

**NEW BOSTON LANDFILL  
BOWIE COUNTY, TEXAS  
TCEQ PERMIT APPLICATION NO. MSW 576C**

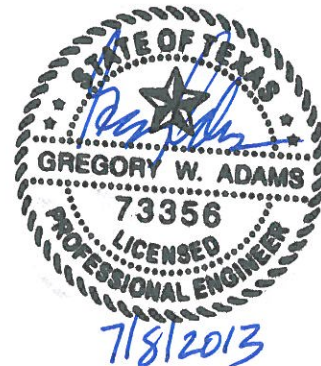
**PERMIT AMENDMENT APPLICATION**

**PART III – FACILITY INVESTIGATION AND DESIGN  
ATTACHMENT D4  
SITE LIFE**

Prepared for

**Waste Management of Texas, Inc.**

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Prepared by

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# 1 SITE LIFE

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## 1.1 Solid Waste Generation

The New Boston Landfill accepts waste generated in Bowie, Cass, Marion, Morris, Red River and Titus Counties in Texas and Miller County in Arkansas. Expansion of the New Boston Landfill has been proposed and designed to continue to provide disposal capacity for waste generated in these areas. Since 2006, the New Boston Landfill has accepted, on average, approximately 151,600 tons of waste per year. The facility accepts waste the equivalent of six days per week (approximately 312 days per year). Waste Management projects that the waste acceptance rate will increase at an annual rate of 0.4 percent for the life of the facility based on Texas Water Development Board's Region D – Northeast Texas Regional Water Plan population projections for the combined population of Bowie County.

## 1.2 Airspace Utilization

An airspace utilization factor (ratio of tons disposed to in place cubic yard volume) of 0.55 has been used to calculate the projected site life based on the approximate volume available for deposition of solid waste. The airspace utilization factor is based on previous performance at the facility.

## 1.3 Landfill Capacity

The total landfill capacity is defined as the volume between the liner and the final cover, and was estimated from the existing and proposed conditions using TerraModel™ computer software. The total remaining landfill disposal capacity with the proposed expansion is approximately 11,884,000 cubic yards of waste and daily cover, based on the March 5, 2012 aerial topography. A summary of the remaining airspace for each disposal area is provided in Attachment D1 – Waste Management Unit Design, Section 3.

## 1.4 Site Life Calculations

The capacity for solid waste in tons was calculated by multiplying the airspace utilization factor of 0.55 by the remaining solid waste capacity (cubic yards). The remaining solid waste capacity for the site is approximately 6,536,200 tons.

The proposed site will reach its remaining capacity in approximately 40 years based on the increasing waste acceptance rate.

## New Boston Landfill CAPACITY AND SITE LIFE

**Required:** Estimate the total capacity and site life for the proposed configuration.

**Assumptions:**

1. The waste acceptance rate will increase at an annual rate of 0.4%.
2. Beginning Waste Accepted - Average Annual Rate - 2006 thru 2012 = 151,600 tons
3. Airspace Utilization Factor = 0.55
4. The facility accepts waste 312 days per year (6 days a week).

**Solution:**

AUF =	0.55
Initial Waste =	151,600 tons/year
Days Operating =	312
Total airspace =	11,884,000 cy
Total waste volume =	11,884,000 cy
Total waste volume =	6,536,200 tons

Year	Annual Waste (tons)	Daily Waste (tons/day)	Accumulated Waste (tons)	Remaining Capacity (tons)	Annual Waste (cy)	Accumulated Waste (cy)	Remaining Capacity (cy)
1	151,600	486	151,600	6,384,600	275,636	275,636	11,608,364
2	152,206	488	303,806	6,232,394	276,739	552,375	11,331,625
3	152,815	490	456,622	6,079,578	277,846	830,221	11,053,779
4	153,426	492	610,048	5,926,152	278,957	1,109,178	10,774,822
5	154,040	494	764,088	5,772,112	280,073	1,389,251	10,494,749
6	154,656	496	918,745	5,617,455	281,193	1,670,445	10,213,555
7	155,275	498	1,074,020	5,462,180	282,318	1,952,763	9,931,237
8	155,896	500	1,229,916	5,306,284	283,447	2,236,210	9,647,790
9	156,520	502	1,386,435	5,149,765	284,581	2,520,792	9,363,208
10	157,146	504	1,543,581	4,992,619	285,720	2,806,511	9,077,489
11	157,774	506	1,701,355	4,834,845	286,862	3,093,374	8,790,626
12	158,405	508	1,859,761	4,676,439	288,010	3,381,383	8,502,617
13	159,039	510	2,018,800	4,517,400	289,162	3,670,545	8,213,455
14	159,675	512	2,178,475	4,357,725	290,319	3,960,864	7,923,136
15	160,314	514	2,338,789	4,197,411	291,480	4,252,344	7,631,656
16	160,955	516	2,499,744	4,036,456	292,646	4,544,989	7,339,011
17	161,599	518	2,661,343	3,874,857	293,816	4,838,806	7,045,194
18	162,245	520	2,823,589	3,712,611	294,992	5,133,797	6,750,203
19	162,894	522	2,986,483	3,549,717	296,172	5,429,969	6,454,031
20	163,546	524	3,150,029	3,386,171	297,356	5,727,325	6,156,675
21	164,200	526	3,314,229	3,221,971	298,546	6,025,871	5,858,129
22	164,857	528	3,479,086	3,057,114	299,740	6,325,611	5,558,389
23	165,516	531	3,644,602	2,891,598	300,939	6,626,549	5,257,451
24	166,178	533	3,810,781	2,725,419	302,143	6,928,692	4,955,308
25	166,843	535	3,977,624	2,558,576	303,351	7,232,043	4,651,957
26	167,510	537	4,145,134	2,391,066	304,565	7,536,608	4,347,392
27	168,181	539	4,313,315	2,222,885	305,783	7,842,390	4,041,610
28	168,853	541	4,482,168	2,054,032	307,006	8,149,396	3,734,604
29	169,529	543	4,651,697	1,884,503	308,234	8,457,630	3,426,370
30	170,207	546	4,821,903	1,714,297	309,467	8,767,097	3,116,903
31	170,888	548	4,992,791	1,543,409	310,705	9,077,802	2,806,198
32	171,571	550	5,164,362	1,371,838	311,948	9,389,750	2,494,250
33	172,257	552	5,336,620	1,199,580	313,195	9,702,945	2,181,055
34	172,946	554	5,509,566	1,026,634	314,448	10,017,393	1,866,607
35	173,638	557	5,683,204	852,996	315,706	10,333,099	1,550,901
36	174,333	559	5,857,537	678,663	316,969	10,650,068	1,233,932
37	175,030	561	6,032,567	503,633	318,237	10,968,304	915,696
38	175,730	563	6,208,298	327,902	319,510	11,287,814	596,186
39	176,433	565	6,384,731	151,469	320,788	11,608,602	275,398
40	177,139	568	6,561,870	-25,670	322,071	11,930,672	-46,672