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
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Executive Director and Chief Medical Officer

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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: **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

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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.

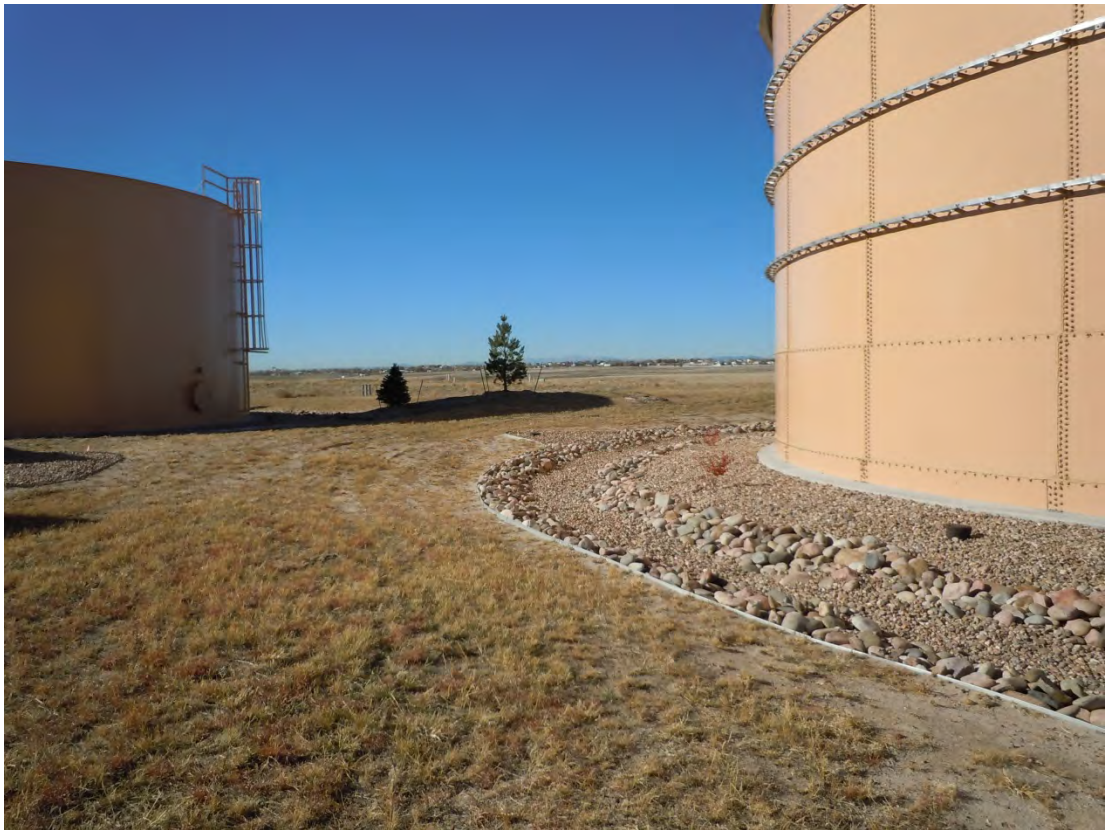
CC: File
F:\Projects\011-1798 GNWSD Tank Construction Administration\Construction\WARRANTY\2012-12-18_Warranty Memo.docx

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

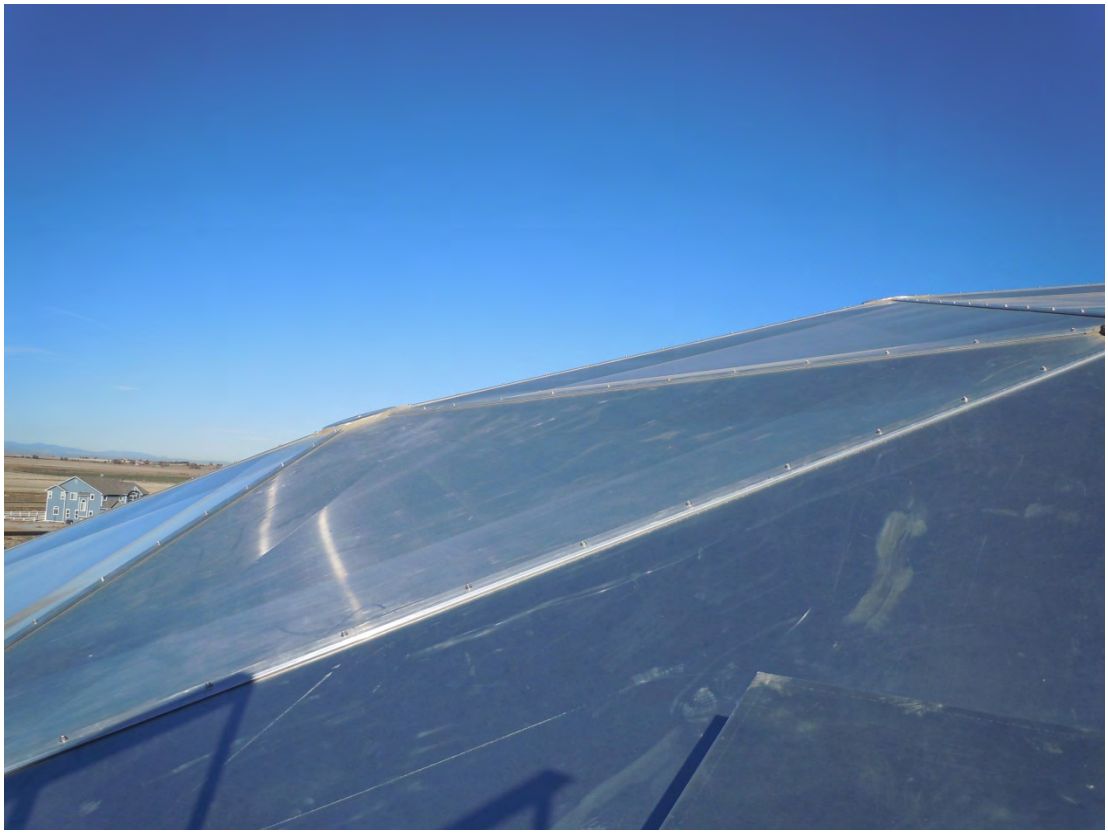
11/2/2012: North Tank access hatch on north side of tank facing east

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

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

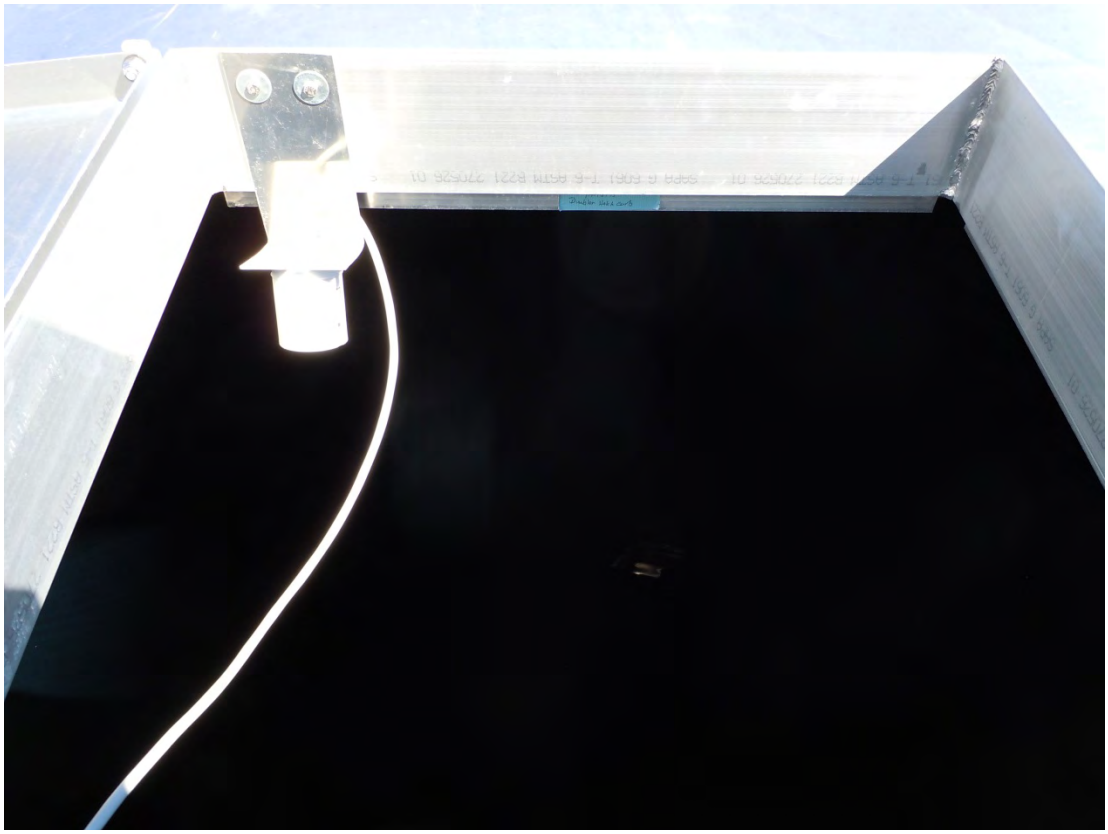
11/2/2012: North Tank facing northwest

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