

ITEM 37
MANAGER'S REPORT NO. 51
COUNCIL MEETING Aug. 5/75

RE: BARRICADES - 4840 EMPIRE DRIVE

On April 21, 1975, Council received the attached report regarding a request for the installation of a barrier to protect residential properties on Empire Drive from vehicular mishaps (the large, oversized plan that accompanied Item 15, Report No. 29, is not attached but can be obtained upon request from the Engineering Department). Following is the motion that was adopted by Council at that time:

"That the Municipal Engineer bring forward a report in reference to the cost and proper type of barricade required to withstand an impact with the barricade being installed on municipal property."

Following is a further report from the Municipal Engineer on this matter.

RECOMMENDATIONS:

1. THAT the Municipality not set any precedents by becoming involved in providing any form of barricade or structure to protect an individual from the negligence of others; and
2. THAT the Municipality not prohibit the Kolbus' from erecting their own barrier at their front property line; and
3. THAT the Kolbus' be sent a copy of this report.

* * * * *

25 July, 1975

TO: MUNICIPAL MANAGER
FROM: MUNICIPAL ENGINEER
SUBJECT: Barricades - 4840 Empire Drive
Item 15, Municipal Manager's Report No. 29/75

In compliance with a Council resolution at its meeting of 21 April, 1975, that:

"the Municipal Engineer bring forward a report in reference to the cost and proper type of barricade required to withstand an impact with the barricade being installed on Municipal property,"

we called for design and estimates from a number of Consulting Engineering firms. Two firms responded to our call and the firm of N.D. Lea and Associates, who indicated some definite proposals, were commissioned to prepare a technical report on the subject.

We are attaching copies of their report for the information of Council.

In summing up their findings it is noted that they support our original reports in that they do not recommend any type of rigid barricade as such an obstacle or obstruction could inflict serious injury to any occupant of a vehicle that was to strike it. Instead they have based their design on a non-rigid or flexible type of barrier that would have the potential to slow a vehicle down in such a manner as to stop it from striking the homes, and at the same time minimize injury to the vehicle occupants.

Worthy of special note is the fact that the consultant's design proposal, which will cost an estimated \$5,000 to install, is only calculated to stop vehicles up to 5000 lbs. in weight. A vehicle weighing 30,000 lbs. could possibly be stopped if it was not exceeding a speed of 24 m.p.h. when it struck the barrier, a speed that is bound to be exceeded if a runaway vehicle comes down Oxford Street from the top at Delta Avenue. In any event, the consultant has indicated in his report that the analysis of the barrier is based on a mathematical model only, and that further design should be undertaken with a full scale test model being built to test the effect of the design before one is actually installed on Empire Drive.

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The estimated cost of \$5,000 is somewhat lower than estimates given by this office in previous reports. This results from not only a different type of barrier but also because our design allowed a pedestrian access opening for each home resulting in eight concrete anchor footings. The consultant's design does not allow separate access openings, but instead will require a frontage walk behind the entire barrier. The consultant's design, therefore, only requires two anchor footings. As the anchors are a major cost item considerable saving is realized by eliminating the six anchors, a condition necessary to the intent of the flexible barrier.

In our previous reports we had stated an opinion that the Municipality would be placing itself in a possible position of liability if it erected a barrier that caused either personal injury or property damage to any individual. The consultant, in the last paragraph of his report, has advised that because of the unusual circumstances of this study he cannot assume any responsibility for any consequences resulting from the use of this report.

RECOMMENDATIONS:

1. THAT the Municipality not set any precedents by becoming involved in providing any form of barricade or structure to protect an individual from the negligence of others; and
2. THAT the Municipality not prohibit the Kolbus' from erecting their own barrier at their front property line; and
3. THAT the Kolbus' be sent a copy of this report.

E.E. Olson
MUNICIPAL ENGINEER

HB:cmg
Attch.
c.c. ()Traffic Supervisor

ITEM 15
MANAGER'S REPORT NO. 29
COUNCIL MEETING Apr. 21/75

Re: Barricades - 4840 Empire Drive
(Delegation, Item (b), Council Agenda March 17, 1975)

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Council, at its meeting of February 24, 1975 adopted the following recommendations of the Traffic Safety Committee regarding the traffic barrier at Oxford Street and Delta Avenue:

- "(a) (That) the barricade at the upper end of Oxford Street be removed and that;
- (b) the placing of any form of barricade on the boulevard in front of the complainant's property be denied on the grounds that it is not the responsibility of the Municipality to anticipate where along its many miles of streets, the next vehicle will leave the road because of negligence or a traffic accident."

On March 5, 1975, the Municipal Clerk received an undated letter from Mrs. J. Kolbus, 4840 Empire Drive, written in opposition to Council's decision to remove the barricade at Oxford Street and Delta Avenue. Mrs. Kolbus appeared as a delegation at the March 17, 1975 meeting of Council in support of her protest. Council passed the following motion at its meeting of March 24, 1975:

"That the Municipal Engineer be directed to investigate the feasibility of installing a barrier in front of Mrs. Kolbus' residence and those of her immediately abutting neighbours consisting of large boulders set in concrete, infilled with soil and additional boulders to form a rockery as well as a barricade, a barrier constructed of pilings, or a barrier in accordance with the plans submitted by Mrs. Kolbus; and further that the Municipal Solicitor advise as to whether the Municipality can carry out this proposed work on private property and if so the possible liability responsibilities."

The Municipal Solicitor advises that he can find no authority in the Municipal Act for the Corporation to enter on private property to do the type of work suggested by Mrs. Kolbus and certainly no authority for us to give financial assistance to allow the Kolbus' to do the work themselves. If the Municipality wants to accept responsibility for the situation then the barricade should be erected on Municipal property.

As the matter now stands, the Municipality is under no liability to the property-owner. However, by erecting a barricade we may be presumed to have admitted a dangerous situation exists. Further, if the barricades made the situation worse, i.e. the possibility of a large truck uprooting the barricades and both hitting the house, we certainly would be liable.

In summary, there is no legal justification to do this work on private property and doing so only increases our liability possibilities.

Attached is the Municipal Engineer's report regarding barricades at 4840 Empire Drive, to which is attached a plan and cost estimate prepared by Mrs. Kolbus. Because of the size of Mrs. Kolbus' plan, copies are being provided to Council only. Copies can, however, be provided on request to others interested in the plan.

Regarding Mrs. Kolbus' plan, the Planning Director advises that such a barricade, if constructed on private property (not on the public road allowance), would constitute, in effect, a fence, and would be governed by the regulations of Section 6.14 of the Zoning Bylaw. As such, a maximum height of 3'6", determined by measurement from the ground level at the average grade level, within 3 feet of both sides of the fence, would apply for a fence within the front yard.

An obvious concern exists with respect to visual appearance. If such a barricade is to be considered a "fence", it should be treated in an acceptable way with suitable cladding materials or by incorporating hedge planting.

RECOMMENDATIONS:

1. THAT the Municipality not set any precedents by becoming involved in providing any form of barricade or structure to protect an individual from the negligence of others; and
2. THAT the Municipality not prohibit Mrs. Kolbus from erecting her own form of barricade at her front property line; and
3. THAT Mrs. J. Kolbus be sent a copy of this report.

TO: MUNICIPAL MANAGER
 FROM: MUNICIPAL ENGINEER
 RE: BARRICADES - 4840 EMPIRE DRIVE

ITEM 15
 MANAGER'S REPORT NO. 29
 COUNCIL MEETING Apr. 21/75

MARCH 27, 1975

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Reference the Municipal Clerk's memo of March 20, 1975.

At the Council meeting held on March 17, 1975 two suggested means of providing a protective barrier were put forth for comment. One scheme involved the use of large boulders placed in concrete then infilled with soil and other boulders. The other scheme involves the use of pilings.

1. Boulders and Earth Infilling

In considering this suggested method, we feel that there are a number of ways to accomplish the desired effect.

- (a) The use of large rectangular boulders in which half of the boulder volume is buried in concrete and the remainder, which should have a near perpendicular face and a height of at least 30", be above the level of the property.
- (b) Large boulders could be implanted into a concrete footing and then infilled with earth to provide an earthen berm. This would then have the effect of a partial energy absorbing barrier. To prevent a high velocity vehicle from mounting the berm and becoming airborne the berm would need to be fairly high with steep sides in the order of 1:1 slope.

2. Piles Driven into the Ground

From past experience in digging in the Capitol Hill area, we would advise that we have found the ground immediately below the topsoil (about 18 inches) to be composed of a hardpan conglomerate. If this condition was encountered in front of 4840 Empire Drive it would be most difficult to drive any piling and any such attempt would probably cause structural damage to adjacent homes.

To validate the above, we would have to acquire the services of a soils consultant. Because of the costs involved we have not done so.

In addition to the two examples suggested, we would advise that the complainant, Mrs. J. Kolbus has submitted a plan of a barricade that utilizes concrete footings and old railway track. In addition to the plan, she has also given an estimate of the cost of her project.

Having gone over the sketch and the attached cost estimate, we would advise that we could not hope to do the job for anywhere near the sum of \$2,978. and would suggest that the Kolbus' undertake the project themselves.

RECOMMENDATIONS:

1. THAT the Municipality not set any precedents by becoming involved in providing any form of barricade or structure to protect an individual from the negligence of others; and,
2. THAT the Municipality not prohibit the Kolbus' from erecting their own form of barricade at their front property line; and,
3. THAT the Kolbus' be sent a copy of this report.

HB:wlh
 Att.


 MUNICIPAL ENGINEER