MEMO

TO: Anthony J. Varrichio, P.E., Chief Engineer

FROM: Fazil Rahaman, Acting Ground Water Treatment Plant Operator

DATE: March 27, 2020

RE: **Blydenburgh Rd. L.F. 2019 2nd Half Semi-Annual Post Closure Monitoring and Maintenance Report**

Attached is the 2019, 2nd Half Semi-Annual Post Closure Monitoring and Maintenance Report for the M.S.W. Landfill, Ash Monofill, and Groundwater Remediation Facility for your review and comments.

CC: Mike Portela, Sanitation Site Crew Leader

2019, 2nd Half

POST CLOSURE MONITORING AND MAINTENANCE REPORT

FOR THE BLYDENBURGH ROAD M.S.W. LANDFILL,

FORMER ASH MONOFILL

AND

GROUNDWATER REMEDIATION FACILITY

TABLE of CONTENTS

PART I

BLYDENBURGH ROAD M.S.W. LANDFILL

AND FORMER

ASH MONOFILL INSPECTION REPORT

TABLES

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

DATE: 2/28/20 WEATHER: Sunny.

INSPECTOR(S): Fazil Rahaman INSPECTION (Check One): QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER ____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MSW AND ASH MONOFILL COVER	*See Notes 1 and 2*		
1.1 Municipal Solid Waste (MSW) Landfill			
General Condition of Vegetated Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Winter cond.Solar Farm Occupies 10 Acers, As Per D.E.C Approval.
General Condition of Conc. Revetment	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Item 1.2
Evidence of Rodents/Animal Burrows	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Local Distressed Vegetation	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Winter conditions.
Start of Woody Vegetation (Trees)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Side Slope's.
General Condition of Roads on Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Evidence of Local Settlement	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Leachate Seeps	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- breaks or cracks in cover	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Not inspected, Due to obvious reasons.
- excessive erosion	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- odors	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
(Other – Describe to right)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
1.2 Revetment Mat on MSW Landfill			
Eastern Sideslope	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Movement all mat location's. Will be addressed in closure of C&D.
Southern Sideslope	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Movement all mat location's, Same as above.
Western Sideslope	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Minimal movement all mat location's, Same as above.
1.3 Ash Monofill			
General Condition of Vegetated Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Winter conditions,Solar farm occupies approximately 15,000 sq. ft..
Evidence of Rodents/Animal Burrows	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Distressed Vegetation	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Winter conditions.

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MSW AND ASH MONOFILL COVER (Cont'd)			
1.3 Ash Monofill (Cont'd)			
Start of Woody Vegetation (Trees)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Side Slope's.
General Condition of Roads on Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Evidence of Local Settlement	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Leachate Seeps	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- breaks or cracks in cover	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Not inspected, Due to obvious reasons.
- excessive erosion	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- odors	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
(Other – Describe to right)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
2.0 OPEN CHANNELS	*See Note 3*		
2.1 Diversion Swales			
1-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
1-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-C	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-C	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-E	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-F	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 OPEN CHANNELS (Cont'd)			
2.1 Diversion Swales (Cont'd)			
4-A	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
4-B	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
4-C	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
4-D	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
5-A	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
5-B	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
AF-1	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
AR-2	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
AF-3	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
2.2 Down Chutes			
No. 1	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Erlosion,Will be addressed in closure of C&D, 2 Photo attached.
No. 2	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
No. 3	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
No. 4	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
No. 5	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
2.3 Perimeter Channels			
P-1	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
P-2	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
P-3	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
P-4	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement, Will be addressed in closure of C&D, Photo attached.
P-5	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement, Will be addressed in closure of C&D, Photo attached.
MR-1	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 CONTROL STRUCTURES	*See Note 4*		
3.1 Energy Dissipation Structure No. 1	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.2 Energy Dissipation Structure No. 2	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.3 Stilling Structure No. 1	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.4 Stilling Structure No. 2	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.5 Stilling Structure No. 3	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.0 CULVERTS (Abovegrade inspection)	*See Note 5*		
4.1 81-in. x 59-in. CMP (Access Way)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.2 42-in. –dia. CMP (Access Way & MH]	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.3 24-in.-dia. PE Pipe (Headwall)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.4 30-in.-dia. CMP @ Down Chute No. 5	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Back pitched -Will be addressed in closure of C&D.
5.0 RECHARGE BASINS AND APPURTENANCES	*See Note 6*		
5.1 Recharge Basin No. 1-3			
81-in. x 59-in. CMP Outfall	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Sheet Piles	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
18-in.-dia.CMP Outfall	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4-in.-dia. PVC Pipe Outfall	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Basin No. 1-3 Sideslopes	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Basin No. 1-3 Bottom	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	Under water.

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

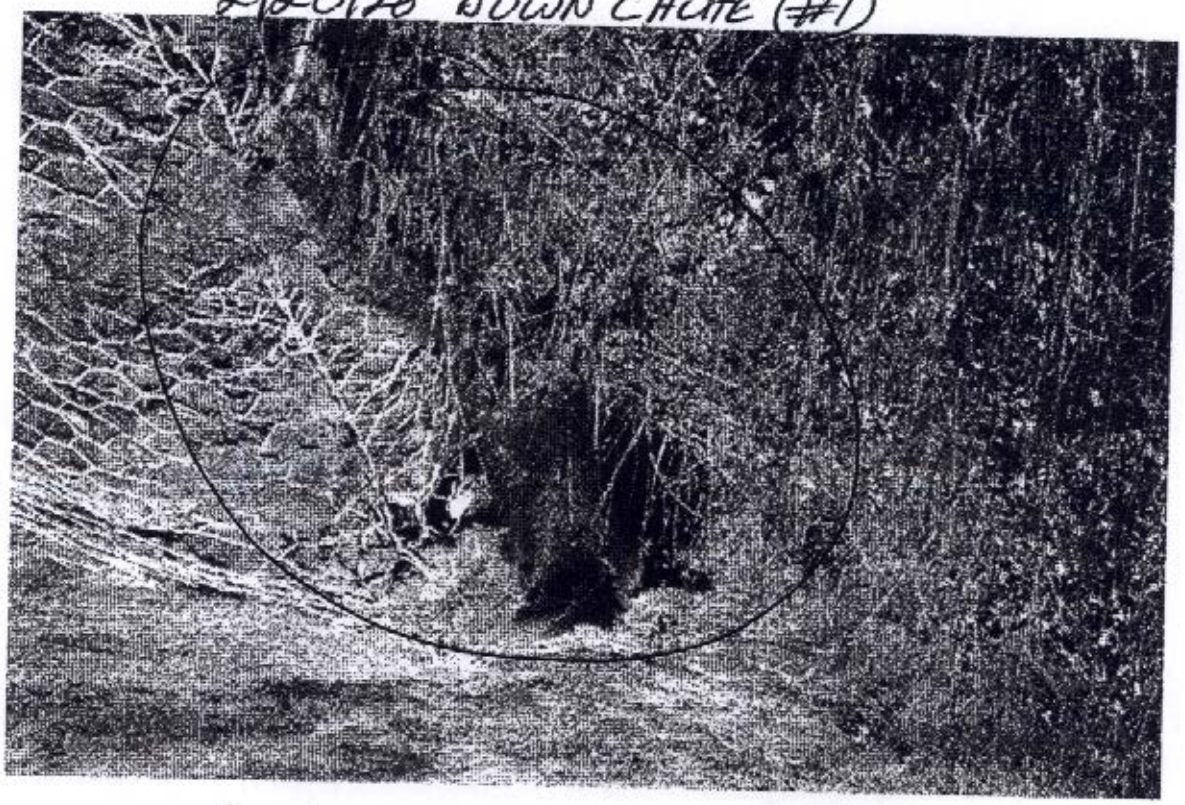
ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
5.0 RECHARGE BASINS AND APPURTENANCES (CONT'D)			
5.2 Recharge Basin No. 2	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	
42-in.-dia CMP Outfall	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Diversion Swale AR-2 Outfall	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
Diversion Swale AF-3 Outfall	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Settlement/Subsidence.
Basin No. 2 Sideslopes	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Woody Vegetation.
Basin No. 2 Bottom	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Woody Vegetation.

COMMENTS:

NOTES:

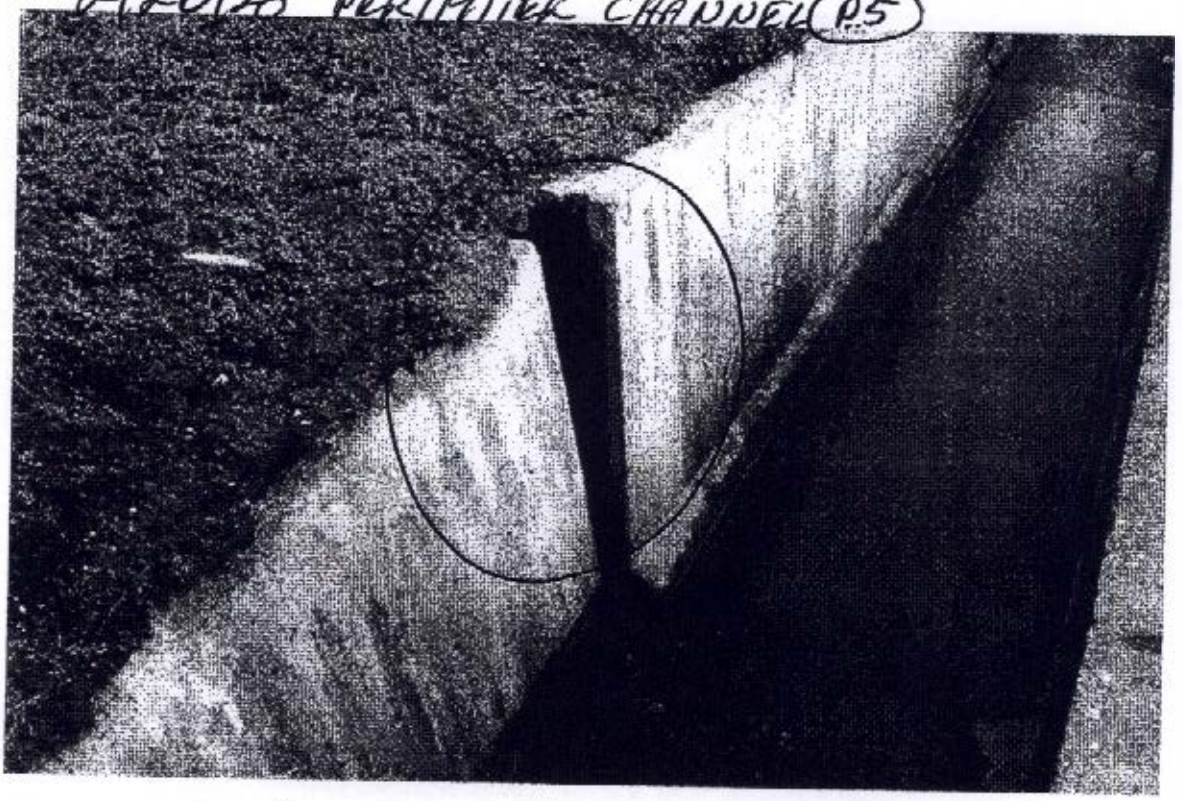
1) Use this inspection form along with Figure 4 – Landfill Cover and Surface Water Management System Plan by Golder Associates
2) Relating to Item 1.0 – Landfill and Monofill Covers, an example of local distressed vegetation is grass having a brown or black color, and characteristics typical of a leachate seep are a dark orangish/brown/black liquid or stain possibly with a strong odor.
3) Conditions/features to be alert for and possibly noted relating to Item 2.0 – Open Channels: general condition, flow capability, settlement/subsidence, erosion, blockages/debris, excess vegetation, animal burrowing, etc.
4) Conditions/features to be alert for and possibly noted relating to Item 3.0 – Control Structures: general condition, flow capability, settlement/subsidence, blockages/debris, structural integrity, cracking/spalling, etc.
5) Conditions/features to be alert for and possible noted relating to Item 4.0 – Culverts (Above-grade inspection): condition of exterior of access way/manhole structures, condition of culvert barrel at inlet and outlet, etc.
6) Conditions/features to be alert for and possibly noted relating to Item 5.0 – Recharge Basins and Appurtenances: general condition, storage capability, sliding/soughing of sideslopes, animal burrowing, sediment accumulation, integrity of outfall structures, undermining of culvert barrel, etc.

2/28/20 DOWN CHUTE (#1)



2/28/20 DOWN CHUTE (#1)

2/20/20 PERIMITER CHANNEL (P5)



2/20/20 PERIMITER CHANNEL (P4)

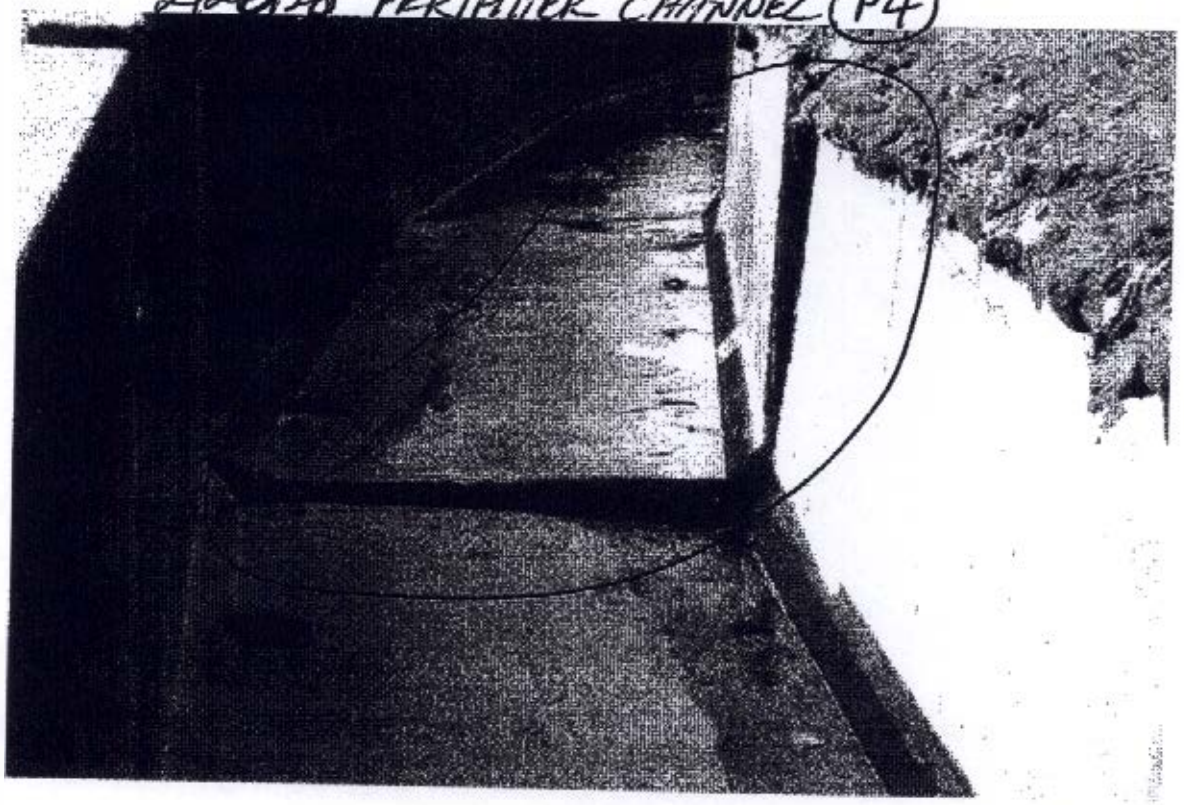


Table 3
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 2 FOR WEEKLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

DATE: 3/3. 3/10/20 WEATHER: Sunny. Overcast.

INSPECTOR(S): Fazli Rahaman INSPECTION (Check One): QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER ____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 SOUTHERN PUMP MANHOLE			
Air Receiver Pressure - PSIG	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
Air Compressor Intake Filter Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
Air Compressor Coolant/ Oil Level	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
Air Compressor Condensate Drainage	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
Air Ejector Air Supply Filter Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
Air Ejector Air Supply Pressure – PSIG	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
Air Ejector Pump Operation	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
Comments	Based upon engineering consulting firm, investigation and report dated 6/30/03 Attached. The use of this system has been determined unnecessary.		
2.0 LEACHATE STORAGE TANKS			
Leachate Storage Tank No. 1 Level/Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	12 Feet 6 inches.
Leachate Storage Tank No. 2 Level/Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	12 Feet 6 inches.
Leachate Storage Tank No. 3 Level/Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	12 Feet 6 Inches.
Leachate Storage Tank No. 4 Level/Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	12 Feet 6 Inches.
Cathodic Protection System Operation	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Not inspected. Due to product containment.
Liquid Present in Containment Area	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Liquid Level in Sump Manhole	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	On going monitoring/pump out.
Liquid Level in Pump Station	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	On going monitoring/pump out.
Comments	Craig D., Landfill Personell present for inspection		

Table 3
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 2 FOR WEEKLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 PUMP STATION MANHOLE NO. 1 – CONTROL PANEL			
Pump No. 1 Operating Hours	ADEQUATE ☐ YES ☒	NEEDS ATTENTION ☐ NO ☐	New pump installed 10/4/18 (2,544.8hrs. - 1,448.7hrs. = 1,096 hrs). (3/10/20 – 3/15/19)
Pump No. 1 Instantaneous Flow Rate - GPM	ADEQUATE ☐ YES ☒	NEEDS ATTENTION ☐ NO ☐	3.6% See Comments. (3/10/20 – 3/15/19)
Pump No. 2 Operating Hours	ADEQUATE ☐ YES ☒	NEEDS ATTENTION ☐ NO ☐	New pump installed 10/4/18 (13,250hrs. - 12,122hrs. = 1,128 hrs).
Pump No. 2 Instantaneous Flow Rate - GPM	ADEQUATE ☐ YES ☒	NEEDS ATTENTION ☐ NO ☐	4.8% See Comments.
Alarm Conditions	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	
Seal Leak Continuity Test	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Not working
Lamp Light Test	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Pump Served by Generator	ADEQUATE ☐ YES ☒	NEEDS ATTENTION ☐ NO ☐	ONLY Pump #2 (lag) Served by generator.
Flow Meter Totalizer Reading - Gallons	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	463,484 gal. See Comments.
Comments	On 10/14/18 Pump #1&2 Operating Hours were not Recorded.		
	Meter Reflects ERROR, Under Investigation.		
	Craig D., Landfill Personell present for inspection		
4.0 SUMP PUMP – CONTROL PANEL			
Pump Operating Hours	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	10,905 hrs.
Alarm Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	
Seal Leak Continuity Test	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Not working.
Lamp Light Test	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Comments	Craig D., Landfill Personell present for inspection		

Table 3

Islip Resouree Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 2 FOR WEEKLY FIELD INSPECTION
OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
5.0 EMERGENCY GENERATOR			
Generator Oil Level	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Generator Coolant Level	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Battery Charge	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Diesel Fuel Oil Level	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	1/4 full.
Operating Test Checks:	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	
Start-Up Performance	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Generator Oil Pressure	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	50 PSI.
Generator Motor Temperature	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	180 Degree Fahrenheit, (RAN FOR 45 MINUTES).
Generator Voltage (underload)	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	240 Volts.
Generator Amperage (underload)	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	15 Amps.
Generator Hertz (underload)	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	59 1/2 Herts.
Comments	TRANSFER SWITCH INOPERABLE.		
	Craig D., Landfill Personell Present for Inspection.		
6.0 ASH MONOFILL PUMP STATION			
Leachate Level	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	
Comments	Ash Collection Chamber Readings July through December 2019 Attached.		
	Prepared by Mike P L.F. Site crew leader, being monitored and pumped.		

Dvirka and Bartilucci
CONSULTING ENGINEERS

330 Crossways Park Drive, Woodbury, New York, 11797-2015
516-364-9890 • 718-460-3634 • Fax: 516-364-9045
e-mail: db-eng@worldnet.att.net

RECEIVED
JUL - 3 2003
ISLIP RESOURCE RECOVERY AGENCY

June 30, 2003

Paul DiMaria, Chief Engineer
Islip Resource ~~Recovery Agency~~
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill Complex
MSW Section 2 Landfill
Leachate Chambers
D&B No. 1222-VII

Dear Mr. DiMaria:

This letter report is intended to document our findings and recommendations relative to our examination of three leachate chambers associated with the MSW Section 2 Landfill at the Blydenburgh Road Landfill Complex.

The MSW Section 2 Landfill area is a 16-acre portion of the overall MSW Landfill. The Section 2 area is located at the southern end of the MSW Landfill and abuts the northern edge of the Cleanfill Phase 1 Landfill area. The Section 2 area is a lined landfill and was constructed in the early to mid 1980s. The Section 2 area is reported to have been constructed with a PVC sideslope and two PVC bottom liners, as well as provisions for leachate collection (primary) and leachate detection (secondary) systems. The Section 2 area was constructed as an excavation on the order of 100 feet deep. The leachate collection and leachate detection systems are located at the base of the excavation.

Access to the leachate collection and detection systems is provided by way of precast concrete chimneys which were assembled in sections to keep pace with the landfilling of waste. There are three chimneys located on the southern slope of the capped Section 2 area. For the purpose of this report, the three structures will be referred to as the east structure, the middle structure and the west structure. The correlation between each of these structures and their relation to the leachate collection and/or leachate detection systems has not been fully established. The location of each structure is depicted on Figure 1 attached.

It appears that the Town utilized these structures at various times through the operating period of Section 2 to remove leachate. In February 1988, the Town performed a video examination of the east structure. The video camera was passed from the top of the structure to the bottom. This 1988 examination documented that horizontal misalignment of the precast rings was being experienced to a degree sufficient to impede the movement of the camera down the shaft. Images at the bottom of the shaft depicted the entrance of the leachate piping into the structure.

Following the capping/closure of the MSW Landfill in 1993, the Town made use of the east chimney to remove leachate. At that time, it was noted that the chimney was not straight and plumb and it was difficult to install pumping equipment to the bottom of the chimney to access the leachate system. In order to facilitate the installation of pumping equipment to the bottom of the chimney, the Town had a 6-inch diameter steel riser pipe installed in 1994. This riser pipe provided a conduit to facilitate the installation of a pneumatic bladder pump to the base of the chimney. This pumping system was utilized from March 1994 through early October 1994, after which its use was discontinued and the pump was removed.

In December 1997, the Town had high-density polyethylene (HDPE) geomembrane covers installed over the exposed tops of each chimney to mitigate the release of steam and odors from the chimney structures. These covers were fusion welded to the HDPE geomembrane landfill capping system.

Dvirka and Bartilucci Consulting Engineers (D&B) was requested to perform an examination of each of the three leachate structures and an assessment of the opportunity and/or the need for the Town to reinstitute leachate pumping from the capped and closed Section 2 area.

D&B retained the services of Pengat Technical Inspections to perform a video inspection of each of the three structures, as well as the 6-inch steel riser pipe located in the east structure. In order to access each structure, the HDPE liner covering was cut in select areas. The east and west structures were found to have openings in the top slab which would allow the video camera to be inserted into the structure. The east structure top slab has a 14-inch diameter opening which was covered by a loose piece of steel plate. The west structure top slab has a 24-inch square aluminum hatch. Each of the three structures has a 4-inch PVC vent pipe which penetrates the top slab and is connected to an odor control device. The middle structure did not have an opening in the top slab other than the vent pipe penetration. An 8-inch diameter penetration was core drilled into the side of the middle structure to provide access to the interior of the structure. After the inspection, the core dilled hole was sealed with an expanding plumber's plug.

The video inspection was performed by lowering the camera into the structure by its power/video cable. The location of the three structures in mid-slope, and the lack of an access road, prevented the support van from getting closer than approximately 200 feet to any of the structures.

Consequently, the video camera was raised and lowered by hand, with 200 feet of slack cable draped across the ground surface from the van. This arrangement compromised the accuracy of the counter used to measure the length of cable and the corresponding position of the camera. Therefore, the depth measurements depicted on the videotapes should be considered as gross approximations and may not be representative, especially at times when the camera is raised and lowered by hand without adjusting the slack in the cable from the van.

Enclosed are copies of the videotapes generated during the inspections conducted on October 10, 11, 15 and 24, 2002. In general, you will find that the visual image is somewhat poor due to the high moisture content in the structures which promotes condensation on the camera lens. Typically, the condensation problem is observed in the upper reaches of the structure. In addition, you will find that the images are difficult to decipher because there is no fixed point of reference. The camera utilized for these examinations made use of a pan and tilt head which allows the lens to scan left to right and up and down. Given that the camera is suspended from a cable, the camera assembly is free to rotate, which forfeits all opportunity to maintain a reference, such as north. The combination of these movements makes it difficult to establish the perspective of the viewed image. This is further complicated by the lack of an audio narration which was provided in the field but, for some reason, was not recorded on the tapes.

The video inspection of each structure was further complicated by the method utilized to construct each chimney or shaft. As noted, the height of each structure was advanced as the landfilling of MSW progressed around it. The precast concrete sections used to assemble the structures were fabricated with butt or flat ends so that the new section being placed would sit on the top of the lower section without any mechanical means to lock the sections in alignment. Over time, the natural settlement and shifting of the MSW waste mass would impose lateral forces on the assembly and cause the sections to shift at their intersections, resulting in a shaft which is neither straight or plumb. Given the limitations of the video inspection process, the magnitude of misalignment cannot be readily estimated but can be inferred by the observed movement of the camera across the cross section of the shaft. Individual joints can be observed in the video and the degree of shift can be visually estimated, however, the cumulative effect and the plane or direction of deflection is not as apparent.

The following shall serve to provide our interpretation of the condition of each of the structures based upon the enclosed videotapes, as well as our observations during the video inspection.

East Structure

The east structure is approximately 8 feet in diameter. The top slab of the structure is approximately 6 feet above the finished grade of the landfill capping system.

The east structure was first videotaped in February 1988, prior to the installation of the 6-inch steel "well shaft" within the structure. The 1988 inspection documented that the structure was not plumb or in true alignment as evidenced by the joint displacements and the migration of the camera across the width of the structure. The camera was advanced to the bottom (water level) of the structure at a reported depth of 147.5 feet (153.5 feet as shown on the tape less 6 feet to adjust for zero). The narrative states that a tape measure was used to sound the structure to approximately 180 feet, however, this statement should be suspect given the likelihood that a tape measure may adhere to the moist or wet walls of the structure and not give a true feel for the bottom of the structure. The inlet pipe was perceived to occur at a depth of 140 feet (146 feet less 6 feet). The depth of the liquid at the bottom of the structure was not determined. The 1988 examination was performed with a camera without pan and tilt, so the view is limited when the camera hugs the walls of the structure and the view is straight down.

The 1988 examination clearly documents that the structure had experienced shifting at a number of joints but access to the bottom of the structure with a flexible device was possible, though with difficulty.

The 1988 examination did not reveal any pumping equipment or other devices in the structure.

Following the capping/closure of the MSW landfill, the Town had a 6-inch steel pipe installed in the east structure to serve as a conduit or well shaft to facilitate the installation of pumping equipment to the bottom of the structure. The Town utilized this well shaft to install a pneumatic diaphragm pump which was operated from March 1994 through early October 1994. Records indicate that a total of 910,000 gallons of leachate was removed in this period. It is also reported that one precast ring was removed resulting in the top slab being lowered by approximately 8 feet.

The October 2002 examination of the east structure included both the interior of the 8-foot diameter structure and the 6-inch diameter steel "well shaft" within the structure.

The camera was inserted into the top of the steel pipe and was able to be advanced to the bottom of the pipe at a depth of approximately 139 feet. The "well shaft" is constructed with threaded and coupled sections of pipe and the bottom section is constructed with a wire wrapped screen. The interior of the pipe and screen shows significant signs of corrosion throughout the entire length and material is observed to flake off due to the action of the camera. There is no apparent failure of the pipe or screen and it appears capable of performing its intended function. The screened interval is estimated to be about 5 feet in length. The water level in the screened interval was found to be of nominal depth. The depth of liquid in the screened interval is consistent with the depth of liquid which was observed subsequently in the structure, therefore, the liquid in the "well shaft" is reflective of the liquid in the structure.

Following the video examination of the "well shaft," the interior of the east structure was inspected. The east structure was confirmed to being constructed of precast ring of a uniform diameter. As in 1988, the joints between rings were found to be shifted out of alignment by as much as the wall thickness of the rings.

The well shaft is readily visible throughout the depth of the structure and it is noted that the well shaft is not secured in any fashion to the precast concrete structure. There was no obvious deformation of the well shaft (interior view or exterior view), yet the shaft is found to meander across the width of the structure. This condition serves to document the misalignment of the assembled precast structure. The well shaft was observed to have significant corrosion on the exterior of the steel pipe to the point where layers or laminations were noted to be peeling off. From the exterior (interior of the structure), the screened interval at the base of the steel "well shaft" is not recognizable as a screen section (the screen is recognizable from the inside of the pipe). The "well shaft" is seen to rest on the bottom slab of the structure.

The camera was able to be passed from the top of the structure to the base at a depth of approximately 130 feet (137 feet less 7 feet to adjust for zero). Given the constraints involved in the cable measurements, the depths suggested by the "well shaft" (139 feet) and the depth suggested by the structure (130 feet) are considered to be equal for the purpose of this discussion. Attempts were made to measure the depth of the structure with a tape measure while the camera was at the bottom of the structure to allow visual confirmation of when the tape was on the bottom. These attempts were not successful. The weighted tape measure was not able to reach the bottom, but instead became caught on the ledges created by the misaligned precast sections.

The camera experienced similar difficulties, often become lodged between the "well shaft" and the wall of the structure.

The interior of the eastern structure appears to be competent with no apparent structural failures. As noted above, the camera was advanced to the bottom of the structure where the bottom of the "well shaft" could be observed, as well as the inlet pipe to the structure.

There was no discernable flow of liquid into the east structure and the depth of liquid accumulated in the base of the structure was nominal. The minimal amount of liquid in the base of the structure would not warrant its removal and would not accommodate the operation of a pump, if so desired.

It had been reported that the Town discontinued the operation of the diaphragm pump and ultimately removed it because it was concluded that there was no leachate to be pumped. The October 2002 video inspection confirms this conclusion.

West Structure

The west structure is approximately 4 feet in diameter. The top slab of the structure is approximately 9 feet 6 inches above the finished grade of the capping system.

The west structure was video inspected on October 15, 2002, by lowering the camera through the 4-inch vent penetration of the top slab. The aluminum hatch was not operable at the time. Subsequent efforts were able to dislodge a piece of debris from the lock mechanism, allowing the hatch to be opened.

The inspection documented that the west structure is constructed of 4-foot diameter rings throughout the depth of the inspection and that misalignment of the rings has occurred. It should be noted that the text message on the video tape incorrectly identifies the structure as the "east" manhole with a diameter of 8 feet and a date of June 12, 1996.

The video inspection of the west structure reveals that this structure was utilized as a pumping structure at some time during the operation of Section 2, as evidenced by the myriad of cables (wire rope), wires, hoses and what appears to be a length of slotted PVC screen. The nature of these materials would suggest that a pump and its associated appurtenances were utilized at one time, are now abandoned in place and now constitute debris. The haphazard arrangement of this debris in the structure severely inhibited the ability to advance the camera. The debris was encountered in varying degrees from the very top of the structure down to a depth of approximately 71 feet, with more debris being present in the lower portions of the structure.

At a depth of 71 feet, it appears that there is an intermediate slab with a square opening and may include a hatch cover. Several cables and wires are present at this depth. Efforts to advance the camera through the slab opening were not successful due to debris and the misalignment of the structure above. Given these limiting conditions, the overall depth of the structure could not be ascertained. The limitations of positioning the camera prevented a direct view from above the slab opening to assess the remaining depth of the structure.

At first glance, the intermediate slab in the structure would suggest that the slab defines the top of a manhole section which would serve as a wet well. If this were the case, it could then be assumed that the remaining depth of the structure might be on the order of 10 to 15 feet, for an overall depth of 85 to 90 feet. However, records suggest that the structure should be more on the order of 150 feet deep. The inability to access the lower reaches of this structure precludes

gaining further insight into the function of the debris which has been abandoned in place or the overall depth of the structure.

In light of these conditions, the west structure does not offer the Town a useful option to leachate management, should there be any leachate present.

Middle Structure

The middle structure is approximately 8 feet in diameter and there was no existing penetration of the top slab other than the 4-inch vent penetration. On October 15, 2002, the first attempt to video inspect the structure was made by inserting the camera through the vent penetration of the top slab. A second attempt to video inspect the structure was performed on October 24, 2002, after an 8-inch hole was core drilled through the sidewall of the structure. The sidewall penetration provided the field personnel more flexibility in trying to adjust the position of the camera relative to the cross section of the structure. The tape of the October 24, 2002 inspection of the middle structure includes the narrative provided during the inspection.

The upper portions of the middle structure were found to consist of a series of rings 8 feet in diameter down to a depth of approximately 18 to 22 feet. The October 15, 2002 inspection tape suggests this depth is approximately 23 feet, given the difference in elevation between the top slab and the sidewall penetration. At this level, the structure reduces in size to a series of rings approximately 4 feet in diameter. The transition from 8 feet to 4 feet is abrupt and appears that the first 8-foot ring was set roughly concentric to the last 4-foot ring. A corrugated hose roughly 4 to 6 inches in diameter was found abandoned in place in the area of the transition.

The entrance to the 4-foot rings was found to be oriented at a dramatic angle off the vertical, as if the 4-foot stack had fallen over onto an incline or slope. It appears that the 8-foot rings were then set above the point where the 4-foot rings came to rest.

Given the offset angle of the 4-foot rings from the 8-foot rings, the camera was not able to enter the 4-foot stack, but merely cross through the mouth of the 4-foot stack. Visually, the degree of inclination in the 4-foot sections is not fully apparent until one realizes that the layer of soft, granular soil which covers the lower portion of the 4-foot barrel can only exist at an inclination closer to horizontal than vertical. The visual image is further confused by the presence of manhole rings in the 4-foot rings, which would normally describe a vertical axis. The lateral view of the camera into the mouth of the 4-foot stack suggests that these rings are joined by tongue and groove manhole joints and that at least three sections can be observed to maintain their relative alignment. However, given the circumstances, it is unlikely that there is continuity of the series of 4-foot rings or that they lead to their intended origin. It is assumed that the overall depth of the middle structure would be commensurate with the east structure and that

approximately 100 feet of structure could not be accessed or confirmed due to the existing conditions.

Conclusions and Recommendations

The examination of the three leachate structures reveals that the east structure and the associated 6-inch steel well shaft appear to be sufficiently competent to provide a means to install a leachate pump, should the need exist. The east structure was utilized in the past for this purpose and provided service up until the flow of leachate was perceived to cease. The video examination of the east structure confirms that there is no appreciable accumulation of leachate and, therefore, no opportunity to remove leachate by these means. The span of eight years from the last pumping operation to the current inspection offered more than ample time for leachate to accumulate in this structure. At this point in time, it can be assumed that, absent unforeseen circumstances, the future opportunities to remove leachate via the east structure will not change. Therefore, no remedial action to this structure is suggested.

The west structure was found to be compromised by the assorted debris which has been abandoned in place. This condition precluded a complete examination of the structure and leaves in question whether this structure could be used for the removal of leachate should any exist. Given that no leachate was found at the base of the east structure after a period of eight years, it is unlikely that materially different conditions would be found at the base of the west structure, assuming that it provides a second means of access to the same leachate collection system. Therefore, no remedial action is suggested for this structure.

The middle structure was found to be totally compromised, with no practical means of accessing the underlying leachate chamber for which the middle structure was assembled. Given these circumstances, no remedial action appears practical. The gross misalignment observed in this structure negates any possibility of locating the underlying structure.

In light of the various conditions of the three leachate structures, it appears that the overriding issue is that no leachate was found. Therefore, any attempts to reinstall a viable leachate pumping system in one of these structures would be without merit.

Given this no action alternative, the Town should make repairs to the high density polyethylene covers which were constructed and have suffered some damage due to the elements, in order to lessen the nuisance potential of these structures as a source of odors.

We trust these findings are sufficient for your needs.

Dvirka and Bartilucci
CONSULTING ENGINEERS

Paul DiMaria, Chief Engineer
Islip Resource Recovery Agency
June 30, 2003

Should you have any questions or comments regarding this matter, please feel free to contact this office.

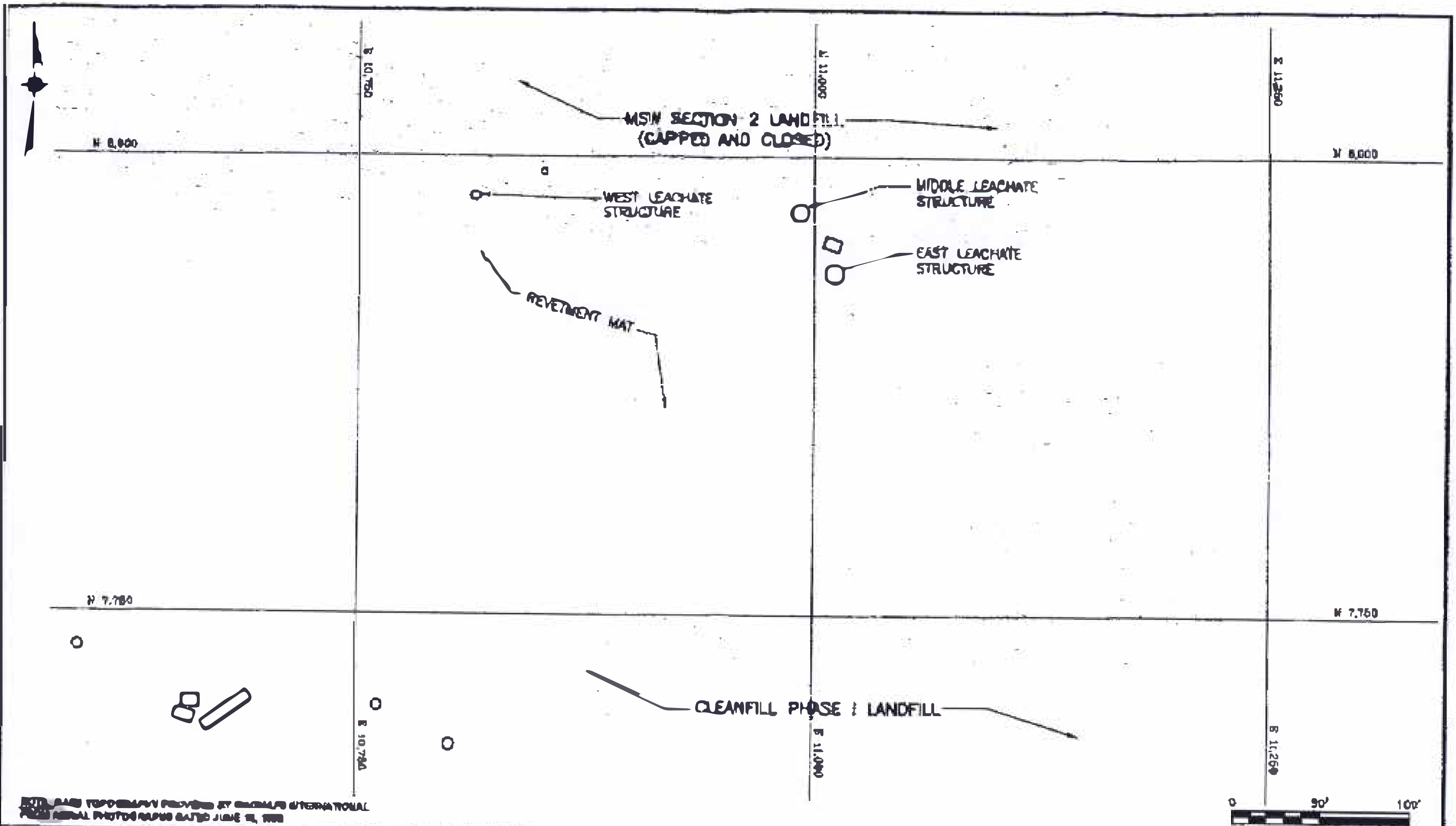
Very truly yours,

Edward J. Reilly

Edward J. Reilly

EJR/abc
Enclosures
cc: W. Nagel
R. Burns
4122\EJR09143PD.DOC(R05)

7/8/03
Note : No action to be taken by operation personnel.
with landfill settlement the protruding ring
should be removed



Dvirka and Bartilucci

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH ROAD LANDFILL COMPLEX

SITE LAYOUT

FIGURE 1

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
July, 2019

July		Feet Measured	Action Taken	Comments
Monday	1	na		
Tuesday	2	4'2"		
[illegible]	[illegible]	[illegible]		
Friday	5	3'6"		
Saturday	6	na		
Sunday	7	na		
Monday	8	4'		
Tuesday	9	na		
[illegible]	[illegible]	[illegible]		
Friday	12	3'9"		
Saturday	13	na		
Sunday	14	na		
Monday	15	3'11"		
Tuesday	16	3'11"		
[illegible]	[illegible]	[illegible]		
Friday	19	4'4"		
Saturday	20	na		
Sunday	21	na		
Monday	22	3'8"		
Tuesday	23	3'10"		
[illegible]	[illegible]	[illegible]		
Friday	26	4'		
Saturday	27	na		
Sunday	28	na		
Monday	29	4'		
Tuesday	30	4'1"		
Wednesday	31	3'7"		

MSW South Slope Pump Chamber

Date: 30-Jul19
Level: 66"

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
August, 2019

August		Feet Measured	Action Taken	Comments
Thursday	1	4'1"		
Friday	2	4'2"		
Saturday	3	[illegible]		
Sunday	4	[illegible]		
Monday	5	3'6"		
Tuesday	6	3'7"		
Wednesday	7	3'8"		
Thursday	8	3'10"		
Friday	9	3'10"		
Saturday	10	[illegible]		
Sunday	11	[illegible]		
Monday	12	3'11"		
Tuesday	13	4'		
Wednesday	14	na		
Thursday	15	4'		
Friday	16	4'		
Saturday	17	[illegible]		
Sunday	18	[illegible]		
Monday	19	4'2"		
Tuesday	20	4'		
Wednesday	21	4'		
Thursday	22	4'2"		
Friday	23	4'		
Saturday	24	[illegible]		
Sunday	25	[illegible]		
Monday	26	4'3"		
Tuesday	27	na		
Wednesday	28	4'2"		
Thursday	29	4'		
Friday	30	na		
Saturday	31	na		

MSW South Slope Pump Chamber

Date: *30-Aug19*
Level: *60"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
September, 2019

September		Feet Measured	Action Taken	Comments
Sunday	1	na		
Monday	2	na		
[illegible]	[illegible]	[illegible]		
Thursday	5	na		
Friday	6	4'2"		
Saturday	7	na		
Sunday	8	na		
Monday	9	4'		
[illegible]	[illegible]	[illegible]		
Thursday	12	4'1"		
Friday	13	na		
Saturday	14	na		
Sunday	15	na		
Monday	16	na		
[illegible]	[illegible]	[illegible]		
Thursday	19	4'2"		
Friday	20	4'2"		
Saturday	21	na		
Sunday	22	na		
Monday	23	4'4"		
[illegible]	[illegible]	[illegible]		
Thursday	26	3'10"		
Friday	27	4'		
Saturday	28	na		
Sunday	29	na		
Monday	30	4'		

MSW South Slope Pump Chamber

Date:	*25-Sep-19*
Level:	*62"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
October, 2019

October		Feet Measured	Action Taken	Comments
Tuesday	1	4'		
Wednesday	2	4'2"		
[illegible]	[illegible]	[illegible]		
Saturday	5	na		
Sunday	6	na		
Monday	7	3'8"		
Tuesday	8	3'10"		
Wednesday	9	3'10"		
[illegible]	[illegible]	[illegible]		
Saturday	12	na		
Sunday	13	na		
Monday	14	na		
Tuesday	15	4'4"		
Wednesday	16	3'		
[illegible]	[illegible]	[illegible]		
Saturday	19	na		
Sunday	20	na		
Monday	21	3'10"		
Tuesday	22	na		
Wednesday	23	4'		
[illegible]	[illegible]	[illegible]		
Saturday	26	na		
Sunday	27	na		
Monday	28	3'		
Tuesday	29	3'10"		
Wednesday	30	3'10"		
Thursday	31	4'		

MSW South Slope Pump Chamber

Date:	*30-Oct-19*
Level:	*84"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
November, 2019

November		Feet Measured	Action Taken	Comments
Friday	1	4'		
Saturday	2	na		
Sunday	3	na		
Monday	4	4'		
Tuesday	5	na		
Wednesday	6	3'6"		
Thursday	7	3'6"		
Friday	8	3'8"		
Saturday	9	na		
Sunday	10	na		
Monday	11	na		
Tuesday	12	3'10"		
Wednesday	13	3'10"		
Thursday	14	3'10"		
Friday	15	3'10"		
Saturday	16	na		
Sunday	17	na		
Monday	18	[illegible]		
Tuesday	19	4'		
Wednesday	20	4'		
Thursday	21	4'2"		
Friday	22	3'2"		
Saturday	23	na		
Sunday	24	na		
Monday	25	3'10"		
Tuesday	26	4'		
Wednesday	27	na		
Thursday	28	na		
Friday	29	na		
Saturday	30	na		

MSW South Slope Pump Chamber

Date: *25-Nov-19*

Level: *54"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
December, 2019

December		Feet Measured	Action Taken	Comments
Sunday	1	na		
Monday	2	4'2"		
Tuesday	3	4'		
Wednesday	4	4'		
Thursday	5	4'		
Friday	6	4'		
Saturday	7	na		
Sunday	8	na		
Monday	9	4'		
Tuesday	10			
Wednesday	11			
Thursday	12	na		
Friday	13	4'		
Saturday	14	na		
Sunday	15	na		
Monday	16	4'		
Tuesday	17	3'		
Wednesday	18	4'4"		
Thursday	19	4'3"		
Friday	20	4'8"		
Saturday	21	na		
Sunday	22	na		
Monday	23	4'1"		
Tuesday	24	na		
Wednesday	25	na		
Thursday	26	4'1"		
Friday	27	4'2"		
Saturday	28	na		
Sunday	29	na		
Monday	30	4'1"		
Tuesday	31	4'2"		

MSW South Slope Pump Chamber

Date: *16-Dec-19*

Level: *66"*

Table 3A
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION OF CONDENSATE COLLECTION SYSTEM FOR GAS SYSTEMS

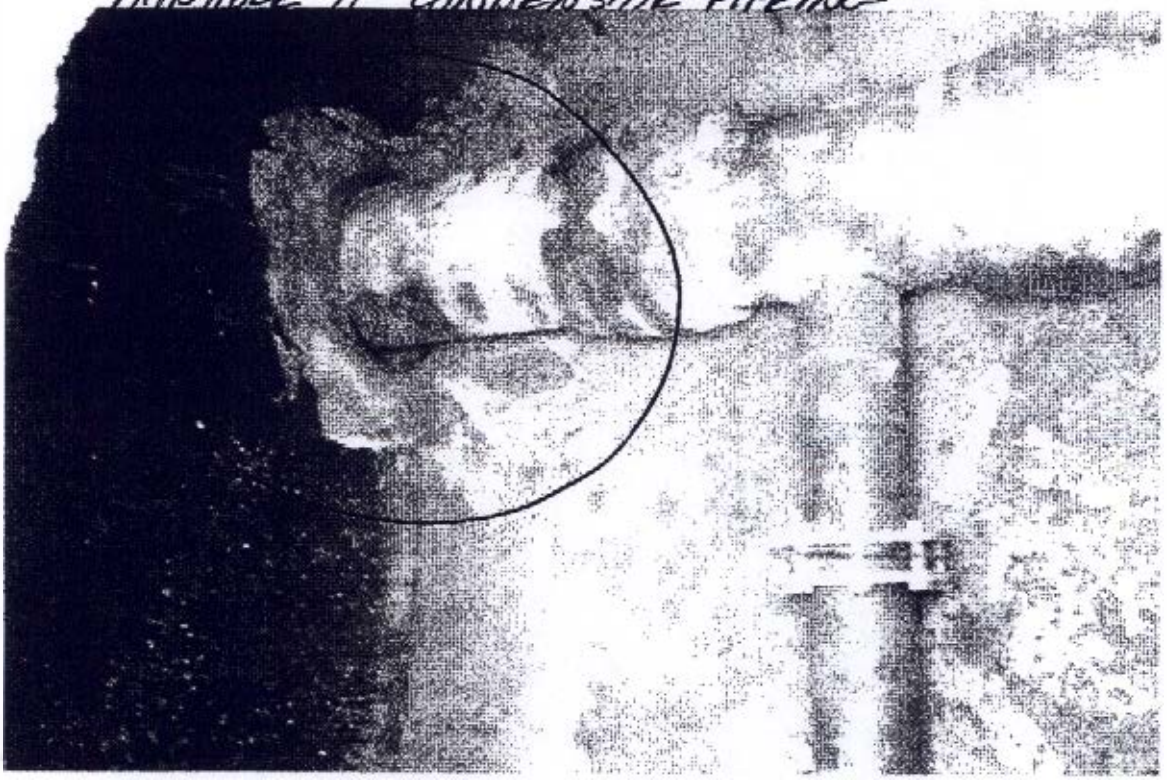
DATE: 3/10, 3/19/20 **WEATHER:** Overcast, Overcast.

INSPECTOR(S): Fazil Rahaman **INSPECTION (Check One):** QUARTERLY ☐ SEMIANNUAL ☒ OTHER ____

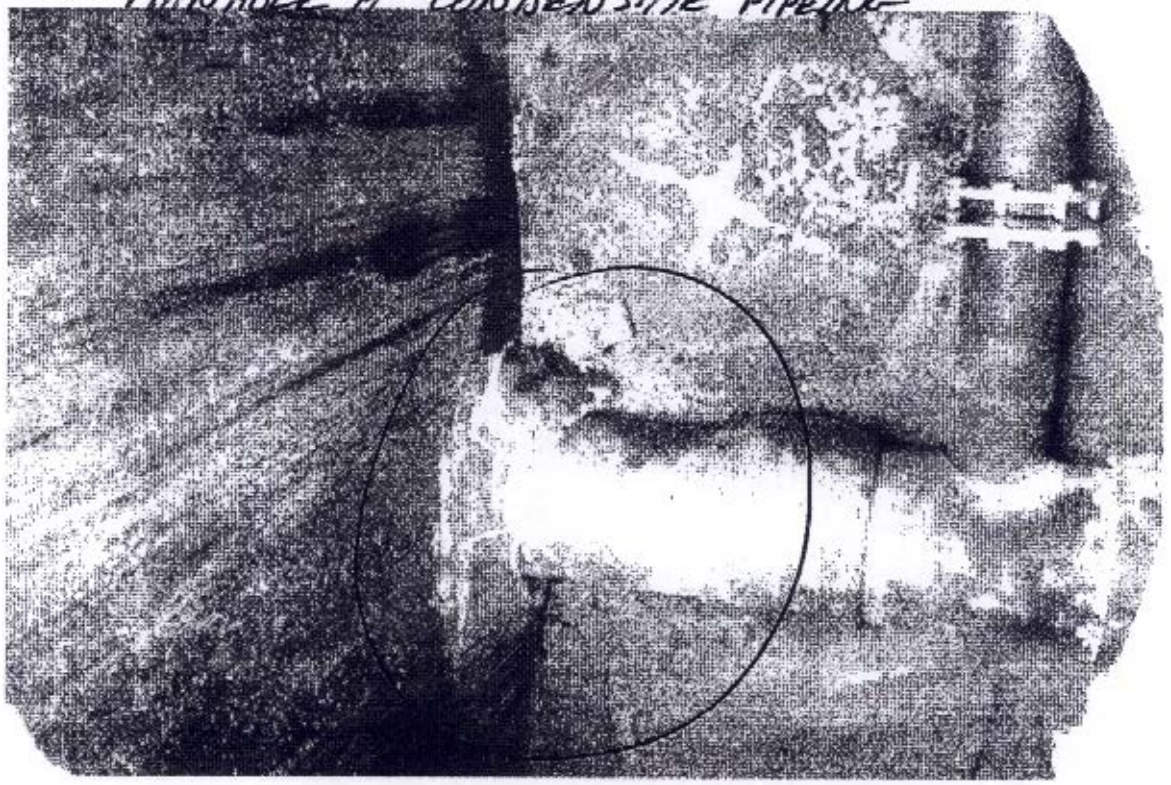
ITEM	ADEQUATE (or YES)	REQUIRES MAINTENANCE	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 SYSTEM HARDWARD AND COMPONENTS			
North Valving Structure	ADEQUATE ☒ YES ☐	REQUIRES MAINTENANCE ☐	
Condensate Drain Valves	ADEQUATE ☐ YES ☐	REQUIRES MAINTENANCE ☒	V-206 Inoperable.
Condensate Piping	ADEQUATE ☒ YES ☐	REQUIRES MAINTENANCE ☐	
Condensate Piping Manhole "A"	ADEQUATE ☐ YES ☐	REQUIRES MAINTENANCE ☒	Precast around Condensate Piping, 2 Photo attached.
Condensate Piping Manhole "B"	ADEQUATE ☒ YES ☐	REQUIRES MAINTENANCE ☐	
Comments	Combine Header Valve V-201, Phase 1 Field Valve V-200 & 209, &		
	Phase 111 Field Valve V-203 Inoperable,ALL REQUIRES MAINTENANCE.		
	Craig D., L.F. Personell Present for inspection of N.V.Structure.		

3/19/20

MANHOLE "A" CONDENSATE PIPING



MANHOLE "A" CONDENSATE PIPING



1 OF 1

Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

DATE: 3/3, 3/10, 3/19/20 WEATHER: Sunny, Overcast, Overcast.

INSPECTOR(S): Fazil Rahaman INSPECTION (Check One): QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MUNICIPAL SOLID WASTE LANDFILL			
1.1 Southern Pump Manhole/Air Ejector Pump			
Manhole Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	Re: Table 4 Item 1.2 Chamber readings July to December 2019
Air Hoses to Ejector Pump	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0 (Attached to table 3)
Vent Hoses/ Bio-Filter	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0
Air Ejector Pump Op eration	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0
Discharge Piping Connections	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0
Air Comp ressor	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0
Air Regulator/ Filter	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0
Air Comp ressor Shed	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0
Air Comp ressor Controls/Electrical Connection	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Item 1.0
1.2 Eastern and Western Leachate Detection Manhole			
Eastern Leachate Detection Manhole Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	Re: Engineering consulting firm examination report 9/20/2013 att.
Eastern Leachate Detection Vent Hoses/Bio-Filter	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	Vent piping part of M.S.W. Gas collection system.
Western Leachate Detection Manhole Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	Re: Table 3 Item 1.0
Western Leachate Detection Vent Hoses/Bio-filter	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	Vent piping part of M.S.W. Gas collection system.

Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION
OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MUNICIPAL SOLID WASTE LANDFILL (Cont'd)			
1.3 Manholes and Piping (both primary and secondary systems)			
Manholes No. 2 Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Piping submerged by liquid, Photo attached.
Manholes No. 3 Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Reconnect band, Photo attached.
Manholes No. 4 Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Manholes No. 5 Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Reconnect band and re paint No. 5, Photo attached.
Manholes No. 6 Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Manholes No. 7 Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Manholes No. 8 Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
1.4 Pump Station – Manhole No. 1			
Manhole Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Inlet Piping (2 pipes)	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Discharge Piping	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Sump Pump No. 1 and Wires	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Sump Pump No. 2 and Wires	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Level Floats (4) and Wires	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Slide Rail System	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Hoist, Pulley and Chain	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Electrical Disconnect Switches	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
1.5 Valve/Metering Vault			
Vault Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Piping and Valves	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Flow Meter and Wires	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Meter Concerns, Re: Table 3 Item 3.0

Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION
OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 LEACHATE STORAGE AREA			
2.1 Leachate Storage Tanks			
Tank #1 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	Valves exercised 1x per. wk. and lubed 2x a Month.
Tank #2 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒ NO☐	Floor Valve (BINDING CONCERNS).
Tank #3 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒ NO☐	Floor Valve(BINDING CONCERNS).
Tank #4 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒ NO☐	Riser Valves/Pipe, Photo attached.
Condition of Concrete Apron	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	
Inlet Grate over Sump in N.W. Corner	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	
Valve Access Pits in N.W. Corner	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	
2.2 Containment Sump and Pump			
Sump Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	
Inlet Piping	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	
Sump Pump and Wires	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	
Level Floats and Wires	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐ NO☐	
Slide Rail System	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐ NO☒	Not equipped.

Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 EMERGENCY GENERATOR BUILDING			
3.1 Pump Station Manhole No. 1 Control Panel			
Panel Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Alarms and Lights	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Re: Table 3 Section 3.0
Wiring and Conduit	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
3.2 Sump Pump Control Panel			
Panel Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Alarms and Lights	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Re: Table 3 Section 4.0
Wiring and Conduit	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
3.3 Flow Meter			
Panel Condition	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Re: Table 3 Item 3.0
Alarms and Lights	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Re: Table 3 Item 3.0
Wiring and Conduit	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Re: Table 3 Item 3.0
3.4 Emergency Diesel Generator			
Generator Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Fuel Oil Tank	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Transfer Switch	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	INOPERABLE Re: Table 3 Section 5.0
Exhaust Stack	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Wiring and Conduit	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
3.5 Miscallaneous			
Exhaust Fan	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Lighting/Exit Sign	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Building Heater	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Fuse Box	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Unloading Piping, Valves & Disconnects	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Fire Extinguisher	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	

Table 4

Islip Resource Recovery Agency

Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
4.0 ASH MONOFILL			
4.1 Ash Monofill Pump Station Manhole No. 9			
Manhole Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Inlet Piping	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Leachate Level	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	Re: Table 3 Section 6.0
4.2 Ash Monofill Leachate Detection Manhole No. 10			
Manhole Condition	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Inlet Piping	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Photo attached.
Liquid in Secondary Collection System	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
4.3 Manholes and Piping			
Manhole No. 11	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Manhole No. 12	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	Repair Vent.Will be addressed in closure of C&D, Photo attached.
Manhole No. 13	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Manhole No. 14	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Manhole No. 15	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	

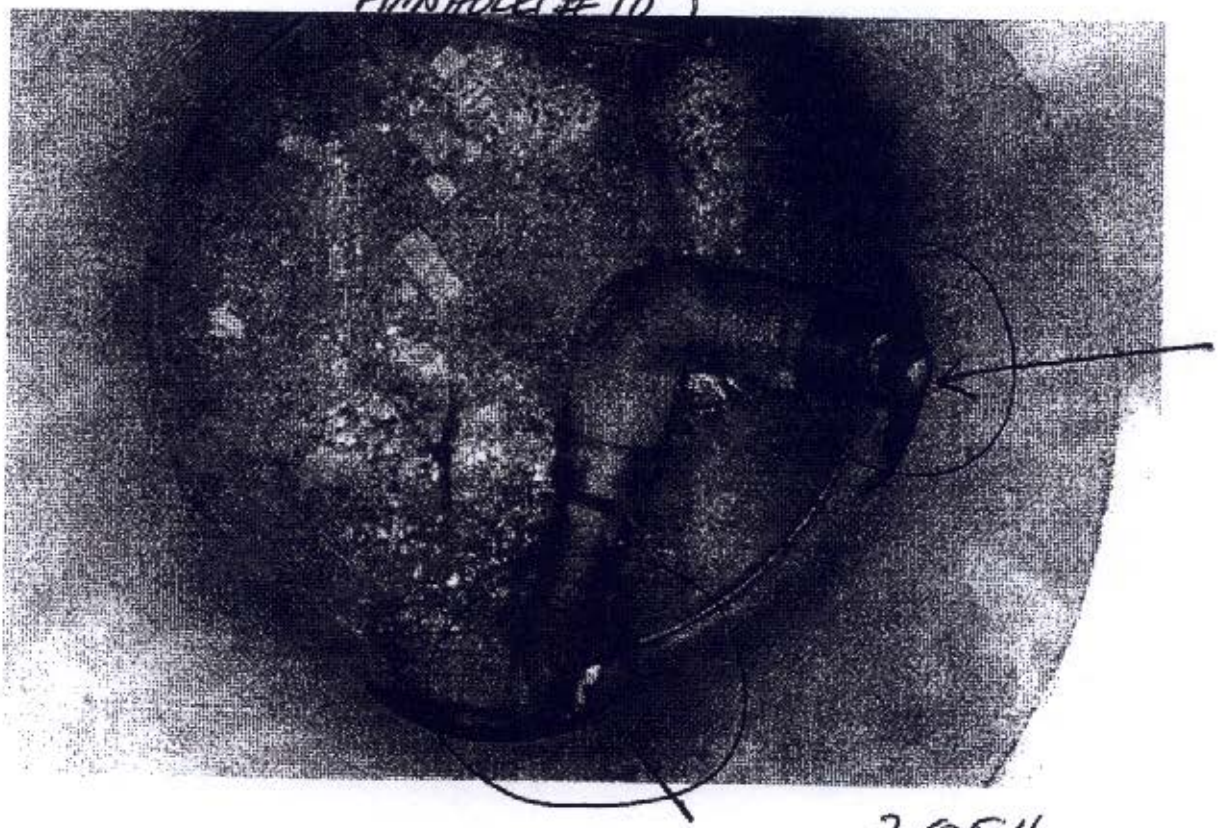
1) Use this inspection form along with Figure 5 – Leachate Management System Plan and Figure 6 – Leachate Storage Tank Flow Diagram by Golder Associates
2) Inspection of items listed under 1.0 – Leachate Conveyance require the inspector to enter a confined space.
3) Conditions/features to inspect for related to the concrete apron listed under 2.0 – Leachate Management: collect debris, structural integrity, cracking/spalling, signs of leachate leakage, etc

3/19/20
MANHOLE #2

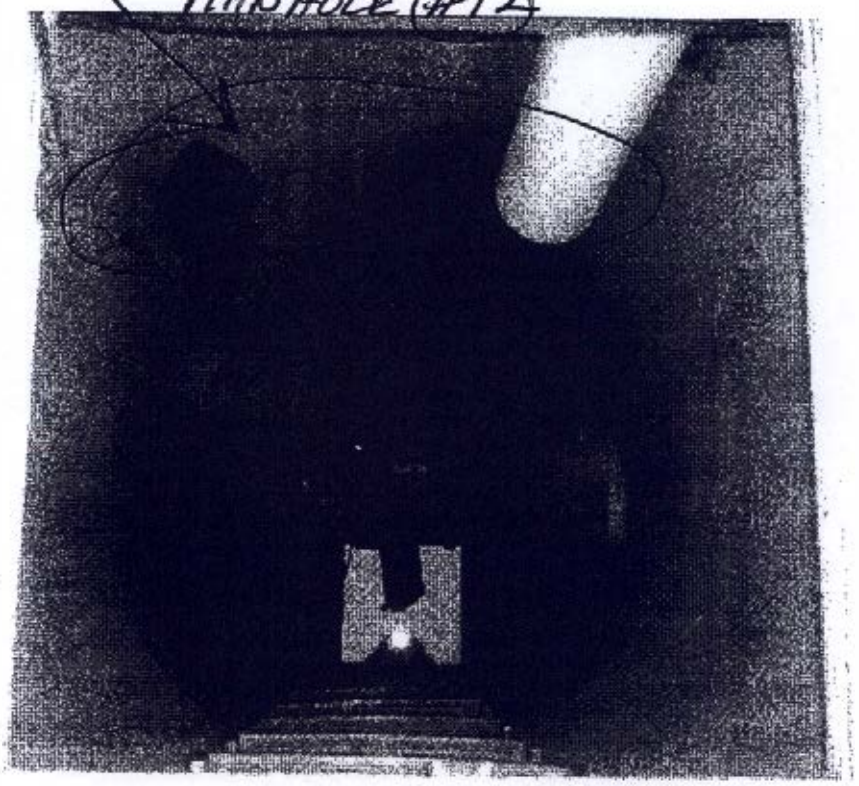
3/19/20
MANHOLE #3

3/19/20
MANHOLE #5

3/19/20
MANHOLE #10



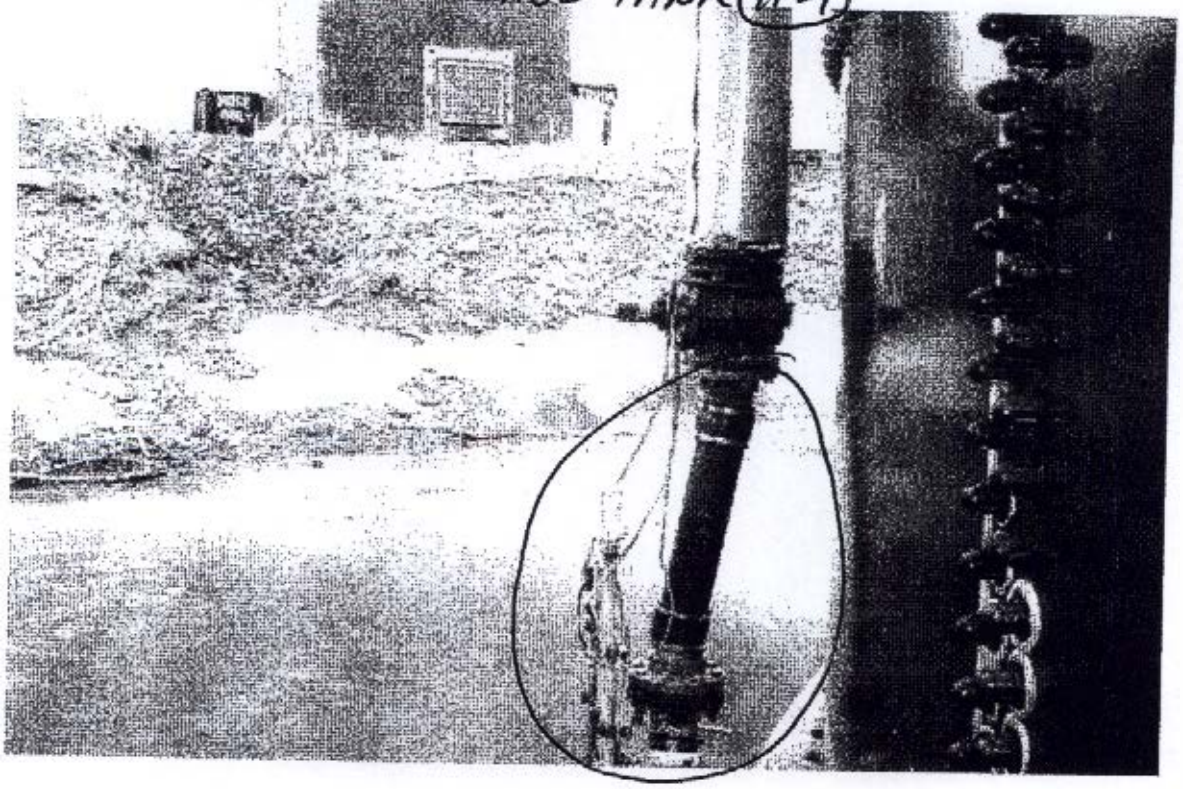
3/19/20
MANHOLE #12



3 OF 4

3/3/20

LEACHATE STORAGE TANK #4



4 OF 4

D&B ENGINEERS AND ARCHITECTS, P.C.
KNOWN AS DVIRKA AND BARTILUCCI CONSULTING ENGINEERS

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September 20, 2013

Anthony Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
MSW Phase II Leachate Collection
D&B No. 3103

Dear Mr. Varrichio

On May 9, 2013, the Islip Resource Recovery Agency performed an examination of the East Leachate Structure associated with the Phase II area of the capped and closed MSW Landfill. The video examination was performed by Precision Industrial Maintenance, Inc. using a closed circuit camera. The examination was observed by representatives of the Islip Resource Recovery Agency (IRRA), the New York State Department of Environmental Conservation (NYSDEC) and Dvirka and Bartilucci (D&B).

The East Leachate Structure is an eight foot diameter precast concrete chimney that extends from the top of the capped landfill down to the base of the lined, Phase II landfill area. The structure is reported to be approximately 145 to 150 feet deep. The chimney was constructed in segments to keep pace with the filling of the landfill. The base section was installed in the early 1980's as part of the construction of the landfill bottom liner system and connects to an influent pipe which introduces liquid to the structure from the leachate collection system. The chimney, above the base, was constructed by stacking additional precast sections on top of the lower segments. The precast segments have butt ends (flat ends) that sit on the adjacent section rather than tongue and groove joints.

During the operation of the landfill, the IRRA utilized the leachate structure to access the base of the landfill and remove leachate from the leachate collection

system. Over time, the ability to lower a pump down the entire depth of the 8 foot diameter structure became more difficult. In an effort to address these concerns, the IRRA had a video inspection of the structure performed in February 1988 to assess the ability to continue lowering pumping equipment to the bottom of the structure. The video examination revealed that the chimney structure was still continuous but that the overall structure was not plumb and that some misalignment of the concrete segments was being experienced. The 1988 video examination confirmed that the conditions in the structure would make it more difficult to lower a pump assembly to the bottom of the structure without becoming hung up on the ledges created at the segment misalignments.

The 1988 video shows the entrance of the leachate influent pipe entering the lower portion of the structure. The influent pipe is positioned such that there is a sump or wet well volume located below the elevation of the influent pipe. The height of the influent pipe above the structure invert is difficult to quantify but appears to be on the order of several feet.

In order to preserve the continued function of the leachate structure, a length of 6 inch steel pipe was inserted into the structure for its full depth in 1994 to create a riser pipe. The lowest portion of the riser pipe was fitted with a screen section. The pipe sections are joined by threaded and coupled joints. The bottom of the pipe column rests on the floor slab of the leachate structure. The pipe column extends up through the height of the precast structure but is not fastened to the structure. The pipe column terminates near the underside of the top slab.

The IRRA utilized the 6 inch riser pipe to facilitate the installation of a submersible pump at the bottom of the structure to allow the leachate to be pumped to grade for off-site disposal. In the period of March 1994 October 1994, a total of 910,000 gallons of leachate was removed from the structure. The operation of the pump was discontinued after a period of time where it was found that the structure was essentially dry and the pump could not encounter enough liquid to operate.

In October 2002, an examination of the east structure was performed as part of an effort to determine whether there was sufficient liquid in the structure to allow for the operation of a pumping system. The examination was performed using a closed circuit camera lowered into both the precast structure and the 6 inch riser pipe. The examination was performed by Pengat Construction and was observed by representatives from D&B.

The results of the October 2002 examination are presented in a letter report dated June 30, 2003. The October 2002 examination found the precast structure and the steel riser pipe to be competent and sufficient to allow pumping equipment to be lowered to the base of the structure. The examination also indicated that there was only a nominal accumulation of liquid in the base

of the structure and the depth of the liquid was confined to the limits of the sump area of the structure. The depth of liquid was not sufficient to allow for the operation of a submersible pump. This condition documented the site personnel's observations from 1994 that the submersible pump was no longer operational because there was no liquid available to be pumped.

The examination of the East Structure in May 2013 noted that there has been some shifting of the precast chimney since the October 2002 examination. In October 2002, the top of the 6 inch riser pipe was visible and accessible from a 16 inch diameter opening in the top slab of the structure. During the May 2013 examination, the top of the 6 inch riser pipe was not visible or accessible from the 16 inch diameter opening. In an effort to proceed with the work, the technicians were able to insert the camera into the top of the riser pipe by reaching through a smaller opening in the top slab and feeling for the top of the 6 inch pipe. However, this arrangement produced an S curve in the fiberglass push rod used to advance the camera. While the camera was able to be raised and lowered in the riser pipe, the flex in the push rod negated the accuracy and linearity of the distance counter on the camera assembly.

The camera was advanced down the 6 inch riser pipe for its entire length. The riser pipe shows signs of corrosion on the inside of the pipe as would be expected from a steel pipe in a moist environment. The degree of corrosion appears to be consistent with the corrosion observed in the October 2002 examination. The riser pipe appears to be in serviceable condition, with tight joints and no signs that would suggest that the integrity of the riser pipe is compromised. The camera was able to be advanced to the bottom of the riser pipe without difficulty.

Due to the nature of the camera equipment being pushed down the riser pipe on a flexible rod, it is difficult to assess if there is any slope or inclination to the riser pipe and whether the slope is consistent throughout the height of the riser pipe. However, as noted above, the camera was able to be advanced the length of the riser pipe without incident and would suggest that any pumping equipment required could also be installed without issue.

Using the distance counter associated with the camera, the riser pipe was found to be approximately 144 feet in length. The last, lowest section of the riser pipe is a screen section estimated to be approximately 5 feet in length. The liquid level was found to be at a depth of approximately 137 feet, suggesting a liquid depth of approximately 7 feet, however, the depth of liquid was difficult to judge due to the reduced control over the camera movements.

A second examination of the riser pipe (on the same day) found the length of the riser pipe to be approximately 148 feet with the liquid level encountered at approximately 141 feet. In both instances, the liquid level was found to suggest a depth of approximately 7 feet. Given the difficulties gaining access to the top of the pipe, the difference in the two overall length readings

was not considered significant. As noted, the depth of liquid was suggested to be on the order of 7 feet as indicated by the camera distance counter, but this suggested liquid depth appears to be inconsistent with the visual image provided by the camera. As viewed by the camera, the top of the screened interval was visible prior to the camera encountering the liquid surface. If the screen length is 5 feet, as previously reported, then the standing liquid depth must be less than 5 feet, rather than the 7 feet suggested by the camera distance counter.

Following the examination of the riser pipe, an attempt was made to examine the precast structure using the camera. The camera and its lighting were not as well suited for the increased size of the structure as compared to the riser pipe. The image was generally dark and impacted by condensation forming on the lens, rendering an image of limited value. Consequently, the camera served more as a probe or plumb bob rather than providing a visual examination of the precast structure. The camera was lowered to a depth of 127 feet but was not able to be advanced beyond that depth. It is assumed that the camera became hung up on a ledge formed between two precast sections. Given that the structure is not plumb and there are limited opportunities to access the structure through the top slab, the likelihood is high that a weight hanging plumb will encounter the wall of the structure. When the camera (weight) encounters a ledge, it is difficult to maneuver the camera to clear the obstruction.

The inability to reach the bottom of the precast structure is the specific concern that prompted the IRRA to install the 6 inch riser pipe in the first place. In light of the fact that the riser pipe is intact and serviceable, there is limited concern that the precast structure is not fully accessible.

As of this writing, the IRRA has had a new penetration core drilled through the top slab of the leachate structure in order to provide access to the top of the 6 inch riser pipe. The new opening allows for ready access to the top of the 6 inch riser pipe.

In contrast to the conditions experienced while using the camera to define the depth of the structure and the depth of the liquid, the new opening in the slab allows for direct readings to be taken. The overall depth of the 6 inch riser pipe has now been measured using a weighted tape and it has been determined that the depth from the bottom of the 6 inch riser pipe to the top of concrete of the top slab is 141 feet. Efforts to use a water level meter to measure the depth to the water surface were not definitive due the fact that the 6 inch riser pipe is not plumb and the tape has a tendency to adhere to the moist walls of the riser pipe.

Efforts to retrieve a water sample for the purpose of analysis were performed on August 14, 2013. The first baler had a minimal amount of liquid and it was discarded as a matter of routine. The second, third and fourth baler runs showed signs of sediment on the leading edge and provided no retrieved liquid, suggesting that the liquid depth was minimal. No sample could be obtained for the purpose of analysis.

The bubbler tubing was installed in the East Leachate Structure by landfill personnel on Thursday, August 15. D&B personnel were present at the site.

On August 15, a bubbler system was installed in the 6 inch riser pipe to allow the depth of liquid in the riser pipe and structure to be measured directly. The bubbler system consists of two bubbler tubes (3/8 inch O.D., ¼ inch I.D. polyethylene tubing) which were secured to the outside of a 1 inch diameter PVC, flush joint pipe. The depth of the 6 inch steel pipe was measured to be 141 feet from the bottom of the 6 inch pipe to the top of concrete on the top slab. The bubbler assembly is approximately 145 feet in length. The PVC pipe, bubbler tubes and a retrieval rope were installed in the 6 inch steel riser pipe and were confirmed to be resting on the bottom of the riser pipe (bottom of the structure).

The bubbler tubes were fastened to the PVC pipe with the tubing tip starting12 inches above (behind) the leading edge of the PVC pipe to keep the bubbler tubes above any sediment at the base of the 6 inch steel riser pipe. This 12 inch dimension will be added to any measurement obtained with the bubbler in order to provide a measure of the overall depth of liquid in the structure. The PVC pipe was set at the bottom of the 6 inch steel pipe by raising and lowering the bubbler assembly to ensure it was set at the bottom.

The bubbler was operated by Town and D&B personnel and was successfully used to measure a depth of submergence of 3 to 4 inches above the tip of the bubbler tube. This measurement indicates that the depth of liquid at the bottom of the structure is approximately 15 to 16 inches. This measurement should be considered as a reliable and repeatable measurement and should be used as reference for future readings.

The measured liquid depth of 15 to 16 inches is comparable to the depth of liquid that was observed in the October 2002 investigation of this chamber. At that time, the depth of liquid was estimated to be nominal, with insufficient depth to allow for pumping of the liquid. The current depth of liquid is also considered as nominal and it is clear that there is no source of inflow to the structure.

If it is assumed that the depth of liquid in the structure has increased by one foot over the duration of an 11 year period (October 2002 to August 2013) and one foot of depth in an 8 foot diameter structure is equivalent to a volume of 376 gallons, then liquid has been accumulating at a rate of approximately 34 gallons per year. Clearly, this rate of accumulation is not indicative of a landfill which is actively generating leachate. This nominal rate of accumulation should serve to document the adequacy of the existing landfill capping system.

The limited depth of leachate present in the East Leachate Structure (15 – 16 inches) will not allow for the pumping of the leachate with a pump suitable for the purpose. If the liquid depth

were found to be deeper, a pump such as a QED LDAP44T would be appropriate for this service. The QED pump is pneumatically driven using compressed air, making it suitable for landfill/leachate applications. The pump is available in either a top loading or a bottom loading configuration. In either case, the pump is only capable of lowering the liquid level to a depth of approximately 28 inches. In this case, if the pump were installed in the 6 inch riser pipe, the operation of the pump would not be initiated since the liquid level is below the threshold depth.

In light of the fact that over a 10+ year period, the volume of accumulated liquid is not sufficient to allow for the operation of an application suitable pump, it should be concluded that pumping from the East Leachate Structure under the current conditions is not warranted.

The installed bubbler system is proposed to remain in place to allow for future measurements of the liquid depth. Going forward, it is recommended that the Town of Islip take measurements of the liquid depth in the East Leachate Structure on a quarterly basis. The depth of liquid should be measured in the units of inches of water. The reported value should include the addition of twelve inches to the measured value to present the overall depth of liquid in the structure. A chronological record should be maintained to track if any increases in depth occur which may warrant or allow for pumping to be performed.

We trust the above is sufficient for your needs. Should you have any questions or comments regarding this matter, please feel free to contact this office.

Very truly yours,

Edward J. Reilly
Associate

EJR/nc
cc: A. Sanchez (IRRA)
R. Walka (D&B)
T. Fox (D&B)
K. Robins (D&B)
#3103\EJR092013AV

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF LANDFILL GAS (LFG) MANAGEMENT SYSTEM

DATE: 3/2, 3/3, 3/10/20 WEATHER: Sunny,Sunny, Overcast.

INSPECTOR(S): Fazil Rahaman INSPECTION (Check One): QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER ____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 A-SYSTEM (Above-grade)	*See Notes 1 & 2*		
1.1 Extraction Well Head Assemblies			
Extraction Well A-01	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
Extraction Well A-02	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	& Well Condition Prepared by D&B Engineers and Architects P.C.
Extraction Well A-03	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-04	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-05	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-06	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Tilted northeast (monitoring).
Extraction Well A-07	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-08	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-10	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-11	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-12	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-14	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Solar panel farm leads in relation to well head concerns, photo att.
Extraction Well A-15	ADEQUATE ■ YES☐	NEEDS ATTENTION ☐NO☒	Tilted east (monitoring).
Extraction Well A-16	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-17	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-18	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
1.2 Above-Grade Headers			
Network West of "A" and "B" Blowers	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF
LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 A-SYSTEM (Abovegrade) cont.			
1.3 Blower Station			
Blower	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Silencer (s)	ADEQUATE ☐ YES ☒	NEEDS ATTENTION ☐ NO ☐	Replaced with straight pipe.
Knock-out Pot (Water Separator)	ADEQUATE ☐ YES ☒	NEEDS ATTENTION ☐ NO ☐	
Flame Arrester(s)	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	Not inspected,System used for venting only.
Condensate Tank	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Electrical / Mechanical	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Shelter / Building	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☒ NO ☐	North and South Exterior light.
1.4 Flare			
Tube / Tip	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.
Shell / Baffle	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.
Flame Arrester	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.
Electrical / Mechanical	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.
1.5 LFG Monitoring Wells			
MW-07 Triplet	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
MW-08 Triplet	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	& Well Condition Prepared by D&B Engineers and Architects P.C.
MW-11 Triplet	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
MW-13 Single	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
2.0 B-SYSTEM (Above-grade)			
2.1 Extraction Well Head Assemblies			
Extraction Well B-01	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Abandoned.
Extraction Well B-02	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Abandoned.
Extraction Well B-03	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Abandoned.
Extraction Well B-04	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
Extraction Well B-05	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	& Well Condition Prepared by D&B Engineers and Architects P.C.
Extraction Well B-06	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF
LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 B-SYSTEM (Above-grade)			
2.1 Extraction Well Head Assemblies (cont.)			
Extraction Well B-07	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-08	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-10	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-11	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-12	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-14	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-15	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
2.2 Above-Grade Headers			
6-in.-dia. At B-13 to B-15	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
8-in.-dia. At B-09 to B-13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flexible Header near B-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flexible Header near B-14	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flexible Header at Network West of A and B Blower Stations	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
2.3 Blower Station			
Blower	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Silencer(s)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flame Arrester(s)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Not inspected, System used for venting only.
Knock-out Pot (Water Separator)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Condensate Tank	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Electrical / Mechanical	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Shelter / Building	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF
LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 B-SYSTEM (Above-grade) cont.			
2.4 Flare			
Tube / Tip	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Shell / Baffle	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Flame Arrester	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Electrical / Mechanical	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
2.5 LFG Monitoring Wells			
MW-01 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
MW-02 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	& Well Condition Prepared by D&B Engineers and Architects P.C.
MW-25 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-26 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-27 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-28 Triplet	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
MW-29 Triplet	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
3.0 C-SYSTEM (Above-grade)			
3.1 Extraction Well Head Assemblies			
Extraction Well C-01	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
Extraction Well C-02	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	& Well Condition Prepared by D&B Engineers and Architects P.C.
Extraction Well C-03	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-04	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-05	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-06	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-07	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-08	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-10	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-11	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-12	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 LFG SYSTEM (Above-grade)			
3.1 Extraction Well Head Assemblies (cont.)			
Extraction Well LFG-13	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Extraction Well LFG-14	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Extraction Well LFG-15	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Extraction Well LFG-16	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
3.2 Above-Grade Headers			
NONE	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☐	Not equipped.
3.3 Blower Station			
Blower	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Silencer(s)	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Knock-out Pot (Water Separator)	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Condensate Tank	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Electrical / Mechanical	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
Shelter/Building	ADEQUATE ☒ YES ☐	NEEDS ATTENTION ☐ NO ☐	
3.4 Flare			
Tube / Tip	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.
Shell / Baffle	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.
Flame Arrester	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.
Electrical / Mechanical	ADEQUATE ☐ YES ☐	NEEDS ATTENTION ☐ NO ☒	System used for venting only.

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF
LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 C-SYSTEM (Above-grade) cont.			
3.5 LFG Monitoring Wells			
MW-19 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-23 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Cover bolts not secured due to daily inspection.
4.0 ADDITIONAL ITEMS			
4.1 Methane Detection at Red House	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Serviced 2/06/2020.
4.2 Methane Detection at Scale House	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Serviced 2/06/2020.
4.3 Leachate pumping and detection manholes and biofilters at south end of MSW landfill	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	RE: Table 4 Section 1.2.
4.4 Passive Vents	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Abandoned.
4.5 Methane Detection @ A-System Building	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Serviced 2/06/2020.

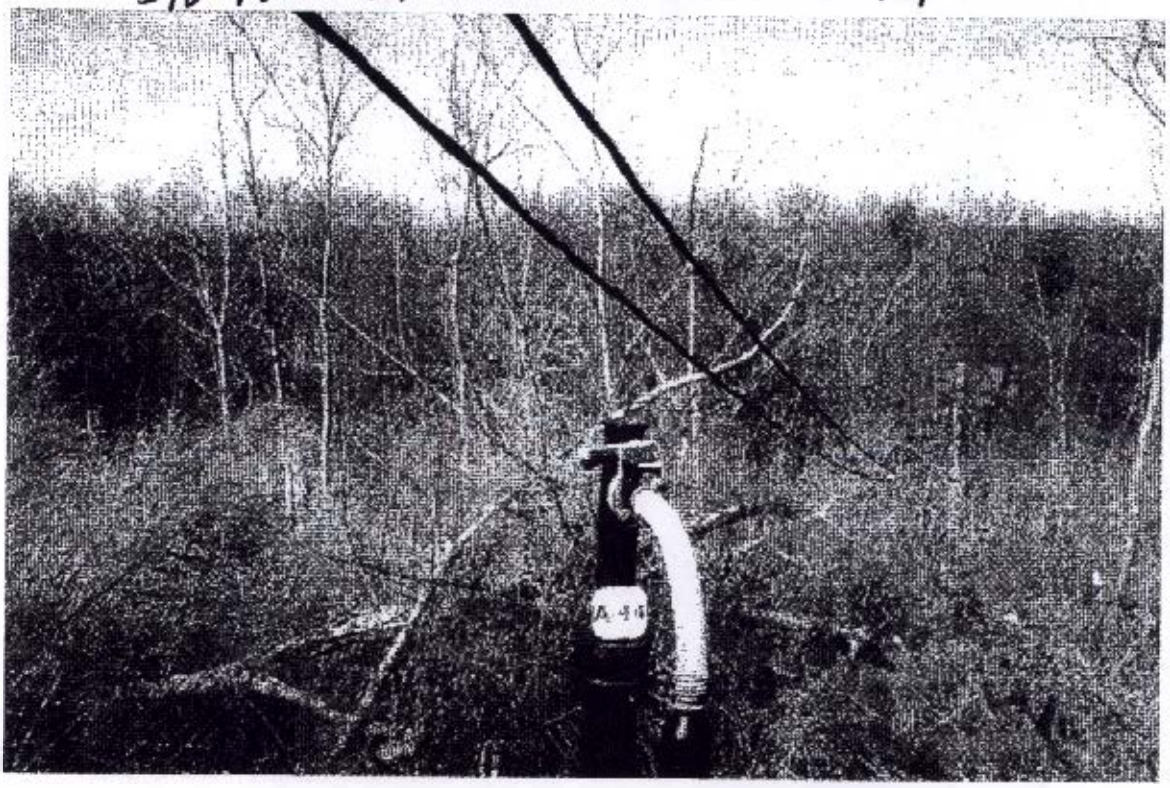
COMMENTS:

Craig D., Landfill personell peresent for Inspection of, 1.0 A-SYSTEM Section 1.3, 1.4, 2.0 B-SYSTEM Section 2.3, 2.4, and 3.0 C-SYSTEM Section 3.3, 3.4.

NOTES:

1) Use this inspection form along with Figure OMS – Single Line Diagram of Landfill Gas Management System by Golder Associates.
2) Regarding inspection of well head assemblies, items/components to observe are extraction well casing, valve, lateral (flexible hose), etc.

3/2/20 EXTRACTION WELL A-14



1 OF 1

Table 6
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 5 FOR GROUNDWATER MANAGEMENT SYSTEM

DATE: 10/25/19. March 2020 WEATHER: ?

INSPECTOR(S): Dirvika & Bartllucci (Cashin Assoc INSPECTION (Check One): QUARTERLY ☒ SEMI-ANNUAL ☐ OTHER

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.1 Wells Designated for Quarterly Monitoring			
GM-1S	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part IV, third quarter well condition report
GM-1I	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	for Blydenburgh Road Landfill Complex,
GM-1D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies,Oated October 29th, 2019.
GM-2S	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by D&B Engineers and Architects, P.C.
GM-2I	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-2D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Fourth quarter Phase 1 and Phase 2 Cleanfills Facility
GM-3D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	and Leachate Impoundment Area,
GM-3I	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Groundwater Monitoring Well Condition Report
GM-4G1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by CASHIN ASSOCIATES, P.C., Dated March 2020
GM-4G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies N/A.
GM-4M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-4M-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-5G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-6G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-6G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-6G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-6M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-7G1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-7M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	

Table 6
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 5 FOR GROUNDWATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.1 Wells Designated for Quarterly Monitoring			
GM-8G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part IV, third quarter well condition report's
GM-8M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	for Blydenburgh Road Landfill Complex,
GM-8M-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies, Dated October 29th, 2019.
GM-9G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by D&B Engineers and Architects P.C.
GM-9M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-10G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Fourth quarter Phase 1 and Phase 2 Cleanfills Facility
GM-10M1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	and Leachate Impoundment Area,
GM-11G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Groundwater Monitoring Well Condition Report
GM-11G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by CASHIN ASSOCIATES, P.C., Dated March 2020
GM-11M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies N/A.
GM-12G1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-12M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-13G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-13M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-14G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-14G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-14G-1A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-14M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-15G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-15M1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-16G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-16M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-18G1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-18G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	

Table 6
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 5 FOR GROUNDWATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.1 Wells Designated for Quarterly Monitoring			
GM-20G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-21G1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-22M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-23M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
1.2 Wells Installed to Assess Phase II Cleanfill Expansion			
MW-24G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part IV, third quarter well condition report's
MW-24G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	for Blydenburgh Road Landfill Complex,
MW-24G3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies,
MW-25G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Dated October 29th, 2019.
MW-25G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by D&B Engineers and Architects P.C.
MW-26G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
MW-26G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Fourth quarter Phase 1 and Phase 2 Cleanfills Facility
MW-26G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	and Leachate Impoundment Area,
MW-27G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Groundwater Monitoring Well Condition Repor:
MW-27G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by CASHIN ASSOCIATES, P.C., Dated March 2020
MW-27G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies N/A.
MW-28G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
MW-28G2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
MW-28G3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
MW-19GR-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	

Table 7
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 6 FOR INSPECTION OF THE PERIMETER SITE SECURITY SYSTEM

DATE: 2/28, 3/2, 3/3, 3/10, 3/19/20 WEATHER: Sunny, Sunny, Sunny, Overcast, Overcast.

INSPECTOR(S): Fazil Rahaman INSPECTION (Check One): QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 FENCE LINE	*See Notes 1 & 2*		
Eastern Perimeter	☒ YES ☐	☐ NO ☐	
Northern Perimeter	☒ YES ☐	☐ NO ☐	
Western Perimeter	☐ YES ☐	☒ NO ☐	Ash monofill fence line. Awaiting Quote/Repairs.
Southern Perimeter	☐ YES ☐	☒ NO ☐	Ash monofill fence line. Awaiting Quote/Repairs
2.0 PERIM. GATES, CHAINS, AND LOCKS	*See Note 3*		
Main Entrance	☒ YES ☐	☐ NO ☐	
200 ft North of Main Entrance	☐ YES ☐	☐ NO ☒	Gate no longer exists.

Table 7
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 6 FOR INSPECTION OF THE PERIMETER SITE SECURITY SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 GATES, CHAINS, AND LOCKS (cont.)			
100 ft North of Scale House	☐	☒	Gate no longer exists.
By Leachate Tank Farm	☒	☐	
N.E. Property Corner, Off Blydenburgh Rd.	☐	☒	Gate no longer exists.
Across from 416 Hoffman Lane	☒	☐	
3.0 WARNING SIGNS	*See Note 4*		
3.1 Fence Line			
Eastern Perimeter	☒	☐	
Northern Perimeter	☐	☐	
Western Perimeter	☐	☐	
Southern Perimeter	☐	☐	
3.2 Perimeter Access Gates			
Main Entrance	☒	☐	
200 ft North of Main Entrance	☐	☒	Gate no longer exists.
100 ft North of Scale House	☐	☒	Gate no longer exists.
By Leachate Tank Farm	☒	☐	
N.E. Prop. Corner – Blydenburgh Rd.	☐	☒	Gate no longer exists.
Across from 416 Hoffman Lane	☒	☐	

NOTES:

1) Use this inspection form along with Figure 2 – General Site Plan by Golder Associates.
2) Inspect fence line for the condition of posts, rails, chain-link fabric, barbed wire, animal burrows/soil erosion at bottom of fence, etc.
3) Inspect gates for the condition of locks, chains and items mentioned in Note 2.
4) Inspect warning signs for their existence and then for readability and visibility.
5) This site security field inspection form pertains to perimeter fence and warning signs; it does not include the video surveillance equipment at on site offices

PART II

GROUNDWATER REMEDIATION FACILITY

RELATED DOCUMENTS

GROUNDWATER REMEDIATION - POST CLOSURE MONITORING AND MAINTENANCE REPORT

SEMI-ANNUAL REPORT ENDING December 2019

DATE	TOTAL EFFLUENT (gals.)	DATE	TOTAL EFFLUENT (gals.)	TOTAL PROCESSED IN TIME FRAME	AVERAGE DAILY VOLUME PROCESSED FOR TIME FRAME
6/30/2019	2,607,768,666	7/31/2019	2,612,421,898	4,653,232	150,104
7/31/2019	2,612,421,898	8/31/2019	2,617,648,329	5,226,431	168,595
8/31/2019	2,617,648,329	9/30/2019	2,622,624,231	4,975,902	165,863
9/30/2019	2,622,624,231	10/31/2019	2,627,641,365	5,017,134	161,843
10/31/2019	2,627,641,365	11/30/2019	2,632,355,645	4,714,280	157,143
11/30/2019	2,632,355,645	12/31/2019	2,637,426,498	5,070,853	163,576

Note: 08/09/17 Extraction Well's #5 out of service (AWAITING REPAIRS/UNDER INVESTIGATION).
08/1/19 Monitoring Well 1D Repaired and in service.
12/11/19 Effluent Meter and Chart Recorder not recording (UNDER INVESTIGATION).

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH LANDFILL
GROUNDWATER TREATMENT FACILITY
OPERATION AND MAINTENANCE MANUAL

FACILITY EQUIPMENT SERVICE RECORD

July through December 2019

DATE:	WORK DONE
7/8, 9/9, 10/21, 12/16/19	Aeration Tank Blower #1; Zerk Fittings Greased.
7/10, 8/5, 8/21, 9/4/19	Blower Room Air Compressor; Oil Changed **(due to humidity contamination concerns).**
7/17, 10/17/19	Filter's Air Compressor; Oil Change
7/22, 12/16/19	Aeration Tank Blower #1; Oil Changed.
7/29, 10/9/19	Filters #1,2,&3, Flow Cells Site glass Assembly Disassembled Cleaned & Reassembled.
8/5, 9/23, 11/12, 12/30/19	Aeration Tank Blower #2; Zerk Fittings Greased.
8/19/19	Chemical Pump #2; Oil Changed.
9/19/19	Chemical Pump #3; Oil Changed.
9/23/19	Aeration Tank Blower #2; Oil Changed.
10/16/19	Filter Air Blower; Serviced, Change oil and lube Zerk Fittings.
12/5/19	Blower Room Air Compressor; Oil Changed, Zerk Fittings Greased, Drive Belts Inspected.

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH LANDFILL
GROUNDWATER TREATMENT FACILITY
OPERATION AND MAINTENANCE MANUAL

FACILITY EQUIPMENT REPAIRRECORD

July through December 2019

DATE:	**DESCRIPTION OF REPAIRS**
8/1/2019	Monitoring Well 1D Repaired and in service, **(REPAIRED BY DELTA WELL).**
11/15/19	MONITORING WELL 1D Meter pit leak repaired and back in service **(REPAIRS DONE IN HOUSE).**
12/18/19	BACKWASH SUPPLY WATER PUMPING CHAMBER, Start fill float switch **(FOR 3WAY VALVE)** defective replaced with new **(REPAIRS DONE IN HOUSE)**

PART III

BLYDENBURGH Rd. M.S.W. LANDFILL
AND
FORMER ASH MONOFILL
GAS MONITORING REPORTS
FROM
JULY 2019 THROUGH DECEMBER 2019
PREPARED BY
DVIRKA AND BARTILUCCI, P.C.,
TOWN CONSULTANTS

D&B ENGINEERS AND ARCHITECTS, P.C.

330 Crossways Park Drive, Woodbury, New York 11797
516-364-9890 • 718-460-3634 • Fax: 516-364-9045 • www.db-eng.com

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Senior Vice President

August 15, 2019

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
July 2019 Landfill Gas and VOC Ambient Air Monitoring Results
D&B No. 5281-31A

Dear Mr. Varrichio:

On July 24 and 25, 2019, D&B Engineers and Architects, P.C. (D&B) performed landfill gas and volatile organic compound (VOC) ambient air monitoring at the above-referenced site. Monitoring for VOCs in ambient air was performed with a Mini RAE 2000 photoionization detector (PID). The PID was zeroed with ambient air and calibrated with 100 parts per million (ppm) isobutylene gas prior to monitoring in accordance with the manufacturer's recommendations. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter.

Landfill gas was monitored with the Landtec GEM 5000 Gas Analyzer. The gas analyzer was calibrated with 50 percent (%) CH_4 and 35% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling.

The landfill gas monitoring results are provided in Tables 1 through 11 and ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. A Site Plan depicting the locations of the landfill gas monitoring points is included in Figure 1.

The next landfill gas monitoring event is tentatively scheduled for August 12 and 13, 2019. Mike Portela will be notified several days in advance of the sampling event.

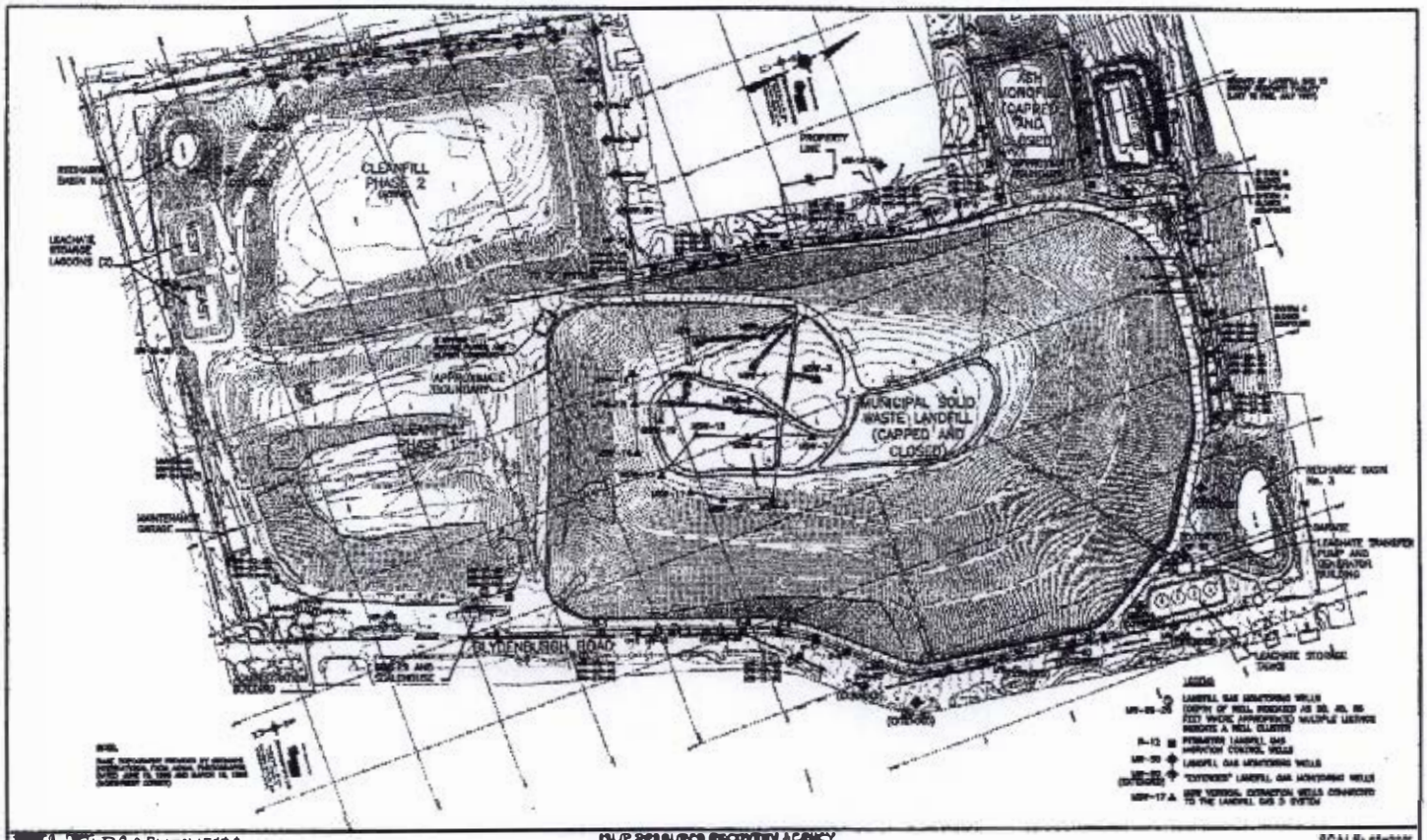
Should you have any questions, please do not hesitate to call me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith Robins

Keith Robins, P.G.
Project Manager

KR/MFt/cf
Attachments
cc: Fazil Rahaman (via email)
Mike Portela (via email)
•5281\KR19Ltr-12



DSM ENGINEERS AND ARCHITECTS, P.C.

ISLIP RESOURCE RECOVERY AGENCY
GLYDENBURGH ROAD LANDFILL COMPLEX

SCALE: 1"=250'

LANDFILL GAS MONITORING WELL AND PERIMETER EXTRACTION WELL LOCATIONS

FIGURE 1

TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	7/24/2019	10:32 AM	0.0	0.8	20.3	29.76	-0.36
A-02	OK	7/24/2019	10:37 AM	0.0	1.4	19.7	29.76	-0.74
A-03	OK	7/24/2019	10:40 AM	0.0	0.9	20.4	29.76	-0.81
A-04	OK	7/24/2019	10:43 AM	0.0	0.5	21.1	29.76	-0.45
A-05	OK	7/24/2019	10:47 AM	0.0	0.0	21.8	29.76	-0.44
A-06	OK	7/24/2019	10:50 AM	3.6	9.9	8.4	29.76	-1.69
A-07	OK	7/24/2019	10:53 AM	0.0	0.1	21.6	29.76	-0.65
A-08	OK	7/24/2019	10:56 AM	0.0	2.1	18.4	29.76	-1.32
A-09	OK	7/24/2019	10:58 AM	0.0	1.7	19.4	29.76	-1.05
A-10	OK	7/24/2019	11:01 AM	0.0	1.0	20.9	29.76	-0.65
A-11	OK	7/24/2019	11:09 AM	0.0	0.6	21.0	29.76	-3.82
A-12	OK	7/24/2019	11:12 AM	0.0	0.5	21.5	29.76	-0.52
A-13	OK	7/24/2019	11:15 AM	0.0	0.9	20.5	29.76	-0.46
A-14	OK	7/24/2019	11:19 AM	0.0	1.8	19.1	29.76	-0.35
A-15	OK	7/24/2019	11:22 AM	0.0	2.0	18.9	29.76	-0.23
A-16	OK	7/24/2019	11:35 AM	0.0	0.0	21.7	29.76	-0.87
A-17	OK	7/24/2019	11:38 AM	0.0	0.4	21.2	29.76	-0.62
A-18	OK	7/24/2019	11:40 AM	0.0	0.2	21.5	29.76	-1.66
BLOWER A	NA	7/24/2019	12:12 PM	0.1	1.8	19.5	29.76	25.97
BLOWER B	NA	-	-	-	-	-	-	-

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - System A: On, System B: Off

NA - Not Applicable

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 96% Humidity

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	7/24/2019	4:40 PM	0.0	0.1	22.2	29.78	-0.03
MW-07/40	OK	7/24/2019	4:38 PM	0.0	0.0	22.1	29.78	-0.10
MW-07/60	OK	7/24/2019	4:35 PM	0.0	0.2	21.8	29.78	-0.09
MW-08/20	OK	7/24/2019	4:25 PM	0.0	0.7	21.1	29.78	-0.03
MW-08/40	OK	7/24/2019	4:28 PM	0.0	0.1	21.9	29.78	-0.05
MW-08/60	OK	7/24/2019	4:32 PM	0.0	0.0	22.0	29.78	-0.07
MW-11/20	OK	7/24/2019	4:16 PM	0.0	0.0	22.0	29.78	0.00
MW-11/40	OK	7/24/2019	4:19 PM	0.0	0.0	21.9	29.78	-0.02
MW-11/60	OK	7/24/2019	4:22 PM	0.0	0.0	21.8	29.78	-0.03
MW-13/20	OK	7/24/2019	4:10 PM	0.0	0.5	21.7	29.78	-0.03

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 96% Humidity

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	7/24/2019	10:03 AM	0.0	0.0	21.0	29.76	-0.97
B-05	OK	7/24/2019	10:07 AM	0.0	0.0	20.9	29.76	-1.17
B-06	OK	7/24/2019	10:16 AM	0.0	0.0	20.8	29.76	-0.89
B-07	OK	7/24/2019	10:20 AM	0.0	1.7	19.0	29.76	-2.50
B-08	OK	7/24/2019	10:27 AM	0.0	0.0	21.2	29.76	-1.09
B-09	OK	7/24/2019	12:17 PM	0.0	0.4	21.4	29.76	-4.55
B-10	OK	7/24/2019	12:20 PM	0.0	0.4	21.5	29.76	-0.32
B-11	OK	7/24/2019	12:23 PM	0.0	0.2	21.9	29.76	-2.91
B-12	OK	7/24/2019	12:25 PM	0.4	2.3	19.0	29.76	-6.18
B-13	OK	7/24/2019	12:34 PM	0.0	0.1	21.8	29.76	-25.10
B-14	OK	7/24/2019	12:37 PM	0.0	1.7	19.4	29.76	-2.90
B-15	OK	7/24/2019	12:40 PM	0.0	0.0	21.8	29.76	-7.09
BLOWER B	NA	-	-	-	-	-	-	-
BLOWER C	NA	7/24/2019	12:29 PM	0.6	2.8	18.4	29.76	5.46

Notes:

CH_4, CO_2 and O_2 are reported in percent gas.

Relative wellhead pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - Blower B: Off, Blower C: On

NA - Not Applicable

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 98% Humidity

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	7/24/2019	9:50 AM	0.0	0.0	21.0	29.76	-0.21
MW-01/40	OK	7/24/2019	9:55 AM	0.0	0.1	21.0	29.76	-0.24
MW-01/60	OK	7/24/2019	10:00 AM	0.0	0.0	21.1	29.76	-0.16
MW-02/20	OK	7/24/2019	10:08 AM	0.0	0.0	20.8	29.76	-0.15
MW-02/40	OK	7/24/2019	10:11 AM	0.0	0.0	20.7	29.76	-0.23
MW-02/60	OK	7/24/2019	10:14 AM	0.0	0.0	20.8	29.76	-0.30
MW-25/20	OK	7/24/2019	12:58 PM	0.0	0.3	21.8	29.76	-0.12
MW-25/40	OK	7/24/2019	1:01 PM	0.0	0.0	22.1	29.76	-0.14
MW-25/60	OK	7/24/2019	1:04 PM	0.0	0.2	21.9	29.76	-0.42
MW-26/20	OK	7/24/2019	12:49 PM	0.0	0.0	22.0	29.76	-0.18
MW-26/40	OK	7/24/2019	12:51 PM	0.0	0.0	22.0	29.76	-0.32
MW-26/60	OK	7/24/2019	12:53 PM	0.0	0.0	22.1	29.76	-0.45
MW-27/20	OK	7/24/2019	12:42 PM	0.0	0.0	22.0	29.76	-0.06
MW-27/40	OK	7/24/2019	12:44 PM	0.0	0.0	22.0	29.76	-0.18
MW-27/60	OK	7/24/2019	12:46 PM	0.0	0.0	22.0	29.76	-0.20

Notes:

CH_4, CO_2, and O_2 are reported in percent gas

Relative well head pressure is reported in inches of water

Atmospheric pressure is reported in inches of mercury

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 96% Humidity

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	7/24/2019	2:29 PM	0.0	0.0	22.0	29.76	-5.15
C-02	OK	7/24/2019	2:26 PM	0.0	2.2	18.9	29.76	-2.51
C-03	OK	7/24/2019	2:21 PM	0.0	2.1	18.2	29.76	-5.13
C-04	OK	7/24/2019	2:13 PM	0.0	0.0	22.2	29.76	-5.21
C-05	OK	7/24/2019	2:07 PM	0.0	0.0	22.1	29.76	-3.07
C-06	OK	7/24/2019	2:05 PM	0.0	0.0	22.0	29.76	-2.93
C-07	OK	7/24/2019	2:02 PM	0.0	2.2	18.9	29.76	-2.97
C-08	OK	7/24/2019	1:59 PM	0.0	1.2	20.3	29.76	-3.95
C-09	OK	7/24/2019	1:56 PM	0.0	0.8	20.9	29.76	-5.22
C-10	OK	7/24/2019	1:53 PM	0.0	0.7	21.2	29.76	-6.57
C-11	OK	7/24/2019	1:50 PM	0.2	1.7	19.6	29.76	-6.17
C-12	OK	7/24/2019	1:48 PM	0.9	4.8	15.2	29.76	-5.00
C-13	OK	7/24/2019	1:42 PM	0.0	0.0	22.2	29.76	-5.71
C-14	OK	7/24/2019	1:39 PM	0.0	0.1	22.0	29.76	-2.54
C-15	OK	7/24/2019	1:27 PM	0.0	0.0	22.1	29.76	-2.88
C-16	OK	7/24/2019	2:37 PM	0.0	3.2	18.1	29.76	-4.87
C-17	OK	7/24/2019	1:21 PM	0.0	0.6	21.1	29.76	-2.22
BLOWER C	NA	7/24/2019	12:29 PM	0.6	2.8	18.4	29.76	5.46

Notes:

CH_4, CO_2, and O_2 are reported in percent gas

Relative well head pressure is reported in inches of water,

Atmospheric pressure is reported in inches of mercury,

Blower status - On

NA - Not Applicable

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 96% Humidity

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	7/24/2019	3:37 PM	0.0	0.0	22.1	29.76	-0.01
MW-19/40	OK	7/24/2019	3:40 PM	0.0	0.1	21.8	29.76	-0.02
MW-19/60	OK	7/24/2019	3:43 PM	0.0	0.1	21.9	29.76	-0.05
MW-23/20	OK	7/24/2019	3:28 PM	0.0	0.1	22.3	29.76	-0.02
MW-23/40	OK	7/24/2019	3:31 PM	0.0	0.2	21.9	29.76	-0.03
MW-23/60	OK	7/24/2019	3:34 PM	0.0	0.1	22.2	29.76	-0.02

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 96% Humidity

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	7/24/2019	10:22 AM	0.0	0.0	21.0	29.76	-0.17
MW-51	OK	7/24/2019	4:14 PM	0.0	0.0	21.8	29.76	-0.02
MW-52	OK	7/24/2019	11:04 AM	0.0	0.9	21.0	29.76	-0.06
MW-53	OK	7/24/2019	12:00 PM	0.0	0.0	22.2	29.76	-0.06
MW-54	OK	7/24/2019	11:56 AM	0.0	0.4	21.4	29.76	-0.04
MW-56	OK	7/24/2019	1:12 PM	0.0	0.0	21.8	29.76	-0.04
MW-57	OK	7/24/2019	1:24 PM	0.0	0.0	22.0	29.76	-0.13
MW-58	OK	7/24/2019	4:02 PM	0.0	1.1	20.6	29.76	-0.02
MW-59	OK	7/24/2019	1:31 PM	0.0	0.0	21.9	29.76	-0.01
MW-60	OK	7/24/2019	1:36 PM	0.0	0.0	22.0	29.76	-0.35
MW-61	OK	7/24/2019	1:44 PM	0.0	0.0	22.2	29.76	-0.99
MW-62	OK	7/24/2019	3:55 PM	0.0	0.0	22.0	29.76	-0.03
MW-63	OK	7/24/2019	3:51 PM	0.0	0.0	22.0	29.76	-0.07
MW-64	OK	7/24/2019	2:09 PM	0.0	0.0	22.1	29.76	-0.65
MW-65	OK	7/24/2019	2:16 PM	0.0	0.0	22.2	29.76	-0.35

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 96% Humidity

TABLE 10
LANDFILL GAS MONITORING RESULTS
SLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	7/25/2019	9:45 AM	27.4	26.3	0.0	29.83	-0.73	-2.20
MSW-04	OK	7/25/2019	9:40 AM	13.2	18.2	3.4	29.83	-2.18	-2.44
MSW-05	OK	7/25/2019	9:32 AM	48.5	38.4	0.0	29.83	-1.27	-1.52
MSW-06	OK	7/25/2019	9:36 AM	26.6	28.3	0.0	29.83	-1.37	-1.39
MSW-07	OK	7/25/2019	9:41 AM	19.2	19.2	2.5	29.83	-1.38	-1.45
MSW-09	OK	7/25/2019	9:22 AM	19.7	25.5	0.2	29.83	-1.06	-1.47
MSW-10	OK	7/25/2019	9:18 AM	45.5	36.1	3.1	29.83	-1.11	-
MSW-11	OK	7/25/2019	9:14 AM	30.1	32.6	0.0	29.83	-1.48	-1.49
MSW-13	OK	7/25/2019	8:49 AM	20.3	32.0	0.0	29.83	-1.48	-1.55
MSW-14	OK	7/25/2019	9:10 AM	38.2	36.6	0.0	29.83	-1.43	-
MSW-14	OK	7/25/2019	9:07 AM	51.5	43.1	0.0	29.83	-1.43	-
MSW-15	OK	7/25/2019	9:04 AM	38.5	32.1	2.4	29.83	-1.18	-1.75
MSW-16	OK	7/25/2019	9:00 AM	16.1	25.0	0.0	29.83	-1.74	-1.82
MSW-17	OK	7/25/2019	8:48 AM	12.5	13.5	9.7	29.83	-0.49	-
MSW-18	OK	7/25/2019	9:53 AM	38.0	36.9	0.0	29.83	-1.33	-
MSW-19	OK	7/25/2019	8:55 AM	52.3	42.8	0.9	29.83	-1.18	-1.17

Notes:
* MSW-01 - Well under repair
- = No well head vacuum sample port present.
CH_4, CO_2 and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 7/25: 68-83°F, Clear, 0-1 MPH wind to the North, 71% Humidity.

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Closed MSW Landfill

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200, Phase I	7/24/2019	11:44 AM	4.5	9.2	8.5	100	-0.98	29.76	1/2 Open
V-203, Phase III	7/24/2019	11:47 AM	4.4	8.9	9.1	101	-1.48	29.76	1/4 Open
Dog House									
Phase IV Vertical	7/24/2019	9:41 AM	24.4	23.5	3.7	100	-2.48	29.76	Open
Phase II Horizontal	7/24/2019	9:44 AM	1.1	12.9	12.9	98	-0.25	29.76	Closed
Small Dog House									
Phase II Horizontal	7/24/2019	9:34 AM	10.8	18.4	1.2	110	-2.29	29.76	1/2 Open
Phase II Valve Pit									
E - Horizontal, (V5)	7/25/2019	7:40 AM	43.2	38.6	0.0	92	-3.22	29.90	1/2 Open
W - Horizontal, (V7)	7/25/2019	7:45 AM	30.6	33.2	0.0	90	-3.39	29.90	1/2 Open
CF Phase II-Vertical*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Flare Compound									
Moisture Separator	7/25/2019	7:50 AM	15.3	18.4	5.9	96	-5.40	29.90	N/A
CF Phase I *	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
*= Offline
CH_4, CO_2, and O_2 are reported in percent gas
Temperature recorded in degrees Fahrenheit
Relative well head pressure is reported in inches of water
Atmospheric pressure is reported in inches of mercury
Blower status - On
NS - Not Sampled

Weather - 7/24: 65-80°F, Clear, 0-1 MPH winds to the North, 96% Humidity
7/25: 68-82°F, Clear, 0-1 MPH wind to the North, 71% Humidity

TABLE 12
VOLATILE ORGANIC COMPOUND (VOC) AMBIENT AIR MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	7/25/2019	Adjacent to well B-10	0.0
AMBIENT 2	7/25/2019	Adjacent to well C-13	0.0
AMBIENT 3	7/25/2019	Adjacent to well MW-11	0.0
AMBIENT 4	7/25/2019	Adjacent to well MW-20	0.0

Notes:

VOCs reported as parts per million, as measured by a calibrated photoionization detector.

Weather - 7/25: 68-83°F, Clear, 0-1 MPH wind to the North, 71% Humidity.

D&B ENGINEERS AND ARCHITECTS, P.C.

330 Crossways Park Drive, Woodbury, New York 11797
516-364-9890 • 718-460-3634 • Fax: 516-364-9045 • www.db-eng.com

August 30, 2019

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
August 2019 Landfill Gas and VOC Ambient Air Monitoring Results
D&B No. 5281-31A

Dear Mr. Varrichio:

On August 12 and 13, 2019, D&B Engineers and Architects, P.C. (D&B) performed landfill gas and volatile organic compound (VOC) ambient air monitoring at the above-referenced site. Monitoring for VOCs in ambient air was performed with a Mini RAE 2000 photoionization detector (PID). The PID was zeroed with ambient air and calibrated with 100 parts per million (ppm) isobutylene gas prior to monitoring in accordance with the manufacturer's recommendations. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter.

Landfill gas was monitored with the Landtec GEM 5000 Gas Analyzer. The gas analyzer was calibrated with 50 percent (%) CH_4 and 35% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling.

The landfill gas monitoring results are provided in Tables 1 through 11 and ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. A Site Plan depicting the locations of the landfill gas monitoring points is included in Figure 1.

The next landfill gas monitoring event is tentatively scheduled for September 2 and 3, 2019. Mike Portela will be notified several days in advance of the sampling event.

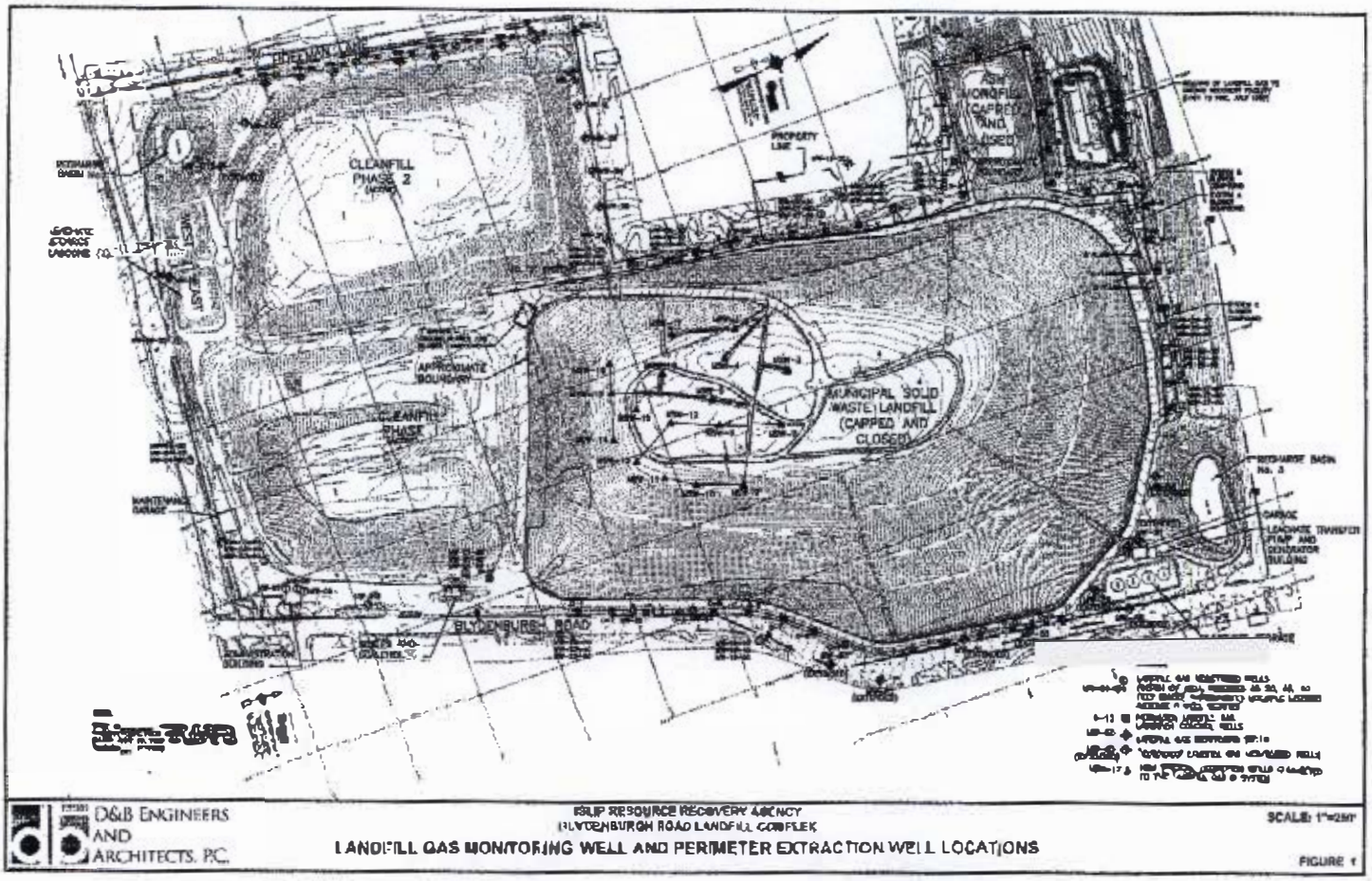
Should you have any questions, please do not hesitate to call me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith Robins

Keith Robins, P.G.
Project Manager

KR/MF/cf,nc
Attachments
cc: Fazil Rahaman (via email)
Mike Portela (via email)
•5281\KR19Ltr-12(R01)



D&B ENGINEERS AND ARCHITECTS, P.C.

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH ROAD LANDFILL COMPLEX

LANDFILL GAS MONITORING WELL AND PERIMETER EXTRACTION WELL LOCATIONS

FIGURE 1

TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	8/12/2019	2:10 PM	0.0	0.8	21.1	29.77	-0.19
A-02	OK	8/12/2019	2:15 PM	0.0	1.7	19.9	29.77	-0.57
A-03	OK	8/12/2019	2:19 PM	0.0	1.2	20.9	29.77	-0.63
A-04	OK	8/12/2019	2:22 PM	0.0	0.6	21.7	29.77	-0.40
A-05	OK	8/12/2019	2:25 PM	0.0	0.0	22.5	29.77	-0.32
A-06	OK	8/12/2019	2:28 PM	4.5	10.1	9.7	29.77	-1.65
A-07	OK	8/12/2019	2:30 PM	0.0	0.0	22.3	29.77	-0.57
A-08	OK	8/12/2019	2:41 PM	0.0	2.0	18.6	29.76	-0.96
A-09	OK	8/12/2019	2:44 PM	0.0	1.8	19.6	29.76	-0.87
A-10	OK	8/12/2019	2:46 PM	0.0	1.0	21.3	29.75	-0.56
A-11	OK	8/12/2019	2:49 PM	0.0	0.0	22.3	29.75	-3.82
A-12	OK	8/12/2019	2:51 PM	0.0	0.5	22.8	29.75	-0.42
A-13	OK	8/12/2019	2:55 PM	0.0	1.3	20.5	29.76	-0.41
A-14	OK	8/12/2019	3:00 PM	0.0	2.0	19.4	29.76	-0.24
A-15	OK	8/13/2019	9:36 AM	0.0	2.5	18.0	29.69	-0.26
A-16	OK	8/13/2019	9:42 AM	0.0	0.1	21.2	29.69	-0.79
A-17	OK	8/13/2019	9:46 AM	0.0	0.6	20.8	29.70	-0.55
A-18	OK	8/13/2019	9:49 AM	0.0	0.1	21.4	29.70	-1.48
BLOWER A	NA	8/13/2019	10:03 AM	0.3	2.8	18.0	29.71	25.42
BLOWER B	NA	-	-	-	-	-	-	-

Notes:
CH_4, CO_2, and O_2 are reported in percent Gas
Relative well head pressure is reported in inches of water
Atmospheric pressure is reported in inches of mercury
Blower status - System A: On, System B: Off
NA - Not Applicable

Weather - 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity
8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	8/12/2019	4:10 PM	0.0	0.4	21.9	29.76	0.00
MW-07/40	OK	8/12/2019	4:14 PM	0.0	0.0	22.4	29.76	-0.01
MW-07/60	OK	8/12/2019	4:17 PM	0.0	0.0	22.5	29.76	-0.11
MW-08/20	OK	8/12/2019	1:01 PM	0.0	0.0	22.4	29.76	-0.03
MW-08/40	OK	8/12/2019	4:04 PM	0.0	0.0	22.5	29.76	-0.02
MW-08/60	OK	8/12/2019	4:07 PM	0.0	0.0	22.5	29.76	-0.03
MW-11/20	OK	8/12/2019	3:53 PM	0.0	0.0	22.6	29.76	-0.02
MW-11/40	OK	8/12/2019	3:55 PM	0.0	0.0	22.7	29.76	-0.03
MW-11/60	OK	8/12/2019	3:57 PM	0.0	0.0	22.7	29.76	-0.04
MW-13/20	OK	8/12/2019	3:47 PM	0.0	0.6	21.8	29.76	-0.01

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity.

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	8/12/2019	1:28 PM	0.0	0.0	21.2	29.78	-0.90
B-05	OK	8/12/2019	1:47 PM	0.0	0.1	21.3	29.78	-1.04
B-06	OK	8/12/2019	1:52 PM	0.0	0.0	21.8	29.77	-0.64
B-07	OK	8/12/2019	1:56 PM	0.0	2.4	18.9	29.77	-2.42
B-08	OK	8/12/2019	2:05 PM	0.0	0.0	22.2	29.76	-0.93
B-09	OK	8/13/2019	10:06 AM	0.0	0.3	21.2	29.72	-3.72
B-10	OK	8/13/2019	10:09 AM	0.0	0.5	21.1	29.73	-0.38
B-11	OK	8/13/2019	10:12 AM	0.0	0.4	21.3	29.74	-2.73
B-12	OK	8/13/2019	10:15 AM	0.4	2.9	17.9	29.74	-6.25
B-13	OK	8/13/2019	10:24 AM	0.0	0.6	20.9	29.73	-25.02
B-14	OK	8/13/2019	10:27 AM	0.0	2.3	18.5	29.75	-2.75
B-15	OK	8/13/2019	10:28AM	0.0	0.1	21.5	29.75	-6.88
BLOWER B	NA	-	-	-	-	-	-	-
BLOWER C	NA	8/13/2019	10:18 AM	0.7	3.2	17.7	29.75	5.35

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - Blower B: Off, Blower C: On

NA - Not Applicable

Weather - 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity.

8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55.

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	8/12/2019	1:32 PM	0.0	0.0	21.2	29.75	-0.12
MW-01/40	OK	8/12/2019	1:35 PM	0.0	0.0	21.2	29.77	-0.06
MW-01/60	OK	8/12/2019	1:37 PM	0.0	0.0	21.2	29.77	-0.06
MW-02/20	OK	8/12/2019	1:41 PM	0.0	0.0	21.2	29.77	-0.09
MW-02/40	OK	8/12/2019	1:43 PM	0.0	0.0	21.2	29.78	-0.15
MW-02/60	OK	8/12/2019	1:45 PM	0.0	0.0	21.3	29.78	-0.16
MW-25/20	OK	8/13/2019	10:46 AM	0.0	0.4	21.3	29.74	-0.06
MW-25/40	OK	8/13/2019	10:48 AM	0.0	0.1	21.6	29.73	-0.17
MW-25/60	OK	8/13/2019	10:50 AM	0.0	0.4	21.4	29.73	-0.51
MW-26/20	OK	8/13/2019	10:39 AM	0.0	0.1	21.6	29.74	-0.08
MW-26/40	OK	8/13/2019	10:42 AM	0.0	0.1	21.6	29.75	-0.27
MW-26/60	OK	8/13/2019	10:44 AM	0.0	0.1	21.6	29.75	-0.48
MW-27/20	OK	8/13/2019	10:32 AM	0.0	0.1	21.5	29.76	-0.02
MW-27/40	OK	8/13/2019	10:35 AM	0.0	0.1	21.5	29.76	-0.12
MW-27/60	OK	8/13/2019	10:37 AM	0.0	0.1	21.5	29.75	-0.10

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity.

8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55.

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	8/13/2019	12:09 PM	0.0	0.1	21.3	29.69	-4.77
C-02	OK	8/13/2019	12:06 PM	0.0	2.4	18.1	29.69	-2.26
C-03	OK	8/13/2019	12:03 PM	0.0	2.4	17.4	29.69	-4.27
C-04	OK	8/13/2019	11:57 AM	0.0	0.1	21.5	29.69	-4.75
C-05	OK	8/13/2019	11:50 AM	0.0	0.1	21.6	29.70	-2.86
C-06	OK	8/13/2019	11:48AM	0.0	0.1	21.5	29.70	-2.66
C-07	OK	8/13/2019	11:45 AM	0.0	2.3	18.6	29.71	-2.72
C-08	OK	8/13/2019	11:43 AM	0.0	1.7	19.4	29.72	-3.70
C-09	OK	8/13/2019	11:40 AM	0.0	1.5	20.2	29.72	-4.88
C-10	OK	8/13/2019	11:37 AM	0.0	1.8	19.6	29.74	-6.05
C-11	OK	8/13/2019	11:34 AM	0.5	3.1	17.7	29.75	-5.72
C-12	OK	8/13/2019	11:27 AM	0.9	5.2	14.7	29.75	-4.44
C-13	OK	8/13/2019	11:24 AM	0.0	0.1	21.9	29.76	-5.41
C-14	OK	8/13/2019	11:18 AM	0.0	0.1	22.0	29.77	-2.28
C-15	OK	8/13/2019	11:11 AM	0.0	0.1	22.0	29.77	-2.90
C-16	OK	8/13/2019	11:05 AM	0.0	0.8	21.0	29.77	-2.22
C-17	OK	8/13/2019	12:12 PM	0.1	4.0	17.0	29.68	-4.50
BLOWER C	NA	8/13/2019	10:18 AM	0.7	3.2	17.7	29.75	5.35

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - On

NA - Not Applicable

Weather - 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity.

8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55.

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	8/12/2019	3:21 PM	0.0	0.2	22.3	29.78	0.00
MW-19/40	OK	8/12/2019	3:23 PM	0.0	0.1	22.4	29.78	-0.02
MW-19/60	OK	8/12/2019	3:25 PM	0.0	0.0	22.5	29.78	-0.13
MW-23/20	OK	8/12/2019	3:13 PM	0.0	0.4	22.2	29.78	0.00
MW-23/40	OK	8/12/2019	3:15 PM	0.0	0.4	22.2	29.78	0.17
MW-23/60	OK	8/12/2019	3:18 PM	0.0	0.8	21.3	29.78	0.18

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity.

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	8/12/2019	2:00 PM	0.0	0.0	22.0	29.76	0.03
MW-51	OK	8/12/2019	3:50 PM	0.0	0.0	22.5	29.76	-0.01
MW-52	OK	8/12/2019	2:34 PM	0.0	1.2	20.7	29.78	0.00
MW-53	OK	8/13/2019	7:40 AM	0.0	0.1	20.5	29.79	0.04
MW-54	OK	8/13/2019	7:45 AM	0.0	0.5	20.1	29.79	0.05
MW-56	OK	8/13/2019	10:54 AM	0.0	0.1	21.7	29.76	-0.03
MW-57	OK	8/13/2019	11:07 AM	0.0	0.1	22.0	29.78	-0.11
MW-58	OK	8/12/2019	3:37 PM	0.0	0.1	21.8	29.82	0.00
MW-59	OK	8/13/2019	11:14 AM	0.0	0.1	22.0	29.77	-0.01
MW-60	OK	8/13/2019	11:21 AM	0.0	0.1	21.9	29.77	-0.22
MW-61	OK	8/13/2019	11:30 AM	0.0	0.1	21.8	29.75	-0.83
MW-62	OK	8/12/2019	3:32 PM	0.0	0.1	22.6	29.82	-0.03
MW-63	OK	8/12/2019	3:29 PM	0.0	0.0	22.5	29.80	-0.07
MW-64	OK	8/13/2019	11:56 AM	0.0	0.1	21.5	29.69	-0.48
MW-65	OK	8/13/2019	12:01 PM	0.0	0.1	21.4	29.68	-0.23

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather . 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity.
8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55.

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	8/13/2019	8:20 AM	32.2	27.5	0.1	29.67	0.29	-1.60
MSW-04	OK	8/13/2019	8:40 AM	16.0	19.5	2.8	29.67	-1.64	-1.83
MSW-05	OK	8/13/2019	8:35 AM	47.9	38.9	0.0	29.67	-0.95	-1.21
MSW-06	OK	8/13/2019	8:30 AM	30.4	30.0	0.0	29.67	-0.85	-1.07
MSW-07	OK	8/13/2019	8:24 AM	22.8	16.2	1.8	29.67	-0.67	-1.10
MSW-09	OK	8/13/2019	9:22 AM	26.7	28.8	0.0	29.67	-0.74	-1.02
MSW-10	OK	8/13/2019	12:00 AM	55.5	41.6	1.4	29.67	-0.51	-
MSW-11	OK	8/13/2019	9:14 AM	35.2	34.6	0.0	29.67	-0.95	-1.08
MSW-12	OK	8/13/2019	8:51 AM	35.2	34.6	0.0	29.67	-0.89	-1.00
MSW-13	OK	8/13/2019	9:10 AM	41.9	37.9	0.0	29.67	-1.02	-
MSW-14	OK	8/13/2019	9:07 AM	54.7	43.6	0.0	29.67	-0.91	-
MSW-15	OK	8/13/2019	9:04 AM	42.2	35.7	1.8	29.67	-0.60	-1.27
MSW-16	OK	8/13/2019	9:00 AM	21.0	27.0	0.0	29.67	-1.21	-1.10
MSW-17	OK	8/13/2019	8:44 AM	28.2	29.9	1.7	29.67	-1.02	-
MSW-18	OK	8/13/2019	8:48 AM	55.6	42.5	0.0	29.67	-0.95	-
MSW-19	OK	8/13/2019	8:54 AM	54.8	45.1	0.1	29.67	-1.21	-1.33

Notes:
*** MSW-01 - Well under repair**
- = No well head vacuum sample port present.
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55.

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Closed MSW Landfill

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200, Phase I	8/13/2019	9:52 AM	6.0	10.5	9.2	90	-1.08	29.70	1/2 Open
V-203, Phase III	8/13/2019	9:56 AM	5.9	10.3	9.1	88	-1.27	29.70	1/4 Open
Dog House									
Phase IV Vertical	8/12/2019	1:20 PM	30.6	28.2	2.1	111	-2.65	29.79	Open
Phase II Horizontal	8/12/2019	1:25 PM	1.2	13.0	12.5	107	-0.22	29.79	Closed
Small Dog House									
Phase II Horizontal	8/12/2019	1:15 PM	9.5	14.1	6.4	110	-2.11	29.79	1/2 Open
Phase II Valve Pit									
E - Horizontal, (V5)	8/13/2019	12:41 PM	46.5	40.9	0.0	94	-3.18	29.66	1/2 Open
W - Horizontal, (V7)	8/13/2019	12:45 PM	34.3	34.8	0.1	94	-3.32	29.66	1/2 Open
CF Phase II-Vertical*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Flare Compound									
Moisture Separator	8/13/2019	12:37 PM	19.9	21.9	4.9	96	-4.91	29.66	N/A
CF Phase I*	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
***= Offline**
CH_4, CO_2, and O_2 are reported in percent gas.
Temperature recorded in degrees Fahrenheit
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 8/12: 66-81°F, clear, 0-5 MPH wind to the NW, 78% humidity,
8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55

TABLE 12
VOLATILE ORGANIC COMPOUND (VOC) AMBIENT AIR MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	8/13/2019	Adjacent to well A17	0.0
AMBIENT 2	8/13/2019	Adjacent to well MW-2B	0.0
AMBIENT 3	8/13/2019	Adjacent to well MW-05	0.0
AMBIENT 4	8/13/2019	Adjacent to well C2	0.0

Notes:
VOCs reported as parts per million, as measured by a calibrated photoionization detector.

Weather - 8/13: 70-80°F, overcast, 5-6 MPH wind to the NW, 90% humidity, rain showers begin at 10:55.

D&B ENGINEERS AND ARCHITECTS, P.C.

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September 23, 2019

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
September 2019 Landfill Gas and VOC Ambient Air Monitoring Results
D&B No. 5281-31A

Dear Mr. Varrichio:

On September 3 and 4, 2019, D&B Engineers and Architects, P.C. (D&B) performed landfill gas and volatile organic compound (VOC) ambient air monitoring at the above-referenced site. Monitoring for VOCs in ambient air was performed with a Mini RAE 2000 photoionization detector (PID). The PID was zeroed with ambient air and calibrated with 100 parts per million (ppm) isobutylene gas prior to monitoring in accordance with the manufacturer's recommendations. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter.

Landfill gas was monitored with the Landtec GEM 5000 Gas Analyzer. The gas analyzer was calibrated with 50 percent (%) CH_4 and 35% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling.

The landfill gas monitoring results are provided in Tables 1 through 11 and ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. A Site Plan depicting the locations of the landfill gas monitoring points is included in Figure 1.

The next landfill gas monitoring event is tentatively scheduled for October 8 and 9, 2019. Mike Portela will be notified several days in advance of the sampling event.

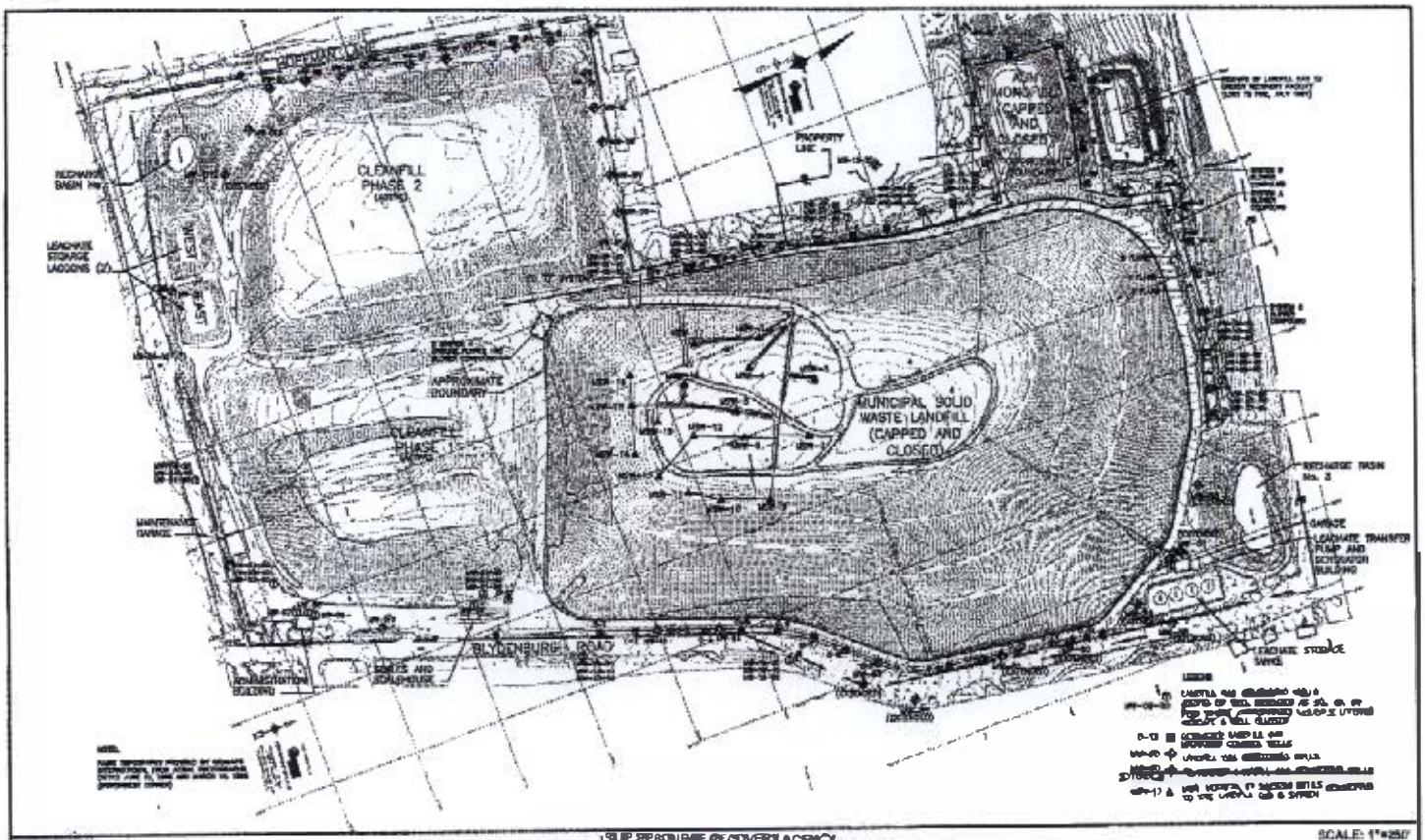
Should you have any questions, please do not hesitate to call me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith Robins

Keith Robins, P.G.
Project Manager

KR/MFI/nc
Attachments
cc: Fazil Rahaman (via email)
Mike Portela (via email)
•5281\KR191r-14



SUF RESOURCE RECOVERY AGENCY
BLYDENBURGH ROAD LANDFILL COMPLEX

D&B ENGINEERS AND ARCHITECTS, P.C.

LANDFILL GAS MONITORING WELL AND PERIMETER EXTRACTION WELL LOCATIONS

SCALE: 1"=250'

FIGURE 1

TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	9/3/2019	10:39 AM	0.0	1.0	20.6	29.88	-0.32
A-02	OK	9/3/2019	10:45 AM	0.0	2.2	18.9	29.89	-0.60
A-03	OK	9/3/2019	10:49 AM	0.0	1.6	20.0	29.89	-0.69
A-04	OK	9/3/2019	10:53 AM	0.0	0.6	21.3	29.90	-0.39
A-05	OK	9/3/2019	10:56 AM	0.0	0.0	22.1	29.90	-0.38
A-06	OK	9/3/2019	10:59 AM	4.5	11.6	7.8	29.91	-1.42
A-07	OK	9/3/2019	11:02 AM	0.0	0.1	21.8	29.91	-0.53
A-08	OK	9/3/2019	11:14 AM	0.0	3.1	17.7	29.89	-0.78
A-09	OK	9/3/2019	11:18 AM	0.0	2.1	19.4	29.89	-0.78
A-10	OK	9/3/2019	11:21 AM	0.0	1.3	20.8	29.89	-0.56
A-11	OK	9/3/2019	11:24 AM	0.0	0.0	22.2	29.89	-3.27
A-12	OK	9/3/2019	11:27 AM	0.0	0.7	21.4	29.89	-0.46
A-13	OK	9/3/2019	11:30 AM	0.0	1.1	20.5	29.89	-0.39
A-14	OK	9/3/2019	11:33 AM	0.1	2.4	18.6	29.90	-0.25
A-15	OK	9/3/2019	11:37 AM	0.0	2.6	18.0	29.91	-0.18
A-16	OK	9/3/2019	11:42 AM	0.0	0.1	21.6	29.92	-0.67
A-17	OK	9/3/2019	11:57 AM	0.0	0.5	21.2	29.90	-0.46
A-18	OK	9/3/2019	12:00 PM	0.0	0.2	21.7	29.94	-1.31
BLOWER A	NA	9/3/2019	12:30 PM	0.4	2.2	18.7	29.96	26.48
BLOWER B	NA	-	-	-	-	-	-	-

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric presoure is reported in inches of mercury.

Blower status - System A: On, System B: Off

NA - Not Applicable

Weather - 9/3 - 70-79°F, 0-2 MPH wind to the E, Clear, 61% Humidity

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	9/3/2019	4:25 PM	0.0	0.4	21.7	29.86	0.00
MW-07/40	OK	9/3/2019	4:22 PM	0.0	0.1	22.0	29.86	-0.01
MW-07/60	OK	9/3/2019	4:20 PM	0.0	0.7	21.4	29.86	-0.01
MW-08/20	OK	9/3/2019	4:11 PM	0.0	0.2	21.8	29.86	-0.01
MW-08/40	OK	9/3/2019	4:14 PM	0.0	0.0	22.0	29.86	-0.02
MW-08/60	OK	9/3/2019	4:17 PM	0.0	0.0	22.0	29.86	0.00
MW-11/20	OK	9/3/2019	4:28 PM	0.0	0.0	22.1	29.86	0.00
MW-11/40	OK	9/3/2019	4:30 PM	0.0	0.0	22.3	29.86	0.00
MW-11/60	OK	9/3/2019	4:33 PM	0.0	0.0	22.3	29.86	-0.03
MW-13/20	OK	9/3/2019	4:08 PM	0.0	0.7	21.3	29.86	-0.01

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 9/3 - 70-79° F, 0-2 MPH wind to the E, Clear, 61% Humidity

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	9/3/2019	10:04 AM	0.0	0.1	21.7	29.87	-0.91
B-05	OK	9/3/2019	10:06 AM	0.0	0.0	21.7	29.88	-1.07
B-06	OK	9/3/2019	10:16 AM	0.0	0.0	21.9	29.89	-0.81
B-07	OK	9/3/2019	10:26 AM	0.0	2.6	18.2	29.89	-2.17
B-08	OK	9/3/2019	10:33 AM	0.0	0.0	21.8	29.89	-0.94
B-09	OK	9/3/2019	12:37 PM	0.0	0.2	21.4	29.94	-3.16
B-10	OK	9/3/2019	12:40 PM	0.0	0.4	21.1	29.94	-0.22
B-11	OK	9/3/2019	12:44 PM	0.0	0.3	21.1	29.95	-2.48
B-12	OK	9/3/2019	12:47 PM	0.4	2.8	17.6	29.96	-6.06
B-13	OK	9/3/2019	12:54 PM	0.0	0.1	21.4	29.96	-24.88
B-14	OK	9/3/2019	12:57 PM	0.0	2.4	18.4	29.97	-2.68
B-15	OK	9/3/2019	1:00 PM	0.0	0.0	21.6	29.97	-6.60
BLOWER B	NA	-	-	-	-	-	-	-
BLOWER C	NA	9/3/2019	12:50 PM	0.7	2.9	17.7	29.97	5.44

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - Blower B: Off, Blower C: On

NA - Not Applicable 9/3 - 70-79°F, 0-2 MPH wind to the E, Clear, 61% Humidity

Weather -

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	9/3/2019	9:55 AM	0.0	0.1	21.1	29.88	-0.25
MW-01/40	OK	9/3/2019	9:59 AM	0.0	0.0	21.5	29.88	-0.20
MW-01/60	OK	9/3/2019	10:02AM	0.0	0.1	21.6	29.88	-0.23
MW-02/20	OK	9/3/2019	10:08 AM	0.0	0.0	21.8	29.88	-0.16
MW-02/40	OK	9/3/2019	10:10 AM	0.0	0.0	21.8	29.89	-0.30
MW-02/60	OK	9/3/2019	10:13 AM	0.0	0.0	21.9	29.89	-0.32
MW-25/20	OK	9/3/2019	1:18 PM	0.0	0.0	21.2	29.97	-0.06
MW-25/40	OK	9/3/2019	1:21 PM	0.0	0.0	21.3	29.97	-0.06
MW-25/60	OK	9/3/2019	1:23 PM	0.0	0.3	21.0	29.97	-0.33
MW-26/20	OK	9/3/2019	1:11 PM	0.0	0.0	21.5	29.97	-0.11
MW-26/40	OK	9/3/2019	1:13 PM	0.0	0.0	21.5	29.97	-0.19
MW-26/60	OK	9/3/2019	1:15 PM	0.0	0.0	21.2	29.97	-0.33
MW-27/20	OK	9/3/2019	1:02 PM	0.0	0.0	21.6	29.97	-0.09
MW-27/40	OK	9/3/2019	1:05 PM	0.0	0.0	21.6	29.98	-0.12
MW-27/60	OK	9/3/2019	1:08 PM	0.0	0.0	21.5	29.98	-0.11

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 9/3 - 70-79°F, 0-2 MPH Wind to the E, Clear, 61% Humidity

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	9/3/2019	2:50 PM	0.0	0.0	22.0	29.88	-4.72
C-02	OK	9/3/2019	2:47 PM	0.0	1.8	19.3	29.88	-2.23
C-03	OK	9/3/2019	2:43 PM	0.0	2.1	18.0	29.89	-4.18
C-04	OK	9/3/2019	2:35 PM	0.0	0.0	22.0	29.89	-4.64
C-05	OK	9/3/2019	2:29 PM	0.0	0.0	21.4	29.89	-2.80
C-06	OK	9/3/2019	2:26 PM	0.0	0.0	21.9	29.90	-2.60
C-07	OK	9/3/2019	2:23 PM	0.0	2.2	18.7	29.91	-2.62
C-08	OK	9/3/2019	2:20 PM	0.0	1.6	19.6	29.91	-3.52
C-09	OK	9/3/2019	2:17 PM	0.0	0.9	20.5	29.92	-4.71
C-10	OK	9/3/2019	2:14 PM	0.0	0.5	21.2	29.94	-5.82
C-11	OK	9/3/2019	2:10 PM	0.1	1.7	19.5	29.95	-5.41
C-12	OK	9/3/2019	2:05 PM	0.8	4.6	15.4	29.96	-4.30
C-13	OK	9/3/2019	1:56 PM	0.0	0.0	22.1	29.98	-5.07
C-14	OK	9/3/2019	1:52 PM	0.0	0.0	22.1	29.98	-2.07
C-15	OK	9/3/2019	1:43 PM	0.0	0.0	22.0	29.98	-2.82
C-16	OK	9/3/2019	1:36 PM	0.0	0.0	20.6	29.96	-2.03
C-17	OK	9/3/2019	2:53 PM	0.2	3.8	17.0	29.87	-4.52
BLOWER C	NA	9/3/2019	12:50 PM	0.7	2.9	17.7	29.97	5.44

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - On

NA - Not Applicable

Weather - 9/3 - 70-79°F, 0-2 MPH wind to the E, Clear, 61% Humidity

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	9/3/2019	3:42 PM	0.0	0.1	21.8	29.86	-0.03
MW-19/40	OK	9/3/2019	3:45 PM	0.0	0.1	21.7	29.86	-0.12
MW-19/60	OK	9/3/2019	3:48 PM	0.0	0.0	21.9	29.86	-0.56
MW-23/20	OK	9/3/2019	3:34 PM	0.0	0.1	21.9	29.86	0.00
MW-23/40	OK	9/3/2019	3:36 PM	0.0	0.2	21.7	29.86	-0.07
MW-23/60	OK	9/3/2019	3:39 PM	0.0	0.1	21.9	29.86	-0.11

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 9/3 - 70-79°F, 0-2 MPH wind to the E, Clear, 61% Humidity

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	9/3/2019	10:24 AM	0.0	0.0	21.7	29.89	-0.15
MW-51	OK	9/3/2019	4:35 PM	0.0	0.0	22.4	29.86	-0.01
MW-52	OK	9/3/2019	11:05 AM	0.0	1.0	21.0	29.92	0.00
MW-53	OK	9/3/2019	11:50 AM	0.0	0.0	21.7	29.92	-0.05
MW-54	OK	9/3/2019	11:45 AM	0.0	0.4	21.3	29.95	-0.03
MW-56	OK	9/3/2019	1:32 PM	0.0	0.0	21.4	29.98	0.00
MW-57	OK	9/3/2019	12:40 PM	0.0	0.0	21.9	29.98	-0.02
MW-58	OK	9/3/2019	4:00 PM	0.0	0.1	22.1	29.86	-0.02
MW-59	OK	9/3/2019	1:49 PM	0.0	0.0	22.0	29.99	0.02
MW-60	OK	9/4/2019	8:01 AM	0.0	0.1	20.6	29.84	-0.20
MW-61	OK	9/3/2019	1:59 PM	0.0	0.0	22.1	29.96	-0.76
MW-62	OK	9/3/2019	3:53 PM	0.0	0.0	22.3	29.86	-0.20
MW-63	OK	9/3/2019	3:55 PM	0.0	0.0	22.0	29.86	-0.56
MW-64	OK	9/3/2019	2:32 PM	0.0	0.0	21.9	29.89	-0.51
MW-65	OK	9/3/2019	2:40 PM	0.0	0.0	22.0	29.88	-0.23

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 9/3 - 74-79°F, 0-2 MPH wind to the E, Clear, 61% Humidity

9/4 - 72 - 76°F, S-10 MPH wind to the NW, Partly Cloudy, 86% humidity

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	9/4/2019	8:55 AM	32.2	27.3	0.2	29.84	0.35	-1.33
MSW-04	OK	9/4/2019	9:14 AM	16.0	18.9	3.5	29.84	-1.43	-1.23
MSW-05	OK	9/4/2019	9:10 AM	47.7	38.5	0.1	29.84	-0.77	-1.16
MSW-06	OK	9/4/2019	9:05 AM	32.1	30.9	0.2	29.84	-0.63	-0.60
MSW-07	OK	9/4/2019	9:00 AM	23.4	16.2	2.1	29.84	-0.40	-0.79
MSW-09	OK	9/4/2019	10:04 AM	26.8	28.9	0.2	29.84	-0.62	-0.81
MSW-10	OK	9/4/2019	9:59 AM	55.9	43.8	0.4	29.84	-0.43	-
MSW-11	OK	9/4/2019	9:49 AM	38.3	35.8	0.0	29.84	-0.74	-0.80
MSW-12	OK	9/4/2019	9:54 AM	37.6	35.6	0.0	29.84	-0.69	-0.82
MSW-13	OK	9/4/2019	9:46 AM	43.1	38.1	0.1	29.84	-0.72	-
MSW-14	OK	9/4/2019	9:43 AM	55.0	43.2	0.2	29.84	-0.84	-
MSW-15	OK	9/4/2019	9:33 AM	45.7	38.3	0.2	29.84	-0.46	-1.11
MSW-16	OK	9/4/2019	9:37 AM	21.1	26.8	0.0	29.84	-1.02	-1.13
MSW-17	OK	9/4/2019	9:18 AM	29.1	30.4	1.6	29.84	-0.11	-
MSW-18	OK	9/4/2019	9:21 AM	56.1	42.1	0.3	29.84	-0.42	-
MSW-19	OK	9/4/2019	9:25 AM	55.0	44.6	0.6	29.84	-0.40	-0.42

Notes:

* MSW-01 - Well under repair

- = No well head vacuum sample port present.

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - On

NS - Not Sampled

Weather - 9/4 - 72 - 76°F, 5-10 MPH wind to the NW, Partly Cloudy, 86% humidity

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Closed MSW Landfill

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200, Phase I	9/3/2019	12:18 PM	5.1	8.3	11.4	100	-1.14	29.93	1/2 Open
V-203, Phase III	9/3/2019	12:24 PM	6.4	10.0	9.3	110	-1.09	29.93	1/4 Open
Dog House									
Phase IV Vertical	9/3/2019	9:47 AM	30.2	27.5	2.3	92	-1.79	29.88	Open
Phase II Horizontal	9/3/2019	9:50 AM	1.2	13.2	12.1	94	-0.06	29.88	Closed
Small Dog House									
Phase II Horizontal	9/3/2019	9:43 AM	14.7	19.5	3.1	102	-1.76	29.88	1/2 Open
Phase II Valve Pit									
E - Horizontal, (V5)	9/4/2019	8:12 AM	46.2	40.5	0.1	90	-2.48	29.84	1/2 Open
W - Horizontal, (V7)	9/4/2019	8:18 AM	33.2	34.6	0.1	92	-2.42	29.84	1/2 Open
CF Phase II-Vertical*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Flare Compound									
Moisture Seperator	9/4/2019	8:22 AM	20.4	22.5	4.2	96	-4.12	29.84	N/A
CF Phase I *	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes;
*= Offline
CH_4, CO_2, and O_2 are reported in percent gas.
Temperature recorded in degrees Fahrenheit
Relative well head pressure is reported in inches of water
Atmospheric pressure is reported in inches of mercury
Blower status - On
NS - Not Sampled

Weather - 9/3 - 70-75°F, 0-2 MPH wind to the E, Clear, 61% Humidity
9/4 - 72 - 76°F, 5-10 MPH wind to the NW, Partly Cloudy, 85% humidity

TABLE 12
VOLATILE ORGANIC COMPOUND (VOC) AMBIENT AIR MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	9/4/2019	Adjacent to well MW-12	0.0
AMBIENT 2	9/4/2019	Adjacent to well A-05	0.0
AMBIENT 3	9/4/2019	Adjacent to well C-11	0.0
AMBIENT 4	9/4/2019	Adjacent to well B-15	0.0

Notes:
VOCs reported as parts per million, as measured by a calibrated photoionization detector.

Weather - 9/4 - 72 - 76°F, 5-10 MPH wind to the NW, Partly Cloudy, 86% humidity

D&B ENGINEERS AND ARCHITECTS, P.C.

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Senior Vice President

October 21, 2019

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
October 2019 Landfill Gas and VOC Ambient Air Monitoring Results
D&B No. 5281-31A

Dear Mr. Varrichio:

On October 15 and 16, 2019, D&B Engineers and Architects, P.C. (D&B) performed landfill gas and volatile organic compound (VOC) ambient air monitoring at the above-referenced site. Monitoring for VOCs in ambient air was performed with a Mini RAE 2000 photoionization detector (PID). The PID was zeroed with ambient air and calibrated with 100 parts per million (ppm) isobutylene gas prior to monitoring in accordance with the manufacturer's recommendations. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter.

Landfill gas was monitored with the Landtec GEM 5000 Gas Analyzer. The gas analyzer was calibrated with 50 percent (%) CH_4 and 35% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling.

The landfill gas monitoring results are provided in Tables 1 through 11 and ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. A Site Plan depicting the locations of the landfill gas monitoring points is included in Figure 1.

The next landfill gas monitoring event is tentatively scheduled for November 4 and 5, 2019. Mike Portela will be notified several days in advance of the sampling event.

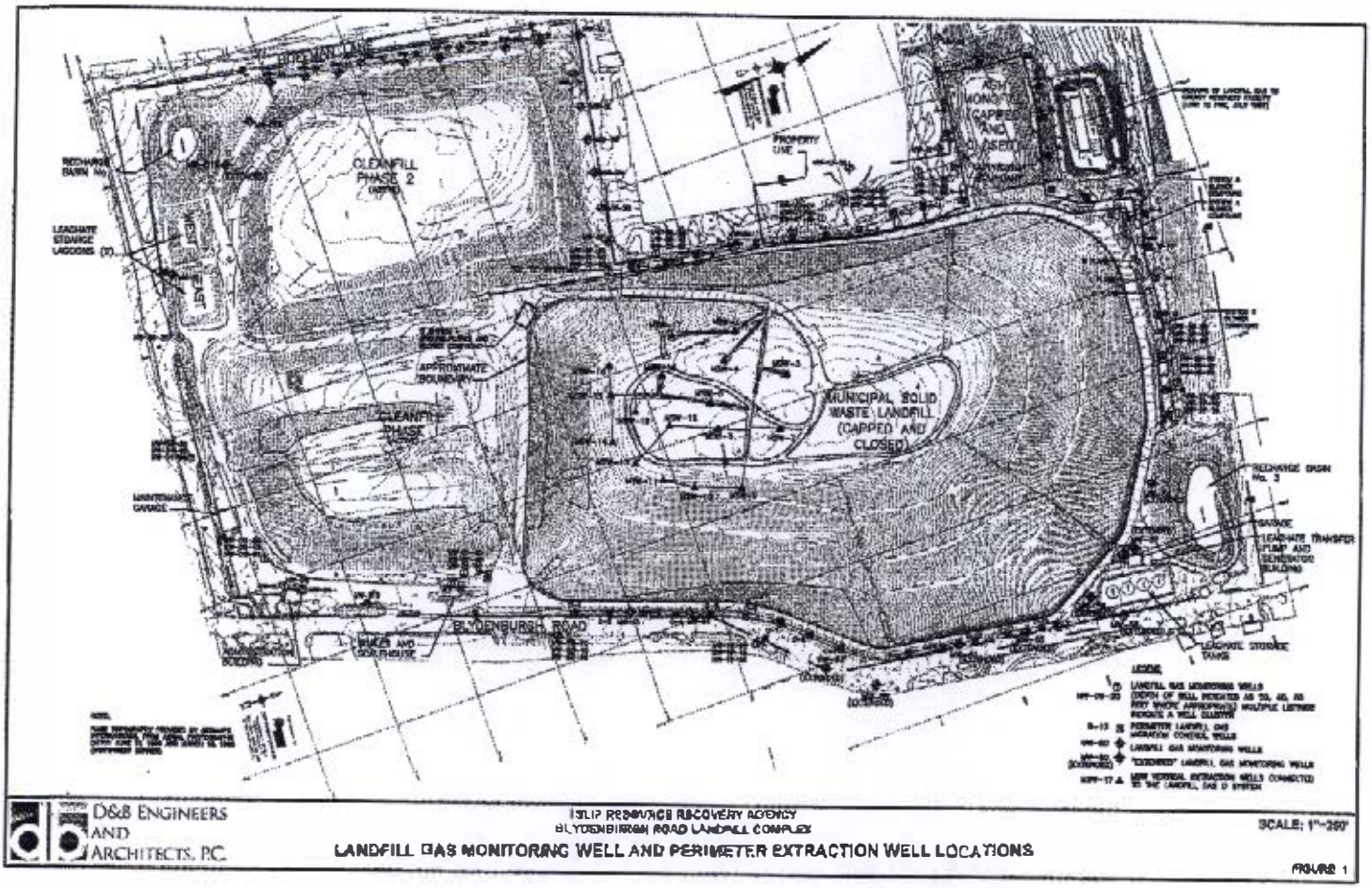
Should you have any questions, please do not hesitate to call me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith Robins

Keith Robins, P.G.
Project Manager

KR/MFV/cf,nc
Attachments
cc: Fazil Rahaman (via email)
Mike Portela (via email)
•5281\KR19Ltr-16



D&B ENGINEERS AND ARCHITECTS, P.C.

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH ROAD LANDFILL COMPLEX

SCALE: 1"=250'

LANDFILL GAS MONITORING WELL AND PERIMETER EXTRACTION WELL LOCATIONS

FIGURE 1

TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	10/15/2019	10:04 AM	0.0	1.7	20.1	29.97	-0.36
A-02	OK	10/15/2019	10:08 AM	0.0	3.2	18.0	29.97	-0.64
A-03	OK	10/15/2019	10:11 AM	0.0	2.4	19.3	29.97	-0.68
A-04	OK	10/15/2019	10:14 AM	0.0	0.9	20.8	29.97	-0.32
A-05	OK	10/15/2019	10:17 AM	0.0	0.1	21.7	29.97	-0.33
A-06	OK	10/15/2019	10:20 AM	4.7	13.2	6.8	29.97	-1.29
A-07	OK	10/15/2019	10:23 AM	0.0	0.2	21.5	29.97	-0.48
A-08	OK	10/15/2019	10:31 AM	0.0	4.9	15.4	29.97	-0.61
A-09	OK	10/15/2019	10:33 AM	0.0	2.7	18.7	29.97	-0.74
A-10	OK	10/15/2019	10:38 AM	0.0	2.0	19.9	29.97	-0.44
A-11	OK	10/15/2019	10:40 AM	0.0	0.1	21.6	29.97	-3.29
A-12	OK	10/15/2019	10:43 AM	0.0	0.9	21.0	29.97	-0.35
A-13	OK	10/15/2019	10:45 AM	0.0	2.0	19.5	29.97	-0.40
A-14	OK	10/15/2019	10:48 AM	0.1	2.6	18.4	29.97	-0.27
A-15	OK	10/15/2019	10:51 AM	0.0	2.6	18.2	29.97	-0.12
A-16	OK	10/15/2019	10:55 AM	0.0	0.1	21.2	29.97	-0.62
A-17	OK	10/15/2019	11:08 AM	0.0	0.8	20.7	29.97	-0.44
A-18	OK	10/15/2019	11:11AM	0.0	0.4	21.3	29.97	-1.21
BLOWER A	NA	10/15/2019	11:27 AM	0.3	2.6	18.7	29.97	26.65
BLOWER B	NA	-	-	-	-	-	-	-

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - System A: On, System B: Off
NA - Not Applicable

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	10/15/2019	2:52 PM	0.0	0.1	22.2	29.97	0.00
MW-07/40	OK	10/15/2019	2:54 PM	0.0	0.1	22.3	29.97	-0.08
MW-07/60	OK	10/15/2019	2:57 PM	0.0	0.1	22.3	29.97	-0.07
MW-08/20	OK	10/15/2019	2:45 PM	0.0	0.1	22.2	29.97	0.00
MW-08/40	OK	10/15/2019	2:47 PM	0.0	0.1	22.2	29.97	-0.05
MW-08/60	OK	10/15/2019	2:49 PM	0.0	0.1	22.2	29.97	-0.08
MW-11/20	OK	10/15/2019	2:36 PM	0.0	0.1	22.2	29.97	-0.01
MW-11/40	OK	10/15/2019	2:38 PM	0.0	0.1	22.2	29.97	-0.03
MW-11/60	OK	10/15/2019	2:40 PM	0.0	0.1	22.1	29.97	-0.04
MW-13/20	OK	10/15/2019	2:30 PM	0.0	0.7	21.4	29.97	0.02

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	10/15/2019	9:35 AM	0.0	0.1	21.7	29.97	-0.87
B-05	OK	10/15/2019	9:46 AM	0.0	0.1	21.9	29.97	-1.01
B-06	OK	10/15/2019	9:50 AM	0.0	0.1	21.9	29.97	-0.83
B-07	OK	10/15/2019	9:53 AM	0.0	2.4	19.3	29.97	-2.15
B-08	OK	10/15/2019	10:00 AM	0.0	0.1	22.0	29.97	-0.95
B-09	OK	10/15/2019	11:30 AM	0.0	0.4	21.4	30.05	-3.34
B-10	OK	10/15/2019	11:33 AM	0.0	0.4	21.4	30.06	-0.24
B-11	OK	10/15/2019	11:36 AM	0.0	0.3	21.5	30.07	-2.20
B-12	OK	10/15/2019	11:39 AM	0.3	3.2	17.8	30.08	-6.22
B-13	OK	10/15/2019	11:58 AM	0.0	0.3	21.2	30.08	-26.89
B-14	OK	10/15/2019	11:55 AM	0.0	2.7	18.5	30.08	-2.63
B-15	OK	10/15/2019	11:53 AM	0.0	0.1	21.2	30.08	-6.63
BLOWER B	NA	-	-	-	-	-	-	-
BLOWER C	NA	10/15/2019	11:42 AM	0.4	2.9	18.2	30.08	5.38

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - Blower B: Off, Blower C: On
NA - Not Applicable

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	10/15/2019	9:26 AM	0.0	0.1	21.6	29.97	-0.19
MW-01/40	OK	10/15/2019	9:29 AM	0.0	0.1	21.7	29.97	-0.27
MW-01/60	OK	10/15/2019	9:32 AM	0.0	0.1	21.7	29.97	-0.21
MW-02/20	OK	10/15/2019	9:40 AM	0.0	0.1	21.7	29.97	-0.18
MW-02/40	OK	10/15/2019	9:42 AM	0.0	0.1	21.7	29.97	-0.25
MW-02/60	OK	10/15/2019	9:45 AM	0.0	0.1	21.9	29.97	-0.29
MW-25/20	OK	10/15/2019	11:59 AM	0.0	0.2	21.2	30.08	-0.01
MW-25/40	OK	10/15/2019	12:02 PM	0.0	0.1	21.3	30.08	-0.03
MW-25/60	OK	10/15/2019	12:05 PM	0.0	0.1	21.3	30.08	-0.24
MW-26/20	OK	10/15/2019	12:08 PM	0.0	0.1	21.5	30.08	-0.06
MW-26/40	OK	10/15/2019	12:10 PM	0.0	0.1	21.5	30.08	-0.12
MW-26/60	OK	10/15/2019	12:13 PM	0.0	0.1	21.4	30.08	-0.27
MW-27/20	OK	10/15/2019	12:15 PM	0.0	0.1	21.5	30.08	-0.01
MW-27/40	OK	10/15/2019	12:17 PM	0.0	0.1	21.5	30.08	-0.08
MW-27/60	OK	10/15/2019	12:19 PM	0.0	0.1	21.5	30.08	-0.07

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	10/15/2019	1:31 PM	0.0	0.1	21.9	29.99	-4.09
C-02	OK	10/15/2019	1:27 PM	0.0	2.0	19.4	29.99	-1.94
C-03	OK	10/15/2019	1:25 PM	0.0	2.3	18.1	29.99	-3.67
C-04	OK	10/15/2019	1:17 PM	0.0	0.1	21.9	30.00	-4.20
C-05	OK	10/15/2019	1:14 PM	0.0	0.1	21.9	30.01	-2.41
C-06	OK	10/15/2019	1:12 PM	0.0	0.1	21.7	30.01	-2.27
C-07	OK	10/15/2019	1:10 PM	0.0	2.5	18.7	30.02	-2.30
C-08	OK	10/15/2019	1:07 PM	0.0	1.7	19.6	30.02	-3.22
C-09	OK	10/15/2019	1:05 PM	0.0	1.2	20.6	30.02	-4.26
C-10	OK	10/15/2019	1:02 PM	0.0	1.8	19.8	30.06	-5.37
C-11	OK	10/15/2019	12:59 PM	0.2	2.2	18.9	30.06	-4.89
C-12	OK	10/15/2019	12:55 PM	0.6	4.6	16.0	30.08	-3.85
C-13	OK	10/15/2019	12:43 PM	0.0	0.1	22.3	30.08	-4.75
C-14	OK	10/15/2019	12:37 PM	0.0	0.1	22.0	30.10	-1.73
C-15	OK	10/15/2019	12:30 PM	0.0	0.1	21.9	30.10	-2.47
C-16	OK	10/15/2019	12:24 PM	0.0	0.8	20.7	30.10	-1.80
C-17	OK	10/15/2019	1:40 PM	0.0	3.8	17.4	29.97	-3.97
BLOWER C	NA	10/15/2019	11:42 AM	0.4	2.9	18.2	30.08	5.38

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - On

NA - Not Applicable

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	10/15/2019	2:10 PM	0.0	0.1	21.8	29.98	-0.04
MW-19/40	OK	10/15/2019	2:12 PM	0.0	0.2	21.7	29.98	-0.07
MW-19/60	OK	10/15/2019	2:14 PM	0.0	0.1	21.9	29.98	-0.31
MW-23/20	OK	10/15/2019	2:02 PM	0.0	0.1	21.6	29.98	0.03
MW-23/40	OK	10/15/2019	2:05 PM	0.0	0.2	21.6	29.98	0.14
MW-23/60	OK	10/15/2019	2:07 PM	0.0	0.1	21.7	29.98	0.11

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	10/15/2019	9:56 AM	0.0	0.1	21.9	29.97	-0.16
MW-51	OK	10/15/2019	2:34 PM	0.0	0.1	22.1	29.96	-0.08
MW-52	OK	10/15/2019	10:25 AM	0.0	0.9	21.1	29.97	0.00
MW-53	OK	10/15/2019	11:04 AM	0.0	0.1	21.4	29.97	-0.03
MW-54	OK	10/15/2019	11:01 AM	0.0	0.5	20.9	29.97	-0.02
MW-56	OK	10/15/2019	12:22 PM	0.0	0.1	21.6	30.08	0.04
MW-57	OK	10/15/2019	12:28 PM	0.0	0.1	21.7	30.10	-0.02
MW-58	OK	10/15/2019	2:22 PM	0.0	1.6	20.3	30.07	-0.28
MW-59	OK	10/15/2019	12:34 PM	0.0	0.1	22.0	30.10	0.03
MW-60	OK	10/15/2019	12:39 PM	0.0	0.1	22.2	30.10	-0.20
MW-61	OK	10/15/2019	12:52 PM	0.0	0.1	22.1	30.06	-0.60
MW-62	OK	10/15/2019	2:18 PM	0.0	0.1	22.2	30.03	-0.11
MW-63	OK	10/15/2019	2:16 PM	0.0	0.1	22.0	30.00	-0.31
MW-64	OK	10/15/2019	1:18 PM	0.0	0.1	22.0	30.00	-0.48
MW-65	OK	10/15/2019	1:20 PM	0.0	0.1	22.1	30.00	-0.22

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	10/16/2019	8:40 AM	31.0	27.9	0.0	29.76	0.90	-1.29
MSW-04	OK	10/16/2019	8:58 AM	16.0	20.6	2.5	29.76	-1.04	-1.18
MSW-05	OK	10/16/2019	8:54 AM	45.6	39.5	0.0	29.76	-0.38	-0.86
MSW-06	OK	10/16/2019	8:50 AM	31.7	32.3	0.0	29.76	-0.34	-0.38
MSW-07	OK	10/16/2019	8:44 AM	22.9	17.3	1.4	29.76	-0.18	-0.41
MSW-09	OK	10/16/2019	9:50 AM	27.6	31.0	0.0	29.76	-0.42	-0.63
MSW-10	OK	10/16/2019	9:44 AM	55.5	44.8	0.0	29.76	-0.10	-
MSW-11	OK	10/16/2019	9:39 AM	36.2	36.5	0.0	29.76	-0.48	-0.54
MSW-12	OK	10/16/2019	9:14 AM	36.1	36.9	0.0	29.76	-0.48	-0.55
MSW-13	OK	10/16/2019	9:35 AM	40.6	38.7	0.0	29.76	-0.42	-
MSW-14	OK	10/16/2019	9:31 AM	52.2	43.6	0.1	29.76	-0.72	-
MSW-15	OK	10/16/2019	9:27 AM	46.4	39.3	1.5	29.76	-0.17	-0.77
MSW-16	OK	10/16/2019	9:23 AM	21.9	28.3	0.0	29.76	-0.72	-0.75
MSW-17	OK	10/16/2019	9:06 AM	29.2	33.0	0.1	29.76	0.16	-
MSW-18	OK	10/16/2019	9:10 AM	53.7	42.8	0.0	29.76	-0.07	-
MSW-19	OK	10/16/2019	9:19 AM	54.5	45.2	0.3	29.76	-0.17	-0.19

Notes:
*** MSW-01 - Well under repair**
- = No well head vacuum sample port present.
CH_4, CO_2 and O_2 are reported in Percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 10/16: 55°F Partly Cloudy, 0-5 MPH wind to the NE, 82% Humidity

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Closed MSW Landfill

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200, Phase I	10/15/2019	11:15 AM	5.2	8.7	11.7	90	-1.17	29.97	1/2 Open
V-203, Phase III	10/15/2019	11:19 AM	5.6	9.3	10.8	88	-1.25	29.97	1/4 Open
Dog House									
Phase IV Vertical	10/15/2019	9:20 AM	27.0	26.8	2.3	80	-2.86	29.97	Open
Phase II Horizontal	10/15/2019	9:15 AM	1.0	14.0	10.9	72	-0.11	29.97	Closed
Small Dog House									
Phase II Horizontal	10/15/2019	9:10 AM	11.3	18.4	3.4	88	-2.67	29.97	1/2 Open
Phase II Valve Pit									
S - Horizontal, (V5)	10/16/2019	8:10 AM	44.2	40.2	0.2	78	-2.79	29.76	1/2 Open
W - Horizontal, (V7)	10/16/2019	8:15 AM	32.2	35.1	0.1	72	-2.42	29.76	1/2 Open
CF Phase II-Vertical*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Flare Compound									
Moisture Separator	10/16/2019	8:20 AM	21.3	24.9	3.4	76	-3.36	29.76	N/A
CF Phase I *	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
*= Offline
CH_4, CO_2 and O_2 are reported in percent gas.
Temperature recorded in degrees Fahrenheit
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 10/15 : 50-62° F, Clear, 5-10 MPH wind to the NW, 66% Humidity
10/16: 55°F Partly Cloudy, 0-5 MPH wind to the NE, 82% Humidity.

TABLE 12
VOLATILE ORGANIC COMPOUND (VOC) AMBIENT AIR MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	10/16/2019	Adjacent to well MW-2A	0.0
AMBIENT 2	10/16/2019	Adjacent to well MW-09	0.0
AMBIENT 3	10/16/2019	Adjacent to well C-4	0.0
AMBIENT 4	10/16/2019	Adjacent to well B-13	0.0

Notes:
VOCs reported as parts per million, as measured by a calibrated photoionization detector.

Weather - 10/16: 55°F, Partly Cloudy, 0-5 MPH wind to the NE, 82% Humidity.

D&B ENGINEERS AND ARCHITECTS, P.C.

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November 21, 2019

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
November 2019 Landfill Gas and VOC Ambient Air Monitoring Results
D&B No. 5281-31A

Dear Mr. Varrichio:

On November 18 and 19, 2019, D&B Engineers and Architects, P.C. (D&B) performed landfill gas and volatile organic compound (VOC) ambient air monitoring at the above-referenced site. Monitoring for VOCs in ambient air was performed with a Mini RAE 2000 photoionization detector (PID). The PID was zeroed with ambient air and calibrated with 100 parts per million (ppm) isobutylene gas prior to monitoring in accordance with the manufacturer's recommendations. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter.

Landfill gas was monitored with the Landtec GEM 5000 Gas Analyzer. The gas analyzer was calibrated with 50 percent (%) CH_4 and 35% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling

The landfill gas monitoring results are provided in Tables 1 through 11 and ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. A Site Plan depicting the locations of the landfill gas monitoring points is included in Figure 1.

The next landfill gas monitoring event is tentatively scheduled for December 3 and 4, 2019. Mike Portela will be notified several days in advance of the sampling event.

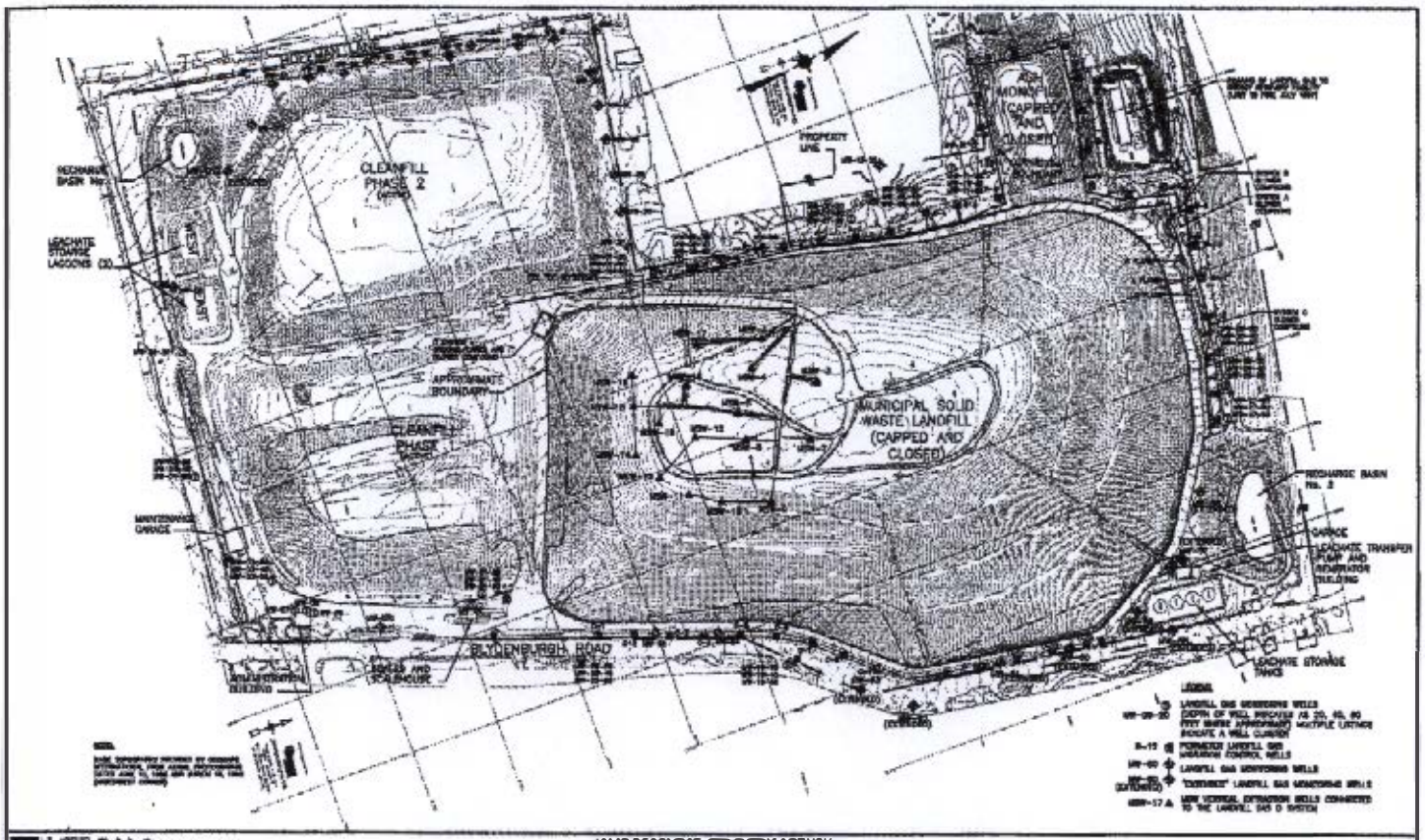
Should you have any questions, please do not hesitate to call me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith Robins

Keith Robins, P.G.
Project Manager

KR/MFt/cf,nc
Attachments
cc: Fazil Rahaman (via email)
Mike Portela (via email)
*5281\KR191Ltr-18



D&B ENGINEERS AND ARCHITECTS, P.C.

SLAP RESOURCE RECOVERY AGENCY
BLYDENBURGH ROAD LANDFILL COMPLEX

LANDFILL GAS MONITORING WELL AND PERIMETER EXTRACTION WELL LOCATIONS

FIGURE 1

TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	11/18/2019	10:58 AM	0.0	0.1	21.8	29.60	-1.24
A-02	OK	11/18/2019	11:10 AM	0.0	3.6	17.8	29.60	-0.72
A-03	OK	11/18/2019	11:14 AM	0.0	2.4	19.3	29.60	-0.88
A-04	OK	11/18/2019	11:17 AM	0.0	0.1	21.6	29.60	-0.43
A-05	OK	11/18/2019	11:20 AM	0.0	0.1	21.8	29.60	-0.45
A-06	OK	11/18/2019	11:23 AM	8.5	16.0	5.1	29.60	-1.99
A-07	OK	11/18/2019	11:27 AM	0.0	0.1	21.6	29.60	-5.24
A-08	OK	11/18/2019	11:35 AM	0.3	4.8	16.0	29.60	-1.10
A-09	OK	11/18/2019	11:37 AM	0.0	2.8	18.8	29.60	-1.20
A-10	OK	11/18/2019	11:39 AM	0.0	1.5	20.7	29.60	-0.85
A-11	OK	11/18/2019	11:48 AM	0.0	0.1	21.6	29.58	-7.05
A-12	OK	11/18/2019	11:54 AM	0.0	1.2	20.7	29.58	-0.72
A-13	OK	11/18/2019	11:57 AM	0.0	1.0	20.5	29.58	-0.61
A-14	OK	11/18/2019	12:00 PM	0.1	2.9	18.3	29.58	-0.34
A-15	OK	11/18/2019	12:04 PM	0.0	3.3	17.6	29.58	-0.17
A-16	OK	11/18/2019	12:07 PM	0.0	0.1	21.8	29.58	0.96
A-17	OK	11/18/2019	12:10 PM	0.0	0.7	21.2	29.58	-0.67
A-18	OK	11/18/2019	12:14 PM	0.0	0.7	21.4	29.58	-2.05
BLOWER A	NA	-	-	-	-	-	-	-
BLOWER B	NA	11/18/2019	12:34	0.6	3.5	18.9	29.58	10.1

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - System A: Off, System B: On
NA - Not Applicable

Weather - 11/18: 40-45°F, Overcast and Rain, 5-10 MPH wind, 95% Humidity.

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	11/19/2019	12:03 PM	0.0	0.3	21.8	29.62	-0.09
MW-07/40	OK	11/19/2019	12:01 PM	0.0	0.4	21.7	29.62	-0.14
MW-07/60	OK	11/19/2019	11:59 AM	0.0	0.7	21.4	29.62	-0.19
MW-08/20	OK	11/19/2019	11:53 AM	0.0	0.6	21.4	29.62	-0.05
MW-08/40	OK	11/19/2019	11:55 AM	0.0	0.7	21.2	29.62	-0.11
MW-08/60	OK	11/19/2019	11:57 AM	0.0	0.4	21.6	29.62	-0.13
MW-11/20	OK	11/19/2019	11:45 AM	0.0	0.1	21.6	29.62	-0.04
MW-11/40	OK	11/19/2019	11:48 AM	0.0	0.2	21.5	29.62	-0.08
MW-11/60	OK	11/19/2019	11:50 AM	0.0	0.2	21.6	29.62	-0.10
MW-13/20	OK	11/19/2019	11:37 AM	0.0	0.5	21.1	29.59	-0.02

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather - 11/19 : 45-50° F, Overcast, 0.5 MPH wind to the WNW, 76% Humidity

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	11/18/2019	10:24 AM	0.0	2.8	19.4	29.62	-1.12
B-05	OK	11/18/2019	10:42 AM	0.0	2.8	18.9	29.62	-1.33
B-06	OK	11/18/2019	10:47 AM	0.0	3.6	18.1	29.62	-2.22
B-07	OK	11/18/2019	10:50 AM	0.0	4.0	17.5	29.62	-3.24
B-08	OK	11/18/2019	10:53 AM	0.0	2.6	18.7	29.62	-2.44
B-09	OK	11/18/2019	12:47 PM	0.0	0.5	21.8	29.62	-4.48
B-10	OK	11/18/2019	12:50 PM	0.0	0.3	22.0	29.63	-0.38
B-11	OK	11/18/2019	12:53 PM	0.0	0.3	22.1	29.63	-3.13
B-12	OK	11/18/2019	12:56 PM	0.7	3.8	17.9	29.64	-8.65
B-13	OK	11/18/2019	1:03 PM	0.0	0.9	21.4	29.62	-47.69
B-14	OK	11/18/2019	1:03 PM	0.0	3.1	19.0	29.64	-3.63
B-15	OK	11/18/2019	1:08 PM	0.0	0.1	22.2	29.64	-9.79
BLOWER B	NA	11/18/2019	12:34 PM	0.6	3.5	18.9	29.58	10.10
BLOWER C	NA	11/18/2019	12:59 PM	0.7	3.6	18.3	29.64	3.28

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - Blower B: On, Blower C: On

NA - Not Applicable

Weather - 11/18: 40-45°F, Overcast and Rain, 5-10 MPH wind, 95% Humidity.

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	11/19/2019	10:17 AM	0.0	0.1	22.1	29.65	-0.04
MW-01/40	OK	11/19/2019	10:19 AM	0.0	0.1	22.2	29.65	-0.06
MW-01/60	OK	11/19/2019	10:21 AM	0.0	0.1	22.2	29.65	-0.09
MW-02/20	OK	11/19/2019	10:30 AM	0.0	0.4	21.1	29.62	-0.07
MW-02/40	OK	11/19/2019	10:34 AM	0.0	0.6	21.4	29.62	-0.14
MW-02/60	OK	11/19/2019	10:37 AM	0.0	0.8	21.3	29.62	-0.10
MW-25/20	OK	11/19/2019	1:26 PM	0.0	0.2	22.1	29.64	-0.11
MW-25/40	OK	11/19/2019	1:29 PM	0.0	0.1	22.2	29.64	-0.12
MW-25/60	OK	11/19/2019	1:33 PM	0.0	0.2	22.2	29.64	-0.43
MW-26/20	OK	11/19/2019	1:18 PM	0.0	0.1	22.3	29.64	-0.16
MW-26/40	OK	11/19/2019	1:20 PM	0.0	0.2	22.2	29.64	-0.31
MW-26/60	OK	11/19/2019	1:23 PM	0.0	0.1	22.3	29.64	-0.47
MW-27/20	OK	11/19/2019	1:11 PM	0.0	0.1	22.3	29.64	-0.11
MW-27/40	OK	11/19/2019	1:13 PM	0.0	0.1	22.3	29.64	-0.15
MW-27/60	OK	11/19/2019	1:16 PM	0.0	0.1	22.3	29.64	-0.14

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather - 11/19 : 45-50° F,Overcast, 0-5 MPH wind to the WNW, 76% Humidity

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	11/18/2019	2:45 PM	0.0	4.1	18.6	29.55	-1.00
C-02	OK	11/18/2019	2:42 PM	0.0	2.4	19.5	29.55	-2.09
C-03	OK	11/18/2019	2:36 PM	0.0	3.3	16.9	29.56	-1.99
C-04	OK	11/18/2019	2:33 PM	0.0	0.4	21.9	29.56	-1.64
C-05	OK	11/18/2019	2:27 PM	8.2	15.6	6.9	29.57	-1.16
C-06	OK	11/18/2019	2:24 PM	0.0	0.1	21.6	29.57	-1.10
C-07	OK	11/18/2019	2:21 PM	0.2	4.8	16.5	29.58	-1.18
C-08	OK	11/18/2019	2:18 PM	0.0	2.2	19.4	29.58	-1.28
C-09	OK	11/18/2019	2:14 PM	0.0	1.5	20.5	29.58	-1.78
C-10	OK	11/18/2019	2:10 PM	0.0	2.0	19.8	29.61	-2.53
C-11	OK	11/18/2019	2:06 PM	0.5	4.4	16.6	29.62	-2.42
C-12	OK	11/18/2019	2:03 PM	0.9	7.9	21.5	29.62	-1.78
C-13	OK	11/18/2019	1:56 PM	0.0	0.2	22.1	29.63	-2.10
C-14	OK	11/18/2019	1:50 PM	0.0	1.1	21.4	29.65	-0.94
C-15	OK	11/18/2019	1:40 PM	0.0	1.6	20.3	29.65	-1.51
C-16	OK	11/18/2019	1:42 PM	0.0	1.1	20.9	29.65	-1.00
C-17	OK	11/18/2019	2:48 PM	0.0	5.9	15.2	29.54	-2.06
BLOWER C	NA	11/18/2019	12:59 PM	0.7	3.6	18.3	29.64	3.28

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NA - Not Applicable

Weather - 11/18: 40-45° F, Overcast and Rain, 5-10 MPH wind, 95% Humidity.

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	11/19/2019	11:13 AM	0.0	0.4	21.4	29.64	-0.06
MW-19/40	OK	11/19/2019	11:15 AM	0.0	0.4	21.4	29.64	-0.02
MW-19/60	OK	11/19/2019	11:17 AM	0.0	0.1	21.6	29.64	-0.14
MW-23/20	OK	11/19/2019	11:05 AM	0.0	0.9	20.4	29.64	0.00
MW-23/40	OK	11/19/2019	11:00 AM	0.0	1.3	20.3	29.64	0.01
MW-23/60	OK	11/19/2019	11:10 AM	0.0	0.2	21.6	29.64	0.00

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 11/19 : 45-50° F, Overcast, 0-5 MPH wind to the WNW, 76% Humidity

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	11/18/2019	10:55 AM	0.0	1.0	21.1	29.62	0.06
MW-51	OK	11/19/2019	11:42 AM	0.0	0.1	21.6	29.62	-0.13
MW-52	OK	11/18/2019	10:31 AM	0.0	1.3	21.0	29.60	0.02
MW-53	OK	11/18/2019	12:30 PM	0.0	0.9	21.0	29.58	-0.04
MW-54	OK	11/18/2019	12:27 PM	0.0	0.1	22.1	29.58	-0.05
MW-56	OK	11/18/2019	1:35 PM	0.0	2.1	19.9	29.62	0.02
MW-57	OK	11/18/2019	1:38 PM	0.0	2.2	19.7	29.65	0.06
MW-58	OK	11/19/2019	11:30 AM	0.0	1.6	19.8	29.73	-0.48
MW-59	OK	11/18/2019	1:46 PM	0.0	1.2	21.0	29.65	0.00
MW-60	OK	11/18/2019	1:52 PM	0.0	0.1	22.2	29.64	-0.04
MW-61	OK	11/18/2019	2:00 PM	0.0	0.1	22.3	29.62	-0.07
MW-62	OK	11/19/2019	11:24 AM	0.0	0.1	21.7	29.68	-0.04
MW-63	OK	11/19/2019	11:22 AM	0.0	0.1	21.6	29.67	-0.17
MW-64	OK	11/18/2019	2:30 PM	0.0	0.2	21.3	29.57	-0.18
MW-65	OK	11/18/2019	2:39 PM	0.0	0.1	21.3	29.55	-0.04

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Weather - 11/18: 40-45° F, Overcast and Rain, 5-10 MPH wind, 95% Humidity
11/19 : 4 550° F,Overcast, 0-5 MPH wind to the WNW, 76% Humidity

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	11/19/2019	9:57 AM	34.2	28.9	0.1	29.52	-0.19	-2.45
MSW-04	OK	11/19/2019	10:48 AM	17.7	21.8	2.4	29.52	-2.29	-2.48
MSW-05	OK	11/19/2019	10:09 AM	45.9	39.3	0.1	29.52	-1.56	-2.02
MSW-06	OK	11/19/2019	10:05 AM	28.6	29.8	0.0	29.52	-1.38	-1.69
MSW-07	OK	11/19/2019	10:02 AM	24.6	16.9	2.3	29.52	-1.06	-1.58
MSW-09	OK	11/19/2019	10:44 AM	21.8	27.8	0.2	29.52	-1.21	-1.67
MSW-10	OK	11/19/2019	10:40 AM	55.0	45.0	0.0	29.52	-0.95	-
MSW-11	OK	11/19/2019	10:34 AM	29.8	33.6	0.0	29.52	-1.47	-1.65
MSW-12	OK	11/19/2019	10:37 AM	30.1	33.6	0.0	29.52	-1.52	-1.75
MSW-13	OK	11/19/2019	10:30 AM	33.4	35.2	0.4	29.52	-1.54	-
MSW-14	OK	11/19/2019	10:27 AM	50.8	43.3	0.6	29.52	-1.65	-
MSW-15	OK	11/19/2019	10:24 AM	47.3	40.4	1.2	29.52	-1.08	-2.00
MSW-16	OK	11/19/2019	10:18 AM	18.8	27.2	0.0	29.52	-1.87	-1.91
MSW-17	OK	11/19/2019	10:12 AM	29.0	30.4	3.0	29.52	-0.71	-
MSW-18	OK	11/19/2019	10:15 AM	53.5	43.2	0.3	29.52	-1.01	-
MSW-19	OK	11/19/2019	10:21 AM	53.5	46.4	0.2	29.52	-1.05	-1.04

Notes:
*** MSW-01 - Well under repair**
- = No well head vacuum sample port present
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 11/19 : 45-50° F,Overcast, 0-5 MPH wind to the WNW, 76% Humidity

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Closed MSW Landfill

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200, Phase I	11/18/2019	12:19 PM	9.7	13.0	7.5	54	-0.54	29.58	1/2 Open
V-203, Phase III	11/18/2019	12:23 PM	9.9	13.2	7.3	52	-0.58	29.58	1/4 Open
Dog House									
Phase IV Vertical	11/18/2019	10:01 AM	30.6	29.9	1.6	56	-2.69	29.65	Open
Phase II Horizontal	11/18/2019	10:04 AM	0.1	9.7	11.9	54	0.06	29.65	Closed
Small Dog House									
Phase II Horizontal	11/18/2019	10:10 AM	14.4	19.8	2.8	56	-2.61	29.65	1/2 Open
Phase II Valve Pit									
E - Horizontal (V5)	11/19/2019	8:57 AM	43.0	41.4	0.1	68	-4.17	29.60	1/2 Open
W - Horizontal, (V7)	11/19/2019	9:01 AM	32.1	36.5	0.1	66	-4.12	29.60	1/2 Open
@ Phase II Vertical*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Flare Compound									
Moisture Separator @ Phase I*	11/19/2019	9:07 AM	16.4	19.2	7.7	68	-6.67	29.60	N/A
	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
*= Offline
CH_4, CO_2, and O_2 are reported in percent gas
Temperature recorded in degrees Fahrenheit
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 11/18 : 40-45° F, Overcast and Rain, 5-10 MPH wind, 95% Humidity
11/19 : 45-50° F, Overcast, 0-5 MPH wind to the WNW, 76% Humidity

TABLE 12
VOLATILE ORGANIC COMPOUND (VOC) AMBIENT AIR MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	11/19/2019	Adjacent to well A-11	0.0
AMBIENT 2	11/19/2019	Adjacent to well MW-57	0.0
AMBIENT 3	11/19/2019	Adjacent to well C-17	0.0
AMBIENT 4	11/19/2019	Adjacent to well MW-04	0.0

Notes:
VOCs reported as parts per million, as measured by a calibrated photoionization detector.

Weather - 11/19 : 45-50° F,Overcast, 0-5 MPH wind to the WNW, 76% Humidity

D&B ENGINEERS AND ARCHITECTS, P.C.

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Senior Vice President

January 14, 2020

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
December 2019 Landfill Gas and VOC Ambient Air Monitoring Results
D&B No. 5281-31A

Dear Mr. Varrichio:

On December 20 and 23, 2019, D&B Engineers and Architects, P.C. (D&B) performed landfill gas and volatile organic compound (VOC) ambient air monitoring at the above referenced site. Monitoring for VOCs in ambient air was performed with a Mini RAE 2000 photoionization detector (PID). The PID was zeroed with ambient air and calibrated with 100 parts per million (ppm) isobutylene gas prior to monitoring in accordance with the manufacturer's recommendations. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter.

Landfill gas was monitored with the Landtec GEM 5000 Gas Analyzer. The gas analyzer was calibrated with 50 percent (%) CH_4 and 35% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling.

The landfill gas monitoring results are provided in Tables 1 through 11 and ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. A Site Plan depicting the locations of the landfill gas monitoring points is included in Figure 1.

The next landfill gas monitoring event is tentatively scheduled for January 20 and 21, 2020. Mike Pottela will be notified several days in advance of the sampling event.

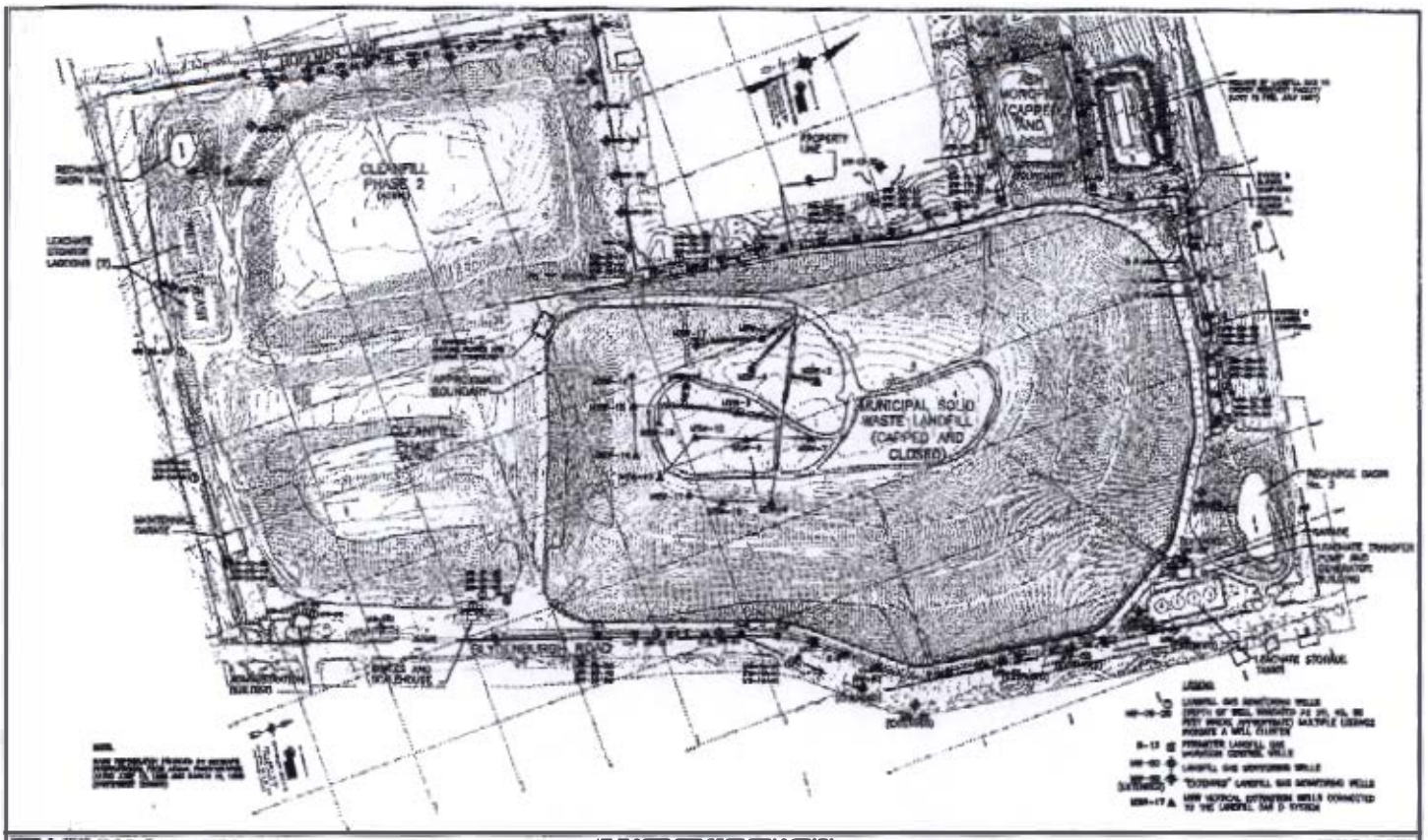
Should you have any questions, please do not hesitate to call me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith Robins

Keith Robins, P.G.
Project Manager

KR/MFt/cf
Attachments
cc: Fazil Rahaman (via email)
Mike Pottela (via email)
*5281\KR20I.TR-01



D&B ENGINEERS AND ARCHITECTS, P.C.

LANDFILL GAS MONITORING WELL AND PERIMETER EXTRACTION WELL LOCATIONS

FIGURE 1

TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	12/20/2020	11:09 AM	0.0	0.6	22.2	30.30	-0.29
A-02	OK	12/20/2020	11:14 AM	0.0	1.2	21.8	30.30	-0.74
A-03	OK	12/20/2020	11:18 AM	0.0	0.9	21.9	30.30	-0.80
A-04	OK	12/20/2020	11:23 AM	0.0	0.5	22.0	30.32	-0.48
A-05	OK	12/20/2020	11:26 AM	0.0	0.1	22.3	30.32	-0.45
A-06	OK	12/20/2020	11:30 AM	4.1	11.9	9.1	30.32	-1.35
A-07	OK	12/20/2020	11:35 AM	0.0	0.1	22.0	30.32	-3.46
A-08	OK	12/20/2020	11:44 AM	0.0	3.5	18.8	30.32	-0.87
A-09	OK	12/20/2020	12:00 PM	0.0	2.3	18.6	30.32	-0.84
A-10	OK	12/20/2020	12:08 PM	0.0	1.0	20.2	30.31	-0.61
A-11	OK	12/20/2020	12:14 PM	0.0	0.1	21.3	30.31	-3.86
A-12	OK	12/20/2020	12:20 PM	0.0	0.4	21.3	30.31	-0.46
A-13	OK	12/20/2020	12:25 PM	0.0	0.7	20.9	30.30	-1.22
A-14	OK	12/20/2020	12:29 PM	0.0	1.9	19.8	30.30	-0.23
A-15	OK	12/20/2020	12:40 PM	0.0	1.4	20.4	30.30	-0.16
A-16	OK	12/20/2020	12:50 PM	0.0	1.3	21.2	30.33	-0.65
A-17	OK	12/20/2020	12:57 PM	0.0	0.9	21.0	30.35	-0.45
A-18	OK	12/20/2020	1:00 PM	0.0	0.1	21.3	30.36	-1.46
BLOWER A	NA	12/20/2020	1:26 PM	0.3	1.8	20.7	30.36	28.17
BLOWER B	NA	-	-	-	-	-	-	-

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - System A: Off, System B: On
NA - Not Applicable

Weather - 12/20/2019: 26 °F, Clear, 10-15 mph winds

J:_HazWaste\5281 (Blydenburgh and Lincoln Ave LFG Monitoring)\31A - 2019 Monthly Monitoring and Reporting\2019.12 - December\Blydenburgh\Blydenburgh Table 1 - Extraction Wells System A

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	12/23/2019	12:58 PM	0.0	0.2	21.7	29.92	-0.02
MW-07/40	OK	12/23/2019	12:25 PM	0.0	0.2	21.6	29.92	-0.04
MW-07/60	OK	12/23/2019	12:23 PM	0.0	0.1	21.7	29.92	-0.03
MW-08/20	OK	12/23/2019	12:17 PM	0.0	0.1	21.5	29.92	0.01
MW-08/40	OK	12/23/2019	12:19 PM	0.0	0.1	21.6	29.92	0.01
MW-08/60	OK	12/23/2019	12:21 PM	0.0	0.1	21.6	29.92	0.00
MW-11/20	OK	12/23/2019	12:10 PM	0.0	0.1	21.5	29.92	0.01
MW-11/40	OK	12/23/2019	12:12 PM	0.0	0.1	21.5	29.92	-0.01
MW-11/60	OK	12/23/2019	12:14 PM	0.0	0.1	21.4	29.92	0.00
MW-13/20	OK	12/23/2019	11:59 AM	0.0	0.2	21.3	29.98	0.04

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury

Weather - 12/23/2019:39 °F, Clear, S-10 mph winds.

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	12/20/2019	10:44 AM	0.0	0.1	22.3	30.30	-1.05
B-05	OK	12/20/2019	10:48 AM	0.0	0.2	22.1	30.30	-1.31
B-06	OK	12/20/2019	10:51 AM	0.0	0.1	22.2	30.30	-0.81
B-07	OK	12/20/2019	10:58 AM	0.0	1.3	21.4	30.30	-2.65
B-08	OK	12/20/2019	11:04 AM	0.0	0.1	22.4	30.30	-0.93
B-09	OK	12/20/2019	1:30 PM	0.0	0.3	22.3	30.38	-4.73
B-10	OK	12/20/2019	1:33 PM	0.0	0.2	22.6	30.39	-0.57
B-11	OK	12/20/2019	1:36 PM	0.0	0.2	22.8	30.39	-4.04
B-12	OK	12/20/2019	1:38 PM	0.8	2.8	19.9	30.40	-8.92
B-13	OK	12/20/2019	1:43 PM	0.0	0.2	22.7	30.39	-48.34
B-14	OK	12/20/2019	1:47 PM	0.2	2.4	20.7	30.41	-4.08
B-15	OK	12/20/2019	1:19 PM	0.0	0.1	23.1	30.41	-10.64
BLOWER B	NA	-	-	-	-	-	-	-
BLOWER C	NA	12/20/2019	1:40 PM	0.7	2.8	20.2	30.40	3.65

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - Blower B: On, Blower C: On
NA - Not Applicable

Weather - 12/20/2019: 26 °F, Clear, 10-15 mph winds.

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	12/20/2019	10:23 AM	0.0	0.1	22.1	30.32	-0.27
MW-01/40	OK	12/20/2019	10:25 AM	0.0	0.1	22.3	30.32	-0.31
MW-01/60	OK	12/20/2019	10:27 AM	0.0	0.1	22.5	30.32	-0.31
MW-02/20	OK	12/20/2019	10:38 AM	0.0	0.1	22.3	30.31	-0.22
MW-02/40	OK	12/20/2019	10:40 AM	0.0	0.1	22.3	30.31	-0.30
MW-02/60	OK	12/20/2019	10:43 AM	0.0	0.1	22.3	30.31	-0.35
MW-25/20	OK	12/20/2019	2:06 PM	0.0	0.1	22.5	30.42	-0.17
MW-25/40	OK	12/20/2019	2:09 PM	0.0	0.1	22.5	30.42	-0.21
MW-25/60	OK	12/20/2019	2:12 PM	0.0	0.1	22.5	30.42	-0.66
MW-26/20	OK	12/20/2019	2:00 PM	0.0	0.1	22.9	30.42	-0.21
MW-26/40	OK	12/20/2019	2:03 PM	0.0	0.1	22.8	30.42	-0.46
MW-26/60	OK	12/20/2019	2:05 PM	0.0	0.1	22.6	30.42	-0.62
MW-27/20	OK	12/20/2019	1:53 PM	0.0	0.1	23.0	30.42	-0.12
MW-27/40	OK	12/20/2019	1:56 PM	0.0	0.1	23.0	30.42	-0.31
MW-27/60	OK	12/20/2019	1:58 PM	0.0	0.1	23.0	30.42	-0.30

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather - 12/20/2019: 26 °F, Clear, 10-15 mph winds.

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	12/23/2019	9:18 AM	0.0	0.7	20.6	29.98	-1.81
C-02	OK	12/23/2019	9:15 AM	0.0	4.3	15.1	29.98	-1.99
C-03	OK	12/23/2019	9:08 AM	0.0	0.1	21.3	29.98	-1.83
C-04	OK	12/23/2019	9:04 AM	0.0	0.1	21.2	29.98	-0.24
C-05	OK	12/23/2019	9:01 AM	0.0	0.1	21.1	29.98	-1.43
C-06	OK	12/23/2019	8:57 AM	0.0	0.1	21.0	29.98	-1.30
C-07	OK	12/23/2019	8:54 AM	0.0	4.6	15.8	29.98	-1.22
C-08	OK	12/23/2019	8:51 AM	0.0	2.5	18.3	29.98	-1.63
C-09	OK	12/23/2019	8:48 AM	0.0	2.0	18.7	29.98	-2.10
C-10	OK	12/23/2019	8:44 AM	0.0	2.6	17.9	29.98	-2.36
C-11	OK	12/23/2019	8:38 AM	0.0	4.1	16.0	29.98	-2.38
C-12	OK	12/20/2019	2:55 PM	0.0	5.6	16.3	30.44	-2.26
C-13	OK	12/20/2019	2:50 PM	0.0	0.1	23.3	30.44	-1.81
C-14	OK	12/20/2019	2:41 PM	0.0	0.4	23.0	30.40	-2.03
C-15	OK	12/20/2019	2:27 PM	0.0	0.1	22.9	30.40	-1.69
C-16	OK	12/20/2019	2:22 PM	0.0	1.1	21.2	30.40	-1.83
C-17	OK	12/23/2019	9:31 AM	0.0	5.1	16.5	29.98	-1.77
BLOWER C	NA	12/20/2019	1:40 PM	0.7	2.8	20.2	30.40	3.65

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.

Relative well head pressure is reported in inches of water.

Atmospheric pressure is reported in inches of mercury.

Blower status - On

NA - Not Applicable

Weather - 12/20/2019: 26 °F, Clear, 10-15 mph winds
12/23/2019:39 °F, Clear, 5-10 mph winds

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	12/23/2019	11:32 AM	0.0	0.3	21.2	29.98	0.00
MW-19/40	OK	12/23/2019	11:34 AM	0.0	0.4	21.1	29.98	-0.03
MW-19/60	OK	12/23/2019	11:36 AM	0.0	0.1	21.6	29.98	-0.07
MW-23/20	OK	12/23/2019	11:24 AM	0.0	3.2	15.7	29.98	0.00
MW-23/40	OK	12/23/2019	11:26 AM	0.0	2.1	19.0	29.98	0.18
MW-23/60	OK	12/23/2019	11:28 AM	0.0	1.6	19.7	29.98	0.20

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather - 12/23/2019:39 °F, Clear, 5-10 mph winds.

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	12/20/2019	10:56 AM	0.0	0.1	22.2	30.30	-0.11
MW-51	OK	12/23/2019	12:07 PM	0.0	0.1	21.4	29.92	-0.08
MW-52	OK	12/20/2019	11:40 AM	0.0	0.6	22.0	30.32	-0.04
MW-53	OK	12/20/2019	1:08 PM	0.0	0.1	22.2	30.36	-0.04
MW-54	OK	12/20/2019	1:04 PM	0.0	0.2	21.7	30.37	-0.05
MW-56	OK	12/20/2019	2:18 PM	0.0	0.1	22.4	30.42	-0.07
MW-57	OK	12/20/2019	2:25 PM	0.0	0.1	22.6	30.44	-0.15
MW-58	OK	12/23/2019	11:51 AM	0.0	2.2	18.9	29.98	-0.68
MW-59	OK	12/20/2019	2:37 PM	0.0	0.3	23.2	30.44	-0.06
MW-60	OK	12/20/2019	2:46 PM	0.0	0.1	23.3	30.44	-0.27
MW-61	OK	12/23/2019	8:30 AM	0.0	0.1	20.4	29.98	-0.36
MW-62	OK	12/23/2019	11:42 AM	0.0	0.5	20.8	29.98	-0.01
MW-63	OK	12/23/2019	11:39 AM	0.0	0.1	21.7	29.98	-0.03
MW-64	OK	12/23/2019	9:19 AM	0.0	0.1	21.2	29.98	-0.07
MW-65	OK	12/23/2019	9:13 AM	0.0	0.1	21.3	29.98	-0.12

Notes:
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.

Weather - 12/20/2019: 26 °F, Clear, 10-15 mph winds.
12/23/2019: 39 °F, Clear, 5-10 mph winds.

TABLE 1D
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Date	Time	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	12/23/2019	10:22 AM	34.1	29.0	0.1	29.98	0.24	-1.92
MSW-04	OK	12/23/2019	10:32 AM	17.3	21.1	2.5	29.98	-1.87	-1.86
MSW-05	OK	12/23/2019	10:35 AM	45.7	39.3	0.0	29.98	-1.10	-1.57
MSW-06	OK	12/23/2019	10:29 AM	28.7	29.9	0.0	29.98	-0.76	-1.62
MSW-07	OK	12/23/2019	10:26 AM	23.8	16.2	2.2	29.98	-0.67	-1.26
MSW-09	OK	12/23/2019	11:06 AM	24.8	28.6	0.1	29.98	-0.68	-1.07
MSW-10	OK	12/23/2019	11:03 AM	55.8	44.4	0.0	29.98	-0.45	-
MSW-11	OK	12/23/2019	11:00 AM	34.3	35.2	0.0	29.98	-0.86	-0.79
MSW-12	OK	12/23/2019	10:41 AM	31.3	33.9	0.0	29.98	-1.08	-1.21
MSW-13	OK	12/23/2019	10:58 AM	35.4	35.8	0.0	29.98	-1.03	-
MSW-14	OK	12/23/2019	10:55 AM	52.8	44.1	0.0	29.98	-1.12	-
MSW-15	OK	12/23/2019	10:53 AM	41.1	35.9	3.1	29.98	-0.65	-1.53
MSW-16	OK	12/23/2019	10:50 AM	20.2	27.0	0.0	29.98	-1.34	-1.36
MSW-17	OK	12/23/2019	10:38 AM	29.1	31.3	1.7	29.98	-0.17	-
MSW-18	OK	12/23/2019	10:44 AM	53.8	43.2	0.0	29.98	-0.54	-
MSW-19	OK	12/23/2019	10:47 AM	54.2	45.5	0.3	29.98	-0.66	-0.66

Notes:
*** MSW-01 - Well under repair**
- = No well head vacuum sample port present
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 12/20/2019: 26 °F, Clear, 10-15 mph winds.
12/23/2019: 39 °F, Clear, 5-10 mph winds.

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Closed MSW Landfill

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200, Phase I	12/20/2019	1:16 PM	5.7	9.7	11.3	52	-0.83	30.35	1/2 Open
V-203, Phase III	12/20/2019	1:19 PM	5.5	9.2	12.1	50	-0.75	30.35	1/4 Open
Dog House									
Phase IV Vertical	12/20/2019	10:15 AM	23.3	24.1	4.5	50	-7.31	30.32	Open
Phase II Horizontal	12/20/2019	10:12 AM	0.2	7.9	13.6	50	-0.11	30.32	Closed
Small Dog House									
Phase II Horizontal	12/20/2019	10:10 AM	7.1	12.3	9.7	62	-3.81	30.33	1/2 Open
Phase II Valve Pit									
E - Horizontal, (V5)	12/23/2019	9:52 AM	40.8	40.3	0.3	54	-3.56	29.98	1/2 Open
W - Horizontal, (V7)	12/23/2019	9:55 AM	30.2	35.7	0.1	52	-3.23	29.98	1/2 Open
Phase II-Vertical*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Flare Compound									
Moisture Separator	12/23/2019	9:58 AM	18.8	22.4	4.7	56	-7.22	29.98	N/A
Of Phase I *	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
*** = Offline**
CH_4, CO_2, and O_2 are reported in percent gas.
Temperature recorded in degrees Fahrenheit
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled

Weather - 12/20/2019: 26 °F, Clear, 10-15 mph winds.
12/23/2019: 39 °F, Clear, 5-10 mph winds.

TABLE 12
VOLATILE ORGANIC COMPOUND (VOC) AMBIENT AIR MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	12/23/2019	Adjacent to well MW-D13	0.0
AMBIENT 2	12/23/2019	Adjacent to well B-6	0.0
AMBIENT 3	12/23/2019	Adjacent to well B-11	0.0
AMBIENT 4	12/23/2019	Adjacent to well C-8	0.0

Notes:
VOCs reported as parts per million, as measured by a calibrated photoionization detector.

Weather - 12/23/2019:39 °F, Clear, 5-10 mph winds.

PART IV

BLYDENBURGH ROAD LANDFILL COMPLEX

POST-CLOSURE

GROUNDWATER MONITORING

WELL CONDITION

REPORT SUMMARY

OCTOBER 29th, 2019 and MARCH 2020

PREPARED BY

DVIRKA AND BARTILUCCI, P.C.

CASHIN ASSOCIATES, P.C.

TOWN CONSULTANTS

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October 29, 2019

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill Complex
Post-Closure Groundwater Monitoring Program
Well Condition Report
D&B No. 3763-20

Dear Mr. Varrichio:

Enclosed please find the Third Quarter 2019 Well Condition Report for the Blydenburgh Road Landfill Complex. This report consists of Table 1, which presents a summary of monitoring well status and deficiencies along with recommendations. In addition, individual monitoring well inspection checklists are included.

If you have any questions or require additional information, please contact me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith S. Robins

Keith S. Robins, P.G.
Project Manager

KSR/nc
Enclosure
• 3763\KSR191...-02

Table 1

BLYDENBURGH ROAD LANDFILL COMPLEX
POST CLOSURE GROUNDWATER MONITORING PROGRAM
SUMMARY OF MONITORING WELL STATUS AND DEFICIENCIES
THIRD QUARTER 2019 SAMPLING EVENT

Well Designation	Surface Concrete Pad			Ponding of Water Around Concrete Seal	Protective Flush-Mounted Cover/Standpipe Cover and Lock		Well Casing Alignment	Survey Measuring Point Clearly Marked	Well Clearly Labeled	Well is Protected	Remarks and Recommendations
	Intact	Cracked	Missing		Cover/Pipe - Intact	Lock - In Place					
GM-1S			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-1I	Yes			No	Well inside vault	Yes	Straight	Yes	Yes	Yes	No action required.
GM-1D	Yes			No	Well inside vault	Yes	Straight	Yes	Yes	Yes	No action required.
GM-2S			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-2I			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-2D			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-3S			Not Visible	No	Yes	No	Straight	Yes	Yes	Yes	Well not locked. No action required. This well is not owned by the IRRA.
GM-3I			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-3D			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4M-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
5G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6G-3		Yes		No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
7G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
7M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
8G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
8M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.

Table 1 (continued)

BLYDENBURGH ROAD LANDFILL COMPLEX
POST CLOSURE GROUNDWATER MONITORING PROGRAM
SUMMARY OF MONITORING WELL STATUS AND DEFICIENCIES
THIRD QUARTER 2019 SAMPLING EVENT

Well Designation	Surface Concrete Pad			Ponding of Water Around Concrete Seal	Protective Flush-Mounted Cover/Standpipe Cover and Lock		Well Casing Alignment	Survey Measuring Point Clearly Marked	Well Clearly Labeled	Well is Protected	Remarks and Recommendations
	Intact	Cracked	Missing		Cover/Pipe - Intact	Lock - In Place					
8M-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
9G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
9M-1			Not visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
10G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
10M-1	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
11G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
11G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
11M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
12G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
12M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
13G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
13M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14G-1A	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
15G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
15M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required
16G-1			Not Visible	Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
16M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
18G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
18G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
22M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
23M-1	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.

TOWN OF ISLIP

ISLIP RESOURCE RECOVERY AGENCY

FOR

Fourth Quarter 2019

Groundwater Monitoring Well Condition Report

AT

Blydenburgh Road Landfill Complex

Hauppauge, New York 11788

Phase I and Phase 2 Cleanfill Facilities

and

Leachate Impoundment Area

Prepared by:

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