

**SUBJECT:** AN ORDINANCE OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY APPROVING A SUPPLEMENTAL APPROPRIATION OF \$2,500,000 FROM THE UNRESTRICTED NET ASSETS IN THE SOLID WASTE ENTERPRISE FUND, FUND 510, WITH \$2,414,500 TO FUND 420 SOLID WASTE PROJECT NO. 25056 TO DESIGN AND BUILD A LANDFILL GAS COLLECTION AND FLARE SYSTEM AND ASSOCIATED ELECTRICAL, PIPING, PLUMBING AND ANY OTHER EQUIPMENT AND BUILDINGS REQUIRED FOR THE PROPER FUNCTION OF THE SYSTEM AND \$85,500 TO BUDGET LINE FUND 510.150.401.426.900.

**AGENDA OF:** April 21, 2020

**ASSEMBLY ACTION:**

*Adopted without objection*  
*55-20-037*

**MANAGER RECOMMENDATION:** Introduce and set for public hearing.

**APPROVED BY JOHN MOOSEY, BOROUGH MANAGER:**

Route To:	Department/Individual	Initials	Remarks
	Originator - Solid Waste Division Manager		4/9/2020
	Public Works Director	<i>TDL</i>	9 APR 2020
	Finance Director	Cheyenne Heindel	<small>Digitally signed by Cheyenne Heindel Date: 2020.04.09 14:14:54 -08'00'</small>
	Borough Attorney	Nicholas Spiropoulos	<small>Digitally signed by Nicholas Spiropoulos Date: 2020.04.10 09:30:07 -08'00'</small>
	Borough Clerk	<i>BH for JRM</i>	

**ATTACHMENT(S):** Fiscal Note: YES X NO       
 Ordinance Serial No. 20-037 (2 pp)  
 Resolution Serial No. 20-036 (2 pp)

**SUMMARY STATEMENT:** In January of 2020, gas readings at perimeter probes on the North side of the Central Landfill began to increase beyond limits allowed by State and Federal regulations. Methane levels increased past the point where the gas could become explosive. ADEC issued a Notice of Violation (NOV) to the Solid Waste Division ordering a plan to reduce the gas at the perimeter immediately, provide a check of all homes within a ½ mile radius as well as to install a collection system or otherwise find a way to reduce landfill gas at the perimeter. The industry standard

includes a landfill gas collection and flare system which was a planned landfill capability to be installed in the next 10 years.

The existing passive collection system either failed for unknown reasons or is not adequate to manage the volumes of gas being produced. Icing was discovered in the passive collection system vents however, clearing the vents failed to reduce the gas. After consulting the engineering firm Burns and McDonnell, Borough staff installed a blower system to keep the landfill gas levels below regulatory limits. Although the system has reduced the amount of methane leaving landfill property, the levels measured at the perimeter probe remain in violation of State and Federal regulations.

The NOV requires the Borough to provide a landfill gas collection and flare system design to ADEC by May 15, 2020 and full system implementation by October 31. This legislation will fund the actions necessary to comply with these requirements.

Failure to meet these timelines can result in up to a \$500,000 fine per day and a year in jail for any entity or person found culpable in or not complying with these requirements.

The Solid Waste Division previously engaged a landfill-engineering firm, Burns and McDonnell, to update the landfill Sequencing Plan, and build a detailed gas management plan, a part of the new permit application due this year. That work placed Burns and McDonnell in a strong position to rapidly assist the Borough in meeting this timeline.

The Manager approved a waiver to immediately enter into a design contract with Burns and McDonnell in the amount of \$85,500 on April 9, 2020. These funds were taken from existing professional services accounts in the Solid Waste annual budget. The Ordinance also seeks to refund the Solid Waste annual budget with these funds to prevent projected requirements shortfalls for professional services this fiscal year.

The Solid Waste Enterprise Fund 510 has a cash balance which includes a legally required closure and post closure fund. This fund would typically provide cash for this type of project. Funds exist in the account to cover this project.

**SUMMARY STATEMENT:** Assembly approve a supplemental appropriation of \$2,500,000 from the unrestricted net assets in the Solid Waste Enterprise Fund, Fund 510, with \$2,414,500 to Fund 420 Solid Waste Project No. 25056 to design and build a Landfill Gas Collection and Flare System and associated electrical, piping, plumbing and any other equipment and buildings required for the proper function of the system and \$85,500 to budget Line Fund 510.150.401.426.900.



MATANUSKA-SUSITNA BOROUGH  
FISCAL NOTE

Agenda Date: April, 21, 2020

SUBJECT: AN ORDINANCE OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY APPROVING A SUPPLEMENTAL APPROPRIATION OF \$2,500,000 FROM THE UNRESTRICTED NET ASSETS IN THE SOLID WASTE ENTERPRISE FUND, FUND 510, WITH \$2,414,500 TO FUND 420 SOLID WASTE PROJECT NO. 25056 TO DESIGN AND BUILD A LANDFILL GAS COLLECTION AND FLARE SYSTEM AND ASSOCIATED ELECTRICAL, PIPING, PLUMBING AND ANY OTHER EQUIPMENT AND BUILDINGS REQUIRED FOR THE PROPER FUNCTION OF THE SYSTEM AND \$85,500 TO BUDGET LINE FUND 510.150.401.426.900.

ORIGINATOR: Butch Shapiro

FISCAL ACTION (TO BE COMPLETED BY FINANCE)	FISCAL IMPACT <b>YES</b> NO
AMOUNT REQUESTED \$2,500,000	FUNDING SOURCE Solid Waste Enterprise Fund
FROM ACCOUNT # 510.272.000.4XX.XXX	PROJECT
TO ACCOUNT: 420.000.000.3XX.XXX- \$2,414,500/510.150.401.426.900-\$85,500	PROJECT # 25056 (associated with Fund 420)
VERIFIED BY: Liesel Weiland <small>Digitally signed by Liesel Weiland Date: 2020.04.09 12:08:53 -08'00'</small>	CERTIFIED BY:
DATE:	DATE:

EXPENDITURES/REVENUES:

(Thousands of Dollars)

OPERATING	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Personnel Services						
Travel						
Contractual	85.5					
Supplies						
Equipment						
Land/Structures						
Grants, Claims						
Miscellaneous						
TOTAL OPERATING	85.5					
CAPITAL	2414.5					
REVENUE						

FUNDING:

(Thousands of Dollars)

General Fund						
State/Federal Funds						
Other	2500					
TOTAL	2500					

POSITIONS:

Full-Time						
Part-Time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

PREPARED BY: \_\_\_\_\_ PHONE: \_\_\_\_\_  
DEPARTMENT: \_\_\_\_\_ DATE: \_\_\_\_\_  
APPROVED BY: Cheyenne Heindel Digitally signed by Cheyenne Heindel  
Date: 2020.04.09 14:28:55 -08'00' DATE: \_\_\_\_\_

IM No.20-077  
Ordinance Serial No. 20-037  
*RS 20-036*



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

Department of Environmental  
Conservation

DIVISION OF ENVIRONMENTAL HEALTH  
Solid Waste Program

555 Cordova Street  
Anchorage, AK 99501  
Phone: 907.269.7622  
Fax: 907.269.7510  
www.dec.alaska.gov

**Certified Mail # 7019 0140 0001 0058 9485**  
**Return Receipt Requested**

March 27, 2020

Macey "Butch" Shapiro  
Solid Waste Manager  
Matanuska-Susitna Borough  
350 East Dahlia Avenue  
Palmer, Alaska 99654

Re: MSB Response, dated March 20, 2020 to  
Violation of 18 AAC 60.350 Control of Explosive Gases, ADEC Letter, dated January 30, 2020

Dear Mr. Shapiro:

The Alaska Department of Environmental Conservation (ADEC) Solid Waste Program has reviewed the information submitted on March 23, 2020 by Burns & McDonnell on behalf of the Matanuska-Susitna Borough (MSB), in response to the compliance letter requirements for addressing your violation of the requirements of Title 18, Chapter 60, Section 350 of the Alaska Administrative Code (18 AAC 60.350). The MSP Palmer Landfill recorded a methane concentration well above the standard of 5% by volume in a boundary gas probe. In addition, they failed to properly inform ADEC of the exceedance as required by the regulation.

MSB has worked diligently to mount an initial response to the gas exceedance, including using vacuum motors to redirect the gas, contacting neighbors, sampling for methane at nearby homes, daily methane sampling at the landfill, and submitting daily reports to ADEC, as required by the cited letter. While an initial response has been actively addressed, the methane concentration remains above the 5% limit, in violation of the regulations. The regulations and the cited letter also required the MSB to implement a long-term remediation plan for the landfill gas no later than March 23, 2020.

The submission received did not include a long-term gas management plan, only referenced the intent to submit on in May of 2020. Construction for the gas collection system was scheduled for the 2021-2022 construction season. This is not acceptable to meet the requirements. The MSB failure to address the long-term plan is a serious violation, especially considering the potential human health and safety impacts of methane. ADEC is issuing the attached Notice of Violation (NOV) to MSB for failure to meet the conditions of the regulations and failure to implement the appropriate corrective measures.

The NOV includes timelines and objective for implementation of long-term corrective measures. Should MSB fail to meet these requirements, further enforcement action will be implemented.

Please contact me if you have any comments or questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lori Aldrich".

Lori Aldrich  
Solid Waste Regional Program Manager

Encl: NOV

*IM 20-077*  
*OR 20-037*  
*RS 20-036*





THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

## Department of Environmental Conservation

DIVISION OF ENVIRONMENTAL HEALTH  
Solid Waste Program

555 Cordova Street  
Anchorage, AK 99501  
Phone: 907.269.7622  
Fax: 907.269.7510  
[www.dec.alaska.gov](http://www.dec.alaska.gov)

### NOTICE OF VIOLATION

Failure to implement a long-term gas management plan after a methane exceedance in violation of:

1. Title 18, Chapter 60, Section 350(d) of the Alaska Administrative Code [18 AAC 60.350(d)]; and the
2. ADEC letter, dated January 30, 2020

Solid Waste Division  
Matanuska-Susitna Borough  
350 East Dahlia Avenue  
Palmer, Alaska 99654

Enforcement Tracking No.

The Alaska Department of Environmental Conservation (ADEC) alleges that in response to a methane gas exceedance at the boundary of the Palmer Central landfill, Matanuska Susitna Borough failed to implement a long-term remediation plan for the gas releases. This is required by 18 AAC 60.350(d) and reiterated in the compliance letter for the control of explosive gases issued by the ADEC Solid Waste Program on January 30, 2020.

On January 24, 2020, MSB submitted the gas monitoring results for the Palmer Central landfill. The data indicated that at gas probe CLFP-3, at the northern boundary of the landfill, the methane concentration was 440% of the lower explosive limit (LEL), or 88% by volume. 18 AAC 60.350 requires that if an exceedance of the methane LEL (5% by volume) is detected at the property boundary then operator must immediately notify ADEC by telephone and writing of the exceedance and take all necessary steps to dissipate the concentrations of methane to ensure the public health, safety and welfare. MSB did not note any urgency or exceedance in the submittal.

On January 27, 2020 ADEC contacted the MSB Palmer Central landfill and discussed the actions required for dissipating the concentration of methane, contacting nearby homes, and daily sampling. In addition, ADEC required that MSB submit daily reports with sampling results and activities, and reiterated the requirement to implement a long term gas remediation plan within 60 days. MSB was very cooperative in monitoring the landfill and nearby homes and submitting daily reports.

On March 23, MSB submitted a Burns & McDonnell report on the explosive gas response. While the report did detail the activities of MSB and ADEC to date, the long-term gas remediation and management plan was limited to one paragraph and one table that discussed possibilities for future work. The report indicated that the complete plan would be complete in May 2020, and construction was anticipated in 2021-2022. MSB failed to submit or implement an appropriate gas remediation plan.

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To address the violation(s) described above, the Department requires that MSB complete the following:

- **No later than May 15, 2020**, submit a complete long-term gas management plan to ADEC for review.
- **No later than October 31, 2020**, implement the gas management network for cells 1 and 2a.
- **No later than October 1, 2021**, complete installation of gas management system in all closed cells at the landfill.

In addition, in the mid-term, MSB must continue daily gas monitoring until all monitoring probes show no detection at or above the LEL for seven consecutive days. At that point, monitoring may be reduced to weekly – after all gas probes show no such detection for eight additional consecutive weeks, MSB may return to monthly monitoring. Monthly monitoring must continue at least one year beyond the completion of the gas management network in cells 1 and 2a.

Penalties for violation of State statutes and regulations can be quite serious. In a civil action, a person who violates or causes or permits to be violated a provision of this regulation, may be liable to the State for Substantial monetary damages under AS 46.03.760. Depending on the nature of the violation, you may also be liable for the State's response costs under AS 46.03.822, for spill penalties under AS 46.03.758-759, for administrative penalties under AS 46.03.761, or for other kinds of damages or penalties under other statutes.

In a criminal violation, a person who acts with criminal negligence may be guilty of a Class A misdemeanor. AS 46.03.790. Upon conviction, a defendant who is not an organization may be sentenced to pay a fine not exceeding \$10,000.00 and/or sentenced to a definite term of imprisonment of not more than one year. Upon conviction, a defendant that is an organization may be sentenced to pay a fine not exceeding the greater of \$500,000.00 or an amount which is three times the pecuniary damage or loss caused by the defendant to another or property of another. AS 12.55.035. Each day of violation may be considered a separate violation. Alaska laws allow the State to pursue both civil and criminal actions concurrently.

Nothing in this notice shall be construed as a waiver of the State's authority or as an agreement on the part of the State to forego judicial or administrative enforcement of the above-described violation(s) or to seek recovery of damages, cost and penalties as prescribed by law. In addition, nothing herein shall be construed as a waiver of enforcement for past, present, or future violations not specifically set forth herein.



Lori Aldrich, Enforcement Officer  
Credential No. [R-0292]

Check One:

( ) Personally Served

(x) Sent by Certified Mail

# 7019 0140 0001 0058 9485

on the 27<sup>th</sup> day of March, 2020.

cc: MSB Public Works  
Burns & McDonnell  
ECU

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**Table 1**  
**Landfill Gas Cost Estimate**  
*Palmer Central Landfill*  
*Matanuska-Susitna, Alaska*

Item	Unit	Unit Cost	Quantity	Total Cost	Remarks
GC Mobilization/Demobilization	ls	15%	1,137,000	\$ 170,550	Based on percent of GC cost; AK mobilization
As-built Surveys	ls	\$ 30,000	1	\$ 30,000	
Revegetation	ac	\$ 3,000	3	\$ 9,000	Seed, fertilizer, amendments, and mulch
<b>LFG Wells</b>					
Driller Mobilization	ls	\$ 11,500	1	\$ 11,500	Driller quote plus 15% markup
Driller Daily Travel	day	\$ 403	7	\$ 2,818	Driller quote plus 15% markup
Standby	hr	\$ 489	8	\$ 3,910	Driller quote plus 15% markup
New Wellheads	ea	\$ 1,500	13	\$ 19,500	Inc. surface completion
LFG well Installation	vf	\$ 288	780	\$ 224,250	Driller quote plus 15% markup, average depth 60'
Well Rock	ton	\$ 25	110	\$ 2,750	
Haul/Place Excavated MSW onsite	cy	\$ 4	250	\$ 1,000	Waste from well boring placed in Cell 3
Wellhead Frost Protection	ea	\$ 1,500	13	\$ 19,500	
GSE Fabrinet Double-sided Geocomposite on Cell 2A	SY	\$ 15.42	100	\$ 1,542	~100 SY/roll
GSE Geosynthetic Clay Liner on Cell 2A	SY	\$ 14.92	100	\$ 1,492	~100 SY/roll
Compacted Soil on Cell 2A	CY	\$ 5.00	100	\$ 500	
Replaced Soil on Cell 1	CY	\$ 5.00	100	\$ 500	
<b>LFG Piping</b>					
Install 6" HDPE pipe with Integral Insulation	lf	\$ 60	1,300	\$ 78,000	6" HDPE above ground Cell 2A Collector, w/field joint kits
Install Combined 2" Airline/8" Gas Header/4" Forcemain	lf	\$ 100	650	\$ 65,000	Combined piping above ground on Cell 2A, w/field joint kits
HDPE pipe with Integral Insulation and FM heat trace	lf	\$ 70	800	\$ 56,000	Combined piping below ground from Cell 2A perimeter to flare
Install Combined 2" Airline/8" Gas Header/4" Forcemain	lf	\$ 40	950	\$ 38,000	6" HDPE below ground Cell 1 Collector to Gas Header
HDPE pipe	ea	\$ 3,500	5	\$ 17,500	
Install 6" HDPE pipe Gas Collector	ea	\$ 3,000	5	\$ 15,000	
Install 8" Ball Valve	ea	\$ 2,500	10	\$ 25,000	
Install 6" Ball Valve					
Install 2" Ball Valve					
<b>Flare Station &amp; Sumps</b>					
Supply/Deliver Blower / Enclosed Flare Skid	ls	\$ 400,000	1	\$ 400,000	*update after call Anchorage
Install Blower/Flare Skid	ls	\$ 75,000	1	\$ 75,000	
Pneumatic Compressor Skid	ls	\$ 60,000	1	\$ 60,000	
Electric Service	ls	\$ 100,000	1	\$ 100,000	Power drop at flare skid
Flare Area Site Preparation	sf	\$ 5	2,000	\$ 10,000	Grading and gravel surfacing
Flare Area Concrete Pad	cy	\$ 1,000	14	\$ 14,370	Comp bldg+blower =1' thick, Flare=4' thick
Flare Pad Geotechnical	ls	\$ 5,000	1	\$ 5,000	
Flare Area Fencing	lf	\$ 70	120	\$ 8,400	Chain link
Install 4" Forcemain	lf	\$ 50	500	\$ 25,000	Condensate forcemain below ground from flare to leachate ponds
Single Containment Pneumatic Sump	ea	\$ 25,000	4	\$ 100,000	
Condensate Sump Frost Protection	ea	\$ 1,500	4	\$ 6,000	
Pneumatic Sump Pump	ea	\$ 3,500	4	\$ 14,000	
GCCS Construction Subtotal				\$ 1,611,082	
15% Davis Bacon Allowance				\$ 241,662	
<b>Construction Total</b>				<b>\$ 1,852,744</b>	
<b>Engineering/Project Mgmt. Cost</b>					
GCCS Design		\$ 90,000	1	\$ 90,000	
GCCS Field Eng/Oversight		10%		\$ 161,000	% of GCCS Construction Cost
Commissioning & Training & GCCS Balancing		\$ 100,000	1	\$ 100,000	
<b>Engineering/Project Mgmt. Total</b>				<b>\$ 351,000</b>	
Global Project Contingency				\$ 220,000	
<b>Implementation Cost</b>				<b>\$ 2,420,000</b>	

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