

**IDAHO DEPARTMENT OF WATER RESOURCES  
REPORT ON ESTABLISHMENT OF THE  
PROPOSED TETON CREEK FLOOD CONTROL DISTRICT**

**INTRODUCTION**

On July 22, 2013, the Director of the Idaho Department of Water Resources (“IDWR”) received a Petition Requesting Establishment of a Flood Control District on Teton Creek in Teton County, Idaho (“Petition”). In accordance with Idaho Code § 42-3105, the Petition includes a detailed narrative describing the objectives and boundaries of the proposed district, descriptions of flood control plans, projects or improvements and how such plans may be implemented, and how the district will improve the local public health and welfare. The petition also included a list of the qualified voters in the district along with signatures from one-third or more of those qualified voters, a map of the proposed district with three divisions and recommended Board members for each division, and letters of support from property owners within the district and local government and non-government entities.

In accordance with Idaho Code §42-3106, IDWR has prepared this report summarizing its’ examination of the petition, map, and petitioner signatures, and its’ findings concerning the necessity and feasibility of the proposed Teton Creek Flood Control District (“TCFCD”).

**EXAMINATION OF PETITION AND PROPOSED BOUNARIES**

**A. Sufficiency of Petition**

IDWR staff obtained a list of registered voters from Teton County and using Geographic Information System (“GIS”) computer software determined which voters had addresses within the boundaries of the proposed TCFCD. IDWR found that a total of fifty-four (54) registered voters reside within the boundaries of the TCFCD and that twenty-seven (27), or fifty (50) percent of those registered voters signed the petition to establish the TCFCD. This exceeds the minimum one-third (1/3) signatures of qualified voters residing in the district required by Idaho Code §42-3105.

**B. District Boundaries and Map**

Attachment B of the petition includes a map showing the boundaries of the proposed TCFCD and the recommended divisions within the district. Idaho Code § 42-3105 requires that a proposed flood control district be divided into not less than three (3), nor more than nine (9) divisions to provide adequate representation to all of the interests within the district. The map accompanying the petition shows three district divisions named Upper, Middle and Lower. The petition identifies and recommends one representative from each division to serve as a commissioner of the district. The recommended division commissioners include William Belk (Upper Division), Robert McKittrick (Middle Division), and Aaron McKee (Lower Division). Each of the three recommended commissioners is a resident and qualified voter within their respective divisions. The map attached to this report in Attachment A shows the location of the three divisions.

The Petition indicates that the district boundary includes all parcels wholly or partly within the approximate location of the 1% annual chance (100 year or base) flood hazard zone as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) of Teton Creek, and all parcels in subdivisions or other community developments owning portions of Teton Creek as common area, from the Idaho-Wyoming state line to downstream of Idaho Highway 33. Teton Creek crosses the lower district boundary at a distance of about 0.43 miles downstream and southwest of Highway 33, and about 2.4 miles northeast of the confluence with the Teton River (about 4.4 stream miles). The total area of the proposed TCFCD is approximately 1,400 acres, or about 2.2 square miles. There are a significant amount of residential lots and developments along Teton Creek within the TCFCD between the state line and Highway 33. There are just a few structures or improvements and only two land owners within the TCFCD below Highway 33.

A detailed Flood Insurance Study (FIS) was completed for Teton County, Idaho in 1988 by FEMA. The FIS includes the 100 year and 500 year (0.2% annual chance) flood insurance rate zones for selected streams and rivers in Teton County, including Teton Creek. As shown on the current FIRM for Teton Creek, Zone AE is the flood insurance rate zone that corresponds to the 100 year floodplain that is determined in the FIS by detailed hydraulic analyses and shows base flood elevations at selected intervals.<sup>1</sup> Zone A is the rate zone that corresponds to the 100 year floodplain that is determined in the FIS by approximate methods or without detailed hydraulic analyses. No base flood elevations or depths are shown for Zone A. Zone X (shaded) is the flood insurance rate zone for areas between the limits of the 100 year base flood and the 500 year flood. Areas of minimal flood hazard, which are areas outside of the special mapped flood hazard areas and higher than the elevation of the 500 year flood, are labeled Zone X (unshaded).<sup>2</sup> The detailed Zone AE with base flood elevations exists for Teton Creek between the state line and the Highway 33 Bridge. Zone A rate areas are provided for Teton Creek below the Highway 33 Bridge and along Spring Creek.

IDWR believes that the method used for delineating the TCFCD boundary described in the Petition is reasonable even though it results in the inclusion of some parcels where only minor portions of the parcels may intersect the 100 year flood hazard zones (Zone AE or A). In accordance with the provisions of Idaho Code § 42-3115, the entirety of each parcel included within the flood control district is subject to assessment. The 100 year mapped flood zone was merely used as a tool to establish the proposed boundaries of the district. The 100 year flood hazard zone is not required to be used as the basis of establishing the boundary of the district nor does it limit the amount of land or number of acres in a parcel that is subject to flood control district assessments.

IDWR notes that while land owner parcels intersecting the 100 year mapped flood insurance rate zones for Teton Creek were used as the basis for delineating the TCFCD boundary, the resulting boundary also includes a portion of the 100 year mapped flood zone for Spring Creek, which is tributary to Teton Creek. The confluence of Teton Creek and Spring Creek is downstream of Highway 33 and less than one-quarter mile south of the TCFCD boundary. The inclusion of part of the Spring Creek mapped flood zone does not appear to be intentional but rather a product of

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<sup>1</sup> Flood Insurance Rate Study, Teton County, Idaho and Incorporated Areas. Federal Emergency Management Agency (FEMA), August 4, 1988, p. 24.

<sup>2</sup> FEMA, National Flood Insurance Program (NFIP) Flood Zones – NFIP Policy Index – Definitions/Descriptions. Web. 9/4/2013 < <http://www.fema.gov/floodplain-management/flood-zones>>.

Spring Creek lying within parcels that overlap portions of the Teton Creek 100 year mapped flood zone. The Petition does not identify any flood control projects or plans on Spring Creek.

A close examination of the FEMA 100 year mapped flood zone indicates that portions of this zone lie outside the proposed TCFCD boundary. Specifically, areas of the 100 year flood zone not included in the district boundary include portions of the following legal descriptions:

05N46E30NWNW  
05N46E30SWNW  
05N45E25SENE  
05N45E25NESE  
05N45E25NWSE  
05N45E25SWSE  
05N45E35NESE

IDWR further notes that there are a number of 500 year flood zone (shaded Zone X) delineations in the Teton Creek FIRM that are also within the proposed TCFCD. These delineations typically appear as fairly small doughnut holes or polygons ranging in size from less than one-half acre to over 10 acres and surrounded by the 100 year floodplain boundaries (Zone A or AE). IDWR has found a relatively small number of parcels that lie wholly within these 500 year flood insurance rate zone areas. All other parcels lying within these 500 year flood zone delineations also overlap or lie within the 100 year flood boundary. Although some parcels may be entirely situated within a 500 year mapped flood zone, those parcels are nonetheless included within the proposed TCFCD.

The FEMA Teton County FIS shows the estimated peak discharge-drainage area relationships for Teton Creek at the Highway 33 Bridge. For the 45.6 square mile drainage area of the creek above the bridge, peak discharges are given for the 10 year, 50 year, 100 year and 500 year flood events as follows:

<u>Flood Event</u>	<u>Peak Discharge (cfs)</u>
10 year	780
50 year	1,450
100 year	2,050
500 year	3,550

Historical stream flow or stream gage records for Teton Creek are limited to one stream gage operated by the United States Geological Survey (“USGS”) from June 1, 1946 to October 31, 1952. The gage site had a drainage area of about 33.8 square miles and was located in Wyoming about 4.2 miles east of the Idaho-Wyoming state line and about 1.5 miles upstream of Mill Creek. The peak discharge during this approximate six year period was 1,030 cfs on June 6, 1952. The low annual peak discharge for the six year gage record was 780 cfs on June 16, 1946. The mean annual discharge for the period of record was 110 cfs. The USGS conducted seven miscellaneous stream flow measurements near the former gage site between March 27, 2013 and September 30, 2013. The measured flows ranged from a low of 8.75 cfs on March 27, 2013 to a high of 169 cfs on July 8, 2013.

### **C. Water Rights within Proposed District**

IDWR reviewed the number and types of water rights located within the proposed TCFCD having a source of water from Teton Creek or tributaries to Teton Creek. The list of water rights may be found in Attachment B of this report.

There are a total of 34 surface water rights that have one or more points of diversion from Teton Creek or tributary sources within the proposed district. All but two of the 34 water rights include irrigation as a purpose of use while the two remaining rights are limited to in-stream livestock water use. Six of the 34 rights list Spring Creek as a source of water including the two in-stream stock water rights, two rights list an Unnamed Stream tributary to Teton Creek, and one right is from Springs tributary to Teton Creek. The remaining 25 rights are diverted from Teton Creek. One of these 25 rights is diverted from Teton Creek below Highway 33 while the remaining 24 rights are diverted from Teton Creek among a total of five irrigation diversions located upstream of Highway 33, including the Central Teton Canal near the state line, the Price-Fairbanks Canal and the Y near Ski Hill Road (aka. the West Channel of Teton Creek).

### **D. Teton Creek - State Protected River Status**

Approximately three miles of Teton Creek from the Highway 33 Bridge to the confluence with the Teton River is a protected waterway and designated as a Recreational River by the Idaho Water Resource Board (“IWRB”) in the Comprehensive State Water Plan for the Henrys Fork Basin (1992). Pursuant to Idaho Code § 42-1731(9), a Recreational River is “a waterway which possesses outstanding fish and wildlife, recreation, geologic or aesthetic values, and which might include some man-made development within the waterway or within the riparian area of the waterway.”

In accordance with Idaho Code § 42-1734A(6), the IWRB may prohibit certain activities on a waterway designated as a Recreational River. In the Henrys Fork Plan, the IWRB prohibited the following activities on Teton Creek from the Highway 33 Bridge to the confluence of the Teton River:

- Construction of dams or impoundments;
- Construction of hydropower projects;
- Dredge or placer mining;
- Mineral or sand and gravel extraction within the streambed.

Additionally, stream channel alterations are prohibited on Teton Creek below Highway 33 “except those necessary to maintain diversion works, fishery enhancement facilities and managed stream access facilities; for the maintenance of private property; for new diversion works; and for public agencies to construct public access facilities and fishery enhancement facilities. New private access facilities may be allowed with IWRB approval.”<sup>3</sup>

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<sup>3</sup> Idaho Water Resource Board Comprehensive State Water Plan: Henrys Fork Basin. December, 1992, p 176.

## **NECESSITY AND FEASIBILITY/PRACTICALITY OF PROPOSED DISTRICT**

Idaho Code § 42-3102 declares that it is the policy of the state to “provide for the prevention of flood damage in a manner that is consistent with the conservation and wise development of our water resources and thereby to protect and promote the health, safety and people of this state.” Chapter 31, Title 42 of the Idaho Code provides authority for the organization of flood control districts as a tool to help execute this state policy.

As mentioned in the Introduction section of this report, the Petition includes a detailed narrative describing the objectives of the proposed district, descriptions of flood control studies and projects, how such plans may be implemented, and how the district may improve the local public health and welfare. Appendix C of the Petition outlines specific studies that have been completed to prioritize stream channel projects and/or provide recommendations to stabilize channel head-cutting or erosion in specific stream reach locations. Several projects are identified that have been completed or are in progress towards completion including a bridge replacement, stabilization of eroding stream banks to protect property, and removal of log jams and debris that have either caused flooding or may cause flooding and property loss. These projects have been addressed through the combined efforts of local landowners, developers, conservation groups and local, regional and federal government agencies. IDWR has approved or permitted about 15 Stream Channel Alteration Applications on Teton Creek since 2007 related to these same cooperative group projects or other individual private property projects. The Petition identifies similar future projects and studies to be championed under the leadership of the TCFCD that will benefit both private and public properties and infrastructures. The bridge projects described in the Petition (one completed and one future project) involve public bridges owned and operated by the City of Driggs. The Petitioners anticipate that formation of the TCFCD will enable the district to secure matching funds for future projects and on-going annual responsibilities.

IDWR is aware that certain illegal and significant stream channel alteration activities occurred on Teton Creek between the state line and Highway 33 some twenty years ago. IDWR further understands that such activities have resulted in streambed head-cuts, increased erosion and sedimentation, and either reduced connectivity or increased flow to side channels and adjacent floodplains. Some of the stream channel alteration permits issued by IDWR in recent years are directly related to consequences caused by the past unauthorized channelization activities. Water rights records on file at IDWR indicate that the holders of irrigation rights from Teton Creek perform regular channel maintenance work to keep the flow of water in certain side channels of the creek and at the authorized water rights points of diversion. Some of this work is necessary due to the head cutting and erosion caused by the past illegal stream channel actions.

The types of projects and studies described in the Petition that have either been completed or proposed for the future are reasonable activities that may be conducted by a flood control district organized in accordance with Chapter 31, Title 42 of the Idaho Code. A flood control district is an appropriate and logical entity to carry out such projects in order to protect local public and private property, and benefit the local public health and welfare. Additionally, as the Petition suggests, a flood control district may provide a more coordinated approach to local flood control and related stream protection issues although such a district would not preclude individual property owners from pursuing lawful stream channel projects on their own land.

IDWR staff has communicated personally with representative from the City of Driggs and the Teton County Commission. The City and County Commission have either worked with local landowners and conservation groups on several of the completed and on-going projects described in the Petition or are familiar with the projects. The City and County Commission have been aware of the efforts of landowners to form the TCFCD and have submitted letters supporting these efforts.<sup>4</sup>

Based on the foregoing facts and review of the Petition, IDWR finds that the formation of the TCFCD provides a practical entity under Idaho law that is reasonably necessary to aid in the prevention of flood damage in a manner that is consistent with the conservation and wise development of water resources and thereby protect and promote the health, safety and people of the City of Driggs, Teton County and the State of Idaho.

## **SUMMARY AND CONCLUSIONS**

IDWR staff has reviewed the Petition to establish the TCFCD and finds that the Petition meets the requirements of Idaho Code §42-3105 as follows:

- The Petition has been signed by more than one-third (1/3) of the qualified voters residing in the district;
- The Petition adequately describes the objectives sought for the creation of the flood control district;
- The Petition describes the proposed boundaries of the district, including a map depicting the district boundaries and the recommended minimum three divisions, and the name of one landowner and qualified voter from each of the three divisions recommended or nominated as commissioners;
- The Petition describes a number of proposed studies and projects that provide reasonable and acceptable flood control methods that will help accomplish the stated objectives of the district, and benefit local public and private landowners and water users within the proposed district;
- The Petition contains information that supports establishment of a flood control district as a reasonable approach and tool available to local landowners and water users to promote the health, welfare and revenue of those property owners and the surrounding local communities.

IDWR staff finds that the proposed TCFCD is reasonably necessary and a practical organization to provide flood control and protect both public and private property and promote the health and welfare of landowners and water users within the district and the surrounding community.

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<sup>4</sup> See letter from Dan Powers, Mayor, City of Driggs (undated), and letter dated January 9, 2012 from Teton County Board of Commissioners dated January 9, 2012, Appendix F of TCFCD Petition.

## **REFERENCES**

Allen, Michelle Mahoney and other Petitioners. Petition to the Director of the Idaho Department of Water Resources to Establish a Flood Control District on Teton Creek in Teton County, Idaho. July 19, 2013.

Federal Emergency Management Agency. Flood Insurance Rate Study, Teton County, Idaho and Incorporated Areas. August 4, 1988.

Federal Emergency Management Agency. Flood Insurance Rate Map, Teton County, Idaho. Map Nos. 16081C0092C, 16081C0093C and 16081C0094C. August 4, 1988.

Idaho Water Resource Board. Comprehensive State Water Plan: Henrys Fork Basin. December, 1992.

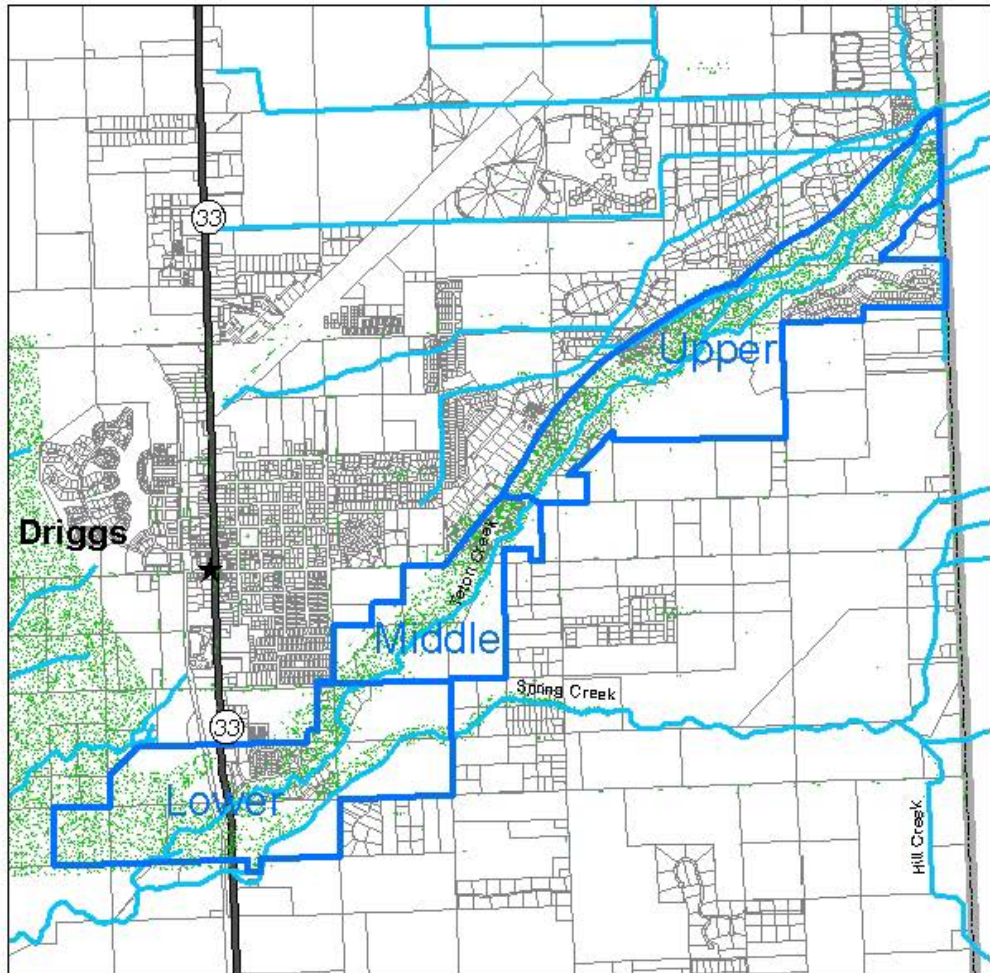
United States Geological Survey, Idaho Water Science Center. Surface Water Resources Data, Idaho. Annual Statistics and Peak Streamflow for Station 13051500, Teton Creek near Driggs, Idaho.

## **ACKNOWLEDGEMENTS**

This report was authored by Tim Luke, IDWR Water Compliance Bureau Chief, with assistance from Linda Davis, IDWR GIS Section Manager, Kimi White, IDWR Legal Assistant, and John Homan, IDWR Deputy Attorney General.

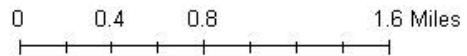
ATTACHMENT A

# Proposed Teton Creek Flood Control District



## Legend

- TCFCD Boundary & Divisions
- Streams/Ditches
- State Highway
- State Boundary
- Taxlots
- FEMA 100-yr Flood Zone





## ATTACHMENT B

### Water Rights with Points of Diversion within Proposed Teton Creek Flood Control District

Water Right Number	Owner	Basis	Source	Tributary Of	Priority Date	Div Rate (cfs)	Usage	Diversion Name
22-153	HUNTSMAN SPRINGS INC	Decreed	TETON CREEK	TETON RIVER	6/1/1899	0.8	IRRIGATION, MITIGATION	price fairbanks canal
22-164	CRYSTAL SPRINGS LAND & CATTLE CO INC	Decreed	SPRINGS	TETON RIVER	6/1/1899	1.4	IRRIGATION, WILDLIFE STORAGE, RECREATION STORAGE, DIVERSION TO STORAGE	
22-184A	ESTATE OF GEORGE H SPENCER	Decreed	TETON CREEK	TETON RIVER	6/1/1898	0.2	IRRIGATION	price fairbanks canal
22-249A	ASPEN MEADOWS SUBDIVISION	Decreed	TETON CREEK	TETON RIVER	6/1/1899	0.9	IRRIGATION	price fairbanks canal
22-249B	WESTERN TETON DEVELOPMENT LLC	Decreed	TETON CREEK	TETON RIVER	6/1/1899	1.07	IRRIGATION	price fairbanks canal
22-500C	GLENDA SUE TAYLOR	Decreed	SPRING CREEK	TETON CREEK	6/1/1886	0.66	IRRIGATION	
22-500D	CREEKSIDE MEADOWS LLC	Decreed	SPRING CREEK	TETON CREEK	6/1/1886	0.2	IRRIGATION, WILDLIFE STORAGE, DIVERSION TO STORAGE	
22-2135	PAUL G GILROY	Decreed	SPRING CREEK	TETON CREEK	11/15/1950	1.38	IRRIGATION	
22-2153A	PAUL G GILROY	Decreed	TETON CREEK	TETON RIVER	2/22/1954	1.5	IRRIGATION	
22-11760	JAMES MICHAEL TAYLOR	Decreed	SPRING CREEK	TETON CREEK	6/1/1886	0.02	STOCKWATER	
22-11823	THE GUY HILLMAN FAMILY CREDIT SHELTER TRUST	Decreed	UNNAMED STREAM	TETON CREEK	4/15/1948	0.2	IRRIGATION	
22-11970	ALVIE C CHRISTENSEN	Decreed	TETON CREEK	TETON RIVER	4/1/1938	1.96	IRRIGATION	
22-11981	HUNTSMAN SPRINGS INC	Decreed	TETON CREEK	TETON RIVER	4/15/1925	12	IRRIGATION	price fairbanks canal
22-12018	LES VAN LEERDAM	Decreed	TETON CREEK	TETON RIVER	5/31/1952	0.05	IRRIGATION, STOCKWATER	the Y on ski hill road
22-12057	JOHN E MATTHEWS	Decreed	TETON CREEK	TETON RIVER	10/31/1903	1.2	IRRIGATION	central teton canal headgate

## ATTACHMENT B

### Water Rights with Points of Diversion within Proposed Teton Creek Flood Control District

Water Right Number	Owner	Basis	Source	Tributary Of	Priority Date	Div Rate (cfs)	Usage	Diversion Name
22-12277	V RICH CHRISTENSEN	Decreed	TETON CREEK	TETON RIVER	10/31/1903	0.24	IRRIGATION	central teton canal headgate
22-12279	V RICH CHRISTENSEN	Decreed	TETON CREEK	TETON RIVER	6/1/1899	0.12	IRRIGATION	price fairbanks canal
22-12575	PAUL G GILROY	Decreed	SPRING CREEK	TETON RIVER	6/1/1886	1.6	IRRIGATION	
22-13018	PAUL G GILROY	Decreed	SPRING CREEK	TETON CREEK	6/1/1886	0.05	STOCKWATER	
22-13245	IDAHO HOLDINGS LLC	Decreed	TETON CREEK	TETON RIVER	4/15/1938	2	IRRIGATION	the Y on ski hill road
22-13246	JAMES W PRICE	Decreed	TETON CREEK	TETON RIVER	4/15/1938	3.03	IRRIGATION	the Y on ski hill road
22-13337	TETON LAND LLC	Decreed	TETON CREEK	TETON RIVER	10/31/1903	2.4	IRRIGATION	central teton canal
22-13338	TETON VALLEY ASSOC LLC	Decreed	TETON CREEK	TETON RIVER	10/31/1903	1.6	IRRIGATION	central teton canal
22-13610	JAMES W PRICE	Decreed	TETON CREEK	TETON RIVER	6/1/1899	0.47	IRRIGATION	price fairbanks canal
22-13611	HUNTSMAN SPRINGS INC	Decreed	TETON CREEK	TETON RIVER	6/1/1899	1.13	IRRIGATION	price fairbanks canal
22-13613	HUNTSMAN SPRINGS INC	Decreed	TETON CREEK	TETON RIVER	4/1/1987	0.21	IRRIGATION	price fairbanks canal
22-13626	EDITH M HARROP	Decreed	TETON CREEK	TETON RIVER	4/15/1938	0.1	IRRIGATION	the Y on ski hill road
22-13636	GARY L HENRIE	Decreed	TETON CREEK	TETON RIVER	4/15/1938	0.47	IRRIGATION	
22-13637	CINDY WESTON	Decreed	TETON CREEK	TETON RIVER	4/15/1938	1.6	IRRIGATION	the Y on ski hill road
22-13639	KEVIN THIBEAULT	Decreed	TETON CREEK	TETON RIVER	4/15/1938	0.46	IRRIGATION	
22-13748	JAMES WILLIAM BEARD & LEONA BEARD TRUST	Decreed	TETON CREEK	TETON RIVER	4/15/1940	4.42	IRRIGATION	
22-13787	BLACKFOOT FARMS LLC	Decreed	TETON CREEK	TETON RIVER	10/31/1903	3.24	IRRIGATION	central teton canal
22-13788	HUNTSMAN SPRINGS INC	Decreed	TETON CREEK	TETON RIVER	10/31/1903	8.35	IRRIGATION	central teton canal
22-13937	JAMES WILLIAM BEARD & LEONA BEARD TRUST	Decreed	UNNAMED STREAM	TETON CREEK	4/15/1940	1.95	IRRIGATION	