

**WATERMAIN COMMISSIONING PLAN**

**Ross Street – Temporary Overland**

**PM: Diane Overland**

**XYZ Construction**

**123 Anystreet, Anytown, ON**

**(519) 672-1234**

**Site Contact: Johnny Whitehat**

**Site Contact Number: (226) 432-1234**

1. **PROJECT DESCRIPTION:**

**Project Area: Ross Street (From Sta 0+000 to 0+840)**

|  |  |
| --- | --- |
| **Main Size (mm)** | **Length (m)** |
| 100  | 930  |
| 50 | 12  |
|  |  |

**\*Submit drawing of proposed overland system with this plan.**

1. **SOURCE WATER & BACKFLOW PREVENTION:**

Water will be sourced from the existing hydrant at ABC Street and 12th Avenue intersection. The overland system will be isolated from the existing distribution system by way of a Reduced Pressure Principle (RP) backflow prevention device, provided, installed and tested on-site by the City of St. Thomas.

1. **SWABBING (Applicable only to overland systems of 100 mm and greater diameter):**

Swabbing will be conducted as follows:

- Four (4) 150 mm diameter swabs inserted at STA 0+370 will be used to swab the new 100 mm watermain passing from East to West, retrieved at swab launcher located at STA 0+840.

- Four (4) 150 mm diameter swabs will be used to wet swab the new 100 mm watermain stubs at STA 0+730. Swabs will be retrieved at the swab launcher.

- Continue as required.

The initial swab for each run of watermain will be used to establish the target swabbing flow rate of **1 m/s**.

Swabbing will continue until two (2) consecutive swabs exhibit no discolouration and the discharge water is running clear, to the satisfaction of a City of St. Thomas Water Operator.

1. **VISUAL LEAK TESTING:**

The temporary overland system will be watertight. Prior to covering any portion of the watermain, a visual leak test will be completed in the presence of a City of St. Thomas Water Operator. The system will be inspected daily to ensure all connections are leak tight during the time which the temporary watermain is in use. **Should the temporary watermain sustain a break, a City of St. Thomas Water Operator will be called immediately to oversee the repairs.**

1. **DISINFECTION:**

**Type of chlorine:** 12% Sodium Hypochlorite (NSF 60/61 certified)

**Rate of water flow:** 5 L/sec

**Rate of chlorine injection:** 0.23 L/min

**Time to chlorinate test section:** 24.4 minutes

In the presence of a City of St. Thomas Water Operator, chlorine will be injected into the temporary watermain system at the source end, at a rate that will result in a free chlorine residual of greater than 50 mg/L throughout the isolated section. A City of St. Thomas Water Operator will verify all sections of the temporary overland watermain have been charged with the super-chlorinated solution.

Following a minimum 24-hour rest period, a City of St. Thomas Water Operator will check free residuals at the same locations as above and compare the residuals found to the initial residuals, to confirm residuals are within the allowable decrease (Allowable decrease = 40% of initial free chlorine residual, to a maximum of 50 mg/L).

The disinfection process will be repeated, should free chlorine levels decrease more than 40% of the initial readings over the 24-hour test period.

Upon successful disinfection of the temporary overland system, the system will be flushed of all super-chlorinated water, as outlined in the section below, until such time as free chlorine residuals within the overland system are consistent with the St. Thomas Distribution Water System residuals in the area.

1. **DISPOSAL OF CHLORINATED/SUPER-CHLORINATED WATER:**

**Neutralizing Agent:** Hydrogen Peroxide

**Application Method:** Injection

**Discharge Location:** Storm Sewer Catchbasin on SW corner of Ross and Wellington

When disposing of chlorinated water and/or super-chlorinated water, all precautions will be taken to ensure water has been neutralized prior to reaching the natural environment. During flushing activities to dispose of super-chlorinated water, monitoring will be undertaken continuously using a low-level chlorine test strip, until such time as an adequate dosage of dechlorinating agent has been established and every 20 minutes thereafter, until such time as the discharge has been terminated.

1. **BACTERIOLOGICAL TESTING:**

Following flushing of super-chlorinated water and recharging of the temporary overland system with water normal to the operation of the St. Thomas Water Distribution System, the temporary overland system will be allowed to rest for a minimum of 16 hours.

Following the 16-hour rest period, a City of St. Thomas Water Operator shall collect bacteriological samples from every 350m of temporary overland system, plus one sample from the end of each line and at least one sample from each branch. The Operator will leave the sample tap running and return after a minimum of 15 minutes to collect a second sample from each sample location.

The City of St. Thomas will submit the samples to an accredited laboratory for *E. Coli*, Total Coliform and Heterotrophic Plate Count analysis.

1. **SERVICE CONNECTIONS:**

Following receipt of satisfactory bacteriological results and approval from the City of St. Thomas Project Manager, serviced properties will be connected to the temporary overland watermain.

Service connections will be made in dry weather in the presence of a City of St. Thomas representative, at or just beyond the curbstop of the existing water service line, using hoses swabbed with a minimum 1% sodium hypochlorite solution. All hoses and fittings used will be sprayed/swabbed with a minimum 1% sodium hypochlorite solution immediately prior to its installation.

**Submitted by:**

**Name:**

**Company:**

**Date:**

**Signature**

**City of St. Thomas Plan Approval:**

**Name:**

**Date:**

**Signature:**