MARK PESTRELLA, CHAIR
MARGARET CLARK, VICE - CHAIR

LOS ANGELES COUNTY
SOLID WASTE MANAGEMENT COMMITTEE/
INTEGRATED WASTE MANAGEMENT TASK FORCE
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February 15, 2017

Ms. Terri S. Williams
Director of Environmental Health
Los Angeles County Department of Public Health
5050 Commerce Drive
Ballwin Park, CA 91706

SUNSHINE CANYON LANDFILL
COMMENTS ON THE CORRECTIVE ACTION PLAN SUBMITTED TO THE DEPARTMENT OF PUBLIC HEALTH

Dear Ms. Williams:

The Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force (Task Force) appreciates the opportunity to review the enclosed Corrective Action Plan (Plan) dated January 13, 2017, submitted by Republic Services (the Sunshine Canyon Landfill owner/operator) in response to the Order to Abate odor nuisance at the Sunshine Canyon Landfill (Landfill) which was issued by your office on November 9, 2016. Based on the review, the Task Force would like to offer the following comments and concerns with the goal of assisting the Department of Public Health (Public Health) in protecting the health and safety of residents and children in the communities neighboring the Landfill:

General Comments

- As it is well documented by more than 10,000 complaints (2010 – 2017, over 200 in January 2017) and almost 200 Notice of Violations issued by the South Coast Air Quality Management District, residents of the communities neighboring the Landfill have experienced an odor nuisance for quite some time and the problem not only persists but has been exacerbated over the years. Furthermore, given the Landfill operator's performance history to date, there is a strong possibility that the Landfill operator will also fail to mitigate the odor nuisance by March 30, 2017, and therefore further continue to create a nuisance in violation of the Landfill's Conditional Use Permit and County Code. As such, the Task Force strongly recommended that Public Health include a deadline beyond which, if the nuisance persists, the average daily solid waste disposal rate over

the last 12 months would be reduced. This deadline would give the Landfill owner/operator an incentive to use its own expertise and vast financial resources to eliminate the odor nuisance at Sunshine Canyon Landfill to the satisfaction of the County Department of Public Health, consistent with the requirements of Title 11 of the County Code.

Specific Comments

- **Hours of Operation Section (A.1) -** The Landfill owner/operator is prohibited from unloading and dumping of transfer trailer loads from all Republic transfer stations and from all third parties from occurring any earlier than 9 a.m. during weekdays and Saturdays. While this prohibition curtails the unloading and dumping of trash from transfer stations, it does not prevent unloading and dumping of trash by regular trash collection vehicles. If the objective is to mitigate odor emanating from fresh trash odor, and considering the direction of air movement during the early morning hours, this mitigation measure falls well short of its goal. Consequently, the Task Force respectfully encourages Public Health to consider prohibiting the operator from unloading and dumping of trash from both regular trash collection vehicles and transfer trucks prior to 9 a.m.

- **Food Waste and Organics Diversion Program Section (A2) -** Based on available data to the Task Force, the Landfill has been receiving an average of 8,000 tons per day of solid waste for disposal and could receive up to 12,100 tons of solid waste per day based on its approved Land Use Permit and Zoning Variance. A diversion of a few tons per day (about 5 percent) of food waste and "organic materials" from the Landfill's daily throughput of solid and organic waste would have a negligible effect on the effort to reduce the odor nuisance emanated from the Landfill. *Industry experience has showed that an effective and efficiently operated gas collection and control system enables a landfill to operate at a high level without causing an odor nuisance to the surrounding community*. As discussed under the General Comment section, Republic Services should be incentivized to expedite its gas collection and control system enhancements. The incentive could be in the form of daily disposal tonnage reduction as described in the General Comments section.

  Additionally, the Plan to divert a certain amount of food and organics wastes from the Landfill, should also reduce its daily receive tonnage received by the same amount. Otherwise Republic Services could simply reduce any diverted food and organic wastes with more solid waste including food and organic wastes. Therefore, the Task Force respectfully requests Public Health to require the Landfill operator to reduce its average daily intake tonnage (calculated over the last 12 months) by the same amount of food and organic waste diverted tonnage.

As background information, the Task Force was formed pursuant to Chapter 3.67 of the Los Angeles County Code and the California Integrated Waste Management Act of 1989 (Assembly Bill 939, as amended). The Task Force is responsible for coordinating the development of all major solid waste planning documents prepared for the County of Los Angeles and the 88 cities in Los Angeles County with a combined population in excess of ten million. The Task Force also addresses issues impacting the system on a countywide basis including, but not limited to, ensuring the conformance of the in-County solid waste disposal facilities with the Los Angeles County Countywide Siting Element and its siting criteria. The Task Force membership includes representatives of the League of California Cities-Los Angeles County Division, County of Los Angeles Board of Supervisors, City of Los Angeles, waste management industry, environmental groups, the public, and a number of other governmental agencies including, but not limited to, the Los Angeles County Department of Public Health.

Thank you for the opportunity to offer comments. If you have any questions regarding this matter, please contact Mr. Mike Mohajer, a Member of the Task Force, at MikeMohajer@yahoo.com or at (909) 592-1147.

Sincerely,

Margaret Clark

Margaret Clark, Vice-Chair
Los Angeles County Solid Waste Management Committee/
Integrated Waste Management Task Force and
Council Member, City of Rosemead

MH:kk
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Enc.

cc: Los Angeles County Supervisors Kathryn Barger and Sheila Kuehl
Los Angeles City Council Member Englander
Department of Public Health (Angelo Bellomo, Brenda Lopez, Jacqueline Taylor, Maurice Pantoja)
South Coast Air Quality Management District (Wayne Nastri, Laki Tisopulos, Cher Snyder, Amir Dejbakhsh)
Los Angeles County Department of Regional Planning (Richard Bruckner, Jon Sanabria, Maria Masis, Susana Franco-Rogan, Tim Stapleton)
Los Angeles County Department of Public Works (Dan Lafferty)
City of Los Angeles Department of City Planning (Lisa Webber, Ly Lam, Nicholas Hendricks)

Sunshine Canyon Landfill Technical Advisory Committee (Lisa Webber, Jon Sanabria)
Sunshine Canyon Landfill Community Advisory Committee (Wayde Hunter, Gale Gunderson, Joe Vitti)
Sunshine Canyon Landfill Local Enforcement Agency (Maurice Pantoja, David Thompson)
Each Member of the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force

SUNSHINE CANYON LANDFILL

VIA EMAIL

January 13, 2017

Mr. Maurice Pantoja,
Environmental Health Services Manager
Los Angeles County Department of Public Health
5050 Commerce Drive
Baldwin Park, CA 91706

Subject: Corrective Action Plan - Response to Order to Abate
Sunshine Canyon Landfill

Dear Mr. Pantoja,

I am writing you on behalf of Browning-Ferris Industries of California, Inc. ("BFIC"), the owner and operator of the Sunshine Canyon Landfill ("SCL").

By letter dated November 9, 2016, SCL received an Order to Abate (Order) from the Los Angeles County Department of Public Health, Solid Waste Management Program (DPH SWMP). The Order states that "the Landfill has not taken adequate measures to sufficiently address complaints pursuant to Condition 45N" of the site's Conditional Use Permit (CUP). The Order further states that DPH SWMP is requiring the Landfill to "implement additional corrective measures to abate the odor conditions and to protect public health". The Order further states that Sunshine Canyon Landfill must "abate the conditions at the landfill which have been the cause of the repeated air quality violations and persistent odors which constitute the nuisance by March 30, 2017.

The Order requires a compliance schedule be submitted to DPH SWMP by January 15, 2017 which includes (1) a corrective action plan, (2) interim milestones for correcting the conditions at the Landfill that have been the cause of the repeated air quality violations or odor emissions, and, (3) the timeline for when each mitigation effort will be implemented.

Without conceding the accuracy of the factual statements or findings made in DPH SWMP's letter, with which we disagree, this letter provides our responses to each of these items.

1.0 CORRECTIVE ACTION PLAN AND INTERIM MILESTONES

The corrective action plan, set forth in detail below, includes items related to the following topics:

14747 San Fernando Rd., Sylmar, CA 91342 (818) 362-2124 Office (818) 362-5484 Fax

- Operational changes
- Landfill gas management
- Surface emission management
- Best management practices for operations and maintenance

Interim milestones are presented for each item in the Corrective Action Plan. These milestones will be used to manage each item, monitor results and will serve as the basis for reporting the overall effectiveness of the odor mitigation program at the landfill.

A. Operational Changes

1. Hours of Operation

On December 15, 2016, the South Coast Air Quality Management District's (SCAQMD) Hearing Board approved a Stipulated Order for Abatement (A/O)(Case No. 3448-14). Condition 2 of the A/O prohibits the "unloading/dumping of transfer trailer loads from all Republic transfer stations and from all third parties, including the City of Los Angeles Bureau of Sanitation, from occurring any earlier than 9 am during weekdays and Saturdays". A copy of the signed A/O is attached.

This condition represents a significant operational change for the landfill intended to minimize the volume of municipal solid waste brought to and deposited at the landfill from 6 AM – 9 AM.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Reduction of odor complaints before 9 AM	(1) Evaluation of the number of verified odor complaints made to SCAQMD
(2) Reduction of odor complaints from Van Gogh Elementary School	(2) Evaluation of the number of verified odor complaints made to SCAQMD from Van Gogh Elementary School

2. Food Waste and Organics Diversion Program

Condition 3 of the A/O requires the implementation of the Food Waste Diversion Program proposed by BFIC for the purpose of increasing the diversion of food waste and organic materials from disposal at Sunshine Canyon Landfill. Components of the Food Waste Diversion Program include the following:

Agromin OC Chino Organics Recycling Compost Facility

- Permitting and construction of a Covered Aerated Static Pile (CASP) composting unit at the Agromin OC Chino Organics Recycling Compost Facility (Chino Facility);
- Diversion of food waste materials from Sunshine Canyon Landfill to the Chino Facility within 90 days of obtaining all equipment necessary to implement the CASP;
- Diversion of 37.5 tons per day of food waste by June 30, 2017 and 75 tons per day by December 31, 2017.

American Transfer Station

- Implementation of a food waste pre-processing system at Republic Services' American Transfer Station that is capable of pre-processing up to 250 tons of organic waste per weekday.

Innovative Waste Control and Falcon Transfer Station Transloading Program

- Implementation of a transloading bulk-delivered food waste program at Falcon Transfer Station and at Innovative Transfer Station to divert at least 40 tons per week of food waste from Sunshine Canyon Landfill.

Food Recovery Program

- Implementation of the Food Recovery Program proposed as part of the A/O
    - Requires providing sufficient funding to Food Finders for the purchase of one hybrid-fueled pick-up and delivery refrigerated truck and pay for all expenses associated with the operation of the truck for one year for total costs not to exceed $200,000.
        - Purpose of this condition is to provide food recovery pick-ups from locations where the food waste would otherwise have been sent to Sunshine Canyon Landfill for disposal.
    - Provide an additional $30,000 in funding to Food Finders to be used for marketing the Food Recovery Program throughout the geographic area for which food waste would otherwise be sent to Sunshine Canyon Landfill.

INTERIM MILESTONE(S)	MEASUREMENT
(1) Chino Facility- Operation of CASP composting equipment	(1) Composting of 75 tons per weekday of food waste
(2) American Transfer Station - Operation of food waste pre-processing system	(2) Pre-processing of up to 250 tons per weekday of organic waste
(3) Innovative Transfer Station – implementation of transloading of bulk-delivered food waste program	(3) Diversion of 40 tons per week of food waste
(4) Falcon Transfer Station - implementation of transloading of bulk-delivered food waste program	(4) Diversion of 40 tons per week of food waste
(5) Food Recovery Program – implementation of program	(5) Compliance with the requirements of A/O Condition 3.h –j

B. Landfill Gas Management

Upgrades to the landfill's gas collection and control system (GCCS) are conducted on an annual basis with the installation of new and replacement vertical gas extraction wells, the installation of horizontal collectors, upgrades to collection piping and other projects (e.g. construction/installation of new flare stations).

1. Gas Well Dewatering Program

Due to the increasing amount of liquid observed in vertical gas extraction wells, a directed focus has been placed on the removal of these liquids. The increase in liquids is believed to be a direct result of the Los Angeles County Department of Public Works (DPW) requirement for the use of nine (9) inches of compacted soil cover without peel-back for daily cover. This mandate was in effect from late September 2010 to October 2015 when the alternative daily cover (ADC) pilot project began using a sacrificial geosynthetic plastic material (EnviroCover). Specific projects directed at addressing these liquids include the following:

i. <u>Installation of Dewatering Pumps</u>

The assessment of a well sounding event conducted in October 2016 indicated an additional 76 vertical gas extraction wells

required dewatering pumps in order to remove liquids. Pumps were ordered in early November 2016 and the installation of these pumps began in December 2016 with a scheduled completion in February 2017.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
Completion of the installation of 76 dewatering pumps	(1) Pumps are operational and extracting liquids from gas wells impacted by liquids; (2) Appropriate documentation is kept that provides the status of each well with respect to the volume of liquid extracted, condition of the pump and the well monitoring data to show the impact of the liquid removal

ii. Upgrade to Aboveground Leachate Collection Management System

The removal of additional liquids from vertical gas extraction wells has required a significant upgrade to the aboveground leachate collection system in order for these liquids to be collected and conveyed for appropriate disposal.

Components of this upgrade to the aboveground leachate collection system include the following:

- Purchase/installation of a new 100 Hp Atlas Copco air compressor to supply air to run the pumps;
- Purchase/installation of 8,000 linear feet of 2" and 4" compressed air piping to supply air to run the newly installed dewatering pumps;
- Purchase/installation of 14,000 linear feet of 3" and 4" liquid discharge piping to convey extracted liquids;
- Design/installation of a solids removal system to remove solids from the extracted liquids prior to discharge.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Completion of the field work for the installation of components of the aboveground leachate collection system testing (field work); (2) The aboveground leachate collection system is fully operational	(1) All field work has been completed; (2) The as-builts for the system are completed, appropriate documentation is kept regarding system operations and maintenance.

2. Gas Well Integrity Testing/Evaluation

Condition 12 of the Stipulated Order for Abatement requires the integrity testing of all vertical gas wells at the landfill to evaluate the performance of each gas well. There are 547 vertical gas extraction wells that are subject to the integrity testing that began in mid-December 2016 and is expected to be completed by mid-March 2017. Components of the well integrity testing include the following:

- Placing a camera in each vertical gas well casing to obtain a video record of the condition of the well casing
- Evaluation of the video record to assess:
  - The presence of liquids;
  - If liquids are present, the length of the screened interval affected;
  - The integrity of the well casing, e.g. whether the casing is pinched, sheared or otherwise compromised;
  - The presence of any other material that would impact the positive flow of gas into the perforated length of the gas well.
- Review of historical monitoring data

- The results of the well integrity testing will be used to evaluate the performance and integrity of each gas well and to determine appropriate corrective actions.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Completion of the field work required for the gas well integrity testing	(1) All field work is completed and documented;
(2) Completion of the evaluation/report of the gas well integrity testing	(2) The evaluation report is completed

3. Installation of New and Replacement Vertical Gas Wells

Based on the evaluation of the well integrity testing, recommendations will be made for the installation of new and replacement vertical gas wells. In addition, fifteen (15) new vertical gas wells are currently being installed with completion scheduled for the end of January 2017.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Recommendations from gas well integrity testing evaluation for the installation/ decommissioning of wells	(1) Completion of the gas well integrity report;
(2) Begin installation of new and replacement vertical gas extraction wells based on recommendations*	(2) Start date for the installation of new and replacement vertical gas extraction wells;
(3) Completion of the installation of new and replacement vertical gas extraction wells based on recommendations**	(3) Completion of the installation of new and replacement vertical gas extraction wells.

'* - The schedule to install new and replacement wells will be dependent on a number of factors including finalizing designs and weather.

'** - The schedule to complete the installation of new and replacement wells will be dependent on a number of factors including the actual start date, the number of wells and weather.

4. Installation of Horizontal Collectors

Horizontal collectors are installed in new fill areas approximately every 80 - 100 vertical feet. These collectors are installed to collect landfill gas at its earliest generation.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Installation of horizontal collectors in active filling area'*	(1) Completion of the installation of horizontal collectors in the active fill area

'* - The schedule for the installation of horizontal collectors is dependent on the fill rate

5. Installation of Flare 11

A new flare, Flare 11, is scheduled to be installed by the end of the second quarter of 2017. As of the date of this submittal, the permit has been sent out for the 30-day public comment period after which it will be sent to U.S. EPA for the 45-day review.

The new flare will be a Zink ultra-low emission (ZULE) flare with a 5,000 scfm capacity.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Permit to Construct from SCAQMD; (2) Installation of flare including all components; (3) Flare testing (4) Flare 11 operational	(1) Receipt of Permit to Construct; (2) Completion of the construction of the flare station; (3) Successful completion of the flare testing; (4) Flare 11 fully operational

6. Continued Use of Alternative Daily Cover in Lieu of Soil

Condition 4 of the A/O requires the continued use of the ADC (EnviroCover) throughout the duration of the approved pilot demonstration project. An extension of the pilot project to October 2017

was approved by the LEA; DPW approved an extension to March 27, 2017.

The purpose of the use of the EnviroCover as an ADC is to promote horizontal permeability in the landfill mass. As stated previously, it is believed the use of the 9 inches of compacted soil as daily cover created impermeable soil lenses that have inhibited the flow of gas to collection wells and the downward flow of leachate to the collection system.

INTERIM MILESTONE(S)	MEASUREMENT
(1) Continued application of ADC in accordance with approved work plans (2) Demonstration of effectiveness of ADC	(1) Monthly reporting of use of ADC (2) Annual report of findings

C. Surface Emission Management

1. Intermediate Cover Enhancement Pilot Project

Approval for the implementation of the intermediate cover enhancement pilot program (ICE) was received from the LEA on May 16, 2016. Approval from DPW was received on December 20, 2016. The ICE project is planned to be implemented in January 2017, subject to weather conditions.

Implementation of the ICE project is required by Condition 5 of the A/O as well as the Stipulated Agreement between the SCL LEA and BFIC.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Application of Posi-Shell or 6 inches of compacted soil in accordance with approved work plan (2) Completion of 6-month ICE pilot project (3) ICE pilot project report	(1) Posi-Shell or 6 inches of compacted soil has been applied on all identified grids in accordance with work plan; (2) The 6-month ICE pilot project is completed; (3) The ICE pilot project report has been submitted

2. Placement of Additional Soil

Condition 8 of the A/O requires the placement of additional soil on a minimum of at least twenty (20) intermediate cover areas designated as SCAQMD Rule 1150.1 surface emission monitoring grids that have shown exceedances of 25 ppm (methane) for integrated surface emission monitoring at least once during the last three (3) quarters of monitoring.

Placement of the additional soil is scheduled for January 2017, subject to weather conditions.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Work to start the placement of additional soil on at least 20 intermediate cover areas designated as SCAQMD Rule 1150.1 surface emission monitoring grids that have shown exceedances of 25 ppm for integrated SEM monitoring at least once during the last 3 quarters of monitoring; (2) Completion of the work to place additional soil on areas specified in (1)	(1) Documentation is kept of the progress for the placement of additional soil on the identified grids; (2) Final documentation records additional soil has been placed on at least 20 intermediate grids

3. Evaluation of Additional Methods/Procedures for Upgrading and Improving Intermediate Cover Areas

Condition 9 of the A/O requires a proposal for additional methods/procedures for upgrading and improving the additional areas of the landfill that have intermediate cover including "appropriate methodologies, metrics and protocols for evaluating the performance". In accordance with Condition 9, this proposal will consider and evaluate the following:

- Increased thickness of intermediate cover;
- Use of lower permeability, intermediate/final cover materials;
- Use of high durability plastic intermediate cover film material;
- Higher compaction to increase density of the intermediate cover;
- Use of cured/mature compost to improve vegetative growth;
- Use of less steep intermediate slopes;

- Other methods to provide better compaction of side slopes;
- Use of alternative spray-on sealants to reduce permeability of existing intermediate cover areas;
- Use of ClosureTurf® or equivalent product.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Development of proposal for additional methods/procedures for upgrading and improving the additional areas of the landfill that have intermediate cover	(1) Submittal of the proposal

4. Monthly Surface Emission Monitoring

SCAQMD Rule 1150.1 requires quarterly surface emission monitoring (instantaneous and integrated). Monthly surface emission monitoring has been conducted at Sunshine Canyon Landfill since September 2011.

Rule 1150.1 allows for re-monitoring of exceedances 10 days after the initial detection. Starting January 2017, any surface emission exceedance will be re-monitored within 5 days (weather permitting) after the initial detection to ensure the corrective action(s) taken to remediate the exceedance has brought the location into compliance with Rule 1150.1. If a grid or location is not in compliance at the 5-day re-monitoring, the grid or location will be subject to additional remedial measures and re-monitoring will occur within another 5-days. This practice will be on-going.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Monthly surface emission monitoring is conducted;	(1) Documentation that monthly surface emission monitoring is conducted;
(2) Exceedances are re-monitored within 5 days after initial detection (weather permitting)	(2) Documentation that exceedances are re-monitored within 5 days after initial detection and that remedial work has been conducted
(3) Any additional corrective measures are taken within the time periods provided for under SCAQMD Rule 1150.1	(3) Documentation that any required additional corrective action measures per Rule 1150.1 are completed.

D. Best Management Practices for Operations and Maintenance

Best management practices (BMPs) for operations and maintenance (O&M) include those related to (1) the landfill's GCCS, and, (2) odor management for the control of potential odors from the working face.

1. GCCS O&M

SCL employs BMPs for the landfill's GCCS O&M program by adhering to the following:

i. Bi-Monthly Gas Well Monitoring

U.S. EPA New Source Performance Standards (NSPS) for the monitoring of landfill gas requires monitoring on a monthly basis. Since March 2011, all of the landfill gas collectors at Sunshine Canyon Landfill subject to NSPS regulations have been monitored on a bi-monthly (twice per month) basis. Additional items conducted bi-monthly associated with the gas well monitoring include:

- Inspection of the aboveground portion of the well casing;
- Inspection of the wellheads;
- Inspection of aboveground lateral piping;
- Inspection of the surface area surrounding the well.

Maintenance activities are conducted immediately based on these inspections.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Gas well monitoring is conducted on a bi-monthly(2X/month) basis	(1) Documentation of the bi-monthly gas well monitoring

ii. Weekly Inspections of Condensate Sumps

On a weekly basis, all condensate sumps/traps and isolation valves are inspected to ensure they are in proper working order.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Weekly inspections of vertical gas wells impacted by liquids	(1) Documentation of the weekly inspections vertical gas wells impacted by liquids

iii. Weekly Inspections of Vertical Gas Wells Impacted by Liquids

Vertical gas wells impacted by liquids have dedicated bubbler tubes and pumps installed for the monitoring of the liquid levels and removal of liquids in the well casing. All vertical gas wells with these dedicated systems are inspected on a weekly basis to:

- Record the level of liquid in the well casing;
- Record the pump cycle counts to determine the volume of liquid removed;
- Ensure the pump is in good working order;
- If the pump is not working, remove the pump.

Maintenance activities for any identified issues are conducted immediately.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Weekly inspections of vertical gas wells impacted by liquids	(1) Documentation of the weekly inspections vertical gas wells impacted by liquids

iv. Daily Blower/Flare Station Inspections

Daily inspections of the blower and the flare stations are conducted to ensure all components are in good working order. In addition, SCL uses a SCADA (Supervisory Control and Data Acquisition) system for remote monitoring and control for all of the site's flare stations. Use of this system provides immediate notification of any issues related to the flare station operations. These notifications are automatically sent to appropriate landfill personnel so issues can be handled immediately.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Daily Blower/Flare station inspections	(1) Documentation of the daily blower/flare station inspections

2. Operational BMPs

Operational BMPs related to the mitigation of potential odors from the daily receipt of municipal solid waste include systems installed and designed to mitigate these potential odors. These systems include vapor odor control, misting fences/systems and equipment specifically purchased and used for the purpose of odor control. Each of these items is described below.

i. Vapor Odor Control Systems

Odor control systems using vapor as the method by which an odor neutralizer is emitted into the air have been installed at locations at the site where the air flow pathways have been determined to be the most prevalent. These locations include the southern berm (City South, Deck C), the entrance, the oil field road. Systems on the southern berm and at the entrance were installed in 2014. Additional systems on City South and on the oil field road were installed in October 2016.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Completion of the installation of new vapor odor control system alignments and systems operational	(1) Completion of the construction of the new vapor odor control system alignments; (2) Systems are fully operational

ii. Misting Fences/Systems

A misting fence is used at the active working face to provide a water/neutralizer mist close to the waste disposal operations. This

misting fence can be moved to the most optimal location based on the working face configuration and the predicted wind direction.

A misting system has been installed along the main haul road. The misting system provides a continuous water/neutralizer mist to provide odor control to trucks.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Completion of the installation of new misting fences/systems	(1) Completion of the construction of the new misting fences/systems; (2) Systems are fully operational

iii. Odor Control Equipment

Odor control equipment used at the site include modified DustBoss machines and Buffalo Monsoon units. Both of these types of odor control machines use water mixed with neutralizer to spray a fine mist to mitigate odorous air. Four modified DustBoss machines have been used at the landfill since late 2012; two Buffalo Monsoon units were put into service at the site in mid-2016 and an additional 5 Buffalo Monsoon units were purchased and put into service in late October 2016.

The DustBoss units have been placed on the City South portion of the site and are operated on a continuous basis unless favorable weather conditions are present (e.g. winds from the south or winds with speeds in excess of 25 mph).

The Buffalo Monsoon units are used at the working face and are placed at the most optimal locations based on the configuration of the working face and the wind direction. These units are fairly mobile and can be moved to different locations based on need.

Interim Milestones

INTERIM MILESTONE(S)	MEASUREMENT
(1) Purchase of new odor control equipment (Buffalo Monsoon units) (2) Move 4 DustBoss units to City South	(1) Buffalo Monsoon units purchased and are operational on site; (2) DustBoss units have been moved and installed on City South and are operational

2. TIMELINE FOR IMPLEMENTATION OF EACH MITIGATION MEASURE

A schedule for the implementation of each mitigation measure presented in Section 1 is provided as an attachment to this Corrective Action Plan. The schedule also indicates whether the measure has been completed.

Please do not hesitate to contact me if you have any questions. We are available to meet with you to discuss this Corrective Action Plan at your earliest convenience.

Sincerely,

Rob Sherman
General Manager
Sunshine Canyon Landfill

TIMELINE FOR THE IMPLEMENTATION OF ODOR MITIGATION MEASURES
SUNSHINE CANYON LANDFILL - CORRECTIVE ACTION PLAN

ITEM		DESCRIPTION	Implementation Start Date	Completion Date	Comment
Operational Changes					
A.1	Operational Changes	No transfer trailers before 9 AM	12/19/2016	On-going	Actual start date. Required by Condition 2 of A/O
A.2	Food Waste and Organics Diversion Program	Food waste and organics diversion to multiple facilities as specified in Condition 3 of the A/O with specific requirements for each facility	12/15/2016	The A/O specifies time periods for when each program needs to be in place at each facility	
Landfill Gas Management					
B.1.i	Installation of Dewatering Pumps	Install 76 dewatering pumps in gas wells affected by liquids based on October 2016 well sounding	12/1/2016	February 2017	Actual start date
B.1.ii	Upgrade to Aboveground Leachate Collection System	Upgrade to aboveground leachate collection system required to handle liquids extracted from pumping vertical gas wells affected by liquids	12/1/2016	February 2017	Actual start date
B.2	Gas Well Integrity Testing/Evaluation	Integrity testing of 556 vertical gas extraction wells	12/16/2016	March 2017	Actual start date
B.3	Installation of New and Replacement Vertical Gas Wells	Drilling and installation of new and replacement vertical gas extraction wells based on integrity testing evaluation	TBD	TBD	Start date will be dependent on finalization of the gas well integrity testing evaluation
B.4	Installation of Horizontal Collectors	Installation of horizontal collectors in active disposal area(s)	TBD	TBD	Based on operations
B.5	Installation of Flare 11	Construction of Flare 11	TBD	By end of 2Q2017	Project start dependent on receipt of Permit to Construct from SCAQMD
B.6	Continued Use of ADC in Lieu of Soil	Continued implementation of ADC pilot project using EnviroCover (ADC) instead of 9" of compacted soil for daily cover			Required by Condition 4 of the A/O
C.1	Intermediate Cover Enhancement Pilot Project	Pilot project for the use of alternate materials for intermediate cover. Approved work plan includes the use of Posi-Shell and additional soil.	January 2017	August 2017 (field work) September 2017 (report)	Project start date dependent on weather. Required by the SCL LEA Stipulated Agreement and Condition 5 of the A/O
C.2	Placement of Additional Soil	Placement of additional soil on at least 20 intermediate cover areas that have shown exceedances of 25 ppm for integrated SEM at least once during the last 3 quarters	January 2017	February 2017	Project start date dependent on weather

TIMELINE FOR THE IMPLEMENTATION OF ODOR MITIGATION MEASURES
SUNSHINE CANYON LANDFILL - CORRECTIVE ACTION PLAN

ITEM		DESCRIPTION	Implementation Start Date	Completion Date	Comment
C.3	Evaluation of Additional Methods/Procedures for Improving Intermediate Cover Areas	Proposal or additional methods/procedures for upgrading and improving the additional areas of the landfill that have intermediate cover including "appropriate methodologies, metrics and protocols for evaluating the performance"	January 2017	March 2017	Required by Condition 9 of the A/O
C.4	Monthly Surface Emission Monitoring	Continued monthly SEM (instantaneous and integrated). Re-monitoring of exceedances within 5 days rather than the prescribed 10-day initial re-monitoring.	December 2017	On-going	
BMPS for GCCS O&M					
D.1.i	Bi-Monthly Gas Well Monitoring	Monthly gas well monitoring required by NSPS; SCL has conducted bi-monthly (2X/month) monitoring since XX, 2012)	March 2011	On-going	
D.1.ii	Weekly Condensate Sump Inspections	Inspection of condensate sumps to ensure they are in good working order	March 2011	On-going	
D.1.iii	Weekly Inspections of Vertical Gas Wells Impacted by Liquids	Inspections to record liquid levels, pumps	October 2015	On-going	
D.1.iv	Daily Blower/Flare Station Inspections	Daily inspections to ensure blowers/flare stations are in good working order	March 2011	On-going	
Operational BMPs					
D.2.i	Vapor Odor Control Systems	Installation/operation of new vapor odor control systems	October 2016	November 2016	Complete
D.2.ii	Misting Fences/Systems	Installation of misting system along main haul road. Installation of misting system on wind fencing at working face	October 2016	November 2016	Complete
D.2.iii	Odor Control Equipment	Purchase of seven (7) Buffalo Monsoon units and the placement of 4 DustBoss units on City South	October 2016	November 2016	Complete