

VALUATION SECTIONS IDAHO 2 & WASHINGTON 2.

The Plummer Junction to Manito Line usually known as the Spokane Line was built in 1913, to gain entrance to Spokane. About 15 miles of this line lies in the State of Idaho and for Valuation purposes is called Valuation Section Idaho 2. The other portion or about 5 miles, is in the State of Washington, and is called Valuation Section Washington 2. At Manito a connection is made with the O. W. R. & N. Ry., whose track is used by the C. M. & St. P. Co., between that point and Spokane.

When the Puget Sound extension was first contemplated it was intended that the line pass through Spokane and records show that in May 1906 a report was made on available places for the location of freight and passenger facilities in that city.

In the fall of 1906 a very complete reconnaissance was made covering several main line routes through Spokane and an alternate main line with a branch line to Spokane. From this report it was decided to route the main line as it was built and build the Spokane connection later. This report covered about 750 miles of line.

In the fall of 1908 the surveys for the branch line were undertaken. An exhaustive reconnaissance was made of all the territory lying south of Spokane and north of the main line between Malden, Washington and Ramsdell, Idaho. It seemed at this time that the most advantageous line would be one through Coeur d' Alene. Consequently very thorough investigations were made with that in view. Report was made covering the route leaving the main line at Ramsdell; thence following the St. Joe River and the Coeur d' Alene Lake Banks to Coeur d' Alene. The gradients on this route were excellent, but the expensive bridge work prohibited its construction.

A route leaving the main line at Plummer and passing through Coeur d' Alene was then investigated very thoroughly. Profiles obtained with barometric readings indicated that there was a wide choice of gradients.

Following this last reconnaissance a location party was placed in the field to obtain further information. This party worked from December, 1908, until March, 1909. The information obtained from this survey indicated that the route through Coeur d' Alene would be very expensive and consequently a route leaving the main line at Malden was investigated. Parties were in the field during the summer of 1909, investigating a line from Malden to Spokane, via Plaza and Hangman Creek, or an alternate main line connection between Rosalia and Plaza. These surveys did not develop a desirable location so the parties were transferred to Plummer to further investigate that route. They worked all fall and through the winter until late in March, 1910, and their surveys clearly indicated that nothing desirable could be found passing through Coeur d' Alene.

During the summer of 1910 reconnaissance was made investigating the possibilities of a line connecting with the O. W. R. & N. near Mica and in the following winter two location parties were put in the field with the result that two surveys were made, one connecting with the O. W. R. & N. at Mica and one at Dishman, the latter with the idea of obtaining a better grade between Mica and Dishman than the present operated O. W. R. & N. The gradients on these surveys were not satisfactory so the project was temporarily abandoned.

In the fall of 1911 another reconnaissance was made which out-lined the final route and during the winter of 1911-12 the final location survey was made.

Records show that between 1908 and 1911, 300 miles of reconnaissance, 650 miles of preliminary and 59 miles of location survey were made to produce the 20 miles of adopted and constructed line, or 33 miles of preliminary and 3 miles of location for each mile of adopted survey. Much of the work was done in winter weather when considerable snow was encountered. The territory on Plummer and Spokane route was largely covered with timber, but was settled to some extent and teams were used for transportation.

The construction was carried on under the supervision of an Assistant Engineer with three residency parties. The Assistant Engineer reported to the Division Engineer then in charge of the construction of the Spokane terminals, who in turn reported to the Assistant Chief Engineer in Seattle.

This branch leaves the main freight line at Plummer Junction, Idaho, and travels in a general northwesterly direction to its destination. At Plummer Junction it crosses over the Wallace Branch of the O. W. R. & N. Co., and the waters of Plummer Creek on one structure. From here it climbs for about two miles on a 1 percent gradient to a summit, then descends on a .75 percent gradient for six miles, then rises again at the same rate over a short summit and descends to Merritt, thence rises at the same rate to Saxby.

From Saxby the gradient is generally descending, .75 percent maximum until the Amwaco Branch of the O. W. R. & N. near Bell is crossed, from which place an ascent is made on a 7/10 percent gradient to Manito. Maximum curvature is 3 degrees except at Plummer where three 10 degree curves occur, and Manito where a 6 degree curve is used in making connection with the O. W. R. & N.

The grading, clearing, bridge and culvert work was done under contract by H. C. Henry, who sublet to three other firms, namely: Otto Hanson, Carlson & Chindahl, and Henry & McFee. The two former did all their own work but Henry & McFee relet a portion to smaller contractors. Outfits for the construction on the north end were delivered on the O. W. R. & N. at Lockwood, a point about a mile north of Manito Junction. From there they were moved over the county roads to the places of operation. Outfits for the central portion were delivered on the O. W. R. & N. at Ford, Idaho and delivered from there. For the South end Plummer was the Point of delivery by rail, from which place they were taken to the work over the county roads. The county roads on the northern end of the line were in fair condition and very little work was required, but for the central and southern portions considerable work was required for transporting the heavy outfits.

In general: the portion of the line in Idaho required clearing - some quite heavy. The portion in Washington is largely through land that had been previously under cultivation but some clearing was required where unimproved land was encountered. The grubbing varied in proportion to the clearing.

The grading was fairly heavy, averaging about 46,000 cubic yards per mile, largely of classified material.

A steam shovel was used in the two rock cuts on the work at Plummer Junction. The rock in these cuts was blue basalt, and was extremely hard. Steam drills were used and an extraordinary amount of explosive; notwithstanding which considerable of the rock required a second breaking up before the shovel could handle it. Part of the material from these cuts was hauled across the then operated main line to make the fills on the wye tracks and the wagon road to Plummer. This necessitated flagmen each way from the crossing and delayed the work to some extent. Special precautions were also observed in regard to blasting on account of the close proximity of the two operated lines of railroad, namely: C. M. & St. P. and O. W. R. & N. The two cuts across the draw from Plummer Junction on the loop curve were taken out by station men. The rock here was unusually hard. Most of this material was hauled across the bridge over Plummer Creek and the O. W. R. & N. and used in the station ground filling. A steam shovel was moved over the county road from Plummer Junction to the first summit cut and did all the work up to Mile Sixteen. Some of the material on Miles Seventeen and Eighteen was wasted above grade on account of the difficulty of maintaining track and hauling in the deep snow, and

a desire to push the work. A second steam shovel that was moved over county roads from Plummer did all the work on Miles Fourteen, Fifteen and Sixteen. On Miles One to Thirteen inclusive, two steam shovels were used in the heaviest cuts, one being moved overland from Ford and the other from Lockwood. Some of the lighter grading on these miles was done with teams. Bridges were built as per C. M. & St. P. standard plans. Material for the bridges at the northend was delivered by the O. W. R. & N. at Bell and for the south end at Plummer. Part of the material for the central portion was delivered at Ford. Teams were used to transport material from the points of delivery by rail to the scene of erection. Cedar piling was used, procured at St. Maries, or in the vicinity.

Several overhead wagon bridges for both public and private roads were built on this line.

Part of the culverts in Idaho were built of hewn timber obtained on the right of way. Suitable timber was not always found at culvert sites and some of this material was hauled for considerable distance. The other timber culverts were built of sawed timber hauled with teams from the closest point of delivery by rail. Some of the culverts under light fills were constructed of corrugated iron pipe.

The track was laid by hand in June, 1913, using Plummer as the material base. New 90# 33' rails were laid for the main line with lighter second hand material in sidings. A large portion of the ties were purchased elsewhere along the C. M. & St. P. line. A few were obtained on the right of way.

Ballast for the south end was brought via the main line from the Kenova Gravel Pit. The most of the ballast, however, came from the Spokane Bridge Pit about 12 miles east of Dishman on the Coeur d' Alene line. An extraordinary amount of ballast was used on account of the recently constructed fills settling abnormally under the weight of traffic.

A temporary water tank was installed at Camas Creek about four miles north of Plummer Junction for use during track laying and ballasting. Permanent water stations with drilled wells were installed at Plummer Junction and Manito.

Soon after track was laid material for right of way fence was distributed and fences built in accordance with the State specifications, and with cattle guards or gates at the road crossings, as needed.

The buildings were constructed by Company forces after track was laid. Depots were built at Plummer Junction, Worley, and Manito, and shelters at the less important sidings. Buildings for section facilities were built at places convenient to the work.

Telegraph material was distributed by work train and wire strung as soon as possible after track was laid. Despatcher's telephones were installed in booths at blind sidings in addition to the regular instruments in the depots.

Automatic signals have just recently been installed.

This line is operated as a part of the Idaho Division.

SPECIAL FEATURES OF CONSTRUCTION:

An especially expensive feature of the construction occurred at Plummer Junction where it was necessary to change the main line of the C. M. & St. P., the Wallace Branch of the O. W. R. & N., and build a new channel for Plummer Creek. Originally the main line of the C. M. & St. P. passed through Plummer Junction on a tangent lying north of the present depot location. To obtain sufficient room to make the loop and obtain a proper overhead clearance over the O. W. R. & N. the main line was changed, leaving the tangent east of the depot on a 10 degree curve, thence swinging back on another 10 degree curve which curve continued forms the loop for the Spokane line. The main freight line connects with the old tangent west of the depot. A comparatively level grade was desired through the station grounds where the passenger trains would make the station stop, which necessitated changing the O. W. R. & N. Wallace Branch to maintain proper clearance. A new roadbed was built for the O. W. R. & N. on the North side of the Creek channel and a new channel made for the creek. This gave the advantage of crossing both the railroad and the creek on one bridge.

The winter of 1912-13 was exceedingly severe in the vicinity of Plummer. About five feet of snow remained on the ground for a long period of time. The weather was exceedingly cold. The contractors had not expected such weather and were not prepared to combat it. Their water supplies for steam purposes were frozen and deep snow was a great impediment. Men would not work in the severe weather so considerable loss was experienced by all. The contractors cleared the snow for the fills under construction, but, unfortunately, the ground had frozen previously and when the spring thaw came these fills settled and spread in such a manner that many of them were almost entirely rebuilt. When the track was laid they again gave way and were raised with train hauled material. Wing ties were placed on all the big fills while ballast was being hauled to guard against the track tipping and overturning rolling stock. Damage was also done to bridge ends by this settlement.