

ARTHUR E. MORGAN

CIVIL ENGINEER
ST. CLOUD, MINN.



TELEPHONE 365-L

April 29, 1907.

Mr. Arthur A. Caswell,
Anoka, Minn.

Dear Sir:

I enclose herewith report on washed out tile, one copy for yourself and one copy for Mr. Stephens.

Very truly yours,

Arthur E. Morgan
Ray M

St. Cloud, Minnesota,

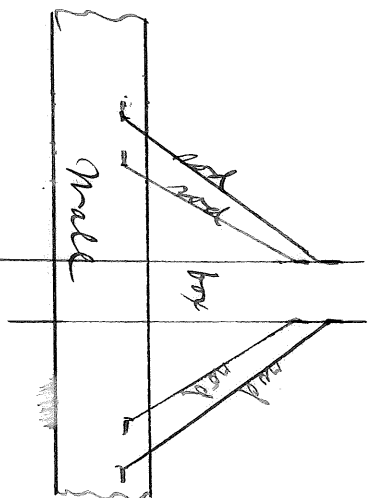
April 29, 1907.

Mr. L. L. Stephens,

Anoka, Minn.

Dear Sir:

In reference to repairing the washout at the outlet of Ditch No. 42: While the water in Run River is at its present stage, it will, perhaps, be difficult to replace the tile which have washed out. If so, you should protect the other tile from washing out at present, and replace the remaining ones ~~when the flush boards~~ when the flush boards are removed from the draw and the water goes down. By filling in a mixture of coarse concrete, say, one part of Portland cement to five parts of sand, about the tile and extending the mixture two and a half feet either side of the tile and one and a half feet above and below, I think you can keep the tile from washing out further. Then, when the water goes down, replace the other tile and the box. At the end of the box, place a concrete retaining wall. This should be of concrete made of one part portland cement, ^{three parts sand} and five parts gravel. It should reach from one and a half feet below the bottom of the tile to one and a half feet above the same, and should be five feet wide. The thickness at the bottom should be ~~one and a half feet~~ ^{one foot}; at the top four inches. Four half inch iron rods, eight feet or more long, scrap iron will do, shall be bedded in the cement at one end in the form of a hook and be fastened to the box at the other end as indicated.



Stephens-2-

APRIL 29, 1907.

The box shall extend through the concrete wall about two feet.

You are to do this in a reasonable and businesslike manner.

The concrete work will be estimated at \$12.00 per cubic yard, the other work at the same price allowed in the contract.

Arthur S. Morgan

Engineer.