RECORD OF PROCEEDINGS

MINUTES OF A SPECIAL MEETING OF
THE BOARD OF DIRECTORS OF THE
GREATROCK NORTH WATER AND SANITATION DISTRICT
HELD
JANUARY 3, 2013

A special meeting of the Board of Directors of the Greatrock North Water and Sanitation District (referred to hereafter as "Board") was convened on Thursday, January 3, 2013 at 5:30 P.M., at United Power, 500 Cooperative Way, Brighton, Colorado. The meeting was open to the public.

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ATTENDANCE

Directors In Attendance Were:
Terry Krayenhagen
Robert William Fleck
Jeffrey Polliard
Brian K. Rogers
John D. Wyckoff

Also In Attendance Were:
Lisa A. Johnson; Special District Management Services, Inc.

Jennifer Tanaka, Esq.; White Bear & Ankele, P.C.

Andrea Bollinger; Olsson Associates, Inc.

Laurel Stradjuhar; Bishop-Brogden Associates, Inc.

Walraven Ketellapper; Box Elder Properties, LLC

Dave Lozano; Resident

George Knott; Resident

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DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

Disclosures of Potential Conflicts of Interest: Attorney Tanaka advised the Board that, pursuant to Colorado law, certain disclosures may be required prior to taking official action at the meeting. The Board reviewed the Agenda for the meeting, following which Directors Krayenhagen, Fleck, Polliard, Rogers and Wyckoff each confirmed that they had no conflicts of interest in connection with any of the matters listed on the Agenda.

_____

ADMINISTRATIVE MATTERS

Agenda: Ms. Johnson distributed for the Board's review and approval a proposed Agenda for the District's special meeting.

Following discussion, upon motion duly made by Director Wyckoff, seconded by Director Polliard and, upon vote, unanimously carried, the Agenda was approved.

Board of Directors' Report: There was nothing new to report.

Manager's Report: Ms. Johnson presented and the Board reviewed the January Manager's Report.

District Website: The Board entered into discussion regarding the status of the District's website. Due to unanticipated demand on their resources and backlogs of projects, the Statewide Internet Portal Authority ("SIPA") is still working on the creation of the District's website. SIPA expects the wait to be approximately two months.

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CONSENT AGENDA

The Board considered the following actions:

- Approval of the Minutes from the December 4, 2012 regular meeting.
- Ratify approval of payment of claims through the period ending December 12, 2012, as follows:

General Fund	$ 41,127.52
Debt Service Fund	$ 123,078.75
Capital Projects Fund	$ 6,966.88
Total Claims:	**$ 171,173.15**

- Ratify acceptance of cash position schedule and unaudited financial statements through the period ending November 30, 2012.

Following discussion, upon motion duly made by Director Rogers, seconded by Director Fleck and, upon vote, unanimously carried, the Board approved the consent agenda items.

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ENGINEER'S REPORT

Evaporation Ponds:

Concentrate Management Efforts: Ms. Bollinger reported to the Board that Olsson Associates, Inc. clarified the importance of pond monitoring to Ramey Environmental Compliance, Inc. ("REC"). She noted that the monitoring is necessary to determine how the valves are operating and make comparisons between field data and what is shown on SCADA. She noted that REC will better document the levels and take photographs of the stakes during site visits.
Ms. Bollinger reported that as of December 17, 2012 the SCADA has a pond depth of 4.25 feet. REC continues to monitor the depth of the water.

Location and Costs to Acquire Land for Third Evaporation Pond: Ms. Bollinger reported that Olsson Associates, Inc. is awaiting a response from Adams County for a meeting date to determine if the area just north of the current ponds is an acceptable location for the new, third pond.

Energy Audit: Ms. Bollinger noted that the accounts with United Power may now be changed to coincide with the change in operations, thereby reducing the monthly energy costs. The Board directed staff to make the appropriate changes with United Power.

Engineering, Design and Operations Plan ("EDOP"): Ms. Bollinger reported that the EDOP was submitted to the Colorado Department of Public Health and Environment on December 21, 2012.

GIS Mapping Project: Ms. Bollinger noted that comments have been incorporated into the final maps.

VFD Enclosures: Timber Line Electric and Controls Corporation made a program change that should protect the VFDs during periods of cold weather and low temperatures. Olsson Associates, Inc. suggests monitoring the VFDs through another winter to determine if the programming will be sufficient.

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OPERATIONS AND MAINTENANCE MATTERS

Operations and Maintenance Update: The Board reviewed the Monthly Activities Report and operations and maintenance update. A copy of the report is attached hereto and incorporated herein by this reference.

Monthly Flow Report: The Board reviewed the monthly flow report covering November 5, 2012 through December 5, 2012.

Water Quality Issues in Box Elder Creek Ranch and Rocking Horse Farms: The Board reviewed the monthly water quality report.

_____

DEVELOPMENT PROJECTS

Development Projects:

Hayesmount Estates, Homestead Heights II, and Ridgeview Estates: There was nothing new to report on Hayesmount Estates, Homestead Heights II, and Ridgeview Estates.

Kremer Property: There was nothing new to report on the Kremer property.

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RECORD OF PROCEEDINGS

WATER MATTERS

Request from Box Elder Creek Properties, LLC regarding Inclusion of District Water Rights in Their Water Sourcing Operation at Box Elder Farm: Mr. Ketellapper addressed the Board regarding his request to the District to allow Box Elder Creek Properties, LLC to include the District's Denver Basin water rights, effluent and any other available reusable water supply in their water court application. He also discussed the status of his water sourcing operation project and answered questions related to both.

Following discussion, upon motion duly made by Director Fleck, seconded by Director Polliard and, upon vote, unanimously carried, the Board approved the request, subject to final review by Attorney Poznanovic and Mr. Sanchez.

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COMMUNITY COMMENTS

Community Comments: There were no community comments.

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ADJOURNMENT

There being no further business to come before the Board at this time, upon motion duly made, seconded and, upon vote, unanimously carried, the meeting was adjourned.

Respectfully submitted,

By _____
Secretary for the Meeting

THESE MINUTES APPROVED AS THE OFFICIAL JANUARY 3, 2013 MINUTES OF THE GREATROCK NORTH WATER AND SANITATION DISTRICT BY THE BOARD OF DIRECTORS SIGNING BELOW:

_____
Terry Krayenhagen

_____
Robert William Fleck

_____
Jeffrey L. Polliard

_____
Brian K. Rogers

_____
John D. Wyckoff

MEMO

TO: Lisa Johnson, District Manager

FROM: Andrea Bollinger

RE: January 3, 2013 Meeting Agenda Items

DATE: December 18, 2012

PROJECT: 011-0240

Item IV.A. – Evaporation Ponds

1. Status of concentrate management efforts – Olsson Associates conducted a conference call with REC to clarify the importance of pond level monitoring. It was explained we are monitoring the levels for two purposes, first to determine how the valves are operating and second to compare what is seen in the field with what is shown on SCADA. REC said they would better document the levels and would take pictures of the stakes during each site visit.

   As of 12/17/12 the SCADA has a pond depth of 4.25 ft. REC is monitoring the depths.

2. Third evaporation pond – Based on the last Board meeting Olsson Associates is scheduling a meeting with the County to determine if the area north of the existing ponds is a go or no-go area. Olsson has sent the county proposed meeting dates and is awaiting a response.

Item IV.B. – Discuss steps to implement changes determined by the energy audit

Since TLECC has changed the internal clock on the PLC the system to match daylight savings, the system has been operating within the appropriate time frames.

It will be important to continue monitoring the system after the change to ensure proper operation. In particular, during the summer operation when more demand is placed on the system.

Item IV.C – Status of Engineering Design and Operations Plan

- The HMWMD has responded and attached are the responses.
  - The District is exempt from submitting the Inventory and Preliminary Classification Report (IPCR).
  - The EDOP is considered “Complete” by the HMWMD, but still requires a technical review after final submittal.

- The HMWMD also provided preliminary comments from their completeness review in an unofficial email. Attached are their comments.
- Olsson Associates is reviewing the report to ensure all comments are addressed and are prepared to submit the report to the State by the January 3rd, 2013 deadline.

Item IV.D – Status of GIS Mapping

Olsson Associates received scanned copies of the pages with comments and are in the process of revising the sheets. Two revised booklets will be distributed at the Board meeting one for the field and one for the District office records.

Item IV.E – Status of VFD enclosures

Olsson Associates has been in discussions with Dan LaCoe, Ramey Environmental, and Timber Line regarding the VFD's. Based on the conversations it is recommended to continue using the cold weather programming and see how it handles this winter.

Timber Line is speaking with Cutler Hammer to determine if there is a panel better suited for the operating conditions, but at this time it is believed the cold weather programming should be sufficient. If no problems arise this winter then the District does not have a problem. If something were to go wrong, the District has enough storage in the system to allow for a couple of days of downtime until the well(s) could be fixed.

Attached is an email which outlines the full discussion with Timber Line and Olsson.

Additional Engineering Matters

Olsson Associates completed the one-year warranty inspection on the exterior of the north tank at Box Elder Creek Ranch. The memo summarizing the inspection along with photos is attached.

I will attend the January 3, 2012 Board Meeting and will be prepared to address any of these items, as well as any additional items that may arise.

Item IV.C. – Engineering Design and Operations Plan

Attachments:

- 2012-12-14_Great_Rock_IPCR_Waiver_Request_Apprvl_PDF
- 2012-12-14_Great_Rock_EDOP_Complete+30-Hr_Notice_PDF
- Greatrock Draft EDOP Comments- email

STATE OF COLORADO

John W. Hickenlooper, Governor
Christopher E. Urbina, MD, MPH
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
Located in Glendale, Colorado

Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

http://www.cdphe.state.co.us

Colorado Department
of Public Health
and Environment

December 14, 2012

Andrea Bollinger, E.I.T.
Olsson Associates
4690 Table Mountain Drive
Suite 200
Golden, Colorado 80403

RE: **Approval**
Waiver Request: Submittal of an *Inventory and Preliminary Classification Report*
Greatrock North Water and Sanitation District
Adams County, Colorado

Dear Ms. Bollinger:

On October 11, 2012, the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (Division), received from Greatrock North Water and Sanitation District (Greatrock), in Adams County, Colorado, a request to waive (Waiver Request) (Olsson 2012a) the submittal of an *Inventory and Preliminary Classification Report* (*IPCR*) as required by Section 9.1.8 (A) of the Regulations Pertaining to Solid Waste Sites and Facilities, 6 CCR 1007-2, Part 1 (Solid Waste Regulations). The Waiver Request was prepared for Greatrock by its technical consultant, Olsson Associates (Olsson), and is dated October 11, 2012. On September 5, 2012, Greatrock had submitted a proposed *Engineering Design and Operation Plan* (*EDOP*) (Olsson 2012b) for on-site Type B Waste Impoundments. Since the *EDOP* (Olsson 2012b) presents the information that would be presented in an *IPCR*, Greatrock has submitted the Waiver Request (Olsson 2012a).

The Division has completed its review of the Waiver Request (Olsson 2012a) pursuant to the appropriate provisions of the Solid Waste Regulations, and hereby **approves** the Waiver Request (Olsson 2012a).

The Division is authorized to bill for its review of technical submittals at $125 per hour, pursuant to Section 1.7 of the Solid Waste Regulations. An invoice for the Division's review of the subject document will be sent under separate cover.

Should you have questions, please contact Doug Eagleton at 303-691-4065, douglas.eagleton@state.co.us, or Roger Doak at 303-692-3437, roger.doak@state.co.us.

Sincerely,

Doug Eagleton

Doug Eagleton, P.E.
Environmental Protection Specialist
Solid Waste Permitting Unit
Solid Waste and Materials Management Program
Hazardous Materials and Waste Management Division

cc: Craig Tessmer – Adams County Planning & Development Department

ec: Darrell Dearborn – HMWMD Compliance Assurance Unit

Attachments: Notification – Receipt of Document (Including 30-Hour Billable Time Notification Waiver/Cease-Work Notice)

File: SW/ADM/GRK 2.1

STATE OF COLORADO

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8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

http://www.cdphe.state.co.us

Colorado Department
of Public Health
and Environment

December 14, 2012

Via Certified Mail #7007 0220 0001 0155 2365
Return Receipt Requested

Andrea Bollinger, E.I.T.
Olsson Associates
4690 Table Mountain Drive
Suite 200
Golden, Colorado 80403

RE: Completeness Review Determination: **Complete**
Engineering Design and Operation Plan
Greatrock North Water and Sanitation District
Adams County, Colorado

Dear Ms. Bollinger:

On September 5, 2012, the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (Division), received from Greatrock North Water and Sanitation District (Greatrock), in Adams County, Colorado, a proposed *Engineering Design and Operation Plan* (*EDOP*) (Olsson 2012), prepared for Greatrock by its technical consultant, Olsson Associates (Olsson), and dated August 2012. On Greatrock's behalf, Olsson prepared the *EDOP* (Olsson 2012) to meet the requirements for a Type B Waste Impoundment as set forth in the revised Section 9 – Waste Impoundments of the Regulations Pertaining to Solid Waste Sites and Facilities, 6 CCR 1007-2, Part 1 (Solid Waste Regulations).

The Division reviewed the Application to determine its compliance with the requirements set forth in the Solid Waste Disposal Sites and Facilities Act, Colorado Revised Statutes (CRS) Title 30, Article 20, Parts 1 and 10 (Solid Waste Act), as amended, and with the Solid Waste Regulations promulgated there under. Although not required by the Solid Waste Regulations, the Division will follow the Certification of Designation (CD) process during its technical and regulatory review of an EDOP. In accordance with the Solid Waste Statute, CRS 30-20-103 (2), a "completeness review" of an application for a CD is required. Typically, an application for a CD includes an EDOP for review. While Greatrock is not applying for a CD, Greatrock has submitted an EDOP for review. Therefore, as noted above the Division will follow the general process of issuing a completeness review before issuing the results of a "technical evaluation" as noted below. The Division has conducted the completeness review and has determined the *EDOP*

(Olsson 2012) to be **complete**. Please note that it is not the intent or purpose of a "completeness review" to imply anything concerning the final approval (or disapproval) of the *EDOP* (Olsson 2012).

In accordance with the general process outlined in the Solid Waste Statute, CRS 30-20-103 (2), a "technical evaluation" is required after the completeness review has been conducted, and the Division has initiated the technical evaluation process. The Division might request additional information in order to clarify aspects of the *EDOP* (Olsson 2012) before completing the technical evaluation. A formal recommendation of approval (or disapproval) of the Application per the Solid Waste Regulations will be made after the Division has completed its technical review.

The Division is authorized to bill for its review of technical submittals at $125 per hour, pursuant to Section 1.7 of the Solid Waste Regulations. The fee ceiling is $35,000 for the review of your Application, and the review can include time for the completeness review, the technical evaluation, associated meetings, other communications, and any other related items. An invoice for the Division's review of the subject document will be sent under separate cover.

Enclosed is a 30-Hour Billable Time Notification Waiver/Cease-Work Notice. Please check the appropriate box on this notice and sign and date the waiver. This notice should be returned to Doug Eagleton at

HMWMD-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Should you have questions, please contact Doug Eagleton at 303-691-4065, douglas.eagleton@state.co.us, or Roger Doak at 303-692-3437, roger.doak@state.co.us.

Sincerely,

Doug Eagleton

Doug Eagleton, P.E.
Environmental Protection Specialist
Solid Waste Permitting Unit
Solid Waste and Materials Management Program
Hazardous Materials and Waste Management Division

cc: Craig Tessmer – Adams County Planning & Development Department

ec: Darrell Dearborn – HMWMD Compliance Assurance Unit

Attachments: Notification – Receipt of Document (Including 30-Hour Billable Time Notification Waiver/Cease-Work Notice)

File: SW/ADM/GRK 2.1

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Colorado Department
of Public Health
and Environment

December 14, 2012

Andrea Bollinger, E.I.T.
Olsson Associates
4690 Table Mountain Drive
Suite 200
Golden, Colorado 80403

RE: Notification – Receipt of Document
Project ID Number: 1004682
Greatrock North Water and Sanitation District
Adams County, Colorado

Dear Ms. Bollinger:

You are receiving this letter pursuant to the notification requirement in Sections 1.7.2 (A) (4) and (6) of the Regulations Pertaining to Solid Waste Sites and Facilities, 6 CCR 1007-2 (Solid Waste Regulations). On September 5, 2012, the Colorado Department of Public Health and Environment (Department), Hazardous Materials and Waste Management Division (Division), Solid Waste and Materials Management Program (Program) received a referral from the Greatrock North Water and Sanitation District (Greatrock), requesting our review of a proposed *Engineering Design and Operation Plan* (*EDOP*) (Olsson 2012) for Greatrock in Adams County, Colorado. The document is dated August 2012, and was prepared by your technical consultant, Olsson Associates (Olsson). Your solid waste permitting Project Manager is Doug Eagleton, who can be reached at 303-691-4065 or Douglas.Eagleton@state.co.us.

We are a completely fee-based Program and charge $125.00 per hour for working on and reviewing documents. Our fees and billing ceilings can be viewed on line at

http://www.cdphe.state.co.us/regulations/solidwaste/100702part1SWRegs.pdf

in Section 1.7 of the Solid Waste Regulations. The document review fee for your submittal is for the facility task One's Own Waste Design and Operation Plan, and the billing ceiling for this type of a solid waste project is $35,000.

You are entitled to two meetings with us that are non-billable for this project. The meetings can occur any time prior to your submittal and/or during the review process. We strongly encourage you to contact your project manager to arrange for and take advantage of these meetings. We have had great success working with applicants during these meetings, which typically result in expedited reviews and more effective communication.

Attached is the 30-Hour Billable Time Notification Waiver/Cease-Work Notice (the Form). To continue our document review efficiently, we ask you to review the two options on the Form and select one. Please mail the completed and signed Form to the Division. If we do not receive a completed and signed Form, we will notify you, in writing, when thirty (30) hours of billable time have accumulated on this project. At that time, we will inform you of the project's status and will continue to work on the project unless and until specifically instructed in writing (via electronic mail or letter) to cease work on the project. If you direct the Division to cease work, you are still financially responsible for reimbursing us for the hours of accumulated billable time and you will be invoiced accordingly.

Please contact your Solid Waste Permitting Unit Project Manager, Doug Eagleton, at 303-691-4065, Douglas.Eagleton@state.co.us, or Roger Doak, the Solid Waste Permitting Unit Manager, at 303-692-3437, Roger.Doak@state.co.us, if you have any questions regarding this correspondence.

Sincerely,

Doug Eagleton

Doug Eagleton, P.E.
Environmental Protection Specialist
Solid Waste Permitting Unit
Solid Waste and Materials Management Program
Hazardous Materials and Waste Management Division

ec: Roger Doak – Division Solid Waste Permitting Unit Leader

File: SW/ADM/GRK 2.1

30-Hour Billable Time Notification Waiver/Cease-Work Notice

The Greatrock North Water and Sanitation District (Greatrock) hereby acknowledges receipt of the required notification that the Division has received our project, proposed *Engineering Design and Operation Plan* (*EDOP*), for Greatrock, in Adams County, Colorado, Project ID Number: 1004682, and Doug Eagleton is the Solid Waste Permitting Unit Project Manager. We also are aware that, pursuant to Section 1.7 (A) (6) of the Regulations Pertaining to Solid Waste Sites and Facilities (6 CCR 1007-2, Part 1), the Division must provide written notice once our project reaches thirty (30) hours of billable time unless notification is waived or we direct the Division to cease work on our project.

Please choose one of the following options:

☐ Greatrock grants the Division a waiver from providing the 30-Hour Billable Time Notification and gives the Division permission to proceed with review of our project, project, without any further notice regarding accumulated billable time other than the usual quarterly fee invoices, until the project is complete.

OR

☐ Greatrock hereby notifies the Division to cease all work on our project, *EDOP*, when 30 hours of billable time are reached. We acknowledge fiscal responsibility for the work completed and will expect to be invoiced accordingly. We understand that a written request must be submitted to the Division to re-start the review process on this project (*EDOP*). We also acknowledge that our project will be reviewed following the project manager's last received document prior to receiving our request.

_____ _____

Facility Authorized Representative's Signature Date

_____

Facility Authorized Representative's Printed Name

_____

Facility Authorized Representative's Address

_____

Facility Authorized Representative's Phone Number

File: SW/ADM/GRK 2.1

Andrea Bollinger

From: Eagleton - CDPHE, Douglas <douglas.eagleton@state.co.us>
Sent: Tuesday, December 18, 2012 3:10 PM
To: Andrea Bollinger
Subject: Greatrock Draft EDOP

Andrea:

Below I have included my draft comments on the subject document. Please note they are subject to review by Roger Doak, my supervisor, and therefore subject to change.

Thanks,
--

Doug Eagleton, P.E.
Environmental Protection Specialist
Solid Waste Permitting Unit
Solid Waste and Materials Management Program
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South | HMWMD-B2
Denver, Colorado 80246-1530
office: 303.691.4065 | e-mail: Douglas.Eagleton@state.co.us
www.colorado.gov/cdphe

1. **Section A-12 – Nuisance Conditions**: As defined in Section 1.2 of the Solid Waste Regulations, nuisance conditions might result from explosive gas, bird hazards, disease vectors, odors, windblown solid wastes or cover materials, open burning, water pollution, air pollution, noise pollution, and traffic congestion. Please revise this section as necessary to address the nuisance conditions relevant to Greatrock.

2. **Section C – Facility Design**: The ponds are lined with a 30-mil PVC geomembrane that was installed in 2004. The PVC geomembrane is overlain by 12 inches of cover soil. Generally, PVC is a suitable option for a pond liner. Since PVC is made by adding plasticizers, however, the PVC can break down over time and become brittle. Because (1) the PVC geomembrane was installed fairly recently; (2) underneath the ponds there is an existing clay layer, approximately 4 feet thick, under the ponds and above the underlying alluvial aquifer; and (3) pond water contamination levels appear favorable, the Division might find the existing ponds to be acceptable provided that there is adequate leak detection and ground water monitoring. As noted above, over time the PVC geomembrane might degrade to the point where leaks are detected, and the PVC geomembrane probably would need to be replaced at that time. In such a case, the Division would evaluate a proposed replacement liner in light of the regulations, industry standards, and the like that would be in place at that time.

3. **Section E-5 – Personnel Training Plan**: Section 9.3.4 (E) (5) of the Solid Waste Regulations requires that shall include a personnel training plan that includes the listed provisions. Please revise this section to address the need for a Personnel Training Plan as well as providing and documenting the training.

4. **Section F – Closure Plan**: Section 9.3.4 (F) of the Solid Waste Regulations requires the inclusion of a Closure Plan in the EDOP. This requirement applies whether or not the facility is anticipated to close at any time in the future. The Closure Plan would include current third-party cost estimates that would be available to the Division to close the site in the event that the Division were required to do so. The third-party cost estimates form the basis of providing financial assurance (please also see Comment 5).

Section F – Closure Plan: Section 9.3.3 (J) of the Solid Waste Regulations requires that financial assurance be provided in accordance with Section 1.8 of the Solid Waste Regulations. Financial assurance must be provided by DATE.

Item IV.E – Status of VFD enclosures

Attachments:

- GNWSD- VFD: email

Andrea Bollinger

From: Andrea Bollinger
Sent: Friday, December 07, 2012 11:08 AM
To: Lisa A. Johnson (ljohnson@sdmsi.com)
Cc: Brad Simons; 'Anthony Ortolani'
Subject: GNWSD- VFD

Lisa,

Brad and I have been discussing the VFD's at the alluvial wells with TLECC. Below are some answers to questions we had from the board meeting along with a recap of the meeting with Anthony. I have highlighted action items at the top of this email for easy reference.

Action Items:

- OA –
  - item 1.a
  - item 5
- TLECC –
  - item 1.c
  - item 4.b
- SDMS –
  - item 1.b
  - item 5

Answers to questions from the board meeting 12/4/2012:

- VFD's are rated for 14°-104°F
- The enclosures which house the VFD's do not offer any additional heating/cooling protection

Discussion recap:

1. Determine what JR Engineering spec'd vs. what they approved through submittals
   a. OA will investigate their copies of JR Engineering files
   b. OA will ask SDMS to investigate their records
   c. TLECC will investigate their records
2. TLECC mentioned when the alluvial 'failed' two years ago it was never determined cold weather was the cause.
3. Last year the cold weather programming installed, to prevent the VFD from freezing, wasn't tested at our site because the winter was mild.
4. TLECC thinks, and OA agrees, we should continue using the cold weather programming and see how they handle this winter since the cause of the failure isn't 100% known and the District has a buffer in their system with storage capacity.
   a. It was discussed, if there is an issue with the cold weather programming a new panel rated for the colder temperatures, if available, would be a better option for the VFD's when compared to a custom made enclosure or insulating the existing unit.
   b. In the meantime, TLECC is going to call Cutler Hammer to see if they have a panel that would be better suited for the cold weather in case the programming does fail we have a back-up option.
   c. If we do purse a custom enclosure or insulating the existing panel, TLECC recommends communicating with Cutler Hammer to see if they have any suggestions or thoughts.
5. OA will ask if REC can document the date, time, operation status, and weather conditions if something were to fail at the alluvial wells as it will help us determine the true cause of a failure.

Brad/Anthony please add any additional thoughts you may have. Lisa if you have any questions feel free to call or email.

Thanks,

Andrea Bollinger, EI | Water/Wastewater | Olsson Associates
4690 Table Mountain Drive, Suite 200 | Golden, CO 80403
abollinger@olssonassociates.com | TEL 303.237.2072 | FAX 303.237.2659

Please consider the environment before printing this e-mail.

Additional Engineering Matters

Attachments:

- 2012-12-18_Warranty Memo

MEMO

TO:	Lisa Johnson, District Manager
PHONE:	(303) 987-0835
FROM:	Andrea Bollinger
RE:	One Year Warranty Inspection at GNWSD- Box Elder Creek Ranch North Tank
DATE:	December 18, 2012
PROJECT #:	011-0240
PHASE:	100

Greatrock North Water and Sanitation District's (District) 500,000 gallon north storage tank at Box Elder Creek Ranch has been in operation since December 24, 2011.

On November 2, 2012 Olsson Associates contacted the District's operator, Ramey Environmental Compliance (REC), to see if they were aware of any issues at the site, see attached email. REC said they did not have any issues at this time.

On November 7, 2012, Olsson Associates performed an inspection of the site around the exterior of the north tank. While at the site it was noticed the ditch at the outfall of the tank drain was full of sediment. While not an issue during day to day operations should the tank need to be drained the ditch culverts will need to be cleaned so as to prevent water from overtopping the ditch banks. Photos from the site visit are included at the end of this memo. The top picture on page four shows the sediment filled ditch.

Olsson Associates performed a follow-up phone call with REC on December 13, 2012 to verify there were still no issues with the north tank at Box Elder Creek Ranch. REC restated they were not aware of any issues at the site.

On December 17, 2012 Olsson Associates performed a final inspection of the site around the exterior of the north tank. No new items were identified at this time. Pictures of the visual inspection are included in this memo. The warranty for the tank expires on December 24, 2012 should something happen to the tank prior to the 24th please contact Brad Simons or myself immediately so the issue can be addressed.

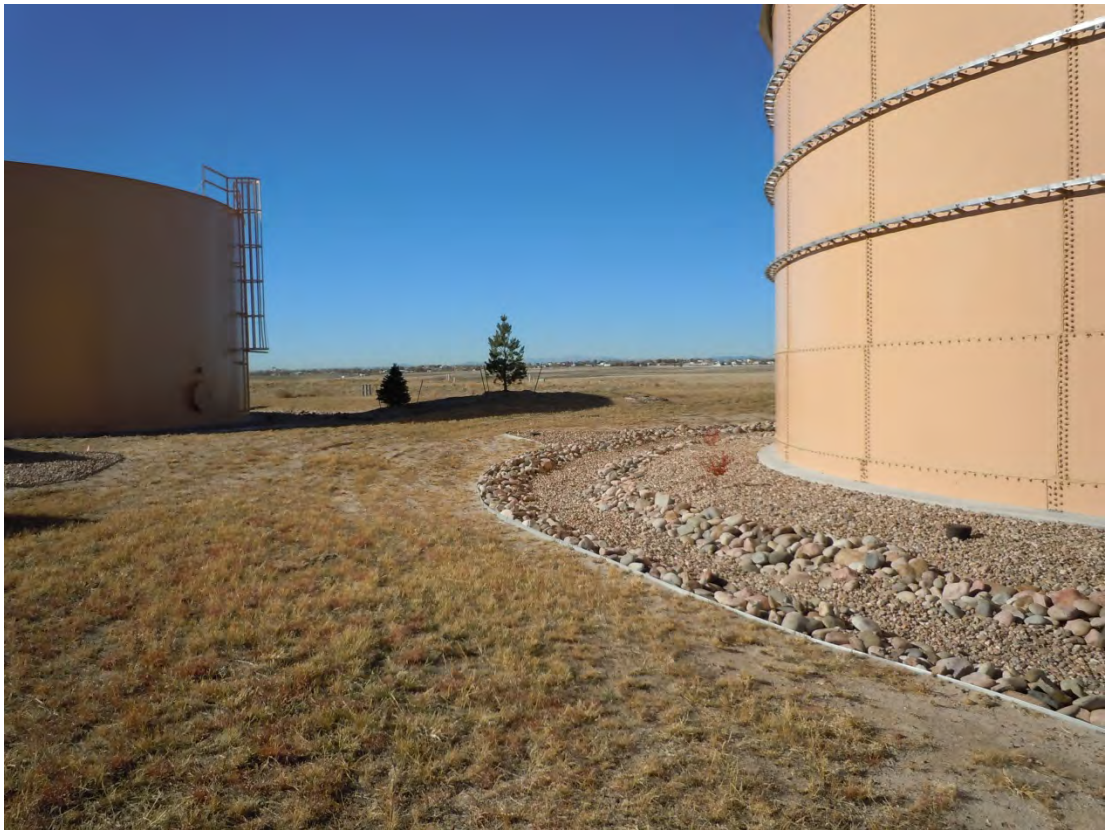
CC: File
F:\Projects\011-1798 GNWSD Tank Construction Administration\Construction\WARRANTY\2012-12-18_Warranty Memo.docx

4690 Table Mountain Drive, Suite 200
Golden, CO 80403
TEL 303.237.2072
FAX 303.237.2659
www.oaconsulting.com

11-Month Warranty Photos

11/2/2012: North Tank facing west

11/2/2012: North Tank facing west



11/2/2012: North Tank facing southwest toward south storage tank

11/2/2012: North Tank facing north/northwest

11/2/2012: At the North Tank drain outfall facing west

11/2/2012: North side of North Tank facing west

11/2/2012: North Tank facing south

11/2/2012: North Tank facing southwest

11/2/2012: North Tank access hatch on north side of tank

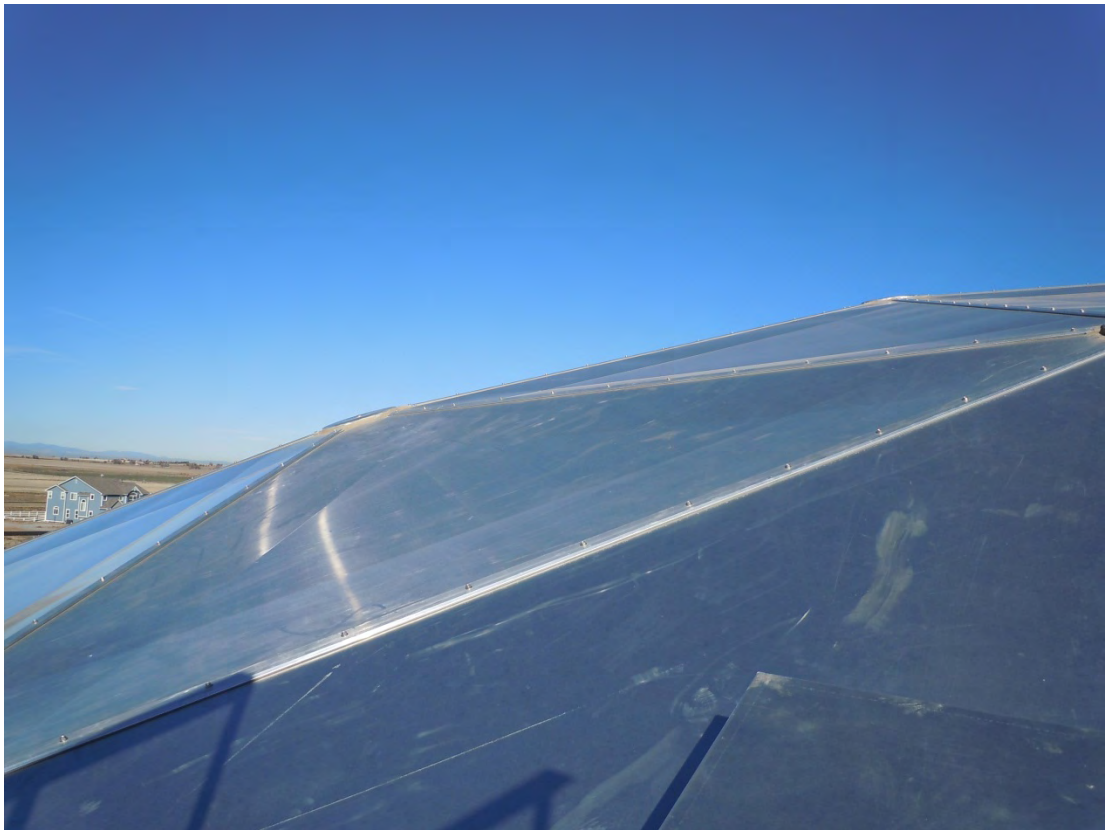
11/2/2012: North Tank access hatch on north side of tank facing east

11/2/2012: North Tank facing east/southeast

11/2/2012: North Tank facing north at roof access

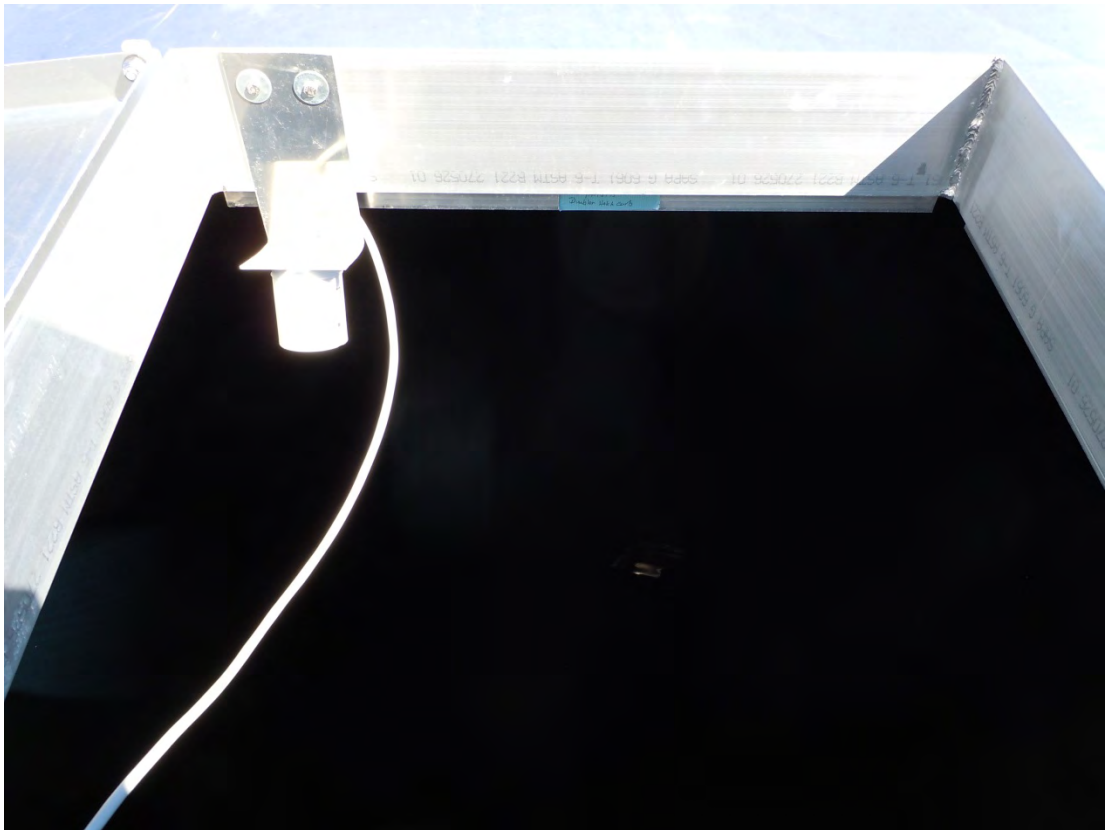
11/2/2012: North Tank facing northwest

11/2/2012: North Tank roof at access ladder facing west



11/2/2012: North Tank roof at access ladder facing northwest

11/2/2012: North Tank roof at access ladder facing east



11/2/2012: North Tank roof access

Final Warranty Photos

12/17/2012: North Tank facing west

12/17/2012: North Tank facing west

12/17/2012: At the North Tank overflow drain facing east

12/17/2012: At the North Tank drain outfall facing west

12/17/2012: Facing north/northwest

12/17/2012: North Tank facing west at the eastern access hatch

12/17/2012: Eastern access hatch facing North

12/17/2012: Eastern access hatch facing South

12/17/2012: North side of North Tank facing west

12/17/2012: North side of North Tank facing west

12/17/2012: North side of North Tank facing southwest/south

12/17/2012: North Tank access hatch on north side of tank

12/17/2012: North Tank access hatch on north side of tank

12/17/2012: North Tank on western side facing south

12/17/2012: Western edge of North Tank

12/17/2012: Western edge of North Tank

12/17/2012: South/southwest edge of North Tank at access hatch

12/17/2012: East side of North Tank facing east/southeast

12/17/2012: North Tank facing east on southern side of the tank

12/17/2012: North Tank facing east on southern side of the tank

12/17/2012: South side of the North Tank facing northeast

12/17/2012: South side of the North Tank facing northwest

Ramey Environmental Compliance, Inc.
Management and Operation Solutions for
Water and Wastewater Treatment
303-833-5505

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Greatrock North W & S District
Monthly Activities
November 28th – December 14, 2012

11/28/12: Regular checks and readings. Mix RO antiscalent. Concentrate pond level has not changed.

11/30/12: Regular checks and readings. Concentrate pond level has not changed.

12/3/12: Regular checks and readings. T Concentrate pond level decreased by ½ inch.

12/5/12: Regular checks and readings. Collected and delivered monthly samples. Flushed hydrant on Kenuil Ct.

12/6/12: Additional site visit to turn water on at 16301 Cove St.

12/712: Regular checks and readings.

12/10/12: Regular checks and readings.

12/12/12: Regular checks and readings. Concentrate pond level decreased by ¼ inch since Monday. Tried to pull aerator from the pond but could not get through the ice.

12/14/12: Regular checks and readings. Installed plastic over ventilation fans at Greatrock and Rocking Horse. Installed new staff sticks marking in 1” increments. First measurement = 0”. Tried to pull the aerator from the ice.

Completed Work Order List Report
Greatrock North WSD

(Filtered)

Completed	Equipment Number	Task	Description	Priority	WO #	Type
11/28/2012	BOX BP1 VFD	Clean Eqp	Clean Equipment	5	123	Sched
11/28/2012	BOX BP2 VFD	Clean Eqp	Clean Equipment	5	124	Sched
11/28/2012	BOX BP3 VFD	Clean Eqp	Clean Equipment	5	125	Sched
12/5/2012	BOX BP3 VFD	Clean Eqp	Clean Equipment	5	136	Sched
12/5/2012	BOX BP1 VFD	Clean Eqp	Clean Equipment	5	134	Sched
12/5/2012	BOX BP2 VFD	Clean Eqp	Clean Equipment	5	135	Sched
12/5/2012	RHF FH1	FH Flush	Fire Hydrant Flush	2	132	Sched
12/5/2012	Water Sampling	Bacti	Bacti Sampling	1	133	Sched

Greatrock North WSD
Water Quality Calls 2010 - 2012

	Date	Complaint	Name	Address	Phone	Subd	Action Taken
1	02/08/10	Fluoride	Greer, Sherry	16385 Jalna Ct	303-637-9200	RHF	Discussion and forward lab results
2	03/22/10	Brown water	Lloyd	16588 Joppa Ct.		RHF	Flush on 3/22
3	04/02/10	Bad Hot Water Tank		16460 Tree Haven		BOX	Discussed with Rob Fleck
4	04/26/10	Gray water turning whites gray, smelly	Roppo, Mary	16715 Shadowwood Ct	303-659-4688	BOX	Discussed with homeowner; flush on 4/28
5	05/07/10	Brown water	Randall	16481 Tree Haven St.	303-667-7222	BOX	Asked him to run water for a few minutes to see if it would clear
6	05/12/10	Brown water	Arnold, Brian	16530 Treehaven	303-655-8121	BOX	Flush on 5/12
7	05/18/10	Brown water	Lovato	31305 E. 166th Ave.	303-659-2616	BOX	Flush on 5/18
8	05/29/10	Murky water; musky smell	Paustian, Corinne	16555 Umpire Ct	303-655-1954	BOX	Asked her to run water for a few minutes to see if it would clear
9	06/04/10	Brown water	Dahlin	16181 Rayburn St.	303-655-1289	BOX	Flush on 6/4
10	06/04/10	Brown water	Obrechet, Ted	16651 Treehaven	303-659-1914	BOX	Flush on 6/4
11	07/10/10	Brown water	Montoya, Jeff	31450 E 167th Ave	303-655-0606	BOX	Flush on 7/12
12	07/15/10	Brown water	Cheserinick	32285 E. 166th Ct.	303-637-0079	BOX	Flush on 7/16
13	07/23/10	Brown water	Frank	16261 Timber Cove St.		BOX	Flush on 7/26
14	08/03/10	Brown water	Leonard, Travis	16720 Kenuil Ct.	303-655-3744	RHF	Flush on 8/3
15	08/03/10	Brown water	Zaiss, Brian	31351 E 167th	303-710-0193	BOX	Flush on 8/3
16	08/10/10	Brown water	Fleck, Rob	16460 Tree Haven St	via email	BOX	Flush on 8/10
17	08/12/10	Milky then brown water	Watt	29365 E. 160th Ct.	303-6551757	GN	Flush on 8/12
18	08/13/10	Brown water	Campbell, Robert	28355 E. 160th Ave.	303-655-0148	GN	Flush on 8/13
19	8/17/10	Brown water	Fleck, Rob	16460 Tree Haven St	via email	BOX	Waiting for controlled flush with Olsson
20	9/14/10						FLUSH ALL OF BOX ELDER CREEK SUBD.
21	9/15/10	Brown water	Gerry	16290 Greatrock Way	303-325-6894	GN	Called customer
22	9/20/10	Brown water	Moore, Ken	16480 Timber Cove	720-685-7167	BOX	flush lines and met with customer
23	10/4/10	Tea colored	Moore, Ken	16480 Timber Cove	303-906-1355	BOX	Flush on 10/4
24	10/12/10	Reddish Brown	Moore, Denise	16480 Timber Cove		BOX	Inspection by Brad Simons - see Olsson memo 16480 timbercove 10-12-10.xls
25	10/21/10	particles in water	Dahlberg, Julie	16600 Umpire Ct.	303-498-0419	BOX	flush on 10/21/10
26	11/5/10	bad taste	Jimison, Robert	16580 Umpire St.	Stopped Katie reading meters	BOX	explained RO just went back online
27	11/5/10	bad taste	Howes, Angie	16141 Rayburn St.	Stopped Katie reading meters	BOX	explained RO just went back online
28	12/8/10	Water filter turns brown very quickly	Curl, Jo Ann	29430 E 160th Ct	303-654-0132	GN	Discussed status of water looping project and present blending of RO and well water
29	1/5/11	Update	Leonard, Travis	16720 Kenuil Ct.	303-655-3744	RHF	
30	2/17/11	Update	Leonard, Travis	16720 Kenuil Ct.	303-655-3744	RHF	Flushed this date; water was clear
31	2/19/11	Update	Williams, Ken	32505 E 167 Dr	303-637-0708	BOX	
32	2/21/11	Brown water	Moore, Ken	16480 Timber Cove	303-906-1355	BOX	Flush fire hydrants one South of address and one North of address on 2/22/11
33	2/21/11	Lt Brown Water	Allain, Kimberly	16321 Timber Cove	303-637-9886	BOX	Flush Timber Cove & Umpire St. fire hydrant and the Timber Cove cul-de-sac blowoff on 2/22/11
34	2/21/11	Brown water	Ross, Don	29957 E 166th Place	720-685-0905	RHF	Flush on 2/22/11
35	2/22/11	Light brown water	Dahlin, Mathew	16181 Rayburn St.	303-655-1289	BOX	Flush on 2/22/11
36	2/23/11	Blue staining in cup	Fleck, Rob	16460 Tree Haven St	via email	BOX	Langelier Index sample to lab on 2/23/11
37	2/23/11	Much better, running clear	Ross, Don	29957 E 166th Place	720-685-0905	RHF	Flush on 2/22/11
38	3/12/11	Lt Brown Water	Tario, Alma	16655 Stroilway St	303-637-0121	BOX	Flushed on 3/14/11
39	3/14/11	Brown water	Eberle, Doug	16640 Stroilway St	303-659-3733	BOX	Flushed on 3/14/11
40	3/15/11	Brown water	Best, Dan	16785 Red Lane	303-748-1800	BOX	Flushed on 3/15/11
41	5/9/11	Horrible Taste	Fleck, Rob	16460 Tree Haven St	via Brad	BOX	No Action
42	8/5/11	Ruining his evaporative coolers	Whitley, William	31451 E 167th Ave	303-961-8859	BOX	Discussed changes in blending and % of RO water
43	8/5/11	Pleased with water quality	Leonard, Travis	16720 Kenuil Ct.	303-655-3744	RHF	
44	11/7/11	Water smells musty when first turned on	Snider, Bev	16675 Stroilway	303-467-5882	Box	Checking with Engineer

45	11/25/11	Brown water	Moore, Ken	16480 Timber Cove	720-685-7167	BOX	Sent email to Terry K.
46	2/21/12	high water usage	Neff, Linda	28580 E. 160th Pl	303-654-9860	GN	asked Mike to verify meter pit isn't full of water
47	3/26/12	Flushed All Hydrants	REC,Inc.	All three subdivisions		BOX,GN.RHF	Will provide Separate Memo
48	06/20/12	Low PSI and yucky water in filters	Greer, Sherry	16385 Jalna Ct	303-637-9200	RHF	Increased pressure at Rocking Horse Farms Pump station from 60 to 65 psi.
49	07/20/12	Brown Water	Keith	16685 Keniul Ct	303-915-0918	RHF	Flushed Hydrant next to house
50	09/15/12	Brown Water	Ted Obrecht	16651 Tree Haven St	303-659-1914	BOX	Flushed Hydrant next to house
51	12/4/2012	Odor in the water	Rob Fleck	16460 Tree Haven St.		BOX	Daughters say that the water smells like dirty dish water.