WINNIPEG OMNIBUS
FEBRUARY 2014:

BIOSOLIDS MASTER PLAN RESEARCH

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Prepared for:

The City of Winnipeg

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1.0 How this research was conducted

The Omnibus survey was conducted in February 2014 with 479 Winnipeggers 18 years of age and older. PRA interviewed respondents by telephone on a number of topics.

Respondents were selected by random digit dialling, which allows PRA to include those with unlisted or new numbers. This technique produces a random sample that includes the highest possible percentage of eligible respondents.

Table 1: Summary of methodology	
February 2014 Omnibus	
Pretest	February 10, 2014
Survey dates	February 10–March 1, 2014
Sample size (Winnipeg)	n=479
Interview method	Telephone
Sample selection	Random digit dialling
Approximate error rate (theoretical: Manitoba)	± 4.6%, 19 times out of 20

1.1 Participant profile

Table 2 shows a profile of Winnipeggers who completed the February 2014 Omnibus and compares it to the 2011 Census.

Table 2: Profile of participants — Winnipeg (unweighted)		
	February 2014 Omnibus % (n = 479)	**2011 Census %**
Gender		
Women	60%	52%
Men	41%	49%
Age*		
18 to 29	11%	22%
30 to 39	10%	25%
40 to 64	48%	35%
65 and older	32%	18%
Income*		
Under $40,000	27%	24%
$40,000 to $70,000	30%	30%
$70,000 to $100,000	19%	23%
Over $100,000	23%	24%

* Approximately, 21% of respondents were unable to provide their household income in February 2014. They have been removed from the percentages shown.
Note: Totals may not sum to 100% due to rounding.

1.2 Weighting

In some cases, when the random sample produces a divergence from Canadian census data, we correct for slight discrepancies in gender, age, and income. For example, since men tend to refuse to participate more often than women, and since younger people are often more difficult to find at home, we re-weight the data to conform more closely to Statistics Canada information.

The data presented in this report were weighted to correct for differences between the demographics of the sample and the Winnipeg population. Tables presented are weighted unless otherwise stated. Since this technique assigns a percentage "weight" to a respondent, the number of weighted respondents may be slightly different from the total number interviewed.

1.3 Caution

This document represents a summary of the results and is not intended to be an exhaustive examination of the findings.

2.0 Summary of results

Biosolids, commonly called sewage sludge, is the nutrient-rich end-product of sewage treatment. The City of Winnipeg is developing a Biosolids Master Plan (Master Plan) that will determine how it will manage biosolids in an environmentally sound, sustainable, and cost-effective manner, while meeting Provincial regulations.

2.1 Support for a Biosolids Master Plan

The majority of Winnipeg residents support the Biosolids Master Plan. We explained that biosolids is the nutrient-rich end-product of sewage treatment that contains significant amounts of organic nitrogen and phosphorus, that one of the most environmentally sustainable uses for biosolids is fertilizer, and that the City is developing a Biosolids Master Plan that will recover more nutrients but would also have a cost for all ratepayers of Winnipeg:

- 70% of residents supported such a plan, including 20% who strongly supported it.
- 23% oppose such a plan, including 10% who strongly oppose it.
- 7% of respondents did not provide an answer.

Table 3: Level of Support for Biosolids Master Plan
The city is developing a Biosolids Master Plan that will determine how it will manage our biosolids in an environmentally sound, sustainable, and cost-effective manner, while meeting Provincial regulations. The plan will recover more nutrients but would also have a cost for all ratepayers of Winnipeg. Generally, would you say you…such a plan?

Support	February 2014 % (n = 479)
Strongly support	20%
Somewhat support	50%
Somewhat oppose	13%
Strongly oppose	10%
Don't know	7%
Total	100%

2.1.1 Interest by demographics

Table 4 shows respondent support for the Biosolids Master Plan by various demographic subgroups. None of the differences between demographic subgroups are statistically significant.

- When examining results by those who are supportive overall (somewhat or strongly), respondents in the youngest age cohort (18–29 years of age) are most likely to support the Master Plan (83%) followed by respondents in the oldest age cohort (65 years and older, 70%). Interestingly, it is respondents 65 years of age and older who are most likely to strongly support the Master Plan (28%) compared to younger age cohorts (between 18% and 21%). Winnipeggers aged 30 to 64 were least likely to support the Master Plan (30–39 — 65%, 40–64 — 66% support).

- Respondent support does not notably vary by gender or household income.

Table 4: Support Biosolids Master Plan

Support	February 2014 % (n = 479)
Strongly support	70%
Age	
18 to 29	83%
30 to 39	65%
40 to 64	66%
65 or older	70%
Gender	
Female	72%
Male	68%
Household Income	
Under $40,000	70%
$40,000 to $70,000	72%
$70,000 to $100,000	77%
Over $100,000	72%

2.2 Factors of importance

We explained to respondents that one of the unknowns and possible problems with using biosolids as a fertilizer is that that it may contain small amounts of potentially harmful substances and compounds, such as pharmaceuticals, hormones, and the like. We also explained that there are concerns these substance may have an adverse effect on the environment, perhaps entering in our rivers and lakes, as well as the food supply.

The following is shown in Table 5:

- About 9 in 10 respondents report that *health impacts* (92%, including 81% very important), *keeping harmful substances off the land* (89%, including 77% very important), and *environmental sustainability* (86%, including 67% very important) are important considerations in a biosolids program.
- About 7 in 10 (71%) report that *reuse of valuable nutrients* is an important consideration to a biosolids program, including, 44% who say it is very important.
- Almost 6 in 10 (58%) respondents report *the cost of treating biosolids* is an important consideration for a program, including 33% who say it is very important.

Table 5: Factors of importance
When considering any program to best deal with biosolids, how important are each of the following considerations to you. Using a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important to you, please rate how important it is that a biosolids program….

Rating	February 2014 % (n = 479)				
	Health impacts	Harmful substances off land	Environmental sustainability	Reuse of valuable nutrients	Cost of treating biosolids
Important (4 or 5)	92%	89%	86%	71%	58%
Neutral (3)	3%	6%	9%	18%	29%
Not important (1 or 2)	3%	4%	2%	8%	11%
Don't know	2%	2%	2%	3%	3%
Total	100%	101%	99%	100%	101%
Average rating (out of 5)	4.7	4.6	4.5	4.1	3.8

Note: Rows may not sum to 100% due to rounding.

2.2.1 Factors of importance by demographics

Table 6 shows level of support for each of the five factors by demographic subgroup:

- Although not statistically significant, women are more likely than men to rate each of the factors as very important, with the exception of *cost of treating biosolids.*
- Winnipeggers in the youngest age cohort are less likely to consider *reuse of variable nutrients* and *cost of treating biosolids* as very important. This finding is statistically significant.

Table 6: Very important factors

Importance	February 2014 % (n = 479)				
	Health impacts	Harmful substances off land	Environmental sustainability	Reuse of valuable nutrients	Cost of treating biosolids
Very important	81%	77%	67%	44%	33%
Age					
18 to 29	75%	73%	73%	**34%**	**26%**
30 to 39	86%	78%	64%	**49%**	**26%**
40 to 64	85%	80%	68%	**47%**	**40%**
65 or older	73%	72%	65%	**44%**	**39%**
Gender					
Male	75%	72%	61%	41%	36%
Female	87%	81%	74%	48%	31%
Household Income					
Under $40,000	81%	84%	70%	41%	39%
$40,000 to $70,000	79%	75%	66%	44%	31%
$70,000 to $100,000	85%	84%	66%	40%	27%
Over $100,000	84%	67%	66%	47%	32%

Note: bold represents statistically significant differences.

2.2.2 Most important factor

Almost 9 in 10 respondents (91%) rated at least one of the five factors as very important (rating of 5 out of 5). Of these respondents:

- half believe that *health impacts* is the most important factor (50%);
- almost 1 in 4 believe that *keeping harmful substances off the land* is the most important factor (24%);
- just over 1 in 10 (11%) believe that *environmental sustainability* is the most important factor; and
- three percent believe that *the reuse of valuable nutrients* and the *cost of treating biosolids* is the most important factor.

Table 7: Most important factor
When considering any program to best deal with biosolids, how important are each of the following considerations to you. Using a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important to you, please rate how important it is that a biosolids program….

Most important factor	February 2014 % (n = 479)
Health impacts	50%
Harmful substances off land	24%
Environmental sustainability	11%
Reuse of valuable nutrients	3%
Cost of treating biosolids	3%
None	7%
Don't know	2%
Total	100%

Appendix A – Questionnaire

BS1:

BS1. Changing topics... Biosolids, more commonly called sewage sludge, is the nutrient-rich end-product of sewage treatment. Since the sludge contains significant amounts of organic nitrogen and phosphorus, one of the most environmentally sustainable uses for this sludge is as a fertilizer. The City is developing a Biosolids Master Plan that will determine how it will manage our biosolids in an environmentally sound, sustainable and cost-effective manner, while meeting Provincial regulations. The plan will recover more nutrients but would also have a cost for all ratepayers of Winnipeg. (PROMPT: Through your water bill) Generally, would you say you…(READ RESPONSES)...such a plan?

Strongly support 4
Somewhat support 3
Somewhat oppose 2
Strongly oppose 1
(DO NOT READ) Don't know 8
(DO NOT READ) No response 9

BS2X:

BS2X. One of the unknowns and possible problems with using biosolids as a fertilizer is that it may contain small amounts of potentially harmful substances and compounds, such as pharmaceuticals, hormones, and the like. There are concerns these substances may have an adverse effect on the environment, perhaps entering in our rivers and lakes, as well as the food supply. When considering any program to best deal with Biosolids, how important are each of the following considerations to you. Using a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important to you, please rate how important the following are to a biosolids program...

CONTINUE ..... 1 D

BS2:

invalid -> BS6

BS2. How important is…. ...Environmental sustainability? (PROMPT: Please use a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important.)

5 - Very important 5
4 4
3 3
2 2
1 - Not at all important 1
Don't know 8
No response 9

BS3:

BS3. How important is…. ...Health impacts? (PROMPT: Please use a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important.)

5 - Very important 5
4 4
3 3
2 2
1 - Not at all important 1
Don't know 8
No response 9

BS4:

BS4. How important is…. ...Keeping any harmful substances off the land? (PROMPT: Please use a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important.)

5 - Very important 5
4 4
3 3
2 2
1 - Not at all important 1
Don't know 8
No response 9

BS5:

BS5. How important is…. ...Reuse of valuable nutrients? (PROMPT: Please use a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important.)

5 - Very important 5
4 4
3 3
2 2
1 - Not at all important 1
Don't know 8
No response 9

BS6:

BS6. How important is…. ...Cost of treating biosolids? (PROMPT: Please use a scale of 1 to 5, where 1 means it is not all important and 5 means it is very important.)

5 - Very important 5
4 4
3 3
2 2
1 - Not at all important 1
Don't know 8
No response 9

BS7:

BS7. You mentioned more than one of these as very important, which one of these is the most important to you? (READ RESPONSES)

Environment sustainability 01
Health impacts 02
Keeping any harmful substances off the land 03
Reuse of valuable nutrients 04
Cost of treating biosolids 05
(DO NOT READ) Don't know 88
(DO NOT READ) No response 99

Appendix B – Call Record

Call record for Winnipeg Omnibus
February 2014

Call Record for Winnipeg Omnibus: February 2014			
Outcome		Month Year	
		N	%
A	Total numbers attempted	13,400	100%
1.	Not in service	1,446	11%
2.	Fax	179	1%
3.	Business	57	<1%
Remaining		11,718	87%
B	Total eligible numbers	11,718	100%
4.	Busy	170	1%
5.	Answering machines	3,114	27%
6.	No answer	1,905	16%
7/8.	Language/illness/incapability	296	2%
9.	Selected/eligible respondent not available	462	4%
Remaining		5,771	49%
C	Total asked	5,771	100%
10.	Household refusal	531	9%
11.	Respondent refusal	2,412	42%
12.	Qualified respondent break off	38	<1%
Remaining		2,790	48%
D	Co-operative contacts	2,790	100%
13.	Disqualified	2,311	83%
14.	Completed interviews	479	17%
Refusal rate = (10+11+12)/C		2,981	52%
Response rate (D/B)		2,790	24%

Appendix C – Banners

BS1. Generally, would you say you support/oppose the Biosolids Master Plan?

		Region	Gender		Age			
	Overall	Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
Oppose (1 2)	110	110	46	63	14	31	46	19
	23%	23%	19%	27%	13%	25%	28%	22%
Support (3 4)	335	335	173	161	86	81	109	58
	70%	70%	72%	68%	83%	65%	66%	70%
DK / NR	35	35	22	13	4	13	11	6
	7%	7%	9%	5%	4%	10%	7%	8%
Total N	479	479	242	237	104	125	167	83
	100%	100%	100%	100%	100%	100%	100%	100%

BS1. Generally, would you say you support/oppose the Biosolids Master Plan?

		Overall	Annual Family Income				Education			
			Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
Oppose (1 2)		110	18	24	15	22	9	16	22	62
		23%	23%	22%	15%	22%	35%	19%	24%	22%
Support (3 4)		335	52	82	79	73	16	59	67	192
		70%	70%	72%	77%	72%	60%	72%	72%	70%
DK / NR		35	5	7	8	6	1	7	3	21
		7%	7%	6%	8%	6%	6%	9%	4%	8%
Total	N	479	75	113	103	101	27	83	92	274
		100%	100%	100%	100%	100%	100%	100%	100%	100%

BS2. How important is environmental sustainability?

		Region	Gender		Age			
	Overall	Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
Not important (1 2)	10	10	5	5		2	4	4
	2%	2%	2%	2%		2%	2%	5%
Neutral (3)	44	44	15	30	7	17	12	9
	9%	9%	6%	13%	6%	13%	7%	11%
Important (4 5)	413	413	214	200	98	106	146	64
	86%	86%	88%	84%	94%	85%	88%	77%
DK / NR	11	11	8	3			5	6
	2%	2%	3%	1%			3%	7%
Total	479	479	242	237	104	125	167	83
	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.54	4.54	4.64	4.45	4.66	4.45	4.58	4.46
Median	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Valid N	468	468	233	234	104	125	161	77

BS2. How important is environmental sustainability?

		Annual Family Income				Education			
	Overall	Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
Not important (1 2)	10	2	4	1	1	1	2	0	5
	2%	2%	4%	1%	1%	5%	2%	1%	2%
Neutral (3)	44	7	8	7	14	3	9	5	28
	9%	9%	7%	7%	14%	10%	10%	5%	10%
Important (4 5)	413	63	97	93	86	21	71	85	235
	86%	83%	86%	91%	85%	79%	86%	93%	86%
DK / NR	11	4	3	2		2	1	2	6
	2%	5%	2%	2%		7%	1%	2%	2%
Total	479	75	113	103	101	27	83	92	274
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.54	4.56	4.51	4.59	4.50	4.60	4.55	4.64	4.52
Median	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Valid N	468	72	110	101	101	25	82	91	269

BS3. How important is health impacts?

		Region	Gender		Age			
	Overall	Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
Not important (1 2)	14	14	4	10	5	2	3	4
	3%	3%	2%	4%	5%	2%	2%	5%
Neutral (3)	14	14	4	11	2	3	4	5
	3%	3%	2%	4%	2%	2%	2%	6%
Important (4 5)	443	443	230	213	97	120	157	69
	92%	92%	95%	90%	93%	96%	94%	83%
DK / NR	8	8	4	4			4	4
	2%	2%	2%	2%			2%	5%
Total	479	479	242	237	104	125	167	83
	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.71	4.71	4.82	4.60	4.59	4.79	4.80	4.58
Median	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Valid N	471	471	238	233	104	125	163	79

BS3. How important is health impacts?

		Annual Family Income				Education			
	Overall	Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
Not important (1 2)	14	4	2	1	3	1	5	3	5
	3%	5%	2%	1%	3%	2%	6%	3%	2%
Neutral (3)	14	1	7	1	1	1	2	0	10
	3%	1%	6%	1%	1%	5%	2%	1%	4%
Important (4 5)	443	69	103	99	97	24	75	87	256
	92%	91%	91%	97%	96%	90%	91%	94%	93%
DK / NR	8	2	1	2		1	1	2	3
	2%	3%	1%	2%		4%	2%	2%	1%
Total	479	75	113	103	101	27	83	92	274
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.71	4.67	4.70	4.84	4.74	4.75	4.63	4.69	4.76
Median	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Valid N	471	73	111	101	101	26	81	91	271

BS4. How important is keeping any harmful substances off the land?

		Region	Gender		Age			
	Overall	Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
Not important (1 2)	17	17	4	13	7	2	3	5
	4%	4%	2%	5%	7%	2%	2%	6%
Neutral (3)	28	28	11	17	6	4	11	6
	6%	6%	5%	7%	6%	4%	7%	7%
Important (4 5)	426	426	222	204	90	118	151	67
	89%	89%	92%	86%	87%	95%	90%	80%
DK / NR	8	8	4	4			2	6
	2%	2%	2%	1%			1%	7%
Total	479	479	242	237	104	125	167	83
	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.63	4.63	4.72	4.53	4.51	4.69	4.69	4.55
Median	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Valid N	471	471	238	234	104	125	165	78

BS4. How important is keeping any harmful substances off the land?

		Annual Family Income				Education			
	Overall	Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
Not important (1 2)	17	2	5	1	5	1	3	5	9
	4%	2%	5%	1%	5%	2%	3%	5%	3%
Neutral (3)	28	2	8	4	9	1	3	5	18
	6%	2%	8%	3%	9%	5%	4%	6%	7%
Important (4 5)	426	70	98	97	86	23	75	81	245
	89%	93%	87%	94%	86%	87%	91%	88%	89%
DK / NR	8	1	1	1	1	2	1	1	2
	2%	2%	1%	1%	1%	6%	2%	1%	1%
Total	479	75	113	103	101	27	83	92	274
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.63	4.76	4.56	4.79	4.46	4.67	4.76	4.54	4.62
Median	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Valid N	471	74	111	101	100	25	81	91	272

BS5. How important is reuse of valuable nutrients?

		Region	Gender		Age			
	Overall	Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
Not important (1 2)	40	40	19	21	12	7	15	5
	8%	8%	8%	9%	12%	6%	9%	6%
Neutral (3)	86	86	36	50	16	31	24	14
	18%	18%	15%	21%	15%	25%	14%	17%
Important (4 5)	340	340	179	161	76	86	123	55
	71%	71%	74%	68%	73%	69%	74%	66%
DK / NR	13	13	8	5			5	8
	3%	3%	3%	2%			3%	10%
Total	479	479	242	237	104	125	167	83
	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.06	4.06	4.14	3.98	3.91	4.10	4.09	4.12
Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Valid N	466	466	234	232	104	125	162	75

BS5. How important is reuse of valuable nutrients?

		Annual Family Income				Education			
	Overall	Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
Not important (1 2)	40	7	10	1	12	2	8	10	19
	8%	10%	9%	1%	12%	9%	10%	10%	7%
Neutral (3)	86	14	13	33	15	2	21	12	50
	18%	19%	11%	32%	15%	8%	26%	13%	18%
Important (4 5)	340	50	88	68	73	19	50	69	200
	71%	67%	78%	66%	72%	72%	60%	75%	73%
DK / NR	13	3	2	1	1	3	3	1	4
	3%	5%	2%	1%	1%	11%	4%	1%	2%
Total	479	75	113	103	101	27	83	92	274
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Mean	4.06	3.95	4.13	4.07	4.00	4.18	3.94	4.01	4.11
Median	4.00	4.00	4.00	4.00	4.00	4.98	4.00	4.00	4.00
Valid N	466	72	110	101	100	24	79	91	270

BS6. How important is cost of treating biosolids?

		Region	Gender		Age			
	Overall	Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
Not important (1 2)	51	51	27	25	18	9	15	9
	11%	11%	11%	10%	18%	7%	9%	11%
Neutral (3)	136	136	68	68	27	48	42	19
	28%	28%	28%	29%	26%	38%	25%	23%
Important (4 5)	277	277	139	139	59	68	104	46
	58%	58%	57%	58%	56%	55%	63%	55%
DK / NR	14	14	8	6			6	8
	3%	3%	3%	3%			3%	10%
Total	479	479	242	237	104	125	167	83
	100%	100%	100%	100%	100%	100%	100%	100%
Mean	3.78	3.78	3.74	3.83	3.57	3.72	3.93	3.86
Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Valid N	465	465	234	231	104	125	161	75

BS6. How important is cost of treating biosolids?

		Annual Family Income				Education			
	Overall	Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
Not important (1 2)	51	13	13	5	10	3	8	10	29
	11%	18%	12%	5%	10%	13%	10%	11%	11%
Neutral (3)	136	14	26	37	38	4	17	27	88
	28%	18%	23%	36%	38%	16%	21%	29%	32%
Important (4 5)	277	45	70	60	52	15	56	53	152
	58%	60%	62%	58%	52%	56%	68%	58%	55%
DK / NR	14	3	3	1	1	4	1	2	6
	3%	4%	3%	1%	1%	14%	1%	2%	2%
Total	479	75	113	103	101	27	83	92	274
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Mean	3.78	3.79	3.75	3.81	3.71	3.81	3.99	3.75	3.74
Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Valid N	465	72	110	101	100	23	82	90	269

BS7. You mentioned more than one of these as very important, which one of these is the most important to you?

		Region	Gender		Age			
	Overall	Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
Environment sustainability	48	48	16	33	15	12	12	9
	12%	12%	7%	18%	19%	11%	8%	14%
Health impacts	223	223	132	91	43	63	82	35
	56%	56%	62%	50%	53%	61%	56%	54%
Keeping any harmful substances off the land	94	94	55	39	24	17	40	13
	24%	24%	26%	21%	29%	17%	27%	20%
Reuse of valuable nutrients	12	12	3	9		6	2	4
	3%	3%	1%	5%		6%	2%	6%
Cost of treating biosolids	10	10	3	7		3	7	1
	3%	3%	1%	4%		3%	5%	2%
DK / NR	8	8	4	4		3	3	3
	2%	2%	2%	2%		3%	2%	4%
Total N	395	395	212	184	82	103	145	65
	100%	100%	100%	100%	100%	100%	100%	100%

BS7. You mentioned more than one of these as very important, which one of these is the most important to you?

		Annual Family Income				Education			
	Overall	Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
Environment sustainability	48	9	10	11	8	1	9	11	27
	12%	15%	11%	13%	10%	5%	14%	15%	12%
Health impacts	223	32	47	56	50	16	35	44	128
	56%	50%	51%	66%	62%	71%	50%	59%	56%
Keeping any harmful substances off the land	94	17	22	16	20	4	17	15	56
	24%	27%	24%	18%	25%	19%	25%	21%	25%
Reuse of valuable nutrients	12	1	9			0	0	4	7
	3%	1%	9%			2%	1%	5%	3%
Cost of treating biosolids	10	1	3	3	2		5		6
	3%	1%	3%	3%	2%		7%		3%
DK / NR	8	4	2		1	1	3	1	4
	2%	6%	2%		1%	4%	4%	1%	2%
Total N	395	63	93	85	81	23	69	74	228
	100%	100%	100%	100%	100%	100%	100%	100%	100%

BS2_6. Most important factor.

		Overall	Region	Gender		Age			
			Winnipeg	Female	Male	18 to 29	30 to 39	40 to 64	65 and over
None		34	34	12	23	5	9	11	11
		7%	7%	5%	10%	5%	7%	6%	13%
Environment sustainability		51	51	17	34	15	12	12	12
		11%	11%	7%	14%	15%	9%	7%	14%
Health impacts		241	241	140	101	49	71	85	36
		50%	50%	58%	42%	47%	57%	51%	43%
Keeping any harmful substances off the land		113	113	62	52	30	23	45	15
		24%	24%	25%	22%	29%	18%	27%	19%
Reuse of valuable nutrients		16	16	4	12	2	6	4	4
		3%	3%	2%	5%	2%	5%	2%	5%
Cost of treating biosolids		16	16	4	12	2	3	8	3
		3%	3%	2%	5%	2%	2%	5%	4%
Don't know		8	8	4	4		3	3	3
		2%	2%	2%	2%		2%	2%	3%
Total	N	479	479	242	237	104	125	167	83
		100%	100%	100%	100%	100%	100%	100%	100%

BS2_6. Most important factor.

		Overall	Annual Family Income				Education			
			Under $40,000	$40,000 to $70,000	$70,000 to $100,000	Over $100,000	< High school	High school	Some post-secondary	Univ. / Coll. graduate
None		34	8	6	8	4	2	4	7	19
		7%	10%	6%	7%	4%	6%	5%	7%	7%
Environment sustainability		51	9	12	11	8	2	11	11	28
		11%	13%	10%	11%	8%	6%	13%	12%	10%
Health impacts		241	32	51	61	58	16	35	44	145
		50%	42%	45%	60%	58%	62%	42%	48%	53%
Keeping any harmful substances off the land		113	21	28	19	22	5	25	21	63
		24%	28%	25%	19%	22%	18%	30%	23%	23%
Reuse of valuable nutrients		16	1	9	1	2	0	0	6	9
		3%	1%	8%	1%	2%	2%	1%	7%	3%
Cost of treating biosolids		16	1	4	3	5	1	5	3	7
		3%	1%	4%	3%	5%	2%	6%	3%	2%
Don't know		8	4	2		1	1	3	1	4
		2%	5%	2%		1%	3%	3%	1%	1%
Total	N	479	75	113	103	101	27	83	92	274
		100%	100%	100%	100%	100%	100%	100%	100%	100%

Appendix D – One-Ways (Weighted)

BS1. Generally, would you say you support/oppose the Biosolids Master Plan?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly oppose	48	10.1	10.1	10.1
	Somewhat oppose	62	12.9	12.9	22.9
	Somewhat support	239	49.8	49.8	72.7
	Strongly support	96	20.0	20.0	92.8
	DK / NR	35	7.2	7.2	100.0
	Total	479	100.0	100.0	

Statistics

		BS2. How important is environmental sustainability?	BS3. How important is health impacts?	BS4. How important is keeping any harmful substances off the land?	BS5. How important is reuse of valuable nutrients?	BS6. How important is cost of treating biosolids?
N	Valid	468	471	471	466	465
	Missing	11	8	8	13	14
Mean		4.54	4.71	4.63	4.06	3.78
Median		5.00	5.00	5.00	4.00	4.00
Std. Deviation		.795	.748	.823	1.087	1.121
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5

BS2. How important is environmental sustainability?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	5	1.1	1.1	1.1
	2	5	1.0	1.0	2.1
	3	44	9.2	9.2	11.3
	4	90	18.8	18.8	30.2
	5 - Very important	323	67.4	67.4	97.6
	DK / NR	11	2.4	2.4	100.0
	Total	479	100.0	100.0	

BS3. How important is health impacts?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	9	1.9	1.9	1.9
	2	5	1.0	1.0	2.9
	3	14	3.0	3.0	5.9
	4	55	11.4	11.4	17.3
	5 - Very important	388	81.0	81.0	98.3
	DK / NR	8	1.7	1.7	100.0
	Total	479	100.0	100.0	

BS4. How important is keeping any harmful substances off the land?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	8	1.7	1.7	1.7
	2	9	1.9	1.9	3.6
	3	28	5.9	5.9	9.5
	4	59	12.3	12.3	21.7
	5 - Very important	367	76.7	76.7	98.4
	DK / NR	8	1.6	1.6	100.0
	Total	479	100.0	100.0	

BS5. How important is reuse of valuable nutrients?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	19	3.9	3.9	3.9
	2	21	4.4	4.4	8.3
	3	86	17.9	17.9	26.2
	4	128	26.7	26.7	53.0
	5 - Very important	212	44.2	44.2	97.2
	DK / NR	13	2.8	2.8	100.0
	Total	479	100.0	100.0	

BS6. How important is cost of treating biosolids?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	21	4.4	4.4	4.4
	2	30	6.3	6.3	10.7
	3	136	28.5	28.5	39.1
	4	118	24.7	24.7	63.9
	5 - Very important	159	33.2	33.2	97.0
	DK / NR	14	3.0	3.0	100.0
	Total	479	100.0	100.0	

Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Winnipeg	479	100.0	100.0	100.0

Statistics

AGE

N	Valid	464
	Missing	15
Mean		45.55
Median		41.10
Std. Deviation		18.146
Minimum		18
Maximum		99

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 29	104	21.7	21.7	21.7
	30 to 39	125	26.1	26.1	47.8
	40 to 64	167	34.8	34.8	82.6
	65 and over	83	17.4	17.4	100.0
	Total	479	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< High school	27	5.6	5.6	5.6
	High school	83	17.2	17.4	23.0
	Some post-secondary	92	19.2	19.4	42.3
	Univ. / Coll. graduate	274	57.3	57.7	100.0
	Total	476	99.3	100.0	
Missing	DK / NR	3	.7		
Total		479	100.0		

Annual Family Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under $40,000	75	15.7	19.2	19.2
	$40,000 to $70,000	113	23.5	28.8	48.1
	$70,000 to $100,000	103	21.4	26.2	74.3
	Over $100,000	101	21.0	25.7	100.0
	Total	391	81.7	100.0	
Missing	DK / NR	88	18.3		
Total		479	100.0		

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	242	50.5	50.5	50.5
	Male	237	49.5	49.5	100.0
	Total	479	100.0	100.0	

Appendix E – One-Ways (Unweighted)

BS1. Generally, would you say you support/oppose the Biosolids Master Plan?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly oppose	57	11.9	11.9	11.9
	Somewhat oppose	59	12.3	12.3	24.2
	Somewhat support	228	47.6	47.6	71.8
	Strongly support	100	20.9	20.9	92.7
	DK / NR	35	7.3	7.3	100.0
	Total	479	100.0	100.0	

Statistics

		BS2. How important is environmental sustainability?	BS3. How important is health impacts?	BS4. How important is keeping any harmful substances off the land?	BS5. How important is reuse of valuable nutrients?	BS6. How important is cost of treating biosolids?
N	Valid	459	466	466	456	455
	Missing	20	13	13	23	24
Mean		4.55	4.72	4.65	4.09	3.84
Median		5.00	5.00	5.00	4.00	4.00
Std. Deviation		.822	.736	.814	1.111	1.151
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5

BS2. How important is environmental sustainability?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	6	1.3	1.3	1.3
	2	7	1.5	1.5	2.7
	3	41	8.6	8.6	11.3
	4	79	16.5	16.5	27.8
	5 - Very important	326	68.1	68.1	95.8
	DK / NR	20	4.2	4.2	100.0
	Total	479	100.0	100.0	

BS3. How important is health impacts?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	7	1.5	1.5	1.5
	2	7	1.5	1.5	2.9
	3	16	3.3	3.3	6.3
	4	49	10.2	10.2	16.5
	5 - Very important	387	80.8	80.8	97.3
	DK / NR	13	2.7	2.7	100.0
	Total	479	100.0	100.0	

BS4. How important is keeping any harmful substances off the land?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	8	1.7	1.7	1.7
	2	8	1.7	1.7	3.3
	3	29	6.1	6.1	9.4
	4	49	10.2	10.2	19.6
	5 - Very important	372	77.7	77.7	97.3
	DK / NR	13	2.7	2.7	100.0
	Total	479	100.0	100.0	

BS5. How important is reuse of valuable nutrients?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	22	4.6	4.6	4.6
	2	18	3.8	3.8	8.4
	3	77	16.1	16.1	24.4
	4	121	25.3	25.3	49.7
	5 - Very important	218	45.5	45.5	95.2
	DK / NR	23	4.8	4.8	100.0
	Total	479	100.0	100.0	

BS6. How important is cost of treating biosolids?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Not at all important	23	4.8	4.8	4.8
	2	27	5.6	5.6	10.4
	3	123	25.7	25.7	36.1
	4	107	22.3	22.3	58.5
	5 - Very important	175	36.5	36.5	95.0
	DK / NR	24	5.0	5.0	100.0
	Total	479	100.0	100.0	

Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Winnipeg	479	100.0	100.0	100.0

Statistics

AGE

N	Valid	457
	Missing	22
Mean		55.18
Median		58.00
Std. Deviation		17.443
Minimum		18
Maximum		99

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 29	51	10.6	10.6	10.6
	30 to 39	47	9.8	9.8	20.5
	40 to 64	229	47.8	47.8	68.3
	65 and over	152	31.7	31.7	100.0
	Total	479	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< High school	40	8.4	8.4	8.4
	High school	90	18.8	19.0	27.4
	Some post-secondary	76	15.9	16.0	43.5
	Univ. / Coll. graduate	268	55.9	56.5	100.0
	Total	474	99.0	100.0	
Missing	DK / NR	5	1.0		
Total		479	100.0		

Annual Family Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under $40,000	103	21.5	27.2	27.2
	$40,000 to $70,000	115	24.0	30.4	57.7
	$70,000 to $100,000	72	15.0	19.0	76.7
	Over $100,000	88	18.4	23.3	100.0
	Total	378	78.9	100.0	
Missing	DK / NR	101	21.1		
Total		479	100.0		

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	285	59.5	59.5	59.5
	Male	194	40.5	40.5	100.0
	Total	479	100.0	100.0	