

ENGINEER WHISTLER REVIEWS UMATILLA IRRIGATION PROJECT

Project Engineer John T. Whistler, who has been designated as the father of the Umatilla irrigation project, gave a detailed review of the survey, location and construction of the project at Hermiston yesterday and readers of the East Oregonian will find much information in his excellent compilation of statistics.

The address is as follows, in full: There is hardly anything I can say to you as project engineer that would be more appropriate than to relate some of the more important matters concerning the development and construction of the project.

Statistics, I know, are usually dry, but I fancy project statistics will hardly seem as dry today as they would a year or less ago.

The first investigations made by the reclamation service in this region were made in the spring and summer of 1903 by James G. Camp, now project engineer for Minidoka project, Idaho.

Lines had been run to determine whether it would be feasible to divert water from Snake river onto these lands; although not found feasible to do so, there appeared to be a good project for diverting Umatilla waters onto the lands west of the river, using Juniper basin as a storage reservoir site.

At that time we were looking for a much cheaper and larger project, and although the possibility of the present project was noted by Mr. Camp, it was not even reported upon because it would plainly be expensive.

Start on West Side.

Preparations were made to construct the west side project in the early spring of 1905, but deep test pits showing Juniper site to be underlaid to a greater depth with sand and a board of engineers finally rejected it.

Investigations were then made of all possible storage sites in the Umatilla river drainage basin, and as a result the present project was considered sufficiently attractive to justify the withdrawal from entry of all government lands, which was done by order of the secretary dated August 16, 1905, and the surveys proper may be said to have begun with this date.

Project Recommended.

The project was recommended by a board of reclamation service engineers October 27, 1905, and was approved by Secretary Hitchcock December 4, 1905, and \$1,000,000 set aside for its construction.

The work of making detailed surveys, locating the storage feed canal and putting down test pits at the dam site and along the feed canal was carried on during the following winter and spring, and in the latter part of June, 1907, bids were opened for the construction of Cold Springs dam and the storage feed canal.

The contract for construction of the storage feed canal was awarded to the Puget Sound Bridge and Dredging company of Seattle as the lowest bidder. All bids for construction of the dam were rejected as being too high, and it was re-advertised.

All of the bids received from the second advertisement, opened September 18, 1906, for construction of the dam were also rejected as being too high, and the work has been carried on by day labor or so-called force account.

Although the total cost of the dam has been more than the estimate of the engineers, it has been largely due to certain changes that have been made in the design.

Details of Cost.

An estimate of the cost based on the actual quantities and the unit prices of the lowest bid received shows that a saving of between forty and fifty thousand dollars has been made by doing the work by force account.

The amount will depend very largely upon the salvage for the equipment. This equipment for the construction of the dam alone cost over \$115,555, and the salvage has been placed at \$42,000.

The equipment in part consists of

Women as Well as Men Are Made Miserable by Kidney and Bladder Trouble.

Kidney trouble preys upon the mind, discourages and lessens ambition; beauty, vigor and cheerfulness soon disappear when the kidneys are out of order or diseased.

Kidney trouble has become so prevalent that it is not uncommon for a child to be born afflicted with weak kidneys. If the child urinates too often, if the urine scalds the flesh, or if, when the child reaches an age when it should be able to control the passage, it is yet afflicted with bed-wetting, depend upon it, the cause of the difficulty is kidney trouble, and the first step should be towards the treatment of these important organs. This unpleasant trouble is due to a diseased condition of the kidneys and bladder and not to a habit as most people suppose.

Women as well as men are made miserable with kidney and bladder trouble, and both need the same great remedy. The mild and the immediate effect of Swamp-Root is soon realized. It is sold by druggists, in fifty-cent and one-dollar size bottles. You may have a sample bottle by mail free, also a Home of Swamp-Root pamphlet telling all about Swamp-Root, including many of the thousands of testimonial letters received from sufferers cured. In writing Dr. Kilmer & Co., Binghamton, N. Y., be sure and mention this paper. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.



one 70-ton steam shovel, five 16-ton locomotives, 4 miles of narrow gauge track 35-pound rails, 50 dump cars of 4 yard capacity, one orange peel excavator or land dredge, a rock crusher, hoisting engine, portable engine, 10 dump wagons, etc.

The unprecedented flood of February, 1907, down Cold Springs canyon made it seem advisable to provide a more ample spillway. This was done by a change in plans which provided a greater length and also by increasing to the amount of one foot the height of the dam, to allow a greater depth of water over the weir.

The spillway as now constructed will automatically take care of a flood of the same maximum amount as occurred last year, and would even take care of the greatest known flood of the Umatilla river before it would overflow the dam proper. It may be that excessive caution has been used in the design of this feature, but in view of the awful disaster that would occur with the failure of the dam, it was felt that the increased expenditure was fully justified.

The Puget Sound Bridge & Dredging company commenced construction of the feed canal September 1, 1906, and the contract was completed August 6, 1907.

Preliminary work was begun at Cold Springs dam December 1, 1906, but the first train load of gravel was not dumped until March 11, 1907, and the work will probably be completed by the middle of June, 1908, about 15 months of actual construction work.

The work on the distribution system is about 40 per cent done. All of the bids for the second schedule of the first unit advertised for the construction of main distributaries and laterals were rejected, and the work was readvertised and let in small sections that could be easily handled by local contractors, with a resultant saving of more than 11 cents per cubic yard, or half the previous lowest unconditional bid on 116,000 cubic yards of material, or about \$13,000.

Over 75 miles of laterals and distribution canals have been constructed, making a total with the feed canal of about 100 miles of canals and laterals.

There have been more than 2,000,000 cubic yards of earth and rock moved in the work on this project, or in other words enough to cover a 10-acre tract to a depth of 124 feet. Of this there has been 50,000 cubic yards of rock and 70,000 cubic yards of hardpan or cement gravel. Nearly 8000 cubic yards of concrete have been placed, requiring a train load of cement.

There are 20 concrete structures in the project that have cost \$1000 or more. Though no important structures have been made of wood, it has required at least two train loads of lumber for ties, temporary trestles, forms for concrete, quarters, small bridges, etc.

Many Pipe Lines.

More than half the irrigable land under the project lies on ridges that are cut off by intersecting depressions, and a number of pressure pipe lines are necessary. The total length of the larger pipe lines, 30 inches to 46 inches in diameter, will be six and a quarter miles. Reinforced concrete will be used for all but one of these lines, and may also be used for that one. Nearly two miles of these larger pipe lines have been built and are now carrying water under maximum pressure of 55 feet.

Approximately one mile of the pipe now in operation is 46 inches in diameter. This pipe is reinforced with 5-16 inch wire coils imbedded in the concrete. To make these coils for this latter line, a little less than a mile long, 80 miles of 5-16 inch steel wire was required, 5 miles of longitudinal steel rods were required and 25 miles of small lacing wire.

This pipe requires nearly a half million gallons of water to fill it, and will deliver 40 million gallons of water per day. Construction of the remaining pipe for the project is now being carried on in the yard, at a rate which will complete its construction in the yard this season.

Area of Project.

The Cold Springs reservoir will cover 1500 acres to an average depth of 33 feet and will hold 50,000 acre-feet of water available above the outlet, or enough to cover the 20,000 acres of the project to a depth of 2½ feet. Probably about one-third of the water required for irrigation will be supplied each year before the river runs too low to supply the feed canal and still give due regard to prior appropriations.

For a comparison with ordinary city water supply reservoirs—with which all are probably more familiar and the capacity of which is usually expressed in million gallons—it may be proper to note that one million gallons represents but about three acre-feet, and that the Cold Springs reservoir has a capacity of approximately 17,000,000 gallons.

Idaho Land Prices.

As showing the wonderful possibilities of Idaho land and soil as money makers for the owners of the land, the case of Carl C. Elffe of Payette, is a case well in point, says the Boise Capital News. Mr. Elffe came to Payette in June, 1895. In August of the same year he purchased the Saye ranch of 80 acres, paying for it \$35 an acre, which then was thought to be an extravagant price, just in the midst of the hard times. He sold the same land this year, 13 years later, for \$250 an acre to Grant Fisher of Missouri, also during a season of hard times.

A country housewife will do all she can in the winter and can all she does in the summer.

"Go Quick" Skirt Sale

These are unequaled, because the best.

The Skirts are all of the latest styles and colorings, no left overs, but new goods, they are all going at

10 per cent. off.

the rest of the week.

Pendleton Cloak and Suit House

Buy of us and it's allright

ECHO REPRESENTED.

Repairs to Bad Places in Ditch Are Under Way.

Echo, May 28.—Echo was well represented at Hermiston yesterday for the opening of the Umatilla project. Nearly every body went down either by team or on the excursion. This project means much to all of Umatilla county and with all the private projects in this vicinity, the west end will soon be one of the grandest garden spots in the northwest.

Repairing Ditch.

A force of men are now at work putting in concrete lining in three miles of ditch just below Echo, where the seepage has caused some damage to the O. R. & N. tracks. This work will be rushed through as soon as possible.

Crops are looking first class, and another good yield is expected this fall.

When your food seems to nauseate take Kodol. Take Kodol now and until you know you are right again. There isn't any doubt about what it will do and you will find the truth of this statement verified after you have used Kodol for a few weeks. It is sold here by Tallman & Co.

Estrayed.

One dark bay mare, 6 years old and weighing about 1280 pounds. Branded G. K. on left shoulder and M on left hip. Liberal reward offered for information leading to recovery. Address or phone James Hill, Helix, Oregon.

Serious Results Feared.

You may well fear serious results from a cough or cold, as pneumonia and consumption start with a cold. Foley's Honey and Tar cures the most obstinate coughs or colds and prevents serious results. Refuse substitutes. Pendleton Drug Co.

Pasture for Bucks.

Will take a limited number of bucks to pasture and run for the summer. Good pasture and plenty of water. Apply this office.

COST PRICE

For Colored Shirtwaists

Colored shirtwaists in Lawns, Batiste and French Ginghams. In all the latest shades at cost.

\$1.00	Shirtwaists	69c
\$1.75	"	\$1.10
\$2.00	"	\$1.25
\$2.50	"	\$1.68

All waists fitted and alterations made free of charge.

Alexander Dep't Store

Givers of Best Values

Mark Your Ballot

FOR SHERIFF

41 X T. D. Taylor

Famous as an efficient officer, over the entire Northwest. Let's keep him there.



BOYS

Watch for the large advertisement in Saturday's Paper

The East Oregonian is going to give away, free, something that will appeal to you.

Don't Fail to Read the Ad.

Pendleton and Umatilla County Voters

Mark Your Ballot

312 X Yes

The success of this measure means that a fine State Building will be

Erected in Pendleton

Nominees for June Election

L. L. Mann

REPUBLICAN NOMINEE FOR REPRESENTATIVE. At election to be held June 1, 1908.

T. D. Taylor

(Present Incumbent.) DEMOCRATIC NOMINEE FOR SHERIFF. At election to be held June 1, 1908.

John Q. Peebler

DEMOCRATIC NOMINEE FOR RECORDER OF CONVEYANCES. At election to be held June 1, 1908.

Homer I. Watts, A. B., LL. B.

DEMOCRATIC NOMINEE FOR COUNTY SCHOOL SUPERINTENDENT. STATEMENT NO. 1. H. I. Watts, a republican, has been unanimously nominated and sanctioned by the democratic party of this county, purely in recognition of his qualifications for the office.

J. Hudeman

DEMOCRATIC NOMINEE FOR COUNTY COMMISSIONER. At election to be held June 1, 1908.

I am a native of Oregon.

Joseph N. Scott

Independent Candidate for JOINT REPRESENTATIVE for Morrow and Umatilla Counties. I subscribe to Statement No. 1.

Ralph Folsom

(Present Incumbent.) REPUBLICAN NOMINEE FOR COUNTY CORONER. At election to be held June 1, 1908.

C. A. Barrett

(Present Incumbent.) REPUBLICAN NOMINEE FOR REPRESENTATIVE. At election to be held June 1, 1908.

C. P. Strain

(Present Incumbent.) DEMOCRATIC NOMINEE FOR COUNTY ASSESSOR. At election to be held June 1, 1908.

The Brewery Depot SALOON

Main Street

Paul Hemmelgarn, Prop.

invites all his friends to call for a glass of the best beer in town. A cool, orderly stopping place for men.

Wines, Liquors, Cigars and Mixed Drinks.

The Office

Alfred Schneider, Prop. Main Street

The place to get a glass of Betz Beer

Wines, Liquors and Union Made Cigars

Courteous Treatment

Pendleton - - Oregon

FOLEY'S HONEY-TAR
for children; safe, sure. No opiates