



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

AUG 27 2013

Ms. Erin Fanning
Forward Inc. Landfill
9999 S Austin Road
Manteca, CA 95336



**Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # N-339
Project # N-1123241 and N-1123549**

Dear Ms. Fanning:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is for the modification of a landfill permit to incorporate the requirements of an EPA Consent Decree.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email
Brian Riedel, EPA (w/enclosure) via email
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San Joaquin Valley Air Pollution Control District
Authority to Construct
Revised Application Review
Modifications to Landfill Permit to Incorporate EPA
Consent Decree Requirements and to Correct the Equipment Description

Facility Name:	Forward Inc. Landfill	Date:	April 12, 2013
Mailing Address:	9999 S Austin Road Manteca, CA 95336	Engineer:	James Harader
Contact Person:	Erin Fanning	Lead Engineer:	Nick Peirce
Telephone:	(209) 684-4733		
Application #'s:	N-339-17-13		
Project #'s:	N-1123241 and N-1123549		
Deemed Complete:	March 25, 2013		

I. Proposal

Forward Inc. Landfill submitted an Authority to Construct application for the following modifications to their current permit for a solid-waste landfill:

1. Incorporate the requirements of an EPA Consent Decree (attached in Appendix III) into the existing landfill permit.
2. Currently, the facility is operating the landfill pursuant to the EPA consent Decree and the requirements of Authority to Construct N-339-17-10, which identifies a 2,000 CFM flare, a 3,400 CFM flare, and a 300 CFM carbon adsorption system as the control devices for the landfill gas collection system. Per LandGem modeling performed for District Project N-1062444, the maximum landfill gas generation rate throughout the entire life of the landfill is not expected to exceed 5,400 CFM. Authority to Construct N-339-17-10 was written such that the two flares could process all 5,400 CFM of the landfill gas generated, while allowing the facility the option to divert up to 300 CFM of that landfill gas from the flares to a proposed carbon adsorption system. The facility has installed and is currently operating a 2,000 CFM flare and a 3,400 CFM flare; however, the facility never installed the 300 CFM carbon adsorption system and they state that they no longer plan to install that system. Therefore, this permitting action will remove the 300 CFM carbon adsorption system from the equipment description along with the associated permit requirements.

Pursuant to District FYI 111, a revision to the equipment description requires an Authority to Construct and is subject to New Source Review. Therefore, this project is subject to District Rule 2201 requirements.

The removal of the carbon adsorption system from the equipment description is not a physical change to the current control system since it was never installed. Furthermore, this proposal does not constitute a change in the method of operation since the proposal is to route all the

landfill gas to the two flares, which was already allowed in Authority to Construct N-339-17-10. Thus, this project is not a physical change to, or change in method of operation of, the landfill and landfill control equipment.

Title V

Forward Inc. Landfill currently has a Title V permit. This modification can be classified as a Title V Minor Modification pursuant to District Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Forward Inc. Landfill must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4311	Flares (6/18/09)
Rule 4642	Solid Waste Disposal Sites (4/16/1998)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
40 CFR Part 64	Compliance Assurance Monitoring
Public Resources Code 21000-21177:	California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:	CEQA Guidelines
US EPA Consent Decree Case No. 2:11-cv-00590 EFB	

III. Project Location

This landfill is located at 9999 S Austin Road in Manteca, CA and the District has confirmed that the landfill is not located within 1,000 feet of a K-12 School.

IV. Process Description

This landfill site is designed to receive domestic waste, municipal waste, combustion ash, industrial non-hazardous waste, agricultural waste, and construction & demolition wastes. The site is essentially a cell/trench type landfill, in which the waste is spread out in excavated soil trenches. In order to prevent subsurface gas migration and leachate (i.e. water that has passed through the landfill) leakage, the trenches are lined with a combination of clay and an impermeable synthetic (i.e. high density polyethylene) liner. Collected waste that has been

spread out in the cell trenches is compacted using heavy machinery (including bulldozers and planers) and covered with at least six inches of soil, on a daily basis. The storage capacity of the facility is expected to be exhausted in the near future. At the time of closure, the site will be fully sealed off by a relatively impermeable clay and topsoil layer. Forward Landfill provided LandGem modeling data for District Project N-1062444 demonstrating that the maximum collection system flow rate expected during the life of the landfill is 5,400 CFM. The gas collection system operates 24 hours per day, 365 days per year.

Ameresco Forward, LLC, operates two landfill gas-fired IC engines and a siloxane removal system that will process some of the gas generated by the landfill; however, the Ameresco Forward LLC facility was determined to be a separate stationary source in District Project N-1110808 and the units operated by Ameresco will not be considered in this evaluation.

V. Equipment Listing

Pre-Project Equipment Description:

The following equipment description was obtained from the engineering evaluation for District Project N-1062444:

N-339-17-10: 13.8 MILLION CUBIC YARD CAPACITY (218 ACRES) LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM CONTROLLED BY A 2000 SCFM (EQUIVALENT TO 48.0 MMBTU/HR) ENCLOSED FLARE AND CARBON ADSORPTION SYSTEM (CAS), AND A 3400 SCFM (EQUIVALENT TO 102 MMBTU/HR) PERRENIAL ENERGY MODEL GHS-301 LFG-FIRED ENCLOSED FLARE WITH LPG PILOT

Post-Project Equipment Description:

N-339-17-13: 39.0 MILLION CUBIC METER CAPACITY (354.5 ACRES)¹ LANDFILL WITH A LANDFILL GAS COLLECTION SYSTEM CONTROLLED BY A 2,000 SCFM (EQUIVALENT TO 60 MMBTU/HR²) ENCLOSED LANDFILL GAS-FIRED FLARE AND A 3,400 SCFM (EQUIVALENT TO 102 MMBTU/HR) PERRENIAL ENERGY MODEL GHS-301 ENCLOSED LANDFILL GAS-FIRED FLARE WITH AN LPG-FIRED PILOT

¹ The landfill capacity and area listed on Authority to Construct N-339-17-10 was determined to be incorrect. This permit includes two landfills that were merged. When merged, the permit was not updated properly to include the merged capacity of the landfill. Therefore, the capacity must be corrected on this permit. The total capacity and area of the Forward Inc. Landfill is 39.0 million cubic meters (354.5 acres) per their Cal Recycle permit. The capacity and area have been corrected in the post-project equipment description. These values will be used for both pre-project and post-project landfill cover emission calculations. It should be noted that this correction is not due to an expansion of the landfill.

² The equivalent heat input for the 2,000 SCFM flare listed on Authority to Construct N-339-17-10 was determined to be incorrect. The gas flow rate was increased in the permitting action that generated Authority to Construct N-339-17-10; however, the heat input rating listed in the equipment description for Authority to Construct N-339-17-10 was not adjusted to reflect the higher gas flow rate. The landfill gas at this site has a higher heating content of 500 Btu/scf. Thus, the correct heat input for the 2,000 SCFM flare is:

$$\text{Existing Flare Rating} = 2,000 \text{ SCFM} \times 60 \text{ min/hr} \times 500 \text{ Btu/scf} \times \text{MMBtu}/10^6 \text{ Btu} = 60 \text{ MMBtu/hr}$$

Landfills emit VOC air contaminants as the result of refuse being broken down. These VOC emissions are significant and must be controlled, as they are ozone precursors. LFG extraction wells collect these emissions and send them to a control device, in this case two flares, where they are combusted. The flares serving the landfill gas collection system reduce collected VOC's by at least 98%.

Additionally, uncontrolled PM10 emissions are emitted by the earthmoving activities that take place at the landfill.

VII. General Calculations

A. Assumptions

- The landfill gas (LFG) heating value is 500 Btu/scf, assuming 50% of the volume of landfill gas is methane. (per District Project N-1062444)
- This project will not affect the heat input rating and operating schedule for the flares that was permitted by Authority to Construct N-339-17-10.
- The maximum landfill gas generation will not exceed 5,400 CFM during the life of the landfill. (LandGem Modeling performed in District Project N-1062444)
- The molecular weight of hexane is 86.18 lb/lb-mol. (AP-42 Section 2.4.4.2)
- The standard molar volume of gas is 379.5 ft³/lb-mol.
- The reduced sulfur concentration of the landfill gas is 46.9 ppmv. (AP-42 Section 2.4)
- The VOC destruction efficiency of each flare is at least 98%. (District Project N-1062444)
- The VOC adsorption efficiency of the previously proposed but never installed carbon adsorption system was at least 98%. (manufacturer)
- 100% of NMOC emissions are VOC's.
- The landfill gas capture efficiency is 85%. (AP-42 Section 2.4.4)
- The maximum disposal rate is 2,139,312 tons per year. (District Project N-1062444)
- The landfill area is 354.5 acres. (Cal Recycle Permit)
- The intermediate and final cover soil depth of the landfill is 4 feet. (District Project N-1062444)
- The soil density is 120 lb/cubic foot. (District Project N-1062444)
- All other assumptions will be stated as they are made.

B. Emission Factors

1. Pre-Project Emission Factors

2,000 CFM Flare:

Pollutant	Emission Factors (EF1) and/or Emission Rates	Source
NO _x	0.05 lb-NO _x /MMBtu	District Project N-1062444
SO _x	0.0215 lb-SO _x /MMBtu	District Project N-1062444
PM ₁₀	0.034 lb-PM ₁₀ /MMBtu	District Project N-1062444
CO	0.2 lb-CO/MMBtu	District Project N-1062444
VOC	0.0113 lb-VOC/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O ₂)	District Project N-1062444

3,400 CFM Flare:

Pollutant	Emission Factors (EF1) and/or Emission Rates	Source
NO _x	0.05 lb/MMBtu	District Project N-1062444
SO _x	0.0215 lb-SO _x /MMBtu	District Project N-1062444
PM ₁₀	(0.001 lb-PM ₁₀ /hr)/scfm-methane	District Project N-1062444
CO	0.2 lb/MMBtu	District Project N-1062444
VOC	0.0113 lb/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O ₂)	District Project N-1062444

300 CFM Carbon Adsorption System

Per the application for District Project N-1062444, the VOC emission factor for the carbon adsorption system is equivalent to the VOC emission factor for the flares. The emission factor for the carbon adsorption system is calculated below, on a per SCF of gas processed basis.

$$EF1 \text{ VOC} = 0.0113 \text{ lb/MMBtu} \times 500 \text{ MMBtu/MMscf} = 5.65 \text{ lb-VOC/MMscf}$$

Fugitive Landfill VOC Emissions:

Results from the LandGem modeling and the estimated capture efficiency of the gas collection system will be used to estimate fugitive landfill VOC emissions.

PM10 Emissions from Earthmoving Activities

PM10 emissions are calculated according to US EPA's AP-42 equation for material handling and drop-equation in Section 13.2.4.

$$E = k(0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ lb / ton}$$

Where k is equal to 1 (worst-case particle size), U is equal to 15 mph (worst-case for SJV wind patterns), and M is equal to 3% (driest the soil would be during summer months per District Project N-1062444). Inputting these values into the above equation yields an emission factor of **0.008 lb PM10/ton** of soil moved.

2. Post-Project Emission Factors

2,000 CFM Flare:

There are no proposed changes to the emission factors. Thus, the post-project emission factors for this flare are identical to the pre-project emission factors.

Pollutant	Emission Factors (EF2) and/or Emission Rates
NO _x	0.05 lb-NO _x /MMBtu
SO _x	0.0215 lb-SO _x /MMBtu
PM ₁₀	0.034 lb-PM10/MMBtu
CO	0.2 lb-CO/MMBtu
VOC	0.0113 lb-VOC/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O ₂)

3,400 CFM Flare:

There are no proposed changes to the emission factors. Thus, the post-project emission factors for this flare are identical to the pre-project emission factors.

Pollutant	Emission Factors (EF2) and/or Emission Rates
NO _x	0.05 lb/MMBtu
SO _x	0.0215 lb-SO _x /MMBtu
PM ₁₀	0.01 lb-PM ₁₀ /scfh-methane
CO	0.2 lb/MMBtu
VOC	0.0113 lb/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O ₂)

300 CFM Carbon Adsorption System

This system will not be installed. Therefore, post-project emission factors are not necessary.

Fugitive Landfill VOC Emissions:

There is no proposed change to the emission factor for fugitive emissions. Therefore, post-project fugitive emissions will continue to be based on the 1,000 ppmv limit listed in the pre-project emission factors.

PM10 Emissions from Earthmoving Activities

There is no proposed change to the earthmoving emission factor of 0.008 lb-PM₁₀/ton.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

2,000 CFM Flare:

The heat input for this flare was determined to be 60 MMBtu/hr. The following formulas will be used to calculate daily and annual pre-project emissions from this flare:

$$PE1_{\text{Daily}} = 60 \text{ MMBtu/hr} \times 24 \text{ hr/day} \times \text{EF (lb/MMBtu)}$$

$$PE1_{\text{Annual}} = 60 \text{ MMBtu/day} \times 365 \text{ days/year} \times \text{EF (lb/MMBtu)}$$

Pollutant	EF (lb/MMBtu)	PE1 (lb/day)	PE1 (lb/year)
NO _x	0.05	72.0	26,280
SO _x	0.0215	31.0	11,300
PM ₁₀	0.034	49.0	17,870
CO	0.2	288.0	105,120
VOC	0.0113	16.3	5,939

3,400 CFM Flare:

The heat input for this flare was determined to be 102 MMBtu/hr. The following formulas will be used to calculate daily and annual pre-project emissions from this flare, except for PM10:

$$PE1_{\text{Daily}} = 102 \text{ MMBtu/hr} \times 24 \text{ hr/day} \times EF \text{ (lb/MMBtu)}$$

$$PE1_{\text{Annual}} = 102 \text{ MMBtu/day} \times 8760 \text{ days/year} \times EF \text{ (lb/MMBtu)}$$

Pollutant	EF (lb/MMBtu)	PE1 (lb/day)	PE1 (lb/year)
NOx	0.05	122.4	44,676
SOx	0.0215	52.6	19,211
CO	0.2	489.6	178,704
VOC	0.0113	27.7	10,097

Particulate matter emissions from the flare are based on an emission factor of

$$EF1 = (0.001 \text{ lb-PM10/hr})/\text{scfm-methane}$$

50% by volume of the landfill gas is assumed to be methane. PM10 emissions from this flare are calculated below:

$$PE1 \text{ PM10} = 3,400 \text{ scfm-landfill gas} \times 0.5 \text{ scf methane/1 scfm landfill gas} \\ \times 0.001 \text{ lb-PM10/hr}/\text{scfm-methane} \times 24 \text{ hr/day}$$

$$PE1 \text{ PM10} = 40.8 \text{ lb/day}$$

$$PE1 \text{ PM10} = 40.8 \text{ lb/day} \times 365 \text{ days/year}$$

$$PE1 \text{ PM10} = 14,892 \text{ lb-PM10/year}$$

300 CFM Carbon Adsorption System

This system is designed to process a maximum of 300 CFM of landfill gas.

$$PE1 = 300 \text{ CFM-landfill gas} \times 1440 \text{ min/day} \times 5.65 \text{ lb-VOC}/10^6 \text{ CF-gas}$$

$$PE1 = 2.4 \text{ lb-VOC/day}$$

$$PE1 = 2.4 \text{ lb-VOC/day} \times 365 \text{ days/year}$$

$$PE1 = 876 \text{ lb-VOC/year}$$

Fugitive Landfill VOC Emissions:

Pursuant to the LandGem model results from District Project N-1062444, the Non-Methane Organic Compound (NMOC) generation rate is 89 tons/year during the year with highest landfill gas generation rate (5,400 CFM).

Fugitive VOC emissions are calculated below, based on the NMOC generation rate and the capture efficiency of the landfill gas collection system.

$$PE1_{Fugitive} = 89 \text{ tons-NMOC/year} \times (1-0.85) \times 1 \text{ lb-VOC/lb-NMOC} \times 2000 \text{ lb/ton}$$

$$PE1_{Fugitive} = 26,700 \text{ lb-VOC/year}$$

Daily emissions will be estimated assuming an even distribution of the annual VOC emission rate over the 365-day operating period.

$$PE1 = 26,700 \text{ lb-VOC/year} \div 365 \text{ days/year} = 73.2 \text{ lb-VOC/day}$$

PM10 Emissions from Earthmoving Activities

The landfill has an area of 354.5 acres, or equivalent to 15,442,020 square feet. Assuming a soil depth of 4 feet including intermediate and final cover, the volume of soil moved per year (assuming the entire landfill is covered), would be 61,768,080 cubic feet of soil. Assuming a soil density of 120 lb/cubic foot:

$$\text{Soil Throughput} = 61,768,080 \text{ cubic feet of soil/year} \times 120 \text{ lb/cubic foot} \div 2000 \text{ lb/ton}$$

$$\text{Soil Throughput} = 3,706,085 \text{ tons/year}$$

$$PE1 = 3,706,085 \text{ tons/year} \times 0.008 \text{ lb-PM10/ton} = 29,649 \text{ lb-PM10/year}$$

Daily emissions will be estimated assuming an even distribution of the earthmoving activities over the 365-day operating period.

$$PE1 = 29,649 \text{ lb-PM10/year} \div 365 \text{ days/year} = 81.2 \text{ lb-PM10/day}$$

Pre-Project Landfill Emissions Summary

Pre-Project Daily Landfill Emission Summary					
Operation	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	CO (lb/day)	VOC (lb/day)
2,000 CFM Flare	72.0	31.0	49.0	288.0	16.3
3,400 CFM Flare	122.4	52.6	40.8	489.6	27.7
Carbon Adsorption System ³	0.0	0.0	0.0	0.0	0.0
Fugitive Landfill Emissions	0.0	0.0	0.0	0.0	73.2
Earthmoving Activities	0.0	0.0	81.2	0.0	0.0
Total	194.4	83.6	171.0	777.6	116.7

³ Pre-project, up to 300 CFM could be diverted to a proposed carbon adsorption system; however, the emission rate for a flare processing the 300 CFM of gas would be equivalent or higher for all pollutants. Therefore, worst-case emissions occur when the flares process the full quantity of landfill gas and the carbon adsorption system is not used. Therefore, no potential to emit is attributed to the carbon adsorption system in the emissions summary.

Pre-Project Annual Landfill Emission Summary					
Operation	NOx (lb/year)	SOx (lb/year)	PM10 (lb/year)	CO (lb/year)	VOC (lb/year)
2,000 CFM Flare	26,280	11,300	17,870	105,120	5,939
3,400 CFM Flare	44,676	19,211	14,892	178,704	10,097
Carbon Adsorption System ⁴	0	0	0	0	0
Fugitive Landfill Emissions	0	0	0	0	26,700
Earthmoving Activities	0	0	29,649	0	0
Total	70,956	30,511	62,411	283,824	42,736

2. Post Project Potential to Emit (PE2)

2,000 CFM Flare:

The applicant is not requesting any changes to the flare emissions. Thus, PE2 is equal to PE1.

Pollutant	PE2 (lb/day)	PE2 (lb/year)
NOx	72.0	26,280
SOx	31.0	11,300
PM ₁₀	49.0	17,870
CO	288.0	105,120
VOC	16.3	5,939

3,400 CFM Flare:

The applicant is not proposing any changes to the flare emissions. Thus, PE2 is equal to PE1.

Pollutant	PE2 (lb/day)	PE2 (lb/year)
NOx	122.4	44,676
SOx	52.6	19,211
PM10	40.8	14,892
CO	489.6	178,704
VOC	27.7	10,097

⁴ Pre-project, up to 300 CFM could be diverted to a proposed carbon adsorption system; however, the emission rate for a flare processing the 300 CFM of gas would be equivalent or higher for all pollutants. Therefore, worst-case emissions occur when the flares process the full quantity of landfill gas and the carbon adsorption system is not used. Therefore, no potential to emit is attributed to the carbon adsorption system in the emissions summary.

300 CFM Carbon Adsorption System

This system will not be installed; thus, PE2 is equal to zero.

Fugitive Landfill VOC Emissions:

The applicant is not proposing any changes; thus PE2 is equal to PE1.

PE2 = 73.2 lb-VOC/day
 PE2 = 26,700 lb-VOC/year

PM10 Emissions from Earthmoving Activities

The applicant is not proposing any changes; thus, PE2 is equal to PE1.

PE2 = 81.2 lb-PM10/day
 PE2 = 29,649 lb-PM10/year

Post-Project Landfill Emissions Summary

Post-Project Daily Landfill Emission Summary					
Operation	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	CO (lb/day)	VOC (lb/day)
2,000 CFM Flare	72.0	31.0	49.0	288.0	16.3
3,400 CFM Flare	122.4	52.6	40.8	489.6	27.7
Fugitive Landfill Emissions	0.0	0.0	0.0	0.0	73.2
Earthmoving Activities	0.0	0.0	81.2	0.0	0.0
Total	194.4	83.6	171.0	777.6	116.7

Post-Project Annual Landfill Emission Summary					
Operation	NOx (lb/year)	SOx (lb/year)	PM10 (lb/year)	CO (lb/year)	VOC (lb/year)
2,000 CFM Flare	26,280	11,300	17,870	105,120	5,939
3,400 CFM Flare	44,676	19,211	14,892	178,704	10,097
Fugitive Landfill Emissions	0	0	0	0	26,700
Earthmoving Activities	0	0	29,649	0	0
Total	70,956	30,511	62,411	283,824	42,736

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. With the exception of the emission rates for ATC N-339-17-10, the emission rates listed in the below table were obtained from District project N-1040337.

Pre-Project Stationary Source Potential to Emit (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
PTO N-339-1-2	0	0	7,300	0	0
PTO N-339-9-2	0	0	0	0	292
PTO N-339-15-2	0	0	0	0	183
PTO N-339-16-2	0	0	0	0	3,614
ATC N-339-17-10	70,956	30,511	62,411	283,824	42,736
SSPE1	70,956	30,511	69,711	283,824	46,825

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Post-Project Stationary Source Potential to Emit (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
PTO N-339-1-2	0	0	7,300	0	0
PTO N-339-9-2	0	0	0	0	292
PTO N-339-15-2	0	0	0	0	183
PTO N-339-16-2	0	0	0	0	3,614
ATC N-339-17-13	70,956	30,511	62,411	283,824	42,736
SSPE2	70,956	30,511	69,711	283,824	46,825

5. Major Source Determination

District Rule 2201 Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

Pursuant to section 3.24.1, fugitive emissions are only included for determining Major Source status if the source of those fugitive emissions are identified in the Major Source definition in 40 CFR Part 70.2. None of the units at this source are subject to an NSPS or NESHAPS that was promulgated on or prior to August 7, 1980 and landfills are not one of the sources of fugitives listed in 40 CFR Part 70.2. Therefore, fugitive VOC emissions from the landfill are excluded in the below Major Source determination. Furthermore, SSPE1 and SSPE2 are equal. Additionally, PM emissions from earthmoving are considered fugitive and will be excluded.

Major Source Thresholds			
Pollutant	SSPE2 w/o fugitives (lb/year)	Major Source Thresholds lb/year	Major Source?
NOx	70,956	20,000	Yes
SOx	30,511	140,000	No
PM ₁₀	40,052	140,000	No
CO	283,824	200,000	Yes
VOC	20,125	20,000	Yes

Additionally, a major source of PM_{2.5} is defined as one with the potential to emit 100 tons/yr (200,000 lb/yr) or more of PM_{2.5}. Since PM_{2.5} is a subset of PM₁₀, it is evident that SSPE2 for PM_{2.5} emissions is less than or equal to 100 tons/yr; thus, this facility is not a major source for PM_{2.5}.

District Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable. The pre-project GHG emission calculations are shown in Appendix IV.

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Facility PE before Project	36	10.1	15	142	34.9	34.9	163,702 ⁵
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	No	No	No	No	No	No	Yes

As shown above, the facility is an existing Major Source for PSD.

⁵ The CO_{2e} emission rate listed in the PSD Major Source Determination only includes greenhouse gas emissions from the combustion of landfill gas by the flares only. Please see appendix IV for the CO_{2e} emission calculations for the combustion of landfill gas.

6. Baseline Emissions (BE)

The baseline emission (BE) calculations are performed pollutant by pollutant to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold.

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.22.

Baseline Emissions for SO_x and PM₁₀

This facility is not a Major Source for SO_x and PM₁₀ emissions. Therefore, the baseline emissions for these pollutants are equal to the pre-project potential to emit.

$$BE_{SO_x} = PE1_{SO_x}$$
$$BE_{PM_{10}} = PE1_{PM_{10}}$$

Baseline Emissions for NO_x, CO, and VOC

This facility is a Major Source for NO_x, CO, and VOC emissions. District Rule 2201 states that an emission unit is clean if it meets one of the following criteria:

1. The unit is equipped with an emission control technology with a minimum control efficiency of at least 95% (or at least 85% for lean burn, internal combustion engines); or
2. The unit is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during five years immediately prior to the submission of the complete application.

NO_x and CO emissions are generated from the flares, which are an emission control technology. A clean unit determination is not required for emission control devices. The flares control VOC emissions from the landfill gas collection system and are rated at a destruction efficiency of 98%. Therefore, the landfill meets the criteria of item #1 above and is clean for VOC emissions. Thus, the baseline emissions for these pollutants are equal to the pre-project potential to emit.

$$BE_{NO_x} = PE1_{NO_x}$$
$$BE_{CO} = PE1_{CO}$$
$$BE_{VOC} = PE1_{VOC}$$

7. SB288 Modification

An SB 288 Major Modification is defined in 40 CFR Part 51.165 (in effect 12/19/02) as *"any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."*

As stated earlier in the project description, this project will not result in a physical change to the landfill, nor will the project result in a change in the method of operation of the landfill. Therefore, this project cannot trigger an SB288 Modification.

8. Federal Major Modification

A Federal Major Modification is defined in 40 CFR Part 51.165 (currently in effect) as:

Major modification means any physical change in or change in the method of operation of a major stationary source that would result in:

- (1) A significant emissions increase of a regulated NSR pollutant; and*
- (2) A significant net emissions increase of that pollutant from the major stationary source.*

As stated earlier in the project description, this project will not result in a physical change to the landfill, nor will the project result in a change in the method of operation of the landfill. Therefore, this project cannot trigger a Federal Major Modification.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination Calculations

The intent of this Rule is to incorporate the federal PSD rule requirements of Title 40 Code of Federal Regulations (40 CFR) Part 52.21 into the District's Rules and Regulations by incorporating the federal requirements by reference. The prevention of significant deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant.

Section 4.0 states that an owner or operator must obtain a PSD permit pursuant to this Rule before beginning actual construction of a new major stationary source, a major modification, or a plantwide applicability limitation (PAL) major modification, as defined in 40 CFR 52.21(b).

As discussed earlier, Forward Inc. Landfill is an existing PSD Major Source. Pursuant to Section 52.21(2)(i), a major modification at an existing stationary source means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(40) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(50) of this section); and a significant net emissions increase of that pollutant from the major stationary source.

As stated earlier in this evaluation, the changes proposed by this project will not result in physical changes to the equipment or result in changes in the method of operation of the landfill. Therefore, by definition, this project cannot trigger a major modification under PSD and the requirements of this rule are not applicable.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix V.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in a SB288 or Federal Major Modification.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units with PE exceeding 2.0 lb/day

The applicant is not proposing any new emission units.

b. The relocation of a unit from one stationary to another stationary source.

The applicant is not proposing to relocate any emissions units to another stationary source.

c. Modifications to an existing emissions unit with an Adjusted Increase in Potential to Emit (AIPE) exceeding 2.0 pounds per day.

Modifications to existing emission units trigger BACT if the modification results in an Adjusted Increase in Potential to Emit (AIPE) exceeding 2.0 pounds per day. The following formulas are used to calculate the AIPE.

$$AIPE = PE2 - HAPE$$

$$\text{where, } HAPE = PE1 \times (EF2/EF1)$$

- PE1 = Pre-Project Potential to Emit (lb/day)
- EF1 = Pre-Project Emissions Factor
- PE2 = Post-Project Potential to Emit (lb/day)
- EF2 = Post-Project Emissions Factor

This project will not result in a physical modification to any of the emission units. Furthermore, the applicant is not proposing a change to the potential to emit and is not proposing any changes to the emission factors. Thus, AIPE will equal zero for all pollutants.

d. Any new or modified emissions unit, in a stationary source project, which results in a SB288 or Federal Major Modification.

As shown in section VII.C.7, this project does not result in a SB288 or Federal Major Modification

In summary, BACT is not triggered by this proposal.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant-by-pollutant basis. Unless exempted pursuant to Section 4.6, offset requirements shall be triggered if the post-project SSPE2 equals or exceeds the following offset threshold levels.

Offsets Applicability			
Pollutant	SSPE2 (lb/yr)	Offset Threshold (lb/yr)	Offsets Triggered?
NO _x	70,956	20,000	Yes
SO _x	30,511	54,750	No
PM ₁₀	69,711	29,200	Yes
CO	283,824	200,000	Yes
VOC	46,825	20,000	Yes

2. Quantity of Offsets Required

As demonstrated above, offsets are triggered for NO_x, PM₁₀, CO, and VOC. The following equation will be utilized to determine the quantity of offsets required for this project.

$$\text{Quantity of Offsets Required} = \frac{[\sum(\text{PE2} - \text{BE}) + \text{Cargo Carrier Emissions}]}{\text{x Distance Offset Ratio (DOR)}}$$

As described earlier in this evaluation, the baseline emissions for NO_x, PM₁₀, CO and VOC are each equal to their respective pre-project potential to emit (PE1). Additionally, there are no cargo carrier emissions associated with this project. Thus, the equation can be reduced to:

$$\text{Quantity of Offsets Required} = [\sum(\text{PE2} - \text{PE1})] \times \text{DOR}$$

The following table shows the results of the quantity of offset required calculations for this project.

Pollutant	PE2 (lb/year)	PE1 (lb/year)	Quantity of Offsets Required (lb/year)
NO _x	70,956	70,956	0
PM ₁₀	62,411	62,411	0
CO	283,824	283,824	0
VOC	42,736	42,736	0

As demonstrated in the above table, offsets are not required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

b. Major Modification

As demonstrated in VII.C.7, this project is not a Major Modification (SB288 or Federal).

c. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units proposed in this project. Therefore, public noticing is not required for this purpose

d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Offset Threshold Surpassed?
NO _x	70,956	70,956	20,000 lb/year	No
SO _x	30,511	30,511	54,750 lb/year	No
PM ₁₀	69,711	69,711	29,200 lb/year	No
CO	283,824	283,824	200,000 lb/year	No
VOC	46,825	46,825	20,000 lb/year	No

While facility emissions are already above the offset threshold for some pollutants, facility emissions are either decreasing or remaining the same. Thus, an offset threshold will not be surpassed.

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	70,956	70,956	0	20,000 lb/year	No
SO _x	30,511	30,511	0	20,000 lb/year	No
PM ₁₀	69,711	69,711	0	20,000 lb/year	No
CO	283,824	283,824	0	20,000 lb/year	No
VOC	46,825	46,825	0	20,000 lb/year	No

As demonstrated in the table above, a public notice is not required for SSIPE greater than 20,000 lb/year.

2. Public Notice Action

As discussed above, public noticing is not required for this project.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.16.1 and 3.16.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The following conditions will be included on the Authority to Construct permit:

- *The landfill gas collected by the landfill gas collection system shall be controlled by at least one of the following devices: 1) The 60 MMBtu/hr flare; 2) the 102 MMBtu/hr flare; and/or 3) The siloxane removal system and one of the IC engines permitted under Facility ID N-8573. Each device shall be operated at all times when the collected gas is routed to it. [District Rule 2201 and 40 CFR 60.752(b)(2)(iii)(B), 40 CFR 60.753(f), and 40 CFR 63 Subpart AAAAA]*
- *The influent landfill gas flow rate to the 60 MMBtu/hr flare shall not exceed 2,000 SCFM. [District Rule 2201]*
- *The influent landfill gas flow rate to the 102 MMBtu/hr flare shall not exceed 3,400 SCFM. [District Rule 2201]*
- *The VOC destruction efficiency for the 60 MMBtu/hr flare shall be at least 98% by weight or the maximum non-methane organic compound NMOC emissions from the flare shall not exceed 20 ppmv @ 3% O₂ (as hexane). [District Rule 2201, 40 CFR 60.752(b)(2)(iii)(B) and 40 CFR 63 Subpart AAAAA]*
- *The VOC destruction efficiency for the 102 MMBtu/hr flare shall be at least 98% by weight or the maximum non-methane organic compound NMOC emissions from the flare shall not exceed 20 ppmv @ 3% O₂ (as hexane). [District Rule 2201, 40 CFR 60.752(b)(2)(iii)(B) and 40 CFR 63 Subpart AAAAA]*
- *Emissions from the 60 MMBtu/hr flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu, 0.0215 lb-SOx/MMBtu, 0.034 lb-PM10/MMBtu, 0.2 lb-CO/MMBtu, and 0.0113 lb-VOC/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O₂). [District Rule 2201]*
- *Emissions from the 102 MMBtu/hr flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu, 0.0215 lb-SOx/MMBtu, (0.001 lb-PM10/hr)/scfm-methane, 0.2 lb-CO/MMBtu, and 0.0113 lb-VOC/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O₂). [District Rule 2201]*

- *The volume of soil used for intermediate and final cover shall not exceed 61,768,080 cubic feet. [District Rule 2201]*
- *PM10 emissions from the placement of the intermediate and final soil cover shall not exceed 0.008 lb/ton of soil. The volume of soil shall be converted to tons of soil using a soil density of 120 lb/cubic foot. [District Rule 2201]*
- *The H₂S concentration of the influent landfill gas to the flares shall not exceed 46.9 ppmv. [District Rule 2201]*

In addition to the above DEL's, the following operating requirements will be included on the Authority to Construct:

- *All equipment shall be constructed, maintained, and operated according to the specifications and plans contained in the permit applications, except as otherwise specified herein. [District Rule 2201]*
- *The enclosed flares shall each be equipped with an LPG or natural gas-fired pilot. [District Rule 2201]*
- *The enclosed flares shall each be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District Rule 2201]*
- *The gas collection system shall be operated in a manner which maximizes the quantity of landfill gas extracted while preventing overdraw that can cause fires or damage the gas collection system. [District Rule 2201]*
- *During maintenance of the gas collection system or flares, emissions of landfill gas shall be minimized. [District Rule 2201]*
- *Maintenance is defined as work performed on a gas collection system and/or control device in order to ensure continued compliance with District Rules, Regulations, and /or Permits to Operate, and to prevent its failure or malfunction. [District Rule 2201]*

E. Compliance Assurance

1. Source Testing

Initial source testing of the flares has already been completed. The following ongoing testing requirements will be included on the Authority to Construct permit:

- *For each flare, source testing to demonstrate compliance with the NO_x (lb/MMBtu), CO (lb/MMBtu), and VOC (98% destruction efficiency or 20 ppmvd VOC @ 3% O₂ as hexane) requirements of this permit shall be conducted at least once every 12 months. [District Rules 1081 and 2201]*
- *Source testing for NO_x shall be conducted using CARB Method 7 or CARB Method 20. [District Rules 1081 and 2201]*

- *Source testing for CO shall be conducted using EPA Method 10 or 10B, CARB Methods 1 through 5 with CARB Method 10, or CARB Method 100. [District Rules 1081 and 2201]*
- *VOC emissions shall be conducted using EPA Method 18, 25, 25A, or 25C. [District Rules 1081 and 2201]*
- *{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]*
- *{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

2. Monitoring

In addition to the monitoring required by 40 CFR 60 Subpart WWW, the following monitoring requirements will be included on the Authority to Construct permit:

- *The combustion chamber of each flare shall be maintained at a temperature of at least 1,400 degrees Fahrenheit during operation. [District Rule 2201]*
- *Each flare shall be equipped with a temperature indicator and recorder that measures and continuously records the operating temperature. [District Rule 2201]*
- *For each flare, the facility shall install and maintain in proper operating condition a gas flow meter with a continuous recording device that measures the quantity of landfill gas processed each day. [District Rule 2201]*
- *Permittee shall perform testing to measure the H₂S content of the landfill gas combusted in the flares on a quarterly basis using draeger tubes. If compliance with the landfill gas H₂S content limit is demonstrated for two consecutive quarters, this testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows non-compliance with the H₂S content limit. [District Rule 2201]*

3. Recordkeeping

In addition to the recordkeeping required by 40 CFR 60 Subpart WWW, the following recordkeeping requirements will be included on the Authority to Construct permit:

- *Permittee shall keep records of any maintenance to the landfill gas collection or control devices, including the reason for maintenance, duration of the maintenance, and any collection or control system downtime. [District Rule 2201]*
- *Permittee shall maintain records of system inspections including: date, time, and inspection results. [District Rule 1070]*

- *For each flare, permittee shall keep records of all emission source tests results. [District Rule 2201]*
- *For each flare, permittee shall keep records of the continuous flare combustion temperature measurements, and the continuous volumetric landfill gas flow rate measurements. Permittee shall keep a daily and an annual record of the quantity of landfill gas processed in each flare. [District Rule 2201]*
- *All records shall be retained for a period of at least five years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 40 CFR 60 Subpart WWW, and 40 CFR 60 Subpart AAAA]*

4. Reporting

In addition to the reporting requirements of 40 CFR 60 Subpart WWW, the following reporting requirements will be included on this Authority to Construct:

- *The permittee shall notify the District by telephone at least 24 hours prior to performing any maintenance work that requires the landfill gas collection and control system to be shutdown. The notification shall include a description of the work, the date work will be performed, and the quantity of time needed to complete the maintenance work. [District Rule 2201]*

Rule 2410 Prevention of Significant Deterioration

As discussed earlier in this evaluation, this project is not a major modification for PSD since the project does not result in a physical change in equipment and does not result in a change in the method of operation of the landfill. Therefore, the requirements of District Rule 2410 are not applicable.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this rule and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:

- a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
 6. Do not seek to consolidate overlapping applicable requirements.

As discussed earlier, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may operate under the ATC upon the submittal of a Title V administrative amendment application.

Rule 4001 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart CC, Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

§60.32c Designated Facilities

§60.32c(a) states that a designated facility to which the requirements of Subpart CC are applicable to each existing municipal solid waste landfill for which construction, reconstruction, or modification was commenced before May 30, 1991. In 2005 Forward Landfill (N-339) purchased Austin Road Landfill (N-3057) and merged the two landfills together to form what is currently Forward Inc. Landfill. Additionally, the total capacity of the merged landfills was increased at the same time. Therefore, a modification occurred after May 30, 1991 and Subpart CC requirements do not apply.

40 CFR Part 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills

§60.750 Applicability, Designation of Affected Facility, and Delegation of Authority

§60.750(a) states the provisions of this subpart are applicable to each municipal solid waste landfill that has commenced construction, reconstruction, or modification on or after May 30, 1991. Forward Inc. Landfill was modified after May 30, 1991; therefore, the provisions of Subpart WWW apply. The following tables demonstrate that the proposed permit conditions will comply with the requirements of Subpart WWW.

40 CFR Part 60 Subpart WWW Requirements	Proposed Method of Compliance with Subpart WWW Requirements
§60.752 Standards for Air Emissions from Municipal Solid Waste (MSW) Landfills	
<p>§60.752(a) states that each owner or operator of a MSW landfill having a design capacity less than 2.5 million megagrams or 2.5 million cubic meters by volume must submit an initial design capacity to the administrator.</p>	<p>The design capacity for this landfill is much greater than these thresholds; therefore, §60.752(a) requirements do not apply to Forward Inc. Landfill.</p>
<p>§60.752(b) states that each owner or operator of an MSW landfill having a design capacity greater than 2.5 million megagrams and 2.5 million cubic meters must either comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using the procedure in §60.754. §60.752(b)(2) requirements are for landfills that have exceeded a 50 Mg/year NMOC threshold.</p>	<p>Per an NSPS submittal on September 26, 2005, modeling at Forward Inc. Landfill indicates that the 50 Mg/year NMOC threshold was exceeded in 2004. Therefore, Forward Inc. Landfill is required to comply with paragraph (b)(2).</p>
<p>§60.752(b)(2)(i) requires the owner or operator to submit a collection and control system design plan prepared by a professional engineer within 1 year that includes the following:</p> <ul style="list-style-type: none"> (A) The collection and control system as described in the plan must meet the design requirements of paragraph (b)(2)(ii) of this section. (B) The collection and control system design plan must include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §60.753 through §60.758. (C) The collection and control system design plan must either conform with specifications for active collection systems or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to §60.759. (D) The Administrator must review the information submitted under paragraphs (b)(2)(i)(A), (B), and (C) and either approve it, disapprove it, or request additional information be submitted. 	<p>Forward Inc. Landfill submitted the plan within 1 year; therefore, this requirement has been satisfied.</p>
Continued on Next Page.	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.752(b)(2)(ii) states that the owner or operator must install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of this section within 30 months after the first annual report in which the emission rate equal or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year. The facility has installed an active control system.</p> <p>§60.752(b)(2)(ii)(A) states that an active collection system shall:</p> <ol style="list-style-type: none"> (1) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment. (2) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of: <ol style="list-style-type: none"> (i) 5 years or more if active; or (ii) 2 years or more if closed or at final grade. (3) Collect gas at a sufficient extraction rate. (4) Be designed to minimize off-site migration of subsurface gas. 	<p>This landfill is equipped with an active control system. The following conditions will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>The landfill gas collection system shall be designed and operated to: 1) Handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment; 2) Collect gas from each area, cell or group of cells in the landfill in which the initial solid waste has been placed for a period of five years or more for an active landfill, or 2 years or more for a closed landfill or landfill at final grade; 3) Collect gas at a sufficient extraction rate; and 4) Minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A), 40 CFR 60.753(a), and 40 CFR 63 Subpart AAAA]</i>
<p>§60.752(b)(2)(ii)(B) states that a passive collection system shall:</p> <ol style="list-style-type: none"> (1) Comply with the provisions specified in paragraphs (b)(2)(ii)(A)(1), (2), and (2)(ii)(A)(4) of this section. (2) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under §258.40. 	<p>The facility has installed an active control system. Therefore, the requirements for a passive control system are not applicable.</p>
<p>Continued on Next Page</p>	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.752(b)(2)(iii) states that the collected gas must be routed to a control system that complies with one of the following requirements:</p> <p>(A) Route all collected gas to an open flare designed and operated in accordance with 40 CFR §60.18 except as noted in §60.754(e).</p> <p>(B) Route all collected gas to a control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or parts per million by volume must be established by an initial performance test no later than 180 days after the initial startup of the approved control system.</p> <p>(1) If a boiler or process heater is used as a control device, the landfill gas stream must be introduced into the flame zone.</p> <p>(2) The control device must be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §60.756.</p> <p>(C) Route all collected gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of paragraph (b)(2)(iii)(A) or (B) of this section.</p>	<p>The landfill gas is routed to the two flares or the IC engines operated by Ameresco (N-8593). The permits for the Ameresco facility include conditions enforcing this requirement. Initial testing to demonstrate compliance with this requirement for each flare has already been conducted. The following conditions will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> <i>The landfill gas collected by the landfill gas collection system shall be controlled by at least one of the following devices: 1) The 60 MMBtu/hr flare; 2) the 102 MMBtu/hr flare; and/or 3) The siloxane removal system and one of the IC engines permitted under Facility ID N-8573. Each device shall be operated at all times when the collected gas is routed to it. [District Rule 2201 and 40 CFR 60.752(b)(2)(iii)(B), 40 CFR 60.753(f), and 40 CFR 63 Subpart AAAA]</i> <i>The VOC destruction efficiency for the 60 MMBtu/hr flare shall be at least 98% by weight or the maximum non-methane organic compound NMOC emissions from the flare shall not exceed 20 ppmv @ 3% O₂ (as hexane). [District Rule 2201, 40 CFR 60.752(b)(2)(iii)(B) and 40 CFR 63 Subpart AAAA]</i> <i>The VOC destruction efficiency for the 102 MMBtu/hr flare shall be at least 98% by weight or the maximum non-methane organic compound NMOC emissions from the flare shall not exceed 20 ppmv @ 3% O₂ (as hexane). [District Rule 2201, 60.752(b)(2)(iii)(B) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.752(b)(2)(iv) states that the facility must operate the collection and control device installed to comply with this subpart in accordance with the provisions of §§ 60.753, 60.755 and 60.756.</p>	<p>Compliance with the referenced sections will be discussed later in this table.</p>
<p>Continued on Next Page</p>	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>Exterior vapor extraction wells, leachate collection systems, and perimeter horizontal collectors are exempt from the requirements of 40 CFR 60.753.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> <i>All exterior vapor extraction wells, leachate collection system components, and perimeter horizontal collectors shall not be located over any waste and are exempt from the operational standards of 40 CFR 60.753 and the compliance provisions of 40 CFR 60.755. Forward Inc. shall keep records of all components that qualify for this exemption and note their location with respect to the landfill's perimeter. [40 CFR 60.752(b)(2)(ii), 60.753, 60.755, 60.756, 60.757, 60.758, 60.759, and 40 CFR 63 Subpart AAAA]</i>
<p>§60.752(b)(2)(v) states that the collection and control system may be capped or removed provided that all of the following conditions are met:</p> <ul style="list-style-type: none"> (A) The landfill shall be a closed landfill as defined in §60.751 of this subpart. A closure report shall be submitted to the Administrator as provided in §60.757(d); (B) The collection and control system shall have been in operation a minimum of 15 years; and (C) Following the procedures specified in §60.754(b) of this subpart, the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart. 	<p>If the applicant wishes to pursue the option of removing the control devices, an Authority to Construct application is required from the applicant and compliance with all other applicable regulations and rules will be required.</p>
<p>§60.752(c) states that for the purposes of obtaining a Title V operating permit, the owner of a MSW landfill subject to this subpart with a design capacity less than 2.5 million megagrams or 2.5 million cubic meters is not required to obtain a Title V permit for the landfill under Part 70 or 71 of this chapter, unless the landfill is otherwise subject to either Part 70 or 71. Otherwise, a Title V operating permit is required.</p>	<p>This landfill is rated greater than the thresholds listed and currently has a Title V operating permit. Therefore, this requirement has been satisfied.</p>
<p>§60.752(d) states that when an MSW landfill subject to this subpart is closed, the owner or operator is no longer subject to the requirement to maintain a Title V operating permit if the landfill is not otherwise subject to part the requirements of either Part 70 or Part 71 and if either of the following conditions are met:</p> <ul style="list-style-type: none"> (1) The landfill was never subject to the requirement for a control system under paragraph (b)(2) of this section; or (2) The owner or operator meets the conditions for control system removal specified in paragraph (b)(2)(v) of this section. 	<p>If the applicant wishes to pursue this option upon meeting these criteria, an Authority to Construct application is required from the applicant and compliance with all other applicable regulations and rules will be required.</p>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
§60.753 Operational Standards for Collection and Control Systems	
<p>§60.753(a) states that the owner or operator must operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill which solid waste has been in place for:</p> <ul style="list-style-type: none"> • 5 years or more if active; or • 2 years or more if closed or at final grade. 	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>The landfill gas collection system shall be designed and operated to: 1) Handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment; 2) Collect gas from each area, cell or group of cells in the landfill in which the initial solid waste has been placed for a period of five years or more for an active landfill, or 2 years or more for a closed landfill or landfill at final grade; 3) Collect gas at a sufficient extraction rate; and 4) Minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A), 40 CFR 60.753(a), and 40 CFR 63 Subpart AAAA]</i>
<p>§60.753(b) states that the owner or operator of the landfill must operate the collection system with negative pressure at each wellhead except under the following conditions:</p> <ol style="list-style-type: none"> (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports provided in §60.757(f)(1). (2) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan. (3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Administrator. 	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: 1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports provided in 40 CFR 60.757(f)(1); 2) Use of a geomembrane or synthetic cover. The owner shall develop acceptable pressure limits in the design plan; 3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the District. [40 CFR 60.753(b) and 40 CFR 63 Subpart AAAA]</i>
Continued on Next Page	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.753(c) states that the owner or operator must operate each interior wellhead in a collection system with a landfill gas temperature less than 55 °C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.</p> <p>(1) The nitrogen level shall be determined using EPA Method 3C, unless an alternative test method is established as allowed by §60.752(b)(2)(i) of this subpart.</p> <p>(2) Unless an alternative test method is established as allowed by §60.752(b)(2)(i) of this subpart, the oxygen level shall be determined by an oxygen meter using EPA Method 3A or 3C except that:</p> <p>(i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;</p> <p>(ii) A data recorder is not required;</p> <p>(iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span;</p> <p>(iv) A calibration check is not required; and</p> <p>(v) The allowable sample bias, zero drift, and calibration drive are ± 10 percent.</p>	<p>The following conditions will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Unless otherwise stated on this permit, the permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. [40 CFR 60.753(c) and 40 CFR 63 Subpart AAAA]</i> • <i>For each interior wellhead, the nitrogen level shall be determined using EPA Method 3C, unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i). [40 CFR 60.753(c)(1) and 40 CFR 63 Subpart AAAA]</i> • <i>For each interior wellhead, unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i), the oxygen level shall be determined by an oxygen meter using EPA Method 3A or 3C except that: 1) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; 2) A data recorder is not required; 3) Only two calibration gases are required, a zero and span, and ambient air may be used as the span; 4) A calibration check is not required; and 5) The allowable sample bias, zero drift, and calibration drive are plus or minus 10 percent. [40 CFR 60.753(c)(2) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.753(d) states that the owner or operator shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover on at least a quarterly basis. Permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d), 40 CFR 60.755, and 40 CFR 63 Subpart AAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.753(e) states that the owner or operator shall operate the system such that all collected gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii). In the event the collection system or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall operate the landfill gas collection and control system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii). In the event the collection system or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to the venting of the gas to the atmosphere shall be closed within one hour. [40 CFR 60.753(e) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.753(f) states that the owner or operator shall operate the control or treatment system at all times when the collected gas is routed to the system.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>The landfill gas collected by the landfill gas collection system shall be controlled by at least one of the following devices: 1) The 60 MMBtu/hr flare; 2) the 102 MMBtu/hr flare; and/or 3) The siloxane removal system and one of the IC engines permitted under Facility ID N-8573. Each device shall be operated at all times when the collected gas is routed to it. [District Rule 2201 and 40 CFR 60.752(b)(2)(iii)(B), 40 CFR 60.753(f), and 40 CFR 63 Subpart AAAA]</i>
<p>§60.753(g) states that if monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of this section are not met, corrective action shall be taken as specified in §60.755(a)(3) through (5) or §60.755(c) of this subpart. If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements of this section.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>If monitoring demonstrates that the operational requirements in 40 CFR 60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3) through (5) or 40 CFR 60.755(c). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753. [40 CFR 60.753(g) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.754 Test Methods and Procedures</p>	
<p>§60.754(a) specifies the procedure for calculating the landfill NMOC emission rate in order to determine whether a control device is required by §60.752(b)(2).</p>	<p>A collection and control system has already been installed to comply with the requirements of §60.752(b)(2); therefore, these calculations are no longer required and no further discussion is necessary.</p>
<p>Continued on Next Page</p>	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
§60.754(b) states that after installation of a collection and control system in compliance with §60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in §60.752(b)(2)(v) and includes equations for making such a determination.	If the applicant wishes to pursue the option of removing the control devices, an Authority to Construct application is required from the applicant and compliance with all other applicable regulations and rules will be required.
§60.754(c) states that when calculating emissions for PSD purposes, the owner or operator of each MSW landfill subject to the provisions of this subpart shall estimate the NMOC rate for comparison to the PSD and Major Source and significance levels of §§ 51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures.	The NMOC emission rate has been calculated using an approved measurement procedure; therefore, this requirement has been satisfied.
§60.754(d) states the calculation method to be used for the initial performance test required in §60.752(b)(2)(iii)(B).	The initial performance test has already been conducted. Therefore, this requirement is not applicable.
§60.754(e) states the methods to determine the net heating value of the combusted landfill gas for the performance test required in §60.752(b)(2)(iii)(A).	§60.752(b)(2)(iii)(A) is applicable to open flare systems. This landfill is controlled by enclosed flares. Therefore, this requirement is not applicable.
§60.755 Compliance Provisions	
Exterior vapor extraction wells, leachate collection systems, and perimeter horizontal collectors are exempt from the requirements of 40 CFR 60.755.	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> <i>All exterior vapor extraction wells, leachate collection system components, and perimeter horizontal collectors shall not be located over any waste and are exempt from the operational standards of 40 CFR 60.753 and the compliance provisions of 40 CFR 60.755. Forward Inc. shall keep records of all components that qualify for this exemption and note their location with respect to the landfill's perimeter. [40 CFR 60.752(b)(2)(ii), 60.753, 60.755, 60.756, 60.757, 60.758, 60.759, and 40 CFR 63 Subpart AAAA]</i>
§60.755(a)(1) lists the methodology to be used for determining the maximum expected gas generation flow rate for the landfill to determine compliance with §60.752(b)(2)(ii)(A)(1).	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> <i>For the purpose of demonstrating that the gas collection system is designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system, permittee shall use one of the equations that are listed in 40 CFR 60.755(a)(1). [40 CFR 60.755(a)(1) and 40 CFR 63 Subpart AAAA]</i>
Continued on Next Page	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.755(a)(2) states that for the purpose of determining sufficient density of gas collectors for compliance with §60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>For the purpose of determining whether there is a sufficient density of gas collectors, permittee shall design a system of vertical wells, horizontal collectors, or other collection devices satisfactory to the District, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.755(a)(2) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.755(a)(3) states that for the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with §60.752(b)(2)(ii)(A)(3), the owner or operator shall measure gauge pressure in the gas collection system header at each individual well on a monthly basis. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under §60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.</p> <p>§60.755(a)(4) states that owners or operators are not required to expand the system as required in paragraph (a)(3) of the section during the first 180 days after gas collection system startup.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>For the purpose of demonstrating whether the landfill gas collection system flow rate is sufficient, the owner or operator shall measure gauge pressure in the gas collection system header at each individual well on a monthly basis. Except in cases where the conditions allow the wellhead to operate without a negative pressure (as outlined in this permit), action shall be initiated to correct the exceedance within 5 calendar days if a positive pressure exists. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of a positive pressure. Any attempted corrective measure shall not cause exceedances or other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the District for approval. Expansion of the collection system during the first 180 days after gas collection system startup is not required. [40 CFR 60.755(a)(3), 60.755(a)(4), and 40 CFR 63 Subpart AAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.755(a)(5) states that for the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor the temperature and nitrogen or oxygen on a monthly basis. If a well exceeds one of the temperature, nitrogen, or oxygen operating parameters of this permit, action shall be initiated to correct the exceedance within five calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the District for approval. [40 CFR 60.755(a)(5) and 40 CFR 63 Subpart AAAA]
<p>§60.755(a)(6) states that an owner or operator seeking to demonstrate compliance with §60.752(b)(2)(ii)(A)(4) through the use of a collection system not conforming to the specifications provided in §60.759 shall provide information satisfactory to the Administrator as specified in §60.752(b)(2)(i)(C) demonstrating that off-site migration is being controlled.</p>	<p>Compliance with the specifications of §60.759 will be required by the permit; therefore, this requirement does not apply.</p>
<p>§60.755(b) states that for the purposes of compliance with §60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in §60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:</p> <p>(1) 5 years or more if active; or (2) 2 years or more if closed or at final grade.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> Extraction wells shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: 1) 5 years or more for an active landfill; 2) 2 years or more for a closed landfill or a landfill at final grade. [40 CFR 60.755(b) and 40 CFR 63 Subpart AAAA]
<p>§60.755(c)(1) states that after installation of the collection system, the owner or operator shall monitor surface concentrations of methane along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of this section.</p>	<p>A condition requiring quarterly monitoring of the surface concentration of methane was presented earlier in this evaluation. The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> Monitoring to determine the surface concentration of methane shall be conducted using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications of 40 CFR 60.755(d). [40 CFR 60.755(c)(1), 40 CFR 60.755(d), and 40 CFR 63 Subpart AAAA]

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.755(c)(2) states that the background concentration of methane shall be determined by moving the probe inlet upwind and downwind the outside boundary of the landfill at a distance of at least 30 meters from the perimeter wells.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> <i>The background concentration of methane shall be determined by moving the probe inlet upwind and downwind the outside boundary of the landfill at a distance of at least 30 meters from the perimeter walls. [40 CFR 60.755(c)(2) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.755(c)(3) states that surface emission monitoring shall be performed in accordance with section 4.3.1 of EPA Method 21 of Appendix A of Part 40, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.</p>	<p>The following condition will be included on the Authority to Construct Permit:</p> <ul style="list-style-type: none"> <i>Surface monitoring of the methane concentration shall be performed in accordance with Section 4.3.1 of EPA Method 21 of Appendix A of 40 CFR, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. [40 CFR 60.755(c)(3) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.755(c)(4) states that any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the following actions shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d).</p> <ol style="list-style-type: none"> The location of each monitored exceedance shall be marked and the location recorded. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection of the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance. If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If re-monitoring shows a third exceedance for the same location, the actions specified in item v shall be taken, and no further monitoring of that locations is required until the action specified in item v has been taken. <p>This section is continued on the next page</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> Any surface monitoring reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the following actions shall be taken. As long as the following specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 60.753(d): 1) The location of each monitored exceedance shall be marked and the location recorded; 2) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection of the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance; 3) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If re-monitoring shows a third exceedance, the action specified in item #5 of this condition shall be taken, and no further monitoring of that location is required until the action specified in item #5 has been taken;... <p>This condition is continued on the next Page</p>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>iv. Any location that initially showed an exceedance but has a methane concentration of less than 500 ppm above background at the 10-day re-monitoring shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in item iii or item v shall be taken.</p> <p>v. For any location where the monitored methane concentration equals or exceeds 500 parts per million above backgrounds three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes, or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.</p>	<ul style="list-style-type: none"> • ...4) Any location that initially showed an exceedance but has a methane concentration of less than 500 ppm above background at the 10-day re-monitoring shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in item #3 or item #5 of this condition shall be taken.; and 5) For any location where the monitored methane concentration equals or exceed 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes, or control device, and a corresponding timeline for installation may be submitted to the District for approval. [40 CFR 60.755(c)(4) and 40 CFR 63 Subpart AAAA]
<p>§60.755(c)(5) states that the owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall implement a program to monitor for cover integrity and implement cover repairs, as necessary, on a monthly basis. [40 CFR 60.755(c)(5) and 40 CFR 63 Subpart AAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.755(d) states that each owner or operator seeking to comply with the provisions of paragraph (c) of this section shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:</p> <ol style="list-style-type: none"> (1) The portable analyzer shall meet the instrumentation specifications provided in section 3 of EPA Method 21 of Appendix A of this part, except that "methane" shall replace all references to VOC. (2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air. (3) To meet the performance evaluation requirements in Section 3.1.3 of EPA Method 21 of Appendix A of this part, the instrument evaluation procedures of section 4.4 of EPA Method 21 of Appendix A of this part shall be used. (4) The calibration procedures provided in section 4.2 of EPA Method 21 of Appendix A of this part shall be followed immediately before commencing a surface monitoring survey. 	<p>The following condition will be included on the authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Monitoring to determine the surface concentration of methane shall be conducted using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications of 40 CFR 60.755(d). [40 CFR 60.755(c)(1), 40 CFR 60.755(d), and 40 CFR 63 Subpart AAAA]</i>
<p>§60.755(e) states that the provisions of this subpart shall apply at all times, except during periods of start-up, shutdown, or malfunction, provided the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.</p>	<p>The following condition will be included on the Authority to Construct:</p> <ul style="list-style-type: none"> • <i>The requirements of 40 CFR 60 Subpart WWW shall apply at all times, except during periods of start-up, shutdown, or malfunction. The duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(e) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.756 Monitoring of Operations:</p>	
<p>§60.756(a) states that each owner or operator seeking to comply with §60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each well head and:</p> <ol style="list-style-type: none"> (1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in §60.755(a)(3); and (2) Monitor the nitrogen or oxygen concentration of the landfill gas on a monthly basis as provided in §60.755(a)(5); and (3) Monitor the temperature of the landfill gas on a monthly basis as provided in §60.755(a)(5) 	<p>Conditions requiring monthly gauge pressure, nitrogen or oxygen, and temperature measurements were included earlier in this evaluation. The following condition will be included on the Authority to Construct:</p> <ul style="list-style-type: none"> • <i>Permittee shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead. [40 CFR 60.756(a) and 40 CFR 63 Subpart AAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.756(b) states that each owner or operator seeking to comply with §60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:</p> <p>(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.</p> <p>(2) A device that records flow to or bypass of the control device. The owner or operator shall either:</p> <p>(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or</p> <p>(ii) Secure the bypass line valve in the closed position with a car-seal or a lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.</p>	<p>The following conditions will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> For each enclosed flare, permittee shall calibrate, maintain, and operate according to the manufacturer's specifications a temperature monitoring device to measure temperature in the enclosed flare with a minimum accuracy of plus or minus 1 percent of the temperature being measured, expressed in degrees Celsius, or plus or minus 0.5 degrees Celsius, whichever is greater. [40 CFR 60.756(b)(1) and 40 CFR 63 Subpart AAAA] For each enclosed flare, permittee shall calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to or bypass of the control device. Permittee shall either: 1) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least once every 15 minutes; or 2) shall secure the bypass line valve in the closed position with a car-seal or a lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in a closed position and that the gas flow is not diverted through the bypass line. [40 CFR 60.756(b)(2) and 40 CFR 63 Subpart AAAA]
<p>§60.756(c) lists requirements for owners seeking to comply with §60.752(b)(2)(iii) using an open flare.</p>	<p>This facility uses enclosed flares to comply with §60.752(b)(2)(iii); therefore, the requirements of §60.756(c) are not applicable.</p>
<p>§60.756(d) lists requirements for owners seeking to comply with §60.752(b)(2)(iii) using devices other than an open flare or enclosed combustor.</p>	<p>This facility uses enclosed flares to comply with §60.752(b)(2)(iii); therefore, the requirements of §60.756(d) are not applicable.</p>
<p>§60.756(e) states that each owner or operator seeking to install a collection device that does not meet the specifications in §60.759 or is seeking to monitor alternative parameters to those required by §60.753 through §60.756 shall provide information satisfactory to the Administrator as provided in §60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.</p>	<p>The control system meets the specifications of §60.759 and the facility monitors the parameters listed in §60.753 through §60.756. Therefore, the requirement listed in §60.756(e) requirement is not applicable.</p>
<p>Continued on Next Page</p>	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.756(e) states that each owner or operator seeking to demonstrate compliance with §60.755(c) shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in §60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>For a closed landfill that has no monitored exceedances of the standard for surface concentrations of methane in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring shall return the frequency of monitoring of surface concentrations to quarterly monitoring. [40 CFR 60.756(e) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.757 Reporting Requirements</p>	
<p>§60.757(a) states that each owner or operator subject to the requirements of this subpart shall submit an initial design capacity report to the Administrator.</p>	<p>This reporting requirement has already been satisfied.</p>
<p>§60.757(b) states that each owner or operator subject to the requirements of this subpart shall submit an NMOC emission rate report to the Administrator initially and annually thereafter, except as provided for in §60.757(b)(1)(ii) or (b)(3) of this section.</p> <p>§60.757(b)(3) states that each owner or operator subject to the requirements of this Subpart is exempted from the requirements of paragraphs (b)(1) and (2) of this section, after the installation of a collection and control system in compliance with §60.752(b)(2), during such time as the collection and control system is in operation and in compliance with §§ 60.753 and 60.755.</p>	<p>The facility has installed a control device and meets the exemption requirements listed in §60.757(b)(3); therefore, this reporting requirement is not applicable.</p>
<p>§60.757(c) states that each owner subject to the provisions of §60.752(b)(2)(i) shall submit a collection and control system design plan to the administrator within 1 year of the first report required under paragraph (b) of this section in which the emission rate equals or exceeds 50 megagrams per year.</p>	<p>This reporting requirement has already been satisfied.</p>
<p>§60.757(d) states that each owner of a controlled landfill shall submit a closure report to the Administrator within 30 days of waste acceptance cessation. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4).</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>The permittee shall submit a closure report to the District within 30 days of waste acceptance cessation. The District may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the District, no additional wasted may be placed into the landfill without filing a notification of modification as described on 40 CFR 60.7(a)(4). [40 CFR 60.757(d) and 40 CFR 63 Subpart AAAA]</i>
<p>Continued on Next Page</p>	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.757(e) states that each owner or operator of a controlled landfill shall submit an equipment removal report to the Administrator within 30 days prior to removal or cessation of operation of the control equipment.</p> <p>(1) The equipment removal report shall contain the following:</p> <ul style="list-style-type: none"> (i) A copy of the closure report submitted in accordance with paragraph (d) of this section. (ii) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and (iii) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year. <p>(2) The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met.</p>	<p>If the applicant wishes to pursue the option of removing the control devices, an Authority to Construct application is required from the applicant and compliance with all other applicable regulations and rules will be required.</p>
<p>§60.757(f) states that each owner of a landfill seeking to comply with §60.752(b)(2) using an active collection system designed in accordance with §60.752(b)(2)(ii) shall submit to the Administrator annual reports of the recorded information in (f)(1) through (f)(6) of this paragraph. The initial report is required within 180 days of installation and start-up of the collection system. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The report shall include the following:</p> <ul style="list-style-type: none"> (1) Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (b), (c), and (d). (2) Description of duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756. (3) Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time control device was not operating (4) All periods when the control system was not operating in excess of 5 days. (5) The location of each exceedance of the 500 parts per million methane concentration as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month; and (6) The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of §60.755. 	<p>The following condition will be included in the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall submit a report to the District, at least once every 12 months, that contains the following: 1) Value and length of time for each exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d); 2) Description of duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756; 3) Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time control device was not operating; 4) All periods when the control system was not operating in excess of five days; 5) The location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month; and 6) The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755(a)(3), (b), and (c)(4). [40 CFR 60.757(f) and 40 CFR 63 Subpart AAAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.757(g) states each owner or operator seeking to comply with §60.752(b)(2)(iii) shall include the information in §60.757(g)(1) through §60.757(g)(6) with the initial performance test.</p>	<p>The initial performance test has already been conducted and this requirement was satisfied.</p>
<p>§60.758 Recordkeeping Requirements</p>	
<p>§60.758(a) states that except as provided in §60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of §60.752(b) shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which triggered §60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.</p>	<p>The following condition will be included on the Authority to Construct permit.</p> <ul style="list-style-type: none"> • <i>Permittee shall keep records of the design capacity report which triggered 40 CFR 60.752(b) requirements, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. [40 CFR 60.758(a) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.758(b) states that except as provided in §60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the following data, as measured during the initial performance test or compliance determination. Records of subsequent tests and monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.</p> <ol style="list-style-type: none"> (1) Where an operator or owner subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(ii) <ol style="list-style-type: none"> (i) The maximum expected gas generation flow rate as calculated in §60.755(a)(1). (ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §60.759(a)(1). (2) Where an owner or operator subject to this subpart seeks to demonstrate compliance with §60.752(b)(2)(iii) through the use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity greater than 44 megawatts. <ol style="list-style-type: none"> (i) The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test. (ii) The percent reduction of NMOC determined as specified in §60.752(b)(2)(iii)(B) achieved by the control device. (3) This section lists requirements for units served by a process heater or boiler. (4) This section lists requirements for units served by an open flare. 	<p>The unit is not served by an open flare or process heater. Therefore, the requirements of 40 CFR 60.758(b)(3) and (4) do not apply. The following condition will be included on the Authority to Construct permit to address the remaining 40 CFR 60.758(b) requirements:</p> <ul style="list-style-type: none"> • <i>Permittee shall keep records of the following data, as measured during the initial performance test or compliance determination: 1) The maximum expected gas generation flow rate as calculated per 40 CFR 60.755(a)(1); 2) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices as determined using the procedures specified in 40 CFR 60.759(a)(1); 3) For each enclosed flare, the average combustion temperature measured at least every 15 minutes and averaged over the same time period for the source test; and 4) For each enclosed flare, the percent reduction of NMOC determined as specified in 40 CFR 60.752(b)(2)(iii)(B). [40 CFR 60.758(b)(1) and (2) and 40 CFR 63 Subpart AAAA]</i>
<p>Continued on Next Page</p>	

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.758(c) states that the owner or operator of a controlled landfill shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in §60.756, as well as up to date, readily accessible records of operation during which the parameter boundaries established during the most recent performance tests are exceeded.</p> <p>(1) The following shall constitute exceedances that shall be recorded and reported under §60.757(f);</p> <p>(i) For enclosed combustors except for boilers and process heaters with a design heat capacity of 44 megawatts or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28 °C below the average combustion temperature during the most recent performance test at which compliance with §60.752(b)(2)(iii) was determined.</p> <p>(ii) For boilers or process heaters, whenever there is a change in location at which the vent steam is introduced into the flame zone as required under paragraph (b)(3) of this section.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall keep continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.756, as well as up to date records of operation during with the parameter boundaries established during the most recent performance tests are exceeded. For each enclosed flare, all 3-hour periods of operation during with the average combustion temperature was more than 28 degree Celsius below the average combustion temperature during the most recent performance test shall constitute an exceedance and shall be recorded and reported under 40 CFR 60.757(f). [40 CFR 60.758(c) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.758(d) states that the owner or operator subject to the provision of this subpart shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label of each collector.</p> <p>(1) Each owner or operator shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under §60.755(b).</p> <p>(2) Each owner or operator shall keep up-to-date, readily accessible documentation of the nature, date of disposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in §60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §60.759(a)(3)(ii).</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall keep, for the life of the collection system, a plot map showing each existing and planned collector in the system and providing a unique identification location label of each collector. Permittee shall keep records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.755(b). Permittee shall keep records of the date of disposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in 40 CFR 60.759(a)(3)(i) as well as any non-productive areas excluded from collection as provided in 40 CFR 60.759(a)(3)(ii). [40 CFR 60.758(d) and 40 CFR 63 Subpart AAAA]</i>
<p>§60.758(e) states that each owner or operator shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in §60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall keep records of all collection and control system exceedances of the operational standards in 40 CFR 60.753, the reading in the subsequent month and whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e) and 40 CFR 63 Subpart AAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.758(f) outlines recordkeeping requirements that convert their design capacity from volume to mass or mass to volume to demonstrate that the capacity is less than 2.5 million megagrams or 2.5 million cubic meters.</p>	<p>Forward Inc. Landfill is larger than these thresholds; therefore the recordkeeping requirements of §60.758(f) do not apply.</p>
<p>§60.759 Specifications for Active Collection Systems</p>	
<p>§60.759(a) requires each owner or operator to site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures, unless alternative procedures have been approved by the administrator:</p> <ol style="list-style-type: none"> (1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. (2) The sufficient density of gas collection devices determined in (a)(1) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter and exterior. (3) The placement of gas collection devices in paragraph (a)(1) of this section shall control all gas producing areas except the following: <ol style="list-style-type: none"> (i) Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the Administrator upon request. (ii) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute to less than 1 percent of the total amount of NMOC emissions from the landfill. 	<p>The following conditions will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall site active collection wells, horizontal collectors, surface collectors, and other extraction devices at a sufficient density throughout all gas producing areas of the landfill using the procedures listed in 40 CFR 60.759(a), unless alternative procedures have been approved by the District. [40 CFR 60.759(a) and 40 CFR 63 Subpart AAAA]</i> • <i>The collection devices within the landfill interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. The design shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter and exterior. [40 CFR 60.759(a)(1) and (2) and 40 CFR 63 Subpart AAAA]</i> • <i>The placement of gas collection devices shall control all gas producing areas except the following: 1) Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided in 40 CFR 60.758(d). The documentation shall provide the nature, date of disposition, location, and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the District upon request.; 2) Any nonproductive area of the landfill may be excluded from control, provided the total of all excluded areas can be shown to contribute to less than 1 percent of the total amount of non-methane organic compound emissions from the landfill. [40 CFR 60.759(a)(3) and 40 CFR 63 Subpart AAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.759(b) states that each owner or operator shall construct the gas collection devices using the following equipment or procedures:</p> <p>(1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.</p> <p>(2) Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover area or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.</p> <p>(3) Collections devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous materials of suitable thickness.</p>	<p>The following conditions will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases, withstand installation, static, and settlement forces, and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration. [40 CFR 60.759(b)(1) and 40 CFR 63 Subpart AAAA]</i> • <i>Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover area or refuse into the collection system or gas into the air. Any gravel used around pipe perforations shall be of a dimension so as not to penetrate or block perforations. [40 CFR 60.759(b)(2) and 40 CFR 63 Subpart AAAA]</i> • <i>Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous materials of suitable thickness. [40 CFR 60.759(b)(3) and 40 CFR 63 Subpart AAAA]</i>

Continued on Next Page

40 CFR Part 60 Subpart WWW Requirements Continued from Previous Page	Proposed Method of Compliance with Subpart WWW Requirements
<p>§60.759(c) states that each owner or operator shall convey the landfill gas to a gas control system in compliance with §60.752(b)(2)(iii) through the collection header pipes. The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended period of the gas moving equipment using the following procedures:</p> <ol style="list-style-type: none"> (1) For existing collection systems, the flow data, if flow data exists, shall be used to project the maximum flow rate. (2) For new collection systems or existing collection system for which no flow data exists, the maximum flow rate shall be in accordance with §60.755(a)(1). 	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall convey the landfill gas to the control system through the collection header pipes. The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended period of gas moving equipment. For existing collection systems, the flow data, if flow data exists, shall be used to project the maximum flow rate. For new collection systems or existing collection systems for which no flow data exists, the maximum flow rate shall be in accordance with 40 CFR 60.755(a)(1). [40 CFR 60.759(c) and 40 CFR 63 Subpart AAAA]</i>

Rule 4002 National Emission Standards for Hazardous Air Pollutants

40 CFR Part 62, Subpart GGG Federal Plan Requirements for Municipal Solid Waste Landfills that Commenced Construction Prior to May 30, 1991 and Have Not Been Modified or Reconstructed Since May 30, 1991

As stated earlier in this evaluation, this landfill has been modified since May 30, 1991. Therefore, the requirements of Subpart GGG do not apply to this landfill.

40 CFR Part 63 Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

§63.1935 Am I Subject to This Subpart

§63.1935 states that an owner or operator is subject to this subpart if they own or operate a municipal solid waste landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and meets any one of the following criteria:

- (a) The MSW landfill is a Major Source as defined in 40 CFR 63.2 of Subpart A.
- (b) The MSW landfill is collocated with a major source as defined in 40 CFR 63.2 of Subpart A.
- (c) The MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million MG or 2.5 million m³ and that is not permanent closed as of January 16, 2003.

It was previously determined that the landfill is subject to the requirements of Subpart AAAA. The following table shows the requirements of Subpart AAAA and the proposed method of compliance with those requirements.

40 CFR Part 63 Subpart AAAA Requirements	Proposed Method of Compliance with Subpart AAAA Requirements
§63.1955 What Requirements Must I Meet?	
<p>§63.1955(a)(1) states that the landfill must comply with the requirements of 40 CFR 60 Subpart WWW.</p>	<p>Compliance with 40 CFR 60 Subpart WWW was demonstrated earlier in this evaluation. The permit conditions for compliance with 40 CFR 60 Subpart WWW will include a rule reference to 40 CFR 63 Subpart AAAA.</p>
<p>§63.1955(b) states that for landfills required to install a collection and control system by §40 CFR 60.752(b)(2) of 40 CFR 60 Subpart WWW the requirements of §§63.1960 through 63.1985 and the general NESHAPs provisions is required.</p>	<p>As demonstrated earlier in this evaluation, compliance is expected with 40 CFR 60 Subpart WWW requirements.</p>
§63.1960 How is Compliance Determined?	
<p>§63.1960 states that compliance with Subpart AAAA is determined in the same way it is determined for 40 CFR 60 Subpart WWW. If a deviation occurs for Subpart WWW, then the operator or owner has failed to meet the control device operating conditions described in Subpart AAAA and has deviated from the requirements of Subpart AAAA. Finally, the facility must develop a written SSM plan according to the provisions of 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of Subpart AAAA.</p>	<p>In addition to the 40 CFR 60 Subpart WWW requirements listed earlier, the following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall develop a written SSM plan according to the provisions of 40 CFR 63.6(e)(3). A copy of the SSM plan shall be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of 40 CFR 63 Subpart AAAA. [40 CFR 63.1960]</i>
§63.1965 What is a Deviation?	
<p>§63.1965(a) states that a deviation occurs when the control device operating parameter boundaries described in §40 CFR 60.758(c)(1) of Subpart WWW are exceeded.</p> <p>§63.1965(b) states that a deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured the values for at least three 15-minute monitoring periods within the hour.</p> <p>§63.1965(c) states that a deviation occurs when the SSM plan is not developed or maintained on site.</p>	<p>In addition to previously stated permit conditions for 40 CFR 60 Subpart WWW and deviations for not developing or maintaining the SSM plan on site, the following condition shall be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>For parameters required to be continuously monitored by 40 CFR 60 Subpart WWW, a deviation of 40 CFR 63 Subpart AAAA shall be deemed to have occurred when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour. [40 CFR 63.1965(b)]</i>
§63.1980 What Records and Reports Must I Keep and Submit?	
<p>§63.1980(a) states that the owner or operator must keep records and reports as specified in 40 CFR 60 Subpart WWW.</p> <p>§63.1980(b) states that the owner or operator must also keep records and reports as specified in the general provisions of 40 CFR Part 60, and 40 CFR Part 63 as shown in Table 1 of this Subpart.</p> <p>The remainder of the recordkeeping requirements of this section is for landfills that operate bioreactors.</p>	<p>This landfill does not operate a bioreactor. The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> • <i>Permittee shall keep records and reports as specified in the general provisions of 40 CFR Part 60, and 40 CFR Part 63, as shown in Table 1 of 40 CFR part 63 Subpart AAAA. [40 CFR 63.1980(b)]</i>

Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.

The following condition will be included on the Authority to Construct permit

- *{4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)]*

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, compliance with this rule is expected.

The following condition will be included on the Authority to Construct permit:

- *No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]*

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

This project does not result in an increase in emissions from the landfill, nor will the project result in changes to parameters that might affect the previously determined health risk from the landfill. Therefore, a risk management review is not necessary for this project.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

Compliance with the requirements of District Rule 4201 was demonstrated in District Project N-1062444 and this proposal will not affect that determination. The following condition will be included on the Authority to Construct permit:

- *Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]*

Rule 4301 Fuel Burning Equipment

This rule applies to fuel burning equipment, which is defined as any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer.

The enclosed flares at this site are direct-fired and do not produce heat or power for use. Therefore, the requirements of District Rule 4301 are not applicable.

District Rule 4311 Flares

Section 4.2 of this Rule states that the requirements of District Rule 4311 are not applicable to flares that are subject to the requirements of 40 CFR 60 Subpart WWW. Since the flares are subject to the requirements of 40 CFR 60 Subpart WWW, the requirements of District Rule 4311 do not apply.

Rule 4642 Solid Waste Disposal Sites

Section 4.1.2 of this Rule states that the requirements of District Rule 4642 are not applicable to any solid waste disposal site that is subject to the requirements of 40 CFR 60 Subpart WWW. Since this landfill is subject to the requirements of 40 CFR 60 Subpart WWW, the requirements of District Rule 4642 do not apply.

Rule 4801 Sulfur Compounds

Per Section 3.1, a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂ on a dry basis averaged over 15 consecutive minutes.

Compliance with District Rule 4801 requirements was demonstrated in District Project N-1062444 and this proposal will not affect that determination.

40 CFR Part 64 Compliance Assurance Monitoring

40 CFR Part 64 requires Compliance Assurance Monitoring (CAM) for units that meet the following three criteria:

- 1) the unit must have an emission limit for the pollutant;
- 2) the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), baghouses, and catalytic oxidizers; and
- 3) the unit must have a pre-control potential to emit of greater than the major source thresholds.

The following Major Source thresholds are generally used, as necessary, to determine whether CAM is triggered.

Pollutant	lb/year	ton/year
NOx	20,000	10
SOx	140,000	70
PM10	140,000	70
CO	200,000	100
VOC	20,000	10

The facility is a Major Source for NOx, CO, and VOC; therefore, a CAM determination must be performed for those pollutants. The landfill is not equipped with an add-on control device for NOx or CO; therefore, CAM is not triggered for those pollutants. While the permit includes VOC emission limitations and standards for the enclosed flares; those emission limits are based on emission limitations or standards that were proposed by EPA after November 15, 1990 pursuant to Sections 111 (NSPS) and 112 (NESHAPS) of the Clean Air Act. Pursuant to §64.2(b)(i), the requirements of Part 64 do not apply to emission limitations or standards proposed after November 15, 1990 pursuant to Sections 111 and 112 of the Clean Air Act. Since the permit will only contain emission limits that are exempt from Part 64, CAM is not triggered for VOC emissions.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission units do not trigger Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

EPA Consent Decree Case No. 2:11-cv-00590 EFB

The following table lists the requirements of the EPA Consent Decree and the method of compliance with the consent decree.

EPA Consent Decree Requirement	Method of Compliance with EPA Consent Decree Requirement
<p>Paragraph 11 of the consent decree states that except as provided in Paragraph 13, Forward Inc. Landfill shall comply with all permits issued for the Facility pursuant to the Act, District Rules 2010, 2070, 2201, and 2520 and with all applicable requirements in the following regulations relating to the operation of the gas collection and control system:</p> <p>(a) 40 CFR 60 Subpart WWW (b) 40 CFR 63 Subpart AAAA</p>	<p>Compliance with the District rules, 40 CFR 60 Subpart WWW, and 40 CFR 63 Subpart AAAA was outlined earlier in this evaluation.</p>
<p>Paragraph 12(a) states that Forward Landfill shall complete the previously planned "Improvements to Facility GCCS" described in Appendix A by October 31, 2012.</p>	<p>This requirement has been satisfied.</p>
<p>Paragraph 12(b) states that Forward Landfill shall apply to the District on an expedited basis for, and take all necessary action to obtain, a modification to its Title V operating permit for the Facility that will require it to operate interior wells in the GCCS at oxygen levels less than the numerical limit specified in 40 CFR 60.753(c), currently 5 percent.</p>	<p>This project is based on the application submitted by Forward Landfill Inc. to satisfy this requirement of the consent decree and the application was submitted prior to December 31, 2012.</p>
<p>Paragraph 12(c) states that Forward Landfill shall move gas probes 7 through 12 located at the edge of the landfill at least 100 feet outside of the waste line and shall maintain a minimum 100 foot buffer between the probes and the waste.</p>	<p>The following condition will be included on the Authority to Construct permit:</p> <ul style="list-style-type: none"> Gas probes 7 through 12 shall be located at the edge of the landfill at least 100 feet outside of the waste line. Permittee shall maintain at least a 100 foot buffer between the probes and the waste. [EPA Consent Decree]

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EPA Consent Decree Requirement Continued from Previous Page	Method of Compliance with EPA Consent Decree Requirement
Paragraph 12(d) states that Forward Landfill shall comply with the intermediate cover requirements established in California Code of Regulations Title 27 §§ 20700-20705, and shall implement a program to monitor, on a monthly basis, the integrity of the landfill's cover, and shall implement landfill cover repairs as necessary, as provided in 40 CFR §60.755(c)(5).	The following condition will be included on the Authority to Construct permit: <ul style="list-style-type: none"> • <i>Permittee shall comply with the intermediate cover requirements established in California Code of Regulations 27 Sections 20700 through 20705. [EPA Consent Decree]</i>
Paragraph 12(e) states that Forward Landfill shall implement a program to monitor, on a monthly basis, the integrity of all well boots and seals in the GCCS, and shall repair and replace those well boots and seals as necessary to minimize oxygen intrusion into the Landfill.	The following condition will be included on the Authority to Construct permit: <ul style="list-style-type: none"> • <i>Permittee shall monitor the integrity of all well boots and seals in the gas collection and control system on a monthly basis and shall replace those well boots and seals as necessary to minimize oxygen intrusion into the landfill. [EPA Consent Decree]</i>
Paragraph 12(f) states that if a well is installed after February 1, 2012, as part of the GCCS, Forward Landfill shall install a sampling port at each such wellhead to take measurements of oxygen and other parameters as provided in 40 CFR §60.756(a).	A condition requiring compliance with this requirement was included in the 40 CFR 60 Subpart WWW section of this evaluation.
Paragraph 13 lists interim wellhead oxygen limit requirements.	The requirements of this paragraph expire upon the issuance and implementation of this Authority to Construct permit.
Paragraph 14 lists an interim wellhead temperature limit of 141 degrees Fahrenheit for wellheads A11-05, A11-06, A11-07, A11-08, A11-09, A11-10, A11-11, FU03-01R, FU04-14R, FU04-15R, FU04-18R, FU04-27R, FU05-08R, FU05-10R, FU06-15, FU06-16, FU08-02, and FU08-03. The alternative gas temperature limit is necessary for the indicated wells to maintain compliance and will continue to apply after the expiration of the EPA Consent Decree.	The following condition will be included on the Authority to Construct permit: <ul style="list-style-type: none"> • <i>For interior wellheads A11-05, A11-06, A11-07, A11-08, A11-09, A11-10, A11-11, FU03-01R, FU04-14R, FU04-15R, FU04-18R, FU04-27R, FU05-08R, FU05-10R, FU06-15, FU06-16, FU-08-02, and FU08-03, the permittee shall operate each of these interior wellheads with a landfill gas temperature less than 141 degrees F and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. [40 CFR 60.753(c) and 40 CFR 63 Subpart AAAA]</i>

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permit N-339-17-13 subject to the permit conditions on the attached draft Authority to Construct permit in Appendix I.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Previous Fee Schedule
N-339-17-13	3020-02-H	162 MMBtu/hr	3020-02-H

Appendices

- I: Draft Authority to Construct Permit
- II: Authority to Construct N-339-17-10
- III. Copy of EPA Consent Decree
- IV: Landfill Greenhouse Gas Emission Calculations
- V: Quarterly Net Emission Change Calculations

APPENDIX I

Draft Authority to Construct Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-339-17-13

LEGAL OWNER OR OPERATOR: FORWARD INC LANDFILL
MAILING ADDRESS: 9999 S AUSTIN RD
MANTECA, CA 95336

LOCATION: 9999 S. AUSTIN ROAD
MANTECA, CA 95336

EQUIPMENT DESCRIPTION:

MODIFICATION OF 13.8 MILLION CUBIC YARD CAPACITY (218 ACRES) LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM CONTROLLED BY A 2000 SCFM (EQUIVALENT TO 48.0 MMBTU/HR) ENCLOSED FLARE AND CARBON ADSORPTION SYSTEM (CAS), AND A 3400 SCFM (EQUIVALENT TO 102 MMBTU/HR) PERRENIAL ENERGY MODEL GHS-301 LFG-FIRED ENCLOSED FLARE WITH LPG PILOT: TO INCORPORATE THE REQUIREMENTS OF EPA CONSENT DECREE CASE NO 2:11-CV-00590 EFB AND TO CORRECT THE EQUIPMENT DESCRIPTION SUCH THAT THE POST-PROJECT EQUIPMENT DESCRIPTION BECOMES: 39.0 MILLION CUBIC METER CAPACITY (354.5 ACRES) LANDFILL WITH A LANDFILL GAS COLLECTION SYSTEM CONTROLLED BY A 2,000 SCFM (EQUIVALENT TO 60 MMBTU/HR) ENCLOSED LANDFILL GAS-FIRED FLARE AND A 3,400 SCFM (EQUIVALENT TO 102 MMBTU/HR) PERRENIAL ENERGY MODEL GHS-301 ENCLOSED LANDFILL GAS-FIRED FLARE WITH AN LPG-FIRED PILOT

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be constructed, maintained, and operated according to the specifications and plans contained in the permit applications, except as otherwise specified herein. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The enclosed flares shall each be equipped with an LPG or natural gas-fired pilot. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DRAFT

DAVID WARNER, Director of Permit Services

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5. The enclosed flares shall each be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The gas collection system shall be operated in a manner which maximizes the quantity of landfill gas extracted while preventing overdraw that can cause fires or damage the gas collection system. [District Rule 2201] Federally Enforceable Through Title V Permit
7. During maintenance of the gas collection system or flares, emissions of landfill gas shall be minimized. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Maintenance is defined as work performed on a gas collection system and/or control device in order to ensure continued compliance with District Rules, Regulations, and /or Permits to Operate, and to prevent its failure or malfunction. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The landfill gas collected by the landfill gas collection system shall be controlled by at least one of the following devices: 1) The 60 MMBtu/hr flare; 2) the 102 MMBtu/hr flare; and/or 3) The siloxane removal system and one of the IC engines permitted under Facility ID N-8573. Each device shall be operated at all times when the collected gas is routed to it. [District Rule 2201 and 40 CFR 60.752(b)(2)(iii)(B), 40 CFR 60.753(f), and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
10. The influent landfill gas flow rate to the 60 MMBtu/hr flare shall not exceed 2,000 SCFM. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The influent landfill gas flow rate to the 102 MMBtu/hr flare shall not exceed 3,400 SCFM. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The VOC destruction efficiency for the 60 MMBtu/hr flare shall be at least 98% by weight or the maximum non-methane organic compound NMOC emissions from the flare shall not exceed 20 ppmv @ 3% O₂ (as hexane). [District Rule 2201, 40 CFR 60.752(b)(2)(iii)(B) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
13. The VOC destruction efficiency for the 102 MMBtu/hr flare shall be at least 98% by weight or the maximum non-methane organic compound NMOC emissions from the flare shall not exceed 20 ppmv @ 3% O₂ (as hexane). [District Rule 2201, 40 CFR 60.752(b)(2)(iii)(B) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
14. Emissions from the 60 MMBtu/hr flare shall not exceed any of the following limits: 0.05 lb-NO_x/MMBtu, 0.0215 lb-SO_x/MMBtu, 0.034 lb-PM₁₀/MMBtu, 0.2 lb-CO/MMBtu, and 0.0113 lb-VOC/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O₂). [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emissions from the 102 MMBtu/hr flare shall not exceed any of the following limits: 0.05 lb-NO_x/MMBtu, 0.0215 lb-SO_x/MMBtu, (0.001 lb-PM₁₀/hr)/scfm-methane, 0.2 lb-CO/MMBtu, and 0.0113 lb-VOC/MMBtu (equivalent to 20 ppmvd VOC as Hexane @ 3% O₂). [District Rule 2201] Federally Enforceable Through Title V Permit
16. The volume of soil used for intermediate and final cover shall not exceed 61,768,080 cubic feet. [District Rule 2201] Federally Enforceable Through Title V Permit
17. PM₁₀ emissions from the placement of the intermediate and final soil cover shall not exceed 0.008 lb/ton of soil. The volume of soil shall be converted to tons of soil using a soil density of 120 lb/cubic foot. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The H₂S concentration of the influent landfill gas to the flares shall not exceed 46.9 ppmv. [District Rule 2201] Federally Enforceable Through Title V Permit
19. For each flare, source testing to demonstrate compliance with the NO_x (lb/MMBtu), CO (lb/MMBtu), and VOC (98% destruction efficiency or 20 ppmvd VOC @ 3% O₂ as hexane) requirements of this permit shall be conducted at least once every 12 months. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
20. Source testing for NO_x shall be conducted using CARB Method 7 or CARB Method 20. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
21. Source testing for CO shall be conducted using EPA Method 10 or 10B, CARB Methods 1 through 5 with CARB Method 10, or CARB Method 100. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit

22. VOC emissions shall be conducted using EPA Method 18, 25, 25A, or 25C. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The combustion chamber of each flare shall be maintained at a temperature of at least 1,400 degrees Fahrenheit during operation. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Each flare shall be equipped with a temperature indicator and recorder that measures and continuously records the operating temperature. [District Rule 2201] Federally Enforceable Through Title V Permit
27. For each flare, the facility shall install and maintain in proper operating condition a gas flow meter with a continuous recording device that measures the quantity of landfill gas processed each day. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Permittee shall perform testing to measure the H₂S content of the landfill gas combusted in the flares on a quarterly basis using draeger tubes. If compliance with the landfill gas H₂S content limit is demonstrated for two consecutive quarters, this testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows non-compliance with the H₂S content limit. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The landfill gas collection system shall be designed and operated to: 1) Handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment; 2) Collect gas from each area, cell or group of cells in the landfill in which the initial solid waste has been placed for a period of five years or more for an active landfill, or 2 years or more for a closed landfill or landfill at final grade; 3) Collect gas at a sufficient extraction rate; and 4) Minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A), 40 CFR 60.753(a), and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
30. All exterior vapor extraction wells, leachate collection system components, and perimeter horizontal collectors shall not be located over any waste and are exempt from the operational standards of 40 CFR 60.753 and the compliance provisions of 40 CFR 60.755. Forward Inc. shall keep records of all components that qualify for this exemption and note their location with respect to the landfill's perimeter. [40 CFR 60.752(b)(2)(ii), 60.753, 60.755, 60.756, 60.757, 60.758, 60.759, and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
31. Permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: 1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports provided in 40 CFR 60.757(f)(1); 2) Use of a geomembrane or synthetic cover. The owner shall develop acceptable pressure limits in the design plan; 3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the District. [40 CFR 60.753(b) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
32. Unless otherwise stated on this permit, the permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. [40 CFR 60.753(c) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
33. For each interior wellhead, the nitrogen level shall be determined using EPA Method 3C, unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i). [40 CFR 60.753(c)(1) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit

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34. For each interior wellhead, unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i), the oxygen level shall be determined by an oxygen meter using EPA Method 3A or 3C except that: 1) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; 2) A data recorder is not required; 3) Only two calibration gases are required, a zero and span, and ambient air may be used as the span; 4) A calibration check is not required; and 5) The allowable sample bias, zero drift, and calibration drift are plus or minus 10 percent. [40 CFR 60.753(c)(2) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
35. Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover on at least a quarterly basis. Permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d), 40 CFR 60.755, and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
36. Permittee shall operate the landfill gas collection and control system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii). In the event the collection system or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to the venting of the gas to the atmosphere shall be closed within one hour. [40 CFR 60.753(e) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
37. If monitoring demonstrates that the operational requirements in 40 CFR 60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3) through (5) or 40 CFR 60.755(c). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753. [40 CFR 60.753(g) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
38. For the purpose of demonstrating that the gas collection system is designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system, permittee shall use one of the equations that are listed in 40 CFR 60.755(a)(1). [40 CFR 60.755(a)(1) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
39. For the purpose of determining whether there is a sufficient density of gas collectors, permittee shall design a system of vertical wells, horizontal collectors, or other collection devices satisfactory to the District, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.755(a)(2) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
40. For the purpose of demonstrating whether the landfill gas collection system flow rate is sufficient, the owner or operator shall measure gauge pressure in the gas collection system header at each individual well on a monthly basis. Except in cases where the conditions allow the wellhead to operate without a negative pressure (as outlined in this permit), action shall be initiated to correct the exceedance within 5 calendar days if a positive pressure exists. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of a positive pressure. Any attempted corrective measure shall not cause exceedances or other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the District for approval. Expansion of the collection system during the first 180 days after gas collection system startup is not required. [40 CFR 60.755(a)(3), 60.755(a)(4), and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
41. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor the temperature and nitrogen or oxygen on a monthly basis. If a well exceeds one of the temperature, nitrogen, or oxygen operating parameters of this permit, action shall be initiated to correct the exceedance within five calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the District for approval. [40 CFR 60.755(a)(5) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit

42. Extraction wells shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: 1) 5 years or more for an active landfill; 2) 2 years or more for a closed landfill or a landfill at final grade. [40 CFR 60.755(b) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
43. Monitoring to determine the surface concentration of methane shall be conducted using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications of 40 CFR 60.755(d). [40 CFR 60.755(c)(1), 40 CFR 60.755(d), and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
44. The background concentration of methane shall be determined by moving the probe inlet upwind and downwind the outside boundary of the landfill at a distance of at least 30 meters from the perimeter walls. [40 CFR 60.755(c)(2) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
45. Surface monitoring of the methane concentration shall be performed in accordance with Section 4.3.1 of EPA Method 21 of Appendix A of 40 CFR, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. [40 CFR 60.755(c)(3) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
46. Any surface monitoring reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the following actions shall be taken. As long as the following specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 60.753(d): 1) The location of each monitored exceedance shall be marked and the location recorded; 2) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection of the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance; 3) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If re-monitoring shows a third exceedance, the action specified in item #5 of this condition shall be taken, and no further monitoring of that location is required until the action specified in item #5 has been taken; 4) Any location that initially showed an exceedance but has a methane concentration of less than 500 ppm above background at the 10-day re-monitoring shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in item #3 or item #5 of this condition shall be taken.; and 5) For any location where the monitored methane concentration equals or exceed 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes, or control device, and a corresponding timeline for installation may be submitted to the District for approval. [40 CFR 60.755(c)(4) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
47. Permittee shall implement a program to monitor for cover integrity and implement cover repairs, as necessary, on a monthly basis. [40 CFR 60.755(c)(5) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
48. The requirements of 40 CFR 60 Subpart WWW shall apply at all times, except during periods of start-up, shutdown, or malfunction. The duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(e) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
49. Permittee shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead. [40 CFR 60.756(a) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
50. For each enclosed flare, permittee shall calibrate, maintain, and operate according to the manufacturer's specifications a temperature monitoring device to measure temperature in the enclosed flare with a minimum accuracy of plus or minus 1 percent of the temperature being measured, expressed in degrees Celsius, or plus or minus 0.5 degrees Celsius, whichever is greater. [40 CFR 60.756(b)(1) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit

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51. For each enclosed flare, permittee shall calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to or bypass of the control device. Permittee shall either: 1) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least once every 15 minutes; or 2) shall secure the bypass line valve in the closed position with a car-seal or a lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in a closed position and that the gas flow is not diverted through the bypass line. [40 CFR 60.756(b)(2) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
52. For a closed landfill that has no monitored exceedances of the standard for surface concentrations of methane in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring shall return the frequency of monitoring of surface concentrations to quarterly monitoring. [40 CFR 60.756(e) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
53. The permittee shall submit a closure report to the District within 30 days of waste acceptance cessation. The District may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the District, no additional waste may be placed into the landfill without filing a notification of modification as described on 40 CFR 60.7(a)(4). [40 CFR 60.757(d) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
54. Permittee shall submit a report to the District, at least once every 12 months, that contains the following: 1) Value and length of time for each exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d); 2) Description of duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756; 3) Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time control device was not operating; 4) All periods when the control system was not operating in excess of five days; 5) The location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month; and 6) The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755(a)(3), (b), and (c)(4). [40 CFR 60.757(f) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
55. Permittee shall keep records of the design capacity report which triggered 40 CFR 60.752(b) requirements, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. [40 CFR 60.758(a) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
56. Permittee shall keep records of the following data, as measured during the initial performance test or compliance determination: 1) The maximum expected gas generation flow rate as calculated per 40 CFR 60.755(a)(1); 2) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices as determined using the procedures specified in 40 CFR 60.759(a)(1); 3) For each enclosed flare, the average combustion temperature measured at least every 15 minutes and averaged over the same time period for the source test; and 4) For each enclosed flare, the percent reduction of NMOC determined as specified in 40 CFR 60.752(b)(2)(iii)(B). [40 CFR 60.758(b)(1) and (2) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
57. Permittee shall keep continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.756, as well as up to date records of operation during with the parameter boundaries established during the most recent performance tests are exceeded. For each enclosed flare, all 3-hour periods of operation during with the average combustion temperature was more than 28 degree Celsius below the average combustion temperature during the most recent performance test shall constitute an exceedance and shall be recorded and reported under 40 CFR 60.757(f). [40 CFR 60.758(c) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
58. Permittee shall keep, for the life of the collection system, a plot map showing each existing and planned collector in the system and providing a unique identification location label of each collector. Permittee shall keep records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.755(b). Permittee shall keep records of the date of disposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in 40 CFR 60.759(a)(3)(i) as well as any non-productive areas excluded from collection as provided in 40 CFR 60.759(a)(3)(ii). [40 CFR 60.758(d) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

59. Permittee shall keep records of all collection and control system exceedances of the operational standards in 40 CFR 60.753, the reading in the subsequent month and whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
60. Permittee shall site active collection wells, horizontal collectors, surface collectors, and other extraction devices at a sufficient density throughout all gas producing areas of the landfill using the procedures listed in 40 CFR 60.759(a), unless alternative procedures have been approved by the District. [40 CFR 60.759(a) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
61. The collection devices within the landfill interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. The design shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter and exterior. [40 CFR 60.759(a)(1) and (2) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
62. The placement of gas collection devices shall control all gas producing areas except the following: 1) Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided in 40 CFR 60.758(d). The documentation shall provide the nature, date of disposition, location, and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the District upon request.; 2) Any nonproductive area of the landfill may be excluded from control, provided the total of all excluded areas can be shown to contribute to less than 1 percent of the total amount of non-methane organic compound emissions from the landfill. [40 CFR 60.759(a)(3) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
63. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases, withstand installation, static, and settlement forces, and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration. [40 CFR 60.759(b)(1) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
64. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover area or refuse into the collection system or gas into the air. Any gravel used around pipe perforations shall be of a dimension so as not to penetrate or block perforations. [40 CFR 60.759(b)(2) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
65. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous materials of suitable thickness. [40 CFR 60.759(b)(3) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
66. Permittee shall convey the landfill gas to the control system through the collection header pipes. The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended period of gas moving equipment. For existing collection systems, the flow data, if flow data exists, shall be used to project the maximum flow rate. For new collection systems or existing collection systems for which no flow data exists, the maximum flow rate shall be in accordance with 40 CFR 60.755(a)(1). [40 CFR 60.759(c) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
67. Permittee shall develop a written SSM plan according to the provisions of 40 CFR 63.6(e)(3). A copy of the SSM plan shall be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of 40 CFR 63 Subpart AAAA. [40 CFR 63.1960] Federally Enforceable Through Title V Permit

68. For parameters required to be continuously monitored by 40 CFR 60 Subpart WWW, a deviation of 40 CFR 63 Subpart AAAA shall be deemed to have occurred when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour. [40 CFR 63.1965(b)] Federally Enforceable Through Title V Permit
69. Permittee shall keep records and reports as specified in the general provisions of 40 CFR Part 60, and 40 CFR Part 63, as shown in Table 1 of 40 CFR part 63 Subpart AAAA. [40 CFR 63.1980(b)] Federally Enforceable Through Title V Permit
70. Gas probes 7 through 12 shall be located at the edge of the landfill at least 100 feet outside of the waste line. Permittee shall maintain at least a 100 foot buffer between the probes and the waste. [EPA Consent Decree] Federally Enforceable Through Title V Permit
71. Permittee shall comply with the intermediate cover requirements established in California Code of Regulations 27 Sections 20700 through 20705. [EPA Consent Decree] Federally Enforceable Through Title V Permit
72. Permittee shall monitor the integrity of all well boots and seals in the gas collection and control system on a monthly basis and shall replace those well boots and seals as necessary to minimize oxygen intrusion into the landfill. [EPA Consent Decree] Federally Enforceable Through Title V Permit
73. For interior wellheads A11-05, A11-06, A11-07, A11-08, A11-09, A11-10, A11-11, FU03-01R, FU04-14R, FU04-15R, FU04-18R, FU04-27R, FU04-27R, FU05-08R, FU05-10R, FU06-15, FU06-16, FU-08-02, and FU08-03, the permittee shall operate each of these interior wellheads with a landfill gas temperature less than 141 degrees F and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. [40 CFR 60.753(c) and 40 CFR 63 Subpart AAAA] Federally Enforceable Through Title V Permit
74. Permittee shall keep records of any maintenance to the landfill gas collection or control devices, including the reason for maintenance, duration of the maintenance, and any collection or control system downtime. [District Rule 2201] Federally Enforceable Through Title V Permit
75. Permittee shall maintain records of system inspections including: date, time, and inspection results. [District Rule 1070] Federally Enforceable Through Title V Permit
76. For each flare, permittee shall keep records of all emission source tests results. [District Rule 2201] Federally Enforceable Through Title V Permit
77. For each flare, permittee shall keep records of the continuous flare combustion temperature measurements, and the continuous volumetric landfill gas flow rate measurements. Permittee shall keep a daily and an annual record of the quantity of landfill gas processed in each flare. [District Rule 2201] Federally Enforceable Through Title V Permit
78. All records shall be retained for a period of at least five years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 40 CFR 60 Subpart WWW, and 40 CFR 60 Subpart AAAA] Federally Enforceable Through Title V Permit
79. The permittee shall notify the District by telephone at least 24 hours prior to performing any maintenance work that requires the landfill gas collection and control system to be shutdown. The notification shall include a description of the work, the date work will be performed, and the quantity of time needed to complete the maintenance work. [District Rule 2201] Federally Enforceable Through Title V Permit

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APPENDIX II

Authority to Construct N-339-17-10



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

AUTHORITY TO CONSTRUCT

PERMIT NO: N-339-17-10

ISSUANCE DATE: 05/14/2007

LEGAL OWNER OR OPERATOR: FORWARD, INC. LANDFILL

MAILING ADDRESS: 9999 S AUSTIN RD
MANTECA, CA 95336

LOCATION: 9999 S. AUSTIN ROAD
MANTECA, CA 95336

EQUIPMENT DESCRIPTION:

MODIFICATION OF 13.8 MILLION CUBIC YARDS CAPACITY (218 ACRES) WITH LANDFILL GAS COLLECTION SYSTEM CONTROLLED BY A 2,000 SCFM (EQUIVALENT TO 48 MMBTU/HR) ENCLOSED FLARE: INCREASE PERMITTED LFG FLOWRATE FOR THE EXISTING FLARE FROM 1,530 CFM TO 2,000 CFM (EQUIVALENT TO 48 MMBTU/HR) FOR 40 CFR SUBPART WWW COMPLIANCE, AND REVISE VOC EMISSION LIMIT TO 20 PPMV AT 3% O2 OR 98% DESTRUCTION EFFICIENCY FOR THE FLARE; INSTALL A SECOND NEW LANDFILL GAS COLLECTION SYSTEM SERVED BY A 3,400 SCFM (EQUIVALENT TO 102 MMBTU/HR) PERRENIAL ENERGY MODEL GHS-301 LFG-FIRED ENCLOSED FLARE WITH LPG PILOT FOR COMPLIANCE WITH 40 CFR 60 SUBPART WWW

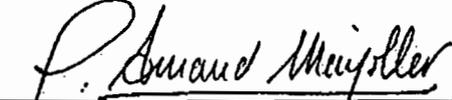
CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be constructed, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The flare shall maintain a temperature of at least 1,400 degrees F during operation. [District NSR Rule] Federally Enforceable Through Title V Permit
5. All landfill gas collected shall be controlled by the flare and/or the carbon adsorption system (CAS). [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO


 DAVID WARNER, Director of Permit Services
 N-339-17-10; May 14 2007 9 05PM - LET Joint Inspection NOT Required
 Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

6. Influent LFG flowrate to the 48 MMBtu/hr flare shall not exceed 2,000 scfm @ 50% methane. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Influent LFG flowrate to the 102 MMBtu/hr flare shall not exceed 3,400 scfm at 50% methane. [District Rule 2201]
8. The VOC destruction efficiency for the flares shall be at least 98% by weight or maximum NMOC emissions from the flare shall not exceed 20 ppmv @ 3% oxygen (as hexane). [District NSR Rule] Federally Enforceable Through Title V Permit
9. The carbon adsorption system (CAS) shall be at least 98% efficient by weight in controlling VOCs from the landfill gas collection system, or NMOC emissions from the CAS shall not exceed 20 ppmv @ 3% oxygen (as hexane). [District Rule 2201] Federally Enforceable Through Title V Permit
10. The landfill gas consumption rate for the CAS shall not exceed 300 scf/min. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The total VOC emissions from the (CAS) shall not exceed 1.5 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. A minimum of two carbon canisters which are connected in series shall be utilized for the CAS. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Sampling ports adequate for extraction of grab samples, measurement of gas flow rate, and use of an FID, PID, or other District-approved VOC detection device shall be provided for both the influent and the effluent gas streams of the CAS. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Laboratory samples shall be taken at the initial inspection of the CAS, under the supervision of the APCD Inspector. Samples shall be taken from both the influent and the effluent gas stream sampling ports. [District Rule 1081] Federally Enforceable Through Title V Permit
15. Measurements to determine the influent and the effluent gas flow rates of the CAS shall be taken at the initial inspection. Flow rate calculations shall be submitted to the District along with the laboratory sample analysis results. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Initial compliance with VOC emission rate and control efficiency requirements of the CAS shall be demonstrated by the results of the laboratory sample analysis. The results shall be submitted to the District within 60 days of the test. [District Rule 1081] Federally Enforceable Through Title V Permit
17. Sampling to demonstrate ongoing compliance with the VOC emission rate and control efficiency requirements of the CAS shall be performed at least once per week by sampling both the influent and the effluent gas streams with an FID, PID, or other District-approved VOC detection device. [District Rule 1081] Federally Enforceable Through Title V Permit
18. If carbon breakthrough is found in the first carbon canister, the second carbon canister shall be moved to the first position and a new or regenerated carbon canister shall be installed to replace the second carbon canister. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The carbon canisters removed from the system shall be sealed vapor tight. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Records of the cumulative running time and the measured influent and effluent VOC concentrations of the CAS shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Carbon canister on condensate storage tank vent shall be inspected monthly for breakthrough with a District-approved portable analyzer. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Emissions from the 48 MMBtu/hr flare shall not exceed any of the following emission limits: 0.05 lb NO_x/MMbtu, 0.0215 lb SO_x/MMbtu, 0.2 lb CO/MMbtu, 0.0113 lb VOC/MMbtu (20 ppmv), or 0.034 lb PM₁₀/MMbtu. [District NSR Rule] Federally Enforceable Through Title V Permit
23. Emissions from the 102 MMBtu/hr flare shall not exceed any of the following emission limits: 0.05 lb NO_x/MMbtu, 0.0215 lb SO_x/MMbtu, 0.2 lb CO/MMbtu, 0.0113 lb VOC/MMbtu (20 ppmv), or 0.001 lb PM₁₀/scf/hour. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. The facility shall install and maintain in proper operating condition a gas flow meter with a continuous recording device which measures the amount of landfill gas consumed in the flares and the amount of landfill gas controlled by the CAS per day, each. [District NSR Rule] Federally Enforceable Through Title V Permit
25. The flares shall be equipped with a temperature indicator and recorder that measures and records the operating temperature. The temperature indicator and recorder must operate continuously. [District NSR Rule] Federally Enforceable Through Title V Permit
26. The enclosed flares shall be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District NSR Rule] Federally Enforceable Through Title V Permit
27. The enclosed flares shall be equipped with an LPG or natural gas fired pilot. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Source testing on the flares shall be performed to demonstrate compliance with the NO_x and CO limits, and the VOC destruction efficiency of 98% or 20 ppmv @ 3% oxygen (as hexane) as required by this permit shall be conducted annually. [District NSR Rule] Federally Enforceable Through Title V Permit
29. Source testing for NO_x shall be conducted using CARB Method 7 or Method 20. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Source testing for CO shall be conducted using EPA Method 10 or 10B, CARB Methods 1 through 5 with 10, or CARB Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit
31. VOC emissions shall be measured by EPA Method 18, 25, 25A, or 25C. [District Rule 1081] Federally Enforceable Through Title V Permit
32. H₂S concentration of the influent landfill gas to the flares shall not exceed 46.9 ppmv. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Gas combusted in the flares shall be tested for H₂S content on a quarterly basis using draeger tubes. If compliance is shown for two consecutive quarters, the testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows noncompliance. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Upon receiving an approved plan for closure, or partial closure, the operator shall modify this operating permit to comply with the requirements of District Rule 4642. [District Rule 4642, 3.2 and 4.1.1] Federally Enforceable Through Title V Permit
35. Gas collection system shall be operated in a manner which maximizes the amount of landfill gas extracted while preventing overdraw that can cause fires or damage the gas collection system. [District NSR Rule] Federally Enforceable Through Title V Permit
36. During maintenance of the gas collection system or incineration device, emissions of landfill gas shall be minimized during shutdown. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Maintenance is defined as work performed on a gas collection system and/or control device in order to ensure continued compliance with District rules, regulations, and/or Permits to Operate, and to prevent its failure or malfunction. [District NSR Rule] Federally Enforceable Through Title V Permit
38. The permittee shall notify the APCO by telephone at least 24 hours before performing any maintenance work that requires the system to be shutdown. The notification shall include a description of work, the date work will be performed and the amount of time needed to complete the maintenance work. [District NSR Rule] Federally Enforceable Through Title V Permit
39. Permittee shall maintain records of system inspections including: date, time and inspection results. [District Rule 1070] Federally Enforceable Through Title V Permit
40. Permittee shall maintain records of maintenance related or other collection system and control device downtime, including individual well shutdown. [District Rule 1070] Federally Enforceable Through Title V Permit
41. The operator shall record emission control device source tests (emissions of CO, NO_x, and VOC) in pounds per MMBtu heat input. Operator shall also record VOC destruction/treatment efficiency. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

42. Annual amount of soil used for intermediate and final covering shall not exceed 1,406,827 cubic yards of soil, and PM10 emissions shall not exceed 0.008 lb PM10/ton of soil (using a soil density of 3,240 lbs/cubic yard of soil). Permittee shall keep annual records of the amount of soil used for intermediate and final covering. [District NSR Rule] Federally Enforceable Through Title V Permit
43. Permittee shall maintain daily and annual records of landfill gas flow rate to the flares. [District Rule 1070] Federally Enforceable Through Title V Permit
44. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
45. A record of continuous flare combustion temperature, continuous volumetric gas flow rate, net heating value of landfill gas being combusted, daily average fuel consumption, daily average heat input, and carbon canister inspection shall be maintained, retained on the premises for a period of at least five years and made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
46. This operating permit may be cancelled with APCO approval when the landfill is closed, pursuant to the requirements of this permit, if the landfill is not otherwise subject to the requirements of either 40 CFR part 70 or part 71 and if either 1) it was never subject to the requirement for a control system under 40 CFR 60.752(b)(2); or 2) the owner or operator meets the conditions for control system removal specified in 40 CFR 60.752(b)(2)(v). [40 CFR 60.752(d)] Federally Enforceable Through Title V Permit
47. If the landfill is permanently closed, a closure notification shall be submitted to the APCO within 30 days of waste disposal cessation. A permanent closure must take place in accordance with 40 CFR 258.60. If a closure report has been submitted, no additional waste may be placed in the landfill without filing a notification of modification to the APCO, pursuant to 40 CFR 60.7(a)(4). [40 CFR 60.752(b)(1)(ii)(B), 60.757(d)]
48. An active collection system shall be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment, collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade, collect gas at a sufficient extraction rate, and be designed to minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A)] Federally Enforceable Through Title V Permit
49. All collected gas shall be routed to a control system designed and operated to reduce the NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in Section 60.754(d). [40 CFR 60.752(b)(2)(iii)(B)] Federally Enforceable Through Title V Permit
50. Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d)] Federally Enforceable Through Title V Permit
51. Compliance with this surface methane operational standard shall be demonstrated using the procedures outlined in 40 CFR 60.755(c) within 180 days of installation and startup of the collection and control system and quarterly thereafter. [40 CFR 60.753(d), 40 CFR 60.755(c), and 40 CFR 60.8] Federally Enforceable Through Title V Permit
52. Permittee shall operate the enclosed flare at all times when the collected gas is routed to it. [40 CFR 60.753(f)] Federally Enforceable Through Title V Permit
53. Permittee shall operate the landfill gas collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: (1) five years or more if active; or (2) two years or more if closed or at final grade. [40 CFR 60.753(a)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

54. Permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 60.757(f)(1); (2) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan; (3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the APCO. [40 CFR 60.753(b)] Federally Enforceable Through Title V Permit
55. Permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decompositions by killing methanogens. [40 CFR 60.753(c)] Federally Enforceable Through Title V Permit
56. The collection system shall be operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill, and such that all collected gases are vented to a control system designed and operated in compliance with § 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(d), (e)] Federally Enforceable Through Title V Permit
57. If monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of section 60.753 are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3 - 5) or (c). If corrective actions are taken as specified in 60.755, the monitored exceedance is not a violation of the operational requirements in this section. [40 CFR 60.753(g)] Federally Enforceable Through Title V Permit
58. For each interior wellhead, the nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by 60.752(b)(2)(i) of this subpart. [40 CFR 60.753(c)(1)] Federally Enforceable Through Title V Permit
59. For each interior wellhead, unless an alternative test method is established as allowed by 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that: (i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; (ii) A data recorder is not required; (iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span; (iv) A calibration error check is not required; (v) The allowable sample bias, zero drift, and calibration drift are ± 10 percent. [40 CFR 60.753(c)(2)] Federally Enforceable Through Title V Permit
60. Permittee shall calculate the NMOC emission rate for purposes of determining when the collection and control system can be removed as provided in 40 CFR 60.752(b)(2)(v) by using the equation found in 40 CFR 60.754(b). [40 CFR 60.754(b)] Federally Enforceable Through Title V Permit
61. For the performance test required in 60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of Appendix A must be used to determine compliance with the 98 weight percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the APCO as provided by 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency: $(\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / \text{NMOC}_{\text{in}}$. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081; 40 CFR 60.754(d)] Federally Enforceable Through Title V Permit
62. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 60.752(b)(2)(ii)(A)(1), one of the equations in Section 60.755(a)(1)(i) or (ii) or (iii) shall be used. [40 CFR 60.755(a)(1)] Federally Enforceable Through Title V Permit
63. For the purposes of determining sufficient density of gas collectors for compliance with 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the APCO, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.755(a)(2)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

64. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 60.752(b)(2)(ii)(A)(3), the owner or operator shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under 60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the APCO for approval. [40 CFR 60.755(a)(3)] Federally Enforceable Through Title V Permit
65. Owners or operators are not required to expand the system as required in paragraph 60.755(a)(3) during the first 180 days after gas collection system startup. [40 CFR 60.755(a)(4)] Federally Enforceable Through Title V Permit
66. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedance of other operational or performance standards. An alternative timeline for corrected in the exceedance may be submitted to the APCO for approval. [40 CFR 60.755(a)(5)] Federally Enforceable Through Title V Permit
67. The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(e)] Federally Enforceable Through Title V Permit
68. Surface testing shall be performed on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [40 CFR 60.755(c)(1)] Federally Enforceable Through Title V Permit
69. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [40 CFR 60.755(c)(2)] Federally Enforceable Through Title V Permit
70. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in 40 CFR 60.755(c)(4)(i-v) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 60.753(d). [40 CFR 60.755(c)(3), (4)] Federally Enforceable Through Title V Permit
71. Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. [40 CFR 60.755(c)(5)] Federally Enforceable Through Title V Permit
72. The portable analyzer shall meet the instrument specifications of Method 21, section 3 (except that "methane" shall replace all references to VOC). The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air. To meet the performance evaluation requirements of Method 21, section 3.1.3, the instrument evaluation procedures of Method 21, section 4.4 shall be used. The calibration procedures provided in Method 21, section 4.2 shall be followed immediately before commencing a surface monitoring survey. The provisions of this condition apply at all times, except during periods of start-up, shutdown, or malfunction which shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(d), (e)] Federally Enforceable Through Title V Permit
73. Each wellhead shall have a sampling port and a thermometer, other temperature-measuring device, or an access port for temperature measurements. [40 CFR 60.756(a)] Federally Enforceable Through Title V Permit
74. The enclosed flare shall be equipped with a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. [District NSR Rule; 40 CFR 60.756(b)(1)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

75. The enclosed flare shall be equipped with either a device that records flow to the control device. The owner or operator shall install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes. [40 CFR 60.756(b)(2)] Federally Enforceable Through Title V Permit
76. Operator shall measure the gauge pressure in the gas collection header on a monthly basis as provided in § 60.755(a)(3); and monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in § 60.755(a)(5); and monitor temperature of the landfill gas on a monthly basis as provided in § 60.755(a)(5). [40 CFR 60.756(a)] Federally Enforceable Through Title V Permit
77. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. [40 CFR 60.756(f)] Federally Enforceable Through Title V Permit
78. Each owner or operator shall keep for at least 5 years up-to-date, readily accessible, on-site records of the maximum design capacity, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. [40 CFR 60.758(a) and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
79. The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under 40 CFR 60.8. The initial report shall include information specified in 40 CFR 60.757(g)(1-6). [40 CFR 60.757(f), (g)] Federally Enforceable Through Title V Permit
80. The following constitute exceedances that shall be recorded and reported under 40 CFR 60.757(f): all 3-hour periods of operation during which the average combustion temperature was more than 28 °C below the average combustion temperature during the most recent performance test (flare source test). [40 CFR 60.758(c)] Federally Enforceable Through Title V Permit
81. Except as provided in 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs 60.758(b)(1) through (b)(4) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal. [40 CFR 60.758(b)] Federally Enforceable Through Title V Permit
82. Permittee shall keep the following records: (1)(i) the maximum expected gas generation flow rate as calculated in 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the APCO; (ii) the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 60.759(a)(1); (2)(i) the average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test; (ii) the percent reduction of NMOC determined as specified in 60.752(b)(2)(ii)(B) achieved by the control device. [40 CFR 60.758(b)(1) and (2)] Federally Enforceable Through Title V Permit
83. Permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the enclosed flare. [40 CFR 60.758(c)] Federally Enforceable Through Title V Permit
84. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. Permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as well as any nonproductive areas excluded from collection. [40 CFR 60.758(d)] Federally Enforceable Through Title V Permit
85. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

86. Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(i) shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the APCO as provided in 60.752(b)(2)(i)(C) and (D). [40 CFR 60.759(a)] Federally Enforceable Through Title V Permit
87. The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. [40 CFR 60.759(a)(1)] Federally Enforceable Through Title V Permit
88. The placement of gas collection devices determined in paragraph 60.759(a)(1) shall control all gas producing areas, except as provided by paragraphs 60.759(a)(3)(i) and (a)(3)(ii). [40 CFR 60.759(a)(3)] Federally Enforceable Through Title V Permit
89. The sufficient density of gas collection devices determined in paragraph 60.759(a)(1) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior. [40 CFR 60.759(a)(2)] Federally Enforceable Through Title V Permit
90. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under 60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Administrator upon request. [40 CFR 60.759(a)(3)(i)] Federally Enforceable Through Title V Permit
91. Any nonproductive area of the landfill may be excluded from control provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Administrator upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the equation in Section 60.759(a)(3)(ii). [40 CFR 60.759(a)(3)(ii)] Federally Enforceable Through Title V Permit
92. The values for k and CNMOC in equation in Section 60.759(a)(3)(ii) determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k , L_0 , and CNMOC provided in 60.754(a)(1) or the alternative values from 60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph 60.759(a)(3)(i). [40 CFR 60.759(a)(3)(iii)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

93. Each owner or operator seeking to comply with 60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures: (1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration; (2) Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations; (3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. [40 CFR 60.759(b)] Federally Enforceable Through Title V Permit
94. Each owner or operator seeking to comply with 60.752(b)(2)(i)(A) shall convey the landfill gas to a control system in compliance with 60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: (1) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph 60.759(c)(2) shall be used; (2) For new collection systems, the maximum flow rate shall be in accordance with 60.755(a)(1). [40 CFR 60.759(c)] Federally Enforceable Through Title V Permit

APPENDIX III

Copy of EPA Consent Decree

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IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA, et al.

Plaintiffs,

v.

FORWARD, INC.,

Defendant.

Case No. 2:11-cv-00590 EFB

CONSENT DECREE

TABLE OF CONTENTS

I.	<u>JURISDICTION AND VENUE</u>	- 2 -
II.	<u>APPLICABILITY</u>	- 2 -
III.	<u>DEFINITIONS</u>	- 3 -
IV.	<u>CIVIL PENALTY</u>	- 4 -
V.	<u>COMPLIANCE REQUIREMENTS</u>	- 5 -
VI.	<u>ADDITIONAL INJUNCTIVE RELIEF</u>	- 8 -
VII.	<u>REPORTING REQUIREMENTS</u>	- 9 -
VIII.	<u>STIPULATED PENALTIES</u>	- 11 -
IX.	<u>FORCE MAJEURE</u>	- 13 -
X.	<u>DISPUTE RESOLUTION</u>	- 15 -
XI.	<u>INFORMATION COLLECTION AND RETENTION</u>	- 17 -

1	XII. <u>EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS</u>	- 19 -
2	XIII. <u>COSTS</u>	- 20 -
3	XIV. <u>NOTICES</u>	- 20 -
4	XV. <u>EFFECTIVE DATE</u>	- 22 -
5	XVI. <u>RETENTION OF JURISDICTION</u>	- 22 -
6	XVII. <u>MODIFICATION</u>	- 22 -
7	XVIII. <u>TERMINATION</u>	- 22 -
8	XIX. <u>PUBLIC PARTICIPATION</u>	- 23 -
9	XX. <u>SIGNATORIES/SERVICE</u>	- 23 -
10	XXI. <u>INTEGRATION</u>	- 24 -
11	XXII. <u>FINAL JUDGMENT</u>	- 24 -
12	XXIII. <u>APPENDICES</u>	- 24 -

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14
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1 Plaintiffs United States of America, on behalf of the United States Environmental
2 Protection Agency ("EPA"), and the San Joaquin Valley Unified Air Pollution Control District
3 ("District") filed a complaint in this action on March 2, 2010, as amended by a Second Amended
4 Complaint filed concurrently with this Consent Decree, alleging that Defendant Forward, Inc., violated
5 Sections 111, 112, and 502 of the Clean Air Act ("Act"), 42 U.S.C. §§ 7411, 7412, and 7661a , and
6 California Health and Safety Code §§ 39000 *et seq.*

7 The Complaint alleges that from 2006 to the present, Defendant, as owner and operator of
8 the Forward Landfill ("Landfill") in Manteca, California, has operated the Landfill's gas collection and
9 control system ("GCCS") in violation of the operating permit that Defendant obtained from the District
10 pursuant to the Title V of the Act ("Operating Permit") and in violation of regulations for municipal
11 solid waste landfills promulgated by EPA pursuant to the Act. The alleged violations include operating
12 the Landfill's GCCS to allow oxygen concentrations to exceed the 15% limit and the 55 degree Celsius
13 temperature limit for landfill gases in the Operating Permit, failing to operate the Landfill's GCCS in a
14 manner that would prevent overdraw that could cause fires, submitting inaccurate certifications of
15 compliance and an incomplete response to EPA's information request under section 114 of the Act, and
16 failing to submit deviation reports to the District and EPA. The Complaint also alleges that Defendant
17 violated District Rule 2010 and the California State Implementation Plan by operating a composting
18 facility, a green waste and food receiving operation, a screening machine, and a tub grinder at the
19 Landfill without first obtaining appropriate permits from the District.

20 Defendant denies the allegations of the Complaint and does not admit any liability to the
21 United States or the District arising out of the transactions or occurrences alleged in the Complaint.

22 The Parties recognize, and the Court by entering this Consent Decree finds, that this
23 Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the
24 Parties and that this Consent Decree is fair, reasonable, and in the public interest.

25 NOW, THEREFORE, before the taking of any testimony, without the adjudication or
26 admission of any issue of fact or law except as provided in Section I, and with the consent of the Parties,
27 IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:
28

1 I. JURISDICTION AND VENUE

2 1. This Court has jurisdiction over the subject matter of this action, pursuant to
3 28 U.S.C. §§ 1331, 1345, and 1355, and Sections 113 and 304(a) of the Act, 42 U.S.C. §§ 7413,
4 7604(a), and over the Parties. The Court has jurisdiction over the District Rule violation claims asserted
5 by the District pursuant to 28 U.S.C. § 1367. Venue lies in this judicial district pursuant to Section
6 113(b) of the Act, 42 U.S.C. § 7413(b), Section 304(c) of the Act, 42 U.S.C. § 7604(c), and 28 U.S.C.
7 §§ 1391(b) and 1395(a), and 28 U.S.C. §§ 1391(b) and 1395(a), because the violations alleged in the
8 Complaint are alleged to have occurred in, and Defendant conducts business in, this judicial district.

9 2. For purposes of this Decree, or any action to enforce this Decree, Defendant
10 consents to the Court's jurisdiction and to venue in this judicial district. For purposes of this Consent
11 Decree, Defendant agrees that the Complaint states claims upon which relief may be granted under
12 Sections 113 and 604 of the Act, 42 U.S.C. § 7413 and § 7604, and California Health and Safety Code
13 sections 39000 et seq.

14 II. APPLICABILITY

15 3. The obligations of this Consent Decree apply to and are binding upon the United
16 States and the District, and upon Defendant and any successors, assigns, or other entities or persons
17 otherwise bound by law.

18 4. No transfer of ownership or operation of the Facility, whether in compliance with
19 the procedures of this Paragraph or otherwise, shall relieve Defendant of its obligation to ensure that the
20 terms of the Decree are implemented. At least 30 Days prior to such transfer, Defendant shall provide a
21 copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice
22 of the prospective transfer, together with a copy of the proposed written agreement, to EPA Region 9,
23 the United States Attorney for the Eastern District of California, and the United States Department of
24 Justice, in accordance with Section XIV of this Decree (Notices). Any attempt to transfer ownership or
25 operation of the Facility without complying with this Paragraph constitutes a violation of this Decree.

26 5. Defendant shall provide a copy of this Consent Decree to all officers, employees,
27 and agents whose duties might reasonably include compliance with any provision of this Decree, as well
28 as to any contractor retained to perform work required under this Consent Decree. Defendant shall

- 1 f. "District" shall mean the San Joaquin Valley Unified Air Pollution Control
2 District;
- 3 g. "EPA" shall mean the United States Environmental Protection Agency and
4 any of its successor departments or agencies;
- 5 h. "Effective Date" shall have the definition provided in Section XV.
- 6 i. "Facility" shall mean Defendant's landfill located in Manteca, California;
- 7 j. "GCCS" means the Facility's gas collection and control system described
8 in the Facility's Title V permit;
- 9 k. "Paragraph" shall mean a portion of this Decree identified by an arabic
10 numeral;
- 11 l. "Parties" shall mean the United States, the District, and Defendant;
- 12 m. "Plaintiffs" shall mean the United States and the District;
- 13 n. "Section" shall mean a portion of this Decree identified by a roman
14 numeral;
- 15 o. "United States" shall mean the United States of America, acting on behalf
16 of EPA.

17 IV. CIVIL PENALTY

18 8. Within 30 Days after the Effective Date of this Consent Decree, Defendant shall
19 pay the sum of \$100,000 to the United States Department of Justice as a civil penalty, together with
20 interest accruing from the date on which the Consent Decree is lodged with the Court, at the rate
21 specified in 28 U.S.C. § 1961 as of the date of lodging. Defendant shall pay the civil penalty due by
22 FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice in accordance with
23 written instructions to be provided to Defendant, following entry of the Consent Decree, by the
24 Financial Litigation Unit of the U.S. Attorney's Office for the Eastern District of California, 501 I Street
25 Suite 10-100, Sacramento, CA 95818, (916) 554-2700. At the time of payment, Defendant shall send a
26 copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter,
27 which shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United*
28 *States et al. v. Forward, Inc.*, E.D. Cal. Case No. 2:11-cv-00590-EFB, and shall reference the DOJ file

1 number 90-5-2-1-09873, to the United States in accordance with Section XIV of this Decree (Notices);
2 by email to acctsreceivable.CINWD@epa.gov; and by mail to:

3 EPA Cincinnati Finance Office
4 26 Martin Luther King Drive
5 Cincinnati, Ohio 45268

6 9. Defendant shall not deduct any penalties paid under this Decree pursuant to this
7 Section or Section VIII (Stipulated Penalties) in calculating its federal, state or local income tax.

8 10. No later than 30 Days after the Effective Date of this Consent Decree, Defendant
9 shall pay a civil penalty of \$100,000 to the District by check made payable to the "San Joaquin Valley
10 Unified Air Pollution Control District" and delivered by U.S. Mail to its District Counsel's office,
11 located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

12 V. COMPLIANCE REQUIREMENTS

13 11. Except as provided in Paragraph 13, Defendant shall comply with all permits
14 issued for the Facility pursuant to the Act, District Rules 2010, 2070, 2201, and 2520, and with all
15 applicable requirements in the following regulations relating to the operation of the GCCS:

16 a. "New Source Performance Standards for Municipal Solid Waste
17 Landfills," 40 C.F.R. Part 60, Subpart WWW, 40 C.F.R. §§ 60.750-60.759 ("Landfill NSPS"); and

18 b. "National Emission Standards for Hazardous Air Pollutants: Municipal
19 Solid Waste Landfills," 40 C.F.R. Part 63, Subpart AAAA, 40 C.F.R. §§ 630.1930-630.1990 ("Landfill
20 NESHAP").

21 12. In addition to the applicable compliance requirements set forth in Paragraph 11,
22 Defendant shall comply with the following specific requirements, which shall be completed no later than
23 thirty (30) days from the Effective Date of the Consent Decree, except as provided in subparagraphs (a)
24 and (b):

25 a. Defendant shall complete the Defendant's previously planned
26 "Improvements to Facility GCCS" described in Appendix A by October 31, 2012;

27 b. By December 31, 2012, Defendant shall apply to the District on an
28 expedited basis for, and take all necessary action to obtain, a modification to its Title V operating permit
for the Facility that will require it to operate interior wells in the GCCS at oxygen levels at less than the

1 numerical limit specified in 40 C.F.R. § 60.753(c) (the numerical limit is currently 5 percent) at the time
2 of Defendant's application. Defendant's application may seek higher limits for the wells in the Interim
3 Well Program described in Appendix B at the time of Defendant's application, but must justify higher
4 limits for each such well pursuant to 40 C.F.R. § 60.753(c);

5 c. Defendant shall move gas probes 7 through 12 located at the edge of the
6 Landfill at least one hundred (100) feet outside of the waste line and shall maintain a minimum 100-foot
7 buffer between the probes and the waste;

8 d. Defendant shall comply with the intermediate cover requirements
9 established in California Code of Regulations Title 27 §§ 20700-20705, and shall implement a program
10 to monitor, on a monthly basis, the integrity of the Landfill's cover, and shall implement Landfill cover
11 repairs as necessary, as provided in 40 C.F.R. § 60.755(c)(5);

12 e. Defendant shall implement a program to monitor, on a monthly basis, the
13 integrity of all well boots and seals in the GCCS, and shall repair and replace those well boots and seals
14 as necessary to minimize oxygen intrusion into the Landfill; and

15 f. If any well is installed after February 1, 2012, as part of the GCCS,
16 Defendant shall install a sampling port at each such wellhead to take measurements of oxygen and other
17 parameters, as provided in 40 C.F.R. § 60.756(a).

18 13. Interim Wellhead Oxygen Limits. Between the Effective Date of this Consent
19 Decree and the effective date of the modified permit that Defendant will apply for pursuant to Paragraph
20 12(b) of this Consent Decree, Defendant shall operate each interior wellhead in the GCCS with an
21 oxygen level at less than the numerical limit specified in 40 C.F.R. § 60.753(c) (the numerical limit is
22 currently 5 percent), except as provided for in Appendix B.

23 14. Interim Wellhead Gas Temperature Limits.

24 a. Between the Effective Date of this Consent Decree and the effective date
25 of the modified permit that Defendant will apply for pursuant to Paragraph 12(b), Defendant shall
26 operate extraction wells A11-05, A11-06, A11-07, A11-08, A11-09, A11-10, A11-11, FU03-01R,
27 FU04-14R, FU04-15R, FU04-18R, FU04-27R, FU05-08R, FU05-10R, FU06-15, FU06-16, FU08-02,
28 and FU08-03 at a gas temperature of no more than 141° F. If after the Effective Date of the Consent

1 Decree and prior to the effective date of the modified permit, the gas temperature in one of these wells
2 exceeds the gas temperature limit specified in 40 C.F.R. § 60.753(c) (currently 55° C or 131° F),
3 Defendant shall conduct a CO Analysis for that well within five business days of the exceedance.
4 Defendant shall report the results in the quarterly reports required pursuant to Paragraph 17. If any CO
5 Analysis reading is 1000 ppmv or above, Defendant shall notify EPA and the District Compliance
6 Office verbally and via email within 24 hours of receipt of such reading. Also, if the gas temperature in
7 one of these wells exceeds 141 degrees Fahrenheit, Defendant shall initiate corrective action within five
8 Days. If correction of the exceedance cannot be achieved within 120 Days of the initial exceedance,
9 Defendant shall:

10 i. Submit a request to EPA and the District for an alternative timeline
11 for correcting exceedance; or
12 ii. Request an alternative gas temperature limit pursuant to
13 Subparagraph (b) below; or
14 iii. Undertake such other corrective action as mutually agreed to by
15 the Defendant and EPA.

16 b. As described in subparagraphs 14(a)(ii) and 14(c)(ii), Defendant may
17 request an alternative gas temperature limit for the wellheads identified in this Paragraph by submitting
18 its request in writing to EPA and the District. Any such request shall contain all available sampling and
19 other evidence relevant to EPA's and the District's consideration of the requesting, including, but not
20 limited to, the existence of suspected or actual subsurface combustion. At the Defendant's request, EPA
21 and the District will meet with the Defendant to provide it an opportunity to present the reasons for its
22 request. EPA and the District shall be guided in their decision by the following standards: If the results
23 of two consecutive monthly CO Analyses for a given well that are taken immediately prior to Forward's
24 request are below 200 ppmv, then Forward may stop monthly CO monitoring and operate the well with
25 the higher operating temperature, but not to exceed 145 °F. If the monthly CO Analysis is above 200
26 ppmv and below 500 ppmv, Forward shall continue monthly monitoring but may still utilize the higher
27 operating temperature, but not to exceed 145 °F. If the well is above 145°F or CO is above 500 ppmv,
28 Forward shall close the well as corrective action and undertake such further actions as directed by

1 District and/or EPA to further investigate the potential for a subsurface fire in the area of the well. After
2 considering Defendant's request, EPA and the District will either grant the request or deny it, in writing.
3 If EPA and the District grant Defendant's request for an alternative wellhead gas temperature limit for
4 an existing wellhead, the alternative approved limit shall immediately supersede the previously
5 applicable limit and become the new interim temperature limit for that wellhead.

6 c. For any well installed after February 1, 2012, if the gas temperature in one
7 of these wells exceeds 131 degrees Fahrenheit, Defendant shall initiate corrective action within five
8 Days. If correction of the exceedance cannot be achieved within 120 Days of the initial exceedance,
9 Defendant shall:

- 10 i. Submit a request to EPA and the District for an alternative timeline
11 for correcting exceedance; or
- 12 ii. Request an alternative gas temperature limit pursuant to
13 Subparagraph (b) above; or
- 14 iii. Undertake such other corrective action as mutually agreed to by
15 the Defendant and EPA.

16 15. Permits. Where any compliance obligation under this Section requires Defendant to
17 obtain a federal, District, or local permit or approval, Defendant shall submit timely and complete
18 applications and take all other actions necessary to obtain all such permits or approvals. Defendant may
19 seek relief under the provisions of Section IX of this Consent Decree (Force Majeure) for any delay in
20 the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any
21 permit or approval required to fulfill such obligation, if Defendant has submitted timely and complete
22 applications and has taken all other actions necessary to obtain all such permits or approvals.

23 VI. ADDITIONAL INJUNCTIVE RELIEF

24 16. By December 31, 2012, Defendant will replace the seven diesel trucks currently
25 in use in the Stockton area and three diesel trucks currently in use in the Fresno area that are all listed
26 under the heading "2012 Replacements Stockton and Fresno" on Appendix C attached hereto, with
27 model year 2010 or newer diesel fuel trucks. By December 31, 2013, Defendant will replace the nine
28 diesel trucks currently in use in the Fresno area that are all listed under the heading "2013 Replacements

1 Fresno” on Appendix C attached hereto, with model year 2010 or newer diesel fuel trucks or, at
2 Defendant’s sole option, with CNG or LNG fueled trucks. The parties agree that implementing the truck
3 replacement project described in this Section will reduce air emissions beyond emission reductions
4 required by applicable California regulations, including the Diesel Particulate Matter Control Measures,
5 13 CCR §§ 2020 - 2021, and estimate those extra reductions to be approximately 83.2 tons of nitrogen
6 oxide and 3.4 tons of particulate matter. Any public statement, oral or written, in print, film, or other
7 media, made by Defendants making reference to the Additional Injunctive Relief under this Section
8 shall include the following language: “This project was undertaken in connection with the settlement of
9 an enforcement action, United States, et al. v. Forward, Inc, taken on behalf of the U.S. Environmental
10 Protection Agency and the San Joaquin Valley Unified Air Pollution Control District under the Clean
11 Air Act.” Defendants shall not use or rely on emissions reductions generated as a part of the Additional
12 Injunctive Relief under this Section in any federal, state, or local emissions averaging, banking, trading,
13 netting, credit, or offset program.

14 VII. REPORTING REQUIREMENTS

15 17. After lodging of this Consent Decree and until termination of this Decree pursuant
16 to Section XVIII, Defendant shall submit a quarterly report on March 30, June 30, September 30, and
17 December 31 for the preceding quarter that includes the well monitoring data for the quarter for those
18 parameters included in Defendant’s semi-annual Title V reports to the District and EPA, the status of
19 any construction required by Appendix A, the status of all activities required by subsection 12(c)
20 through (f), the information required in paragraph 7 of Appendix B, and the status of any pending permit
21 applications required by this Consent Decree. The report shall also include a description of any non-
22 compliance with the requirements of this Consent Decree and an explanation of the violation’s likely
23 cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. The
24 information required in a quarterly report for the second quarter of the period covered by any of
25 Defendant’s Semi-Annual Reports may be submitted in the Semi-Annual Report in lieu of a separate
26 quarterly report. If Defendant violates, or has reason to believe that it may violate, any requirement of
27 this Consent Decree, Defendant shall notify the United States and the District of such violation and its
28 likely duration, in writing, within ten working Days of the Day that Defendant first becomes aware of

1 the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be
2 taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the
3 time the report is due, Defendant shall so state in the report. Defendant shall investigate the cause of the
4 violation and shall then submit an amendment to the report, including a full explanation of the cause of
5 the violation, within 30 Days of the Day Defendant becomes aware of the cause of the violation.
6 Nothing in this Paragraph or the following Paragraph relieves Defendant of its obligation to provide the
7 notice required by Section IX of this Consent Decree (Force Majeure). As used herein, a permit
8 violation will not be deemed to have occurred, and no deviation report need be submitted by Defendant
9 to EPA or the District, if a given interior gas extraction wells exceeds the NSPS operating parameters in
10 40 CFR section 60.753(b)(3) for oxygen, nitrogen, or temperature so long as Forward is in compliance
11 with the corrective action timelines in 40 CFR section 60.755(a)(5).

12 18. Whenever any violation of this Consent Decree or any other event affecting
13 Defendant's performance under this Decree, or the performance of its Facility, may pose an immediate
14 threat to the public health or welfare or the environment, Defendant shall notify EPA and the District
15 orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after
16 Defendant first knew of the violation or event. This procedure is in addition to the requirements set
17 forth in the preceding Paragraph.

18 19. All reports shall be submitted to the persons designated in Section XIV of this
19 Consent Decree (Notices).

20 20. Each report submitted by Defendant under this Section shall be signed by an
21 official of the submitting party and include the following certification:

22 I certify under penalty of law that this document and all attachments were
23 prepared under my direction or supervision in accordance with a system
24 designed to assure that qualified personnel properly gather and evaluate
25 the information submitted. Based on my inquiry of the person or persons
26 who manage the system, or those persons directly responsible for
gathering the information, the information submitted is, to the best of my
knowledge and belief, true, accurate, and complete. I am aware that there
are significant penalties for submitting false information, including the
possibility of fine and imprisonment for knowing violations.

27 This certification requirement does not apply to emergency or similar notifications where compliance
28 would be impractical.

1 27. Reporting Requirements. The following stipulated penalties shall accrue per
2 violation per Day for each violation of the reporting requirements of Section VII and Appendix B,
3 paragraph 7, of this Consent Decree:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 1000	1st through 14th Day
\$ 2000	15th through 30th Day
\$ 4000	31st Day and beyond

4 28. If Defendant fails to perform as required by this Consent Decree or violates this
5 Consent Decree, stipulated penalties under this Section shall begin to accrue on the Day after the
6 performance was due or on the Day a violation occurred, whichever is applicable, and shall continue to
7 accrue until performance is completed or until the violation ceases. However, if a stipulated penalty
8 would otherwise accrue because a report required by Section VII or Appendix B, paragraph 7, is deemed
9 by the United States or the District to contain a material deficiency, stipulated penalties shall not begin
10 to accrue until the United States or the District has notified Defendant of any such deficiency.
11 Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

12 29. Defendant shall pay stipulated penalties to the United States and the District
13 within 30 Days of a written demand by either Plaintiff. Defendant shall pay 50 percent of the total
14 stipulated penalty amount due to the United States and 50 percent to the District. The Plaintiff making a
15 demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other
16 Plaintiff.

17 30. Either Plaintiff may in the unreviewable exercise of its discretion, reduce or waive
18 stipulated penalties otherwise due it under this Consent Decree.

19 31. Stipulated penalties shall continue to accrue as provided in Paragraph 29, during
20 any Dispute Resolution, but need not be paid until the following:

21 a. If the dispute is resolved by agreement or by a decision of EPA or the
22 District that is not appealed to the Court, Defendant shall pay accrued penalties determined to be owing,
23 together with interest, to the United States or the District within 30 Days of the effective date of the
24 agreement or the receipt of EPA's or the District's decision or order.

1 Decree despite Defendant's best efforts to fulfill the obligation. The requirement that Defendant
2 exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force
3 majeure event and best efforts to address the effects of any such event (a) as it is occurring and (b) after
4 it has occurred to prevent or minimize any resulting delay to the greatest extent possible. "Force
5 Majeure" does not include Defendant's financial inability to perform any obligation under this Consent
6 Decree.

7 36. If any event occurs or has occurred that may delay the performance of any
8 obligation under this Consent Decree, whether or not caused by a force majeure event, Defendant shall
9 provide notice orally or by electronic or facsimile transmission to the Plaintiffs within 72 hours of when
10 Defendant first knew that the event might cause a delay. Within seven business days thereafter,
11 Defendant shall provide in writing to EPA and the District an explanation and description of the reasons
12 for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or
13 minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate
14 the delay or the effect of the delay; Defendant's rationale for attributing such delay to a force majeure
15 event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendant, such
16 event may cause or contribute to an endangerment to public health, welfare or the environment.
17 Defendant shall include with any notice all available documentation supporting the claim that the delay
18 was attributable to a force majeure. Failure to comply with the above requirements shall preclude
19 Defendant from asserting any claim of force majeure for that event for the period of time of such failure
20 to comply, and for any additional delay caused by such failure. Defendant shall be deemed to know of
21 any circumstance of which Defendant, any entity controlled by Defendant, or Defendant's contractors
22 knew or should have known.

23 37. If EPA, after a reasonable opportunity for review and comment by the District,
24 agrees that the delay or anticipated delay is attributable to a force majeure event, the time for
25 performance of the obligations under this Consent Decree that are affected by the force majeure event
26 will be extended by EPA, after a reasonable opportunity for review and comment by the District, for
27 such time as is necessary to complete those obligations. An extension of the time for performance of the
28 obligations affected by the force majeure event shall not, of itself, extend the time for performance of

1 any other obligation. EPA will notify Defendant in writing of the length of the extension, if any, for
2 performance of the obligations affected by the force majeure event.

3 38. If EPA, after a reasonable opportunity for review and comment by the District,
4 does not agree that the delay or anticipated delay has been or will be caused by a force majeure event,
5 EPA will notify Defendant in writing of its decision.

6 39. If Defendant elects to invoke the dispute resolution procedures set forth in Section
7 X (Dispute Resolution), it shall do so no later than 30 days after receipt of EPA's notice. In any such
8 proceeding, Defendant shall have the burden of demonstrating by a preponderance of the evidence that
9 the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of
10 the delay or the extension sought was or will be warranted under the circumstances, that best efforts
11 were exercised to avoid and mitigate the effects of the delay, and that Defendant complied with the
12 requirements of Paragraphs 36 and 37, above. If Defendant carries this burden, the delay at issue shall
13 be deemed not to be a violation by Defendant of the affected obligation of this Consent Decree
14 identified to EPA and the Court.

15 X. DISPUTE RESOLUTION

16 40. Unless otherwise expressly provided for in this Consent Decree, the dispute
17 resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under
18 or with respect to this Consent Decree. Defendant's failure to seek resolution of a dispute under this
19 Section shall preclude Defendant from raising any such issue as a defense to an action by the United
20 States to enforce any obligation of Defendant arising under this Decree.

21 41. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under
22 this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered
23 to have arisen when one Party sends the other Party a written Notice of Dispute. Such Notice of Dispute
24 shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 20 Days
25 from the date the dispute arises, unless expressly agreed to by all Parties and confirmed by electronic or
26 written communication verifying such agreement. If the Parties cannot resolve a dispute by informal
27 negotiations, then the position advanced by the United States shall be considered binding unless, within
28

1 30 Days after the conclusion of the informal negotiation period, Defendant invokes formal dispute
2 resolution procedures as set forth below.

3 42. Formal Dispute Resolution. Defendant shall invoke formal dispute resolution
4 procedures, within the time period provided in the preceding Paragraph, by serving on the United States
5 and the District a written Statement of Position regarding the matter in dispute. The Statement of
6 Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting
7 Defendant's position and any supporting documentation relied upon by Defendant.

8 43. The United States and the District shall serve their Statements of Position, if any,
9 within 45 Days of receipt of Defendant's Statement of Position. The Plaintiffs' Statements of Position
10 shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position
11 and any supporting documentation relied upon by the Plaintiffs. The Plaintiffs' Statements of Position
12 shall be binding on Defendant, unless Defendant files a motion for judicial review of the dispute in
13 accordance with the following Paragraph.

14 44. Defendant may seek judicial review of the dispute by filing with the Court and
15 serving on the United States, in accordance with Section XIV of this Consent Decree (Notices), a motion
16 requesting judicial resolution of the dispute. The motion must be filed within 30 Days of receipt of the
17 Plaintiffs' Statements of Position pursuant to the preceding Paragraph. The motion shall contain a
18 written Statement of Defendant's position on the matter in dispute, including any supporting factual
19 data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within
20 which the dispute must be resolved for orderly implementation of the Consent Decree.

21 45. The United States and the District shall respond to Defendant's motion within the
22 time period allowed by the Local Rules of this Court. Defendant may file a reply memorandum, to the
23 extent permitted by the Local Rules.

24 46. Standard of Review.

25 a. Disputes Concerning Matters Accorded Record Review. Except as
26 otherwise provided in this Consent Decree, in any dispute brought under Paragraph 43 (Formal Dispute
27 Resolution) pertaining to any request by Defendant to EPA and the District pursuant to Paragraph 14
28 (Interim Wellhead Gas Temperature Limits) for an alternative gas temperature limit or for an alternative

1 timeline for correcting an exceedance, Defendant shall have the burden of demonstrating, based on the
2 administrative record, that the position of the United States is arbitrary and capricious or otherwise not
3 in accordance with law.

4 b. Other Disputes. Except as otherwise provided in this Consent Decree,
5 Defendant shall bear the burden of demonstrating by a preponderance of the evidence that its position
6 complies with this Consent Decree and furthers the objectives of the Consent Decree.

7 47. The invocation of dispute resolution procedures under this Section shall not, by
8 itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree,
9 unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the
10 disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be
11 stayed pending resolution of the dispute as provided in Paragraph 32. If Defendant does not prevail on
12 the disputed issue, stipulated penalties shall be assessed and paid as provided in Section VIII (Stipulated
13 Penalties).

14 XI. INFORMATION COLLECTION AND RETENTION

15 48. The United States, the District, and their representatives, including attorneys,
16 contractors, and consultants, shall have the right of entry into any facility covered by this Consent
17 Decree, at all reasonable times, upon presentation of credentials, to:

- 18 a. monitor the progress of activities required under this Consent Decree;
- 19 b. verify any data or information submitted to the United States or the
20 District in accordance with the terms of this Consent Decree;
- 21 c. obtain samples and, upon request, splits of any samples taken by
22 Defendant or its representatives, contractors, or consultants;
- 23 d. obtain documentary evidence, including photographs and similar data; and
- 24 e. assess Defendant's compliance with this Consent Decree.

25 49. Upon request, Defendant shall provide EPA and the District, or their authorized
26 representatives, splits of any samples taken by Defendant. Upon request, EPA and the District shall
27 provide Defendant splits of any samples taken by EPA or the District.

1 50. Until three years after the termination of this Consent Decree, Defendant shall
2 retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents,
3 records, or other information (including documents, records, or other information in electronic form) in
4 its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents'
5 possession or control, and that relate in any manner to Defendant's performance of its obligations under
6 this Consent Decree. This information-retention requirement shall apply regardless of any contrary
7 corporate or institutional policies or procedures. At any time during this information-retention period,
8 upon request by the United States or the District, Defendant shall provide copies of any documents,
9 records, or other information required to be maintained under this Paragraph.

10 51. At any time during the applicable retention period in this Section and upon
11 request by the United States or the District, Defendant shall deliver to the requestor a copy of any
12 documents, record, or other information required to be maintained under this Section. Defendant may
13 assert that certain documents, records, or other information is privileged under the attorney-client
14 privilege or any other privilege recognized by federal law. If Defendant asserts such a privilege, it shall
15 provide the following: (1) the title of the document, record, or information; (2) the date of the
16 document, record, or information; (3) the name and title of each author of the document, record, or
17 information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the
18 document, record, or information; and (6) the privilege asserted by Defendant. However, no documents,
19 records, or other information created or generated pursuant to the requirements of this Consent Decree
20 shall be withheld on grounds of privilege.

21 52. Defendant may also assert that information required to be provided under this
22 Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any
23 information that Defendant seeks to protect as CBI, Defendant shall follow the procedures set forth in 40
24 C.F.R. Part 2.

25 53. This Consent Decree in no way limits or affects any right of entry and inspection,
26 or any right to obtain information, held by the United States or the District pursuant to applicable federal
27 or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendant to
28

1 maintain documents, records, or other information imposed by applicable federal or state laws,
2 regulations, or permits.

3 XII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

4 54. This Consent Decree resolves the civil claims of the United States and the District
5 for the violations alleged in the Complaint filed through the date of lodging of this Decree.

6 55. The United States and the District reserve all legal and equitable remedies
7 available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraph 55.
8 This Consent Decree shall not be construed to limit the rights of the United States or the District to
9 obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal,
10 state, or District laws, regulations, or permit conditions, except as expressly specified in Paragraph 55.
11 The United States and the District further reserve all legal and equitable remedies to address any
12 imminent and substantial endangerment to the public health or welfare or the environment arising at, or
13 posed by, Defendant's Facility, whether related to the violations addressed in this Consent Decree or
14 otherwise.

15 56. In any subsequent administrative or judicial proceeding initiated by the United
16 States or the District for injunctive relief, civil penalties, other appropriate relief relating to the Facility,
17 Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of
18 waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other
19 defenses based upon any contention that the claims raised by the United States or the District in the
20 subsequent proceeding were or should have been brought in the instant case, except with respect to
21 claims that have been specifically resolved pursuant to Paragraph 54 of this Section.

22 57. This Consent Decree is not a permit, or a modification of any permit, under any
23 federal, District, or local laws or regulations. Defendant is responsible for achieving and maintaining
24 complete compliance with all applicable federal, District, and local laws, regulations, and permits; and
25 Defendant's compliance with this Consent Decree shall be no defense to any action commenced
26 pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the
27 District do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that
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1 Defendant's compliance with any aspect of this Consent Decree will result in compliance with
2 provisions of the Act or with any other provisions of federal, state, or local laws, regulations, or permits.

3 58. This Consent Decree does not limit or affect the rights of Defendant or of the
4 United States or the District against any third parties, not party to this Consent Decree, nor does it limit
5 the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise
6 provided by law.

7 59. This Consent Decree shall not be construed to create rights in, or grant any cause
8 of action to, any third party not party to this Consent Decree.

9 XIII. COSTS

10 60. The Parties shall bear their own costs of this action, including attorneys' fees,
11 except that the United States and the District, if they are determined to be the prevailing party by the
12 Court, shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to
13 collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendant.

14 XIV. NOTICES

15 61. Unless otherwise specified herein, whenever notifications, submissions, or
16 communications are required by this Consent Decree, they shall be made in writing and addressed as
17 follows:

18 To the United States:

19 Chief, Environmental Enforcement Section
20 Environment and Natural Resources Division
21 U.S. Department of Justice
22 Box 7611 Ben Franklin Station
23 Washington, D.C. 20044-7611
24 Re: DOJ No. 90-5-2-1-09873

25 and

26 Sylvia Quast
27 United States Attorney's Office
28 Eastern District of California
Suite 10-100
501 I Street
Sacramento, CA 95814

1 To EPA:

2 Brian P. Riedel
3 U.S. Environmental Protection Agency
4 Office of the Regional Counsel
5 Region 9
6 75 Hawthorne Street
7 Mail Code: ORC-2
8 San Francisco, CA 94105

9 To the District:

10 Catherine Redmond, District Counsel
11 San Joaquin Valley Unified Air Pollution Control District
12 1990 E. Gettysburg Avenue
13 Fresno, CA 92726

14 and

15 Morgan Lambert, Compliance Director
16 San Joaquin Valley Unified Air Pollution Control District
17 1990 E. Gettysburg Avenue
18 Fresno, CA 92726

19 To Defendant(s):

20 Kevin Basso
21 General Manager
22 Forward, Inc.
23 1145 W Charter Way
24 Stockton, CA 95206

25 and

26 Tim Benter
27 Vice President & Deputy General Counsel
28 Republic Services, Inc.
18500 North Allied Way
Phoenix, AZ 85054

29 and

30 Thomas Bruen
31 Law Offices of Thomas M. Bruen, P.C.
32 1990 N. California Blvd, Ste 620
33 Walnut Creek, CA 94596

34
35 62. Any Party may, by written notice to the other Parties, change its designated notice
36 recipient or notice address provided above.

1 FOR PLAINTIFF UNITED STATES OF AMERICA:

2 DATED: March ___, 2012

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IGNACIA S. MORENO
Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice

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7

8 DATED: March ___, 2012

BENJAMIN B. WAGNER
United States Attorney

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SYLVIA QUAST
Assistant U.S. Attorney
U.S. Attorney's Office
Eastern District of California

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1 FOR PLAINTIFF UNITED STATES OF AMERICA:
2

3 DATED: March __, 2012

4 _____
JARED BLUMENFELD
5 Regional Administrator
U.S. Environmental Protection Agency
6 Region 9

7 OF COUNSEL:
BRIAN P. RIEDEL
8 Assistant Regional Counsel
U.S. Environmental Protection Agency
9 Region 9

10 DATED: March __, 2012

11 _____
CYNTHIA GILES
12 Assistant Administrator
Office of Enforcement and Compliance Assurance
13 U.S. Environmental Protection Agency
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1 FOR PLAINTIFF SAN JOAQUIN VALLEY UNIFIED
2 AIR POLLUTION CONTROL DISTRICT:

3 DATED: March __, 2012

SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL DISTRICT

5 _____
6 CATHERINE T. REDMOND
7 District Counsel
8 Attorneys for the San Joaquin Valley
9 Unified Air Pollution Control District
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1 FOR DEFENDANT FORWARD, INC.:

2

3 DATED: March __, 2012

4

TIM BENTER
Vice-President and Assistant Secretary
Forward, Inc.

5

6

7 DATED: March __, 2012

LAW OFFICES OF THOMAS M. BRUEN
A Professional Corporation

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THOMAS M. BRUEN
Attorneys for Forward, Inc.

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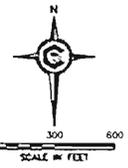
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1 **APPENDIX A**

2 **IMPROVEMENTS TO FACILITY GCCS**

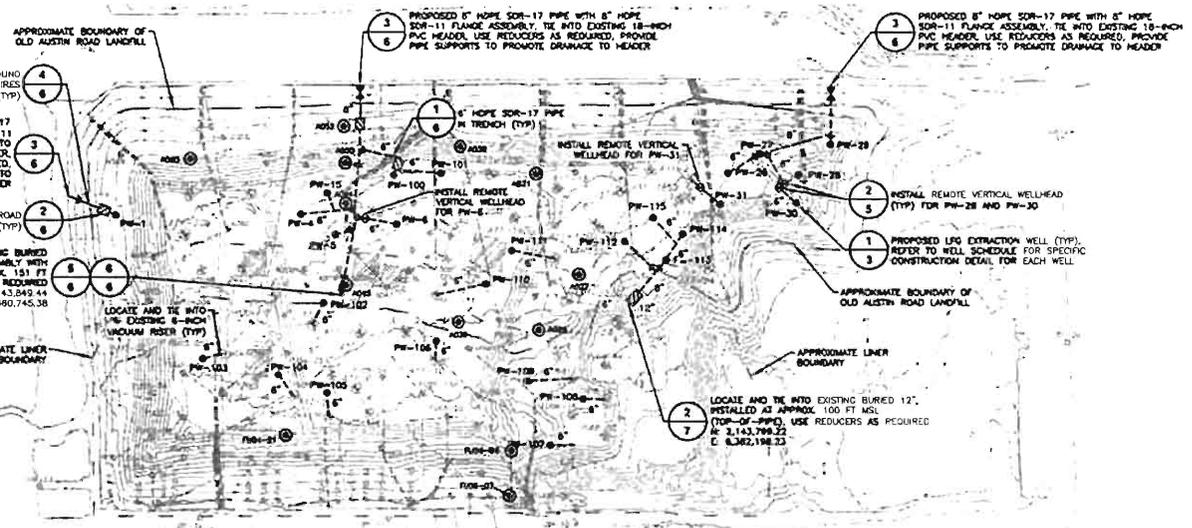
3 1) Defendant shall abandon the following gas extraction wells in the GCCS: AO01, AO02, AO03,
4 AO04, AO05, AO06, AO08, AO09, AO10, AO11, AO12, AO13, AO14, AO15, AO16, AO17,
5 AO18, AO19, AO20, AO21, AO22, AO23, AO24, AO25, AO28, AO32, AO37, AO40, AO41,
6 AO42, AO46, AO48, AO49, AO54, AO56, AO59, AO61, AO62, AO65, AO64, AO67, AO68,
7 AO70, AO71, FOFU6-HC1, FU03-01, FU03-03, FU03-05, FU03-08, FU03-14, FU04-01, FU04-02,
8 FU04-03, FU04-09, FU04-10, FU04-14, FU04-15, FU04-18, FU04-19, FU04-22, FU04-27, FU05-
9 04, FU05-08, FU05-10, FU05-15, FU05-16, FU06-04, FU06-05, FU06-10, FU06-14, FO03, FO05,
10 FO06, FO07, FO09, FO10, FO11, FO13, FO14, FO15, FO16, FO17, FO18, FO20, FO23, FO25,
11 FO26, FO27, FO28, FO29, FO31, FO32, FO33, FO34, FO35, FO36, FO37, FO38, FO44, FO48,
12 FO49, FO50, FO54, FO55, FO56, FO59, FO60, FO61, FO63, FO65, FO69, FO70, FO71, FO72,
13 FO85, FO88, FO94, FO98, FO100, FO101, FOHC-1A, FOHC-2A, FOHC-3A, FOHC-3B, FOHC-
14 4B, FOHC-5A; Covanta East Manifold Wells -02, -05, -06, -07, -11, -12; and Covanta West
15 Manifold Wells -01 and -02.

16 2) Defendant shall install gas extraction wells PW-1 through PW-53 in compliance with the drawing
17 entitled "2012 GCCS Improvements Construction Site Plan" attached hereto, except that the number
18 of wells to be installed may be modified by up to 10% of the total, and the specified placement of the
19 wells may be altered by up to 75 feet. The placement of specific wells may be altered by more than
20 75 feet where required due to the presence of soil stockpiles, site traffic patterns or the location of
21 the work face, as long as the total number of wells has not decreased. Defendant shall notify the
22 United States and the District 21 days in advance if it decides to modify the number or alter the
23 placement of the wells to be installed, and explain why the proposed change is required.

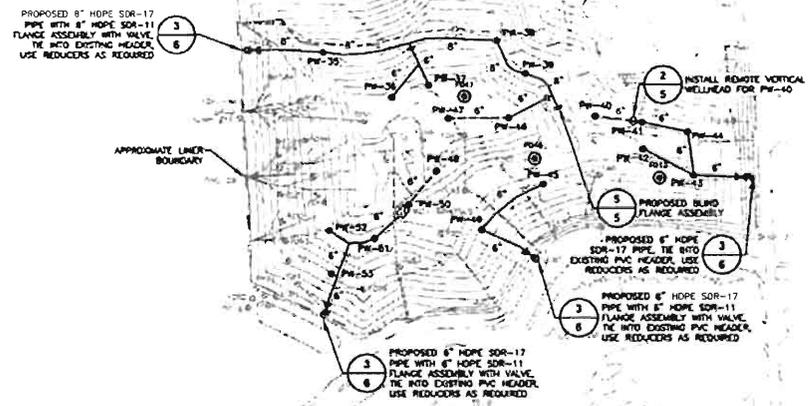


LEGEND

- APPROXIMATE LINER BOUNDARY
- OLD AUSTIN ROAD LANDFILL BOUNDARY
- - - - - EXISTING 10' CONTOUR
- - - - - EXISTING 2' CONTOUR
- - - - - EXISTING LANDFILL GAS PIPE - ABOVE GROUND
- - - - - EXISTING LANDFILL GAS PIPE - BELOW GROUND
- - - - - EXISTING LFG EXTRACTION WELL - BELOW GROUND
- - - - - EXISTING LFG EXTRACTION WELL - ABOVE GROUND
- - - - - EXISTING FORWARD POWER PLANT WELLS
- - - - - EXISTING REMOTE WELL HEAD
- - - - - EXISTING GAS MONITORING PROBE
- - - - - EXISTING PIPE END CAP
- - - - - EXISTING ROAD CROSSING
- - - - - EXISTING ASBESTOS FILL AREA
- - - - - PROPOSED LANDFILL GAS PIPE - ABOVE GROUND
- - - - - PROPOSED LANDFILL GAS PIPE - BELOW GROUND
- PW-1
- PROPOSED LFG EXTRACTION WELL
- PROPOSED BUND FLANGE
- PROPOSED ROAD CROSSING
- PROPOSED FLANGE ASSEMBLY WITH VALVE
- PROPOSED REDUCER
- PROPOSED REMOTE WELLHEAD
- (PW-21)
- EXISTING LFG EXTRACTION WELL TO BE REPAIRED



EXISTING WELLS TO BE REPAIRED, SEE NOTE 13			
A027	A028	A031	A038
A038	A044	A045	A050
A052	A063	F012	F041
F046	FJ04-21	FJ06-08	FJ06-07



GENERAL NOTES:

1. THE 2011 TOPOGRAPHIC MAP WAS PROVIDED BY RICK ENGINEERING COMPANY, SAN DIEGO, CALIFORNIA. DATE OF PHOTOGRAPHY: MARCH 17, 2011. THE TOPOGRAPHIC MAP IS SUPPLEMENTED WITH A QUARTERLY SURVEY PROVIDED BY RJA. DATE OF PHOTOGRAPHY FOR THE QUARTERLY SURVEY: JAN. 2012.
2. THE 2010 AS-BUILT WELL LOCATIONS AND 2010 AS-BUILT PIPE LOCATIONS WERE PROVIDED BY REPUBLIC ON SEPTEMBER 13, 2010. THE GGCS IS SUPPLEMENTED WITH A CONSTRUCTION AS-BUILT SURVEY POINT FILE PROVIDED BY RJA. DATES OF SURVEY: AUGUST 12, 2011 AND AUGUST 30, 2011. FILE CONTAINED WELL LOCATIONS AND TOP DECK PIPE LOCATION POINTS, VALVES, REDUCERS, ROAD CROSSINGS AND TIE-IN POINTS BASED ON DESIGN DRAWINGS AND COA FIELD NOTES.
3. CONTRACTOR TO SURVEY AND STAKE PIPING ALIGNMENTS WITH GRADES AND OBTAIN APPROVAL FROM ENGINEER AND OWNER PRIOR TO PROCEEDING.
4. THE CONTRACTOR SHALL LAY OUT THE PIPE TO CONFORM TO FIELD CONDITIONS. PROVIDE 48" MINIMUM COVER AND 3% MINIMUM SLOPE CROSSING BELOW PERIMETER AND MAIN HAUL ROADS. PROVIDE MINIMUM PIPE DRAINAGE SLOPES OF 3% WITHIN WASTE LIMIT AND 1% OUTSIDE OF WASTE LIMIT. CONTRACTOR RESPONSIBLE FOR GUY (12" MAX. UNLESS OTHERWISE NOTED PER PLAN) AND FILL BENEATH PIPE TO ENSURE PROPER DRAINAGE, AS APPROVED BY THE OWNER/ENGINEER.
5. FEATURES, CONTOURS, AND ELEVATIONS OF THESE BASE MAPS ARE APPROXIMATE INDICATIONS OF CURRENT AND FUTURE CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR INSPECTING WORK AREAS AT PRE-50 SITE WALK AS CURRENT CONDITIONS FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY THE ACTUAL LOCATIONS OF THESE ELEMENTS PRIOR TO, AND DURING CONSTRUCTION, AND SHALL FINALIZE THE GAS SYSTEM LOCATIONS TO ACCOMMODATE FINAL FIELD CONDITIONS, AS APPROVED BY THE OWNER/ENGINEER.
6. ALL CONNECTIONS TO EXISTING PIPING SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO BIDDING. SOME CONNECTIONS MAY REQUIRE EXCAVATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL DISCONNECTIONS AND RECONNECTIONS FOR INSTALLATION OF NEW PIPING WHERE NECESSARY.
8. WORK SHALL NOT VARY FROM DESIGN WITHOUT APPROVAL OF THE ENGINEER. WORK THAT VARIES FROM DESIGN WITHOUT APPROVAL WILL NOT BE PAID FOR.
9. ALL PIPING GREATER THAN 8 INCHES IN DIAMETER SHALL BE PRESSURE TESTED FOR 1 HOUR AT 10 PSIG GREATER THAN 1% DROP IN PRESSURE OVER 1 HOUR. SMALLER DIAMETER PIPING SHALL BE TESTED IN SEGMENTS NO LONGER THAN 2,000 FEET UNLESS APPROVED BY THE ENGINEER.
10. CONTRACTOR TO REMOVE AND REUSE EXISTING PIPING AND FITTINGS WHERE APPLICABLE. CAP ALL ABANDONED PIPE. IF ABANDONED PIPE IS HDPE, USE FUSED ON HOPE CAP. IF ABANDONED PIPE IS PVC, USE PVC SCH 40 CAP SECURED WITH SET SCREWS AT 90° AND SILICONE SEALANT AS NECESSARY. ALL EXISTING PIPING THAT IS NOT IN USE, AS DIRECTED BY THE ENGINEER, SHALL BE RELOCATED BY THE CONTRACTOR TO THE ON-SITE STORAGE FACILITY.
11. CONTRACTOR TO USE REDUCER FITTINGS AS NECESSARY.
12. FOR BENCH CROSSING WITHOUT CMP, BURY LATERAL THROUGH BENCH AND COVER WITH 12" MIN. SOIL.
13. FOR WELLS TO BE REPAIRED, CONTRACTOR TO INSTALL TEMPORARY WELLHEAD WITH FLOW MEASURING CAPABILITY AND COORDINATE WITH ENGINEER/OWNER TO OBTAIN READING. DEFERRING ACTION TO BE TAKEN IS AS FOLLOWS (AS DIRECTED BY OWNER/ENGINEER):
 IF FLOW IS PRESENT AT THE WELL, A NEW WELLHEAD IS TO BE INSTALLED. SEE DETAIL 1 ON SHEET 5.
 IF NO FLOW IS PRESENT AT THE WELL, THE WELL IS TO BE DECOMMISSIONED. SEE DETAIL 4 ON SHEET 5 FOR BELOW GRADE WELLS OR DETAIL 1 ON SHEET 7 FOR ABOVE GRADE WELLS.

ISSUED FOR BIDDING

REV	DATE	DESCRIPTION	DESIGNED BY	CHECKED BY	DATE
1	2/28/2012				

CORNERSTONE
Environmental Group, LLC

FORWARD LANDFILL
SAN JOAQUIN COUNTY, CALIFORNIA

2012 GGCS IMPROVEMENTS
CONSTRUCTION SITE PLAN

SHEET NO.
2

PROJECT NO.
12005



1 **APPENDIX B**

2 **INTERMITTENT WELL PROGRAM**

3 1) The Intermittent Well Program (“IWP”) shall consist of the following extraction wells:

- 4 A) AO26, AO30, AO43, AO47, AO51, AO53, AO55, AO57, AO60, AO65R, AO68,
5 AO66, AO69, FU03-HORZ-1, FU03-HORZ-2, FU03-10, FU03-12, FU03-13, FU04-
6 16, FU04-17, FU04-23, FU04-28, FU05-11, FU06-HC1, FU06-HC2, FU06-01,
7 FU06-02, FU06-08, FU034-WEL, FO02, FO04, FO08, FO19, FO21, FO43, FO47,
8 FO52, FO57, FO63, FO64, FO67, FO89, FO90, FO91, FO99, FOHC-2B, and FOHC-
9 4A.

10 B) Those extraction wells added to the IWP pursuant to paragraphs 6 and 7 of this
11 Appendix.

12 2) Defendant shall keep wells in the IWP closed, unless the 500 parts per million by volume
13 (“ppmv”) methane concentration limits established in 40 C.F.R. 60.753(d) and 60.755(c) or the 25 ppmv
14 methane concentration limit for integrated surface monitoring are exceeded within 50 meters of the well,
15 in which case Defendant may open and operate the well until methane concentrations return to below
16 500 ppmv or 25 ppmv, as applicable. Defendant may also open a well in the IWP if Defendant receives
17 approval in writing in advance from the Compliance Director of the District or his designee. A well that
18 has been opened and is being operated pursuant to this paragraph is not subject to the 5% oxygen limit
19 set forth in Paragraph 14 of the Consent Decree.

20 3) Defendant may open and operate a well in the IWP provided that oxygen concentrations in the
21 well are below 5% for two consecutive monthly monitoring events. If the well subsequently exceeds the
22 5% limit, Defendant shall take the actions specified in paragraph 6 of this Appendix. Within ten days of
23 opening a well pursuant to paragraph (2), Defendant will notify EPA and the Compliance Director of the
24 District that it has opened the well, the basis for doing so, and the current oxygen levels in the well.

25 4) If a well in the IWP has been closed for twelve continuous months after the Effective Date,
26 Defendant shall permanently close and seal it, subject to the District and EPA’s approval, unless
27 Defendant can demonstrate that the well is still producing methane.
28

1 5) Defendant may propose that an additional extraction well be added to the IWP, provided the well
2 meets the following conditions:

3 A) Within 5 days of the well exceeding the 5% oxygen limit, Defendant has
4 visually inspected the wellhead for air intrusion (including sampling ports,
5 leaky pneumatic pumps, wellhead boot seals, caps and hoses) and, if air
6 intrusion is detected, repaired or replaced the well component allowing air
7 intrusion.

8 B) Defendant has reviewed the wellfield and surface monitoring data to
9 ensure adequate well coverage and to rule out a subsurface oxidation
10 event. If there is evidence of a subsurface oxidation event, Defendant has
11 immediately conducted maintenance on and augmented cover in the area
12 of the subsurface oxidation event.

13 C) After complying with subparagraphs (a) and (b) above, Defendant has
14 reduced vacuum in the well for one hour, but oxygen levels continued to
15 exceed the 5% oxygen limit, at which time, Defendant has closed the well
16 and is operating it under positive pressure.

17 D) Defendant notifies the District and EPA that it has closed the well,
18 including a description of the actions it has taken pursuant to
19 subparagraphs (a), (b), and (c) above.

20 6) Upon receiving notice from the Defendant pursuant to Paragraph 6 of this Appendix that it
21 proposes to add a well to the IWP, the well shall become part of the IWP unless the District or EPA
22 notify Defendant within thirty days of receiving the notice that they object to including it in the IWP,
23 including the reason for such objection. Any disputes about the inclusion of a well in the IWP shall be
24 resolved pursuant to Section X (Dispute Resolution) of the Consent Decree, and while any such dispute
25 is pending, the well shall remain closed and no stipulated penalties shall accrue until the dispute is
26 resolved.

27 As part of its semi-annual monitoring report required by the NSPS and as required in Section
28 VIII, paragraph 16 of the Consent Decree, Defendant shall provide the EPA and the District with reports

1 on the status of each of the wells in the IWP, including monthly oxygen and methane monitoring results
2 and when the well was opened and closed during the quarter, and identify any wells that it is proposing
3 for inclusion in the IWP and any wells that it is proposing for abandonment. Defendant shall also
4 provide such a report to EPA and the District whenever Defendant seeks to add a well to the IWP
5 pursuant to Paragraphs 6 and 7 of this Appendix; the report shall be current as of the date of the
6 proposal.

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APPENDIX C – SCHEDULE FOR LANDFILL FLEET TRUCK REPLACEMENT

2012 Replacements Stockton & Fresno

Stockton

<u>Unit #</u>	<u>VIN</u>	<u>Description</u>	<u>Horse Power</u>	<u>Annual Hours</u>	<u>Mileage</u>
1324	4V2DC2HE8YN246665	2000 VOLVO FL TRUCK	275	1513	34,799
1331	5VCDC6MF87H204201	2007 AUTOCAR FL TRUCK	330	2303	52,969
1332	5VCDC6MFX7H204202	2007 AUTOCAR FL TRUCK	330	2577	59,271
2445	5VCDC6MF36H202760	2006 AUTOCAR SL TRUCK	330	2154	49,542
2451	5VCHC6MF67H204408	2007 AUTOCAR SL TRUCK	330	2120	48,760
2452	5VCHC6MF87H204409	2007 AUTOCAR SL TRUCK	330	2432	55,936
2455	5VCHC6JF89H209424	2009 AUTOCAR SL TRUCK	345	2174	50,002

Fresno

<u>Unit #</u>	<u>VIN</u>	<u>Description</u>	<u>Horse Power</u>	<u>Annual Hours</u>	<u>Mileage</u>
1253	4V2DC6UE22N337032	2002 VOLVO FL TRUCK	320	635	14605
1254	4V2DC6UE42N337033	2002 VOLVO FL TRUCK	320	1034	23782
2255	5VCHC6UE83N194404	2003 AUTOCAR FL TR.	280	399	9177

2013 Replacements Fresno

<u>Unit #</u>	<u>VIN</u>	<u>Description</u>	<u>Horse Power</u>	<u>Annual Hours</u>	<u>Mileage</u>
2470	5VCDC6UE03N194377	2003 AUTOCAR SL TRUCK	320	1679	38617
2471	5VCDC6UE23N194378	2003 AUTOCAR SL TRUCK	320	1967	45241
2472	5VCDC6UE43N194379	2003 AUTOCAR SL TRUCK	320	1837	42251
2473	5VCDC6UE23N194381	2003 AUTOCAR SL TRUCK	320	2227	51221
2474	5VCDC6UE03N194380	2003 AUTOCAR SL TRUCK	320	1425	32775
2475	5VCDC6UE83N194384	2003 AUTOCAR SL TRUCK	320	805	18515
2476	5VCDC6UEX3N194385	2003 AUTOCAR SL TRUCK	320	2124	48852
2477	5VCDC6UE13N194386	2003 AUTOCAR SL TRUCK	320	799	18377
2468	4V2DC6HE52N337035	2002 VOLVO SL TRUCK	275	1550	35650

APPENDIX IV

Landfill Greenhouse Gas Emission Calculations

Greenhouse Gas Emissions

CO₂e Emissions from the Combustion of Landfill Gas by Flares

The flares process up to 5,400 CFM of landfill gas. It is assumed that the CO₂e emissions from a landfill would be similar to that of CO₂e emissions from the combustion of biogas. The ARB CO₂e emission factor for biogas is 104.6499 kg/MMBtu. The landfill gas higher heating value is 500 Btu/scf. Based on the above information, the landfill gas CO₂e emissions are estimated to be:

$$\begin{aligned} \text{CO}_2\text{e} &= 5,400 \text{ CFM} \times 525,600 \text{ min/year} \times 500 \text{ Btu/scf} \times \text{MMBtu}/10^6 \text{ Btu} \times 104.6499 \text{ kg/MMBtu} \\ &\quad \times 1000 \text{ g/kg} \times \text{lb}/453.6 \text{ g} \times \text{ton}/2000 \text{ lb} \\ \text{CO}_2\text{e} &= 163,702 \text{ tons/year} \end{aligned}$$

APPENDIX V

Quarterly Net Emission Change Calculations

QNEC Calculations

$$\text{QNEC} = (\text{PE2} - \text{BE}) \div 4$$

As shown in Section VII.C.5, BE is equal to PE1 for all pollutants. Therefore, the equation for QNEC reduces to:

$$\text{QNEC} = (\text{PE2} - \text{PE1}) \div 4$$

This project will not result in a change in the potential to emit for any pollutant. Therefore, QNEC is equal to zero for all pollutants.