cancelled and this Armstrong battleship linoleum was substituted by Burnham, Stoepel & Co.

While the original amount was bonded as usual, no bonds were exacted from this local concern as the amount involved is rather insignificant.

There is money available in our building fund but no payment has been made because of the technicality of bonds. The Controller, however, stands ready to make this payment in full upon the approval of your Honorable Body.

Respectfully yours,
ADAM STROHM,
Librarian.

General order for Tuesday, March 21.

From the Recorder's Court.

To the Honorable the Common Council:

Gentlemen—I respectfully report to your Honorable Body that a jury duly impanelled in the Recorder's Court, in the matter of widening Livernois Avenue from Bivouac Avenue to Plumer Avenue, to a width of 100 feet, across the right of way of the Wabash, New York Central and Michigan Central Railroads, and through any privately owned property necessary to be taken, to conform to the scheme of grade separation, as a public street and highway, rendered a verdict in favor of said opening Friday, Dec. 30, 1921, which was confirmed by the Court Saturday, March 11th, 1922.

In accordance, I herewith transmit a certified copy of order of confirmation.

Respectfully,
CHAS. W. CASGRAIN,
Clerk.

Accepted and placed on file.

Unanimous consent being granted, the following was offered out of order.

By Councilman Littlefield:

Resolved, That the Controller be and he is hereby directed to draw his warrant in payment of the sum of the verdict rendered in the matter of widening Livernois avenue from Bivouac avenue to Plumer avenue, as confirmed March 11, 1922, further

Resolved that there be hereby ratified a stipulation made during the trial of said cause whereby

(a) The westerly 34 feet of Lots 1 and 2, plat of Welch's subdivision of the southerly part of Private Claim 574, according to plat recorded in Liber 3 of Plats at Page 45, Wayne County Records, otherwise described as that part of said Lots 1 and 2 designated as beginning at the southwest corner of said Lot 2; thence on the southerly line of said Lot 2 along the northerly line of Toledo avenue, 34 feet; thence north 28 degrees west, on a line parallel with the easterly line of Livernois avenue (a highway 66 feet wide) and distant 34 feet therefrom, across said Lots 1 and 2 to the northerly line of said Lot 1 (said northerly line of said Lot 1 being the southerly line of the right-of-way of the Michigan Central Railroad); thence south 39 degrees, 20 minutes, 50 seconds west along the last mentioned line 36.84 feet to the easterly line of Livernois avenue (a highway 66 feet wide); thence along said easterly line of Livernois avenue south 28 degrees east, to the place of beginning, Detroit, Michigan, will be taken by the City of Detroit (Livernois avenue).

(b) That part of Lot 8 of the same subdivision (Welch's) designated as beginning at a point on the northerly line of said lot distant south 27 degrees, 19 minutes west, 55.32 feet from the northeast corner of said lot as platted; thence south 28 degrees east 23.88 feet; thence north 54 degrees east minutes west, 19.88 feet to the northerly line of said lot; thence along the said north line of said lot north 27 degrees, 19 minutes east 10.84 feet to the place of beginning; also land in said subdivision (Welch's) designated as beginning at a point on the northerly line of said Lot 8 distant south 27 degrees, 19 minutes west, 55.72 feet from the northeast corner of said lot; thence continuing south 27 degrees, 19 minutes west along the north line of said Lot 8, 10.84 feet; thence north 54 degrees, 54 minutes west, at right angles across an alley platted in said subdivision, to the northerly line of said alley; thence along the northerly line of said alley north 27 degrees, 19 minutes east 66.56 feet; thence south 54 deg. 54 min., east across said alley 20 feet; thence south 27 deg. 19 min., west 56.72 feet to the place of beginning; laso land in said subdivision which may be designated as the alley extending northerly from Toledo avenue to the Michigan Central Railroad right-of-way, east of Lots 8 to 16, inclusive, and west of Lots 17 to 29, inclusive, Detroit, Michigan, will be taken by the City of Detroit (Military avenue).

(c) No compensation, excepting as same is made therefor in the payment of seven thousand dollars as hereinafter mentioned, is to be paid because of changes of grades of the Michigan Central Railroad tracks, Livernois avenue, Military avenue or Toledo avenue, as said changes affect the land situated east of Livernois avenue, north of Toledo avenue, west of military avenue and south of the Michigan Central Railroad right-of-way (reference being had to Military and Livernois avenues as they will be when the land above described is taken by the City of Detroit and not as they are disclosed by the plat of said Welch's subdivision).

(d) The land described in paragraph (c) preceding is not to be subjected to any special assessments for widening Livernois avenue (file 1239, Recorder's Court), or for opening Military avenue, (file 1223. Recorder's Court), or for separating grades of railroads northerly of said land and Livernois avenue, or Military avenue or for changing the grade of Toledo avenue to conform to that fixed in said separation of grades or for the paving or repaving of any of said street paved or repaved as part of the work of grade separation.

(e) On the land last above described concrete retaining walls similar to those in like situations elsewhere in Detroit will be constructed without cost to those holding said land, if while the work of grade separation is in progress after notice thereof to the United Fuel and Supply Company it is indicated that walls are desired along the east line of Livernois avenue and the north line of Toledo avenue and the west line of Military avenue.

(f) All alleys abutting or intersecting the land described in paragraph (e) preceding are to be unconditionally vacated (said vacation being the subject matter of a further resolution).

(g) No claim is to be made by the City of Detroit for the occupation to May 1, 1922, of a part of Military avenue east of the land described in paragraph (e) preceding, heretofore conveyed to the City of Detroit and now contemplated to constitute a part of said Military avenue as said highway is to be, north of Toledo avenue.

(h) Payment of seven thousand dollars is to be made those held entitled thereto by the said verdict, on the execution of such satisfaction therefor and on the execution of such other instruments by those taking said sum as in the judgment of the Corporation Counsel are required by the matter foregoing.

Adopted as follows:

Yeas—Councilmen Bradley, Castator, Ewald, Littlefield, Nagel, Vernor, Watson and the President—8.

Nays—None.

By Councilman Littlefield:

Resolved, That all alleys abutting or intersecting land situated east of Livernois avenue, north of Toledo Avenue, west of Military Avenue, and south of the Michigan Central Railroad right-of-way (reference being had to Livernois Avenue and Military avenue opened as contemplated in file 1239 and file 1223 of the Recorder's Court for Detroit, respectively, and not as they are disclosed to be by the original plat of the subdivision of which said land is part), Detroit, Michigan, be and they are hereby unconditionally vacated.

Adopted as follows:

Yeas—Councilmen Bradley, Castator, Ewald, Littlefield, Nagel, Vernor, Watson and the President—8.

Nays—None.

From the City Plan Commission.

To the Honorable, the Common Council:

Gentlemen—Acting upon the resolution of your Honorable Body requesting that the City Plan Commission study the advisability of acquiring for park, recreational or other municipal purposes the triangular piece of land bounded on the north by Harper Avenue, on the west and south by Connors Avenue, and on the east by property owned by the City of Detroit, being approximately one acre in area, the matter was considered by the Commission at its last regular meeting, and the following recommendation is offered for your consideration:

The property is now surrounded on all sides, except the north, by property already owned by the City of Detroit, and is diagonally opposite from the proposed Conners Creek Parkway. It is the opinion of the Commission that this property should have been acquired when the property, which now surrounds it, was condemned by the city, and that such triangular strip could be well utilized for park or other municipal purposes. We would, therefore, recommend that the above described parcel of land be acquired by the city.

Respectfully submitted,

T. GLENN PHILLIPS,

Consultant-Secretary.

General order for Monday, May 20.

From the Research Engineer.

To the Honorable the Common Council.

Gentlemen—In compliance with the order of your Honorable Body (J. C. C. page 1794, Sept. 27, 1921). I wish to report that I have made a series of tractive resistance measurements on streets paved with concrete, asphalt, brick and cedar block. The tests were made with a traction dynamometer of the Regnier type as made by the Olson Testing Machine Co., of Philadelphia, Pa. Trolley buses with motors were hauled by a truck, tne dynamometer being a link between. Speed 10 miles per hour. There were 134 readings made on the four types of pavement mentioned.

The tests were made on Montclair, Harper, Cadillac, Waterloo, Mack, St. Clair and Shoemaker. The following values for tractive resistance were found: For concrete 47.8 pounds per ton; asphalt 74.6 lbs. per ton; brick 115.0 lbs. per ton; cedar block 109.2 lbs. per ton. The coeffficients being: concrete 2.39 per cent asphalt 3.73 per cent, brick 5.75, cedar block 5.46 per cent.

A portion of the concrete road tested was along the M. O. lines. This concrete is an excellent roadway and has a good surface. The asphalt pavements observed were in a fair condition but had a somewhat wavy and undulating surface. This together with the softer character of the material accounts for the fact that 56 per cent more power was required to pull a load over its surface.

The tests on brick and cedar blocks were over surfaces in rather bad contion. The results of these tests are valuable in that they point out what, relatively, may be expected in power cost from the use of various types of pavements and the condition thereof.

The effect of a wavy or undulating surface of a pavement is an absorber of power and introduces serious stresses in the pavement. A wave every 20 feet apart, 1 inch high, will absorb 1 1-3 horse power in a vehicle weighing 6 tons and traveling 10 miles per hour.

As a basis of comparison of the power required to draw the buses over the streets named, I wish to say that on a good railway the tractive effort runs from 6 to 12 lbs. per ton, or about ⅛ to ¼ of the best result obtained in these tests.

I have made a study of the loading of trucks and the distribution of load on the surface of asphalt pavements. I have found that in mid-summer with the manufacturer nominal rating of truck tires, the yield point of asphalt is reached and grooves are formed in surface.

In my opinion it will prove of much benefit to design an instrument in the form of a modified seismograph, which can be used to measure the roughness on pavement surfaces and a definite limit be made for such roughness before acceptance of pavement.

Respectfully submitted,

J. C. McCABE,

Research Engineer.

General Order for Friday, Mar. 17.

From the Clerk.

That he presented such portion of the proceedings of the last regular session as is required by the Charter to be so presented, to His Honor the Mayor for approval on the 13th inst. and that they were approved on the 13th inst.

Placed on file.