WATER SYSTEM

ENVIRONMENT CONTROL OF TREATED WATER

WAT.4

PROCEDURE

Date Procedure Implemented: April 29, 1992
Date Procedure Amended: April 16, 1993
Date Procedure Amended: June 10, 1994
Date Procedure Amended: November 28, 1994
Housekeeping Changes made: March 29, 2000

ACCOMPLISHMENT MEASURE: n/a

AVERAGE DAILY ACCOMPLISHMENT: n/a

ACTIVITY DESCRIPTION: Control and neutralization of the flow of chlorinated or chloraminated water, into drainage channels and creeks.

SAFETY: Read M.S.D.S. for neutralizing product being used. Use rubber gloves, eye protection, particle mask. May irritate skin.

PRECAUTIONS: Avoid damages to property while following this procedure.

1. Whenever possible, any flow of chlorinated or chloraminated water escaping from a watermain, for any reason, should be directed into a sanitary sewer manhole.

2. If it is not possible to direct the treated water into a sanitary sewer manhole, the treated water must be neutralized before it enters into any fish bearing body of water.

   It will be assumed that all drainage channels and mains are either fish bearing bodies of water or are connected to fish bearing bodies of water.

3. Neutralizing the chlorine or chloramine in the water will be accomplished through the use of sodium thiosulphate, or other material acceptable to the Municipality.

4. Neutralization is accomplished by causing the escaping water to come into contact with a series of nylon woven bags that contain 2 to 4 kg. of sodium thiosulphate.

   The attached diagram illustrates a typical arrangement of the bags containing the neutralizing mixture. This arrangement may not be suitable in all situations; it is simply important that the bags be arranged so as to cause the escaping water to come into contact with them.

   The number of bags, and the volume of sodium thiosulphate will be increased as necessary to achieve complete neutralization of the chlorine or chloramine.

5. It is preferable that the flow of escaping water be kept on the surface as long as possible, before entering any drainage ditch, channel, or main. Flow control should reflect this consideration, to the degree practical in individual circumstances.

6. In cases where the chlorinated or chloraminated water is entering into a drainage ditch or channel, it may be necessary to either place neutralizing compound bags into the ditch or channel, or suspend them at a culvert opening that the water is flowing through.

7. Downstream testing for the presence of chlorine or chloramine must be conducted immediately and continuously. A test should be taken at 10 to 15 minute intervals.

   A log will be completed noting each test. Log information will include date, time, employee number, location, source, cause and test results.

8. If chlorine or chloramine is detected during downstream testing, it may be neutralized by sprinkling a small amount of sodium thiosulphate over the stream bed. Immediately re-test for the presence of chlorine or chloramine. Increase the number of bags as necessary to achieve total neutralization.

9. If the escaping water results from unplanned causes, such as a broken watermain or pressure relief valve, immediately establish control of the escaping water. In addition:

   a) immediately assign personnel to test downstream for the presence of chlorine or chloramine.

   b) sprinkle sodium thiosulphate over the stream bed, as necessary, until bags of neutralizing mixture have been placed.

   c) begin logging information immediately, including time of notification of the incident, time of arrival, and all subsequent steps taken to control the water flow, neutralize the chlorine or chloramine, and accomplish the necessary repair.

   d) contact the Public Works department to notify the Federal Department of Oceans and Fisheries at 1-800-465-4336 **(this is a 24 hour number)** and the provincial Ministry of Environment, Lands,

and Parks at 1-800-663-3456. The Public works department will log time of contract with these agencies, and name of contact person.

10. Emergency response material will be stored in the following locations:

(a) Utilities Service truck
(b) Hydrant Maintenance truck
(c) Water/Sewer Mechanic service van
(d) Utilities Service van
(e) Utilities Foreman's vehicle
(f) Weekend Foreman's vehicle
(g) Road Foreman's vehicle
(h) Road Foreman I's vehicle
(i) Fire Prevention Officer's vehicle
(j) Fire Inspector's vehicle
(k) Fire Response vehicle #2 Fire Hall
(l) Fire Response vehicle #3 Fire Hall
(m) P/W - Stores, 2 spare Initial Response kits
(n) Water truck
(o) P/W Utility Bay - Pallet of Sodium Thiosulphate (Main Supply)

11. The emergency response material will include:

a) 2 nylon sacks with sodium thiosulphate **(Water truck - volumes to be increased to meet the following formula: 1 - 10kg sack per 2000 litres of water haul)**

b) 20m polypropylene rope (12mm)

c) rubber gloves

d) dust/particle mask

e) goggles or face protector

f) chlorine detection equipment

g) Log sheets/book

12. All Municipal Utilities staff will be trained in this procedure.