GENERAL SCOPE OF PROJECT

This agreement is to provide consulting engineering services to the City of Stevenson to conduct an industrial wastewater sampling study. The purpose of this sampling effort is to confirm the industrial wastewater loadings to the wastewater treatment plant, provide a basis for determining high strength user categories, and investigate potential slug loadings to the treatment plant. This work is composed of the following tasks:

- Task 1 – Industrial Wastewater User Site Visits
- Task 2 – Sampling Plan
- Task 3 – Wastewater Monitoring and Analysis

A detailed scope of work includes the tasks outlined below.

SCOPE OF WORK

Task 1  Industrial Wastewater User Site Visits

This task involves conducting site visits at each of the five industrial wastewater users. During the site visits we will discuss the monitoring process with the industrial users, assess the existing plumbing configurations, and look for opportunities to install flow meters (if not already installed) and improve sampling locations to provide more accurate results (if necessary). Recommended plumbing changes will be sketched on photos taken during the site visits. Discussions with industrial wastewater users will focus on gaining consensus regarding sampling locations and procedures.

Task 1 Assumptions:

- The City will coordinate with industrial users to set up site visits.
- Wallis will conduct a site visit to each industrial wastewater user (five total) over two half days (8 hours total).
- Industrial users will agree upon sampling location and any necessary plumbing modifications.

Task 1 Deliverables:

- Photos with sketches showing recommended plumbing modifications for sampling locations for each industrial user.

Task 2  Sampling Plan

This task includes the preparation of an industrial wastewater user sampling plan. The previous sampling plan, field procedures, and data will be reviewed. A new sampling plan will be prepared with recommendations for sampling frequency and duration, measured constituents, configuration of sampling equipment at each facility, and recommended plumbing modifications as determined in Task 1. The sampling plan will be summarized in a memorandum, and Wallis will meet with the City and any interested parties to discuss the plan and answer questions.
Task 2 Assumptions:
- Wallis will attend one meeting with City staff and interested parties to discuss the sampling plan.
- Industrial users will agree upon sampling plan without substantial modifications.

Task 2 Deliverables:
- Draft and final memorandum summarizing the sampling plan.

Task 3 Wastewater Sampling and Analysis
This task includes managing the wastewater sampling effort, assisting with installation of sampling equipment, assisting with sample collection, and analysis of sampling results. Wallis will conduct initial site visits to oversee installation of sampling equipment, and periodic site visits to monitor the sampling equipment and adjust the equipment if required. We will review the wastewater sampling results and flow meter data to determine minimum, maximum and average concentrations and loadings for measured constituents. The WWTP performance will be discussed with City staff and operators to determine whether any observed slug loadings have impacted performance. The data analysis will be summarized in a technical memorandum, and Wallis will meet with the City and interested parties to discuss and answer questions.

Task 3 Assumptions:
- The industrial users will make the agreed upon modifications to sampling locations as recommended in the sampling plan, and the City will inspect the sampling location to confirm.
- The City will provide composite sampling equipment.
- The City will contract directly with a DOE certified laboratory for sample analysis, and a courier or mailing service for sample delivery.
- Owner of sampling equipment (either field representative from laboratory service if renting equipment, or staff from other city if borrowing equipment) will be available to assist in equipment setup.
- City staff will be responsible for installing sampling equipment and collecting samples, with assistance and direction from Wallis.
- Wallis will make one site visit to each industrial user to assist with installation of sampling equipment (10 hours total).
- Wallis will conduct up to two site visits to each industrial user to inspect sampling equipment and assist in collecting samples (8 hours total).
- Wallis will attend one meeting with City staff and interested parties to discuss the results.

Task 3 Deliverables:
- Memorandum summarizing the sampling data analysis.
### FEE SUMMARY

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<th>Staff</th>
<th>Hours</th>
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**Expenses**

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Hi Leana –

Attached is a draft scope and fee for the wastewater sampling effort, as we discussed. One thing I’d like to note is that in order to keep our fee within our 10k on-call agreement, field work is fairly limited on our end – much of the work setting up sampling equipment and collecting samples will need to be completed by the City. To that effect, there are a couple of items that are worth discussing.

First, the amount of fieldwork required is somewhat dependent upon the sampling plan – which constituents we measure, and the frequency. You mentioned that you would like to measure BOD daily, which requires collecting the samples daily (the laboratory analysis needs to be done within 48 hours). Another option would be do COD samples daily, and supplement with BOD tests – this would reduce the amount of fieldwork required, because COD samples can sit for several weeks prior to laboratory analysis. While the BOD test is typically recommended because the rates and regulations are based on this, the COD test may be adequate, especially for identifying slug loads. We can resolve this issue once we meet with the industries and complete the sampling plan.

The other item I should mention is that we assumed that the City would obtain all of the composite sampling equipment, and contract directly with the laboratory for sample analysis. I would be happy to recommend sampling equipment or a laboratory to use, or to review the City’s selection. Again, we could include these items in our scope, but the fee would be over our on-call agreement limit.

You mentioned that one goal of this sampling effort is to gain the confidence of the industries regarding their strength classifications. To that end, one option is to move forward with the current scope assuming limited field work on our end. Once we complete the sampling plan we will have a better idea of how much field work is required, and a sense of whether the industries will be satisfied with the City collecting the samples. If it turns out that we will need to do more of the fieldwork, we could supplement the scope as necessary. The other option would be for us to provide a scope with more comprehensive fieldwork from the outset.

Please let me know if you have any questions, and feel free to call to discuss.

Thanks,

Jack Wallis, PE
Staff Engineer
Direct: 360-852-9152
Office: 360-695-7041
jack.wallis@walliseng.net
Leana Johnson <leana@ci.stevenson.wa.us>
To: Jack Wallis <jack.wallis@walliseng.net>

Jack,

I like the scope how it stands currently, with the city performing the collections. How much additional expense would it be for the more extensive fieldwork, assuming we stick with BOD testing only? I'm writing a memo to council and would like to have the authorization to move forward if need be without having to wait for another council meeting.

Thank you,

Leana Johnson, EMPA, CMC
City Administrator
7121 E. Loop Rd/PO Box 371
Stevenson, WA 98648-0371
(509) 427-5970

Jack Wallis <jack.wallis@walliseng.net>
To: Leana Johnson <leana@ci.stevenson.wa.us>

Leana –

If we collected the samples, our fee would increase by $9,300. This assumes 20 days of sampling (5 days a week for 4 weeks), a half day required to collect the samples, and most of the sample collection by a junior engineer. I didn’t think that sampling would be required on the weekends, but if sampling is needed 7 days per week the fee would be about $13,100.

Another option we might want to discuss is to let the industries collect the samples.

Thanks,

-Jack