAFN.

It is important to recognize at the outset that a conservative standard may be appropriate in estimating future needs to justify a RAFN water right, especially in instances where there is a weighing of public interest in an area of recognized limited water supply. There may be a difference between the supply of water sufficient to sustain an urban population and the supply desirable to keep future operating costs low or to provide aesthetic amenities.

[1] Amended Final Order of the Department in the matter of application to appropriate water no. 63-32573 In the name of M3 Eagle LLC dated January 25, 2010.

Service Area

Idaho Code §42-202B (9) defines the service area for a municipality as follows:

> "Service area" means that area within which a municipal provider is or becomes entitled or obligated to provide water for municipal purposes. For a municipality, the service area shall correspond to its corporate limits, or other recognized boundaries, including changes therein, after the permit or license is issued. The service area for a municipality may also include areas outside its corporate limits, or other recognized boundaries, that are within the municipality's established planning area if the constructed delivery system for the area shares a common water distribution system with lands located within the corporate limits. For a municipal provider that is not a municipality, the service area shall correspond to the area that it is authorized or obligated to serve, including changes therein after the permit or license is issued.

For a municipal provider, Idaho code requires the RAFN service area to be contained within the municipality's "established planning area" (I.C. §42-202B (9)) minus "areas overlapped by conflicting comprehensive land use plans" (I.C. §42-202B (8)).

For smaller widely-separated cities, the concern of overlapping comprehensive land use plans is not typically an issue. For these cities to justify a proposed future service area, the applicant should provide evidence of existing "corporate limits" and "other recognized boundaries" (I.C. §42-202B (9)). Idaho Code §50-102 requires the establishment of corporate limits (recorded metes and bounds description of the incorporated area) in association with the incorporation of a city. These limits are established with the counties within which the city is located. Where the applicant is a city, copies of corporate limits should be provided by the applicant. As necessary, staff can cross check corporate limits by obtaining the boundary directly from the city, governing counties, or the state. In addition, the Department maintains a spatial data layer delineating all incorporated cities and their respective city limits within the State of Idaho. This data layer is based on U.S. Census data that is updated every ten years. This data layer can be a good place to start in determining corporate limits, but there is a chance it may not represent the most current boundary, and, when the applicant is a city, staff should always obtain a current delineation of the corporate limits from the RAFN applicant or permit holder at the time of permitting and licensing. The purpose of this current boundary information is to facilitate the Department's review of the proposed RAFN service area.

Other recognized boundaries can include areas of impact, utility service planning areas, or other unique planning areas, provided they have been legitimately adopted by the municipality with verifiable records, as "established planning area[s]" consistent with I.C. §42-202B (9). Idaho Code §67-6526 in the Local Land Use Planning statutes requires that incorporated cities provide a map *"identifying an area of city impact within the unincorporated area of the county"*. In addition, I.C. §67-6508 requires the creation, adoption, and ongoing update of a comprehensive plan for any incorporated city. The comprehensive plan will typically include maps identifying incorporated limits, areas of city impact, and other legitimate planning boundaries.

For types b and c municipal providers, the "established planning area(s)" language does not apply. Rather, the applicant may submit an approved preliminary plat or other approved planning type documents, Public Utility Commission approval documents, Idaho Department of Environmental Quality public drinking water system approval documents, irrigation district and water and sewer district annexation plan, or other official documents which demonstrate a RAFN service area within which the applicant has the authority or obligation to provide water.

Idaho Code §42-202B (8) states, *"Reasonably anticipated future needs shall not include uses of water within areas overlapped by conflicting comprehensive land use plans."* When evaluating a proposed RAFN service

area where two or more municipal providers abut one another, the applicant should research adjacent community planning areas to confirm that overlaps in competing planning areas *specific to water service* do not exist. If overlaps in comprehensive land use planning areas specific to water service do exist between two different municipal providers, the area of overlap cannot be included in the proposed RAFN service area under consideration. As an example, if a subdivision intersects the planning boundaries of two separate municipal providers, and both entities indicate in their comprehensive land use plans the intent to serve the same subdivision with water, then neither entity can include the subdivision in a proposed RAFN water service area until the conflict has been resolved and one of the two entities relinquishes water service to the other. However, in another example, if an overlap exists in the comprehensive land use plans of two municipal providers, but only one plan addresses water service, and the other plan acknowledges that water service is provided by the other entity, then the area of overlap can be included in the RAFN service area of the entity providing water service.

When the applicant is a municipality with multiple municipal water service providers within its city limits or area of impact, the applicant should normally exclude the existing service areas of other municipal providers from the RAFN service area under consideration. However, if the RAFN applicant presents a sound argument and supporting evidence for the inclusion of competing existing water service areas within its own RAFN service area, Department staff may include them in the final RAFN service area delineation. As an example, if the systems of two water service providers are cross connected to allow for one system to provide water to the other during times of emergency, during periods of routine maintenance, or in support of peak water demands, it would be appropriate to include this demand in the RAFN analysis of the municipality that is providing water to the second water service provider, provided the established need is not already covered by an existing water right. If the established need is covered by an existing water right, a unique combined used limitation condition detailing the water supply relationship should be considered.

In conclusion, RAFN service areas should be delimited to include all existing contiguous and non-contiguous areas of water service (assuming they are combined) and adjacent areas poised for development and likely to occur within the established planning horizon time period. However, the proposed RAFN service area cannot include areas where water is not provided at the time of application if the proposed RAFN service area is overlapped by adjacent land use planning boundaries, or is already included within the existing service area of a municipal water provider other than the municipal provider under consideration. In addition, where the applicant is a municipality, the proposed RAFN service area cannot include areas where water is not provided at the time of application if the proposed service area is outside the municipality's currently adopted planning area. The appendix includes an example of a visual delineation of a RAFN service area based on underlying appurtenant boundaries (appendix Item 2).

<u>Planning Horizon</u>

Idaho Code §42-202B (7) defines the planning horizon for a municipal provider as follows:

> *"Planning horizon" refers to the length of time that the department determines is reasonable for a municipal provider to hold water rights to meet reasonably anticipated future needs. The length of the planning horizon may vary according to the needs of the particular municipal provider.*

A municipal provider's planning horizon is the term of years over which it projects its population change and makes water service decisions based on its projection. At the time of application for RAFN municipal water use, the applicant will present a planning horizon time period, including a specified ending year. Department staff must evaluate, among other things, whether the proposed planning horizon is reasonable. Some additional items to consider include:

- The customary standards of practice for water infrastructure planning

- The planning period identified in any applicable Comprehensive Plan
- Planning periods identified by other applicable planning documents
- Regional planning studies

It is important to note that the maximum development period for beneficial use associated with a non-RAFN water right is five years, which can be extended an additional five to ten years for a total of ten to fifteen years. Therefore, a planning horizon of less than five years would not warrant a RAFN water right. The following table (Table 1) summarizes planning horizon durations as published in six water planning references.

Table 1 - Summary of Published Planning Horizon Periods

Published Reference*	Planning Horizon (years)
Fair 1971	10 - 50
Prasifka 1988	10 - 100
Dzurik 1996	< 50
Boumann 1998	< 50
Stephenson 2003	10 - 20
AWWA 2007	20 - 40

*Refer to Bibliography (Appendix Item 1) for reference details.

Table 2 summarizes planning horizons associated with actual water resource planning documents in the State of Idaho. The references summarized in Table 2 represent a variety of planning documents with unique objectives and planning areas. Some of the values are more applicable than others for use in comparison to proposed RAFN planning periods.

Table 2 - Summary of Actual Water Planning Documents and their Respective Adopted Planning Horizon Periods

Planning Area	Planning Horizon (years)	Planning Document Type
Ada & Canyon Counties	25	IDWR Water Demand Study
City of Coeur d'Alene	20	Comprehensive Water Plan
City of Lewiston	20	Master Water Plan
City of Meridian	50	Master Water Plan
City of Nampa	20	Master Water Plan
City of Pocatello	10	Master Water Plan
City of Rexburg	50	2008 Water System Tech. Memo
City of Twin Falls	30	Water Supply Improvement Plan
Rathdrum Prairie Aq.	50	CAMP Water Demand Projections Study
Treasure Valley	50	CAMP Future Water Demand Study
United Water Idaho	55	Water Demand Study

The data presented in Tables 1 and 2 suggest that planning horizons between 10 and 55 years are the standard amongst the planning profession and in the actual adoption of planning documents within the State of Idaho.

The Department must guard against over-appropriation of the resource and against speculative water right filings. Longer planning horizons increase the level of uncertainty associated with predicted values and must be considered by the Department with greater caution. Planning horizons of 15-20 years are generally reasonable and require little scrutiny unless there is substantiated competition for the resource or some other justification for additional scrutiny arises. Planning horizons greater than 20 years can be considered by the Department, but when proposed they should be supported by long-term planning documents such as those listed in Table 2 and by professionally prepared demographic studies substantiating the duration of the planning horizon period.

Idaho Code §42-202B (8) provides additional guidance regarding the evaluation of planning horizons as follows:

> *"Reasonably anticipated future needs" refers to future uses of water…reasonably expected to be required within the planning horizon of each municipality within the service area not inconsistent with comprehensive land use plans approved by each municipality.*

As a final measure, the planning horizon period proposed by the applicant must not only be reasonable, but also consistent with the adopted Comprehensive Plan of the City. This can be interpreted to mean no greater in length than the planning horizon period associated with the Comprehensive Plan, if no other pertinent planning documents exist. When another pertinent planning document exists, such as a master water plan, then the planning document should be consistent with the master plan for the coincident period of time shared between the planning horizons of both documents.

Population Projection within the Planning Horizon[2]

Idaho Code §42-202B (8) indicates that RAFN should be based on *"population and other planning data."* To establish its RAFN, a municipal provider must estimate its future population within its service area at the end of the planning horizon. For most municipalities, planning and demographic studies of one type or another have been completed, and often multiple relevant studies exist. At a minimum, Comprehensive Plans usually address population growth in some form as required by I.C. §67-6508 (b). The U.S. Census Bureau also provides population and demographic data for most municipalities in Idaho in a variety of formats. For communities where appropriate data exists, Department staff should expect the following components and considerations regarding population forecasts to be addressed and discussed in detail by the applicant.

1. A critical survey of existing contemporary population studies applicable to the local area to establish likely upper and lower boundaries for population growth.
2. Project population using standard technical methods, such as regression, extrapolation, or cohort survival models. To make extrapolation appropriate, one should account for geography, resource constraints, economic conditions, and other limiting factors or anticipated events, such as relocation of a commercial or industrial use.
3. Compare the results of the population projections from step 2 to the results of the critical survey from step 1 and apply professional judgment to evaluate whether the population projections are likely to occur within the planning horizon and are, therefore, reasonable.

Department staff should scrutinize population growth rates and projections that fall near or outside the upper boundary established in the critical survey. Staff should also scrutinize results based on short term trends in population growth. Where sufficient data exists population forecasts should be based on a minimum of thirty years of population data. The U.S. Census Bureau provides decadal populations for every county in Idaho. Since 1970 the population growth rate of the entire state of Idaho has been 1.91%. The maximum growth rate in that time was 3.72% in Teton County and the minimum growth rate was -1.20% in Shoshone County. Since 1970, growth rates in excess of 3.00% were only realized in five counties. Growth rates in excess of 2.50% were realized by less than 14% of Idaho counties. As such, applicants should provide extra justification for requested growth rates in excess of 2.50% annually.

In some instances when municipal providers are providing water to a rural or unincorporated community, existing population data specific to the community might be difficult to acquire or may simply not exist. In

[2] The 'Population Projection within the Planning Horizon' section of the RAFN handbook was prepared in conjunction with and under the review of Don Reading, Ph.D., a consulting economist with Ben Johnson Associates, Inc.

other instances the applicant may lack sufficient experience and/or expertise to forecast populations without assistance. In these select cases, the applicant may rely on a population forecasting tool that has been developed by the Department in Microsoft Excel to assist in population forecasting[3]. The tool summarizes dynamic ranges of U.S. Census Bureau population data by county and supports the regression of exponential and linear growth type models to the county census data to allow for the projection or forecasting of future populations. In addition, the spreadsheet tool allows for the development of exponential and linear population growth rate models based on user input population data. Forecasting conducted with this tool is only appropriate as a means of last resort and should not be used for communities where specific data and/or population and demographic studies already exist. The tool may also be useful directly to Department staff as a means of roughly verifying the population forecasts made by an applicant, allowing Department staff the opportunity to "double check" a proposed growth rate or population forecast.

For communities starting from zero or a very small base population, the method of relying on historical or analogous growth rates may not be applicable. In these instances, reliable growth or build-out projections provided by the applicant may be considered by the Department.

Water Demand

Water demand is the final component of a RAFN that must be considered and evaluated by Department staff. Water demand represents the future projected water use in a community. Water use can broadly be placed into two categories: (1) non-residential use and (2) residential use. Non-residential use consists of irrigation of open common spaces (parks, golf courses, etc.), public facility use, industrial use, commercial use, and any and all other municipal purposes. Residential use can be further broken down into in-home use, out of home use (landscape irrigation, car washing, etc.), and fire protection.

To prevent over-appropriation of water, fire protection flow requirements should not be used as justification for water demand as part of a RAFN application. Per Idaho Code §42-201, *"[W]ater may be diverted from a natural watercourse and used at any time, with or without a water right to extinguish an existing fire on private or public lands, structures, or equipment, or to prevent an existing fire from spreading to private or public lands, structures, or equipment endangered by an existing fire..."* If the Department were to allow fire protection flows to be included in estimating RAFN water demand for municipal purposes, it would result in a water right for municipal purposes in excess of the demonstrated continuous future needs. Water flow rates required solely for fire protection may be listed as a separate use on a RAFN application.

Similar to fire protection flows, an additional groundwater point of diversion used to provide redundant supply to a water distribution system should not be considered as justification for water demand on a RAFN application. The Idaho Rules for Public Drinking Water Systems require new community systems served by ground water to have a minimum of two points of diversion if they are intended to serve more than twenty-five connections (IDAPA 58.01.08.501.17). Though the Department recognizes the necessity and value of redundant ground water points of diversion, additional capacity associated with the redundant point of diversion does not constitute an additional increment of beneficial use, justifying a water right. The inclusion of the diversion capacity associated with a redundant point of diversion in the estimation of RAFN water demand results in a water right for municipal purposes in excess of the demonstrated continuous future needs.

Unaccounted for water (UAW) makes up a third category of water. UAW is considered the difference between a water utility's production and its water sales to consumers. Often municipal water providers authorize some types of UAW, including unmetered uses from fire hydrants, street washing, main flushing, sewer cleaning and storm drain flushing, authorized unmetered connections, and reservoir seepage and evaporation. Examples of

[3] The Microsoft Excel file is titled "PopForecastTool.xlsx" and is available to the applicant from the Department upon request.

unauthorized UAW include water distribution system leakage, unauthorized use by theft, abandoned services, and inaccurate or incorrectly read meters. For typical public water supply systems some engineering references estimate a minimum of 2.0% UAW can be anticipated (Prasifka 1988). United Water Idaho maintains monthly accounting of non-revenue water with values typically reported between 3.0-5.0% (Carr 2009). California Department of Water Resources' Urban Water Use in California Bulletin 166-3 reports that the largest percentage of cooperating agencies reported approximately 10.0% UAW in their water supply systems (CDWR 1994). For existing facilities, UAW values greater than 10% should only be approved by the Department as part of a water demand analysis, when the application includes historical diversion records and a technical engineering discussion of the above normal UAW values. For new systems, UAW values greater than 10% are not acceptable. Planning for UAW values in excess of 10% for a new system is contrary to the requirement for conservation of the water resources of the state.

Residential Water Demand Forecasting Methodologies

There are a number of standard recognized approaches for forecasting residential water demand (i.e. RAFN) including judgment based prediction, time extrapolation, disaggregate requirements analysis, single coefficient model development, multi-coefficient model development, econometric demand model development, or a hybrid of one or more of these approaches. Of these approaches, judgment based predictions or water demand based on time extrapolation forecasts are generally viewed as inadequate forecast approaches. Judgment based predictions are simply forecasts of water demand based on the recommendation of an "expert" familiar with the system, who in theory has an "intuitive" feel for water demand specific to the municipal system through prolonged experience with the system. Time extrapolation relies on the prediction of water demand where the only predicting variable is time. For example, 100,000 GPD were needed in the first 10 years, 200,000 GPD were needed in the second 10 year period, and therefore 300,000 GPD will be needed in the third 10 year period. Both of these forecasting techniques lack a technical rigor that is appropriate and necessary when evaluating RAFN water right applications.

Of the remaining methods, one of the most widely implemented approaches, and the one that is presented in detail in this document, is the per capita requirements method, which is a form of the single coefficient model approach. To determine RAFN utilizing this method projected per capita or per household water demand must be applied to the estimated future population within the service area at the end of the planning horizon.

Per Capita Requirements Method

Municipal water demand is often considered a function of population and per-capita consumption[4] (Prasifika 1988). The per capita requirements method relies on the following components to estimate future water demand: (1) projected future number of people or residential services, (1a) if necessary a conversion factor between people and residences[5], (2) average historical water use per capita, and (3) peaking factor(s). A combined future water demand is equal to the product of historical per capita demand, the total number of people or connections, and an appropriate peaking factor.

Per Capita Water Demand

[4] Strictly speaking the "per capita" metric refers to water use per individual person per unit time. The strict and rigorous use of this "per capita" definition is not always in evidence by water right applicants. Oftentimes municipalities do not know specifically how many people are served and thus employ the potentially more useful "per dwelling unit" metric. The terms "single family residence", "single family service connection", "single family dwelling unit" and "equivalent residential unit" can be synonymous with the term dwelling unit. An essential detail of the RAFN application should be the strict definition of the base water demand metric employed by the municipality.

[5] Population forecasts always predict a future population, depending on whether the city is forecasting water demand by person or by service connection the applicant will need to know the number of people per home in order to convert forecast population values into forecast service connections. The U.S. Census Bureau provides data on "persons per household" in their State and County QuickFacts data sets.

Per-capita water consumption is highly variable from region to region and even from one system to another within the same region. Factors that affect per capita water consumption include metering, lot size, climate, age of system, residential irrigation demand, fire protection demand, water rate structure,[6] and physical characteristics of the system. Table 3 summarizes various published values for estimating per capita consumption.

Table 3 - Summary of Published Values of Average Residential Daily Consumption

Published Reference*	Avg. Daily Consumption per Person (GPD)	Avg. Daily Consumption per Home (GPD)
Linaweaver 1967	100	400
Fair 1971	100 – 150	--
Stephenson 2003	50 – 80	150 - 800
Boumann 1998	--	200
Cook 2001	--	194

*Refer to Bibliography (Appendix Item 1) for reference details.

Residential irrigation can have a dramatic effect on per capita water demand. By some estimates water demand to meet peak residential irrigation needs can be 700% of average daily water demand without irrigation (Linaweaver 1967). Many municipal systems provide residential irrigation. However, a growing number of communities and municipalities do not support residential irrigation or have a separate utility specific to irrigation. It is important when evaluating the reasonableness of water demand values to know for certain whether residential irrigation is included in the demand.

Whenever possible, design flows for community water systems (municipal, community, or residential subdivisions) should be based on historical records or studies of similar water use in the area to be served—ideally historical records within the same system will be used. For established municipalities, historical records should be the primary means of evaluating and determining per capita requirements. When a wealth of historical records are available to draw upon, the applicant should rely on the most contemporary values, as they are most likely to reflect future water usage practices.

Frequently, recent data reflect lower per capita usage than older data. This decreasing trend evident in Idaho communities is consistent with national trends over the past three decades and is primarily due to a declining number of residents per household and an increasing pervasiveness of water-conserving (low flow) appliances in the home.[7]

[6] Water rate structures are the frame work in which municipal water providers set the prices for their retail water sales. Examples include flat rate and increasing block rate structures. In a flat rate structure the water user is charged a flat rate regardless of how much water is used. In an increasing block rate structure the unit price for water increases as the volume consumed increases, with prices being set for each block of water use. An increasing block rate structure is much more likely to communicate the value of water and encourage the efficient use of water amongst the users.

[7] For national trends see: Rockaway, P.A. et. al. Residential water use trends in North America. Journal AWWA, 103:2, February 2011. In Idaho, United Water (Boise and SW Ada County) reported that from 2003 to 2011, the average UW customer's water usage has fallen nearly 23 percent. Greg Wyatt, United Water Idaho Vice President and General Manager, attributed the reduced consumption to "successful implementation of a conservation program, as well as weather patterns, plumbing codes and the economy" (United Water 2011). In addition, the City of Meridian has seen not only a reduction in per capita demand, but also in total potable water demand since 2007, despite a rising population. Research conducted for the City's Water Master Plan showed that residents served surface water for irrigation used about 112 gpcpd of potable water while residents that use potable water for irrigation used about 224 gpcpd of potable water (both figures based on ADD). Because all new customers will be served using surface water for irrigation, the overall per capita demand should continue to drop without conservation measures (City of Meridian 2011).

It is not always possible, especially for newer communities, to estimate design flow from historical records as described above. On a case by case basis, the Department can accept calculated estimates for individual systems. There are several "per capita" estimation methods outlining practices and guidelines for estimating domestic design flows currently supported by the Idaho Department of Environmental Quality and the Department. Item 3 of the appendix includes a discussion and comparison of the various methodologies. Item 3 also describes and recommends a method than can be relied upon by the applicant to estimate demand as a last resort when actual historical data does not exist. It is worth emphasizing that the preference in determining per capita demand is always given to actual historical records and that it is only in rare instances that relying upon an artificial means of estimating water demand by the methodology presented in appendix Item 4 is appropriate.

Peaking Factors

In the long term, water demand requirements can vary widely, increasing and decreasing in direct correlation with changes to the population base that is served. Wide variation in water demand occurs in the short term as well. Based upon the transient needs of a static population base, water demand will vary seasonally, daily, and hourly. For example, water demand may be greater during the irrigation season as opposed to the non-irrigation season. Daily in-home demand also increases during times of high use at the start and end of the workday, with daily lows occurring during the middle of the night and early morning. These fluctuations in demand are normally estimated in terms of peaking factors or multipliers, which are often expressed as a percent of average demand.

In general, distribution systems are traditionally designed to carry peak hour flows that typically amount to 200-300 percent of the average day demand, with higher rates usually associated with smaller systems (Robinson and Blair 1984).

When discussing peaking factors, it is important to distinguish between average daily demand (ADD), maximum day demand (MDD), maximum monthly average day demand (MMAD), peak hourly demand (PHD), and peak instantaneous demand (PID). All or some of these terms will often be used in the discussion of a municipal water supply system and as they are used by the Department these terms are defined below. Table 4 summarizes several published ranges of values for residential peaking factors.

Table 4: Summary of Published Peaking Factor Values

Published Reference*	MDD: ADD	PHD: ADD
Dewberry 2002	1.5 - 3.0: 1	2.25 - 4.50: 1
Fair 1971	1.5 - 3.5: 1	1.5 - 3.5: 1
Harberg 1997	1.4 - 1.7: 1	2.0 - 4.0: 1
Linaweaver 1967	2.0: 1	5.0 - 7.0: 1
Lindeburg 1999	1.5 - 1.8: 1	2.0 - 3.0: 1
Mays 2000	1.5 - 3.5: 1	2.0 - 7.0: 1

*Refer to Bibliography (Appendix Item 1) for reference details.

Average Daily Demand (ADD):

The average daily demand is the average of the daily volumes for a continuous 12 month design period expressed as a volume per unit time (typically gallons per day). Often municipal records will only contain monthly or yearly diversion values. In these instances average daily demand for the system is equal to annual diversion volume or the sum of the monthly diversion volumes for one year divided by the number of days in the year.

Maximum Month Average Daily Demand (MMAD):
The maximum monthly average daily demand is the average daily demand from the peak demand month, which is typically July or August when out of home residential water use is at its peak. This value can only be calculated when municipal records contain monthly diversion data. It is obtained by dividing the monthly diversion volume by the number of days in the month, for each month, and selecting the largest monthly value.

Maximum Day Demand (MDD):
The design maximum day flow is the largest volume of flow to be received during a continuous 24 hour period in a calendar year, expressed as a volume per unit time. In order to determine this value, diversion records must have a daily recording interval. Often daily records are not available. In these instances MDD values can be estimated by multiplying ADD or MMAD values by an appropriate peaking factor. If storage is used by the water provider to meet peak demands, then the MDD value represents the maximum diversion rate that should be authorized by the RAFN water right permit.

Peak Hourly Demand (PHD):
The design peak hourly flow is the largest volume of flow to be received during a one hour period expressed as a volume per unit time. In order to determine this value, diversion records must have an hourly recording interval. Municipal data with an hourly recording interval usually does not exist for the entire water system and may only exist for a representative sample of the existing service area for the specific requirement of determining peaking factors. In instances where hourly data does not exist at all, an alternative means of estimating the peaking factor must be employed. If storage is not used by the water provider, then the PHD value represents the maximum diversion rate that should be authorized by the RAFN water right permit.

Peak Instantaneous Demand (PID):
The peak instantaneous demand is a municipal water supply system's anticipated maximum instantaneous water flow. PID is typically met through a combination of direct diversion from surface water and/or wells and the release of storage water. PID should not be confused with the maximum diversion capacity of some or all points of diversion associated with a municipal water supply system (flow into the system), which is an altogether different value that has historically been used by the Department during field examinations as a quantification of beneficial use. In municipal systems PID usually exceeds diversion capacity, with storage releases making up the difference. The PID design value can be appropriate in the sizing of water mains, storage capacity, and other appurtenances associated with a municipal water supply system, but it is not typically recognized in the field of water supply planning and forecasting as an appropriate design standard for projecting future system demand. As such, the use of PID in establishing a diversion rate in association with a RAFN application is generally considered unsound and unlikely to be approved by the Department. This position is consistent with the Idaho Rules for Public Drinking Water Systems, which require that public drinking water system be designed to provide either PHD or the MDD plus equalization storage (IDAPA 58.01.08 501.03).

Ideally, an engineering report or comprehensive plan should be submitted to the Department, which includes the records, studies, and considerations used in arriving at design flows, including all relevant peaking factors. In the absence of historical data or studies, the peaking factor(s) used to determine the diversion rate of the RAFN permit could be estimated from an analogous system. To be considered analogous, water systems should have similar characteristics including demographics, housing sizes, lot sizes, climate, water rate structure, conservation practices, use restrictions, and soils and landscaping. If neither historical data nor an analogous system can be found to estimate peaking factors, then the default peaking factors summarized in Table 5 may be used by the applicant.

Table 5 - Department Standard Default Peaking Factors (PF)

Ratio	PF
MDD:ADD	2.0
MDD:MMAD	1.3
PHD:ADD	3.0

As an example on how to use the peaking factors in Table 5, if the applicant has a known ADD value, the MDD value can be determined by multiplying the ADD value by two. For peaking factors greater than described in Table 5, the applicant will need to provide a technical engineering discussion supporting the numbers. It is insufficient for an applicant to simply reference a published value or claim a value as a standard of engineering practice in defense of values greater than those presented in Table 5.

Storage and the Affects of Storage on Peaking Factors

Municipal water systems can apply a number of strategies to meet the system's peak demand. Some municipalities rely exclusively on the source (surface water diversions and/or wells and booster pumps) to meet peak demand, while other municipalities may rely on a combination of source and storage facilities to meet peak demand. Storage is a component of a municipal system consisting of tanks and reservoirs that physically store water to provide water pressure, equalize pumping rates, equalize supply and demand during periods of high consumption, and provide water for fire fighting and other emergencies during periods of power outages[8]. In some places, authorities overseeing water system design mandate that storage be included in a water supply system and that peak demands be met partially by storage. As an example, the Washington State Department of Health requires that demands in excess of the MDD (i.e. PHD and PID) be met by storage (WSDOH 2009). In Idaho, the Idaho Department of Environmental Quality (DEQ) requires storage if source capacity is less than PHD, in these instances storage is required such that the difference between source demand and PHD is made up by equalization storage[9]. Some references consider it poor engineering practice for a public drinking water system to provide no storage capacity whatsoever (Lindeburg 1999).

It is important for the Department to identify to what extent storage will be utilized by a municipality to meet demand. The diversion rate associated with a RAFN application should reflect whether source alone will meet PHD or whether a combination of source and storage will meet PHD.

Per Capita Demand Conclusion

In conclusion, the following steps can be used to forecast the residential water demand utilizing the per capita demand forecasting approach:

1. Establish the ADD per capita water demand unit (person or residence) and quantity, preferably from historical diversion records.
2. Select the design demand value, typically PHD when source alone will meet the demand or MDD when a combination of source and storage will meet demand.

[8] The storage being discussed should not to be confused with a seasonal storage component of a water right, which is water stored for use at some time in the future and is described on the water right as storage.

[9] Design File Note: Reservoir Sizing – Public Water Systems (April 30, 1998) states, *"The source capacity of a water supply must at least equal [MDD]…If the source capacity is equal to or greater [than] [PHD], then no storage is needed other than pressure tanks to prevent frequent cycling. If the source capacity lies between [MDD] and [PHD], then storage is required as defined in this Guidance."*

3. Multiply the ADD by the appropriate peaking factor to establish the per capita water demand design value.
4. Establish the projected future total population.
5. If needed divide the population projection by the "persons per home" value to arrive at the total number of residences to be served.
6. Multiply the total number of people or residences by the per capita water demand design value to determine the total system-wide residential demand.
7. Apply necessary unit conversions to obtain the permitted rate units of cubic feet per second (CFS)

Non-Residential Forecasting

For many municipal systems residential water demand makes up the vast majority of total demand. As such, many water supply systems, especially smaller systems, are designed mostly to serve single family residences. If non-residential water is identified as being a significant portion of total demand it can be taken into consideration when establishing RAFN. Described below are two methods for estimating this demand.

The first method utilizes the concept of an equivalent residential unit (ERU). An ERU is a unit of measure used to represent the amount of water consumed by a typical full-time single-family residence (WSDOH 2009). ERUs are synonymous with equivalent domestic units (EDU) as defined by the Idaho Department of Environmental Quality (IDAPA 58.01.08 033.42). ERUs can be used to equate non-residential uses and/or multi-family residential uses to the amount used by a single-family residence. ERUs associated with all non-residential uses are determined and added to the ERU count derived from actual single-family residences to arrive at a total demand.

The disaggregate requirements forecasting technique is another common approach to estimating non-residential water demand. In disaggregate forecasting the water user identifies the demand of water associated with any non-residential uses such as irrigation, commercial facilities, industrial facilities, public facilities, recreation uses, etc. and sums them to arrive at a total non-residential water use demand. Historical records are often the best source, and the source preferred by the Department, for estimating the demand associated with non-residential uses. A qualified analogous system can be another recognized source of information for estimating disaggregate water demands.

A tabular summary of average daily demands for a variety of disaggregate uses (Table 6) is presented in Appendix Item 4. Table 6 has been adapted from a number of sources and does not represent the final authority on the water demand values presented. It should be noted that the values in Table 6 are average daily values. It may be necessary to apply a peaking factor or multiplier to the values to obtain a MDD or PHD equivalent value.

Other sources of disaggregated water demand values that may provide additional guidance include individual engineering references, individual water demand studies, the Uniform Plumbing Code, the American Water Works Association, and the Idaho Department of Environmental Quality. When properly referenced and applied, all of the sources previously described can be used if historical or analogous data are missing.

Regarding RAFN demand for the irrigation of lawns within community open spaces, parks, golf courses, cemeteries, etc., and the evaporative loss of water associated with decorative and aesthetic ponds, demand can be established by the appropriate evapotranspiration (ET) values as published by ET_Idaho (Allen and Robison 2009). In recognition of the contribution of precipitation to irrigation requirement it is appropriate to use the precipitation deficit (P_{def}) values in place of actual ET (ET_{act}). Appropriate values would include utilizing data from the nearest ET_Idaho station and as available, using the categories of *"Precipitation Deficit (Grass – Turf (lawns) – Irrigated)"* for P_{def} associated with lawns and grass and *"Precipitation Deficit (Open water-*

shallow systems (ponds, streams))" for P_{def} associated with municipal ponds and water features. When estimating diversion rates associated with P_{def} it is appropriate to use the 20% exceedance (80th percentile) 3-day moving average rate from the month with the largest ET rates. In light of the conservative methods allowed in determining P_{def}, quantification of the demand associated with ET loss from lawns and open water bodies should not include the use of peaking factors or multipliers.

3. Permitting RAFN Water Rights

For an application for RAFN to be accepted by the Department it must include a current application correctly and completely filled out, a municipal water right application checklist[10] completely filled out, the appropriate fees, and a detailed narrative or report summarizing the methods used to determine RAFN. The report must specifically address the four fundamental components of RAFN as identified in section 2 of this document. Lastly, the application package must contain a summary of the applicant's existing municipal water rights portfolio and some form of gap analysis.[11]

Existing Municipal Water Rights Portfolio

In order for an applicant to formulate a requested RAFN proposal, understanding of the future demand is only half the equation. The applicant must also understand the existing supply of water available to it. Therefore, an evaluation or accounting of all existing municipal water right permits, licenses, decrees, and claims is needed to establish the water supply authorized on paper. This includes the review of water right permits and water rights designated municipal, as well as existing permits and rights with other designations that are beneficially used under the contemporary "municipal purposes" umbrella as defined in I.C. §42-202B (6).

Final Determination of RAFN Permit Diversion Rate (Gap Analysis)

An application for RAFN should contain completed analyses of the future water demand (residential, non-residential, and UAW) and the existing water right portfolio. The future water demand calculations should not include current or future fire flow requirements, as Idaho Code does not require a water right to engage in fire fighting activities (§42-201). Neither should the requirement of redundant groundwater points of diversion be used as justification for an additional increment of future beneficial use.[12] The final RAFN water right permit diversion rate is typically calculated by taking the combined projected demand of residential and non-residential water use, multiplied by a factor to account for UAW, less the total diversion rate of water already provided in the applicant's current water rights portfolio.[13]

$$(Municipal\ Demand\ in\ Ending\ Year)\ x\ (UAW\ Factor) - (Existing\ WR\ Diversion\ Rate) = (RAFN\ Permit\ Diversion\ Rate)$$

The municipal provider's water rights portfolio must include the water rights already held by the provider for municipal purposes and may also include any of the following:

- Rights held by the municipal provider for other purposes such as irrigation

[10] A copy of the municipal water right application checklist is included in the appendix as Item 5.

[11] Gap analysis is used in this instance to refer to the analysis of the difference (gap) between what will be needed and what is currently provided for by the existing water right portfolio.

[12] Each point of diversion, including alternate points of diversion to provide a redundant supply, requires authorization under a valid water right.

[13] Alternatively, some municipal water systems with mixed sources of water supply divert water under the authority of water rights with late water right priority dates. This leaves the municipal provider susceptible to curtailment, a regulation based on water right priority date. In such a case, when the curtailment of water rights associated with one source (ex. surface water) do not limit the exercise of water rights diverting from a second source (ex. ground water), the Department may find the municipal provider will use its RAFN water right as an alternative supply. This would result in combined flow limits between the existing municipal water rights and a RAFN permit.

- Rights held by other entities, such as homeowner's associations for municipal use within the proposed RAFN service area
- Rights held by other entities for non-municipal uses within the proposed RAFN service area

The RAFN applicant should explain the assumptions regarding the inclusion or exclusion of these rights in the gap analysis. If the rights will be used for future municipal demand within the proposed RAFN service area, regardless of ownership, the rights must be subtracted from the reasonably anticipated future needs projection or counted among the water rights available to meet the reasonably anticipated future needs.

Item 6 of the Appendix is a detailed example of the determination of RAFN for a hypothetical RAFN application including analysis of RAFN service area, planning horizon, population projection, water demand, and existing water right portfolio.

Final Determination of RAFN Permit Volume

RAFN water right permits should not be limited by volume except in those instances where a volume limitation is necessary to protect the water supply source.

RAFN Permit Approval Conditioning

When issuing a RAFN water right permit the Department will include standard approval conditional language that identifies the permit for reasonably anticipated future needs (X64). All permits that do not have a condition designating RAFN status will be deemed as non-RAFN permits by the Department. All RAFN permits shall include approval conditions requiring the following:

- Filing of the proof of beneficial use no sooner than 4.5 years after the permit is issued (standard condition 236)
- Full system capacity constructed by the date the permit holder submits proof of application of water to beneficial use (standard condition 909),
- Inclusion of an updated RAFN analysis with the submittal of the proof of beneficial use (standard condition 237),
- Capacity installed for redundancy or for fire protection should be excluded when quantifying the amount of water developed for municipal purposes (standard condition 926),
- Submittal of a field examination and report conducted and prepared by a Certified Water Rights Examiner (CWRE) with the proof of beneficial use (standard condition 910).

Amending a permit from non-RAFN to RAFN

Consistent with Application Processing Memo #18 (Administrative Memo adopted October 19, 2009) and Department policy, a permit issued to a municipal provider that does not provide for RAFN cannot be later amended to gain the benefits of a RAFN permit.

4. Licensing RAFN Water Rights

With the submittal of proof of beneficial use in association with a RAFN water right permit, the permit holder is required to submit a field examination report completed by a CWRE. As required by I.C.§42-217, the statement of completion for proof of beneficial use shall include a description of the extent of use and a revised estimate of RAFN, containing a revised description of the RAFN service area, a revised planning horizon, and appropriate supporting documentation. Appropriate supporting documentation means a revised analysis of the same RAFN support material submitted at the time of application reflecting the system as it exists at the end of the permit development period. Also included should be a revised gap analysis including an updated portfolio of existing water rights. If proof is not submitted by the proof due date and an extension to the permit development period has not been granted, as provided under Idaho Code §42-204, the permit shall lapse and be of no further force nor effect as required under Idaho Code 42-218a.

Review of the Description of the Extent of Use

At the time of licensing the Department must first review the "description of the extent of use", including accompanying evidentiary material, and make a determination of the extent of beneficial use that has occurred and whether the permit should be licensed in part or in full. If the permitted amount has been beneficially used already, because the provider experienced unexpected rapid growth, no further review is needed and the full permitted amount can be licensed.

Idaho Code §42-219(B) states *"A license may be issued to a municipal provider for an amount up to the full capacity of the system **constructed or used** in accordance with the original permit…" (emphasis added)*. IDWR interprets the restrictive language in §42-219 to limit the authority of the agency to only license RAFN permits up to the *full capacity of the system constructed or used*. Full capacity constructed means significant infrastructure has been constructed to accommodate delivery of water throughout the RAFN service area. Full capacity constructed entails more than engineering plans or in-place financing.

Components of significant infrastructure will always include at least the following:

- For ground water diversions a constructed well or series of wells and their associated capacities, for surface water diversions constructed diversion facilities and their associated capacities, or for mixed sources some combination thereof.
- Storage tanks when included as an integral part of the design.
- Trunk lines (major supply conduits) sized and constructed to anticipate service beyond the physically constructed limits of the delivery system at the time proof of beneficial use is submitted.

Significant infrastructure does not have to include the following:

- Service laterals (i.e. stub outs to lots that have not been built out)
- Main line and/or lateral line extensions beyond the physically constructed limits of the delivery system at the time proof of beneficial use is submitted.
- Water quality treatment facilities for diversions in excess of the demand at the time proof of beneficial use is submitted.
- Pumping capacity for diversion in excess of the demand at the time proof of beneficial use is submitted.

Significant infrastructure will never include the following:

- Diversion works and distribution system capacity available for fire protection and/or redundant supply. (The additional capacity provided does not require a water right, so licensing the additional capacity would unintentionally increase the estimated demand to provide for unsupported future growth.[14])

Therefore, when reviewing the "description of the extent of use" and accompanying documentation, Department staff must review the improvements that have been made, which will typically lie somewhere between full system build out and no system build out, to determine to what extent the RAFN permit should be licensed.

Review of Revised RAFN Characteristics Including Diversion Rate

With the proof of beneficial use submittal the permit holder should submit a revised description of the RAFN specifically addressing each of the four fundamental components of a RAFN package: (1) service area; (2) planning horizon; (3) population projections within the planning horizon; and (4) water demand. Department

[14] Small municipal systems may not be designed for peak demand and fire flow. In such a case, the available capacity might justify the full capacity of the system.

staff shall review the revised RAFN in a manner similar to the application review process as detailed in sections 2 and 3.

At the time of licensing, department staff can update the RAFN service area, the planning horizon, and diversion rate as appropriate based on the review of new material and the field examination report. Diversion rate and planning horizon can only be amended downward to reflect a revised lowered future water demand. If new RAFN analysis at the time of licensing indicates an increase in water demand the additional diversion rate and/or longer planning horizon associated with the increased demand must be pursued under a new application for permit or transfer.

Final Determination of RAFN License Volume

RAFN water right licenses should not be limited by volume except in those instances where a volume limitation is necessary to protect the water supply source.

RAFN License Approval Conditioning

When issuing a RAFN water right license the Department will include standard approval conditional language that identifies the license for reasonably anticipated future needs (X64). All licenses that do not have a condition designating RAFN status will be deemed as non-RAFN licenses by the Department. All RAFN licenses shall also include approval conditions requiring that all future needs must be constructed and used by the end of the planning horizon (109) and that the place of use (POU) associated with a RAFN water right shall not be changed to a location outside of the service area (110).

Nonuse of RAFN Water Rights

If sufficient proof of beneficial use is submitted before the end of the permit development period and the municipal water right is licensed for an amount of water for RAFN, the requirement that the system needed to provide water for the RAFN be fully constructed and used by the end of the municipality's planning horizon will continue as a condition of the license. If the municipal provider fails to construct and use the complete system by the end of the permit planning horizon, or the anticipated future needs do not materialize by the end of the planning horizon, the quantity of water under the license may be revised to reflect the needs that actually exist at the end of the planning horizon.

5. Transfer of RAFN Water Rights

The portion of any water right described with a beneficial use of RAFN cannot be transferred or modified to have a beneficial use other than RAFN. However, water rights with beneficial uses other than RAFN can be transferred or modified to a RAFN use.

Idaho Code §42-222 governs the transfer of water to and from RAFN status. When a transfer proposes changing the nature of use of a water right to municipal purposes for RAFN, the municipal provider shall provide to the Department sufficient information and documentation to establish the transfer applicant qualifies as a municipal provider at the time of application, is providing water to a municipality or municipalities, and that the RAFN, the service area, and the planning horizon are consistent with Idaho Code. Supporting documentation must be included with the transfer application including the same RAFN support material that would be submitted with an RAFN application as outlined and described in Section 2 of this document. As discussed in Section 3, gap analysis including a current portfolio of existing water rights must also be included with the transfer application. A transfer application proposing to use a RAFN water right as an alternate source in times of curtailment should include justification for the proposal with the application.

Water rights or portions of water rights that identify RAFN as the beneficial use shall not be changed to a place of use outside the RAFN service area or to a new nature of use (I.C. §42-222). The effect of this statutory

language eliminates the modification of a RAFN water right by transfer for anything other than the addition of a point or points of diversion.

Final Determination of RAFN Transfer Volume

RAFN water rights created by transfer from an existing non-RAFN municipal right should not be limited by volume except where a volume limitation existed in connection with the water right's use prior to the transfer. A transfer to change the nature of use of an established water right from non-municipal to municipal purposes for RAFN shall limit the volume of water to the historic consumptive use established prior to the change.

RAFN Transfer Approval Conditioning

When issuing a RAFN water right transfer the Department will include standard approval conditional language that identifies the water right for reasonably anticipated future needs (X64). All transfers that do not have a condition designating RAFN status will be deemed as non-RAFN water rights by the Department. All RAFN transfers shall also include an approval condition requiring that the system must be fully constructed and used by the end of the planning horizon (109). Finally, all RAFN transfers shall include an approval condition limiting the RAFN to use within the service area and restricting a change in the purpose of use (110).

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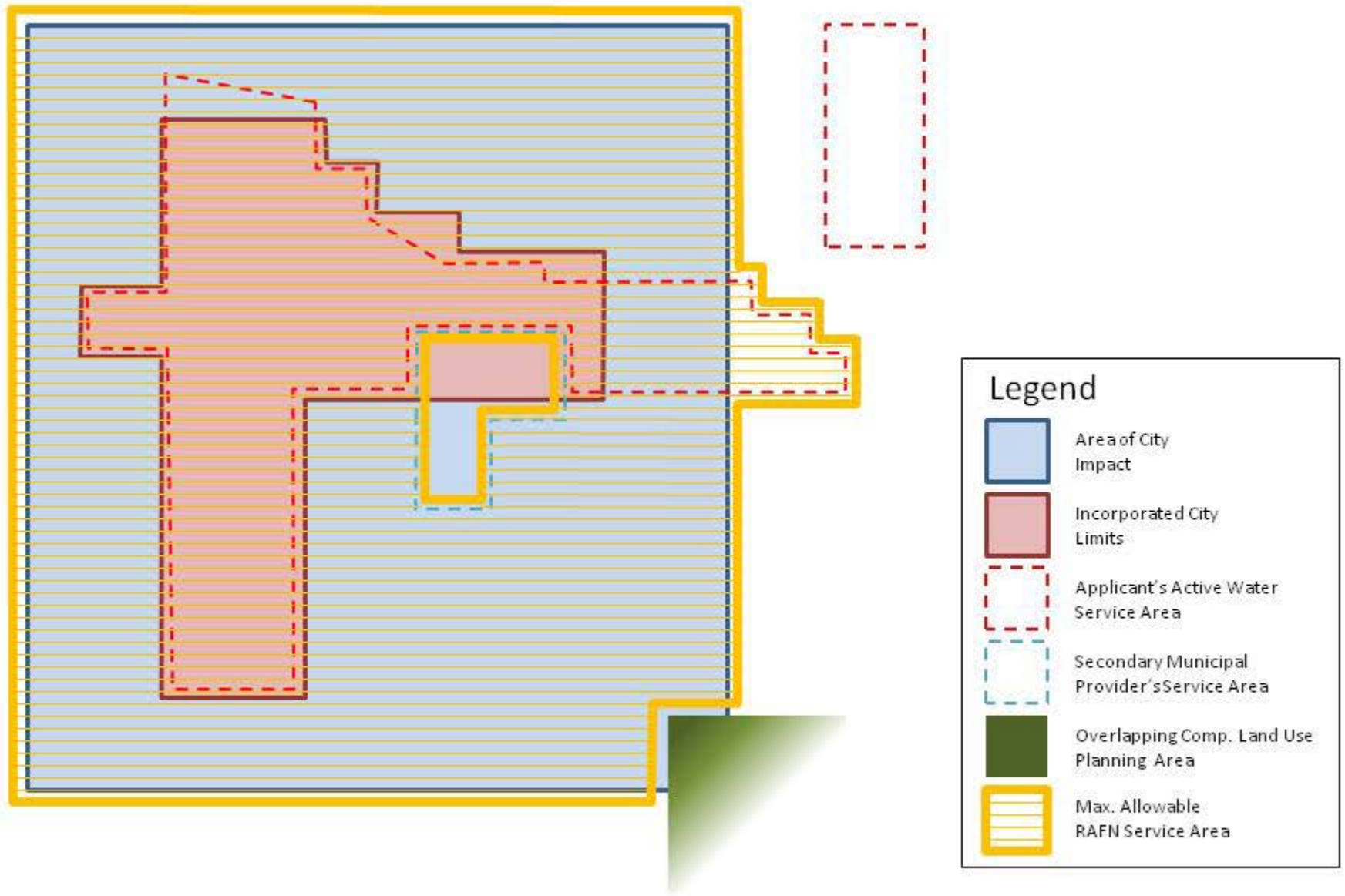


Appendix Item 2 - Illustrative Example of Delineation of Maximum Allowable RAFN Service Area

Appendix Item 3
Comparison of the Idaho Department of Water Resources and the Idaho Department of Environmental Quality Methodologies for Quantifying Residential In-Home Use

The Department's Administrative Memorandum Application Processing #22 (AP22) dated June 4, 1980, addresses the 'Definition of Domestic' and provides guidance, in the form of a chart (Figure 1), for quantifying the rate of flow necessary for the in-house culinary use for multi-household systems. The memo states, "*The flow identified on this graph should be used as a guideline in determining and reviewing domestic use rates of flow on applications for permit with more than one hookup. Greater flow can be accepted if justified."* Figure 1 is titled "Maximum Instantaneous Water Requirements for Domestic Use" and depicts a power function relationship between the number of houses served (N) and the water demand (Q) in cubic feet per second (CFS). The following equation represents the relationship depicted on Figure 1 of AP22 and allows for the calculation of Q strictly as a function of N.

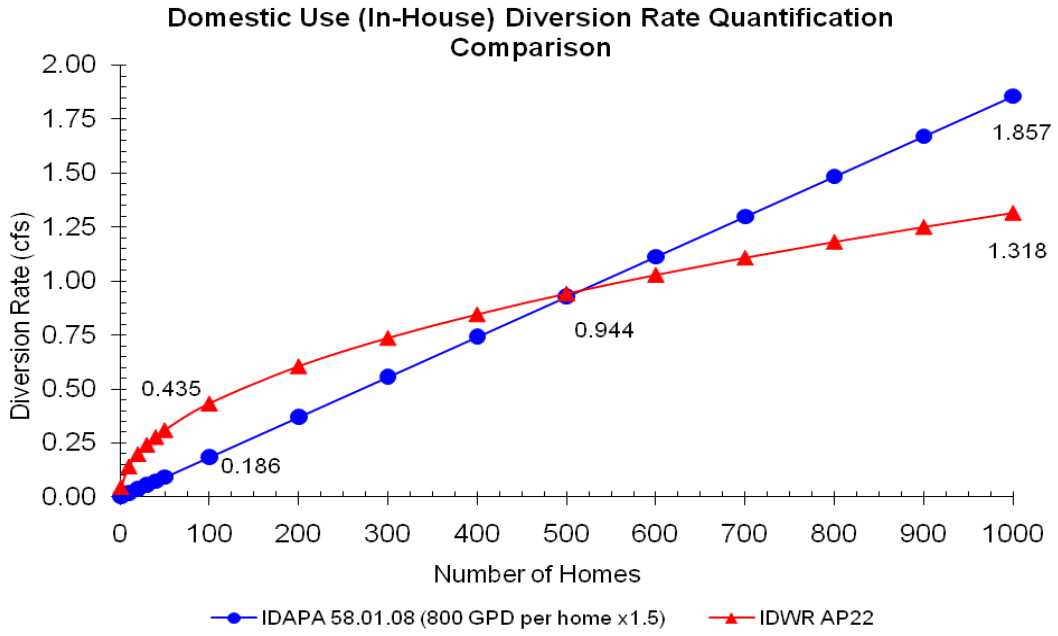
Eqn. 1: $Q\ (CFS) = 0.0473*(N)^{0.4817}$

AP22 does not make clear whether "maximum instantaneous water requirement" is equivalent to peak hour demand (PHD), peak instantaneous demand (PID), or some other value. Nonetheless, for communities ranging from 2 to 1,000 homes this has historically been the equation that Department staff used to quantify the permitted diversion flow rate specific to <u>in-home domestic use</u> when no other rate was justified. It does not account for demand associated with out-of-home uses, namely irrigation.

The Idaho Rules for Public Drinking Water Systems administered by DEQ mandate the capacity of public drinking water systems to be a minimum of 800 gallons per day (GPD) per residence (IDAPA 58.01.08 552-01(a)). This is equivalent to 0.6 gallons per minute (GPM) and 0.001 CFS. The rules define this amount as the "design maximum day demand" (MDD) exclusive of irrigation and fire flow requirements (IDAPA 58.01.08 552-01(a.i)). The rules go on to say that the MDD may be *"less than 800 GPD if the water system owner provides information that demonstrates to the [Department of Environmental Quality's] satisfaction the maximum day demand for the system, exclusive of irrigation and fire flows, is less than 800 GPD per residence"*. The value of 800 GPD per residence was likely initially derived from the Federal Housing Administration's minimum design standards (FHA 1965). The rules do not address peaking factors. However, if we use the standard values from Table 5 we can determine a PHD of 1,200 GPD per residence (PHD = 1.5*MDD). The following figure compares the water demand functions for 1 to 1,000 homes as derived from AP22 and the Idaho Rules for Public Drinking Water Systems.

At first glance it appears there is a conflict between AP22 and the Idaho Rules for Public Drinking Water Systems. This conflict could potentially lead to a deficient municipal water supply system with a combined water right diversion rate, less than the diversion rate mandated by the Idaho Rules for Public Drinking Water Systems. However, such a conflict does not exist for two reasons. First, the Idaho Rules for Public Drinking Water Systems address the concept of "storage" and the ability of equalization storage, in sufficient quantity, to compensate for differences between a water system's maximum pumping capacity and peak hour demand. Furthermore, the rules also address the ability of equalization storage plus fire suppression storage, both in sufficient quantity, to compensate for the difference between a water system's maximum pumping capacity and peak demand plus fire flow, in those systems that provide fire flow (IDAPA 58.01.08 003-71). Secondly, the 800 GPD in-home use value is only valid when MDD flows in the system are equal to or greater than 800 GPD. If actual MDD flows are less than 800 GPD they can be recognized as a valid demand for the system (IDAPA 58.01.08 552-01(a.iii)).

One obvious deficiency in both methods is their lack in quantifying an irrigation demand component, leaving the task of determining total residential demand only partially completed. Another deficiency in the Idaho Rules for Public Drinking Water System is their treatment of demand as a linear function, as it is commonly accepted that for larger communities, demand is not linear with respect to number of homes (Ameen 1965).



It is desirable for the Department to have a single recommended method for quantifying residential demand that addresses both in-home and out of home uses including irrigation. Such a method was developed by the U.S. Department of Housing and Urban Development (DHUD) in their publication titled *A Study of Residential Water Use* (Linaweaver 1967). This method has the added advantage of being currently adopted and under implementation by the Idaho Department of Environmental Quality (DEQ 2005). The DHUD method is presented below in detail and it is recommended that this method be used by applicants and the Department in determining residential demand for those communities for which actual historical demand data does not exist.

The DHUD method calculates the maximum daily demand (Q_{MDD}) and peak hourly demand (Q_{PHD}) as functions of average daily in-home use (Q_{ADD}), consumptive use associated with residential irrigation, and the variability associated with the magnitude of the input factors influencing the demand and the diversity effect associated with the number of dwelling units or residences. The following equations (equations 2 through 8) have been derived from the DHUD publication with some modifications specific to Idaho and the Department. The following equations express the steps necessary to determine values for Q_{MDD} and/or Q_{PHD}.

Eqn. 2: $Q_{MDD} = Q_{ADD} + C*(L_S)*(P_{def}) + 2*(\sigma_{MDD})$, where

Q_{MDD}: maximum daily demand (GPD)
Q_{ADD}: average daily in-home demand per residence (GPD)
C: unit conversion constant
L_S: average irrigable area in acres per unit

P_{def}: precipitation deficit for irrigated turf grass, i.e. lawn (inches)
σ_{MDD}: variability in magnitude of factors and the number of dwelling units

Equation 3 allows for the calculation of Q_{ADD} as a function of average home value from 1965. Equation 4 is used to adjust contemporary home values by inflation to determine historical home values from 1965. When desired for simplicity or lack of data, a Q_{ADD} value of 250 GPD can be substituted for the results of Equation 3 if desired by the applicant.

Eqn. 3: $Q_{ADD} = 3.46*V_{1965} + 157$, where

V_{1965}: average market value in $1000 per residential lot in 1965.

Eqn. 4: $V_{1965} = V_{2010}/(1.044)^{46}$, where
V_{2010}: average market value in $1000 per residential lot in 2010.

Equation 5 is used to calculate the average irrigable area term (L_S) and assumes that irrigation practices are uniform across the entire community. If a source other than the municipal water system is used for irrigation (i.e. surface water irrigation water rights) the L_s term should equal zero.

Eqn. 5: $L_S = 0.803*(W)^{-1.26}$, where

W = gross housing density in dwelling units per acre

Equation 6 is used to calculate the variability term, σ_{MDD}.

Eqn. 6: $\sigma_{MDD} = [(1{,}090 + 166{,}000*L_S^2) + (5{,}480{,}000/n)]^{1/2}$, where
n: number of residences or residential lots

The method presented herein also supports the calculation of a Q_{PHD} as a function of the Q_{MDD} value previously determined. The following equation allows for the calculation of Q_{PHD}.

Eqn. 7: $Q_{PHD} = 2.02*(Q_{MDD}) + 334 + 2*\sigma_{PHD}$, where
σ_{PHD}: variability in magnitude of factors and the number of dwelling units

Equation 8 is used to calculate the variability term, σ_{PHD}.

Eqn. 8: $\sigma_{PHD} = [(2.02*(1{,}090 + 166{,}000*L_S^2)) + (12{,}300{,}000/n)]^{1/2}$, where
n: number of residences or residential lots

The method presented and described above is automated in a spreadsheet tool prepared by the Department titled "ResidentialDemandCalculator.xlsx" and is available from the Department upon request.

Appendix Item 4

Table 6 - Summary of Average Daily Non-Residential Water Uses

Description of Water Use	Water Consumption	Units
Airport (per passenger)	3-5	GPD
Apartment, multiple family (per residence)	50	GPD
Bank (per SF)	0.05	GPD
Barbershop (per chair)	55	GPD
Bathhouse (per bather)	10	GPD
Beauty Salon (per station)	95	GPD
Boardinghouse (per boarder)	50	GPD
Camp:		
Construction, semi-permanent (per worker)	50	GPD
Day, no meals served (per camper)	15	GPD
Luxury (per camper)	100-150	GPD
Resort, day and night (per camper)	50	GPD
Tourist, central bath and toilet (per person)	35	GPD
Car Wash (per SF)	4.9	GPD
Cottage, seasonal occupancy (per resident)	50	GPD
Club		
Country (per resident member)	100	GPD
Country (per nonresident member present)	25	GPD
Highway Rest Area (per person)	5	
Hotel		
Private baths (2 persons per room)	50-68	GPD
No private baths (per person)	50	GPD
Institution other than hospital (per person)	75-125	GPD
Hospital (per bed)	200-400	GPD
Laundry/Laundromat		
Self-serviced (gallons per customer)	50	GPD
Self-serviced (gallons per machine)	400-500	GPD
Livestock Drinking (per animal)		
Beef, yearlings	20	GPD
Brood sows, nursing	6	GPD
Cattle or steers	12	GPD
Dairy	20	GPD
Dry cows and Heifers	15	GPD
Goat or sheep	2	GPD
Hogs/swine	4	GPD
Horse or mules	12	GPD
Livestock Facilities		
Dairy Sanitation (milk room)	500	GPD
Floor flushing (per 100 SF)	10	GPD
Sanitary Hog Wallow	100	GPD
Motel		
Bath, toilet, and kitchen (per bed space)	65-100	GPD
Bed and toilet (per bed space)	50	GPD

Table 6 Continued - Summary of Average Daily Non-Residential Water Uses

Description of Water Use	Water Consumption	Units
Parks		
Overnight, flush toilets (per camper)	25	GPD
Trailer, individual bath units, no sewer connection (per trailer)	25	GPD
Trailer, individual baths, connected to sewer (per person)	50	GPD
Picnic Ground		
Bathhouses, showers, and toilets (per picnicker)	20	GPD
Toilet facilities only (gallons per picnicker)	10	GPD
Poultry (per 100 birds)		
Chicken	5-10	GPD
Ducks	22	GPD
Turkeys	10-25	GPD
Restaurant		
Toilet facilities (per patron)	7-10	GPD
No toilet facilities (per patron)	2.5-3	GPD
Bar and cocktail lounge (add. quantity per patron)	2	GPD
Toilet facilities (per seat/chair)	24-50	GPD
School		
Boarding (per pupil)	75-100	GPD
Community college (per student and faculty)	15	GPD
Day, cafeteria, gym, and showers (per pupil)	25	GPD
Day, cafeteria, no gym or showers (per pupil)	20	GPD
Day, no cafeteria, gym, or showers (per pupil)	15	GPD
Service Station		
Service Station (per vehicle)	10	GPD
Service Station (per SF)	0.18	GPD
Store/Retail		
Department, no food service (per SF)	0.04	GPD
General (per bathroom stall)	400	GPD
General (per SF)	0.05	GPD
Shopping Center/Malls (per SF)	0.25	GPD
Swimming pool (per swimmer) maintenance (per 100 SF)	10	GPD
Theater		
Drive-in (per car space)	5	GPD
Movie (per auditorium seat)	5	GPD
Worker		
Construction (per person per shift)	50	GPD
Day (school or offices per person per shift)	15	GPD
Factory (gallons per person per shift)	15-35	GPD

Table 6 has been adapted from the following sources: Dewberry 2002, Prasifka 1988, and WSDOH 2009.

Appendix Item 5
Municipal Water Right Application Checklist

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

MUNICIPAL WATER RIGHT APPLICATION CHECKLIST
FOR AN APPLICATION TO APPROPRIATE WATER FOR MUNICIPAL PURPOSES

An application to appropriate water for municipal purposes must be prepared in accordance with the requirements listed below to be acceptable for processing by the Department. There are two types of permits for municipal water use. The first type of municipal permit provides water for reasonably anticipated future needs (**RAFN**) over a defined planning horizon.[1] The second type of municipal permit, called non-RAFN, provides water solely for use to meet needs that will arise in the near-term (five years).[2] A **non-RAFN** permit may have an annual volume limitation associated with it. Each type of municipal water use has a distinct set of review requirements.

Applicant Name: _____

1. Type of Municipal Provider. Applicant must qualify as a Municipal Provider to obtain a municipal water right. See Idaho Code § 42-202B (5). Check one:

   ☐ Type 1 – Municipality
   ☐ Type 2 – Franchise or political subdivision supplying water to a municipality
   ☐ Type 3 – Corporation or association regulated as a "public water supply" system by IDEQ

   ☐ Attach documentation of qualification as a Municipal Provider. See Idaho Code § 42-202(2).

2. List existing Water Rights (permits, licenses, decrees, and beneficial use claims) available to the applicant for municipal needs. These rights may or may not have a purpose of use expressly defined as "municipal". Include a separate attachment as needed.

Right Number	Nature of Use	Diversion Rate (cfs)	Annual Vol. (acre-feet)	Service Area

3. List the total diversion rate from Item 2. Be sure to account for any combined diversion rate limits in the approval conditions of each right listed. _____ CFS (total from 2)

4. List the total volume from Item 2. Be sure to account for any combined volume limits in the approval conditions of each right listed _____ AF (total from 2)

[1] For a thorough discussion of RAFN water rights, see IDWR's *Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer.*
[2] For a thorough discussion of non-RAFN water rights, see IDWR's Application Processing Memorandum No. 18.

5. Planning Horizon. See Idaho Code § 42-202B (7). Check one:

☐ RAFN. Specify planning horizon: ___ years. Ending year: 20___. Go to Item 6.
☐ Non-RAFN (≤5 years). Go to Item 7.

6. If application is for RAFN:

☐ Attach justification for planning horizon. See Idaho Code § 42-202(2) and § 42-202B(7).
☐ Attach description of service area. See Idaho Code § 42-202(2) and § 42-202B(9).
☐ Attach population projection within the service area over the planning horizon. See Idaho Code § 42-202(2) and § 42-202B(8).
☐ Attach evaluation for demand within the service area over the planning horizon. See Idaho Code § 42-202(2) and § 42-202B(8).
☐ Attach any supporting documentation relevant to the RAFN application, such as comprehensive plans or other planning documents.

Does demand exceed the totals listed in Items 3 and 4?

Y	N	
☐	☐	Rate?
☐	☐	Volume?

If the answer is "No" to both rate and volume and a new point of diversion is needed, file a transfer application pursuant to Idaho Code § 42-222(1).

7. If application is for non-RAFN:

When submitting proof of beneficial use, non-RAFN permit holders will be required to show that water was diverted for an additional increment of beneficial use over existing water rights during the authorized development period, which may be up to five years from the date of approval. Do existing demand and short term needs exceed the combined authorizations from the existing water rights listed in Items 3 and 4?

Y	N	
☐	☐	Rate?
☐	☐	Volume?

If the answer is "No" to both rate and volume and a new point of diversion is needed, file a transfer application pursuant to Idaho Code § 42-222(1).

Appendix Item 6
Example Determination of RAFN for a Small Rural Municipality

Description of Municipality

Gem City is in the process of acquiring grant money to create a master water plan and expand their existing municipal water system. It has taken this opportunity to apply for a permit for RAFN water rights by conducting a thorough analysis of the future projected demands and their existing water right portfolio. Gem City is located in Benewah County. Gem City currently uses storage to meet demands in excess of their maximum day demand (MDD) and plans to continue this practice into the future. Gem City has recently updated their comprehensive plan (comp plan) including updates to their incorporated city limits and their area of city impact as depicted in Appendix Item 3. The planning horizon associated with the recently adopted comp plan is 20 years. Gem City does not have a current master water plan.

Gem City has rigorously defined their non-residential water use as follows: one hospital (20 beds), one barber shop (5 chairs), one beauty salon (5 stations), one car wash (1,000 square feet (SF)), one Laundromat (10 wash machines), one motel (30 bed spaces), three restaurants (combined seating 80), one elementary school with cafeteria and no gym or showers (100 students), one middle school with cafeteria, gym, and showers (60), and one high school with cafeteria, gym, and showers (60 students), one service station (1,000 SF), and 45,000 square feet of existing retail space. For the next 20 years Gem City has projected an additional development of 30,000 SF of retails space and two factories employing 30 people per shift per day apiece. Gem City has a single 2-acre park within the city limits and a 10-acre cemetery outside the city limits.

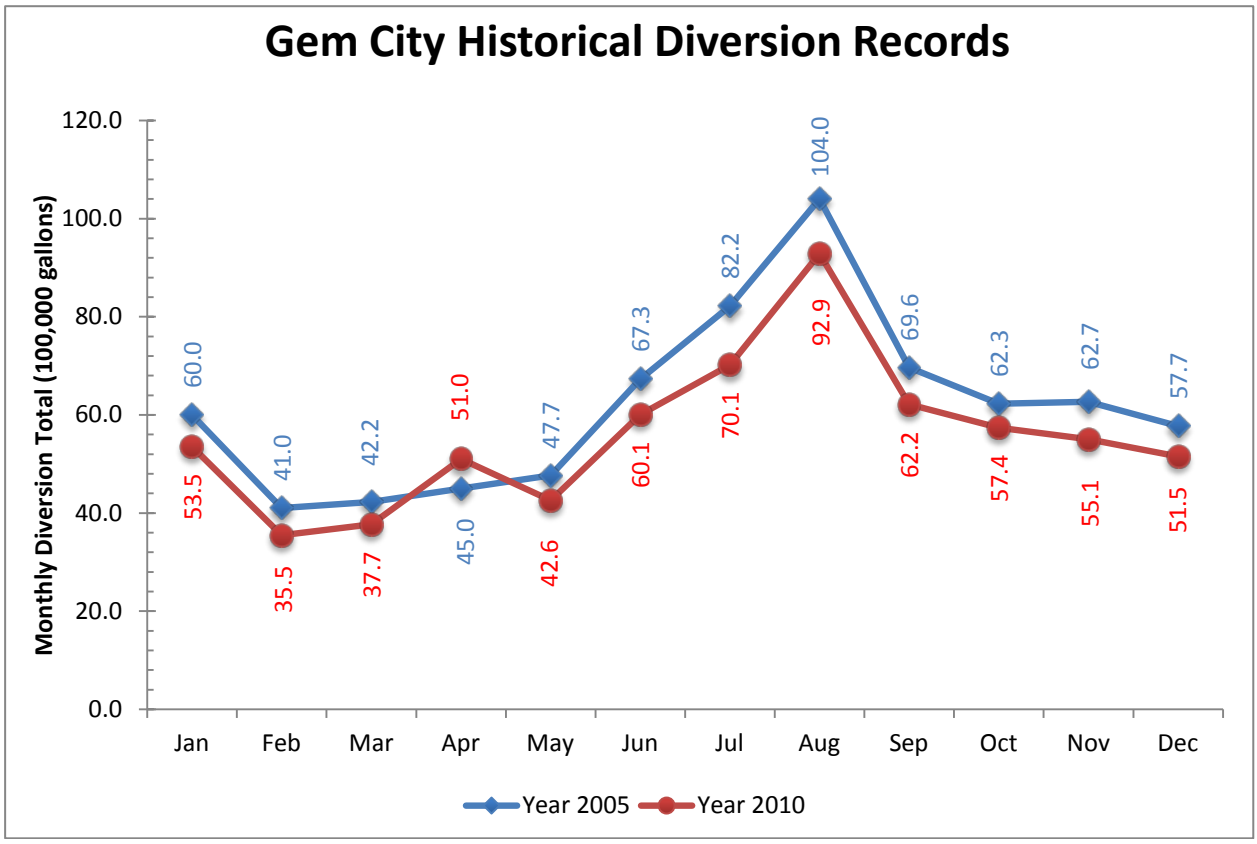
U.S. Census Bureau data for Gem City for the last four censuses conducted is summarized in the following table. The U.S. Census Bureau also reports average persons per household for Gem City at 3.14 in the year 2000 and 2.81 in the year 2010.

Gem City, ID

Year	Population*
1980	610
1990	804
2000	990
2010	1044

*US Census Data

Gem City's monthly municipal water system diversion volumes for years 2005 and 2010 are summarized in the following figure. Gem City does not have a separate irrigation utility and all residential irrigation is provided for by the municipal water system. Gem City does not have diversion data with a finer recording interval than monthly. They have no understanding of their MDD:ADD or PHD:ADD peaking factors, nor adequate data to support the analysis and derivation of these values.



The following table summarizes Gem City's existing water rights portfolio.

Gem City Water Right Portfolio

WR No.	Beneficial Use Desc.	Diversion Rate (cfs)	Annual Diversion Vol. (AF)
95-123	Municipal	0.20	N/A
95-1234	Municipal	0.20	N/A

Analysis – Service Area

Gem City's proposed RAFN service area can include all areas within the existing area of city impact (largest planning boundary that has been adopted by the City). It can include areas outside of the city's area of impact where water service is currently provided through interconnection. It cannot include proposed service areas outside the area of city impact where water service is not already provided. In addition, it cannot include the service area of other municipal water providers and it cannot include areas included in an overlapping comprehensive land use planning area as adopted by another municipality. For the sake of the example we will assume that appendix Item 2 illustrates the service area for the RAFN.

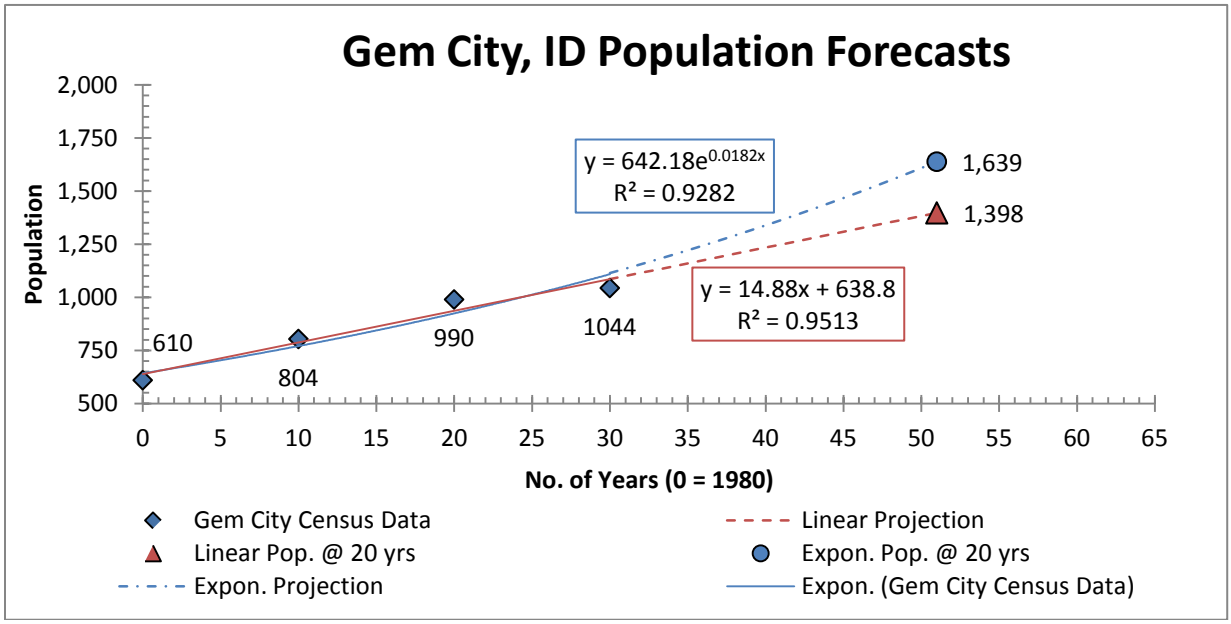
Analysis – Planning Horizon

Gem City has recently adopted a new comp plan with a 20 year planning horizon associated with the document. There are no other appurtenant planning documents such as a master water plan from which to reference an alternative planning horizon. Since a RAFN planning horizon cannot be inconsistent with comprehensive land use plans adopted by the City, the planning horizon is limited to 20 years. In addition, 20 years is consistent with the values presented in Tables 2 and 3 further confirming it as an appropriate value for

use with this RAFN proposal.

Analysis – Population Projections within the Planning Horizon

Gem City does not have any studies of population growth or demographics specific for their community. Therefore, U.S. Census Data represents the only available data regarding the population and demographics of Gem City. To avoid skewing population predictions to ephemeral trends within the census data, it is appropriate to look at a minimum of three decades worth of census data. The following figure is an x-y scatter plot of Gem City population data and years (blue diamonds). Exponential (blue line) and linear (red line) relationships have been molded to the census data and are depicted on the figure illustrating two different models between population and time.



Statistically speaking both models can be considered highly significant with coefficient of determination (R^2) values of 0.9513 for the linear model and 0.9282 for the exponential model. Presented independently either model could be considered reasonable. However, when the two models are presented together, allowing for comparison, the linear model establishes a better fit. As such, the linear relationship should be selected to forecast future populations. Since application for RAFN is being made in 2011 and the planning horizon has been established at 20 years, we are interested in forecasting the population for the year 2031 (or year 51 when 1980 = year 0). The following calculation establishes the future population at the end of the planning horizon.

P_{2031} = 14.88*(51) + 638.8 = 1,398 people

Analysis – Water Demand

Gem City has presented data for two different water service years, 2005 and 2010. Consistent with state wide and national trends, even though the service population of the town went up from 2005 to 2010, the demand went down, slightly. Since 2010 best captures existing demand characteristics, which are most likely to translate forward in time, it is appropriate to use data from 2010 to establish water demand.

Gem City has presented total diversion records and a breakdown of non-residential demand. They have not provided a breakdown of residential demand exclusive of non-residential demand nor have they presented

data on unaccounted for water (UAW). Without a breakdown of residential demand it is hard to make use of the non-residential demands. From the total diversion data it is possible to derive a per capita water use, but this value will incorporate or carry with it the non-residential demand component. Because of the lack of data exclusive to residential demand the applicant should not utilize the non-residential data in forecasting water demand.

The following table summarizes monthly water demand diversions for 2010. It also summarizes per capita monthly average daily demand, which was calculated by assuming a static population over the entire course of the year of 1,044 people.

Gem City 2010 Municipal Water Supply System Diversion Records

Month	No. Days	2010 Monthly Div. (gal)	Monthly ADD (GPD)	Monthly ADD per Capita (GPD)
Jan	31	5,354,690	172,732	165
Feb	28	3,547,730	126,705	121
Mar	31	3,771,120	121,649	117
Apr	30	5,102,560	166,752	160
May	31	4,259,420	137,401	132
Jun	30	6,009,070	200,302	192
Jul	31	7,014,390	226,271	217
Aug	31	9,285,620	299,536	**287**
Sep	30	6,216,640	207,221	198
Oct	31	5,737,530	185,082	177
Nov	30	5,507,040	183,568	176
Dec	31	5,151,590	166,180	159
Annual	365	66,957,400	--	**--**

From this data we can calculate the average daily demand (ADD) per capita by dividing the total diversions (66,957,400 gallons) by 365 days by 1,044 people. For 2010 ADD equals 176 gallons per day (GPD) per capita. We can also determine the maximum monthly average daily demand (MMAD) per capita by dividing monthly total diversions by the number of days in the month by 1,044 people and selecting the largest value. For 2010 we can see that the MMAD is equal to 287 GPD per capita and this value occurred in August, which is logical, as this is the month likely to necessitate the greatest irrigation demand on the system. Sufficient data does not exist to calculate maximum day demand (MDD) or peak hourly demand (PHD). Therefore, to determine these values, in consideration of the fact that historical data and analogous systems are insufficient to derive actual values for this example, we will rely upon the peaking factor values presented in Table 3. Utilizing values from Table 3 we can calculate MDD from MMAD by multiplying MMAD by 1.3, this calculation yields a MDD per capita value of 373 GPD. Alternatively we could calculate MDD from ADD by multiplying ADD by 2.0, this calculation yields a MDD per capita value of 352 GPD.

To calculate the total projected future water demand we must multiply the future population at the end of planning horizon (1,398 people) by the selected per capita demand value. Since Gem City relies on storage to meet peak hourly demand, the maximum day demand represents the design demand value for forecasting future water demand. Since estimations of MDD from ADD and MMAD are both valid approaches it is appropriate to use the larger of the two values. With these considerations in mind the projected future MDD water demand is equal to 362 gallons per minute (GPM) or 0.81 cubic feet per second (CFS). Gem City does not have any data on UAW. In this event we can use a maximum UAW value of 10% of total diversions.

Therefore, after accounting for UAW the projected future MDD water demand can be adjusted to 0.91 CFS (0.83 + 0.10*0.83).

Review of Gem City's existing water right portfolio indicates that the city already has 0.40 cfs of diversion rate. This value must be subtracted from the projected future MDD water demand to determine the diversion rate value that will be included on the new RAFN water right, in this instance the final RAFN diversion rate value will be 0.51 CFS (0.91 – 0.40).

Gem City's proposed RAFN service area will include a municipal water right for 0.20 cfs currently owned by a homeowner's association within the proposed service area. The disposition of this water right should be addressed in the RAFN application.

ADMINISTRATOR'S MEMORANDUM

To: Regional Offices
Water Allocation Bureau

Application Processing No.75
Permit Processing No. 21
Licensing No. 14

From: Jeff Peppersack

Re: Term Limits for Hydropower Use

Date: January 13, 2014

INTRODUCTION

House Bill No. 50 from the 2013 legislative session amended Idaho Code § 42-203B. The statute was amended in response to a footnote in *Idaho Power Company v. Idaho Department of Water Resources*, 151 Idaho 266 (2011), suggesting that IDWR's traditional hydropower term condition may not comport with the statute because it does not set a fixed termination date for the water right.

The revised statute no longer requires the Director to limit a hydropower permit or license only to a "specific term" but instead expands the Director's conditioning ability by providing that the Director may "limit a permit or license for power purposes to a term, which may be in the form of a fixed date or by reference to a Federal Energy Regulatory Commission (FERC) license or other authorization issued or contract executed, in connection with the power project." *Idaho Code § 42-203B(6).*

The revised legislation provides for modification of the water right if the Director decides to review the water right and issues an order modifying it prior to the expiration of the term. The legislation provides for the automatic extension of the term if the Director chooses not to review the water right.

This memo addresses how IDWR will determine the lengths of terms for hydropower water rights given the new legislation and how the terms will be stated in the conditions of future water rights for power generation. This memo is intended to serve as general guidance. Situations may arise that justify variance from this memo. If an applicant seeks a term condition different from the conditions used in this memo, or if a different condition seems warranted for some other reason, staff members are encouraged to consult their regional manager, section manager, or bureau chief.

CATEGORIES OF HYDROPOWER FACILITIES

The amended statute requires the Director to evaluate the following factors, ***among others***, when setting a term:

- The term of any FERC license for the hydroelectric project.
- The term of a power purchase contract associated with the hydroelectric project.

- Existing downstream water uses.
- The policy and authority of the Idaho Public Utilities Commission (IPUC) to enforce the Public Utility Regulatory Policies Act of 1978 (PURPA).[1]

To facilitate selecting the most appropriate term condition, we can classify most water rights for power purposes into one of three categories.

Category I -- Water rights for hydroelectric projects that require a FERC license.

Category II -- Water rights for FERC exempt hydroelectric projects with power purchase contracts subject to IPUC review. [2]

Category III -- Water rights for hydroelectric projects that are outside the jurisdiction of the FERC and the IPUC.

DEFINITIONS OF THE TERM CONDITION CATEGORIES

Category I -- Hydroelectric projects that require a FERC license.

According to FERC:

> A license from FERC is required to construct, operate, and maintain a non-federal hydroelectric project that is or would: (a) be located on navigable waters of the United States; (b) occupy U.S. lands; (c) utilize surplus water or water power from a U.S. government dam; or (d) be located on a stream over which Congress has Commerce Clause jurisdiction, where project construction or expansion occurred on or after August 26, 1935, and the project affects the interests of interstate or foreign commerce. [3]

[1] The Idaho Public Utilities Commission has jurisdiction over electric utilities, pursuant to the authority and power granted it under Title 61 of the Idaho Code and the Commission's Rules of Procedure, IDAPA 31.01.01.000 *et seq*., and the Public Utilities Regulatory Policies Act of 1978 (PURPA). The IPUC has the authority under PURPA and the implementing regulations of the Federal Energy Regulatory Commission (FERC) to set avoided costs, to order electric utilities to enter into fixed term obligations for the purchase of energy from qualifying facilities, and to implement FERC Rules. Reference 18 C.F.R. Section 292. PURPA established a class of generating facilities which would receive special rate and regulatory treatment. They are known as Qualifying Facilities (QFs). Through a provision of PURPA, regulated utilities are required to offer to buy energy from Qualifying Facilities. Although it is a federal law, states determine the rates paid to the Qualifying Facilities. It is the authority that the IPUC has under PURPA which puts power contracts under their purview.

[2] A few FERC-exempt projects do not benefit from a power purchase agreement and so are not subject to IPUC authority. The terms for these projects can be set like Category III projects. See pages 4-5 of this memo.

[3] From http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/get-started/exemp-licens.asp

Test (d) includes linking a hydroelectric project to the interstate transmission grid.[4]

A FERC license is issued with an expiration date and must be renewed at the end of each term. An "original" license authorizes the construction and operation of a project and is issued for a term of up to 50 years. A "subsequent" or "new" license, (a.k.a. a relicense), authorizes the continued operation of a previously licensed project. The new license term is 30 to 50 years, depending on the costs that were incurred to develop the project.[5]

As indicated above, the amended statute authorizes IDWR to take the term of the FERC license into account when setting the water right term, and it indicates that the water right term may be established by reference to the term of the FERC license.

Category II -- FERC exempt hydroelectric projects with power purchase contracts subject to IPUC review.

FERC issues two types of development authorizations -- licenses (discussed above in Category I) and exemptions. "Exempt" projects are not exempt from federal and state review and permitting. An exemption is a permit process like a FERC license, but with fewer steps. Unlike a FERC license, a FERC exemption has no expiration date. It is issued in perpetuity.

To determine which projects fit into this category, IDWR will rely on the types of FERC exemptions available when the water right application is filed. FERC currently issues two types of exemptions: [6]

1. 5-MW Exemptions:

   Hydropower projects which are 5 megawatts or less may be eligible for a

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[4] Quoting from the Federal Power Act (16 USC§§ 796):
(11) "project" means complete unit of improvement or development, consisting of a power house, all water conduits, all dams and appurtenant works and structures (including navigation structures) which are a part of said unit, and all storage, diverting, or forebay reservoirs directly connected therewith, the primary line or lines transmitting power therefrom to the point of junction with the distribution system or with the interconnected primary transmission system, all miscellaneous structures used and useful in connection with said unit or any part thereof, and all water-rights, rights-of-way, ditches, dams, reservoirs, lands, or interest in lands the use and occupancy of which are necessary or appropriate in the maintenance and operation of such unit. See http://www.gpo.gov/fdsys/pkg/USCODE-2011-title16/pdf/USCODE-2011-title16-chap12-subchapI-sec796.pdf

[5] During the water right application phase, staff may also encounter a preliminary permit issued by FERC. Before applying for a FERC license, a hydropower developer may apply to FERC for a preliminary permit. A preliminary permit is like staking a claim. Preliminary permits maintain a permittee's priority to file a license application while he gathers data and studies the feasibility of a project at a particular site. Preliminary permits typically expire after three years, and they do not authorize any land-disturbing activities or project construction. During the term of the permit, the permittee prepares an application for an original hydropower license.

[6] For a chart that shows the major differences between a FERC license, a conduit exemption, and a 5-MW exemption, see Project Comparison Chart or http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/get-started/exemp-licens/project-comparison.asp

5-MW exemption. The applicant may install or add capacity to a project located at a non-federal, pre-2005 dam, or at a natural water feature. The project can be located on federal lands but cannot be located at a federal dam. The applicant will have all the real property interests or an option to obtain the interests for any non-federal lands.

2. Conduit Exemptions:

   Hydropower projects which are 15 megawatts or less for non-municipal project and 40 megawatts or less for a municipal project may be eligible for a conduit exemption. The conduit (such as an existing canal or pipeline), has to have been constructed primarily for purposes other than power production and be located entirely on non-federal lands. The applicant will have all the real property interests necessary to develop and operate the project or an option to obtain the interests.

Because FERC exemptions have no fixed term, IDWR must use other criteria to set the term of a water right in this category. Among the criteria set forth in Idaho Code § 42-203B, the expiration date of a power sales/purchase contract is the most applicable.

Power sales/purchase contracts are effective for a specific term. 1980s vintage contracts were often written for terms of 35 years. The IPUC limits the term of contemporary contracts to 20 years. A developer may choose a shorter term, but a power sales contract is usually important for financing of a hydroelectric project, so most developers choose a 20-year term.

Category III – Hydroelectric projects with neither a FERC license nor a power purchase contract subject to IPUC review.

Although FERC has broad authority, it does not have jurisdiction over all hydropower projects. IPUC's authority over hydropower facilities is also limited. IPUC is responsible for reviewing power purchase contracts which involve a utility company, but other power purchase arrangements do exist. Therefore, a third category is needed. Category III is a catch-all category for hydropower projects that do not fit into Category I or II.

Most hydropower projects in Category III will be for personal use. These micro hydroelectric projects will be completely contained within the right holder's property. Often the project will be a battery-based system with a single, turbine-generator unit. Due to limitations in the AC to DC technology, the unit will generate less than 4 kW of electrical power, and the power will be consumed by the owner.

Category III includes FERC-exempt hydropower projects that do not benefit from a power sales agreement. Either the project produces power too intermittently to be described by a power sales agreement, or all the power is consumed by the developer rather than sold. In the former case, the power can still be purchased by a utility but the

purchase will be in accordance with that utility's tariff schedule (which can be revised every year) rather than through a long-term agreement.

Also in Category III are projects developed by the Bureau of Reclamation or by a non-federal developer who has entered into a Lease of Power Privilege (LOPP) agreement with the Bureau of Reclamation. These projects do have operational constraints, but they are not accountable to the agencies which have the authority to set the Category I and II fixed term obligations.

The statute allows the Director to employ a range of criteria to set a term for Category III projects. One of the most practical is the useful life of the power generating equipment. IDWR can expect a custom built, conscientiously maintained, large-scale, turbine-generator system to have a 45 – 50 year lifespan. 'Personal use' micro hydros are not as rugged, but a well maintained system can be expected to last 20 - 25 years.

TIMING CONSIDERATIONS

Category I

FERC's pre-authorization processes and IDWR's water rights application processes may overlap in time. However, pursuant to Water Appropriation Rule 45.01.c,[7] the Department will not necessarily require the FERC license to have been issued before a water right permit is issued for the same hydropower project.

Ideally, a FERC order granting an exemption or issuing an original license would be in place before IDWR issues a permit. However, if the term cannot be established at permitting because the FERC review process is not complete, the statute directs IDWR to set the term "as soon thereafter as practicable". In the past, IDWR has considered the act of licensing to be the most practicable point in time. However, delayed water right licensing has resulted in criticism of IDWR's practice. Therefore, IDWR will strive to collect the information needed to set the term when processing proof of beneficial use statements, and IDWR will strive to issue licenses shortly after the proof of beneficial use statement has been submitted. For this reason, term conditions for permits will, in some cases, be different than term conditions for the corresponding water right licenses. Nevertheless, even for permits, IDWR will employ conditions explaining that terms may automatically renew.

[7] c. Criteria for determining whether the application is made in good faith. The criteria requiring that the Director evaluate whether an application is made in good faith or whether it is made for delay or speculative purposes requires an analysis of the intentions of the applicant with respect to the filing and diligent pursuit of application requirements. The judgment of another person's intent can only be based upon the substantive actions that encompass the proposed project. Speculation for the purpose of this rule is an intention to obtain a permit to appropriate water without the intention of applying the water to beneficial use with reasonable diligence. Speculation does not prevent an applicant from subsequently selling the developed project for a profit or from making a profit from the use of the water. An application will be found to have been made in good faith if:…..

ii. The applicant is in the process of obtaining other permits needed to construct and operate the project;….

Category II

The developer of a hydropower facility will know in advance whether the facility will generate power in excess of his needs. The negotiations of a power purchase contract between the developer and a regulated electric utility should precede a project's first energy date. But the Department will likely issue a permit to the developer of a qualifying facility before the IPUC concludes its review and closes the case on the relevant power contract.

The first energy date is a prerequisite to the execution of a power purchase/sales agreement. It is also the first instance of beneficial use. Therefore, it is reasonable to expect that an executed power sales/purchase agreement will be effective when the Proof of Beneficial Use statement is submitted.

Category III

In most cases, it will be impossible to know the plant's first energy date when the permit is issued. Therefore, the term will be calculated from the year of permit issuance. For ease of administration, the term ending date should be December 31 of the year of expiration.

IDWR PERMIT AND LICENSE TERM CONDITIONS

Category I a) -- A FERC license is required but not yet issued.

For permits issued for hydropower projects in this category, apply the following term condition. Because a FERC license will be a prerequisite for the power generation that constitutes beneficial use, this condition will not be applicable to water right licenses.

> The term of this permit shall coincide with the term of the license issued by the Federal Energy Regulatory Commission (FERC) for this hydropower project. The term shall automatically extend to run concurrently with any annual renewals of the project's FERC license. Prior to the issuance of a subsequent or new FERC license for the project, the Director may review the water right permit or subsequent water right license and may issue an order canceling all or any part of the use, establishing a new term, or revising, adding or deleting conditions under which the water right may be exercised. The order shall take effect on the date the current term, as may be extended through annual renewals, expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the project's subsequent or new FERC license and any prior conditions on the water right permit or subsequent water right license shall remain in effect.

Also apply the following new condition requiring that FERC license information be submitted with the proof statement:

If it has not been previously provided, the permit holder shall submit a copy of the FERC licensing order for this project in conjunction with the Proof of Beneficial Use statement.

Category I b) -- A FERC license has been issued.

For some permits in Category I and for all water right licenses in Category I, a FERC license will have been issued already. In such cases, apply the following term condition:

The term of this <permit> <water right> shall run concurrently with <FERC Project Name> license <FERC Docket Number>issued by the Federal Energy Regulatory Commission (FERC), which expires on <Expiration Date>. The term shall automatically extend to run concurrently with any annual renewals of the project's FERC license. Prior to the issuance of a subsequent or new FERC license for the project, the Director may review the <water right permit or subsequent > water right license and may issue an order canceling all or any part of the use, establishing a new term, or revising, adding or deleting conditions under which the water right may be exercised. The order shall take effect on the date the current term, as may be extended through annual renewals, expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the project's subsequent or new FERC license and any prior conditions on the <water right permit or subsequent >water right license shall remain in effect.

Category II a) -- IPUC review of the power purchase agreement required but not yet completed.

For some projects in Category II, IDWR will issue a permit before the power purchase contract is complete. In such cases, apply the following term condition. Because the power purchase contract, when finalized, will coincide with beneficial use of water, there should be no water right licenses that fall into this subcategory.

The term of this permit shall run concurrently with the length of any effective energy sales agreement between the right holder and a purchasing utility. Prior to the expiration of the term, the Director may issue an order canceling all or any part of the use authorized herein, may establish a new term, or may revise, delete, or add conditions under which the water right permit or subsequent water right license may be exercised. The order shall take effect on the date the current term expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the prior term and any prior conditions on the water right permit or subsequent water right license shall remain in effect.

Also apply the following new condition requiring that information be submitted with the proof statement:

> If it has not been previously provided, the permit holder shall submit a copy of the FERC exemption order and a copy of the effective energy sales/purchase agreement for this project in conjunction with the Proof of Beneficial Use statement.

Category II b) -- A power sales agreement has been approved by IPUC.

For permits and licenses for hydropower projects in this category, apply the following term condition:

> The term of this <permit> <water right license> shall run concurrently with energy sales agreement <IPUC Case number, Order number> approved by the Idaho Public Utilities Commission, which expires on <Expiration Date>. Prior to the expiration of the term, the Director may issue an order canceling all or any part of the use authorized herein, may establish a new term, or may revise, delete, or add conditions under which the <water right permit or subsequent> water right license may be exercised. The order shall take effect on the date the current term expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the prior term and any prior conditions on the <water right permit or subsequent> water right license shall remain in effect. [8]

Category III -- Outside of FERC and IPUC processes.

The statute allows the Director to employ a range of criteria to set a term for Category III projects. One of the most practical is the useful life of the power generating equipment. If the Department finds no other relevant criteria on which to base the term for a Category III hydropower project, it may be based on the expected equipment life of a well maintained system. As noted above, a conscientiously maintained, large-scale, turbine-generator system can have a 45 – 50 year lifespan, and a typical 'personal use' micro hydro can be expected to last 20 - 25 years. IDWR staff members issuing approvals are authorized to exercise professional discretion in estimating the lifespan of a hydropower system and whether it is necessary to require the water right owner to provide additional information about the potential lifespan.

Unless other criteria are used, such as the term of an LOPP agreement with the Bureau of Reclamation, the term for Category III projects can be based on the expected

[8] IDWR intends that a term date based on a power sales agreement will always anticipate the expiration of the contract. It is not uncommon, however, for projects to obtain approved power sales agreements but subsequently fail to meet first energy or scheduled online dates. In these cases, contract amendments are common to extend the term of the power sales agreement beyond the term specified in the original agreement. For projects that have an approved power sales agreement which is subsequently amended to extend the term of the agreement, , the amended term can be addressed when a water right license is issued.

equipment life of a well maintained system. Permits and licenses in this category should be issued with the following term condition:

> The term of this <permit> <water right license> shall extend to [(permit issued year + expected equipment lifespan) = specific date]. Prior to the expiration of the term, the Director may issue an order canceling all or any part of the use authorized herein, may establish a new term, or may revise, delete, or add conditions under which the <water right permit or subsequent> water right license may be exercised. The order shall take effect on the date the current term expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the project's prior term and any prior conditions on the <water right permit or subsequent> water right license shall remain in effect.

WHERE TO FIND DOCUMENATION

Going forward, the owners of water right permits for power use will be expected to have the documents which will establish the term and to submit copies of them in concert with their applications for permit or their Proof of Beneficial Use statements. Water right files for hydropower use that pre-date this memo will often lack documentation for the basis of a term. Either the field examiner or the reviewer will need to locate these foundational documents and provide copies of them for the water right file. The most straightforward method may be to ask the permit holder to provide the documents. Information may also be found at the locations described below.

Category I -- Term dates are based on FERC license expiration.

A complete list of the FERC issued licenses or a list of issued exemptions is available as an Excel spreadsheet and can be accessed from:

Complete list of Issued Licenses XLS or http://www.ferc.gov/industries/hydropower/gen-info.asp

Issued Exemptions XLS or http://www.ferc.gov/industries/hydropower/gen-info.asp

Category II -- Term dates are based on power purchase contracts under the IPUC's authority.

A list of Qualifying Facility contracts is maintained by IPUC personnel as an Excel spreadsheet. Although the information is public, the spreadsheet is not currently posted where the public or IDWR can access it.

In the absence of access to this IPUC list, IDWR agents will need to either request a copy of any energy sales agreement from the right holder or query the IPUC website, http://www.puc.idaho.gov for individual case records.

Category III -- Term dates are based on equipment life expectancy or other considerations.

The small personal use projects will likely be known only to IDWR.

New large-scale, federal hydropower projects are rare. Existing federal hydropower projects may add turbines which would increase the amount of water used for power generation. Existing federal dams in Idaho which have hydropower are: the U.S. Bureau of Reclamation projects at Anderson Ranch, Black Canyon, Boise Diversion, Minidoka, and Palisades; and the Army Corps of Engineers project at Dworshak.

A site list of potential LOPP projects in the Pacific Northwest can be found at http://www.usbr.gov/power/CanalReport/PN%20Maps.pdf

ADMINSTRATOR'S MEMORANDUM

To: Regional Offices
Water Allocation Bureau

Application Processing No. 76
Licensing No. 15
Transfer Processing No. 30
Water Supply Bank Processing No. 3

From: Jeff Peppersack

RE: **SEEPAGE LOSS STANDARDS FOR PONDS AND RESERVOIRS**

Date: March 5, 2015

BACKGROUND

Idaho Code § 42-203A(5)(f) requires the Department to ensure that proposed water uses are not contrary to conservation of water resources when reviewing new water right applications. Idaho Code § 42-222(1) provides a similar requirement for transfer applications. For many water uses, the Idaho legislature or the Department has established standards intended to promote the efficient use of water. For example, irrigation use is limited to 0.02 cfs per acre unless the applicant can show a compelling need for additional water.

The need to address seepage loss has developed as the Department has seen an increase in water right applications and transfers which propose to store water in small impoundments for purposes, such as aesthetics, that require a full reservoir. The ability to keep a reservoir full requires an appropriation of water not just for a one-time early season fill, but also for the replacement of evaporation and seepage losses throughout the year.

On occasion, applicants or permit holders may have a geotechnical or site engineering report describing seepage loss expectations or test results. In such a case, the reviewer should reference and utilize the measured soil properties presented in the report. Oftentimes, no such report is available to the reviewer. This memorandum establishes guidelines for reviewing seepage losses from ponds and reservoirs to ensure that water rights for storage promote efficiency by meeting a reasonable conservation standard. Without a storage efficiency standard, the diversion of water to replace storage losses could reduce the availability of water for other appropriators.[1]

[1] This guidance does not apply to applications seeking one fill annually with no refill provisions.

SEEPAGE LOSS STANDARDS

The Alabama Agricultural Experiment Station Bulletin 599[2] provided the following mean seepage rates for ponds based on the following Unified Soil Classification System groups:

SM (silty sand, sand silt mixtures) = **0.2 ft per day**
SC (clayey sands, sand clay mixtures) = **0.007 ft per day**
ML (inorganic silts – very fine sands, silty, or clayey fine sands) = **0.02 ft per day**
CL (low to medium plasticity clays) = **0.003 ft per day**
CH (high plasticity clays) = **0.0003 ft per day.**

These published seepage rates provide reasonable seepage loss expectations for appropriately designed small ponds and reservoirs. In addition, soil type OL is very similar to ML; use 0.02 ft per day with this soil type. Soil types MH, OH, and PT are very similar to CH; use 0.0003 for these soils.

The maximum allowable seepage rate is 0.2 ft per day. In general, the Department should not authorize the appropriation of water to replace seepage losses in excess of these rates, except as described in this memorandum.

The following soil types are all sandy and/or gravelly soils that would likely exceed 0.2 ft per day.

GW (well-graded gravels and gravel-sand mixtures)
GP (poorly graded gravels and sandy gravel mixtures with little or no fines)
GM (silty gravel and poorly graded gravel/sand-silt mixtures)
GC (clayey gravels and poorly graded gravel-sand-clay mixtures)
SW (well-graded sands and gravelly sands with little or no fines)
SP (poorly graded sands and gravelly sands with little or no fines)

Ponds developed in these soils should be equipped with a liner or other construction modifications to reduce seepage.[3]

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[2] Stone, Nathan M., and Claude E. Boyd. Alabama Agricultural Experiment Station Bulletin 599. Auburn University, Alabama. *Seepage from Fishponds*. 1989.

[3] There are many ways to reduce seepage losses. The United States Department of Agriculture through the Natural Resources Conservation Service ("NRCS") Agriculture Handbook Number 590, *Pond – Planning, Design, Construction* recommends that pond sites should have at least 20 percent clay soils (page 63). If a pond site doesn't have at least 20 percent clay, the NRCS recommends a variety of methods to seal the pond using chemical additives, bentonite, water proof liners, or compaction (pages 62-65).

EXCEPTIONS

There are some circumstances where it is not reasonable to apply the seepage rate standards described above. The following are some situations where the seepage rates listed above may be exceeded without further review:

- Storage facilities being used as infiltration basins for ground water recharge purposes should not be expected to comply with the seepage rate standards listed above. The purpose of recharge is to cause water to seep into the ground, not to maintain a full reservoir for aesthetics or similar purposes. Such uses are mutually exclusive. Water users should not be allowed to exceed the seepage rate standards by referring to ponds for other uses as recharge ponds.
- Excavated ponds filled by intercepting ground water should not be expected to comply with the seepage rate standards listed above. Under normal conditions water seeps *into* these ponds, not out of these ponds.
- Idaho Code §42-202 provides for a maximum of 5 acre-feet of stored water per acre of land irrigated. It is not necessary to apply seepage rate standards to reservoirs used to store water for irrigation purposes. Irrigation storage amounts in excess of 5 acre feet per irrigated acre require justification for the total amounts.

NEW APPLICATONS FOR PERMIT, TRANSFERS, AND WATER SUPPLY BANK RENTALS

The seepage rate standards described in this memorandum should be applied to new appropriations, transfers of water to new ponds or reservoirs, and Water Supply Bank rentals resulting in new ponds or reservoirs. Applications exceeding the standards need to justify the additional seepage amounts by demonstrating that they are consistent with the conservation of water resources or that the exception is necessary to accomplish the proposed beneficial use. If the additional seepage amounts are not justified, the approvals should be based on the standards set forth in this memo.

LICENSING OF EXISTING PERMITS

The seepage rate expectations discussed in this administrative memorandum will be applied when licensing water rights that have already been permitted as of the date of this memorandum. In general, replacement of seepage losses exceeding the standards set forth in this memorandum will not be considered to constitute a beneficial use of water. Therefore, seepage losses factored into the storage volume for water right licenses should not exceed the seepage loss standards listed above unless they meet one of the exceptions listed above, even if the permit pre-dates the issuance of this memorandum. Department staff members authorized to sign water right licenses may evaluate established storage facilities that exceed the seepage rate standards described in this memorandum on a case by case basis to determine if replacement of the additional seepage losses constitutes a beneficial use of water. Such determinations should be documented in the water right file.

SEEPAGE LOSS EVALUATION SPREADSHEET

The Department has developed a spreadsheet for estimating reservoir fill capacity, evaporation losses, and seepage losses. Department staff members are encouraged to share the spreadsheet with prospective applicants, consultants, and certified water right examiners for preparing and evaluating applications, as well as for conducting beneficial use field examinations. Applicants may utilize the NRCS Web Soil Survey, NRCS Published Soil Surveys, or the GIS layer 'PondSoils' found on the Department's website. Other technically sound methods for evaluating seepage losses may also be employed or accepted in IDWR's water right processes; however, alternate methods must consider conservation of water when determining acceptable seepage rates.

Pond Loss Calculation Spreadsheet

March 2015

Note: This macro-enabled workbook was created using Microsoft Excel 2007. The use of macros is optional. To enable macro functionality, access the macro security settings: (1) click the Microsoft Office button, (2) click Excel Options, (3) click Trust Center, (4) click Trust Center Settings, and then (5) click Macro Settings and select the option desired.

Idaho Department of Water Resources designed this spreadsheet in support of the guidance memo *Seepage Loss Standards for Ponds and Reservoirs*. It can be used to estimate the total volume required for a storage use. IDAPA Rule 37.03.08.035.03.b.v requires Department staff to account for all refills of a storage facility. This need has become especially acute with the increased popularity of ponds and reservoirs for aesthetic, recreation, and wildlife (ARW) purposes. Unlike irrigation reservoirs, ponds and reservoirs for ARW purposes are typically kept full all year. This spreadsheet was designed to account for the initial fill volume, refills to replace "from storage" uses, and the volume needed to replace evaporation losses and seepage losses to provide a more accurate accounting of the total water needed for a storage facility.

Tab #1 - Soil Classification with the NRCS Web Soil Survey:

Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties.

This sheet will give the user instruction on how to efficiently access the soil classification information for their pond location under examination.

Tab #2 - Seepage Loss:

The Seepage Loss sheet guides the reviewer through necessary calculations to determine seepage loss of a pond. The reviewer will need to choose the suggested soil value for the soil that most represents the soil at the location and depth of the pond. The reviewer also must have the surface area of the pond in square feet. The sheet has a calculator to convert the surface area from acres to square feet if you determine the surface area from Arc Map.

For additional background, review pond seepage loss information on page 16 of the "Seepage from Fish Ponds" Bulletin 599, August 1989, Alabama Agricultural Experiment Station, Auburn University, Alabama, Lowell T Frobish Director, written by Nathan M. Stone and Claude E. Boyd. This document can be found in the *Field Examiner's Handbook on our WENET page under Water Right Permits Section - Field Examiner's Handbook - Peer Reviewed section - Library - Elements of water rights - Water use - Storage.*

Tab #3 - Evaporation Loss:

This sheet calculates the evaporation losses based on the University of Idaho Evapotranspiration web page. For Department staff, there are links in the spreadsheet to this web page and you can find the most representative station in Arc map using the ETIdahostations shape in X:/Spatial/Climate/ETIdahostations.shp.

Please Note: For an alternate method to calculate acres required to be retired in a water right transfer from irrigation to storage to cover the evaporative losses, please see Transfer Processing Memo # 26.

Tab #4 - Total Storage:

This sheet automatically takes the seepage volume amount calculated in the Seepage Loss Sheet and the evaporation volume calculated in the Evaporation Loss sheet and combines with the pond capacity to determine total storage volume required for this pond.

Tab #5 - Pond Capacity:

This sheet contains mathematical equations which are helpful in determining the volume of a given pond. Four pond shapes are presented for user reference. If the pond found at the field exam does not conform to any of the example shapes presented, the examiner should utilize other mathmatical equations to determine pond capacity.

This sheet also calculates the minimum flow required to maintain the pond level, and the number of days to fill the pond. The number of days to fill the pond incorporates the seepage and evaporation losses.

Enter Data — All Data that you enter into this sheet will be in yellow boxes with blue text.

Calc'd Data — All calculated data will be in green boxes with red text.

Explanation — All blue boxes will provide explanations, tips and other helpful information.

Tab #6 - Notes and Tips:

This tab supplies useful information and explanations on the spreadsheet. It is recommended that you read this tab prior to filling out the spreadsheet. This tab also contains a diagram showing the items that must be factored into a water balance for a storage water right.

Tab #1.1 - Soil Classification with ArcMap:
(Alternative to Soil Classification with the NRCS Web Soil Survey)
The Soil Classification (GIS) sheet is designed for users with access to ESRI ArcMap and corresponding Geographic Information System software. For reviewers that are already familiar with the functionality of GIS, this sheet explains how to interpret the SSURGO and STATSGO soils layers in order to determine the soil classification at the pond site.

Tab #1.2 - Soil Classification with Published Soil Surveys:
(Alternative to Soil Classification with the NRCS Web Soil Survey)
The Soil Classification (PDF) sheet includes instructions on how to utilize NRCS Published Soil Surveys to obtain subsurface soils data for excavated ponds. Most Idaho Published Soil Surveys are designated by the name of the county. Others are published under multiple county names or by a significant natural feature in the area (ie. Caribou National Forest, City of Rocks National Reserve, Middle Fork Payette River Area, Duck Valley Indian Reservation, etc.). The GIS Layer was taken from the Soil Survey Geographic Data Base compiled by the Natural Resources Conservation Service (NRCS). The reviewer may have to utilize supplemental maps to determine the applicable Soil Survey report for the pond location. This sheet methodically guides the reviewer through the process of how to determine the USCS Soil Classification for use on the sheet entitled "Seepage Loss."

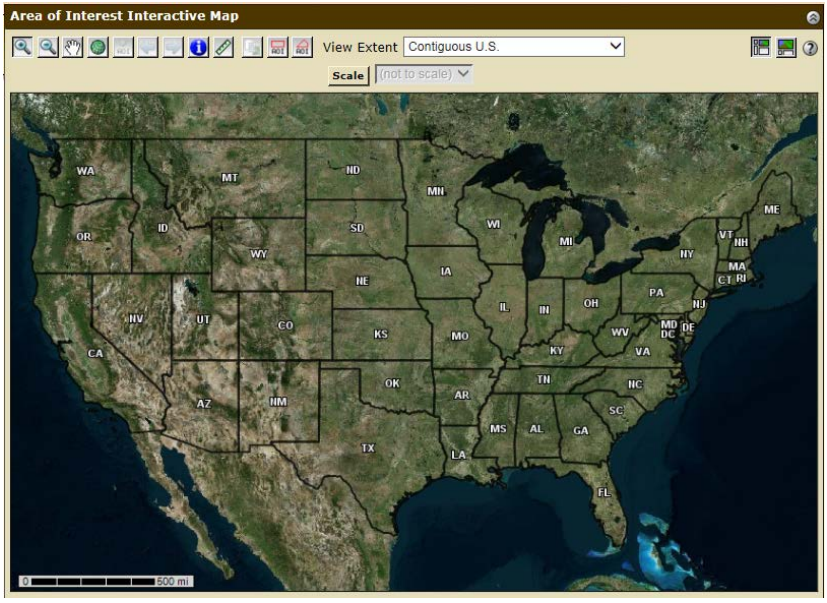
Soil Classification with the NRCS Web Soil Survey

This spreadsheet has been designed by Idaho Department of Water Resources to determine the soil type and classification at the pond site.

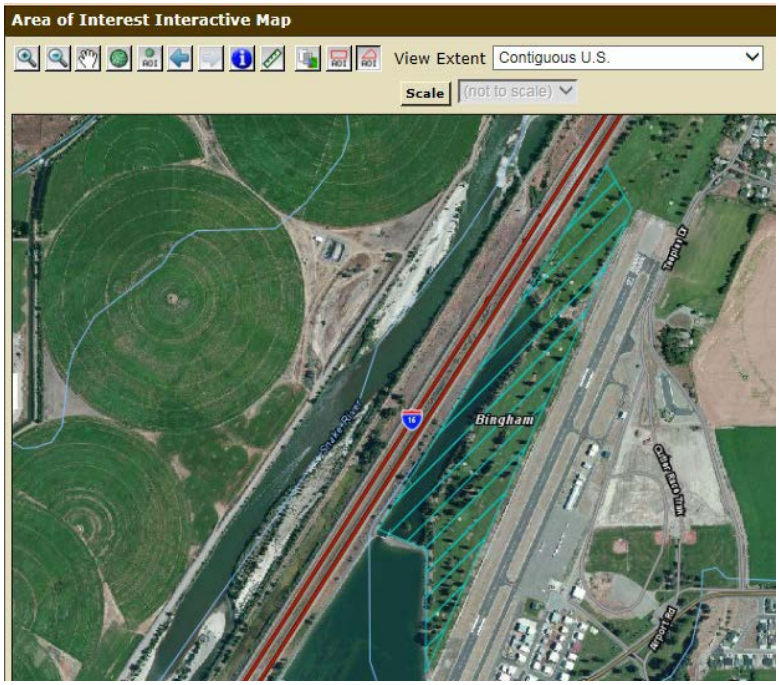
Use the link to access the NRCS Web Soil Survey:
http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Alternative methods of obtaining soil classification information may be found in the last two tabs of this worksheet.

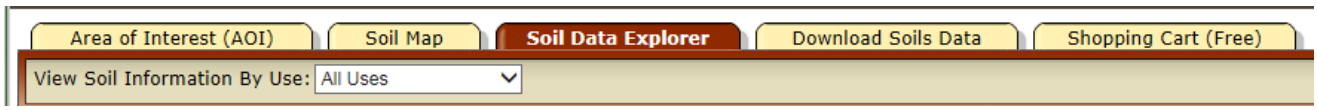
1. Use the { } tool to zoom in to the location of the pond.



2. Under the "Area of Interest" tab, create an Area of Interest (AOI), where you would like information about the soil. Use the following tools to create your area of interest: { } and { }

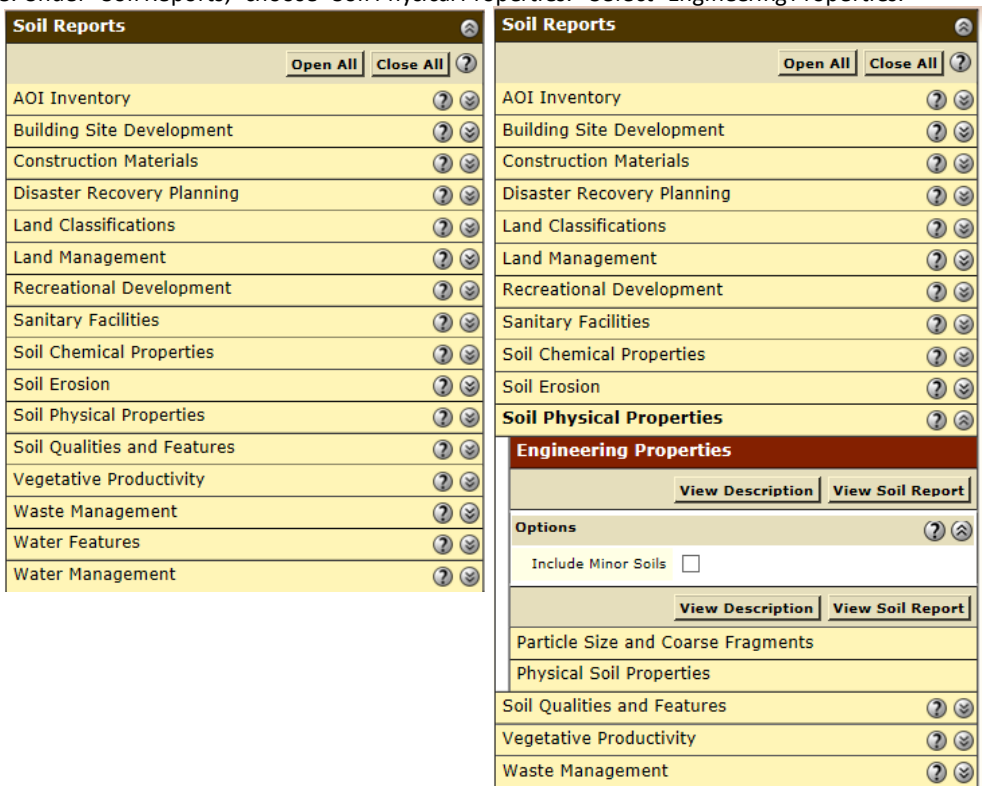


3. Click the "Soil Data Explorer" Tab.

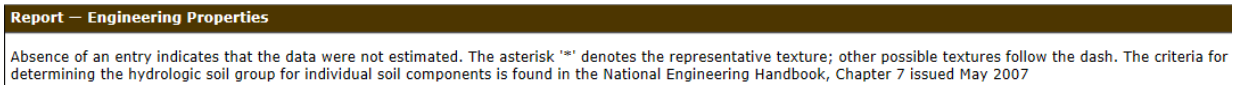


4. Click the "Soil Reports" Tab.

5. Under "Soil Reports," choose "Soil Physical Properties." Select "Engineering Properties."



6. Click the "View Soil Report" button and wait for the WSS to load.



7. View the soil information chart below the map.

Bingham Area, Idaho

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*Pct*	*Pct*					*Pct*	
HsA—Heiseton sandy loam, 0 to 2 percent slopes														
Heiseton	80	A	0-8	Sandy loam	SC, SC-SM	A-2, A-4	0	0	90-100	90-100	60-85	30-50	20-28	4-10
			8-38	Fine sandy loam	SC-SM, SC	A-4	0	0	90-100	90-100	65-85	40-50	20-28	6-10
			38-45	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	70-85	20-33	6-13
			45-65	Very gravelly sand, very gravelly coarse sand, extremely gravelly coarse sand	GP, GP-GM, GW	A-1	0	0	20-50	10-30	5-10	0-5	0-19	NP-2
Rv—Riverwash														
Riverwash	100		0-60	Stratified sand to gravel	—	—	—	—	—	—	—	—	—	—
Wb—Wardboro soils														
Wardboro	80	A	0-2	Sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	74-79	36-41	21-28	6-10
			2-11	Sandy loam	SC, SC-SM	A-2, A-4	0	0	100	100	74-79	36-41	21-28	6-10
			11-60	Extremely gravelly coarse sand	GC-GM, GP, GM	A-1	0-15	10-45	15-30	10-25	0-25	0-25	0-22	NP-4

8. Look for the soil type with the greatest "Pct. of map unit" or for the soil which is most representative of the pond location. Choose the depth which most closely corresponds with the depth of the pond under examination. After this, move right across the table to find the Unified Soil Classification System (USCS).

If you find that this depth arrives at more than one classification, choose the classification which is most advantageous to the applicant (highest seepage rate). You may need to toggle between the "Soil Class" and "Seepage" sheets in order to view the table entitled "Suggested Seepage Rates for Different Soil Types."

9. Use this soil classification to find the Total Seepage Loss on the next sheet "Seepage Loss."

Seepage Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

FILE NUMBER	xx-xxxxx
REVIEWER	Joe Agent
DATE	1/1/00

User Input
Calculated value
Formula Explanations

Print Page to PDF

INPUTS

Pond Surface Area (AC.)	5	AC.
Pond Surface Area (SQ. FT.)	217800	SQ. FT.
I used the following method to obtain my Soil Classification information:	NRCS Web Soil Survey	
My Soil Classification is	GP	
Suggested Seepage Rate (FT./DAY)	0.2000	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss

Convert to GPD	325829	GPD
Total Seepage Loss (AFA)	365.0	AFA

Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

Suggested Seepage Rates for Different Soil Types:
GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) **= 0.2 ft per day**
OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) **= 0.02 ft per day**
SC (clayey sands, sand clay mixtures) **= 0.007 ft per day**
CL (Low to medium plasticity clays) **= 0.003 ft per day**
MH, OH, PT and CH (high plasticity clays) **= 0.0003 ft per day**
LINED PONDS (liners can be chemical, fabric, or bentonite) **= 0 ft per day**
Ponds Intercepting Groundwater (excavated ponds filled by ground water) **= 0 ft per day**

PLEASE NOTE: The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at the NRCS Web Soil Survey (Tab #1) , an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2) . Use "0" if the pond fill relies on the water table.

Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBE	xx-xxxxx
REVIEWER	Joe Agent
DATE	1/1/00

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:

- P = Precipitation
- ET= Evapotranspiration
- P_d = Precipitation deficit
- P_d =ET-P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at X:/Spatial/Climate/ETIdahostations.shp.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Paste Values from ET Idaho

Print Page to PDF

Found at: http://data.kimberly.uidaho.edu/ETIdaho/

Precipitation Deficit

Station: Twin Falls 2 NNE (NWS -- 109294)

Month	mm/day[1]	*Days per month*	mm/Month
Jan	-1.34	31	0.00
Feb	-0.72	28	0.00
March	-0.29	31	0.00
April	1.09	30	32.70
May	1.77	31	54.87
June	3.33	30	99.90
July	4.41	31	136.71
August	3.81	31	118.11
September	2.28	30	68.40
October	0.89	31	27.59
November	-1.27	30	0.00
December	-1.76	31	0.00
Total mm/year =			538.28

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

[(mm/yr) ÷ (convert to feet)] X (Surface area of pond, in acres) = Evaporation Loss in Acre Feet

(538.28 ÷ 304.8) X 5.00 = 8.8 AFA

Surface Area of Pond is automatically carried over from the Seepage Loss Sheet.

Example Data:

ET_{Idaho} 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu *Copyright 2012, University of Idaho.*

Data enter negative values above as "0"

Twin Falls 2 NNE (NWS -- 109294)

Statistics based on thirty year normal spans 1943 to 1973 years

For a different land cover or crop click on the above link.
ghlight this table and copy via the clipboard to a Mircosoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)
Precipitation Deficit (Click here for a graph)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season[a]	Non Growing Season[b]	Annual
Mean[j]	mm/day												mm		
Monthly[c]	-0.37	0.32	1.19	2.40	3.13	3.73	4.94	4.24	3.11	2.00	0.22	-0.33	751	0	751
15-Day Moving Average[d]	-0.50	0.31	1.19	2.42	3.09	3.74	4.97	4.23	3.08	2.02	0.12	-0.35			
7-Day Moving Average[e]	-0.41	0.32	1.19	2.40	3.10	3.72	4.96	4.25	3.12	2.02	0.16	-0.38			
3-Day Moving Average[f]	-0.37	0.33	1.20	2.41	3.12	3.73	4.94	4.24	3.12	2.01	0.20	-0.35			

The above table is a snap shot of the tables you find at the Kimberly Research Center Webpage. (Use link above.) Copy (ctrl + C) the numbers found in this table.

Total Storage Calculations

FILE NUMBER	xx-xxxxx
REVIEWER	Joe Agent
DATE	1/1/00

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Print Page to PDF

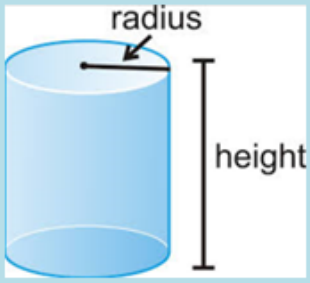
Surface Area (AC.)	5	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	6.8	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	34	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	5	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a *from storage* component if the *from storage* component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	365.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	8.8	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	412.8	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.

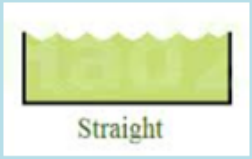
Flow Rate into Pond (CFS)	**1.00**	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	**4.41**	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	**1.07**	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (CFS)	**0.54**	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	**37**	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. If this number is *approximately* 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.
Days Required to Fill the Pond at 13,000 Gallons per Day	**-33**	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. If this number is *approximately* 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond. Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.

Pond Capacity Determination

Cylinder Shaped

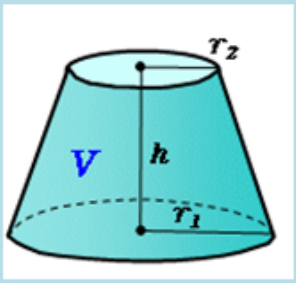
Volume = $\pi \cdot (\text{radius})^2 \cdot \text{height}$
OR
Volume = circular surface area · depth

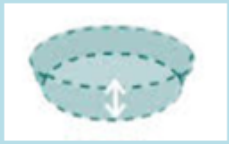




Truncated Cone Shaped

Volume = $(1/3) \cdot \pi \cdot (r_1^2 + r_1 \cdot r_2 + r_2^2) \cdot h$
where h = water depth
r_1 = radius at top of basin
r_2 = radius at bottom of basin



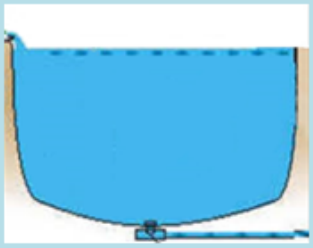


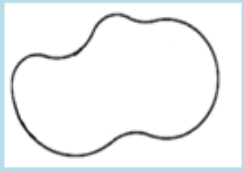
Freeform Polygon with Sloped Sides and Bottom

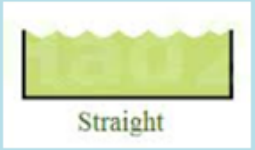
Volume = surface area · (2/5) · maximum depth

Freeform Polygon with Vertical Sides and Flat Bottom

Volume = surface area · maximum depth







The surface area of a freeform polygons should be measured using aerial photography and ArcGIS.

For ponds with an unusual shape and inconsistent depth, the reviewer may be able to combine different shapes to calculate a total pond volume.

Helpful Tips for Determining Pond Volumes

Types of Ponds and Reservoirs

The following is an excerpt from the report that is the basis for the University of Idaho Evapotranspiration Web Page. In this report, evaporation from three classes of open water was estimated:

small, shallow stock ponds: K_c* = 0.7 was used for all months

large, shallow water bodies or deep water bodies that have high turbidity: K_c* = 0.6 for all months. This class may be generally applicable to *relatively shallow* (< 4 m or 13.1 feet in depth) *ponds, reservoirs and streams*

deep systems (relatively clear lakes and reservoirs deeper than 4 m or 13.1 feet): use aerodynamic evaporation algorithms developed for American Falls Reservoir (Allen and Tasumi, 2005). Appendix 10# provides details on the procedure development and application. The evaporation estimations assume that no freezing occurs. If water systems are known to freeze, then the evaporation rate will tend toward zero during the periods of ice cover.

*The crop coefficient (K_c) is defined as the ratio of actual or potential evapotransporation by a specific crop or land cover condition to the reference evapotranspiration value.

#Allen, R., & Robison, C. (2006). Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho. *University of Idaho: University of Idaho Research and Extension Center at Kimberly, ID.*

Components of Storage

To get water to a pond that is not on the stream, you will need a water right component called **"Diversion to Storage."** **"Diversion to Storage"** components only have a rate of diversion. The volume components for this use are described in the **"Storage Component."**

The **"Storage Component"** of a water right allows a one-time fill (also known as **Pond Capacity**) plus the **"Evaporation Losses"** plus the **"Seepage Losses."** The **"Storage Component"** only describes a volume. Any diversion rate is considered under the **"Diversion to Storage"** component. **"Evaporation Losses"** and **"Seepage Losses"** are also described as the amount of water it takes to keep the pond full.

"Seepage Loss" is one of the most overlooked volumes in the **"Storage Component."** It can also be the largest contributor to the **"Storage Component."** When you initially fill a pond that sits above the water table, the pond will lose water. When the soil becomes saturated with water, the **"Seepage Rate"** drops to a steady state. The **"Seepage Rates"** used in this spreadsheet are determined using the saturated soil.

"Evaporation Loss" is simply the amount of water that evaporates from the surface area of the pond, minus the precipitation to the extent it offsets evaporation. We use the evaporation rates described in the University of Idaho Evapotranspiration Web Page. The evaporation web page accounts for variability in evaporation rates throughout the year. The reason that we use a "0" on all negative monthly values from the web page is to show that precipitation exceeded evaporation during that time period, and credit is not given for additional precipitation.

Components of a Storage Water Right

Water rights can also have a **"From Storage"** component. Generally, the **"From Storage"** component is limited to the capacity of the pond. However, there are times that the pond is filled and emptied, refilled and emptied several times if the permit allows. When a pond is filled and emptied several times, this is known as **"Multiple Fills."** This spreadsheet has a space to account for the **"Multiple Fills."** To figure out the additional volume for a **"Multiple Fill"** situation, you simply take the total amount of water needed to supply the **"From Storage"** component and subtract the **"Pond Capacity"** to determine the additional water needed to fulfill the **"Multiple Fill"** requirement. This methodology would leave the water user with a depleted pond at the end of his yearly usage. If the the owner wants to leave the pond full year round, the **"From Storage"** volume should be considered an addition to the **"Pond Capacity."** If this is the case, this needs to be well documented in the file.

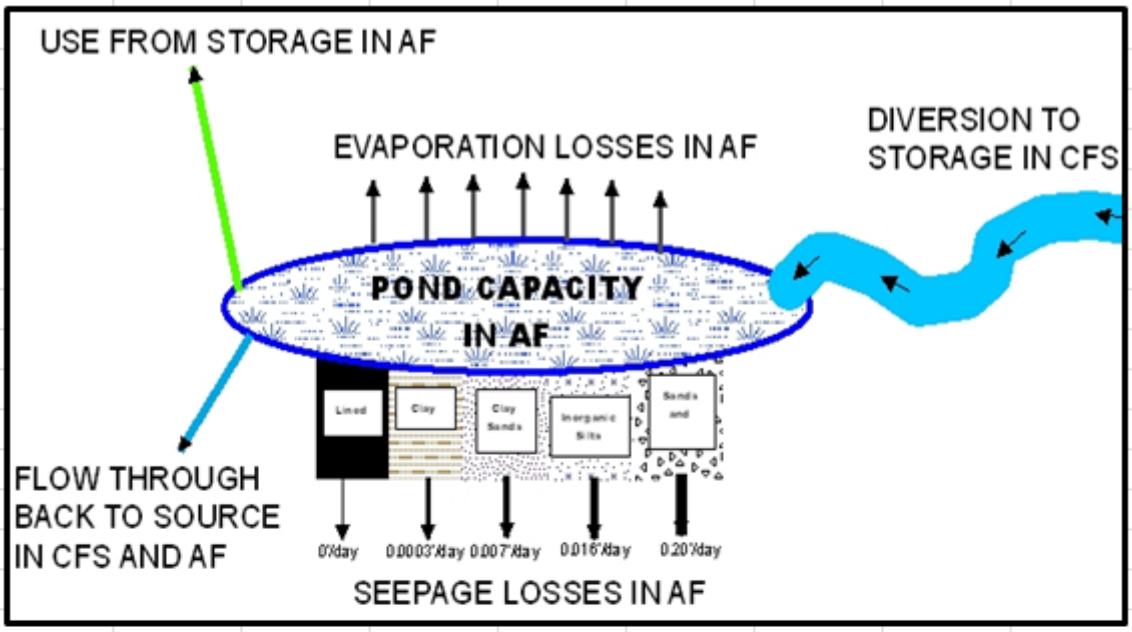
Calculating the **"Total Volume Required"** for storage is done by simply adding the **"Pond Capacity"** plus the **"Seepage Losses"** plus the **"Evaporation Losses"** and any **"Multiple Fills."** It is important to ensure the total volume needed for the uses described in the water right are included. This avoids having to file a second water right application to cover the amount of water not covered by the original water right, which will take additional time and increase the cost of attaining a water right to cover all of the water users needs.

"Time to Fill a Pond" Functions

This spreadsheet has a couple of functions that allow the user to determine if the pond design has a chance of being successful. Please see below for a description of these functions.

"Minimum Maintenance Flow" allows the water user to see the minimum diversion rate that would be required to maintain the pond level in order to overcome seepage and evaporation losses. This is an important tool for agents reviewing the water right application to ensure that the proposal is reasonable. If the diversion rate that the applicant proposes can't maintain the pond, then the applicant should be contacted to discuss the design and intent of the application. This may avoid the need to file and process additional applications.

"Days Required To Fill The Pond" is another tool used to see if a proposed application for permit is reasonable. If it takes too long to fill the pond, the water user will either need to increase the rate of diversion to the pond, reduce the size of the pond, or find an alternate supply to fill the pond.



The Flow Through Component

Another component of a water right would be the **"Flow Through Component."** This component is the amount of water diverted into the pond that is not used for seepage, evaporation or from storage uses, and flows out of the pond back into the source it was diverted from. This use is generally used to keep the pond fresh and free from moss and from going stagnant. This component has a diversion rate and volume. The diversion rate is the amount of water flowing out of the pond, and the volume is calculated by determining the volume of water diverted out of the pond. This is obtained by multiplying the diversion rate by the number of days or hours the water flows through the pond.

If there is a **"Flow Though"** component, then you will need to add this to the Total Volume Required to achieve the total volume that is required for a water right.

Temperature

Though temperature calculations have not been included in this spreadsheet, the Department recognizes temperature as a valid water quality concern for some beneficial uses. For example, aesthetic fish ponds may need to be kept at a specific temperature to preserve aquatic life. At times, ponds may need to be kept full, at a low temperature to minimize evaporation when air temperatures are above average. For such uses, the applicant will need provide scientific justification for each request for additional diversion rate and volume related to temperature concerns.

Soil Classification with ArcMap

Alternative to Soil Classification with the NRCS Web Soil Survey

This spreadsheet has been designed by Idaho Department of Water Resources to determine the soil type and classification at the pond site.

This sheet is designed for users with access to ESRI ArcMap and corresponding Geographic Information System software.

External users will need to download the **PondSoils** layer from the IDWR website.

For IDWR employees, the filename and path for the **PondSoils** layer can be found here:
X:\Spatial\Soils\USCS\PondSoils.mdb

The **PondSoils** layer may also be accessed using the WRedit toolbar (Process > Base Layers > Soils).

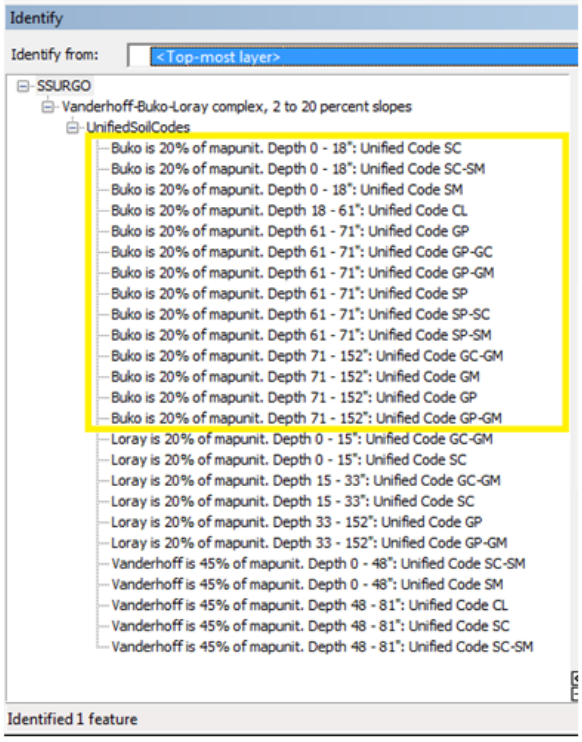
The **PondSoils** layer is comprised of two soils layers:

1. The **SSURGO** (Soil Survey Geographic database) layer contains detailed spatial and attribute data. It covers about $^{2}/_{3}$ of Idaho. If no SSURGO soil polygon is available for an area, the STATSGO soils are shown.
2. **STATSGO** is a more generalized soil layer. It covers about $^{1}/_{3}$ of Idaho. The STATSGO (State Soils Geographic database) layer will provide a few short remarks about the soil classification.

An example from each of the layers is shown below:

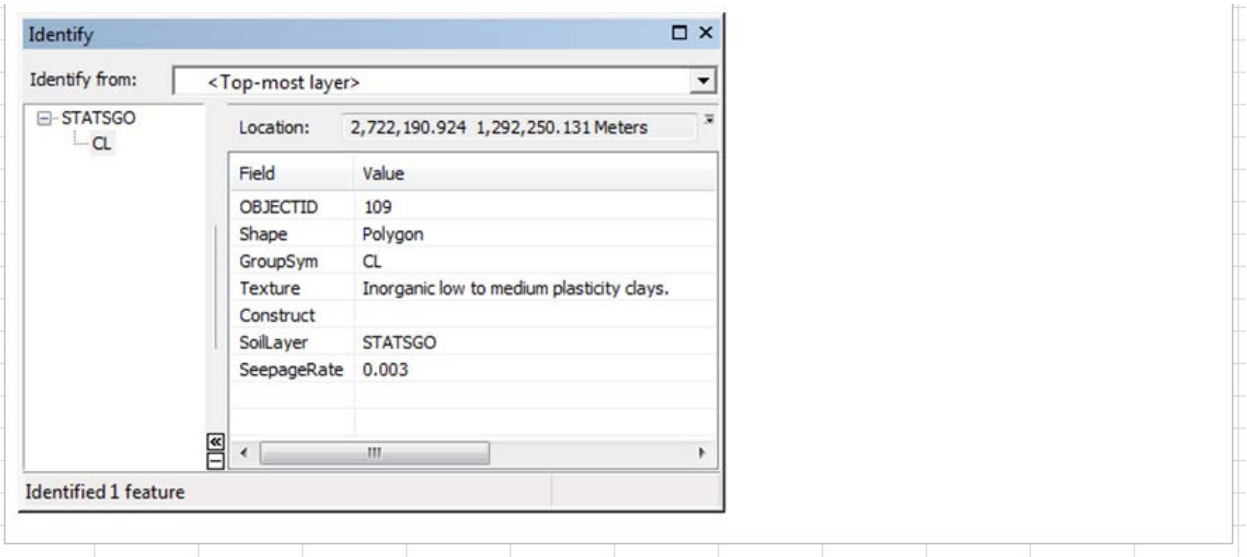
1. **SSURGO**

- The percent (%) each soil component comprises of the soil type is shown. The percentages shown for the soil components may not add up to 100%. Generally the remainder percentage indicates non-soil areas within the soil type (ie. rock outcroppings or bedrock etc) In the example below, the Buko soil component is highlighted; 15% of the soil type polygon may be rock.
- Each soil type (polygon) can have up to 3 soil components (ie. Vanderhoff-Buko-Loray complex, 2 to 20 percent slopes). There is no polygon feature which displays exactly where each soil component is located.
- Each soil component (ie. Buko) can have up to 6 soil horizons. There is no map feature for a soil horizon.
- Each soil horizon will have a depth range and Unified Soil Code (ie SP). When looking at the soil horizons, they may not sort in order of depth.



2. STATSGO

- The STATSGO (State Soils Geographic database) layer will provide the Unified Soil Code, soil texture, remarks on pond ponstruction (if applicable), and an average seepage rate (feet per day) in non-gravelly soils.
- For gravelly soils, a pond liner may be necessary. Even in gravelly soils, 0.2 feet per day is the maximum seepage rate allowable.



Soil Classification with Published Soil Surveys

Alternative to Soil Classification with the NRCS Web Soil Survey

This spreadsheet has been designed by Idaho Department of Water Resources to determine the soil type and classification at the pond site.

FILE NUMBER	xx-xxxxx	Print Page to PDF	User Input
REVIEWER	Joe Agent		Calculated value
DATE	1/1/00		Formula Explanations

County: Ada , Idaho

1. Navigate to the NRCS Soil Survey Website

NRCS Published Soil Surveys for Idaho found at:

http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=ID

Reviewer used the Survey entitled: Ada County Area

2. Use GIS and the Soil Survey to determine Soil Type

Utilize ArcGIS to Obtain the Soil Symbol (may be a number or abbreviated name)

The shapefile SSURGOOnePlan is found at X:\Spatial\Soils\SSURGOOnePlan\soils.shp

Soil Symbol (GIS field MUSYM): 116 What if my Soil Symbol is 999?* (see box

Find the name of the soil in the Soil Legend.

The Soil Legend is typically the last bookmark in the Soil Survey report.

The Full Name of This Soil is: Payette-Quincy complex, 15 to 30 percent slopes

3. Use the Soil Survey to determine the USCS Classification

Within the county NRCS Soil Survey report, click the bookmarked link to "Tables."

Scroll down until you reach a table called "Engineering Properties and Classifications" or "Engineering Index Properties." The table is ordered by soil symbol and the soil name.

Scroll down until you reach the soil which matches your soil symbol and name.

The table lists the USCS Classification for each depth in the soil profile.

Be sure to use the predominant soil classification for the pond depth where seepage occurs.

If the pond has a greater depth than the soil survey, use data from the lowest depth reported.

Pond Depth: 4 feet = 48 inches

The Soil Survey states the soil USCS Classification at 48 inches is SM

How to Read Soil Maps in the NRCS Soil Survey s

The reviewer may need to utilize the soil maps found within the NRCS Soil Survey. The desired bookmark will be named "Index to Map Sheets" or "Detailed Soil Map." The index page displays the county divided up into individual map sheets. Click the sheet which represents the location of the pond under examination. The **small** font number found in the center of each polygon is the Soil Symbol.

For example, the soil symbols shown below include 71, 72, 111, 112, 129, 131, 157, 159 and 178. In the map below, the number 32 is not a soil symbol.

***What if my Soil Symbol is 999 or null?**

The SSURGOOnePlan shapefile displays soil types for much of Idaho, but it does not cover all land area. No soil data is available in GIS for areas which display a Soil Symbol Number of 999.

Many of these null regions are located at Idaho's core - harshly mountainous land. The NRCS has not published Soil Surveys for these locations. On this sheet, type in USCS Soil Classification as "unknown." On the next sheet, a seepage loss rate of 0.2 ft. per day should be used.