Hanover

Engineering Associates Inc

January 22, 2014

JAN 23 2014
LOWER SAUCON TOWNSHIP

Mr. Jack Cahalan, Manager
Lower Saucon Township
3700 Old Philadelphia Pike
Bethlehem, PA 18015

RE: Joint Municipal Landfill Committee
Minutes of January 16, 2014 Meeting
Hanover Project LS90-07

Dear Mr. Cahalan:

The Joint Municipal Committee between IESI Bethlehem Landfill and Lower Saucon Township met at the Landfill Office on January 16, 2014. The meeting began at 1:00 PM. Attending the meeting were:

Ms. Priscilla deLeon
Mr. Hazem Hijazi, PE
Mr. Allen Schleyer
Mr. Christopher Taylor, PG, HMI

AGENDA ITEMS

I. Status of Waste Activities

Monthly Tonnages:

	October	November	December
Municipal Solid Waste (total)	25,608.10	19,874.70	22,532.50
Construction and Demo (total)	8,668.50	3,872.70	2,522.80
Residual Waste (total)	1,035.00	1,307.00	1,703.60
Asbestos	[235.90]	[485.90]	[636.90]
Out of state-total (percentage)	[23,063.90](65%)	[14,265.50](56.9%)	[16,502.30](61.7%)
TOTAL	**35,311.60**	**25,054.40**	**26,758.90**
Recycled Tonnage (percent from Lower Saucon Twp.)	0.00 (83%)	2.80 (74%)	0.00 (77%)

NOTES:
1. The tonnage for 'Asbestos' is included in the tonnage for 'Residual Waste (total)' and is therefore shown in brackets.
2. The 'Out of state – total' tonnage figure has now been consolidated to include total tonnage from all waste categories, and is shown in brackets because it is included in the tonnage for the other categories.

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ROUTING
- [x] Council
- [x] Manager (Orig)
- [ ] Asst. Mgr.
- [ ] Zoning
- [ ] Finance
- [ ] Police
- [ ] P. Works
- [ ] P/C
- [ ] P & R
- [ ] EAC
- [ ] Engineer
- [ ] Solicitor
- [ ] Planner
- [x] Landfill
- [ ] EMC
- [x] Other Website

252 Brodhead Road, Suite 100 • Bethlehem, PA 18017-8944 • 610.691.5644 • Fax 610.691.6968 • www.hanovereng.com

Form U Submittals	Waste	Approval Date
Drew University	ACM	12/02/13
PQ Corp.	ACM	12/02/13
Pequannock Senior Center	ACM	12/02/13
Exelon Schuylkill Station	ACM	12/06/13
PA American Water Company	Spent blasting media	12/06/13
GW Bridge Bus Terminal	ACM	12/20/13
Windkits	Baghouse Dust	01/03/14
Code Env – Solvay	ACM	submit 01/13/14
Talbot Estate	ACM	submit 01/13/14

Ms. deLeon asked what does Windkits do. Mr. Schleyer responded they make parts for windmills. Ms. deLeon asked for confirmation that Ms. McNemar has commented on the Form U submittals. Mr. Schleyer responded yes. Ms. deLeon commented that the arrangement that provides for a fifteen (15) day review period for Form U submittals should be recognized in the report minutes.

II. Annual Groundwater Trend Analysis

- The Annual Groundwater Trend Report to be submitted before June 30, 2014.

III. Correspondence and Reports

- Form U Submittals to PA DEP and Lower Saucon Township
- Abatement System Report
- LFG Well Construction Drawing 2013
- Non-Coal Mining License Renewal

Ms. deLeon asked for an explanation of the Non-Coal Mining License renewal. Mr. Schleyer explained that you need a mining license before you can obtain a mining permit, and that a mining permit was required for the proposed borrow operation on the Fox property. Mr. Taylor asked what is involved in obtaining the license. Mr. Schleyer stated that you have to apply and tell the agency what work you're proposing to do. Ms. deLeon asked when IESI received it. Ms. Schleyer responded IESI sent the application to the Department of Environmental Protection and received the permit in September or October. Ms. deLeon asked if a copy could be provided. Mr. Schleyer responded yes. Ms. deLeon asked Mr. Taylor to transmit a hard copy of the license to the Township upon receiving a copy from Mr. Schleyer. Ms. deLeon asked what's going on with the Fox property? Mr. Schleyer replied "nothing".

IV. Landfill Operations

- Department of Environmental Protection Inspections

  - December 12, 2013 – S. French: engineer's meeting
  - December 16, 2013 – B. Bham: groundwater monitoring
  - December 18, 2013 – B. Bham: groundwater monitoring
  - December 19, 2013 – W. Govern: site inspection
  - December 20, 2013 – B. Easley: air quality inspection
  - January 9, 2014 – S. French, D. Evans: engineer's meeting
  - January 15, 2014 – W. Govern: site inspection

- Host Municipal Inspection

  - December 6, 2013 – Chris Taylor
  - December 17, 2103 – Chris Taylor
  - December 23, 2013 – Scott Brown, Jake Schray

  Ms. deLeon asked if the Township was going to be charged for both inspectors to be present during the December 23 inspection. Mr. Taylor replied no, that Mr. Brown conducted an inspection to keep his certification current and that his time would not be charged.

- Bethlehem Renewable Energy (BRE) and Flare Operations

  The following is an update to the Bethlehem LFG Flare activity. We had the following LFG flare and BRE turbine shutdowns at Bethlehem Landfill. The auto-valve closed as designed at each location. No odors were noted or odor complaints received by Bethlehem Landfill during the outage events. The BRE power plant is operating as the primary control system. The flare is currently the back-up control system.

Dec 1, 2013	Turbine shutdown	06:19	Protective shutdown
	Turbine startup	12:54	Duration 6 hr 35 min
Dec 4, 2013	Turbine shutdown	07:03	Protective shutdown
	Turbine startup	09:17	Duration 2 hr 14 min
Dec 12, 2013	Flare startup	12:25	Test blowers
	Flare shutdown	13:07	Turbine running
	Flare startup	14:44	Test blowers
	Flare shutdown	15:50	Turbine running
Dec 13, 2013	Turbine shutdown	10:33	Loss of plant air pressure
	Turbine startup	11:39	Duration 1 hr 6 min
	Flare startup	15:30	Turbine running
	Flare shutdown	16:42	Low temp – turbine running
Dec 18, 2013	Turbine shutdown	02:24	Protective shutdown
	Turbine startup	05:43	Duration 3 hr 19 min
	Flare startup	10:59	Duration 3 hr 19 min then turbine running
Dec 19, 2013	Flare shutdown	06:24	Low avg temp shutdown – turbine running
Dec 20, 2013	Flare startup	11:29	Turbine running
Dec 23, 2013	Turbine shutdown	11:22	Maintenance
	Flare shutdown	20:54	Manual shutdown to start turbine
	Turbine startup	21:46	Duration 52 min
	Flare startup	22:41	Duration 52 min, turbine running
Dec 26, 2013	Turbine shutdown	18:46	Protective shutdown
Dec 27, 2013	Flare shutdown	00:44	Shut down to start turbine
	Turbine startup	01:45	Duration 1 hr 1 min
	Flare startup	12:48	Duration 1 hr 1 min then turbine running

All shutdown information is provided to the PA DEP.

- Gas Collection

  - The Bethlehem Renewable Energy Plant is currently operating as the primary gas control system. The flare is now the back up to the BRE facility.

  Mr. Taylor asked when was the landfill flare back up and running. Mr. Schleyer responded that they started test runs on December 12 and 13, and that the flare has been running steadily since December 20 in conjunction with the BRE plant. Mr. Taylor asked Mr. Schleyer if he would continue running the flare in conjunction with the BRE plant. Mr. Schleyer replied yes. Mr. Schleyer stated that he has the ability to control the flare with a Variable Frequency Drive. Mr. Taylor asked there's a minimum amount of gas needed to run the flare, correct? Mr. Schleyer responded yes, that there must be at least 800 to 1000 standard cubic feet per minute (scfm) of gas. He continued that his practice is that the flare must be provided the minimum amount of gas to run, and that the BRE plant would then get what's left. He stated that he would operate like this, unless gas production drops so much that the BRE plant can handle all the gas, in which case he would shut the flare down for perhaps half a day to let the (gas) well field build back up. Ms. deLeon asked if there were any recent odor complaints. Mr. Schleyer responded that Mr. Govern (DEP) received one (1) yesterday (meaning January 15) from a person several miles away, but that he hasn't gotten any further information on it. Ms. deLeon asked will you share the details with us when you get them? Mr. Schleyer replied yes.

  During the inspection following the meeting, it was confirmed that the BRE plant was running. Mr. Taylor observed that the landfill flare was running at a rate of 1568 scfm and a temperature of 1655 degrees F.

- Well Sampling

  - Mr. Schleyer stated that groundwater sampling was completed last month.

- North Slope

  - The North Slope sedimentation traps are functional.
  - The North Slope perimeter road is accessible.

- Abatement System Operations

  - The abatement system continues to operate and discharge to the Bethlehem Waste Water Treatment Plant. Intermittent malfunctions of the well pumps and controls are repaired or replaced as needed.

  Mr. Schleyer stated that the well pump in Abatement Well AB-7 must be replaced. Mr. Taylor asked if the trough of depression will be maintained without this well operating. Mr. Schleyer replied yes, since the wells are set up to pump based on water level, and the other wells will pump as needed to make up for AB-7.

- Leachate Collection

  Flow rates continue to be monitored and reported.

Following is a summary of the work history and developments:

- IESI submitted the report from Meiser and Earl, Inc. on December 23, 2008, to DEP and Lower Saucon Township evaluating the various tests that were performed to locate the source of the elevated detection zone flows as outlined in their May 7, 2008 Work Plan. Lower Saucon Township has forwarded their comments on the December 23, 2008 report to DEP.
- IESI has completed welding of approximately 1,200 L.F. of the secondary line to the primary liner along the northern end of Cell 3-D while the anchor trench was open and prior to completing the weld, a 2½-inch rain event occurred. A spike in the leachate collection/detection flow may be observed.
- IESI will retest the gabion stormwater channel over Cell 3-C and discharging into sedimentation Pond 4 for possible infiltration into the detection zone by flooding the channel on September 24, 2009.
- The capping of the remaining five (5) acres of Phase III has been completed.
- IESI provided an updated report on their LMC investigation to DEP and Lower Saucon Township November 2009. The reports in part indicated that:
    1. LMC 7 does not appear to be affected by rainfall since the northern Cell 3 anchor trench cap/liner welding occurred.
    2. LMC 8 still spiking from rainfall events.
- The next investigation will be to the integrity of the liner under gabion channel in Cell 3-C which will occur in the 1st Quarter 2010. IESI is looking for a seven to ten (7-10) day window with no rain for a meaningful evaluation. IESI received authorization for the Gabion Channel Work Plan from DEP on December 22, 2009.
- The investigation of the integrity of the liner under the gabion downchannel located in Cell 3C began April 10, 2010. The southern-most end of the gabion channel was excavated down to the anchor trench as well as to the east and west of the channel along the anchor trench. Toe drains above the primary liner were replaced and the primary and secondary liners were welded together in the excavated areas. The gabion channel and piping leading to Basin 4 were reconstructed. IESI will continue to monitor the LMC flows and prepare a report on the latest work performed.
- To date the flows into LMC-8 appear to have been substantially reduced since the repair in the first week of April 2010.
- As of this date the data appears to indicate that the repairs to the southern end of the gabion downchannel leading to Sedimentation Pond 4 and the toe drains running east/west at the southern most end of the gabion channel have caused a substantial reduction in the detection zone of LMC-8.
- The LMC-8 Detection Zone flow rate continues to be monitored. Existing data continues to show a substantial reduction in the flow rate.
- September/October 2010 – the recent rain events have shown influence on LMC-8. The committee is recommending that IESI investigate and consider extending the toe-drain, which was replaced in April along the toe of the southern slope and above Sedimentation Pond 4, to the east and west. Mr. Schleyer provided a summary of the remedial work completed to date to alleviate the high leachate flows being recorded in LMC-8. He reviewed the recent flow data, and stated his opinion that the remedial work has helped to reduce the overall flows. He stated his opinion that the flow data for 2010 indicates that the "response time" between a storm event and high flows observed in LMC-8 is less, and that the flows are of a shorter duration, since the work has been completed. He stated that he is monitoring the flow data and planning out the next step in the process, but is currently concentrating his efforts on the methane gas problem experienced at the residence at 2293 Applebutter Road. Ms. deLeon stated that Lower Saucon

Township is very concerned about the high leachate flows, since these could indicate a tear in the landfill liner or other serious problem.

- February 2011: Discussion regarding monitoring results, as provided in the Third Quarter 2010 Quarterly Facility Report, revealed that samples taken from the leachate detection zone provided very similar chemical analyses to samples taken from the leachate collection zone. Mr. Schleyer indicated that IESI had recognized this correlation, and noted it in their cover letter for the report. Mr. Schleyer provided further explanation with regard to how the report is prepared, and noted that the drainage area for LMC-8 is Phase 3, Cell C, which was completed prior to IESI's ownership of the facility.
- March 2011: Mr. Schleyer stated that rainy weather is necessitating working on erosion control, but that the toe-drain work is still at the forefront of his work plan. Ms. deLeon asked "What's going on there" in reference to the high leachate flows documented in the leachate demand report. Mr. Schleyer stated that "stormwater is still getting in" and that they have an "open cell; rainwater is going directly in there". Ms. deLeon stated that leachate flows jumped up starting February 11, 2011. Mr. Schleyer attributed this to a neighboring cell "filling up and overtopping" the short barrier between cells. He stated that LMC-8 serves Phase 3 Cell C, and that when this cell "fills up" with leachate, it causes the high flows documented in LMC-8, but also causes leachate to overspill to the adjacent Phase IV, causing high flows there also.
- April 2011: Mr. Schleyer noted that flows recorded in LMC 6 increased starting March 18, 2011, but that he is not sure exactly why other than to say it is stormwater-related. Mr. Schleyer stated that it is "the same scenario" as last month, with heavy rains every week that has his crews busy repairing leachate seeps and erosion rills.
- May 2011: Additional toe-drain drainage piping was constructed during the beginning of May. A final report will be completed and submitted to the PADEP and Township.
- June 2011: Mr. Taylor asked if the toe drains have been carrying water to daylight (i.e. – has water been flowing out of the new outlets installed in May). Mr. Schleyer responded that there have been a few flowing out.
- July 2011: Ms. deLeon asked what the PADEP says about the LMC 8 work that was completed. Mr. Schleyer stated that they're okay with it, and that it's "everything we said we'd do". Mr. Taylor commented that we'll probably need up to one (1) year of data to evaluate the effectiveness of the work.
- August 2011: Mr. Schleyer confirmed that that he is still collecting leachate flow data. He stated that he is taking LMC 8 detection zone readings every other day to see if the recent heavy rain causes a "bump" in the data. He indicated that the flow data during rain events should be a good tell-tale sign of whether the toe drains are working. He stated that he wants to collect more data, through the wet season.
- September 2011: Mr. Schleyer acknowledged higher detection zone flows during the monitoring period reported herein. He stated that the toe drains are functioning, because he has seen water flowing from them, and noted the extreme rainfall conditions that occurred during this monitoring period.
- October 2011: Mr. Schleyer stated that the flows in LMC 8 still bounce up when it rains. Ms. deLeon asked if anyone has any other ideas (to remediate this problem). Mr. Schleyer responded no. During the inspection following the meeting, I observed water flowing from each of the toe drain outlets. It had just rained in the last twenty-four (24) hours preceding the inspection.

- November 2011: Mr. Taylor asked what specific steps IESI is taking to identify the source of the inflow creating high flows in LMC 8. Mr. Schleyer responded that they are monitoring flow rates versus rainfall.
- December 2011: Mr. Schleyer stated that, as part of the construction of new cell 4F, the anchor trench along the north side of adjacent Cell 4B was exposed in order to "attach" the old cell to the new cell. He stated that this exposure allowed water from rain events at that time to run right into the collection and detection zones, which caused a spike in the flow numbers for those zones in both LMC 7 and LMC 8. He stated that he expects the numbers to come down. Mr. Taylor asked if everything was buttoned up now (i.e. – no continuing exposure to stormwater). Mr. Schleyer responded that, yes, it was.
- January 2012: Mr. Taylor noted that secondary leachate flows continue to exceed 100 gallons per acre per day (G/A/D) through LMC-8, and are also elevated above normal levels for LMC-6 and LMC-7. Mr. Taylor asked Mr. Schleyer if he is still attributing these higher leachate flows to Cell F being open. Mr. Schleyer stated that, yes, he was.
- February 2012: Mr. Schleyer stated that the high leachate flow numbers are, in his opinion, still due to Cell F being open.
- March 2012: Mr. Schleyer stated that there was a misunderstanding between himself and Mr. Taylor, and that what he meant to say was that there was only one (1) week where the connection between Cell 4F and the adjacent cells were open, in order to fuse the liners together, and that there was a large rain event that week. He stated that in no way did he mean this condition was the continuous cause of high flows in LMC-8 (over many weeks).
- April 2012: Mr. Taylor noted that leachate flows are down overall, including secondary flows in LMC-8. Ms. deLeon asked if, regarding the leachate totals, did it help that it didn't rain much lately. Mr. Schleyer responded yes, and noted that LMC-8 is now down to 15 gallons per acre per day (secondary flows).
- May 2012: Mr. Taylor addressed the issue of secondary leachate flows in LMC-8 as one of the issues that is being tracked by him at the monthly landfill committee meetings, and reminded Mr. Schleyer that this is still an issue of concern with the Township. Mr. Taylor noted that flows were up in the last two (2) weeks due to increased rainfall, but still just under one-hundred gallons per acre per day in the last week of reporting.
- July 2012: Mr. Schleyer provided a description, using landfill plans, of which areas LMC 6, 7, and 8 drain. Mr. Schleyer stated that, in regard to LMC 8, that they've significantly reduced the infiltration into it, but it's not one-hundred percent. He stated that they've determined that stormwater is getting into the system, but that it still all gets collected and sent to the Wastewater Treatment Plant. Mr. Schleyer provided an explanation of work completed to date, including the toe drain work, re-sealing the liner and cap system, and installing clay as a sealer. He stated that a quick rain will give a little bump in the flow numbers, and that a soaking rain will cause a broad increase. Mr. Taylor stated that elevated secondary leachate flows in LMC-8 is an issue that is being tracked by him, and is still an issue of concern with the Township.
- August 2012: In accordance with direction received at the technical committee meeting on August 21, 2012, Mr. Taylor advised Mr. Schleyer that the Township Council had authorized the issuance of a letter to the PA DEP documenting the Township's concerns with elevated flows in the leachate detection zone.

- September 2012: The recent secondary flow readings in LMC-8 were reviewed and found to be generally higher than for the previous month.
- October 2012: The recent secondary flow readings in LMC-8 were reviewed and the last two (2) weeks reported were found to be significantly higher, apparently due to higher rainfall amounts.
- November 2012: The recent secondary flow readings in LMC-8 were reviewed and the last four (4) weeks were found to be very high, apparently due to high rainfall amounts. Mr. Schleyer stated that there were still spikes in the LMC-8 detection zone, which drop off after a rain.
- December 2012: The recent secondary flow readings in LMC-8 were reviewed and the last four (4) weeks were found to be high, apparently due to high rainfall amounts.
- January 2013: The recent secondary flow readings in LMC-8 were reviewed and the last four (4) readings were found to be very high, apparently due to high rainfall amounts. Mr. Schleyer noted that the reported flow rates jumped up for several weeks. Ms. deLeon asked were there storms? Mr. Schleyer responded yes, several rain events.
- February 2013: The recent secondary flow readings in LMC-8 were reviewed and found to be very high. Mr. Taylor noted that there currently was a very long stretch of readings well in excess of 100 gallons per acre per day, dating back to October 5, 2012, and stated that the Township was not happy about this situation.
- March 2013: The recent secondary flow readings in LMC-8 were reviewed and found to be very high, continuing the unbroken stretch of readings well in excess of 100 gallons per acre per day (g/a/d) which began October 5, 2012.
- April 2013: The latest secondary flow readings in LMC-8 were reviewed and found to still be in excess of 100 g/a/d. Mr. Schleyer commented that the weather's been drier, that LMC-8 is showing a downward trend in flow.
- May 2013: The latest secondary flow readings in LMC-8 were reviewed and found to still be in excess of 100 g/a/d, which began October 5, 2012. Mr. Schleyer noted that the reading for the last week was lower.
- June 2013: The most recent secondary flow readings in LMC-8 were reviewed and found to be below 100 g/a/d for the last five (5) weeks. Mr. Schleyer noted that the recent weather has been fairly dry and predicted that the flows will fluctuate with the weather (precipitation).
- July 2013: The most recent secondary flow readings in LMC-8 were reviewed and found to be significantly above 100 g/a/d for three (3) of the last four (4) weeks.
- August 2013: The most recent secondary flow readings in LMC-8 were reviewed and found to be below 100 g/a/d for three (3) of the last four (4) weeks. Mr. Schleyer noted that these flows had slowed down somewhat. Mr. Schleyer stated that, in Pump Station 3, the elevated flows were due to heavy rain during the liner tie-in.
- September 2013: The most recent secondary flow readings in LMC-8 were reviewed and found to be above 100 g/a/d for three (3) of the last five (5) weeks.
- October 2013: The most recent secondary flow readings in LMC-8 were reviewed and found to be below 100 g/a/d for three (3) of the last four (4) weeks. Mr. Schleyer noted that the flows are slowing down, but so is the rain.
- November 2013: The most recent secondary flow readings in LMC-8 were reviewed and found to be below 100 g/a/d for the last eight (8) weeks.

- December 2013: The most recent secondary flow readings in LMC-8 were reviewed and found to be below 100 g/a/d for the last twelve (12) weeks. Mr. Schleyer commented that just means there has not been a lot of precipitation.

The most recent secondary flow readings in LMC-8 were reviewed and found to be above 100 g/a/d for the last three (3) weeks.

- Radiation Monitoring

  - December 12, 2013: I-131
  - December 16, 2013: I-131
  - December 17, 2013: I-131; Ga-67
  - January 15, 2014: I-131

All are Level 1 isotopes and disposed of on site.

Mr. Taylor asked what 'Ga' is. Mr. Schleyer replied 'Galium'. Mr. Taylor asked if that is as benign as Iodine. Mr. Schleyer responded yes, and that he thinks it may have a shorter half-life.

- Phase IV Construction Activities

Cell 4E-Stage 2 construction requires the tie-in for the leachate collection and removal of stormwater diversion berm prior to final certification. Cell 4A is the current active disposal area. Approximately one (1) acre of landfill area is capped on the south slope of Cell 4-D/C.

Mr. Schleyer stated that they should be getting into the new cell shortly. Mr. Taylor asked when exactly. Mr. Schleyer responded that he was not sure.

During the inspection following the meeting, Mr. Taylor observed that the active disposal area is Cell 4A. Two (2) trucks were dumping, none waiting at the time of the observation. Wind screens were observed in place at the working face. Mr. Taylor confirmed that no work was taking place in newly constructed Cell 4E Stage 2.

- Complaints

  - December 1, 2013 – A steel city resident complained of gas odors along Applebutter Road and reported the complaint at 2:41 Sunday and stated no need to return a call.
  - December 2, 2013 – A resident on Skyline Drive reported that hunters were on IESI property and riding 4 wheelers. IESI called the police and Officer Werkheiser responded to inform hunters there is no hunting on IESI property. The hunter left.
  - December 5, 2013 – IESI was contacted by Becky Easley, PADEP Air Quality Program, regarding an odor complaint from Fitz Street, Steel City earlier in the week. IESI conducted an odor survey of the Steel City area and perimeter check and did not detect any landfill related odors.
  - December 6, 2013 – Lower Saucon Township Police stopped in at Bethlehem Landfill to investigate an odor complaint. The source of the odor was determined to be from the BRE facility due to a valve leak.
  - December 11, 2013 – Priscilla deLeon sent an e-mail that a friend detected "rotten egg" odors while driving along Applebutter Road at approximately 10:00 AM. IESI personnel were in the landfill parking lot at 09:30 AM and driving on Applebutter

Road to the landfill at 09:45 AM and did not detect any odors. In addition another odor check was conducted along Applebutter Road and the landfill perimeter after receiving the e-mail complaint. No odors were detected. BRE also conducted an odor survey and did not detect odors. Steel City Fire Company personnel conducted an odor survey at the BRE site and confirmed no odors at that time. PA DEP investigated the complaint and attributed the odor to the sewage treatment plant (STP).

- December 12, 2013 – A resident along Applebutter Road called in a complaint to the emergency service dispatch and PA DEP of gas odors inside their home. IESI received a call from D Fisher, PA DEP, regarding the complaint and IESI responded to the residence. At the residence, police and fire company personnel investigated for odors inside the house and IESI personnel conducted an odor survey outside the house. No odors were detected. Fire company personnel then conducted an odor check using their gas meter on each level of the home; no gas was detected by the meter.
- December 31, 2013 – D. Fisher, PA DEP e-mailed Al Schleyer and Sam Donato regarding an odor complaint in Fritz and Johnson and requested an inspection of the area. Upon arrival at the designated area, two (2) rear loading refuse trucks were observed in the vicinity and a burn barrel less than one (1) block away was observed and photographed. Based on wind direction at the time and documentation, it was determined the odor was associated with the collection of the local garbage and/or the burn barrel. An e-mail report of the investigation and attached photo was sent to PA DEP, Lower Saucon Township, and persons on the e-mail cc list.

Ms. deLeon asked did we ever find out what happened at the wastewater treatment plant to cause the odor? Mr. Schleyer replied no. Mr. Taylor asked who made the determination. Mr. Schleyer responded Dean Fisher.

- Miscellaneous

Mr. Taylor stated that we needed to follow up on issues that were raised during the November meeting, as follows:

1. There was a question regarding the Host Municipality Benefit Fee Report form, specifically why "% of area" is included in the calculation of the fee. Mr. Schleyer responded that this is included on the form in case the landfill is situated in more than one (1) municipality. Mr. Taylor stated that he had checked the calculations on the form and found that they correctly used a 100% multiplier. Mr. Taylor stated that this issue was adequately addressed.

2. Mr. Taylor re-asked how long the landfill can dispose of garbage in the Cells 4A/3D area. Mr. Schleyer responded that he estimated another month or so, depending on the acceptance rate and density. Mr. Taylor asked if disposal would continue there until the area was full. Mr. Schleyer replied until they can get Cell 4E Stage 2 ready, which is delayed due to weather. Mr. Schleyer added that they won't max out disposal in Cells 4A/3D, and that they want to get down to Cell 4E Stage 2. Mr. Taylor replied he wished they had gotten Cell 4E Stage 2 ready in the fall, because now they are disposing of garbage on top of the landfill in the winter and the cold air is probably

carrying odors down the north slope and affecting residents in that area. Mr. Schleyer responded "me too", and added that he doesn't make operational decisions like that. He stated that the primary push is to get Cell 4E Stage 2 ready.

3. Mr. Taylor re-asked how many acres of unfinal-capped area are sitting with intermediate cover, at final grade and ready for final capping. Mr. Schleyer stated that the answer is two (2) acres, situated immediately to the west of the area that was final capped at the end of 2013. He added that the remaining unfinal-capped areas are five to eight feet (5' – 8') or more below final grade due to settlement. He stated that there is an updated drawing that shows these conditions, and that he would forward that to Mr. Taylor. Mr. Taylor asked if the plan was to place more garbage over these areas. Mr. Schleyer responded yes, they will place garbage incrementally in small areas to account for the settling that will occur. He provided a detailed explanation of how garbage placement must be managed to limit settling that occurs after placement of final capping. Ms. deLeon asked Mr. Taylor to provide a hard copy of the updated drawing to the Township once he had received it.

Mr. Taylor stated that the remaining questions raised during the November meeting were adequately answered at that meeting.

Ms. deLeon asked if Mr. Schleyer could add a heading to his report for pending permits. Mr. Schleyer responded yes.

The inspection after the meeting was conducted by Mr. Schleyer and Mr. Taylor. The following was noted in addition to the items mentioned above:

- No mud, odors, or litter were observed along Applebutter Road, the entrance driveway to the landfill, or at the office.

- The internal access road was muddy and dusty. Mr. Schleyer called his foreman to have the water truck mobilized to clean it.

- The truck wash was open due to muddy conditions at the working face.

- Numerous seagulls were present at the landfill. No dispersal method was being employed at the time of the inspection.

- The west high wall was observed. It was noted that soil along the entire face of the wall had sloughed off, exposing fresh soil on the face of the wall. Mr. Schleyer stated that this had happened during the thaw and heavy rain that occurred on January 11. It appeared that the volume of soil involved was small, and that the top rim of the slope had not migrated back.

- No active seeps were observed in the area of the west face where they were previously observed. However, the western face contains erosion rills. Mr. Schleyer will address this when weather and site conditions allow.

- The area final capped at the end of 2013 has not been mulched or seeded. Mr. Schleyer stated that freezing conditions were encountered before this work could be completed.

- The adjoining parcel to the west (commonly called the "Fox property") was observed from the landfill site. No earthmoving activity was evident on this property.

- Three (3) pickers were removing blown litter from the south face.

- Soil was being removed from the north end of Cell 4E and trucked to the working face for use as cover material.

- The wind was out of the south/southeast at 5 to 10 mph. A patrol of Steel City was conducted following the meeting. No landfill-related odors or noises were observed.

V. Commercial Waste Vehicles

	Oct 2013	Nov 2013	Dec 2013
Total Trucks	2,892	2,269	2,242
Overweight	40	37	22
Warnings	29	19	11
Suspensions	11 (4>3%) 4-TT	18 (4>3%) 3-TT, 1-RL	11 (3>3%) 3-TT

FL = front loader, RO = roll off, TT = tractor trailer, RL = rear loader, DT = triaxle dump truck

Ms. deLeon noted that there were less overweights in December.

VI. Correspondence

- Correspondence from Department of Environmental Protection
  - No discussion
- Correspondence to Department of Environmental Protection
  - No discussion.
- Other Correspondences
  - No discussion.

VII. Township Activities/Township Staff Meeting Update

- Township correspondence to the Department of Environmental Protection
  - No discussion.

- Council Meeting IESI Issues
  - No discussion.
- Miscellaneous
  - Mr. Taylor produced a copy of an e-mail from Jim Birdsall in which Mr. Birdsall directed Hanover Engineering staff to transmit landfill reports and meeting notes by U.S. mail to the Township Manager only, and not to send copies to anyone. The e-mail further directs that there are to be no cc's on the bottom of the page. Mr. Taylor advised the committee members that they would therefore not be receiving a copy of the minutes report via e-mail directly from Hanover Engineering as they had in the past, and that the current plan was for distribution to be handled by the Township.

VIII. Establish Time for Next Meeting

1:00 PM Thursday, February 20, 2014 at the Landfill Facility Office.

END OF MINUTES

Respectfully,

HANOVER ENGINEERING ASSOCIATES, INC.

Christopher A. Taylor, PG, HMI

cat:cat/llb
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Enclosure(s)

BETHLEHEM LANDFILL

LEACHATE DEMAND REPORT

December 2013

Location	Total gallons
LMC-6	13,036
LMC-7	13,874
LMC-8	128,353
LMC-10	1,507,000
PS-1	402,396
PS-2	293,561
PS-3	461,866
Phase-IV	1,157,823

Total LMC-10 Flow = LMC-6, 7, 8, Abatement Well System, Phase I and II, and LFG condensate. Phase-IV total from PS-1, PS-2 and PS-3.

Total Discharge

LMC-10	1,507,000
Phase IV	1,157,823
TOTAL	2,664,823 gallons

Total Leachate

Leachate	307,774
Phase IV	1,157,823
TOTAL	1,465,597 gallons

LMC-10 Flow – Abatement System Flow = Leachate System Flow (gallons).
Abatement System Flow = 1,199,226 gallons (Neptune Flow meters)

	A	B	C	D	E	F	J	K	L	M	Q	R	S	T
694														
695														
696														
697		TIME	LMC-6 (Secondary Flows)				LMC-7 (Secondary Flows)				LMC-8 (Secondary Flows)			
698		(days)	TOTALIZER	GALLONS	FLOW (gpd	G/A/D	TOTALIZER	GALLONS	FLOW (gpd)	G/A/D	TOTALIZER	GALLONS	LOW (gpd	G/A/D
699	12/28/2012	7.00	1002142	1,721	246	16	1515673	911	130	11	3,460,100	21945	3,135	541
700	1/4/2013	7.00	1004365	2,223	318	20	1516488	815	116	10	3,478,787	18687	2,670	460
701	1/11/2013	7.00	1006487	2,122	303	19	1517271	783	112	9	3,489,476	10689	1,527	263
702	1/18/2013	7.00	1008461	1,974	282	18	1518183	912	130	11	3,505,362	15886	2,269	391
703	1/25/2013	7.00	1010312	1,851	264	17	1519001	818	117	10	3,520,041	14679	2,097	362
704	1/31/2013	6.00	1011915	1,603	267	17	1519729	728	121	10	3,528,153	8112	1,352	233
705	2/8/2013	8.00	1014356	2,441	305	19	1520730	1001	125	10	3,547,775	19622	2,453	423
706	2/15/2013	7.00	1016726	2,370	339	22	1521700	970	139	11	3,564,540	16765	2,395	413
707	2/22/2013	7.00	1019178	2,452	350	22	1522735	1035	148	12	3,580,766	16226	2,318	400
708	3/1/2013	7.00	1021503	2,325	332	21	1523862	1127	161	13	3,596,172	15406	2,201	379
709	3/8/2013	7.00	1023740	2,237	320	20	1524699	837	120	10	3,610,583	14411	2,059	355
710	3/15/2013	7.00	1026036	2,296	328	21	1525739	1040	149	12	3,626,909	16326	2,332	402
711	3/21/2013	6.00	1028175	2,139	357	23	1526596	857	143	12	3,640,924	14015	2,336	403
712	3/29/2013	8.00	1031543	3,368	421	27	1527573	977	122	10	3,656,359	15435	1,929	333
713	4/5/2013	7.00	1034507	2,964	423	27	1528379	806	115	9	3,665,676	9317	1,331	229
714	4/12/2013	7.00	1037083	2,576	368	23	1529069	690	99	8	3,674,097	8421	1,203	207
715	4/19/2013	7.00	1039548	2,465	352	22	1529880	811	116	9	3,691,861	17764	2,538	438
716	4/26/2013	7.00	1041880	2,332	333	21	1530568	688	98	8	3,706,437	14576	2,082	359
717	5/2/2013	6.00	1044065	2,185	364	23	1531169	601	100	8	3,711,573	5136	856	148
718	5/10/2013	8.00	1046674	2,609	326	21	1531950	781	98	8	3,714,146	2573	322	55
719	5/17/2013	7.00	1048775	2,101	300	19	1532700	750	107	9	3,716,593	2447	350	60
720	5/24/2013	7.00	1050522	1,747	250	16	1533334	634	91	7	3,718,229	1636	234	40
721	5/31/2013	7.00	1052083	1,561	223	14	1534144	810	116	9	3,721,113	2884	412	71
722	6/7/2013	7.00	1053338	1,255	179	11	1534916	772	110	9	3,723,203	2090	299	51
723	6/13/2013	6.00	1054436	1,098	183	12	1536275	1359	227	19	3,742,816	19613	3,269	564
724	6/21/2013	8.00	1055808	1,372	172	11	1537395	1120	140	11	3,763,248	20432	2,554	440
725	6/28/2013	7.00	1057055	1,247	178	11	1538090	695	99	8	3,766,586	3338	477	82
726	7/5/2013	7.00	1,058,232	1,177	168	11	1,538,848	758	108	9	3,779,439	12853	1,836	317
727	7/12/2013	7.00	1,059,513	1,281	183	12	1,539,665	817	117	10	3,784,799	5360	766	132
728	7/19/2013	7.00	1,060,757	1,244	178	11	1,540,482	817	117	10	3,787,501	2702	386	67
729	7/26/2013	7.00	1,062,000	1,243	178	11	1,541,418	936	134	11	3,789,790	2289	327	56
730	8/2/2013	7.00	1,063,298	1,298	185	12	1,542,297	879	126	10	3,791,752	1962	280	48
731	8/9/2013	7.00	1,064,460	1,162	166	11	1,543,179	882	126	10	3,793,380	1628	233	40
732	8/16/2013	7.00	1,065,614	1,154	165	11	1,544,269	1090	156	13	3,801,523	8143	1,163	201
733	8/23/2013	7.00	1,066,740	1,126	161	10	1,545,212	943	135	11	3,807,582	6059	866	149
734	8/30/2013	7.00	1,067,832	1,092	156	10	1,546,030	818	117	10	3,809,508	1926	275	47
735	9/6/2013	7.00	1,068,857	1,025	146	9	1,546,980	950	136	11	3,822,818	13310	1,901	328
736	9/13/2013	7.00	1,069,922	1,065	152	10	1,547,965	985	141	12	3,828,801	5983	855	147
737	9/20/2013	7.00	1,070,895	973	139	9	1,548,856	891	127	10	3,831,018	2217	317	55
738	9/27/2013	7.00	1,071,842	947	135	9	1,549,750	894	128	10	3,832,683	1665	238	41
739	10/4/2013	7.00	1,072,689	847	121	8	1,550,550	800	114	9	3,833,902	1219	174	30
740	10/11/2013	7.00	1,073,502	813	116	7	1,551,227	677	97	8	3,834,898	996	142	25
741	10/18/2013	7.00	1,074,291	789	113	7	1,552,088	861	123	10	3,836,298	1400	200	34
742	10/25/2013	7.00	1,075,027	736	105	7	1,552,675	587	84	7	3,837,472	1174	168	29
743	10/31/2013	6.00	1,075,645	618	103	7	1,553,109	434	72	6	3,838,504	1032	172	30
744	11/8/2013	8.00	1,076,472	827	103	7	1,553,734	625	78	6	3,839,838	1334	167	29
745	11/15/2013	7.00	1,077,095	623	89	6	1,554,231	497	71	6	3,840,991	1153	165	28
746	11/22/2013	7.00	1,077,725	630	90	6	1,554,730	499	71	6	3,842,119	1128	161	28
747	11/29/2013	7.00	1,078,307	582	83	5	1,555,332	602	86	7	3,844,209	2090	299	51
748	12/6/2013	7.00	1,078,882	575	82	5	1,556,110	778	111	9	3,846,860	2651	379	65
749	12/13/2013	7.00	1,079,432	550	79	5	1,557,177	1067	152	12	3,862,955	16095	2,299	396
750	12/19/2013	6.00	1,080,097	665	111	7	1,558,320	1143	191	16	3,872,086	9131	1,522	262
751	12/27/2013	8.00	1,080,745	648	81	5	1,560,786	2466	308	25	*3872086	11450	1,431	247
752														
753														
754														
755														
756														
757														
758								12/27/2013 -	* Estimated flow due to flow meter malfunction.					
759														
760														
761														
762														

IESI BETHLEHEM LANDFILL

	A	B	C	D	E	F	H	I	J	K	M	N	O
541		TIME	Phase IV PS-1 (Secondary Flows)				Phase IV PS-1 (Primary Flow)						Sump
542		(days)	TOTALIZER	GALLONS	FLOW (gpd)	g/ac/day		TIME	TOTALIZER	Gallons	FLOW (gpd)	g/ac/day	Level
543													
544	12/28/2012	41271	238102	238102	6	0			24894178	24894178	603	23	22.5"
545	1/4/2013	7	238296	194	28	1			24932503	38325	5475	211	23.2"
546	1/11/2013	7	238469	173	25	1			25001488	68985	9855	379	23.4"
547	1/18/2013	7	238654	185	26	1			25079895	78407	11201	431	23.4"
548	1/25/2013	7	238847	193	28	1			25152050	72155	10308	396	24.0"
549	1/31/2013	6	239007	160	27	1			25213625	61575	10263	395	23.2"
550	2/8/2013	8	239251	244	31	1			25299625	86000	10750	413	22.3"
551	2/15/2013	7	239454	203	29	1			25375695	76070	10867	418	16.8"
552	2/22/2013	7	239658	204	29	1			25447646	71951	10279	395	16.6"
553	3/1/2013	7	239876	218	31	1			25519898	72252	10322	397	16.8"
554	3/8/2013	7	240107	231	33	1			25588391	68493	9785	376	17.6"
555	3/15/2013	7	240339	232	33	1			25659291	70900	10129	390	23.8"
556	3/21/2013	6	240525	186	31	1			25720692	61401	10234	394	17.8"
557	3/29/2013	8	240772	247	31	1			25795278	74586	9323	359	23.4"
558	4/5/2013	7	241001	229	33	1			25863922	68644	9806	377	20.4"
559	4/12/2013	7	241276	275	39	2			25956823	92901	13272	510	24.0"
560	4/19/2013	7	241437	161	23	1			26020743	63920	9131	351	22.5"
561	4/26/2013	7	241604	167	24	1			26082015	61272	8753	337	14.2"
562	5/2/2013	6	241732	128	21	1			26135496	53481	8914	343	32.2"
563	5/10/2013	8	241884	152	19	1			26204110	68614	8577	330	24.0"
564	5/17/2013	7	242026	142	20	1			26268459	64349	9193	354	23.2"
565	5/24/2013	7	242168	142	20	1			26326913	58454	8351	321	23.8"
566	5/31/2013	7	242310	142	20	1			26389956	63043	9006	346	20.0"
567	6/7/2013	7	242465	155	22	1			26448766	58810	8401	323	18.1"
568	6/13/2013	6	242640	175	29	1			26513484	64718	10786	415	14.9"
569	6/21/2013	8	242866	226	28	1			26590531	77047	9631	370	22.5"
570	6/28/2013	7	243028	162	23	1			26651363	60832	8690	334	14.5"
571	7/5/2013	7	243188	160	23	1			26714969	63606	9087	349	16.4"
572	7/12/2013	7	243358	170	24	1			26775193	60224	8603	331	19.3"
573	7/19/2013	7	243496	138	20	1			26834018	58825	8404	323	20.6"
574	7/26/2013	7	243635	139	20	1			26893804	59786	8541	328	22.3"
575	8/2/2013	7	243778	143	20	1			26952126	58322	8332	320	21.7"
576	8/9/2013	7	243906	128	18	1			27011208	59082	8440	325	18.1"
577	8/16/2013	7	244032	126	18	1			27072962	61754	8822	339	18.1"
578	8/23/2013	7	244176	144	21	1			27132329	59367	8481	326	22.3"
579	8/30/2013	7	244330	154	22	1			27190659	58330	8333	320	22.7"
580	9/6/2013	7	244482	152	22	1			27260754	70095	10014	385	16.8"
581	9/13/2013	7	244604	122	17	1			27323191	62437	8920	343	22.9"
582	9/20/2013	7	244739	135	19	1			27384101	60910	8701	335	20.0"
583	9/27/2013	7	244886	147	21	1			27447579	63478	9068	349	22.7"
584	10/4/2013	7	245010	124	18	1			27509228	61649	8807	339	15.7"
585	10/11/2013	7	245164	154	22	1			27574481	65253	9322	359	16.1"
586	10/18/2013	7	245344	180	26	1			27640559	66078	9440	363	22.1"
587	10/25/2013	7	245538	194	28	1			27705920	65361	9337	359	19.3"
588	10/31/2013	6	245686	148	25	1			27757113	51193	8532	328	22.9"
589	11/8/2013	8	245910	224	28	1			27831557	74444	9306	358	16.4"
590	11/15/2013	7	246095	185	26	1			27891706	60149	8593	330	23.6"
591	11/22/2013	7	246291	196	28	1			27956945	65239	9320	358	22.5"
592	11/29/2013	7	246490	199	28	1			28024956	68011	9716	374	23.6"
593	12/6/2013	7	246641	151	22	1			28097035	72079	10297	396	22.5"
594	12/13/2013	7	246837	196	28	1			28173900	76865	10981	422	23.2"
595	12/19/2013	6	246997	160	27	1			28245986	72086	12014	462	22.1"
596	12/27/2013	8	247262	265	33	1			28378798	132812	16602	639	18.3"
597													
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IESI BETHLEHEM LANDFILL

	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
541		TIME	Phase IV PS-2 (Secondary Flows)				Phase IV PS-2 Primary Flow						
542		(days)	TOTALIZER	GALLONS	FLOW (gpd)	g/ac/day		TIME	TOTALIZER	Gallons	FLOW (gpd)	g/ac/day	
543													
544	12/28/2012	41271	5595	5595	0	0.0			10573007	10573007	256	24	28.2"
545	1/4/2013	7	5595	0	0	0.0			10623461	50454	7208	680	32.7"
546	1/11/2013	7	5595	0	0	0.0			10648572	25111	3587	338	23.4"
547	1/18/2013	7	5595	0	0	0.0			10668955	20383	2912	275	32.0"
548	1/25/2013	7	5595	0	0	0.0			10689573	20618	2945	278	26.7"
549	1/31/2013	6	5595	0	0	0.0			10701797	12224	2037	192	33.3"
550	2/8/2013	8	5595	0	0	0.0			10726538	24741	3093	292	33.5"
551	2/15/2013	7	5595	0	0	0.0			10748423	21885	3126	295	32.2"
552	2/22/2013	7	5595	0	0	0.0			10776700	28277	4040	381	35.0"
553	3/1/2013	7	5598	3	0	0.0			10790467	13767	1967	186	34.8"
554	3/8/2013	7	5603	5	1	0.1			10822950	32483	4640	438	24.4"
555	3/15/2013	7	5603	0	0	0.0			10848802	25852	3693	348	23.8"
556	3/21/2013	6	5637	34	6	0.8		*	10849029	17227	2871	271	25.5"
557	3/29/2013	8	5637	0	0	0.0		*	10849029	18575	2322	219	26.1"
558	4/5/2013	7	5637	0	0	0.0			10856317	7288	1041	98	24.8"
559	4/12/2013	7	5637	0	0	0.0			10918172	61855	8836	834	42.3"
560	4/19/2013	7	5638	1	0	0.0			10986110	67938	9705	916	28.2"
561	4/26/2013	7	5638	0	0	0.0			11039037	52927	7561	713	35.6"
562	5/2/2013	6	5638	0	0	0.0			11083935	44898	7483	706	32.2"
563	5/10/2013	8	5638	0	0	0.0			11142648	58713	7339	692	34.3"
564	5/17/2013	7	5638	0	0	0.0			11155615	12967	1852	175	34.6"
565	5/24/2013	7	5638	0	0	0.0			11201306	45691	6527	616	31.2"
566	5/31/2013	7	5638	0	0	0.0			11240032	38726	5532	522	32.4"
567	6/7/2013	7	5638	0	0	0.0			11284386	44354	6336	598	36.2"
568	6/13/2013	6	5872	234	39	5.7			11330280	45894	7649	722	26.9"
569	6/21/2013	8	5958	86	11	1.6			11387996	57716	7215	681	26.9"
570	6/28/2013	7	5958	0	0	0.0			11432475	44479	6354	599	33.9"
571	7/5/2013	7	6216	258	37	5.4			11477417	44942	6420	606	29.1"
572	7/12/2013	7	6216	0	0	0.0			11521324	43907	6272	592	30.1"
573	7/19/2013	7	6230	14	2	0.3			11565713	44389	6341	598	28.8"
574	7/26/2013	7	6469	239	34	5.0			11613510	47797	6828	644	34.6"
575	8/2/2013	7	6470	1	0	0.0			11665004	51494	7356	694	28.6"
576	8/9/2013	7	6470	0	0	0.0			11693475	28471	4067	384	29.3"
577	8/16/2013	7	6470	0	0	0.0			11735521	42046	6007	567	26.9"
578	8/23/2013	7	6472	2	0	0.0			11792638	57117	8160	770	27.8"
579	8/30/2013	7	6473	1	0	0.0			11845373	52735	7534	711	28.5"
580	9/6/2013	7	6616	143	20	3.0			11900624	55251	7893	745	31.8"
581	9/13/2013	7	6616	0	0	0.0			11956529	55905	7986	753	28.4"
582	9/20/2013	7	6616	0	0	0.0			12009645	53116	7588	716	28.2"
583	9/27/2013	7	6664	48	7	1.0			12029795	20150	2879	272	28.4"
584	10/4/2013	7	6665	1	0	0.0			12048307	18512	2645	249	28.8"
585	10/11/2013	7	6665	0	0	0.0			12097374	49067	7010	661	28.2"
586	10/18/2013	7	6665	0	0	0.0			12149216	51842	7406	699	29.7"
587	10/25/2013	7	6665	0	0	0.0			12200380	51164	7309	690	34.3"
588	10/31/2013	6	6665	0	0	0.0			12242987	42607	7101	670	29.7"
589	11/8/2013	8	6665	0	0	0.0			12286232	43245	5406	510	33.9"
590	11/15/2013	7	6665	0	0	0.0			12338145	51913	7416	700	31.6"
591	11/22/2013	7	6665	0	0	0.0			12389448	51303	7329	691	26.5"
592	11/29/2013	7	6665	0	0	0.0			12442290	52842	7549	712	28.8"
593	12/6/2013	7	6665	0	0	0.0			12504518	62228	8890	839	31.4"
594	12/13/2013	7	6665	0	0	0.0			12567049	62531	8933	843	26.7"
595	12/19/2013	6	6742	77	13	1.2			12630693	63644	10607	1001	31.4"
596	12/27/2013	8	6742	0	0	0.0			12698675	67982	8498	802	26.5"
597													
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608	* = estimated flow rate due to flow meter malfunction.												
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IESI BETHLEHEM LANDFILL

	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
541		TIME	Phase IV PS-3 (Secondary Flows)				Phase IV PS-3 Primary Flow						
542		(days)	TOTALIZER	GALLONS	FLOW (gpd	g/ac/day		TIME	TOTALIZER	Gallons	FLOW (gpd	g/ac/day	
543													
544	12/28/2012	41271	0	0	0	0.0			445523	445523	11	3	18.5"
545	1/4/2013	7	0	0	0	0.0			471032	25509	3644	878	23.7"
546	1/11/2013	7	0	0	0	0.0			483586	12554	1793	432	18.1"
547	1/18/2013	7	0	0	0	0.0			512225	28639	4091	986	21.2"
548	1/25/2013	7	0	0	0	0.0			519743	7518	1074	259	20.5"
549	1/31/2013	6	0	0	0	0.0			559644	39901	6650	1602	19.9"
550	2/8/2013	8	3	3	0	0.1			573413	13769	1721	415	21.2"
551	2/15/2013	7	3	0	0	0.0			584752	11339	1620	390	17.1"
552	2/22/2013	7	3	0	0	0.0			594468	9716	1388	334	15.0"
553	3/1/2013	7	3	0	0	0.0			606297	11829	1690	407	20.9"
554	3/8/2013	7	3	0	0	0.0			615256	8959	1280	308	15"
555	3/15/2013	7	3	0	0	0.0			637920	22664	3238	780	22.7"
556	3/21/2013	6	3	0	0	0.0			648709	10789	1798	433	12.2"
557	3/29/2013	8	3	0	0	0.0			658035	9326	1166	281	21"
558	4/5/2013	7	6	3	0	0.1			662176	4141	592	143	23.3"
559	4/12/2013	7	6	0	0	0.0			692837	30661	4380	1055	19.7"
560	4/19/2013	7	6	0	0	0.0			703378	10541	1506	363	22.9"
561	4/26/2013	7	6	0	0	0.0			722737	19359	2766	666	18.0"
562	5/2/2013	6	6	0	0	0.0			726945	4208	701	169	18.8"
563	5/10/2013	8	6	0	0	0.0			731910	4965	621	150	17.1"
564	5/17/2013	7	6	0	0	0.0			739889	7979	1140	275	18.6"
565	5/24/2013	7	6	0	0	0.0			749400	9511	1359	327	23.7"
566	5/31/2013	7	6	0	0	0.0			757474	8074	1153	278	17.1"
567	6/7/2013	7	6	0	0	0.0			771049	13575	1939	467	22.7"
568	6/13/2013	6	6	0	0	0.0			946546	175497	29250	7048	21.8"
569	6/21/2013	8	14	8	1	0.2			977701	31155	3894	938	23.5"
570	6/28/2013	7	14	0	0	0.0			1005421	27720	3960	954	19.3"
571	7/5/2013	7	9274	9260	1323	318.8			1080156	74735	10676	2573	17.8"
572	7/12/2013	7	11441	2167	310	74.6			1099311	19155	2736	659	17.6"
573	7/19/2013	7	12478	1037	148	35.7			1184576	85265	12181	2935	18.4"
574	7/26/2013	7	13812	1334	191	45.9			1320307	135731	19390	4672	23.3"
575	8/2/2013	7	14493	681	97	23.4			1378621	58314	8331	2007	21.8"
576	8/9/2013	7	15174	681	97	23.4			1406534	27913	3988	961	20.7"
577	8/16/2013	7	16537	1363	195	46.9			1624657	218123	31160	7509	21.0"
578	8/23/2013	7	17220	683	98	23.5			1642058	17401	2486	599	19.3"
579	8/30/2013	7	17887	667	95	23.0			1748697	106639	15234	3671	20.5"
580	9/6/2013	7	19891	2004	286	69.0			1999790	251093	35870	8643	19.7"
581	9/13/2013	7	20560	669	96	23.0			2014438	14648	2093	504	18.8"
582	9/20/2013	7	21236	676	97	23.3			2073790	59352	8479	2043	20.1"
583	9/27/2013	7	21997	761	109	26.2			2089920	16130	2304	555	18.8"
584	10/4/2013	7	22379	382	55	13.1			2098562	8642	1235	297	20.7"
585	10/11/2013	7	22793	414	59	14.3			2110729	12167	1738	419	21.0"
586	10/18/2013	7	23132	339	48	11.7			2173417	62688	8955	2158	21.0"
587	10/25/2013	7	23132	0	0	0.0			2189001	15584	2226	536	20.5"
588	10/31/2013	6	23468	336	56	13.5			2199026	10025	1671	403	21.2"
589	11/8/2013	8	23803	335	42	10.1			2212425	13399	1675	404	18.8"
590	11/15/2013	7	24129	326	47	11.2			2218610	6185	884	213	18.8"
591	11/22/2013	7	24129	0	0	0.0			2223924	5314	759	183	21.0"
592	11/29/2013	7	24472	343	49	11.8			2304311	80387	11484	2767	18.4"
593	12/6/2013	7	24472	0	0	0.0			2332073	27762	3966	956	14.0"
594	12/13/2013	7	24892	420	60	14.5			2457955	125882	17983	4333	17.6"
595	12/19/2013	6	25310	418	70	16.8			2485998	28043	4674	1126	18.8"
596	12/27/2013	8	25699	389	49	11.7			2699619	213621	26703	6434	18.8"
597													
598													
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