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ONTARIO ENVIRONMENTAL ASSESSMENT ADVISORY COMMITTEE

REPORT NO. 34 TO THE MINISTER

CITY OF TORONTO'S PROPOSED PHASE 1
EASTERN BEACHES STORMWATER AND COMBINED
SEWER OVERFLOW DETENTION FACILITY
- REQUESTS FOR BUMP-UP

March 6, 1989

Dr. Philip Byer, Chairman
Dr. Robert Gibson, Member
Ms. Christine Lucyk, Member

SUMMARY OF REFERRAL

DATE OF REFERRAL: February 6, 1989

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SUBJECT OF REFERRAL: Requests to bump up the City of Toronto's Proposed Eastern Beaches Stormwater and Combined Sewer Overflow Detention Facility, Phase 1, to an individual environmental assessment.

TYPE OF REFERRAL: Defined Review - Type B

RECOMMENDATIONS:

The Environmental Assessment Advisory Committee recommends that:

1. Phase 1 of the proposed Eastern Beaches stormwater detention facility not be bumped-up to an individual environmental assessment;
2. the City of Toronto establish a liaison committee with representation from area residents and Public Works Officials to address concerns during construction and operation of Phase 1; and
3. planning of Phase 2 of the detention facility be subject to the full five-step review process set out in the Class Environmental Assessment for Municipal Sewage and Water Projects as though it were a Schedule C project.

1. Nature of the Referral

On February 6, 1989 the Honourable Jim Bradley, Minister of the Environment, asked the Environmental Assessment Advisory Committee to review and provide advice on six bump-up requests, from the Kew Beach Residents' Association, Mrs. Marion Bryden, M.P.P. for the area, and other individuals, asking that an individual environmental assessment be carried out for the first phase of the City of Toronto's proposed Eastern Beaches stormwater and combined sewer overflow detention facility.

The Minister asked the Committee to conduct a Defined (Category B) Review, which includes public consultation with groups and individuals directly affected by the proposal, and to provide its advice by March 6, 1989. Subsequent to the referral to the Committee, two additional bump-up requests were submitted to the Minister, one from an individual and one from two other residents' associations.

On February 14, 1989, the Committee sent out a Notice of Public Meeting and Request for Submissions to groups and individuals affected by the proposal, including the requestors, other local residents, residents' associations, and relevant agencies. The Committee held a meeting near the proposed site to receive submissions from the City and the public on the evening of Monday, February 27, 1989.

2. Environmental Assessment Status

The proposed detention facility was eligible to be "grandfathered" and not made subject to the Class Environmental Assessment for Municipal Sewage and Water Projects, since it had reached the contract drawing stage prior to October 11, 1987, the phase-in date for which projects are required to follow the Class EA. The City of Toronto, however, elected to follow the requirements of the Class EA. This project was deemed to fall under Schedule B of the Class EA.

Projects which fall under Schedule B are screened to determine potential environmental effects and mitigative measures. This screening process involves contact with agencies and other government departments which may have a concern in particular areas, e.g. the local Conservation Authority.

Under the Schedule B screening process, the public has the right to request the Minister to bump-up to an individual environmental assessment those projects having significant adverse environmental effects.

A bump-up may be requested when a concern, raised by a member of the public, cannot be resolved through discussions with the proponent. The bump-up may be initiated at any time during the planning process or up to 30 days after the filing of public notification by the proponent. This notification must indicate that an objector has the right to request a bump-up and that the bump-up request must be made by a specified date. Other than site preparation, the proponent may not implement a project until either the Minister has notified the proponent that the bump-up request has been denied, or, in the absence of a decision by the Minister to approve the request, 45 days have expired from the time of notification of the request for bump-up.

In the case of the Detention Tank - Phase 1 proposal, the first bump-up request, from the Kew Beach Residents' Association, was dated January 13, 1989. Since the 45 day period would expire on March 2, 1989, the Minister advised the City on February 6, 1989 that the Environmental Assessment Advisory Committee might not be able to provide its recommendations by the March 2nd date and therefore requested the City not to proceed beyond the site preparation stage until he had considered the Committee's advice and made a decision.

If the project is bumped-up to an individual environmental assessment, the City would be required to undertake a more formal and detailed process for addressing potential environmental impacts, ways of mitigating these impacts, and alternatives to the project. There are opportunities for the government and public to review this individual environmental assessment, and the public may request a hearing before the Environmental Assessment Board.

3. Nature and Current Status of the Undertaking

In 1983, the presence of elevated fecal coliform levels on the City's waterfront resulted in frequent closures of the beaches to swimmers. Subsequent sampling and analysis by the Medical Officer of Health indicated that the water quality of the nearshore area of the City beaches frequently exceeded the Provincial standard of 100 fecal coliforms per 100 mL. Upon recommendation by the Medical Officer of Health, the City of Toronto undertook a field programme to determine the impact of its storm sewers and combined sewer overflows on the City's water quality including that of the Eastern Beaches.

During the summers of 1984, 1985, and 1986, studies were conducted by Gore and Storrie Ltd. on behalf of the

City to determine the cause of elevated fecal coliform densities on the Eastern Beaches and to assess management alternatives for reducing these levels through the use of predictive models. The studies concluded the following:

- beach fecal coliform densities result from a complex combination of stormwater and combined sewer overflow, lake currents, dispersion, and fecal coliform die-off rates in the receiving water;
- the majority of occurrences of fecal coliform densities exceeding the provincial standard are coincident with rainfall; and
- effluent from the City's storm sewer system is a major source of pollution on the beaches.

These studies considered a number of options for reducing beach pollution including the extension of sewer outfalls further into the lake and the elimination of storm water and combined sewer overflow.

In spring 1987, Gore & Storrie Ltd. and MacLaren Engineers undertook a design study for operating improvements to the City's sewer outlets in the Eastern Beaches and presented preliminary design alternatives for four underground detention options: two tanks, single tank, super conduit, and deep tunnel. Based on cost, environmental impact, maintenance, construction scheduling, location, structural considerations, and operational flexibility, the two tank option was recommended as the preferred alternative. This involves a two phase project consisting of: Phase 1, the construction of a 2,250 cubic metre underground tank at the foot of Kenilworth Avenue costing about \$4 million; and Phase 2, the construction of an 8,000 cubic metre tank at the foot of Glen Manor Road, Maclean Avenue, and Balsam Avenue. The referral to EAAC was for the Phase 1 tank.

Runoff would be collected and detained, and later pumped to the Main Sewage Treatment Plant (MSTP) operated by Metro Toronto for treatment prior to discharge into Lake Ontario. The Phase 1 tank also would have a 400 metre outfall into Lake Ontario to permit discharge to the Lake when the MSTP is in distress conditions and does not have sufficient treatment capacity to accept the detention tank runoff.

The City of Toronto Council approved Phase 1 of the undertaking in May 1987 and recommended that the project be constructed in 1988. In following the Class Environmental

Assessment for Municipal Sewage and Water Projects, the City determined that the project, a stormwater and combined sewer overflow detention tank, was a Schedule B undertaking which means it is an approved project subject to screening. Accordingly, in February 1988, the City requested comments on the proposal from various agencies which might have an interest in it.

In September, 1988 the Municipality of Metropolitan Toronto approved the project with conditions. In particular it reserved the right to disconnect the flow from the tank to the MSTP during distress periods resulting from heavy rainfall.

In the fall of 1988, confirmed in a letter on January 5, 1989, the Approvals Branch of the Ministry of the Environment gave technical approval, in principle, under the Ontario Water Resources Act, to the construction of Phase 1. The conditions to be attached to the Certificate of Approval focus on monitoring the impact on beach water quality, an annual reporting of results, and air approvals required under the Environmental Protection Act. The Approvals Branch also recommended that Metro and the City determine the impact of the detention tank discharge on effluent quality of the MSTP.

The Medical Officer of Health of the City of Toronto's Department of Public Health, in a letter dated March 1, 1988, indicated his support of detention facilities and subsequent full treatment of storm/combined wastewater at the MSTP. The Medical Officer noted that the approach of reducing total loading of pollutants into Lake Ontario is consistent with the goals of the Ontario MISA programs and the Great Lakes Water Quality Agreement. He also suggested that the City monitor the discharge from the detention tank overflow in order to assess the volumes released, the levels of fecal coliform, and the Ontario Ministry of the Environment's Priority Pollutants.

Other agencies had no comment or gave general support for the project.

In seeking public input, the City sent agendas of all meetings of the City's Standing Committee to the various residents' associations. A public meeting was held in February 1987 to discuss beach water quality and to advise the public of the action being taken. After deciding to follow the Class EA requirements, the following public notification and consultation took place:

- a public notice regarding the Class EA review process was placed in the daily press on February 8, 1988;
- at the request of the Kew Beach Residents' Association, a meeting was held on April 7, 1988; and
- subsequent public meetings were held on May 5, 1988 and January 11, 1989.

During 1988, in addition to the issues raised at the meetings, several letters were submitted by the public to the City outlining questions and issues of concern.

No consensus was reached through this consultation process on either the main source of the pollution on the beaches or an acceptable means of improving the water quality. There was also some confusion surrounding the notification procedures for "bump-up" resulting in a delay of the formal notification of the right of the public to request a bump-up.

Following the January 11, 1989 public meeting, there was a 30-day period during which time the public had the right to request that the project be bumped up to an individual assessment. The Minister subsequently received 8 bump-up requests.

4. Submissions

The Committee held a meeting, attended by about 100 individuals, on the evening of Monday, February 27, 1989 from 7:00 p.m. to 10:45 p.m. at a location in the Beaches. The Committee received 6 written submissions, 4 of which were presented at the meeting. An additional 11 oral submissions were made at the meeting. A list of submitters is attached as Appendix A.

The points raised in the submissions are summarized under the following seven headings:

- source of the problem,
- integration of planning processes,
- capacity of MSTP to handle the detention tank runoff,
- adequacy of the technology,
- adequacy of assessment of alternatives,
- impacts of the detention tank, and
- public consultation process.

Source of the Problem

- The Kew Beach Residents' Association (KBRA), Professor John Hannigan, Ms. Karen Buck, other residents' associations and local residents submitted that there is no conclusive evidence confirming that the source of the problem is the sewer outflows, and further, that a significant source of contamination of the water may be caused by the MSTP discharges.
- Other submitters stated that the existing stormwater sewers with their outflows into Lake Ontario are a major source of the pollution.
- Councillor Jakobek stated that there is no question that part of the problem is the present outflow from the sewer system and that regardless of other sources of contamination, stopping the direct discharge into the lake will have a positive impact on water quality.
- The City of Toronto submitted that effluent from the City's stormwater sewer system is the major bacteriological pollution source in the Eastern Beaches and that remedial measures must address the flow from the storm sewer system.

Integration of Planning Processes

- The KBRA, Ms. Buck, Ms. Lynch and some other speakers submitted that in light of the controversy over the source of the problem, the planning of Phases 1 and 2 together should be integrated with the upgrading and expansion of the MSTP and the Waterfront Remedial Action Plan.
- Some residents stated that Phase 1 should begin now rather than delaying it in order to integrate its planning with other projects.
- The City and Councillor Jakobek submitted that the advantage of a two phase planning process is that it allows an assessment of the impacts and effectiveness of Phase 1 prior to the construction of Phase 2.

- The City indicated that the review of Phase 2 under Schedule B of the Class Environmental Assessment for Municipal Sewage and Water Projects would begin at the outset of the project.

Capacity of MSTP to Handle Detention Tank Run-off

- The KBRA, Professor Hannigan, Ms. Buck, and other residents' associations and individuals submitted that the MSTP has difficulty meeting its present treatment requirements, particularly after rainfall, and therefore would not have sufficient capacity to treat the runoff from the Phase 1 tank; further, the capacity would be even more limited when Phase 2, the larger of the two tanks, is implemented.
- The Commissioner of Works for Metropolitan Toronto submitted that Metro supports the City's detention facility proposal. He said that the lack of guarantee by Metro to accept all of the sewer runoff should not be construed as a lack of support, but rather as a means of maintaining options, and that treatment of sanitary sewage must be the first priority for the MSTP. The Commissioner also submitted that Metro would hope to treat all of the runoff from Phase 1, although the larger Phase 2 tank would be more troublesome.

Adequacy of the Technology

- The KBRA, Professor Hannigan, and other submitters stated that there is no conclusive evidence indicating that detention would result in reducing high coliform counts and stated that this is an untested experimental technology.
- The City of Toronto submitted that detention is an effective solution and that detention tanks are the most effective detention strategy. The City estimated that Phase 1 alone would reduce beach closures by 2/3.
- The City also stated that during distress periods at the MSTP, reduction in coliform counts would occur due to bacteria die off during detention.

Adequacy of Assessment of Alternatives

- The KBRA, Professor Hannigan, Ms. Buck and others submitted that there has not been an adequate assessment of alternatives to detention tanks. The KBRA and some other submitters stated that detention tanks are essentially primary sewage treatment plants to be located in a park in a densely populated residential neighbourhood.
- Professor Hannigan and several submitters stated that detention tanks are "experimental", "untested" and not "routine", and therefore should be more rigorously assessed within the context of other alternatives.
- The City submitted that among the four options studied, the two phase tank system is the most cost effective. Similarly, the tank location for Phase 1 is considered the best among the locations studied, because other suggested locations require removal of mature trees or dealing with filled land.
- The City also submitted that the other alternatives would involve greater environmental disruption during construction and operation than the preferred two-tank option.

Impacts of the Detention Tank

- Several residents and residents' associations expressed concerns about the impacts of noise, dust and traffic during construction, as well as odours from the tank vents once the facility is operational.
- A few submitters expressed concern that the continual action of the Lake on the shoreline could cause damage to the tank.
- The City and Councillor Jakobek maintained that the detention tank, would cause minimal adverse impacts and that mitigative measures would be taken to address concerns about odours and construction disruption.

Public Consultation Process

- The KBRA submitted that there was no public consultation in the early planning stages and that, once the Class EA process was begun, residents' concerns were not seriously addressed by the City.
- The City of Toronto submitted that it had kept the public informed of its plans, both prior to and during the Class EA process.
- Councillor Jakobek submitted that there has been no consensus in the community and further study of the problem will not achieve a consensus.

5. Discussion

The proposed detention facility, to be developed in Phase 1 at a cost of about \$4 million, involves the construction of an underground tank to detain stormwater and combined sewer overflow which now flows into Lake Ontario, often resulting in impairment of water quality and closure of the beaches to swimmers.

Although planning of the undertaking was well advanced before the Class EA requirements were in place, the City has tried to follow the Schedule B Class EA process, and has also undertaken many of the more detailed studies required for a Schedule C project.

The question to be weighed by the Minister is the additional environmental safeguards resulting from a bump-up of this project to an individual environmental assessment against the early achievement of improved beach water quality.

In assessing whether the project should be bumped up to an individual EA, the Committee considered three criteria:

- environmental significance of the project,
- urgency and the effects of delay, and
- adequacy of the Class EA process and public involvement.

Each of these is discussed below.

Environmental Significance

The studies undertaken by the City indicate positive environmental impacts of this project in terms of the improvement of nearshore beach water quality. Specifically, the City expects the Phase 1 facility alone to reduce by two-thirds, the number of beach closures due to elevated fecal coliform counts from an annual average of 25 to about 8. Implementation of Phase 2 is projected to reduce the number of beach closures further, to 2 to 3 days per year.

These estimations are based on extensive monitoring of currents, both near the shore and more distant from the beach. The relative contributions of the stormwater and combined sewer overflow, and the outfall of the MSTP are still a matter of controversy. The Committee believes, however, that based on the evidence provided by the City, and the support for this project by the City of Toronto's Medical Officer of Health and the Ministry of the Environment, that the proposal will have a positive effect on beach water quality. The plans by Metro to extend the MSTP outfall and make other changes to the plant will further enhance the effectiveness of the detention tank system. The Committee sees the need for monitoring of both the effects of the Phase 1 detention facility on beach water quality and its impact on effluent quality from the MSTP which the Ministry of the Environment has stated it would require in the tentative Certificate of Approval under the Ontario Water Resources Act.

It is also generally acknowledged that the construction of the detention tank will disrupt normal use and enjoyment of the western end of the park and beach area by nearby residents. The City is, however, committed to taking steps which will reduce the disruption by routing trucks via Woodbine Avenue, south of the Sommerville pool, so as to avoid using local streets, limiting construction hours, and other measures to control dust and noise. The Committee believes that these disruptions would be temporary and the effects limited since most of the construction work would take place in the fall and winter of 1989-90.

Some residents expressed concern about odours from the venting system for the tank, which could interfere with the use and enjoyment of the park. The evidence presented indicated that the odours are unlikely to be particularly strong, and would be much less offensive than odours from the MSTP and a nearby rendering plant which currently affect the Beaches. In response to initial concerns about odour, the City has agreed to install additional filters which should minimize the potential odours.

These concerns and the responses of the City indicate that the adverse environmental impacts associated with Phase 1 of the detention facility are relatively modest in nature, and largely associated with the construction phase. When in place, the detention facility should result in a significant improvement in water quality in the Woodbine Beach area.

Urgency and the Effects of Delay

The City is anxious to proceed with the project in order to improve the water quality in the area of Woodbine Beach. In this, they are supported by the Medical Officer of Health as well as some area residents. Other residents would prefer to delay the Phase 1 project and link its planning and review with the Phase 2 detention facility and/or the expansion of the MSTP. However, the planning for Phase 2 may not proceed for several years which would delay the water quality improvements from Phase 1. Furthermore, the results of Phase 1 should provide a better basis for the assessment of Phase 2.

Linking the project to the review of the expansion of the MSTP also does not appear to provide significant benefits. The MSTP expansion plans are in the early stages and tying the two together could result in considerable delay in the improvement of beach water quality. It would also present certain tactical difficulties since the MSTP is under the jurisdiction of Metropolitan Toronto, while the detention tanks are a City of Toronto project. The Committee therefore believes that Phase 1 should not be delayed due to the uncertainty of integrating it with other proposals.

In conclusion, the Committee is of the opinion that the project will result in environmental benefits in terms of improved water quality and that the City has made serious attempts to minimize the adverse effects associated with construction. The Committee recommends that Phase 1 not be bumped-up to an individual environmental assessment.

Adequacy of the Class EA Process and Public Consultation

Since the planning for Phase 1 had reached the contract drawing stage by October 11, 1987, it was eligible to be grandfathered, and hence exempted from environmental assessment under the Class EA for Municipal Sewage and Water Projects. Nonetheless, the City of Toronto undertook the environmental analysis generally required to meet the requirements of the Class EA for a Schedule B undertaking.

Indeed some of the analysis meets the more detailed requirements of a Schedule C undertaking.

While the City is to be commended for submitting the Phase 1 proposal to the Class EA process, the Committee believes that the communication with the public could have been improved to avoid misunderstanding. The documentation and information provided to the public was not presented and communicated in a way which addressed their concerns directly and clearly. The reports are highly technical, with important facts and figures buried in the text of several reports.

In addition, several assumptions made by the City's engineering staff could have been explained as background information to enhance public understanding of the project. A case in point is the priority accorded to treating sewage ("the really dirty stuff") over treating stormwater at the MSTP. The Committee believes that some misunderstandings between the public and the City can be attributed to the lack of a clear, well-organized report geared to non-technical readers. The Committee suggests that the City make clear and responsive documents for the environmental reports required for Phase 2.

The public meetings have also been an important part of contact between the public and the City and could have been used to address their concerns more effectively. In order to avoid further misunderstanding with area residents, the Committee recommends that the City establish a liaison committee consisting of local residents and public works officials to address concerns about construction and operation of the Phase 1 facility. This committee could also form the basis for public consultation during the review of Phase 2.

The Committee is also concerned about the planning for Phase 2, which will involve a much larger underground tank, with a capacity of 8,000 cubic metres, running the length of three city blocks along the beach. The City has indicated that this project would similarly be reviewed using the Schedule B screening procedures. However, in light of the magnitude of this project, the public concerns expressed about Phase 1, and the time to monitor the results of Phase 1, the Committee recommends that Phase 2 should follow the full 5 step Class EA process as though it were a Schedule C project.

The Committee also believes that the City and Metro should work closely together during the Class EA review process to address the issue of handling the much greater volume of stormwater from the Phase 2 detention facility.

This review has shown the lack of clarity in the Class EA document. It would be nearly impossible to understand the document by reading it through in the order presented and there is a lack of clear cross-referencing of sections. For example, Section 3, which gives descriptions of projects covered under the Class EA, describes projects as Sanitary Sewage Projects, Water Projects, or Storm Sewage Projects; yet Schedules A, B, and C list undertakings under only two headings: Sewage Projects or Water Projects. In addition, the Class document appears to allow Schedule B and C projects to be bumped up only to individual environmental assessment status. Consideration should be given to allowing a Schedule B Project to be bumped up into the five step Class EA process. Such problems may have contributed to some of the difficulties the City encountered in trying to follow the requirements of the Class EA. These concerns should be considered by the Ministry and the Municipal Engineers Association in their monitoring and review of the municipal Class EA process.

6. Recommendations

The Environmental Assessment Advisory Committee recommends that:

1. Phase 1 of the proposed Eastern Beaches stormwater detention facility not be bumped-up to an individual environmental assessment;
2. the City of Toronto establish a liaison committee with representation from area residents and Public Works Officials to address concerns during construction and operation of Phase 1; and
3. planning of Phase 2 of the detention facility be subject to the full five-step review process set out in the Class Environmental Assessment for Municipal Sewage and Water Projects as though it were a Schedule C project.

APPENDIX A

LIST OF SUBMITTERS

Referral No. 34 - City of Toronto, Phase 1 - Eastern Beaches
Stormwater and Combined Sewer Overflow
Detention Facility - Requests for Bump-up

Written Submissions

* denotes oral submission also made at the public meeting

- 1.* Mr. Doug Doherty, Director of Engineering,
City of Toronto, Public Works Department
 - 2.* Ms. Marilyn Vasilevich
Kew Beach Residents' Association,
 - 3.* Professor John Hannigan, resident
 - 4.* Ms. Karen Buck, resident
 5. Mr. Paul & Ms. Anne Craig, residents
 6. Ms. Ruth Hannigan, resident
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Oral Submissions only, made at the Public Meeting
February 27, 1989

1. Mr. Brian Lee, resident
2. Ms. M. Lake, resident
3. Ms. Sharon Hick,
Scarborough Beach Residents' Association
4. Mr. Damien Wiechula,
Balmy Beach Residents' Association
5. Mr. R. Yaccato, resident
6. Mr. Val Pavuls, resident
7. Mr. Tom Jakobek, Councillor
City of Toronto
8. Ms. Linda Lynch, Member
Community Health Advisory Board
9. Mr. Cam Tidman, resident
10. Mr. Sean Meagher
11. Mr. R. Ferguson, Commissioner of Works
Metropolitan Toronto