



Jordan, Jones & Goulding, Inc.
Engineers & Planners

July 17, 1989

Mr. Dennis Graham, P.E.
Duncan, Lagnese and Associates, Inc.
3185 Babcock Blvd.
Pittsburgh, Pennsylvania 15237

RE: TCE Removal System
Vanport Township
Beaver County, Pennsylvania

Dear Mr. Graham:

In calculating the total head necessary for the clearwell pumps for the referenced project, we note a disparity between your specified capacity and total head and our calculated capacity and total head.

To generate the system - head curve for the pumping facility, we asked for and received the following from David Brooks, with the Vanport Township Municipal Authority (VTMA):

1. Static Head - This was calculated at 225.00 feet based upon a tank overflow elevation of 970.00 and the low level elevation in the clearwell of 745.00 (approximately 10 feet below existing grade in the water plant yard).
2. Water System Configuration - In simple terms, there is a 12-inch main to each of the two tanks, each approximately 4,700 LF. Numerous mains and fire hydrants are connected into these two mains between the water plant and the tanks as observed on the water system map that Mr. Brooks showed us.
3. Observed Pressure at the water plant - A gauge located in the basement of the Authority Building indicated approximately 90 psi. Mr. Brooks told us that the highest pressure he has observed at the gauge was approximately 95 psi. This information was used only to substantiate our calculations.

Using the above information, we have calculated that for the design flow of 2.7 MGD (1,875 gpm), with two pumps running, the total head at the pumping facility will be 247 feet. The operating conditions for a single pump would therefore be 938 gpm at 247 feet of total head; this point being on the pump curve, but not the system curve. The point on the system curve is approximately 1,000 gpm at 233 feet of total head at the

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intersection of the pump head curve and system curve (for a single pump). This point will vary only slightly, depending on make of pump selected.

We sincerely want Vanport to get clearwell pumps that are properly sized for the application. Since you serve as their consultant and have knowledge of their water system, perhaps we have inadvertently overlooked something. Please review the data outlined above and provide your input to me as soon as you can. Should you want to review our calculations, I will be glad to provide you with a copy. A reply within a week from today would be greatly appreciated.

Sincerely,

JORDAN, JONES & GOULDING, INC.



Thomas N. Miller, Jr., P. E.

TNM:kmp

cc: Mr. Ed Walker
Mr. Sam Wells
Mr. Ron Bumiller

2-1072.001.02

duncan, lagnese & associates, inc.

3185 BABCOCK BOULEVARD, PITTSBURGH, PA. 15237
TELEPHONE: (412) 931-8400 • (412) 364-5403

consulting engineers



July 25, 1989

Mr. Edward M. Walker
Westinghouse Electric Corp.
One Tuscarawas Road
Beaver, PA 15009

SUBJECT: VANPORT TOWNSHIP MUNICIPAL AUTHORITY
TCE REMOVAL PROJECT

Dear Mr. Walker:

The Vanport Township Municipal Authority has given me the authorization to forward you the enclosed copy of the "Report of Geotechnical Engineering Investigation, Proposed Clearwell Building, Water Treatment Plant" prepared by GeoMechanics, Inc. for the subject project.

The Authority presumes that their costs for this geotechnical investigation and report will be reimbursed by Westinghouse Electric Corporation.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Dennis E. Graham', written over a horizontal line.

Dennis E. Graham

DEG:dy/2394C

Enclosure

cc: Vanport Township Municipal Authority