Alternate Measures of Control (AMC)

for Secondary Clarifier #2 Confined Space Entry

Moderate Hazard Atmosphere

City of Penticton AWWTP

February 23, 2015

**Main Elements of Submission:**

1. The space is a circular concrete secondary clarifier. The tank is 25 m in diameter and is just over 4m in depth. The tank floor has a minor slope towards the middle. There are two adjacent pipes, one is a 750 mm gravity feed from the bio reactor containing bio mass from the bio reactor, second feed is a 200 mm pipe that is connected to the suction side of the return pumping system.
2. The space is isolated by:
	1. 750 mm gravity feed is a buried butterfly valve which was installed in 1990 and is exercised annually (no provision for double block and bleed or blanking) Spec sheet attached
	2. 200 mm suction line is isolated by a knife gate and a plug valve installed in 2013, engineered drawing attached. (no provision for double block and bleed or blanking) Even if we could double block and bleed the bleed would create a flooding hazard in the below ground pump room and blind flanging would require piping to be disassembled with only one valve isolating worker in a below ground building while blind flange is being installed
3. Glenn Robertson (City Safety coordinator) administers the Confined Space program for the City of Penticton, Glenn Robertson and Randy Craig (AWWTP Supervisor) prepared the Alternate Measures
4. Hazards to be addressed, see attached HIRA
5. Alternate Measures;
	1. 750 mm Butterfly is buried. P. Eng. has asked that we monitor the space once empty for 3 days to determine amount of leakage. P. Eng. will come on site after 3 days and sign off on valve
	2. 200 mm knife gate, P. Eng. sign off attached
6. Workers will be orientated to AMC and required to sign off on their orientation see attached training sheet
7. AMC will be supervised by AWWTP Supervisor and regular visits documented