



MHF ENGINEERING, P.C.

ENGINEERS - LAND SURVEYORS

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March 26, 2010

Webster County Board of Supervisors
Webster County Courthouse
703 Central Avenue
Ft. Dodge, Iowa 50501

Re: Engineer's Report
Main Tile Investigation
Drainage District No. 197 Main Tile
Webster County, Iowa
MHF Project No. 08123

Dear Board Members:

The requested Engineer's Report is as follows:

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Engineer's Report

Appendix

Petition

Project Photographs

Plan Sheets

Engineer's Report

Purpose

This report is being prepared in response to the Trustees request for such a report for those improvements and recommendations to that area of tile located in Section 12, Gowrie Township, Webster County, Iowa. The lands directly east of the Union Pacific RR frequently flood and relief is being requested from that flooding. The petition specifically states *"To the Board of Supervisors of Webster County, Iowa. The undersigned ask that a drainage relief line and intake commencing at 20' from the railroad right of way on the east side of the tracks and running thence to the open dredge on the west side of the tracks and terminating at the dredge, be installed under the tracks to relieve pressure on the main. Your petitioners further state that the lands situated in Section 12 of Gowrie township are subject to overflow (or are too wet for cultivation or subject to erosion or*

flood danger), and the public benefit, utility, health, convenience and welfare will be promoted by the above mentioned project.” This report will address that problem as well as remedies to prevent that flooding.

Location & General Information

The Drainage District 197, Main Tile, drains lands located in Section 12, Gowrie Township, Sections 4, 5, 6, 7, 8 and 9, Gowrie Township, and also Sections 32 and 33, Clay Township, all located in Webster County, Iowa and drains approximately 2,000 acres according to the existing classification schedules. Those lands drained by the D.D. 197 Main Tile, include all the lands in D,D, 106 as well as a portion of Section 12, Gowrie Township, which is also a part of D,D, 197. The location of the flooded area is within an area that apparently used to be a shallow lake or pond many years ago and the soils are primarily classified as soil type 21 or muck (peat) beneath which the D.D. 197 Main Tile, is located. This land is also used primarily for a golf course that has experienced extensive flooding in the past few years and was extremely wet in 2008. In 1910 there was an open ditch located in the same location as the D.D. 197 Main Tile, when D.D. 106 was originally established. This open ditch was privately owned and naturally drained into the natural creek or waterway that was straightened and constructed into the D.D. 197, Open Ditch, when that district was formed in 1914. It was at this time that the open ditch which served as the outlet for the D.D. 106 tile was converted into a tile system, which is known today as the D.D. 197 Main Tile. The following history is a chronology of the development of the drainage system for this watershed.

History

June 30, 1909 Petition to establish D.D. 106.

March 8, 1910 Engineer's (J.G. Prosser) preliminary report with assessment schedule, showing no lands in Section 12-T86N-R30W.

June 16, 1910 Claim for damages of \$500.00 due to the fact that the D.D.106, Main Tile outleted into a privately constructed open ditch in Section 12-T86N-R30W.

June 20, 1910 Engineer's report states that Lateral 2 as requested be omitted due to land owner(s) request to construct this later themselves with oversight by project engineer.

July 5, 1910 Establishment of D.D. 106

October 6, 1910 Begin construction of D.D. 106

September 12, 1912 D.D. 106 was completed as required by specification.

1914 D.D. 197 was established

September 17, 1914 Engineer's report included the addition of 3200' of 32" Main Tile and 358' of 28" Main Tile as an outlet for the D.D. 106 tile in lieu of the private open ditch. The D.D. 197 tile begins at the new bulkhead of D.D. 197. The tile was constructed in response to the private landowners concern that open ditch capacity was not adequate to handle flows from watershed that would be draining into it.

April 1, 1965 D.D. 197 Main Tile was reclassified which did include those lands in D.D. 106.

Field Investigation

A field survey of the project area included taking elevation and location shots on the existing tile and culverts using GPS survey equipment. The results of that survey can be found on the attached plans.