

ORIGINAL

Decision No. 13706

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

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In the matter of the application of Santa Cruz County for order authorizing the construction of an undergrade crossing under tracks of the Southern Pacific Company at Aptos.	}	Application No. 9469.
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Lloyd Bowman, County Surveyor, and G. E. Rostron,
Chairman, Board of Supervisors, for applicant.

F. W. Mielke, for Southern Pacific Company.

E. C. Rittenhouse and Wyckoff and Gardner, by J.E.
Gardner, for certain property owners and resi-
dents of the district east of the railroad tracks
at Aptos.

Arthur E. Loder, for California State Automobile
Association.

WHITTESEY, COMMISSIONER:

O P I N I O N

In this application the County of Santa Cruz asks for
an order authorizing the construction of the county highway run-
ning from Santa Cruz to Watsonville under the track of Southern
Pacific Company near the north end of the latter's Valencia
Creek Bridge, a steel structure, about one thousand feet south
of Aptos Depot.

A public hearing was held on this application at Santa
Cruz on January 15, 1924 at which all interested parties were
represented.

The county road from Santa Cruz to Watsonville now passes from the north side to the south side of the railroad under the west end of the Aptos Creek railroad bridge about nine hundred feet west of Aptos Station, thence runs east and adjacent to the southerly side of the railroad right of way and around the railroad curve to the south to a point about five hundred feet south of the station where it crosses at grade and parallels the east side of the railroad right of way and crosses Valencia Creek about two hundred and fifty feet above the railroad bridge.

It is now proposed to modify the highway alignment as shown on the map attached to the application so that the road will not cross at the present grade crossing five hundred feet south of the station but will continue along the west side of the railroad right of way approximately five hundred and fifty feet farther where it will cross under the track, and over Valencia Creek to a point in the existing highway about six hundred feet east of the proposed subway. This proposed alignment fits almost entirely within a right of way of an old county road which at one time crossed under the old railroad trestle at approximately the same point at which it is now proposed to build the subway. This old right of way including that portion across the railroad has never been abandoned.

The county desires to separate the grades at Aptos at this time on account of the necessity of immediately renewing the present highway bridge over Valencia Creek. This bridge, which was built in 1901, is in poor condition and is too light for modern automobile traffic. The steel railroad bridge replaced the wooden trestle about 1904 or 1905. The construction of the subway will do away with the necessity of a new highway

bridge, will greatly improve the alignment of the highway by the elimination of four sharp curves and will in addition remove the through travel from the existing grade crossing.

In order to completely eliminate the existing grade crossing and yet accommodate local traffic a branch runway with heavy grades is proposed as a connection between the subway and Valencia Street, a north and south street running through Aptos to the Trout Gulch Road. Representative of the California State Automobile Association and the property owners of Aptos and vicinity testified that such a runway between Valencia Street and the subway would be very dangerous because of the steep grades and the obstructed view at the entrance of the subway. The route over the existing grade crossing is therefore preferable to serve the local traffic of the Trout Gulch road and the Town of Aptos. The Trout Gulch road runs east of the grade crossing and serves a fruit country about three miles wide and five miles long. This area yields some two hundred thousand boxes of fruit which is largely moved over the grade crossing in order to reach the independent packing houses north of the depot.

The County Engineer estimated the total local travel over the grade crossing from Aptos and Trout Gulch road would not be more than thirty-five vehicles per day in case the through travel were diverted through the subway. A traffic survey over this crossing made by Southern Pacific Company covering three days is as follows:

<u>Date</u>	<u>Autos</u>	<u>Motor- cycles</u>	<u>Teams</u>	<u>Pedes- trians</u>	<u>Bi- cycles</u>	<u>Steam Rollers</u>	<u>Total</u>
Jan. 11, 1924	773	-	8	147	-	2	930
Jan. 12, 1924	943	-	16	229	3	-	1191
Jan. 13, 1924 (Sunday)	1779	15	5	148	7	-	1954

There were twelve trains on the week days and ten on the Sunday of this survey over the crossing.

It would therefore appear that an average of about one thousand automobiles a day will be taken off the grade crossing if the subway is built.

Estimates submitted by the county for renewal of the existing highway bridge as compared with proposed line change and for two types of subway, are as follows:

Renew bridge - One 150 foot span and five 30 foot girder spans	\$46 287.00*
New line change - including fill over creek over 12'x 12' culvert and subway with 60 foot normal deck girders	58 500.00
Subway only with 50 foot skew deck girder span	20 453.40
Subway only with 60 foot normal deck girder span	19 470.00

*Does not include 1000 to 2000 cu.yds. of fill in bridge approaches.

The sixty foot normal deck plate girder span appears to be the preferable structure to install at this location. The cost of this structure including sixty foot girders and deck on two concrete abutments with the necessary earthwork between and two feet outside the abutments but not including cost of approaches, twelve foot by twelve foot culvert and paving is as follows:

S.P. Underpass - 60' Steel Deck Girders - Right Angle Span

Temporary Structure-S.P.Tracks-PILE trestle-Erect and remove	\$ 2 500.00
Excavation-Underpass only-1' outside- $\frac{1}{2}$:1 slope 3000 cu.yds. @ \$1.50	4 500.00
Concrete Abutments and walls-Class "C" 1:3:6 400 cu.yds. @ 15.00	6 000.00
60 Foot Steel Girder Span in place 47,500 pounds @ .08	3 800.00
Timber structure-Ties, Walks, Gd. Rail 7.2 M.F.B.M. @ \$125.00	900.00
Total	\$17 700.00
Overhead, Insurance, Incidentals - plus 10%	1 770.00
	<u>\$19,470.00</u>

Southern Pacific Company did not object to the construction of the subway if the sixty foot normal deck plate girder span

were installed but suggested that three other alignments were feasible and cheaper than the plan proposed by applicant in that they would do away with the necessity of constructing the subway by carrying the highway under the existing steel railroad bridge. One of the suggested line changes would cross under the thirty foot plate girder span on the northerly end of the bridge with approach grades of about five per cent. The second alignment suggested would cross under the main one hundred and fifty foot bridge span with grades of approach of seven per cent or more. The third alignment suggested would cross the creek on a fill with culvert below the railroad bridge and pass under the two thirty foot spans on the southerly end of the bridge. This alignment requires additional right of way and would give a wide or double roadway with a pier in the center. All three of these alignments would require short radius right angle turns, and the second would in addition require heavy grades. Proper alignment of roadway and the safety of some thirty thousand travelers per month should not be sacrificed, however, by poor highway alignment and grades in order to save a relatively small portion of the cost of a grade separation in a lengthy highway improvement. The railroad company asked to have the proposed alignment shifted seven feet to the north parallel to itself through the subway in case this application were granted so that piles could be driven without danger of forcing the existing abutment over the creek bank.

Mr. Arthur E. Loder, Engineer of the California State Automobile Association, testified that many right angles under-grade crossings have been installed which are as dangerous to automobile traffic due to blind corners at abutment walls as were the original grade crossings eliminated. He also objected

strongly to divided roads with bridge piers in the center as most dangerous. There is an undergrade crossing west of Aptos with sharp right angle curves where three people were killed in 1923.

It appears after giving due consideration to grades, curvature, additional right of way cost and permanence of construction, safety to travel and all other factors, that the route contemplated in the application with the sixty foot girder span subway is the best that can be selected for through traffic in this vicinity.

Southern Pacific Company raised some objections to the capacity of the twelve foot by twelve foot culvert proposed by the county engineer to carry Valencia Creek under the highway fill approaching the subway, but the testimony shows that the Davenport branch of Southern Pacific Company north of Santa Cruz, which runs through a country physically very similar in character to the country around Aptos, is carried over San Vicente Creek on a fill with a twelve foot by fourteen foot culvert. San Vicente Creek has a slightly greater drainage area than Valencia Creek. If an arch bridge were used instead of fill and culvert, the material excavated from the subway would have to be wasted.

There remains to be considered the matter of the distribution of cost. The railroad company objects to paying any part of the cost of construction of the subway because they believe that one of the alternate routes suggested by them does away with the necessity of constructing the subway; and because the existing grade crossing cannot be closed as it serves local needs. These objections do not appear sufficient to relieve the railroad from bearing some portion of the cost of an improvement which will eliminate a traffic of approximately one thousand vehicles a day from crossing its track at grade. The decrease in liability to the railroad company which this grade separation will accomplish is worth many times the portion

of the cost which may reasonably be assessed against it in this proceeding.

Under ordinary circumstances on new construction or where heavily traveled grade crossings can be eliminated by grade separation one-half of the cost has frequently been assessed to the railroad company. It would not appear equitable to charge this proportion of the cost to the railroad in this case for the several reasons already stated by the railroad and for the further reason that the original grade separation appears to have been abandoned by the county about twenty years ago. It does not appear that the railroad should pay for any portion of the highway up to the subway proper. After consideration of all the evidence in this proceeding it appears equitable to divide the cost of the subway proper one-fourth to the railroad and three-fourths to the applicant.

The following form of Order is recommended:

O R D E R

The County of Santa Cruz having applied to the Commission for an order authorizing the construction of an undergrade crossing under tracks of Southern Pacific Company at Aptos, a public hearing having been held, the Commission being apprised of the facts, the matter being under submission and ready for decision,

IT IS HEREBY ORDERED, that the County of Santa Cruz be and it is hereby granted permission to construct an undergrade crossing under the tracks of Southern Pacific Company near Aptos, County of Santa Cruz, State of California, approximately seven feet northerly of the location shown on the plan attached to the application and substantially in accordance with plan as shown on County's Exhibit No. 5 entitled "Preliminary Plan No. 2", and subject to the following conditions:

(1) All clearances shall comply with the Commission's General Order No. 26.

(2) Said subway shall be constructed in accordance with detailed plans and specifications which shall be filed with and approved by the Commission.

(3) Applicant shall, within thirty (30) days thereafter, notify this Commission, in writing, of the completion of the installation of said crossing.

(4) The authorization herein granted for the installation of said crossing will lapse and become void one year from the date of this order unless further time is granted by subsequent order.

IT IS HEREBY FURTHER ORDERED, that the expense of constructing the subway with sixty foot steel deck plate girder right angle span in accordance with limits of construction included in the preliminary estimate as shown on Applicant's Exhibit No. 2, page two shall be divided as follows: Three-fourths of said cost shall be borne by the applicant and one-fourth of said cost shall be borne by Southern Pacific Company. All other costs including approaches, concrete tunnel and culvert and paving shall be borne by applicant. Cost of maintenance of superstructure of said subway shall be borne by Southern Pacific Company. Cost of maintenance of substructure shall be borne by applicant.

The foregoing Opinion and Order are hereby approved and ordered filed as the Opinion and Order of the Railroad Commission of the State of California.

Dated at San Francisco, California, this 1st day of February, 1924.

C. Leary
H. B. Brundage
Quincy Mason
Egerton Shore
J. T. Whitlsey
Commissioners.