CITY OF MISSION ON THE FRASER		**POLICY AND PROCEDURE MANUAL**
Category: Engineering & Public Works	**Number:** EPW.14(PD)	**WATER – ENVIRONMENTAL CONTROL OF TREATED WATER**

Type:	**Authority:**	**Approved By:**
☐ Policy ☒ Procedure	☐ Council ☒ Administrative	☐ Council ☐ Chief Administrative Officer ☒ Department Head

Office of Primary Responsibility: Engineering & Public Works	
Date Adopted: June 16, 2021	**Date to be Reviewed:** June 16, 2023
Manner Issued: Pipeline, email	

BACKGROUND:

Drinking water is treated with chlorine or chloramine to ensure it is safe to drink. When flow is discharging from a watermain or fire hydrant, control measures must be put in place to neutralize the chlorine or chloramine in the water before it enters any fish bearing bodies of water. The alternative is, if permitted, to discharge it into a sanitary sewer manhole.

PURPOSE:

This outlines the procedure for the control and neutralization of the flow of treated chlorinated or chloraminated water.

PROCEDURE:

1. Definitions

"Administrative Procedure" means the tasks or steps required to follow or implement Council Policy or Administrative Policy, including the assignment of roles and responsibilities, and the detailed steps that outline a particular way of accomplishing something or of acting.

"Department Head(s)" means those City employees that are charged with overseeing a particular operational or departmental area and/or their designates.

"City" means the City of Mission.

2. Procedures

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

b) 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 the storm sewer system or 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.

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

d) 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.

e) 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.

f) 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.

g) 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.

h) 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 neutralizing compound bags as necessary to achieve total neutralization.

i) 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 division to notify the provincial Environmental Emergency Program (EEP) at 1-800-663-3456. The Public Works division will log time of contact with these agencies, and name of contact person.

j) Emergency response material will be stored in appropriate City owned vehicles.

k) Refer to Material Safety Data Sheet (MSDS) for product safety requirements. The emergency response material will include:

i. 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)**

ii. 20m polypropylene rope (12mm)

iii. rubber gloves

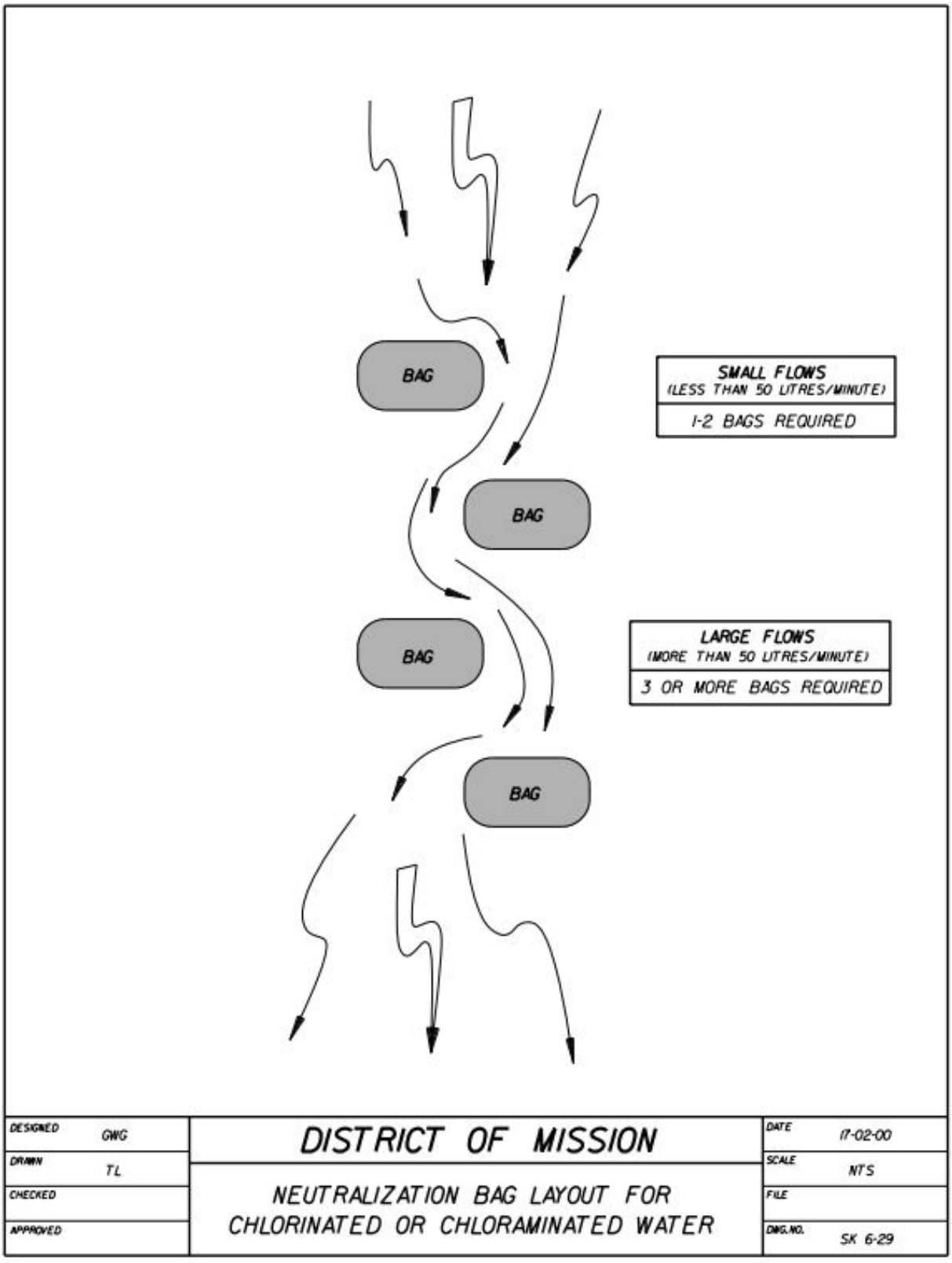
iv. dust/particle mask

v. goggles or face protector

vi. chlorine detection equipment

vii. Log sheets/book

l) All staff in the City Utilities section will be trained in this procedure.


BAG
BAG
BAG
BAG
SMALL FLOWS
(LESS THAN 50 LITRES/MINUTE)
1-2 BAGS REQUIRED
LARGE FLOWS
(MORE THAN 50 LITRES/MINUTE)
3 OR MORE BAGS REQUIRED
DESIGNED GWG
DRAWN TL
CHECKED
APPROVED
DISTRICT OF MISSION
NEUTRALIZATION BAG LAYOUT FOR
CHLORINATED OR CHLORAMINATED WATER
DATE 17-02-00
SCALE NTS
FILE
DWG.NO. SK 6-29

RELATED POLICIES, PROCEDURES, AGREEMENTS AND/OR BYLAWS:

EPW.13(PD) – Water – Flushing Mains to Improve Water Quality

EPW.16(C) – Water – Use of Fire Hydrants

WCB PART 18 Traffic Control

***** END OF PROCEDURE *****

RECORD OF AMENDMENTS/REVIEW

Procedure #	Date Adopted	Date Reviewed	Amended (Y/N)	Date Reissued	Authority
WAT.04	April 29, 1992				CAO
WAT.04			Y	April 16, 1993	CAO
WAT.04			Y	June 10, 1994	CAO
WAT.04			Y	November 28, 1994	CAO
WAT.04			Y	March 29, 2000	CAO
EPW.14(PD)		Mar. 23, 2021	Y	June 16, 2021	Dept. Head