October 25, 2013

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CITY OF ARCATA
ENVIRONMENTAL SERVICES DEPT.

City of Arcata
Environmental Services Department
736 F Street
Arcata, CA 95521

Permit Number: 004-01-0002

The purpose of this letter is to confirm the installation of the 24 hour pH monitor and chemical adjustment dosing systems referred to in the *Proposed Compliance Schedule, Cypress Grove Chevre, Arcata, California letter* dated September 27th, 2013. In addition, the Fats, Oils and Grease Best Management Practices Plan training documents and an updated Accidental Spill Prevention Plan have been included.

24-Hour pH Meter Installation

A Hach SC1000 controller and probe sensor were installed on September 26th, 2013. This system replaced the previously installed Extech Model SDL100 pH datalogger, which was intermittently failing and providing unreliable data. The Hach unit is a much more reliable and durable unit and we anticipate it will perform adequately (See Figure 1).

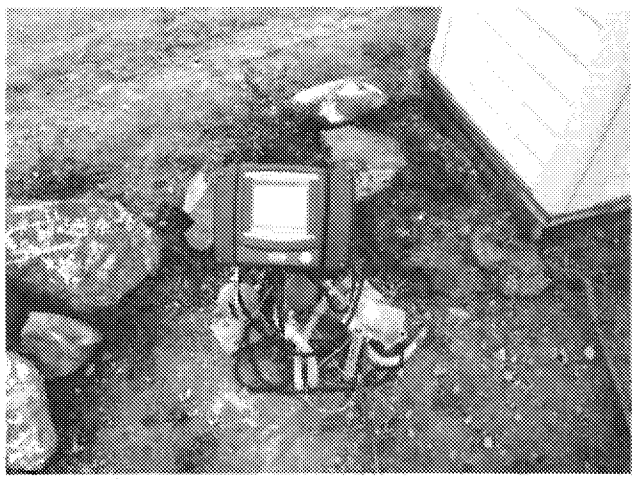

Figure 1: 24 Hour pH Meter Installed

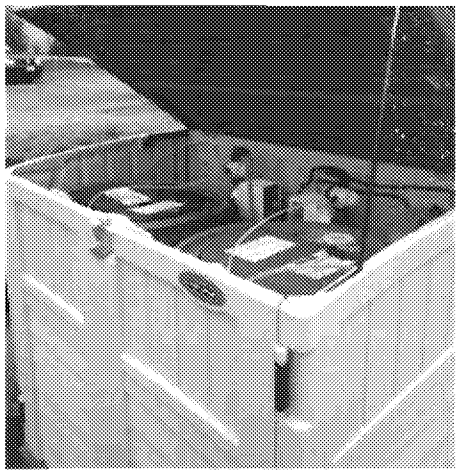

Figure 2: Chemical Dosing System Installed

Chemical Adjustment Dosing System

The Hach SC1000 controller was connected to an acid/base chemical dosing system on October 10th, 2013 (See Figure 2). Unfortunately, it was discovered on October 17th that the chemical adjustment system was not always keeping the pH in acceptable ranges and in fact was causing our effluent to be out of compliance by overcorrecting for our effluent pH values. We immediately disabled the pH system and manually adjusted the pH to bring our effluent back in to compliance. We believe that the

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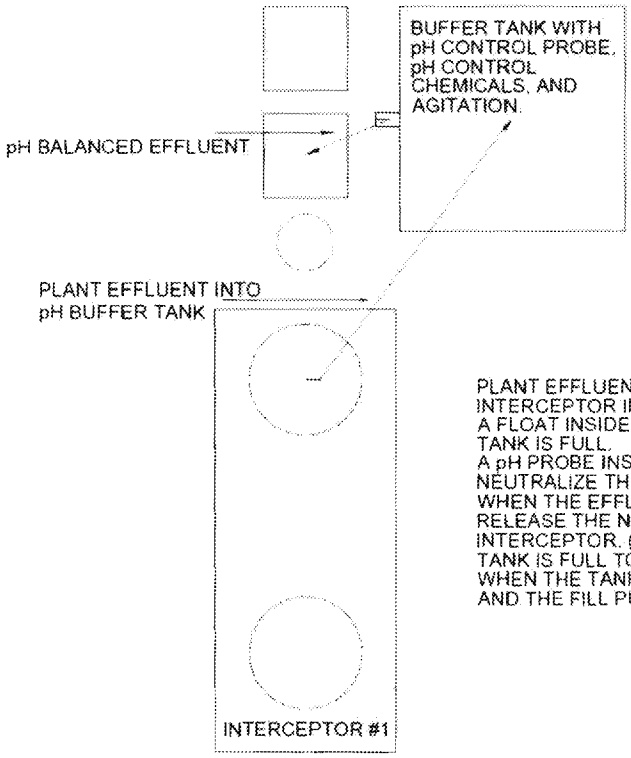
root cause of the overcorrection was that the acid/base chemicals were not adequately mixed with our effluent before passing on to the pH sensor.

In order to correct the problem of incomplete mixing, we will be installing a batch tank for adjusting our effluent pH to an acceptable range as it enters our grease interceptor series. We anticipate the system will be installed by October 31st (See Figure 3).



PLANT EFFLUENT WILL BE PUMPED OUT OF THE FIRST SECTION OF THE FIRST INTERCEPTOR INTO THE BUFFER TANK.
A FLOAT INSIDE THE BUFFER TANK WILL SHUT OFF THE PUMP WHEN THE BUFFFER TANK IS FULL.
A pH PROBE INSIDE THE BUFFER TANK WILL CONTROL CHEMICAL FEED PUMPS TO NEUTRALIZE THE EFFLUENT (THE BUFFER TANK WILL HAVE CONSTANT AGITATION).
WHEN THE EFFLUENT IS AT A PREDETERMINED pH, A DUMP VALVE WILL OPEN AND RELEASE THE NEUTRALIZED EFFLUENT INTO THE PORT PRIOR TO THE FIRST INTERCEPTOR. (THE DUMP VALVE WILL ONLY BE ABLE TO OPEN WHEN THE BUFFER TANK IS FULL TO ENSURE ADEQUATE HOLDING TIME)
WHEN THE TANK IS ALMOST EMPTY, A FLOAT WILL RELAY THE DUMP VALVE TO CLOSE AND THE FILL PUMP TO TURN ON TO REPEAT THE CYCLE.

Figure3: Buffer Tank Flow Diagram

A memorandum confirming the installation of the chemical adjustment dosing system with the buffer tank will be provided to the City by November 22nd, 2013. If you have any questions or need additional information please call me at (707) 825-1100.

Sincerely,

David Estes
Operations Director