

**BEAVER CREEK  
METHOW RIVER CLOSED TRIBUTARY REPORT**

by

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and

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**August, 1991**

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## INTRODUCTION

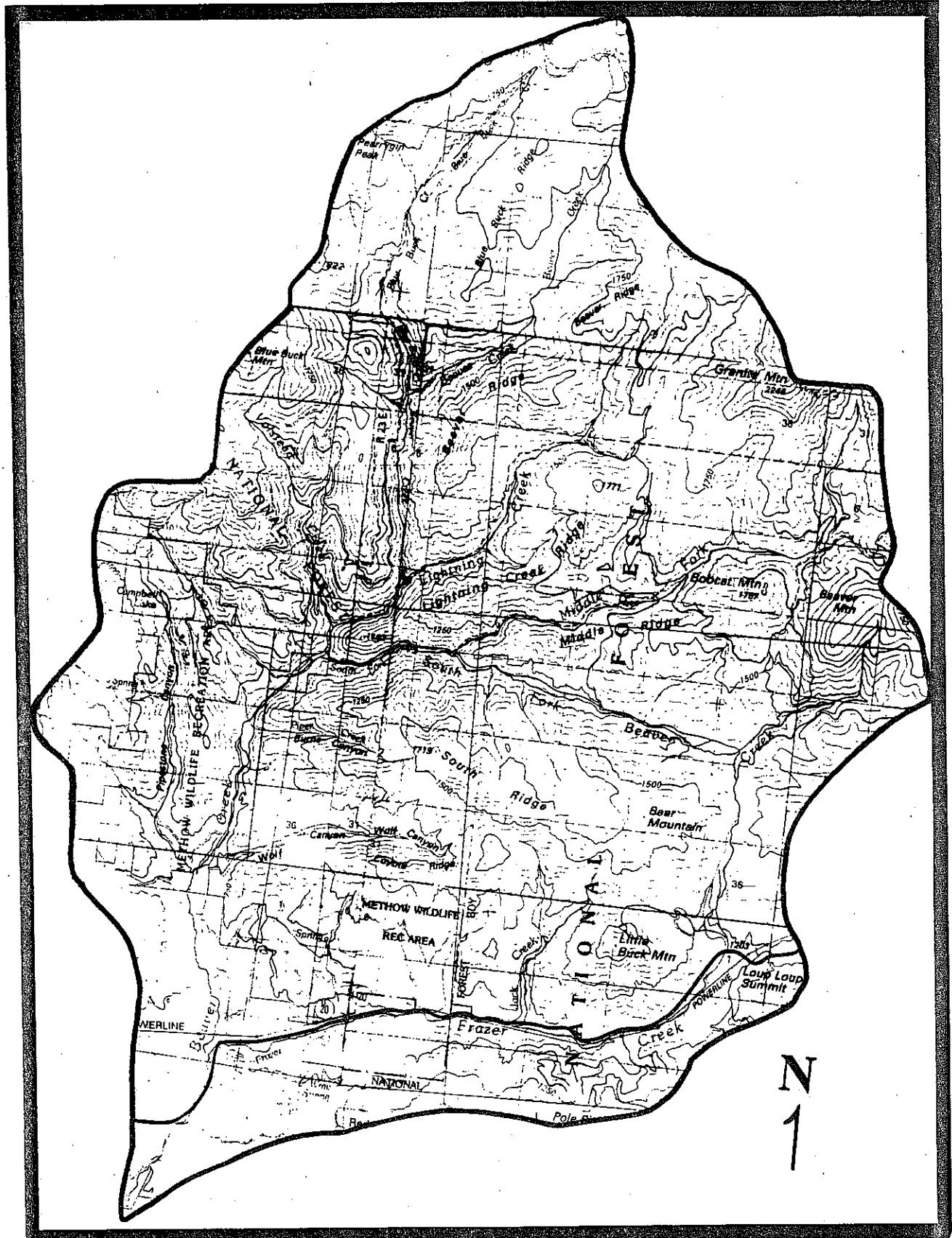
Ground water that feeds surface water is said to be in hydraulic continuity with the surface water body. Hydraulic continuity between ground and surface water results in a single, continuous system, instead of two or more discrete water regimes. Pumping from a well in hydraulic continuity with a stream reduces streamflow. The reduction in streamflow is either direct or indirect. Water **infiltrating from** the affected stream to the cone of depression created by the pumping well, is an example of direct continuity. Indirect continuity is illustrated by the **interception of ground water** by a pumping well, water that would otherwise flow to a stream. It does not matter if the intercepted water would have entered the stream adjacent the well site, or at a location farther down-channel. In both instances, indirect hydraulic continuity is in operation.

The sands and gravels deposited by the melting Pleistocene Epoch glaciers constitute the principal Methow Valley aquifer. The nature of the sediment influences the interaction of ground water with the Methow River and its tributaries. Information developed in the main valley from aquifer tests, seismic and resistivity surveys, well-level monitoring, and evaluation of sediment composition and distribution have established the extent of the sediments' porosity and permeability. These sands and gravels are so porous and permeable that a high degree of hydraulic continuity is virtually guaranteed. The similarity between the sediments in the main valley and those of the tributary basins has led Department of Ecology staff to the judgement of corresponding ground water behavior. Ecology staff concluded that ground water in the unconsolidated sediments of the tributary basins is, more likely than not, in hydraulic continuity with the tributary streams.

The purpose of this report is to support the Ecology Permanent Rule Making process with substantive, verifiable information on the hydrogeologic conditions of the Beaver Creek basin, with emphasis upon the conditions of hydraulic continuity that apply there.

## RESEARCH RESOURCES AND METHODS

To determine the hydrogeologic circumstances of the Methow tributaries subject to the Emergency Rule, especially hydraulic continuity, we examined the extent and composition of the glacial-fluvial sediments within each basin. To accomplish this task, we examined topographic and geologic maps of the tributary basins, including Beaver Creek (Figure 1). Logs of wells drilled within the basins furnished sediment thickness, depth to bedrock, and estimates of water availability. We made field visits to each basin, noting sediment exposure and character, and bedrock outcrop. We sought to locate any geologic structures that might isolate ground water from surface water. We conducted at least one stream discharge measurement on each of the tributaries.



**Figure 1. BEAVER CREEK DRAINAGE BASIN**

## BEAVER CREEK

Draining the west flank of the mountainous divide between the Methow and Okanogan River Valleys, the Beaver Creek basin has an area of 62 square miles and an average elevation of 4,800 feet. Principal tributaries of Beaver Creek are, from south to north, Frazer Creek, Wolf Canyon Creek, South Fork Beaver Creek, Middle Fork Beaver Creek, Lightning Creek, and Volstead Creek.

Privately owned land in the Beaver Creek basin is concentrated in the bottoms of Frazer Creek and Beaver Creek's main fork, and along the west side of the highland forming the west flank of the Beaver Creek drainage. State Department of Wildlife, Department of Natural Resources, and U.S.D.A. Forest Service-managed lands comprise the remainder of the basin, with the National Forest as the largest landholder of the high ground to the north and east.

### Geology

The headwaters of Beaver Creek's west-flowing tributaries all rise on the igneous and metamorphic rocks of the Okanogan Complex. These rocks are leucocratic tonalites, trondhjemites, and gneisses, outcropping in linear bands that strike north-northwest. The controlling structure of these crystalline units is the Chewack-Pasayten Fault, the eastern boundary to the Methow structural basin. The fault, mapped as a west-verging thrust at Coyote Ridge can be traced north to a location immediately downstream from the Beaver Creek Guard Station. The fault separates Coyote Ridge Quartz Diorite Gneiss, on the upper, east plate, from Cretaceous-Jurassic aged Frazer Creek Quartz Diorite and the Red Shirt Gabbro of the same age, on the lower plate. The fault disappears beneath the valley fill as it crosses Beaver Creek, but can be followed north-northwest across Section 14, T. 34 N., R. 22 E.W.M. The fault steepens along this portion of its length and its apparent displacement is altered, from a westerly thrust to right lateral strike-slip. The Coyote Ridge rocks on the east side of the fault are, at this location, faced by Paleocene aged Pipestone Canyon Formation, on the west side. The Chewack-Pasayten Fault continues into the Bear Creek basin, and beyond. Except for about 2 square miles of the Pipestone Canyon Formation that lies east of the highest point on Balky Hill Road, the southern portion of the Beaver Creek basin is underlain by the Frazer Creek Quartz Diorite intrusive.

Glacial-fluvial sediments blanket most of the Beaver Creek basin. The deposits range from unsorted till to sandy gravel, and extensive sequences of clay are reported on basin well logs. The thickness of the sediments varies with location. In lower Volstead Creek, a well log records 170 feet of clay and sandy gravel. Three wells in Wolf Canyon show gravel deposits between 45 and 95 feet thick. Along Balky Hill Road near the middle of Section 34, two wells have drilled through 138 feet of sandy gravel. South of this location, 2/3 of a mile, sandy gravel and clay-rich gravel deposition is between 48 and

145 feet thick. In the lower part of Beaver Creek's valley, wells in Sections 11 and 12 penetrate clays and gravels between 108 and 130 feet thick. The bottom of the Frazer Creek canyon records sediment thicknesses from 13 to 47 feet. Up-slope from the creek bottom, the clays, gravelly clays, and sandy gravels are from 90 to 160 feet thick.

### Climate

The climate of the Methow River basin is characterized by great variations in temperature and precipitation from place to place. In general, the greatest precipitation and lowest temperatures occur in the higher mountains. Some localities near the crest of the Cascade Range receive more than 80 inches of precipitation a year, while the valley floor near Pateros receives only about 10 inches a year. Average annual precipitation for the entire basin is about 32 inches. Precipitation for the Beaver Creek basin, due to its location and elevation, is probably between 22 and 28 inches per year..

### Streamflow

The average monthly flow of Beaver Creek was estimated in a 1976 study of the Methow River Basin (Richardson, 1976). The estimated flows in cubic feet per second (cfs) are:

| Jan  | Feb  | Mar  | Apr  | May | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
|------|------|------|------|-----|------|------|------|------|------|------|------|
| 10.9 | 12.3 | 19.8 | 51.8 | 120 | 83.5 | 27.2 | 12.6 | 11.3 | 10.7 | 10.7 | 10.4 |

On July 19, 1991, we measured a discharge for Beaver Creek at its junction with Highway 20, of 14.6 cfs. This discharge lies between the above estimates for July and August. On August 30, 1991, we measured a discharge of 1.96 cfs at the same location. This is considerably below the August average. Unlike many of the other tributary basins, the USGS has made several miscellaneous measurements of Beaver Creek streamflow during the past forty years. Thus the streamflow regime of Beaver Creek is better documented than other tributary streams.

### Ground Water

Alluvial and glacial deposits, ranging from only a few feet to several hundred feet in thickness, constitute almost the entire ground-water reservoir in the Methow River basin. The deposits occur in greatest thickness principally in the bottoms and along the lower slopes of the major valleys. Sand and gravel layers in these deposits comprise the principal aquifers, and yield appreciable quantities of water to wells. In the Beaver Creek basin, the deepest sediments occur in the drainage bottoms. Drilling logs for several Beaver Creek wells reveal sequences of sand and gravel, clay, and gravel-rich

clay, up to 170 feet thick. The highest water yield estimates for Beaver Creek wells completed in the sedimentary deposits are also from valley bottom wells, with reported water production estimates of between 20 to 40 gpm. Sedimentary wells not located in a drainage bottom report water yield estimates of 5 to 15 gpm. Field work in the Frazer Creek canyon reveals thick, bedded units of clay-rich silt and sand. These glacial lake sediments were probably laid down in an ice-dammed glacial lake that pooled at the confluence of Frazer and Beaver Creeks. The ground-water underflow to the Methow River probably increases below Frazer Creek. The possibility of thick clay sequences constraining hydraulic continuity between the ground water and Beaver Creek increases downstream of Frazer Creek.

Of the total of 26 wells drilled in the Beaver Creek basin, for which Ecology has drilling logs, 12 penetrate to the subsediment bedrock. Nearly every one of these 12 is completed in the igneous quartz diorite of the Frazer intrusive. A 460 foot deep well in the SW 1/4 of Section 13, T. 33 N., R. 22 E.W.M., drilled through 140 feet of clay before encountering bedrock and continuing for 320 feet. Bedrock wells produce water yield estimates between 1/8 and 20 gpm. A well located in Section 36, T. 34, R. 22 E.W.M. is drilled through 100 feet of igneous intrusive bedrock and produces a water yield estimate of 12 gpm. A neighboring well drilled 105 feet into the bedrock produces only 1 gpm. The presence of the thrust-faulted section of the Chewack-Pasayten Fault through this area, may exert some control on well production.

#### SUMMARY

Our office and field investigations have found that the glacial-fluvial sediments deposited in Beaver Creek are generally similar to those in the Methow Valley. We acknowledge the presence of clay deposits recorded in several Beaver Creek well logs. However, we learned of no specific situations where ground water was definitely isolated from Beaver Creek. If such conditions do occur, we believe them to be limited in spacial extent and confined to the lowest reach of Beaver Creek. We conclude that there exists a high degree of hydraulic continuity between the ground water of the glacial-fluvial sediments and Beaver Creek.

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METHOW TRIBUTARY REPORT

BEAVER CREEK

by

Darrell Monroe

and

Chrissie Caspar

August 1991



## REPORT OBJECTIVE

To provide to all interested parties a comprehensive overview of the Department of Ecology's records relating to water rights and claimed rights within the drainage basin of Beaver Creek. The facts presented in this report reflect the water rights and claimed rights within the basin as of August 10, 1991.

## SOURCE DOCUMENTS REVIEWED

The department and its predecessor agencies have been the official repository for water rights and related correspondence and documents since the State of Washington adopted the Surface Water Code in 1917, Chapter 90.03 Revised Code of Washington (RCW).

There have been several significant water resources management enactments since 1917. In 1945, the State Ground Water Code was adopted, RCW 90.44; and in 1967 the Water Rights Claim Registration Act was adopted, RCW 90.14. Under the authority of the Water Resources Act of 1971, RCW 90.54, the Methow River Basin Plan Chapter 173-548 Washington Administrative Code, was adopted December 28, 1976.

By authority of the Washington Administrative Code Chapter 173-548 (Water Resources Program In The Methow River Basin, WRIA 48), Beaver Creek from its mouth to headwaters was closed to further consumptive appropriation from May 1 to October 1 except for water (legally as prescribed by RCW 90.03 and 90.44) developed solely from added storage capacity within the basin. The basin management plan also requires the Department of Ecology to consider the interaction between surface and ground water during review of ground water applications.

The emergency closure dated February 5, 1991, ended direct application of the RCW 90.44.050 exemption to ground water developments in the Methow drainage basin, including this tributary basin.

Every recorded water right application for surface water or ground water and every Water Right Claim filed in accordance with RCW 90.14 were evaluated and tables of the data compiled from the records were developed. Many of the tabulated documents except for the claims have substantially more background records available at the Central Regional Office, Department of Ecology.

Straight tabulation of the water rights and claims is an overly simplistic approach and should be recognized as such. Tabulations do not include the various qualifiers that are often associated with the privilege to exercise the right. It, however, serves the general purpose of this report. Any one wanting specific interpretation of one of the water rights referenced should contact the Central Regional Office, Department of Ecology.

Appendix A contains the basic information pertaining to each certificate of water right issued as a result of a general adjudication of the basin. Additionally, the typical adjudication certificate contains water for domestic supply and stock watering.

Appendix B contains all surface water permits or certificates issued by the State of Washington within the drainage basin.

Appendix C contains all ground water permits or certificates issued by the State of Washington within the drainage basin.

Appendix D contains all water right claims filed under authority of RCW 90.14 within the drainage basin.

Appendix E contains all water rights applications or permits that were not perfected to a water right.

#### EVALUATION OF CLAIMS

The Department of Ecology recognizes that the final determination of the validity and extent of water right associated with a claim registered in accordance with RCW 90.14 ultimately lies with the Superior Court through the general adjudication process provided for by Sections 90.03.110 through 90.03.240 RCW. However, to meet our statutory obligations to regulate state waters and to make decisions related to applications for permit and applications for change of the various parameters of a water right or claim, we must in the course of business make an administrative judgement as to the probable extent of the water right associated with the water right claims.

At such time that the department evaluates the claims for probable extent and validity on an individual basis to carry out its administrative duties, the following criteria are considered:

- a. does the document describe a water use prior to the enactment of the water codes,
- b. extent of use at the time of the claim filing,
- c. the short form claim filings by the guidance set forth in RCW 90.14.051 are deemed to represent uses no greater than single or group domestic supply, stock watering, or irrigation of not more than  $\frac{1}{4}$  acre of non-commercial lawn and garden and not more than 5000 gallons per day total for all uses combined,
- d. has the use continued without relinquishment as defined by RCW 90.14.

## ADJUDICATION

Shortly after the enactment of the surface water code, the water rights of Beaver Creek and its tributaries were adjudicated in Okanogan Superior Court and Final Decree #3935 signed by Judge Hugo E. Oswald in open court on September 20, 1921. This was a general adjudication in the context of RCW 90.03. Ground water sources were not included in this adjudication.

In light of the general adjudication of surface waters described above that took place after the enactment of the Surface Water Code, the claims filed in accordance with RCW 90.14 for surface water sources within the Beaver Creek watershed should be expected to either represent redundant records to state issued certificates (adjudication certificates included) or unauthorized uses.

Department files contain numerous (almost annual) requests for and appointment of a stream patrolman as currently codified in RCW 90.08 to carry out the day-to-day regulation of water in accordance with the adjudication decree and guidance by the department. The record starts in 1947. Many years are regulated to Class 5 water (1891 priority in this basin) and in extreme years like 1977 even Class 3 (1989 priority in this basin) rights were prorated.

## APPENDIX A-ADJUDICATED WATER RIGHT CERTIFICATES

| PRI DATE     | WRIS #           | OWNER      | 1/4 1/4 | SECT | TOWN | RANGE | AUTH QI (CFS) | SOURCE       | AUTH USE |
|--------------|------------------|------------|---------|------|------|-------|---------------|--------------|----------|
| BEAVER CREEK |                  |            |         |      |      |       |               |              |          |
| 1/01/1888    | ADJCERT#212 (#1) | B J BATTIE | SESW    | 2    | 33   | 22    | .76           | BEAVER CREEK | I-37.79  |
| 1/01/1888    | ADJCERT#212 (#2) | B J BATTIE | SWSE    | 35   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/1888    | ADJCERT#212 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/01/1888    | ADJCERT#212 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/11/1888    | ADJCERT#213 (#1) | B J BATTIE | SESW    | 35   | 34   | 22    | .51           | BEAVER CREEK | I-25.57  |
| 1/11/1888    | ADJCERT#213 (#2) | B J BATTIE | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/11/1888    | ADJCERT#213 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/11/1888    | ADJCERT#213 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/11/1888    | ADJCERT#214 (#1) | B J BATTIE | SWSE    | 35   | 34   | 22    | .50           | BEAVER CREEK | I-25.09  |
| 1/11/1888    | ADJCERT#214 (#2) | B J BATTIE | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/11/1888    | ADJCERT#214 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/11/1888    | ADJCERT#214 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/1890    | ADJCERT#215 (#1) | B J BATTIE | SWSE    | 35   | 34   | 22    | .39           | BEAVER CREEK | I-19.7   |
| 1/01/1890    | ADJCERT#215 (#2) | B J BATTIE | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1890    | ADJCERT#215 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/01/1890    | ADJCERT#215 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#216 (#1) | B J BATTIE | SESW    | 35   | 34   | 22    | .56           | BEAVER CREEK | I-28.1   |
| 1/01/1891    | ADJCERT#216 (#2) | B J BATTIE | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#216 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#216 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/1893    | ADJCERT#217 (#1) | B J BATTIE | SWSE    | 35   | 34   | 22    | 1.14          | BEAVER CREEK | I-57.23  |
| 1/01/1893    | ADJCERT#217 (#2) | B J BATTIE | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1893    | ADJCERT#217 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/01/1893    | ADJCERT#217 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/1894    | ADJCERT#218 (#1) | B J BATTIE | SWSE    | 35   | 34   | 22    | .76           | BEAVER CREEK | I-37.76  |
| 1/01/1894    | ADJCERT#218 (#2) | B J BATTIE | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1894    | ADJCERT#218 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/01/1894    | ADJCERT#218 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/03      | ADJCERT#219 (#1) | B J BATTIE | SWSE    | 35   | 34   | 22    | .45           | BEAVER CREEK | I-22.26  |
| 1/01/03      | ADJCERT#219 (#2) | B J BATTIE | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/03      | ADJCERT#219 (#3) | B J BATTIE | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/01/03      | ADJCERT#219 (#4) | B J BATTIE | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |



8/20/91

APPENDIX A-ADJUDICATED WATER RIGHT CERTIFICATES

| PRI DATE     | WRIS #           | OWNER                    | 1/4 1/4 | SECT | TOWN | RANGE | AUTH QI (CFS) | SOURCE       | AUTH USE |
|--------------|------------------|--------------------------|---------|------|------|-------|---------------|--------------|----------|
| BEAVER CREEK |                  |                          |         |      |      |       |               |              |          |
| 1/01/03      | ADJCERT#220 (#1) | B J BATTIE               | SWSE    | 35   | 34   | 22    | .97           | BEAVER CREEK | I-48.66  |
| 1/01/03      | ADJCERT#220 (#2) | B J BATTIE               | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/03      | ADJCERT#220 (#3) | B J BATTIE               | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 1/01/03      | ADJCERT#220 (#4) | B J BATTIE               | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 4/26/04      | ADJCERT#221 (#1) | B J BATTIE               | SWSE    | 35   | 34   | 22    | .95           | BEAVER CREEK | I-47.43  |
| 4/26/04      | ADJCERT#221 (#2) | B J BATTIE               | SESW    | 2    | 33   | 22    |               | BEAVER CREEK |          |
| 4/26/04      | ADJCERT#221 (#3) | B J BATTIE               | SWSW    | 18   | 34   | 23    |               | BEAVER CREEK |          |
| 4/26/04      | ADJCERT#221 (#4) | B J BATTIE               | SWNE    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/1889    | ADJCERT#222      | C F BOLIN                | NWSE    | 14   | 33   | 22    | .16           | BEAVER CREEK | I-8      |
| 1/01/1889    | ADJCERT#223      | EDWARD BONING            | NENW    | 2    | 33   | 22    | .04           | BEAVER CREEK | I-2      |
| 1/01/1891    | ADJCERT#224      | EDWARD BONING            | NWSE    | 35   | 34   | 22    | 1.05          | BEAVER CREEK | I-52.41  |
| 1/01/1891    | ADJCERT#225 (#1) | W E BURNS                | NWSW    | 24   | 34   | 22    | .86           | BEAVER CREEK | I-42.95  |
| 1/01/1891    | ADJCERT#225 (#2) | W E BURNS                | NENE    | 26   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/01      | ADJCERT#226      | COMMERCIAL BANK OF TWISP | NWSW    | 9    | 33   | 23    | .26           | BEAVER CREEK | I-13.01  |
| 1/01/1889    | ADJCERT#227      | THOMAS H COON            | NENE    | 14   | 33   | 22    | .79           | BEAVER CREEK | I-39.7   |
| 1/01/1896    | ADJCERT#228      | X CORDELIER              | NWSE    | 35   | 34   | 22    | .58           | BEAVER CREEK | I-28.97  |
| 1/11/1896    | ADJCERT#230 (#1) | ANDREW FAHST             | NESW    | 24   | 34   | 22    | .33           | BEAVER CREEK | I-15     |
| 1/11/1896    | ADJCERT#230 (#2) | ANDREW FAHST             | NWSW    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/11/1896    | ADJCERT#230 (#3) | ANDREW FAHST             | SESE    | 26   | 34   | 22    |               | BEAVER CREEK |          |
| 1/11/12      | ADJCERT#231 (#1) | ANDREW FAHST             | NESW    | 24   | 34   | 22    | .36           | BEAVER CREEK | I-17.79  |
| 1/11/12      | ADJCERT#231 (#2) | ANDREW FAHST             | NWSW    | 24   | 34   | 22    |               | BEAVER CREEK |          |
| 1/11/12      | ADJCERT#231 (#3) | ANDREW FAHST             | SESE    | 26   | 34   | 22    |               | BEAVER CREEK |          |
| 1/01/1888    | ADJCERT#232 (#1) | P L FILER                | SWSE    | 11   | 33   | 22    | .42           | BEAVER CREEK | I-21.2   |
| 1/01/1888    | ADJCERT#232 (#2) | P L FILER                | SENE    | 14   | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1888    | ADJCERT#232 (#3) | P L FILER                | SNNW    | 13   | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#233 (#1) | P L FILER                | SWSE    | 11   | 33   | 22    | .11           | BEAVER CREEK | I-5.49   |
| 1/01/1891    | ADJCERT#233 (#2) | P L FILER                | SENE    | 14   | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#233 (#3) | P L FILER                | SNNW    | 13   | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#234 (#1) | P L FILER                | SWSE    | 11   | 33   | 22    | .47           | BEAVER CREEK | I-23.3   |
| 1/01/1891    | ADJCERT#234 (#2) | P L FILER                | SENE    | 14   | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#234 (#3) | P L FILER                | SNNW    | 13   | 33   | 22    |               | BEAVER CREEK |          |
| 1/01/1891    | ADJCERT#235      | JONATHAN HANCOCK         |         | 13   | 33   | 22    | .43           | BEAVER CREEK | I-21.3   |

APPENDIX A-ADJUDICATED WATER RIGHT CERTIFICATES

| PRI DATE  | WRIS #           | OWNER                     | 1/4 1/4 | SECT | TOWN | RANGE | AUTH QI (CFS) | SOURCE                | AUTH USE |
|-----------|------------------|---------------------------|---------|------|------|-------|---------------|-----------------------|----------|
|           |                  | BEAVER CREEK              |         |      |      |       |               |                       |          |
| 1/01/1895 | ADJCERT#236      | NELLIE LAMOTTE            | SWNE    | 23   | 33   | 22    | .32           | BEAVER CREEK          | I-16.19  |
| 1/01/1888 | ADJCERT#237 (#1) | A L LAMPSON               | SENE    | 11   | 33   | 22    | .41           | BEAVER CREEK          | I-20.35  |
| 1/01/1888 | ADJCERT#237 (#2) | A L LAMPSON               | SENE    | 14   | 33   | 22    |               | BEAVER CREEK          |          |
| 1/01/1888 | ADJCERT#237 (#3) | A L LAMPSON               | NWSE    | 11   | 33   | 22    |               | BEAVER CREEK          | I-20.35  |
| 1/01/1888 | ADJCERT#238 (#1) | A L LAMPSON               | SENE    | 11   | 33   | 22    | 1.33          | BEAVER CREEK          | I-66.32  |
| 1/01/1888 | ADJCERT#238 (#2) | A L LAMPSON               | SENE    | 14   | 33   | 22    |               | BEAVER CREEK          |          |
| 1/01/1888 | ADJCERT#238 (#3) | A L LAMPSON               | NWSE    | 11   | 33   | 22    | .76           | BEAVER CREEK          | I-37.78  |
| 1/01/1896 | ADJCERT#239      | E O LARSON                | SESW    | 2    | 33   | 22    | .61           | BEAVER CREEK          | I-30.66  |
| 1/01/1893 | ADJCERT#240      | J D LYDA                  | SESE    | 7    | 33   | 22    | 1.42          | BEAVER CREEK          | I-70.87  |
| 1/01/1889 | ADJCERT#241 (#1) | S T MILLER                | NESE    | 14   | 33   | 22    |               | BEAVER CREEK          |          |
| 1/01/1889 | ADJCERT#241 (#2) | S T MILLER                | NENE    | 14   | 33   | 22    |               | BEAVER CREEK          |          |
| 1/01/1893 | ADJCERT#242 (#1) | E H C RAMM                | NESW    | 8    | 33   | 23    | 1.00          | BEAVER CREEK          | I-50     |
| 1/01/1893 | ADJCERT#242 (#2) | E H C RAMM                | NWSW    | 8    | 33   | 23    | .05           | BEAVER CREEK          | I-2.28   |
| 1/01/13   | ADJCERT#243      | R E SAWYER                | SWSE    | 7    | 33   | 23    | 1.05          | BEAVER CREEK          | I-52.7   |
| 1/01/1892 | ADJCERT#244 (#1) | NELSON SELDE              | NESW    | 8    | 33   | 23    |               | BEAVER CREEK          |          |
| 1/01/1892 | ADJCERT#244 (#2) | NELSON SELDE              | NWSW    | 8    | 33   | 23    |               | BEAVER CREEK          |          |
| 1/01/09   | ADJCERT#245      | MASON THURLOW             | SWSE    | 11   | 33   | 22    | .32           | BEAVER CREEK          | I-16.1   |
| 1/01/1891 | ADJCERT#246      | MASON THURLOW             | SWSE    | 11   | 33   | 22    | 1.59          | BEAVER CREEK          | I-79.58  |
| 1/01/1887 | ADJCERT#247      | MASON THURLOW             | SWSE    | 11   | 33   | 22    | 2.90          | BEAVER CREEK          | 144.83   |
| 1/11/1889 | ADJCERT#248 (#1) | JAMES WATSON              | SWNE    | 23   | 33   | 22    | 1.45          | BEAVER CREEK          | I-72.6   |
| 1/11/1889 | ADJCERT#248 (#2) | JAMES WATSON              | SWSE    | 14   | 33   | 22    |               | BEAVER CREEK          |          |
| 1/11/1889 | ADJCERT#248 (#3) | JAMES WATSON              | SWNE    | 23   | 33   | 22    | 1.45          | BEAVER CREEK          | I-72.5   |
| 1/11/1895 | ADJCERT#249 (#1) | JAMES WATSON              | SWSE    | 14   | 33   | 22    |               | BEAVER CREEK          |          |
| 1/11/1895 | ADJCERT#249 (#2) | JAMES WATSON              | SWSE    | 14   | 33   | 22    | 1.56          | BEAVER CREEK          | I-77.87  |
| 1/01/1896 | ADJCERT#250      | JAMES WATSON              | SWSE    | 14   | 33   | 22    | .13           | BEAVER CREEK          | I-6.52   |
| 1/01/06   | ADJCERT#251      | THOMAS H COON             | NENE    | 14   | 33   | 22    | 1.21          | BEAVER CREEK          | I-60.55  |
| 1/01/1889 | ADJCERT#252      | METHOW VALLEY LIVESTOCK C | SWSE    | 35   | 34   | 22    | .21           | BEAVER CREEK          | I-10.68  |
| 1/01/1896 | ADJCERT#253      | C L WILLIAMS              | NWNE    | 35   | 34   | 22    |               |                       |          |
|           |                  |                           |         |      |      |       | 30.62         |                       |          |
|           |                  |                           |         |      |      |       |               | TOTAL AUTHORIZED CFS= |          |

CODES KEY

WRIS #  
(#1), (#2)

Indicates there is more than one point of diversion authorized by the certificate.

OWNER

Owner at the time of filing.

AUTH USE

I-#

Irrigation of # acres.

APPENDIX B-SURFACE WATER CERTIFICATES AND APPLICATIONS

| PRI DATE     | WRIS #           | OWNER                     | 1/4  | 1/4 | SECT | TOWN | RANGE | AUTH QI (CFS)         | SOURCE | AUTH USE |
|--------------|------------------|---------------------------|------|-----|------|------|-------|-----------------------|--------|----------|
| BEAVER CREEK |                  |                           |      |     |      |      |       |                       |        |          |
| 1/01/1888    | CHCERTVOL1-3P61  | MORRIS STOKES             |      |     | 33   | 22   | .04*  | BEAVER CREEK          |        | I-2.7    |
| 1/01/1888    | CHCERTVOL3P1121  | JOHN D CLINE              | SWSE |     | 34   | 22   | .51*  | BEAVER CREEK          |        | I-25.57  |
| 1/01/1888    | CHCERTVOL3P1122  | JOHN D CLINE              | SWSE |     | 34   | 22   | .08*  | BEAVER CREEK          |        | I-25.09  |
| 1/01/1889    | CHCERTVOL3P1110  | JAMES SIMMONS             | SWSE |     | 33   | 22   | 1.45* | BEAVER CREEK          |        | I-72.6   |
| 1/01/1891    | CHCERTVOL1-3P28  | BYRON B STALCUP           |      |     | 33   | 22   | .16*  | BEAVER CREEK          |        | I-8      |
| 1/01/1893    | CHCERTVOL1-3P29  | BYRON STALCUP             | NENE |     | 33   | 22   |       | BEAVER CREEK          |        | I-5      |
| 1/01/1893    | CHCERTVOL1-4P167 | DONALD A KARTEVOLD        | NENE |     | 33   | 22   |       | BEAVER CREEK          |        | I-5      |
| 1/01/1893    | CHCERTVOL1-4P168 | LAUPELE A MILLS           | NENE |     | 33   | 22   | .33*  | BEAVER CREEK          |        | I-4.5    |
| 1/01/1896    | CHCERTVOL3P1127  | O C & C W CAMPBELL        | NWNE |     | 34   | 22   | .36*  | BEAVER CREEK          |        | I-15     |
| 1/01/1912    | CHCERTVOL3P128   | O C & C W CAMPBELL        | NWNE |     | 35   | 22   |       | BEAVER CREEK          |        | I-17.79  |
| 9/04/1981    | S4-27676C(#1)    | US OKANOGAN NATIONAL FORE | NE   |     | 33   | 23   | .01   | CAIRN SPRING          |        | ST       |
| 9/04/1981    | S4-27676C(#2)    | US OKANOGAN NATIONAL FORE | NE   |     | 34   | 23   | .01   | BEAR SPRING           |        | ST       |
| 9/04/1981    | S4-27676C(#3)    | US OKANOGAN NATIONAL FORE | SE   |     | 34   | 23   | .01   | HI UP SPRING          |        | ST       |
| 9/04/1981    | S4-27676C(#4)    | US OKANOGAN NATIONAL FORE | NE   |     | 33   | 23   | .01   | JAY SPRING            |        | ST       |
| 9/04/1981    | S4-27676C(#5)    | US OKANOGAN NATIONAL FORE | SW   |     | 34   | 23   | .01   | HIDDEN ROCK SPRING    |        | ST       |
| 9/04/1981    | S4-27676C(#6)    | US OKANOGAN NATIONAL FORE | E2   |     | 34   | 23   | .01   | POLE PICK SPRING      |        | ST       |
| 9/04/1981    | S4-27677C        | US OKANOGAN NATIONAL FORE | SE   |     | 29   | 23   | .01   | TWIN SPRINGS          |        | ST       |
| 9/04/1981    | S4-27678C        | US OKANOGAN NATIONAL FORE | NE   |     | 34   | 23   | .01   | UPPER BURNS SPRING    |        | ST       |
| 9/09/1981    | S4-27682C(#1)    | US OKANOGAN NATIONAL FORE | E2W2 |     | 11   | 22   | .01   | COUGAR RIDGE SPRING   |        | ST       |
| 9/09/1981    | S4-27682C(#2)    | US OKANOGAN NATIONAL FORE | SWSW |     | 34   | 22   | .01   | PIPESTONE CANYON      |        | ST       |
| 9/09/1981    | S4-27683C(#1)    | US OKANOGAN NATIONAL FORE | W2E2 |     | 35   | 23   | .01   | PEARRYGIN SPRING      |        | ST       |
| 9/09/1981    | S4-27683C(#2)    | US OKANOGAN NATIONAL FORE | SW   |     | 35   | 22   | .01   | CLEARCUT SPRING       |        | ST       |
| 9/09/1981    | S4-27683C(#3)    | US OKANOGAN NATIONAL FORE | NE   |     | 34   | 22   | .01   | BEAR WALLOW SPRING    |        | ST       |
| 9/09/1981    | S4-27683C(#4)    | US OKANOGAN NATIONAL FORE | E2   |     | 34   | 22   | .01   | TAMARACK BASIN SPRING |        | ST       |
| 9/09/1981    | S4-27683C(#5)    | US OKANOGAN NATIONAL FORE | E2   |     | 34   | 22   | .01   | CATTLE GUARD SPRING   |        | ST       |
| 9/09/1981    | S4-27683C(#6)    | US OKANOGAN NATIONAL FORE | NE   |     | 34   | 22   | .01   | LIGHTNING CREEK SPRI  |        | ST       |
| 9/09/1981    | S4-27684C        | US OKANOGAN NATIONAL FORE | NE   |     | 34   | 22   | .01   | RATTLESNAKE CYN SPRI  |        | ST       |
| 9/09/1981    | S4-27685C        | US OKANOGAN NATIONAL FORE | NE   |     | 34   | 22   | .01   | LOWER BURNS SPRING    |        | ST       |
| 9/20/1982    | S4-28050C        | US OKANOGAN NATIONAL FORE | NWNE |     | 34   | 23   | .01   | UNNAMED SPRING        |        | D-GROUP  |
| 8/05/1987    | S4-29364C        | US OKANOGAN NATIONAL FORE | SW   |     | 34   | 22   | .01   | SECTION 25 SPRING     |        | ST       |
| 9/12/1988    | S4-29803A        | DEPT OF WILDLIFE          | NENE |     | 7    | 23   |       | UNNAMED SPRING        |        |          |
| 9/12/1988    | S4-29804A        | DEPT OF WILDLIFE          | SENW |     | 33   | 22   |       | UNNAMED SPRING        |        |          |

TOTAL AUTHORIZED CFS = 0.2

CODES KEY

WRIS #  
(#1), (#2)

OWNER

AUTH USE

D  
ST  
I-#

Indicates there is more than one point of diversion authorized by the certificate.

Owner at the time of filing.

Domestic supply  
Stock water  
Irrigation of # acres.

\* Changes to existing rights already accounted for.

8/20/91

APPENDIX C-GROUND WATER APPLICATION AND CERTIFICATE

| PRIORITY DATE          | WRIS #    | OWNER                     | 1/4  | 1/4 | SECT | TOWN | RANGE | AUTH QI (CFS) | SOURCE | PROP USE | AUTH USE |
|------------------------|-----------|---------------------------|------|-----|------|------|-------|---------------|--------|----------|----------|
| BEAVER CREEK           | G3-00201C | HELEN M HADFIELD          | SESE | 11  | 33   | 22   |       | .12           | A WELL | D I-3 ST | D        |
| 8/24/1970              | G4-30050A | US OKANOGAN NATIONAL FORE | N2NE | 2   | 33   | 23   |       |               | A WELL |          |          |
| 8/17/1989              |           |                           |      |     |      |      |       |               |        |          |          |
| TOTAL AUTHORIZED CFS = |           |                           |      |     |      |      |       |               |        | .12      |          |

CODES KEY

WRIS #  
G#-#####A  
G#-#####C

An "A" at the end of the number indicates that it is still in the application stage.  
A "C" at the end of the number indicates that it is a certificate.

OWNER

Owner at the time of filing.

PROP USE

D Domestic supply  
ST Stock water  
I-# Irrigation of # acres.







8/20/91

APPENDIX E-CANCELED, DENIED OR REJECTED

| WRIS #       | STATUS | DATE OF C,D,R | REASON | OWNER             | 1/4 1/4 | SECT | TOWN | RANGE | PROP QI | SOURCE        | PROP USE | PRI DATE |
|--------------|--------|---------------|--------|-------------------|---------|------|------|-------|---------|---------------|----------|----------|
| BEAVER CREEK |        |               |        |                   |         |      |      |       |         |               |          |          |
| R19457       | D      | 2/07/67       | MR     | HERBERT MALTAIS   | NESW    | 8    | 33   | 23    | .80     | FRAZIER CREEK | I        | 2/15/66  |
| R28          | C      | 12/07/31      | NC     | E O LARSON        |         | 1    | 33   | 23    |         |               |          |          |
| S3-20749A    | D      | 11/17/77      | MR     | LAWRENCE V ELY    | NE      | 35   | 34   | 22    | .01     | BEAVER CREEK  | D        | 1/17/73  |
| S3-22487A    | D      | 10/31/77      | FA ER  | DALE A HEWITT     | SWNE    | 13   | 33   | 22    | .18     | FRAZER CREEK  | I ST     | 2/04/74  |
| SWA11728     | R      | 6/12/53       |        | RICHARD HORN      | NENW    | 26   | 33   | 22    | 1.00    | BEAVER CREEK  | I        | 10/02/52 |
| SWA13468     | R      | 6/01/61       | NC     | PLEAS VAL WAT USE | NE      | 24   | 34   | 23    | 15.00   | BEAVER CREEK  | D I ST   | 6/10/55  |
| SWA294       | C      | 10/31/25      | NC     | E O LARSON        | SW      | 2    | 33   | 22    | 1.20    | BEAVER CREEK  | I        | 4/23/26  |
| SWA3072      | C      | 5/27/42       |        | W E BURNS ESTATE  | SE      | 23   | 34   | 22    | 1.00    | BEAVER CREEK  | D I      | 8/05/30  |
| SWA3087      | R      | 4/06/33       | NF     | JOSEPH H BONING   | SE      | 35   | 34   | 22    | 3.00    | BEAVER CREEK  | I        | 8/15/30  |
| SWA3089      | R      | 6/07/33       | NC     | ETHALBERT WATSON  | NE      | 26   | 34   | 22    | 3.00    | BEAVER CREEK  | D I-37   | 8/16/30  |
| SWA3106      | R      | 7/26/40       | NC     | BUS HANCOCK       | SWNE    | 13   | 33   | 22    | 1.20    | FRAZIER CREEK | I        | 8/21/30  |
| SWA713       | R      | 8/24/27       | PAR    | P L FILER         | NE      | 13   | 33   | 22    | 1.00    | BEAVER CREEK  | I        | 1/13/22  |
| SWP527       | C      | 12/07/31      | NC     | E O LARSON        |         | 24   | 34   | 23    | 10.00   | BEAVER CREEK  | I        | 10/01/24 |
| SWA22531     | R      | 1/12/78       | NF     | DONAL BOVEE       | NESW    | 23   | 33   | 22    | .40     | BEAVER CREEK  | I        | 9/08/70  |

CODES KEY

OWNER Owner at the time of filing.

STATUS

C Canceled  
 D Denied  
 R Rejected

REASON

PAR Per applicant's request.  
 MR Multiple negative responses to four statutory tests per 90.03.290.  
 NC Non-compliance with requirements such as publishing the Public Notice, construction schedules, etc.  
 NF Mandatory fees not received.  
 ER Property enjoys existing rights.