**Regional District of Kitimat-Stikine**

**Operation of Kitwanga Transfer Station and Hazelton Waste Management Facility**

**To:** Posted on BC Bid and RDKS's website

**From: Dr. Tony Sperling, P.Eng.**, SHA

**Ref:** ITT No. HAZ117-001

**Date: March 16, 2017**
**Pages:** 6 Pages including this cover page

**COMMENTS: Addendum #2 is attached hereto.**

Please take note that the Regional District of Kitimat-Stikine has issued the attached Addendum Number 1 for Invitation to Tender Number: HAZ17-001.

This Addendum includes the following:

Clarifications to ITT Document on the following issues:

1. Note regarding BC Bid Amendment #1.
2. Updated Septage Dewatering Facility section 5.1 Hours of Operation
3. Updated Payment section 1.18 Liquidated Damages

**Regional District of Kitimat-Stikine**

**Operation of Kitwanga Transfer Station and Hazelton Waste Management Facility**

**This Addendum forms part of the Contract documents and is to be read, interpreted, co-ordinated with all other parts. The cost of all contained herein is to be included in the contract sum. The following revisions supersede the information contained in the original drawings and specifications issued for the above-named project to the extent referenced and become part thereof.**

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**Clarifications to ITT Document:**

**1. Note regarding BC Bid Amendment #1**

The BC Bid website previously indicated Amendment #1. The Amendment was for updating the contact information to Dr. Tony Sperling, P.Eng. at Sperling Hansen Associates Inc. instead of the Regional District of Kitimat-Stikine.

**2. Scope of Work: Septage Dewatering Facility, Section 5.1 Hours of Operation**

The following line has been added to Section 5.1 Hours of Operation:

> "In addition, approved septage haulers with a Controlled Waste Permit will be able to access the site, on their own, outside of the Hours of Operation and on Tuesdays and Wednesdays."

The updated Section 5.1 is as follows:

**5.1 Hours of Operation**

The Septage Dewatering Facility (the "Septage Facility") is be an unmanned facility that must remain accessible to septage haulers when the Hazelton WMF is open, Thursday through Monday, from 10:00 am to 7:00 pm, except on holidays and days where snow removal is required, as described below. In addition, approved septage haulers with a Controlled Waste Permit will be able to access the site, on their own, outside of the Hours of Operation and on Tuesdays and Wednesdays.

Access to the facility shall be provided between the Hours of 11:00 am to 7 pm, Thursday through Monday, on days when snow removal is required.

No adjustment to the Hazelton Waste Management Facility Base Facility Operation Rate shall be made on account of any adjustment to the Hours of Operation at the Septage Facility.

The Contractor is not required to maintain access to the Septage Facility, on New Year's Day, on Good Friday, Easter Sunday, Christmas Day and Boxing Day.

## 3. Payment: Section 1.18 Bonuses and Liquidated Damages

Section 1.18 Bonuses and Liquidated Damages has been modified with the elimination of bonuses as there will not be a scale to measure the daily tonnages at the site. The method for calculation of Liquidated Damages due to under compaction of waste has been updated. The updated section 1.18 is attached.

# Attachments

## 1.18. Liquidated Damages

### 1.18.1. GENERAL

Liquidated Damages indicated in this section will remain constant for the duration of the Contract. Notice of Liquidated Damages will be provided to the Contractor in writing.

Liquidated Damages incurred in a month will be totaled and that amount will be deducted from the Contractors monthly payment.

### 1.18.2. HAZELTON WMF LANDFILL COMPACTION DENSITY LIQUIDATED DAMAGES

This Liquidated Damages will be based on Landfill volume lost due to under compaction. For each 1 $m^3$ lost, a damage claim of $10.00 will apply.

The Contractor is expected to achieve a minimum density of compacted solid waste (excluding operational cover) of 750 $kg/m^3$. Compaction shall be measured based on an annual calculation.

If the Owner is concerned that the specified compaction density is not being achieved, a verification test will conducted. It will include the excavation of three approximately 5 $m^3$ test pits into the waste material. The volume of the excavation and the weight of the material will be measured to determine the compaction density. If below the specified compaction density, the Regional District may charge the Contractor Liquidating Damages. The annual volume will be determined as indicated below.

The ground surface contours of the Landfill shall be measured by high resolution drone survey annually near the same calendar day of each year. The total volume of air space consumed by garbage shall be determined by calculating the difference in fill volume between the two annual surveys. The volume of cover soil utilized for daily cover, intermediate cover and roads shall be determined by calculating the cut volume between the two annual surveys at the gravel pit. The volume of air space consumed by daily cover, intermediate cover and roads shall then be subtracted to determine the volume of air space consumed by garbage.

Regional District may test semi-annually during the first year, then annually thereafter. Contractor will be informed as to other field methods that can be used to estimate compaction on a daily or weekly basis. Contractor may conduct their own air space surveys at anytime at their own expense.

Example: 5,000 tonnes of solid waste is landfilled during the year. A drone survey determines that 9,500 $m^3$ of air space were consumed in total (9,500 $m^3$ fill). The gravel pit survey establishes that 2,000 $m^3$ of soil was excavated from the borrow area for cover (2,000 $m^3$ cut).

Since the 2,000 $m^3$ of excavated soil will consume the same 2,000 $m^3$ when placed in the landfill as cover, the remaining 7,500 $m^3$ represents the air space consumed by incoming solid waste. Therefore the compaction density would be 667 $kg/m^3$.

At the target density of 750 $kg/m^3$, the 5,000 tonnes solid waste should consume 6,667 $m^3$ of air space. Therefore, the Contractor used an excess of 833 $m^3$ of air space. Therefore the Contractor would be charged $8,330 of Liquidated Damages.

## 1.18.3. HAZELTON LANDFILL WASTE TO COVER RATIO AND LIQUIDATED DAMAGES

The minimum Waste to Cover Ratio for the Hazelton Landfill is specified at 4:1 on a volume basis. The actual waste to cover ratio achieved is to be determined by once per year calculating the volume of air space consumed by solid waste (at a minimum density of 750 kg/$m^3$) against the volume of air space consumed by cover soil.

In the example in 1.18.2, the total volume of air space consumed was 9,500 $m^3$, the volume consumed by operational cover was 2,000 $m^3$ and the volume consumed by garbage would be 6,667 $m^3$ at the minimum compaction density of 750 kg/$m^3$. Therefore, the waste to cover ratio was 3.3:1. The Contractor used an excessive amount of cover and failed to achieve desired performance. The goal volume of soil cover is one quarter of the waste volume, or 1,667 $m^3$. Therefore, the Contractor used 333 $m^3$ too much cover.

Application of inadequate cover would result in excessive litter that renders the Site out of compliance with its Hazelton Landfill Operational Certificate (Schedule "I") and may be considered a breach of Contract by the District. Excessive application of cover would result in a waste to cover ratio below 4:1, resulting in wasted air space. To compensate the Regional District for air space lost due to overuse of cover soil, and for the value of wasted cover soil, the Contractor will pay the Regional District liquidated damages in the sum of $20.00 per 1$m^3$ of air space lost.

## 1.18.4. INTERMEDIATE COVER HOLDBACK

Intermediate cover must be installed per the specifications in the Scope of Work (Schedule "C"). Deviations from the Operational Specifications (i.e. inadequate thickness of cover or period of time between cover placement) will trigger a holdback of $10/$m^3$ of cover that has not been applied. This is estimated as the cost that the Regional District would face if others had to be brought in to apply the cover. The holdback will be released to the Contractor as soon as the Service is properly completed. If the Service is not performed within 15 days from the date of the infraction, the holdback will be considered Liquidated Damages and will therefore not be paid to the Contractor.

Payment for completed work will be released once the work is performed in accordance with the Operational Specifications and to the satisfaction of the District. Payment of withheld monies will be included with the first regular monthly payment following the successful remediation of the infraction. No interest will be paid by the Regional District to the Contractor on withheld monies.

In the event that intermediate cover cannot be placed, the Contractor must notify the Regional District immediately.