Meeting Minutes
Tomoka Farms Road Landfill

Purpose: Discussion of Warning Letter OWL-SW-11-002

Date: 1/20/2011

Location: FDEP Central District

Attendees: Tom Lubozynski, FDEP
Gloria-Jean DePradine, FDEP
Brad Whidden, FDEP
Janine Kraemer, FDEP
Vivian Garfein, FDEP
Sam Levin, SL2i
Lenny Marion, Volusia County
Patrick McCormack, Volusia County
Chester Purves, Volusia County
Rick Wilson, PRW Group, LLC
Rick Potts, TCG

Attachments: Meeting Attendance Record, exerts from S2Li submittal

Discussion:

1. **Discussion of Corrective Actions**
   - Sam Levin stated that the warning letter was based on the preliminary report dated November 10, 2010 and not the final report dated November 12, 2010. He also stated that the same type of incident occurred at Seminole County Landfill in 2003 and no enforcement action was taken. (Mr. Levin presented copies of letters regarding the 2003 incident).
   - Sam Levin stated that the operation plan (Section 8.6) will be revised to reflect new maintenance procedures regarding the leachate collection system and on-site leachate treatment plant operation.
   - The determined cause of the release was documented in the S2Li incident report dated November 12, 2010. Sam Levin provided a copy of the diagram of the leachate pond valve system showing the opened valve location.
   - The final response to the warning letter, DEP letter OCD-SW-11-019, dated January 18, 2011, along with revisions to the facility's operation plan will be submitted within 20 days.

2. **Department Comments**
   - Tom Lubozynski said that once we receive the final submittal the Department will close out the enforcement case without assessing penalties.

- The Department appreciates the prompt actions taken and the facility notifying us immediately following the discovery of the incident. It is believed that these actions prevented any adverse impacts to the stormwater pond and surrounding environment.

Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard, Jr.
Secretary

MEETING ATTENDANCE RECORD

Purpose: Tomoka Farms Road Landfill Discussion of Warning Letter OWL-SW-11-002 Date: January 20, 2011

Name	Affiliation	10 Digit Phone No.	E-Mail Address
Tom Lubozynski	FDEP-CD	407-893-3328	Tom.Lubozynski@dep.state.fl.us
Gloria-Jean DePradine	FDEP-CD	407-893-3328	Gloria.Depradine@dep.state.fl.us
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Rick Wilson	PRW Group, LLC	407-721-6954	rwilson@wilsabs.com
Sam Levin	SLLi	407-475-9163	Slevin@SLLi.com
Rick Potts	TCG	407-622-8176	rickpotts@cel.com.
Vivian Garfein	FDEP	407-893-3338	

May 19, 2003

Mr. David Gregory
Solid Waste Manager
500 West Lake Mary Boulevard
Sanford, Florida 32773

Subj: Accidental Leachate Release
Seminole County Osceola Road SWMF
Geneva, Florida
TCG Project No. P-226.02

Dear Mr. Gregory:

An accidental release of landfill leachate occurred at the Osceola Road Solid Waste Management Facility in the early morning hours of April 30, 2003. According to the Landfill Operator, Mr. Greg Regan, two of the three leachate collection system (LCS) lift stations were inadvertently activated by a fault in the LCS computer-automated control system. The lift stations continued to pump leachate to the facility storage tanks through the early morning hours, overfilling the tanks into the tank farm containment basin.

Mr. Regan arrived at the landfill at 0630 hours on April 30, 2003 and immediately disabled the LCS pumping system. He noted that the tank farm containment basin was brimful and flowing over the eastern edge of the basin wall. Leachate discharged from the containment basin found an adjacent small open utility trench and drained into the nearby landfill perimeter stormwater management canal.

County staff immediately commenced dewatering of the containment basin by pumping leachate into tankers and transporting to the County's Greenwood Lakes WWTF for treatment and disposal. By the time The Colinas Group, Inc. (TCG) arrived at the site at about 1200 hours on April 30, the containment basin was partially dewatered.

According to data stored in the landfill LCS computer control system, pumps at lift station #1 and lift station #3 were activated and ran continuously for 5.6 hours and 5.9 hours, respectively. The lift station pumps are rated for a maximum discharge rate of 200 gallons per minute (gpm). Assuming the maximum pumping rate at each station simultaneously, the quantity of leachate pumped is

calculated at about 138,000 to 140,160 gallons. The tank farm containment basin has a rated storage capacity of 140, 000 gallons.

While dewatering the tank farm containment basin, county staff proceeded to install temporary earthen containment berms in the perimeter canal to contain released leachate. Three containment berms were installed from just west of the tank farm eastward to the culvert crossing under the main landfill access road leading to stormwater Pond B, a distance of about 1,000 feet. The first berm was installed upstream from the tank farm in the east-flowing canal to stop flow in the canal. The second berm was installed downstream near the culvert crossing to isolate this reach of the canal from Pond B. The third berm was installed roughly halfway between the first two. Ditch blocks were constructed of clean fill using onsite heavy equipment.

Water in the canal between the temporary containment berms was then pumped out using a portable high-capacity centrifugal pump and discharged to land surface within the landfill perimeter slurry wall. Water pumped from the canal was prevented from draining back over the slurry wall and allowed to percolate into the soil.

Prior to canal dewatering, county staff collected water samples from the canal just west of the easternmost containment berm. Samples were collected by B.J.Power, the county's staff responsible for groundwater and surface water sampling required for routine landfill monitoring. Collected samples were properly prepared and transmitted to US Biosystems, Inc. for laboratory analysis. The laboratory report of analysis is attached.

Based on site conditions observed approximately 5 hours after the pumping system was disabled and the operating data stored in the LCS computer controller, we believe the quantity of leachate actually released outside the containment basin was relatively small in proportion to the total quantity pumped to storage. Most, if not all, of the leachate released appeared to have discharged by overland flow and through the open utility trench into the landfill perimeter canal.

Laboratory analyses of the water sample collected from the perimeter canal at the farthest downstream temporary containment berm did not detect CFR Appendix I/II and other landfill monitoring constituents above respective MCLs and guidance concentrations. Volatile and semi-volatile compounds were below laboratory method detection limits.

In the event that leachate released to the perimeter canal infiltrated the water table aquifer prior to dewatering of the canal at and downstream from the leachate storage tank farm, existing landfill monitoring wells MW-3S and MW-3I are appropriately positioned to intercept this flow.

Considering the apparent small release of leachate and the rapid remedial response of county staff in containing and controlling the discharge, TCG does not recommend further action at this time, other than determining the cause of the LCS computer controller fault and repair. Potential impacts on groundwater quality from the leachate release, although considered improbable, may be discernable in the next round of sampling of the landfill monitoring well network due in August of this year.

We trust the information presented herein is useful in addressing the leachate release and compliance with landfill operating regulations. A copy of this letter should be sent to the Florida Department of Environmental Protection, Central District Office, Solid Waste Section for their review. We will be happy to discuss this event in more detail and provide any other information the department may require.

Please let me know if we may be of further assistance.

Very truly yours,
THE COLINAS GROUP, INC.

Richard L. Potts, Jr., P.G.
Principal Consultant
Fl. PG Reg. No.1113

June 25, 2003

Mr. David Gregory
Manager, Solid Waste Division
Seminole County Environmental Services Department
500 West Lake Mary Boulevard
Sanford, Florida 32773

Subj: Leachate Release
Osceola Road Solid Waste Management Facility
Geneva, Florida
TCG Project No. P-226.03

Dear Mr. Gregory:

As you know, The Colinas Group, Inc. (TCG) evaluated the results of sampling and laboratory analyses of water samples collected in the landfill perimeter canal at the point of accidental leachate release on April 30, 2003. Our letter of May 19, 2003 presented the results of that evaluation with respect to groundwater standards and criteria identified in Florida Administrative Code Chapter 62-777, FDEP Rule 62-777.170.

We have evaluated the water sampling test results with respect to FDEP Rule 62-777.170,F.A.C. standards and criteria for fresh surface water. We find no violations or exceedances of these standards and criteria in the laboratory results that could be attributable to the release of leachate into the landfill perimeter canal.

Ammonia nitrogen exceeded the guidance concentration (0.02 mg/l) for fresh surface water at 1.8 mg/l. Iron, as Fe, exceeded the secondary standard (300 ug/l) at 5,600 ug/l. Both of these constituents are naturally-occurring in groundwater throughout the area at concentrations well above the 62-777.170,F.A.C. standards and criteria. Surface water in the perimeter canal is influenced by continuous groundwater inflow and therefore, is prone to elevated ammonia and iron levels. The levels reported in the post-leachate release samples are generally lower than those found in groundwater from monitoring wells around the facility. The water quality test results do not indicate an adverse impact, either to groundwater or surface water, from the minor release of leachate.

I trust our evaluation is useful to you in operation of the Osceola Road SWMF. If you have any questions or need further information, please do not hesitate to contact me at your convenience.

Very truly yours,
THE COLINAS GROUP, INC.

Richard L. Potts, Jr., P.G.
Principal Hydrogeologist
Fl. PG Reg. No.1113

- Original manufacturer's parts list, illustrations, and detailed assembly drawings.
- Spare parts ordering instructions.
- Manufacturer's printed operating and maintenance instructions.

Flow will be monitored from the leachate pumps. Facility personnel will record leachate flows. This will allow determination of leachate production as a function of rainfall and provide information to assess the efficiency of leachate and stormwater management practices. Leachate generation/flow records will be kept at the facility as part of the official operation record.

Leachate pump station maintenance will include reading meters and making sure each pump is operational. Pumping rates and electrical draw will be confirmed semiannually. If these tests indicate significantly reduced performance, the pumps will be pulled for inspection and repair. A replacement pump will be installed while the repairs are being made.

If leachate flow volume is noticeably decreased, the leachate collection system will be inspected. Possible reasons for low or no flow are header collapse or header blockage. If pipe blockage is identified, the header pipe will be power jetted to remove sediment buildup. Power jetting or rodding will be done from either or both ends of the header.

8.3 LEACHATE HANDLING (IF REGULATED AS HAZARDOUS WASTE) (RULE 62-701 .500(8)(B), F.A.C.)

The Landfill Supervisor is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the life of the facility. Leachate will be collected and pumped to the on-site storage and spray evaporation ponds, and disposed of by spray evaporation or by trucking to one of several wastewater treatment plants. Once the leachate treatment facility is placed in service, leachate shall be treated on site, with effluent sent to a dedicated spray field or used for dust control and/or side slope irrigation.

8.4 OFF-SITE TREATMENT (RULE 62-701.500(8)(C), F.A.C.)

At the present time, leachate that, due to precipitation volumes, cannot be managed ~~through~~ on-site ~~evaporation~~ will be transported off-site by county contractor to an Industrial Wastewater Facility for treatment. The Tomoka Farms Road Landfill will transport leachate for off-site disposal when less than one-foot of freeboard is available in the leachate storage ponds. ~~In the future, once the treatment plant has been placed in service,~~ Tthe current leachate storage ponds ~~will be~~are used to provide supplemental storage. One pond ~~shall be~~is used for the storage of raw leachate that is collected from the landfill, but temporarily exceeds the capacity of the leachate treatment plant. The other pond ~~will be~~is dedicated to the storage of excess treated effluent, when the generation of effluent exceeds the capacity of both spray fields and the need for dust control and sideslope irrigation.

8.5 ON-SITE TREATMENT (RULE 62-701.500(8)(D), F.A.C.)

Currently, leachate ~~evaporation~~ is treated by an on-site ~~performed at the Tomoka Farms Road Landfill. Once placed in service, a~~ SBR ~~will provide leachate~~ treatment plant. The design of the SBR is based on actual leachate quality data obtained from the TFRL, and includes provisions for plant modification as necessary to respond to changing leachate quality or quantity in future years, in accordance with Rule 62-701.500(8)(d), F.A.C.

As the SBR automatically initiates pumping from the storage pond when feed volume is required, the County shall not perform any maintenance to the collection system that requires severed piping to remain uncapped overnight. Any severed piping will be capped prior to the close of the business day.

8.6 CONTINGENCY PLAN FOR MANAGING LEACHATE (RULE 62-701.500(8)(E), F.A.C.)

Temporary pumps and emergency power generators are locally available in the event of pump failure or power interruption. Alternate wastewater treatment plants are available for leachate disposal. Therefore, complete interruption of off-site disposal capability is not anticipated.

Under current operations, leachate will be recirculated, or transported off-site for disposal, when less than one foot of freeboard is available in the leachate storage ponds. In the future, after the SBR has been placed in service, excess raw leachate will be pumped to one of the two storage ponds should the level within the tanks exceed design levels. This current and future practice is intended to maintain sufficient storage capacity in the event of a heavy rainfall event.

8.7 RECORDING LEACHATE QUANTITIES (RULE 62-701.500(8)(F), F.A.C.)

Quantities of leachate collected and removed for treatment and/or disposal are recorded and those records are maintained at the landfill. These quantities will be recorded in gallons per day.

8.8 RECORDING PRECIPITATION (RULE 62-701.500(8)(G), F.A.C.)

A rain gauge has been installed and is operated and maintained by Volusia County personnel to record precipitation at the disposal facility. Precipitation records will be maintained in the facility's operating record and will be compared with leachate generation rates.

8.9 INSPECTION AND CLEANING (RULE 62-101.500(8)(H), F.A.C.)

The leachate collection system for future cells will either be pressure cleaned or inspected by video recording after construction but prior to the initial placement of waste. Thereafter, existing leachate collection systems at the Tomoka Farms Road Landfill will be pressure cleaned or inspected by video at the time of permit renewal. Results of the cleanings and inspections are kept on file in the landfill office.

(S2Li incident report)

treatment facility have some common piping and interconnections, the County believed that this surge valve would eliminate backflow into the force main.

A field investigation and inspection of the piping and valving serving the North leachate impoundment was performed on November 11, 2010. During this investigation, a six-inch valve within a subsurface pipe that bypasses the surge valve was found to be partially (approximately 20%) opened. It has been concluded that this partially opened valve provided the pathway through which the discharge occurred. S2Li subconsultant, PRW Group, estimated the flow through this valve to have ranged between 90,000 and 121,000 gallons, based on the estimated period of flow (see the methodology for this estimate below), the pump capacity, piping pressure losses, and the orifice opening created by the valve in a partially opened condition. This estimated quantity is fully consistent with the quantity of liquid recovered by the County in its remedial operations.

The County has estimated the period of leachate flow started sometime past 4:10 a.m. and continued until it was discovered at 7:00 a.m. by County personnel. The exact start time of the flow cannot be accurately determined. The estimated 4:10 a.m. start of flow is based on recorded time of the leachate treatment facility operation. The treatment plant initiated the draining of a treatment tank at 4:00 a.m. After the tank is drained, the facility sends a signal to the pumps in the surface impoundment to start pumping leachate to the treatment plant. The flow path to the open area of the force main offered less resistance in comparison to the flow path to the leachate treatment plant. Thus, the pumps intended to feed the treatment plant instead fed the breach in the force main where the flow meter was to be installed.

Timeline:

4:10 a.m. – Estimated start of leachate discharge.
7:00 a.m. – County personnel discover leachate being discharged and take immediate action to discontinue flow.
7:00 a.m. – County starts immediate response to mitigate the impact of leachate discharged (detailed below).
8:55 a.m. – County contacts FDEP to notify them of the leachate discharge and current County remediation efforts.
9:00 a.m. – County contacts S2Li and requests assistance to quantify the volume of leachate discharge, discover the source of the problem, and provide additional guidance in the remediation.

<u>County Remediation Efforts</u>

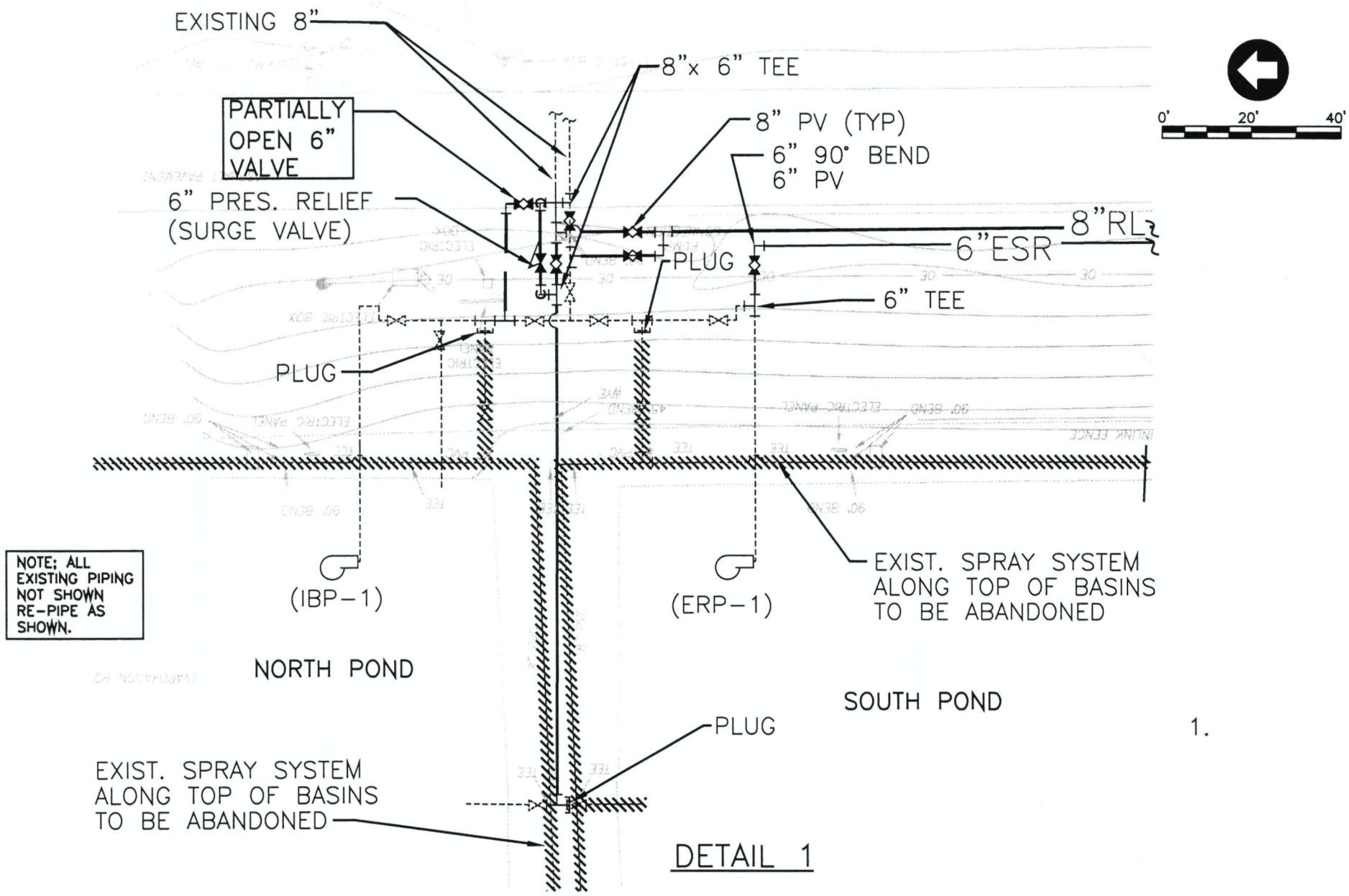
The following is a list of actions taken by the County to mitigate the impact of the leachate discharge:

- The County placed soil in the swale to prevent the flow of any additional leachate from the swale into the culvert that discharges to the north stormwater management pond (Pictures 3 and 4).

- The County found an area of discolored water within the southwest corner of the north pond. This was evidence that some leachate flow had occurred into the pond. The discolored water appeared to be contained within an area defined by dual floating turbidity barriers, which had previously been placed by the County around the culvert discharge location. Utilizing a vacuum truck, the County removed the discolored liquid from the pond until there

Leachate Pond Valve System - Tomoka Farms

S2L
Nov 12, 2010



DETAIL 1

1.