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Halifax Regional Council  
February 7, 2006

**TO:** Mayor Kelly and Members of Halifax Regional Council

**SUBMITTED BY:**

A handwritten signature in black ink, appearing to read "Dan English", written over a horizontal line.

Dan English, Chief Administrative Officer

A handwritten signature in black ink, appearing to read "Wayne Anstey", written over a horizontal line.

Wayne Anstey, Acting Deputy Chief Administrative Officer

**DATE:** January 31, 2006

**SUBJECT:** Policy on Daylighting of Rivers

**ORIGIN**

HRM Regional Council meeting of July 5, 2005.

**RECOMMENDATION**

It is recommended that Council authorise staff to proceed to conduct consultations with the Watershed Advisory Boards on the draft policy as outlined in this report.

## **BACKGROUND**

Council requested that staff develop a policy on the daylighting of streams or rivers, and provide a status report within six months. Council also requested consultation with the Watershed Boards, which will form the next step in this process. Daylighting of a watercourse is a process by which a stream or river which has been enclosed within a pipe or culvert structure is rehabilitated to a more natural state. Some or all of the flow of a previously covered, culverted or piped stream is restored to the open air, either in the old natural channel if possible, or in a newly created channel. Ponds or wetlands may be incorporated where feasible. A daylighted stream need not follow the exact same route as the pipe it is replacing.

There is no regulatory requirement at the provincial or federal level to provide for daylighting of watercourses.

## **DISCUSSION**

Daylighting projects are sometimes undertaken in other jurisdictions when older pipes or conveyance structures must be repaired or replaced, if practicality and cost allow. The location of the watercourse to be daylighted must allow for increased space to accommodate the created stream bed, as this requires more room than a piped stream. Cost may be a factor, therefore a full cost benefit analysis between pipe replacement and daylighting must be made as part of any project assessment. Daylighting is not always a higher cost option. Daylighting costs in an urban environment will be higher than comparable daylighting costs in more rural settings. Daylighting would occur in existing developed areas where watercourses have been piped or otherwise enclosed, and is not typically applicable in undeveloped or new development areas.

Benefits of daylighting include creation or restoration of natural habitat for fish, plants, invertebrates, waterfowl, etc. Exposure to air and sunlight, together with natural growth of plants and algae, may help to absorb contaminants and nutrients from the water, improving water quality. An additional benefit may be aesthetics and recreational opportunities from the creation of natural stream beds and surrounding environments. Daylighted streams may also assist in addressing existing drainage problems, as a natural stream cross-section may be capable of carrying higher water volumes than a piped system.

Drawbacks to daylighting may include concerns about safety and liability in creating exposed surface waters, flooding concerns where water is no longer contained in pipes, availability of space and interference with surrounding land uses. Careful design is needed to address these issues. Operational considerations such as resource requirements related to investigations, consultant costs, public consultation, communications, and external funding, must also be included in project assessment.

Successful daylighting projects in other jurisdictions have typically involved community groups and local involvement of property owners and stakeholders. As a local example, in St. John's, Newfoundland, the Quidi Vidi Rennie's River Development Foundation raised funds to undertake a daylighting project on a section of the Rennie's River in urban St. John's. The project was successful in daylighting a short section of river which had been piped, and has created a small watercourse/park area. The City of St. John's cooperated in the project, but does not have any formal policy on daylighting. It does not appear that other municipal jurisdictions typically have

any such policy.

The draft Regional Plan currently under consideration includes a requirement for the creation of a Stormwater Management Functional Plan (Policy SU-22). One of the aspects which the Functional Plan should consider is “incorporating natural watercourses as a component of a stormwater management strategy” (Section 7.5.2). While not directly specifying daylighting, this policy does provide a basis for consideration of proposed daylighting projects. Adherence to this policy can help avoid future need to daylight watercourses, by avoiding piping of natural streams. This should be the priority approach.

Within HRM, there are two possible candidate daylighting projects which in the past have been the subject of some discussion. In Halifax, the “Freshwater Brook” system which drains from the public Gardens to the harbour in the vicinity of the south end port terminal has been suggested, while in Dartmouth the drainage from Sullivan’s Pond to the harbour in Dartmouth Cove (the former “Sawmill River”) has been suggested. In both of these cases, the piped system exists within a highly developed urban environment (see attached maps). Limited opportunities exist along the course of the present pipes for daylighting, in those areas where the surface above the pipes could provide sufficient area for daylighting without interfering with existing structures or uses. Other opportunities may exist within HRM for daylighting projects within the many kilometres of piped stormwater infrastructure.

At the federal level in Canada, there are two possible sources of funding or resources that may be accessed in support of daylighting projects. Fisheries and Oceans Canada (DFO) requires that in cases where a development causes damage or destruction of fish habitat, the developer may be granted approval in exchange for contributing to a habitat restoration project. Watercourse daylighting could qualify as such a restoration, at the discretion of DFO. A more direct source of funds is the federal Environmental Damages Fund administered by Environment Canada, which provides grants to projects which improve or restore the environment. Funds are obtained as a result of federal charges for environmental infractions, and may be spent within the watershed where the federal infraction occurred. Private groups or non-profits, or municipalities, may apply for funding under this program, and watercourse daylighting could qualify for funding.

HRM Council has previously approved a set of priority rating criteria for municipal capital projects relating to wastewater and stormwater, as follows:

1. Legal/Liability
2. Compliance
3. Operational Efficiency
4. Sewer Extensions to Unserviced Communities
5. Non-HRM Issues

Any proposed daylighting project which involved use of HRM capital funds would be subject to consideration under these criteria, and to normal capital budgetary approval processes. The Daylighting policy, if approved, will guide HRM’s actions, and may ultimately be included in the Stormwater Management Functional Plan or other suitable document.

## **Proposed Policy**

HRM will encourage watercourse daylighting as part of efforts to preserve or restore natural watercourses as a component of a stormwater management strategy. Preservation of watercourses by avoidance of enclosing or piping should be the priority when feasible. Daylighting will be considered according to the following conditions:

1. Where existing HRM stormwater collection infrastructure must undergo significant repair or replacement, daylighting of the watercourse involved will be considered as an option. Consideration will include the feasibility of daylighting in relation to the surrounding environment, land use and ownership, adequacy of space, drainage and potential flooding issues, safety and other practical or engineering considerations as appropriate. Legal and liability issues must also be considered.
2. Where practical and legal considerations could permit a feasible daylighting project, HRM will consider the cost of daylighting as opposed to costs for repair or replacement of existing infrastructure. Any allocation of HRM capital resources must be considered according to the priority rating criteria established by Council for capital projects relating to wastewater and stormwater.
3. Where community interests or groups advocate daylighting of a particular enclosed watercourse, HRM will consider the project in light of conditions 1 and 2. Any funds or resources which a community group can contribute will be part of the project consideration. Should full funding for a daylighting project be provided by an outside group, HRM will cooperate with the project to the extent possible under the considerations outlined in condition 1.

## **BUDGET IMPLICATIONS**

As outlined in the proposed Policy, any proposed daylighting project would be considered according to established criteria as part of the normal capital and operating budget process. Consideration of daylighting projects may involve both increased operating and capital costs in the form of additional staff time to implement the policy, possibly increased capital costs in undertaking a daylighting project, legal and land acquisition costs. Costs will need to be assessed on a project-specific basis.

## **FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN**


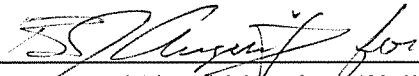
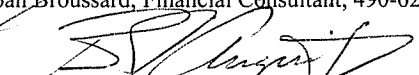
This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

## **ALTERNATIVES**

None recommended.

**ATTACHMENTS**

Maps 1 & 2, Freshwater Brook (Halifax) and Sawmill River (Dartmouth).

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|---------------------|---|
| Report Prepared by: | <br>_____<br>Tony Blouin, Manager, Environmental Performance, 490-4610           |
| Financial Review:   | <br>_____<br>Joan Broussard, Financial Consultant, 490-6267                      |
| Report Approved by: | <br>_____<br>Brad Anguish, Director, Environmental Management Services, 490-4825 |

# Attachment 1

## Former Freshwater Brook, Halifax Piped Watercourse



## Attachment 2

### Former Sawmill River, Dartmouth Piped Watercourse

