

September 15, 2015  
File: 2014-4531.000.E.400

Ms. Tracey Braun, M. Sc.  
Director, Environmental Approvals  
Manitoba Conservation  
123 Main Street, Suite 160  
Winnipeg Manitoba, R3C 1A5

**Re: TOWN OF VIRDEN WWTF - NEW EAL  
NOTICE OF ALTERATION REQUEST**

Dear Ms. Braun:

In accordance with the Environment Act (Section 14), the following is the Decommissioning Plan for the old Town of Virden Wastewater Treatment Facility (WWTF), also known as the Deepshaft Sewage Treatment Plant.

With the construction of the new Phase 1 Headworks building, the Town has now generally abandoned the treatment processes in the old WWTF. As part of the Phase 2 upgrades (2016/2017), the intent is to repurpose the plant for new biosolids stabilization and thickening. The existing facility will also house the new chemical feed systems for the new treatment processes as well as re-utilize the existing lab/office area.

In order to make room for the new treatment processes, the Town is going to remove the abandoned tankage, piping, chemical feed systems, and ventilation systems. The work will also include some minor site demolition to remove the bar screen channel located outside the plant, as well as the old grit tank and foundation.

Once the equipment and surrounding metal access structures are removed, this will provide access to the deepshaft well. It is the Town's intent to seal this well in accordance to the guidelines for sealing wells in Manitoba. More details will follow in this submission.

## **1.1 DISPOSAL OF WASTE MATERIALS**

### **1.1.1 Liquid Wastes**

All liquid waste from the site and plant areas will be considered wastewater and will be removed by vacuum truck and disposed of at the Town sludge disposal facility operating under EAL 1449. Sources of liquid waste would include that liquid remaining in the settling tanks, process piping and deepshaft well.



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### **1.1.2 Wastewater Sludge Wastes**

All sludge waste from the site and plant areas will be removed by vacuum truck and disposed of at the Town sludge disposal facility operating under EAL 1449. Sources of sludge waste would include that found at the bottom of the settling tanks, process piping and grit tank.

### **1.1.3 Hazardous Materials**

On August 10, 2015 Associated Engineering (AE) with EGE Engineering Ltd. (EGE) completed a Hazardous Materials Assessment of the old Virden Wastewater Treatment Plant. The results of this investigation are described later in this report. However, as outlined in the Assessment, those hazardous found in the WWTF will be handled and disposed of in accordance with their associated Provincial and Federal regulations:

- *Workplace Health and Safety Act*
- *Workplace Safety and Health Regulations*
- *The Dangerous Goods Handling and Transportation Act*

### **1.1.4 Metal Tankage and Miscellaneous Metals**

Miscellaneous metals and metal scrap will be disposed of at an approved waste disposal ground.

## **1.2 DEEPSHAFT WELL ABANDONMENT PROCEDURE**

This deep shaft sewage treatment casing is expected to be treated like a well in the new groundwater regulations, thus sealing it like a well is the intent.

The Town will remove as much liquid sewage as possible from the shaft and dispose of it accordingly. Once this is completed, two rigid grouting lines would be placed. One grout line will be placed inside the inner 300mm casing and another line will be placed between the outer 750mm casing and the inner 300mm casing. Using high pressure mud pumps, the well would be grouted from bottom to top in one continuous process. During the grouting, any water/sewage in the well would be displaced out of the shaft to the surface. This liquid would be directed to the nearby floor sump and then removed by vacuum truck.

It is proposed to have the work completed by a qualified firm familiar with well abandonment in the Province. Part of their scope of service would be to complete a well abandonment report.



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### 1.3 SCOPE OF WORK

After the completion of the Phase 1 Headworks facility, the Town had a limited amount of remaining funds which are being allocated to the partial demolition of the old WWTF. A 2015 work program is being developed and expected to be tendered in October of 2015. Any remaining works will be rolled into the Phase 2 work program which is expected to occur in 2016.

The scope of work for the demolition and decommissioning of the old Virden WWTF is as follows:



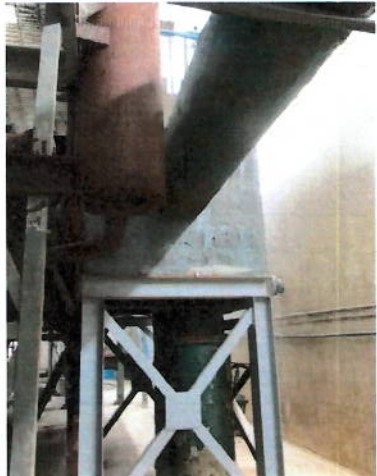
#### **2015 Demolition Plan – Stage 1**

<p>1.0</p>	<p>Removal of the grit tank from outside the WWTF and its associated piping and concrete foundation.</p> <p>Previously, the piping was disconnected from the WWTF as the grit tank was abandoned over six years ago.</p>	
<p>2.0</p>	<p>Removal of the concrete influent channel and bar screens.</p> <p>It is proposed to remove the majority of the concrete foundation for these channels to allow room in this location for a future septage receiving tank and appurtenances.</p>	



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<p>3.0</p>	<p>Removal of the settling tanks and associated piping.</p> <p>The Town has previously drained much of these tanks once the new Headworks was operational. Prior to demolition, these tanks will have any remaining liquid and sludge removed. They will be pressure washed down and then cut into pieces for removal and disposal. All associated process piping and metal structures will also be removed with the tanks. Materials will be disposed of at an approved waste disposal facility.</p>	
<p>4.0</p>	<p>Removal of abandoned chemical feed systems and abandoned HVAC systems in the mechanical room.</p> <p>In this location there where some hazardous materials identified in the Haz. Mat Assessment (Lead Paint, Asbestos), these will be disposed of in accordance to Regulations. All other metal equipment and tankage will be disposed of at an approved waste disposal facility.</p>	
<p>5.0</p>	<p>Abandonment of the Deepshaft well.</p> <p>Once the metal structures and tanks have been removed, this will provide suitable access to the well for abandonment. Refer to "DEEPSHAFT WELL ABANDONMENT PROCEDURE" in this report for details.</p>	



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**2016 Demolition Plan – Stage 2**

This work is to be included as part of the Phase 2 WWTF upgrade scope of work.

<p>1.0</p>	<p>Removal of chlorine contact chamber and effluent piping.</p> <p>With the integration of UV disinfection into the Phase 2 upgrades, the chlorine contact chamber will have no further use.</p> <p>The chamber is currently in the footprint of the proposed new SBR tanks. Thus, to allow for construction of the next phase of works, the chamber needs to be fully removed along with a section of effluent piping. As part of AE's design of Phase 2, an interim treatment strategy will be developed for the contractor.</p>	
<p>2.0</p>	<p>Motor Control Center Demolition</p> <p>With the abandonment of all major treatment equipment in the old plant. Almost all of the existing MCC breakers will serve no purpose. As part of Phase 2 upgrades, sections of the MCC will be removed to make room for the new treatment equipment power and controls.</p>	

**1.4 SCHEDULE OF WORK**

Stage 1 works are expected to be tendered in October 2015, and take place over the winter of 2015 into early 2016.

Stage 2 works are to be rolled into the Phase 2 work program. The Phase 2 works are anticipated to start mid-2016 and the demolition works will occur during 2016 and 2017.



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#### 1.5 INTERRUPTION OF TREATMENT

It is not anticipated that there will be any interruption of flow and operation of the new Headworks facility to allow for demolition of the old WWTF. With the exception of the continued use of the existing chlorine contact chamber, the old plant is now isolated from the new treatment process.

#### 1.6 ADDITIONAL INFORMATION

Included with this Decommissioning Plan are the following attachments:

- August 2015 Hazardous Materials Assessment
- September 2015 Demolition Plans for Tender (Draft)

Yours truly,  
Associated Engineering Ltd.

A handwritten signature in blue ink that reads "Ken Anderson".

Ken Anderson, P.Eng.  
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Encl.