

*** APPLICATION FOR A PERMIT**

To Appropriate the Public Waters of the State of Oregon

United States of America,
 I, By Ernest P. Leavitt, Superintendent of Crater Lake National Park
(Name of applicant)
 of Crater Lake (Winter address, Medford), County of Klamath
(Post office)
 State of Oregon, do hereby make application for a permit to appropriate the following described public waters of the State of Oregon, **SUBJECT TO EXISTING RIGHTS:**

If the applicant is a corporation, give date and place of incorporation

1. The source of the proposed appropriation is Annie Creek
(Name of stream)
 a tributary of the Klamath River through Wood River.

2. The amount of water which the applicant intends to apply to beneficial use is 1.26
 cubic feet per second. See rider.
(If water is to be used from more than one source, give quantity from each)

**3. The use to which the water is to be applied is municipal at Crater Lake
(Irrigation, power, mining, manufacturing, domestic supplies, etc.)
National Park, & operation of ram.

4. The point of diversion is located _____ ft. _____ and _____ ft. _____ from the
(N. or S.) (E. or W.)
 corner of See rider.
(Section or subdivision)

(If preferable, give distance and bearing to section corner)

(If there is more than one point of diversion, each must be described. Use separate sheet if necessary)

being within the _____ of Sec. _____, Tp. _____
(Give smallest legal subdivision) (N. or S.)
 R. _____, W. M., in the county of _____
(E. or W.)

5. The pipe lines are described on rider. _____ to be _____
(Main ditch, canal or pipe line) (Miles or feet)
 in length, terminating in the _____ of Sec. _____, Tp. _____
(Smallest legal subdivision) (N. or S.)
 R. _____, W. M., the proposed location being shown throughout on the accompanying map.
(E. or W.)

DESCRIPTION OF WORKS

Diversion Works—

6. (a) Height of dam _____ feet, length on top _____ feet, length at bottom _____ feet; material to be used and character of construction _____
(Loose rock, concrete, masonry, rock and brush, timber crib, etc., wasteway over or around dam)

(b) Description of headgate _____
(Timber, concrete, etc., number and size of openings)

(c) If water is to be pumped give general description _____
(Size and type of pump)
(Size and type of engine or motor to be used, total head water is to be lifted, etc.)

* A different form of application is provided where storage works are contemplated.

** Applications for permits to appropriate water for the generation of electricity, with the exception of municipalities, must be made to the Hydro-electric Commission. Either of the above forms may be secured, without cost, together with instructions by addressing the State Engineer, Salem, Oregon.

Rider

2. Amount of Water:

The appropriation of ^{1.20}1.10 second feet from Annie Creek is to be made from various points, all tributary to that stream in the federally owned land within Crater Lake National Park, as follows:

- (1) At Garfield Spring, tributary through Munson Creek and herein designated as Rim Diversion No. 1..... 0.01 sec.ft.
- (2) At nameless springs at head of Munson Creek herein designated as Rim Diversion No. 2..... 0.36 sec.ft.
- (3) At nameless springs at head of Munson Creek locally called Headquarters Spring and herein designated as Diversion No. 3..... 0.02 sec.ft.
- (4) At nameless springs at head of Munson Creek locally called Cabin Spring and herein designated as Diversion No. 4..... 0.02 sec.ft.
- (5) At Castle Crest Garden Spring, tributary to Munson Creek and herein designated as Diversion No. 5..... 0.22 sec.ft.
- (6) At Annie Spring, being main source of Annie Creek and herein designated as Diversion No. 6... 0.16 sec.ft.
- (7) From Pole Bridge Creek, tributary to Annie Creek, at point herein designated as Diversion No. 7..... 0.05 sec.ft.
- (8) At Cold Spring, tributary to Annie Creek and herein designated as Diversion No. 8..... 0.01 sec.ft.
- (9) At point on Annie Creek near the South Park Entrance and herein designated as Diversion No. 9..... 0.25 sec.ft.

All of said diversions are above any point on said Annie Creek where those other than the United States can make diversions without a grant of right of way which does not now exist. Except as hereafter described, the major portion of all water covered by this application is again returned to the stream system above any point where those other than the United States can make such appropriations.

4. Points of Diversion:

All points of diversion are in unsurveyed land in the south half of Crater Lake National Park. The boundary of said park was first surveyed by the General Land Office between July 13 and September 25, 1903, starting from Mt. Scott as the initial point for latitude and longitude, and running east 67.84 chains to the initial boundary marker on Longitude 122°00'00" of the U. S. Datum. In 1904 Mt. Scott was referred to the North American Datum by the Coast and Geodetic Survey with the result that said boundary

is no longer described exactly as in the enabling act. By surveys and resurveys in 1905 and 1930 the General Land Office extended certain townships to the park boundary and tied them to boundary markers. A GLO 1872 survey actually included T's. 31 & 32 S., R. 7 $\frac{1}{2}$ E., W.M., within the park, but these section corners are now largely lost. Between June 1 and September 15, 1909, the General Land Office retraced the park boundary, setting permanent monuments and noting intersection of section lines.

All descriptions in this, and accompanying applications for the appropriation of water in the Klamath and Rogue River drainages for said park, are based on the projection of standard sections from said park boundary. Ties are given by true bearing at the central meridian in the park. The accompanying map is plotted to the Lambert projection of plane coordinates for the State of Oregon and ties shown thereon are to the grid azimuth of that projection which differs from the said mean true North by 1°07'.

The points of diversion are accordingly located as follows, all in the county of Klamath:

Rim Diversion No. 1:

N 84°54' E, 37,577 feet from Boundary Monument No. 15, being within the probable NE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 9, T 31 S, R 6 E, W. M.

Rim Diversion No. 2:

N 85°03' E, 34,577 feet from Boundary Monument No. 15, being within the probable SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 8, T 31 S, R 6 E, W. M.

Diversion No. 3:

N 85°46' E, 34,332 feet from Boundary Monument No. 15, being within the probable SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 8, T 31 S, R 6 E, W. M.

Diversion No. 4:

N 88°38' E, 33,910 feet from Boundary Monument No. 15, being within the probable NW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 8, T 31 S, R 6 E, W. M.

Diversion No. 5:

S 89°04' E, 36,309 feet from Boundary Monument No. 15, being within the probable SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 9, T 31 S, R 6 E, W. M.

Diversion No. 6:

N 73°17' E, 27,291 feet from Boundary Monument No. 8, being within the probable NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 13, T 31 S, R 5 E, W. M.

19. 74

Diversion No. 7:

N 8°33' E, 15,921 feet from Boundary Monument No. 120, being within the probable SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 32, T 31 S, R 6 E, W. M.

Diversion No. 8:

N 10°33' E, 15,037 feet from Boundary Monument No. 120, being within the probable NE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 32, T 31 S, R 6 E, W. M.

Diversion No. 9:

S 20°24' E, 12,067 feet from Boundary Monument No. 111, being very near the SW corner of the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 25, T 32 S, R 6 E, W. M.

5. Main Pipe Lines:

The following pipe lines are numbered in the same order as the related points of diversion:

Pipe Line No. 1 is 2800 feet in length, terminating at the Rim Area Distribution Reservoir in the probable SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 4, T 31 S, R 6 E, W. M.

Pipe Line No. 2-A is 4915 feet in length, terminating at the aforesaid Rim Area Distribution Reservoir in said Section 4, being a pump line.

Pipe Line No. 2-E is approximately 1000 feet in length, terminating at the main Headquarters Distribution Reservoir in the probable SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 8, T 31 S, R 6 E, W. M., being a gravity line.

Pipe Line No. 3-A is 175 feet in length, terminating at the aforesaid main Headquarters Distribution Reservoir in said Section 8.

Pipe Line No. 3-B is 60 feet in length, terminating at an auxiliary distribution reservoir in said SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 8.

Pipe Line No. 4 is 125 feet in length, terminating in the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of said Section 8.

Pipe Line No. 5 will be approximately 4500 feet in length, terminating at the pump sump of Rim Diversion No. 2 and at the main Headquarters Distribution Reservoir as said points have been previously designated. Laterals will also be provided to collect and commingle the waters from Diversions Nos. 3 and 4 for more unified distribution.

Pipe Line No. 6 now consists of two parallel lines each 335 feet in length, terminating at the Annie Springs Distribution Reservoir in the probable NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 13, T 31 S, R 5 E, W. M.

Pipe Line No. 7 will be approximately 1000 feet in length, terminating at a distribution reservoir whose site is not yet determined in probable Section 32, T 31 S, R 6 E, W. M.

Use No. 8 is made without pipe line, at spring well at point of diversion.

Pipe Line No. 9 will be approximately 1800 feet in length, terminating at a distribution reservoir in the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 25, T 32 S, R 6 E, W. M.

6 (a) & (b). Headworks:

Rim Diversion No. 1 is made in timber-lined spring well, 2 feet square and 1.5 feet deep. More durable masonry walls may be provided in the future.

Rim Diversion No. 2 is made by a system of tile pipe over the spring area, all draining into a concrete collecting sump of 23,000 gallon capacity at the pump site or main point of diversion.

Diversion No. 3 is made at two masonry dams across the spring outlets, each approximately 10 feet long at crest, 4 feet long at base, with heights of 2 feet. The diversion pipes are threaded for caps or screens. Water is diverted without valves to full pipe capacity or spring flow, and surplus is returned to natural spring outlet by overflow at distribution reservoirs.

Diversion No. 4 is made at masonry dam across spring outlet, 12 feet long on crest, 4 feet long at base, and 2 feet high. Diversion pipe operates as at diversion No. 3.

Diversion No. 5 will probably be similar to Rim Diversion No. 2.

Diversion No. 6 is made at masonry dam across spring outlet, 20 feet long at crest, 10 feet long at base, and 5 feet high. Present diversion is by rams to be described under 6 (c).

Diversion No. 7 will probably be similar to diversion No. 6 for the preliminary development.

Diversion No. 8 consists of a small rock-walled spring well in which buckets are filled. This source will be largely superseded by proposed diversion No. 7.

Diversion No. 9 will consist of filtration galleries and a concrete collecting sump in the bank of Annie Creek.

6 (c). Pumps:

All diversions herein described are by gravity with the following exceptions:

Rim Diversion No. 2 is made by a Fairbanks-Morse centrifugal pump rated at 160 g.p.m. and driven by a double acting Diesel engine. The pump lift is 562 feet. A gravity system from the same pump sump serves the Headquarters area.

Diversion No. 5 will also be by pump unit similar to that at Rim Diversion No. 2. The pump lift from Diversion 5 to Rim Diversion No. 2 is 322 feet, to the main Headquarters Distribution Reservoir is less. The total lift to the Rim Distribution Reservoir is 884 feet. A detailed design is still to be prepared.

Diversion No. 6 is now made by one No. 3 ram and one No. 4 $\frac{1}{2}$ ram, both working under 20 foot heads and lifting the water 85 feet. With increasing water demand it is planned to replace the rams with a pump to permit full consumptive use of the water now wasted by ram operation. Waste water from the rams now discharges into Annie Creek 150 feet below the point of diversion.

Diversion No. 7 is not fully designed. At point designated it is possible to use the rams to be removed at Diversion No. 6.

Diversion No. 9 will probably be by electrically driven pumps. Plans cover two alternates:

- A. Automatic units with pressure tanks.
- B. Pumping to elevated tanks with total lift of approximately 120 feet, which would offer greater choice of pump unit and power.

All existing systems are provided with redwood or concrete distribution reservoirs with capacities ranging from 4500 to 200,000 gallons. Units will be increased with probable maxima of 1,000,000 gallons, of which half would be for fire protection and half for excess demands of a few annual peak days or a peak week.

7 (c). Pipe Sizes:

Pipe No. 1:

Length 2800 feet; diameter 1.5 inches boiler tube; total fall 328 feet; grade variable but all below a uniform gradient; estimated capacity is 0.069 sec. ft., which is in excess of spring flow.

Pipe No. 2-A:

There are 2425 feet of 4-inch G.I. from pump to point on distribution pipe whence water is both diverted and distributed through 2490 feet of 6-inch cast iron pipe; pump lift is 562 feet on variable grade. Capacity is adequate for 160 g.p.m. pump unit.

Pipe No. 2-B:

Length 1000 feet; diameter 4-inch G.I.; total fall 58 feet; on variable grade below gradient; estimated capacity is 0.5 sec. ft., which exceeds spring flow.

Pipe No. 3-A:

Length 175 feet; diameter 4-inch G.I.; fall 36 feet; fairly uniform grade; estimated capacity 1.0 sec. ft. which exceeds spring flow.

Pipe No. 3-B:

Length 60 feet; diameter 2 inches G.I.; fall 6 feet; grade uniform; estimated capacity 0.11 sec. ft. which exceeds spring flow.

Pipe No. 4:

Length 125 feet; diameter 3 inches G.I.; fall 5.7 feet; grade fairly uniform; estimated capacity 0.2 sec. ft. which exceeds spring flow.

Pipe No. 5:

Length 4500 feet; diameter 4 inches G.I.; lift 322 feet; grade variable; pump capacity to be adequate for 0.22 sec. ft.

Pipe No. 6:

Ram intake lengths 150 feet; diameter to #3 is 3 inches and to No. 4 $\frac{1}{2}$ is 4 inches, G.I.; fall 20 feet with pipes below gradient; both discharge pipes, length 335 feet; diameter 2 inches; lift 85 feet on variable grade below gradient. Estimated water delivered to rams 0.16 sec. ft. Measured delivery to distribution reservoir 9.90 g.p.m.

Pipe No. 7:

Design incomplete. May use ram installation from Annie Springs temporarily, providing adequate pump system or changing point of diversion for gravity system when needed.

Diversion No. 8:

No pipe.

Diversion No. 9:

Pipe sizes to depend on type of pump system selected; probable length 1800 ft.; diameter 4 inches, G.I.; lift 120 feet; capacity at least 0.25 sec. ft.

10 (a). Municipal Supply:

The village development provides permanent accommodations for 250 people and temporary accommodations for maximum past attendance of 252,500 people per year, nearly all of whom make their visit during July, August and September to give an average guest population of 2525 per day. From graph on accompanying map an attendance of at least 350,000 per year can be expected by 1960, together with necessary increases in permanent administrative and operating personnel. Winter attendance is increasing at an even higher rate with increasing popularity of winter sports, which suggests that actual 1960 attendance may easily exceed 400,000; and that all year water use will be an increasingly important feature.

The village development is now divided between the Rim, Headquarters and Annie Springs areas, with minor campgrounds at other areas designated. In order not to spoil the natural beauty, the necessary increases in facilities are being scattered in small units which can be more easily hidden in favorable areas. Winter sports also require that some of the facilities be at the lower elevations of the park where comfortable night lodging will be provided more easily. This suggests increasing use of the Annie Spring, Cold Spring-Pole Bridge, and South Entrance areas.

The water use is definitely that of a municipality for a hotel and lodge, residences and cottages, a store, museum, comfort stations, administration and post office building, campgrounds, machine shops, maintenance camps, garages, blacksmith shops, stables, gasoline stations, and picnic grounds. Irrigation with hose is similar to that in normal residential areas, but native shrubs predominate and exotic lawns are kept at a minimum.

12. The Lodge and water supply from Diversion No. 1 were constructed in 1903.

The supplemental water supply from Diversion No. 2 was started before or during 1930.

The Headquarters area and Diversions Nos. 3 and 4 were started during, or before, 1927.

The Annie Springs development was started about 1916.

Camping at the Cold Spring-Pole Bridge Area probably started about 1916 or before.

All of the preceding developments are part of one continuing development and water use which was started by creation of Crater Lake National Park by act of Congress, dated May 22, 1902.

Municipal or Domestic Supply—

10. (a) To supply the city of major village developments at Crater Lake National Park, Klamath County, having a present population of See rider and an estimated population of in 19

(b) If for domestic use state number of families to be supplied

(Answer questions 11, 12, 13, and 14 in all cases)

- 11. Estimated cost of proposed works, \$ 200,000
12. Construction work was begun in 1903. See rider
13. Construction work will be completed on or before About 1960.
14. The water will be completely applied to the proposed use on or before About 1960.

UNITED STATES OF AMERICA

By E. P. Leavitt (Signature of applicant)

Superintendent

Crater Lake National Park

Signed in the presence of us as witnesses:

- (1) Thomas C. Parker 1324 Queen Ann, Medford, Oregon
(2) G. T. Hopper 331 W. 6th, Medford, Oregon

Remarks: The septic tanks for the Rim Area development are in the drainage of Castle Creek, a tributary of the Rogue River. The major part of all other diverted water will be returned to Annie Creek after treatment.

STATE OF OREGON, }
County of Marion, } ss

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for

In order to retain its priority, this application must be returned to the State Engineer, with corrections on or before, 194

WITNESS my hand this day of, 194

Application No. 19574

Permit No. 15156

PERMIT TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF OREGON

Division No. District No.

This instrument was first received in the office of the State Engineer at Salem, Oregon on the 28th day of November, 1941, at 8:00 o'clock A.M.

Returned to applicant:

Corrected application received:

Approved:

January 30, 1942

Recorded in book No. 37 of

Permits on page 15156

CHAS. E. STRICKLIN STATE ENGINEER

Drainage Basin No. 14 Page 27

Fees Paid \$11.25

STATE OF OREGON } ss County of Marion,

PERMIT

This is to certify that I have examined the foregoing application and do hereby grant the same, SUBJECT TO EXISTING RIGHTS and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 1.26 cubic feet per second measured at the point of diversion from the stream, or its equivalent in case of rotation with other water users, from

Table with 2 columns: Location and Flow Rate. Locations include Garfield Spring, Unnamed Springs (Rim Diversion No. 2), Unnamed Springs (Headquarters Spring), Unnamed Springs (Cabin Spring), Castle Crest, Garden Spring, Annie Spring, Pole Bridge Creek, Cold Springs, and Annie Creek. Flow rates range from 0.01 to 0.36 c.f.s.

The primary use of this permit is

Actual construction work shall begin on or before January 30, 1943 and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 1943

Complete application of the water to the proposed use shall be made on or before October 1, 1944

WITNESS my hand this 30th day of January, 1942

CHAS. E. STRICKLIN STATE ENGINEER

Permits for power development are subject to the payment of annual fees as provided in sections 1 and 2, chapter 74, Oregon Laws 1933.

Extended to Oct. 1, 1943. DC Extended 10-1-44