

GEOCRES No. _____

DIST. 4 REGION _____W.P. No. 435-92-00

CONT. No. _____

W. O. No. _____

STR. SITE No. _____

HWY. No. G.E.W.LOCATION G.E.W. Jordan Harbour
to Sixteen Mile CreekNo of PAGES - Hydrogeological StudyOVERSIZE DRAWINGS TO BE INCLUDED WITH THIS REPORT.

REMARKS: _____

MEMORANDUM



To: P. Verok
Area Construction Engineer
Central Region

Date: June 24, 1994

Atten: D. Simmington
Project Supervisor

From: Foundation Design Section
Room 315, Central Building

Tel: 235-3731
Fax: 235-5240

Re: Hydrogeological Monitoring
Contract 94-53
District 4, Burlington

Further to our memorandum dated May 6, 1994, a review of the plans, profiles and cross sections for the above mentioned project and a site visit has been conducted in an attempt to establish the extent of a project-specific hydrogeological monitoring program. In our opinion, based on the proposed depths of cuts of 1 to 2 metres confined to the QEW only and the fact that in many areas the current QEW is at a higher elevation than the adjacent ground, influential hydrogeological problems are not anticipated. Therefore a water level piezometer monitoring system is not recommended at the site.

Although, a water level piezometer monitoring system is not required, a well survey can still be coordinated to collect a reference database of water levels.

If you have any questions regarding the hydrogeological aspects of this project, please do not hesitate to contact this office.

A handwritten signature in dark ink, appearing to read "T. Sangiuliano".

T. Sangiuliano, P. Eng.
Project Foundation Engineer

for

P. Payer, P. Eng.
Sr. Foundation Engineer

TS/PP/mmj

MEMORANDUM



To: P. Verok
Area Construction Engineer

Attn: S. Boot
Project Supervisor

From: T. Sangiuliano, P. Eng.
Foundation Engineer

Re: Hydrogeological Study-Jordan Harbour to 16 Mile Creek
QEW, WP-435-92-00
District 4, Burlington

May 6, 1994

*See S1800C of File =
Name of those sep
with foundations.
All
⇒ file*

Further to your attached memorandum, it is recommended that a site reconnaissance be coordinated and that a hydrogeological monitoring program be planned for the areas that may be influenced by the proposed excavation cuts. The monitoring program should include a well survey as suggested in your memorandum and a water level piezometer monitoring system.

This work can either be undertaken by the MTO or by a consultant retained by the MTO. Should MTO conduct the work, it is recommended that MTO Construction coordinate the well survey and that our office develop and install the appropriate monitoring system. In order to define the extent of the monitoring system relevant information (plans, cross sections, proximity to residential homes and agricultural areas) is required. A review of this information can be followed by a site visit.

Should it be decided to retain a Consultant, it is suggested that liaison with our office be maintained throughout the design, installation and execution of the monitoring. Our office can assist in developing the terms of reference and the scope of work and also can review any Consultant proposal.

We trust the above comments are of assistance in developing a strategy for the hydrogeological monitoring in this area. If you have any questions or require additional information, please do not hesitate to contact this office.

RECEIVED

MAY 12 1994

BURLINGTON CONSTRUCTION OFFICE

T. Sangiuliano
T. Sangiuliano, P. Eng.
Foundation Engineer

for

P. Payer, P. Eng.
Senior Foundation Engineer



MEMORANDUM

TO: Dave Dundas
Acting Chief Foundation Engineer
Foundation Section

FROM: Susan Boot
Project Supervisor
Contract 93-71

RE: Well Survey
WP 435-92-00
Jordan Harbour to Sixteen Mile Creek
Q.E.W.

In June, WP 435-92-00 is scheduled to go to tender with working days to begin in mid-July. With our experience on contract 93-71, the adjacent contract from Fairlane Road to Fifth Street, we would suggest the undertaking of a well survey in the area.

Contract 93-71 was awarded and construction began without an initial well survey and the construction seems to have effected area wells. Well complaints surfaced shortly after excavation was complete and a hydrogeological firm was hired to study the area in early November of 1993.

The excavation and the boreholes provided with the contract identified a 1m deep silty sand seam, approximately 1 to 2m below the existing ground elevation. Area property owners believe this water-bearing seam supplies their predominately shallow dug wells.

The hydrogeological report found the aquifer to have typically large seasonal water level fluctuations and a 40m zone of influence from the excavation. Most complaints were from outside this influence area but with no history of area wells it will be difficult to exonerate the Ministry.

With similar geological and hydrogeological characteristics expected in the area of WP 435-92-00 and a design that consists of 1 to 2m cuts and a sewer to be constructed at elevations approximately 3 to 4m below the existing ground level, we expect the excavation to intersect the shallow water-bearing zone. To avoid problems encountered on contract 93-71, we suggest the incorporation of an initial well survey and possibly a well monitoring program into WP 435-92-00. The Construction Supervisor, Norm Metcalfe, has been informed and would appreciate your comments.

If you have any questions or concerns, please contact me at
(905) 646-8211 or (905) 646-9959.

Sincerely,



Susan Boot
Project Supervisor

c.c N. Metcalfe

MEMORANDUM



To: D. Dundas, P. Eng.
Chief Foundation Engineer (Acting)

May 6, 1994

From: T. Sangiuliano, P. Eng.
Foundation Engineer

Re: Well Survey-Jordan Harbour to Sixteen Mile Creek
WP 435-92-00
QEW
District 4, Burlington

Further to the attached memorandum, it is recommended that a site reconnaissance be coordinated and that a hydrogeological monitoring program be planned for the areas that may be influenced by the proposed excavation cuts. The monitoring program should include a well survey and a water level piezometer monitoring system.

This work can either be undertaken by the MTO or by a consultant retained by the MTO. Should MTO conduct the work, it is recommended that MTO Construction coordinate the well survey and that our office develop and install the appropriate monitoring system. In view of our current workload, it is suggested that the extent of the monitoring system be defined before our office commits to accepting this work.

Regardless of how the work is going to be managed, it is suggested that liaison with our office be maintained throughout the design, installation and execution of the monitoring. Our office can assist in developing the terms of reference and the scope of work and also can review any Consultant proposal.

In developing a response, I suggest that additional information be requested (plans, cross sections, proximity to residential homes and agricultural areas) and a site visit be implemented. A decision can then be made as to how this work can be administered based on the review of this information.

I await your comments and direction before I proceed.

A handwritten signature in dark ink, appearing to read "T. Sangiuliano", written over a horizontal line.
T. Sangiuliano

MEMORANDUM

TO: Dave Dundas
Acting Chief Foundation Engineer
Foundation Section

FROM: Susan Boot
Project Supervisor
Contract 93-71

RE: Well Survey
WP 435-92-00
Jordan Harbour to Sixteen Mile Creek
Q.E.W.

Tony
- your comments
- I hope someone
else will do this
survey

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If you have any questions or concerns, please contact me at
(905) 646-8211 or (905) 646-9959.

Sincerely,

A handwritten signature in cursive script, appearing to read "S. Boot".

Susan Boot
Project Supervisor

c.c N. Metcalfe