

APPENDIX C

VEHICLE TRIP CALCULATIONS (NEW)

1/27/03

SUMMARY OF BULK MATERIALS PROCESSING CENTER VEHICLE TRIPS

BASELINE CONDITIONS (2003)	Total Current Project Traffic	Collection Trucks	Other Large Trucks	Self-Haul Vehicles	Other
Solid Waste Landfilling	1260	I			60
Waste Recycling Center	0	N			0
Composting	302	C			6
Soil Reclamation	38	L			8
Concrete/Asphalt Processing	108	U			8
Landfill Cover Soil	350	D			0
Wood Waste Recovery	0	E			0
Soil Reclamation	0	D			0
Wet Wastes/Powdery Mtls Proc.	0				0
TOTALS	2058	0	0	0	82

"Other" includes employee vehicles

POST-LF CONDITIONS 2007 <i>assumes WRC at 85% cap. & other BMPC operations at 75%</i>	Total Project Traffic	Collection Trucks	Other Large Trucks	Self-Haul Vehicles	Other
Solid Waste Landfilling	0	0	0	0	0
Waste Recycling Center	1450	182	100	1134	34
Composting	435	32	41	353	11
Soil Reclamation	0	0	0	0	0
Concrete/Asphalt Processing	324	0	285	27	12
Landfill Cover Soil	0	0	0	0	0
Wood Waste Recovery	182	44	48	86	5
Soil Reclamation	131	0	113	17	2
Wet Wastes/Powdery Mtls Proc.	60	0	57	0	3
TOTALS	2581	257	643	1615	66

"Other" includes employee vehicles

POST-LF CONDITIONS 2015 <i>assumes WRC at 100% cap. & other BMPC operations at 100%</i>	Total Project Traffic	Collection Trucks	Other Large Trucks	Self-Haul Vehicles	Other
Solid Waste Landfilling	0	0	0	0	0
Waste Recycling Center	1706	214	118	1334	40
Composting	580	42	54	470	14
Soil Reclamation	0	0	0	0	0
Concrete/Asphalt Processing	432	0	380	36	16
Landfill Cover Soil	0	0	0	0	0
Wood Waste Recovery	242	58	64	114	6
Soil Reclamation	174	0	150	22	2
Wet Wastes/Powdery Mtls Proc.	80	0	76	0	4
TOTALS	3214	314	842	1976	82

"Other" includes employee vehicles

WASTE RECYCLING CENTER (WRC)

1/13/03

Assumed Average Amount of Wastes Received 1000 tons per day (TPD7)
Annual Tonnage 365000 TPY

WRC Traffic Total (incoming)

	Density lbs/CY	Load Size Tons	Percentage of total	Annual Tons	Avg TPD7
Self Haul Vehicles	300	0.45	30	109500	300
Packer Collection Route Trucks		8	55	200750	550
Roll-off Box Trucks		4	15	54750	150
Total			100	365000	1000

	TPY	Tons/Load	Loads/Yr	Loads/Day
Number of Annual Trips (incoming)				
Self Haul Vehicles	109500	0.45	243333	667
Collection Route Trucks	200750	8	25094	69
Roll-off Box Trucks	54750	4	13688	38
Total	365000		282115	773

Average Daily Number of Trips (incoming)

Self Haul Vehicles	667
Collection Route Trucks	69
Roll-off Box Trucks	38
Total Daily Round Trips	773
ADT	1546

Waste Recycling Center Traffic Total (outgoing)

	Load Size Tons	Percentage of total	Annual Tons	Avg TPD7
Transfer Vehicles	22	75	273750	750
Trucks carrying recyclables	10	25	91250	250
Total		100	365000	1000

	TPY	Tons/Load	Loads/Yr	Loads/Day
Number of Annual Trips (outgoing)				
Transfer Vehicles	273750	22	12443	34
Large Trucks	91250	10	9125	25
Total	365000		21568	59

Average Daily Number of Trips (outgoing)

Transfer Vehicles	34
Large Trucks	25
Total Daily Round Trips	59
ADT	118

Waste Recycling Center Traffic Summary

Total Average Daily Number of Trips (incoming)

773 trips

Total Average Daily Number of Trips (outgoing)

59

Total Daily Round Trips

832

ADT

1664

Assume Peak Traffic is =

150%

=

1248 Round Trips
Per Day

Peak ADT

=

2496 Trips
(one way)

COMPOSTING TRAFFIC ESTIMATE

1/27/03

Quantity of materials estimated to be received in 2004

	164250 tons per year		450 tons per day
	3159 tons per week		
Selfhaul Vehicles	5 percent	8213 TPY	23 tons per day
Large Trucks	35 percent	57488 TPY	158 tons per day
Transfer Vehicle	60 percent	98550 TPY	270 tons per day

Density of materials in vehicle loads

Selfhaul Vehicles	100 lbs/CY =	0.05 tons/CY
Lg Tks & Trans Veh	600 lbs/CY =	0.3 tons/CY

Average amount per load

Selfhaul Vehicles	2 CY/load =	0.1 tons/load
Large Trucks	25 CY/load =	8 tons/load
Transfer Vehicle	80 CY/load =	24 tons/load

Average loads of incoming materials per week

Selfhaul Vehicles	1579 loads per week	226 loads per day
Large Trucks	147 loads per week	21 loads per day
Transfer Vehicle	<u>79</u> loads per week	11 loads per day

Total loads per week 1806 loads per week

Total loads per day 258 loads per day 258 check

Total annual loads 93896 loads per year

ADT 516 vehicle trips

Product Removal from Site estimated to be received in 2004

Product tonnage = 50 percent of incoming materials
82125 tons per year
1579 tons per week

Selfhaul Vehicles	5 percent
Large Trucks	35
Transfer Vehicle	60 percent

Density of materials in vehicle loads

Selfhaul Vehicles	800 lbs/CY =	0.4 tons/CY
Lg Tks & Trans Veh	800 lbs/CY =	0.4 tons/CY

Average amount per load

Selfhaul Vehicles	3 CY/load =	1.2 tons/load
Large Trucks	20 CY/load =	8 tons/load
Transfer Vehicle	60 CY/load =	24 tons/load

Average loads of product removed per week

Selfhaul Vehicles	66 loads per week	9 loads per day
Large Trucks	69 loads per week	10 loads per day
Transfer Vehicle	<u>39</u> loads per week	6 loads per day

Total loads per week 174 loads per week

Total loads per day 25 loads per day 25 check

Total annual loads 9068 loads per year

ADT 50 vehicle trips

Summary of Total Composting Traffic

	Loads	ADC
Inbound Materials Traffic Total =	258	516
Outbound Compost Product Traffic Total =	<u>25</u>	<u>50</u>

Total Composting Traffic 283 566

File: w BMPC traffic

COMPILATION OF OTHER MATERIALS AT WCL BMPC

WOOD WASTES

1/27/03

Cubic Yards in Storage Piles Estimate

Assume	Pile #1	contains	10000 CY
	Pile #2	contains	45000 CY
	Raw Pile	contains	10000 CY

Raw Wood Pile	contains	10000 CY
Product Piles	contain	55000 CY

Conversion to tons at rate for wood

Raw Material		500 lbs/CY
	or	0.25 Tons/CY
Products		800 lbs/CY
	or	0.4 Tons/CY

Stored Materials Tonnage Estimate

Raw Wood			
10000 CY x	0.25 Tons/CY =		2500 Tons
Products			
55000 CY x	0.4 Tons/CY =		22000 Tons

Product storage = 22000 tons in place at one time & business
sales allow processing and removal in 2 months or product
storage is cycled 6 times per year

Annual products =	6 cycles x	22000 tons/cycle
	=	132000 tons/yr
	or	330000 CY/yr

Wood Traffic Total (incoming)

	Density lbs/CY	Load Size CY	Percentage of total	Annual Tons	Annual CY
Self Haul Vehicles	100	3	2	2640	52800
Collection Route Trucks	400	25	40	52800	264000
Trailer Trucks	400	100	58	76560	382800
total			100	132000	699600

Number of Annual Trips (incoming)	CY/Yr	CY/Load	Loads	Tons/Load
Self Haul Vehicles	52800		3	17600
Collection Route Trucks	264000		25	10560
Trailer Trucks	382800		100	3828
Total	699600			31988

Average Daily Number of Trips (incoming)	
Self Haul Vehicles	48
Collection Route Trucks	29
Trailer Trucks	10
Total Trips	88
ADT	175

Wood Traffic Total (outgoing)

	Density lbs/CY	Load Size CY	Percentage of total	Annual Tons	Annual CY
Self Haul Vehicles	800	3	3	3960	9900
Large Trucks	800	25	28	36960	92400
Trailer Trucks	800	50	69	91080	227700
Total			100	132000	330000

Number of Annual Trips (outgoing)	CY/Yr	CY/Load	Loads	Tons/Load
Self Haul Vehicles	9900		3	3300
Large Trucks	92400		25	3696
Trailer Trucks	227700		50	4554
Total	330000			11550

Average Daily Number of Trips (outgoing)	
Self Haul Vehicles	9
Large Trucks	10
Trailer Trucks	12
Total Trips	32
ADT	63

Wood Traffic Summary

Total Average Daily Number of Trips (incoming)	88
Total Average Daily Number of Trips (outgoing)	32
Total Daily Round Trips	119
ADT	239
Assume Peak Traffic is =	150%
	= 179 Round Trip Per Day
Peak ADT	= 358 Trips (one way)

COMPILATION OF OTHER MATERIALS AT WCL BMPC

CONCRETE & ASPHALT MATERIALS

1/27/03

Cubic Yards in Storage Piles Estimate

Assume Raw Rubble Piles contain 110000 CY
 Products Piles contain 60000 CY

Conversion to tons at rate for concrete, asphalt & products weigh

Raw Material 3200 lbs/CY
 or 1.6 Tons/CY
 Products 3200 lbs/CY
 or 1.6 Tons/CY

Stored Materials Tonnage Estimate

Raw Rubble
 110000 CY x 1.6 Tons/CY = 176000 Tons
 Products
 60000 CY x 1.6 Tons/CY = 96000 Tons

Product storage = 176000 tons in place at one time & business
 sales allow processing and removal in 4 months or product
 storage is cycled 3 times per year

Annual products = 3 cycles x 176000 tons/cycle
 = 528000 tons/yr 1447
 or 330000 CY/yr TPD

Concrete Traffic Total (incoming)

	Density lbs/CY	Load Size CY	Percentage of total	Annual Tons	Annual CY
Self Haul Vehicles	3200	1	1	5280	3300
Large Trucks	3200	6	34	179520	112200
Trailer Trucks	3200	12	65	343200	214500
total			100	528000	330000

	CY/Yr	CY/Load	Loads	Tons/Load
Number of Annual Trips (incoming)				
Self Haul Vehicles	3300		1	3300
Large Trucks	112200		6	18700
Trailer Trucks	214500		12	17875
Total	330000			39875

Average Daily Number of Trips (incoming)

Self Haul Vehicles	9
Large Trucks	51
Trailer Trucks	49
TotalTrips	109

Concrete Traffic Total (outgoing)

	Density lbs/CY	Load Size CY	Percentage of total	Annual Tons	Annual CY
Self Haul Vehicles	3200	1	1	5280	3300
Large Trucks	3200	6	20	105600	66000
Trailer Trucks	3200	12	79	417120	260700
Total			100	528000	330000

Number of Annual Trips (outgoing)	CY/Yr	CY/Load	Loads	Tons/Load
Self Haul Vehicles	3300	1	3300	1.6
Large Trucks	66000	6	11000	9.6
Trailer Trucks	260700	12	21725	19.2
Total	330000		36025	

Average Daily Number of Trips (outgoing)

Self Haul Vehicles	9
Large Trucks	30
Trailer Trucks	60
Total Trips	99
ADT	197

Concrete Traffic Summary

Total Average Daily Number of Trips (incoming)	109		
Total Average Daily Number of Trips (outgoing)	99		
Total Daily Round Trips	208		
ADT	416		
Assume Peak Traffic is =	150%	=	312 Round Trip Per Day
	Peak ADT	=	624 Trips (one way)

COMPILATION OF OTHER MATERIALS AT WCL BMPC

SOIL RECLAMATION

1/27/03

Cubic Yards in Storage Piles Estimate

Assume Raw Soil Piles contain 3000 CY
 Processed Soil Piles contain 65000 CY

Conversion to tons at rate for concrete, asphalt & products

Raw Material 3000 lbs/CY
 or 1.5 Tons/CY
 Products 3000 lbs/CY
 or 1.5 Tons/CY

Stored Materials Tonnage Estimate

Raw Soil
 3000 CY x 1.5 Tons/CY = 4500 Tons
 Products
 65000 CY x 1.5 Tons/CY = 97500 Tons

Product storage = 97500 tons in place at one time & business
 sales allow processing and removal in 6 months or product
 storage is cycled 2 times per year

Annual products = 2 cycles x 97500 tons/cycle
 = 195000 tons/yr
 or 130000 CY/yr

Soil Traffic Total (incoming)

	Density lbs/CY	Load Size CY	Percentage of total	Annual Tons	Annual CY
Self Haul Vehicles	3000	1	2	3900	2600
Large Trucks	3000	6	35	68250	45500
Trailer Trucks	3000	12	63	122850	81900
total			100	195000	130000
				534 TPD	

	CY/Yr	CY/Load	Loads	Tons/Load
Number of Annual Trips (incoming)				
Self Haul Vehicles	2600	1	2600	1.5
Large Trucks	45500	6	7583	9
Trailer Trucks	81900	12	6825	18
Total	130000		17008	

Average Daily Number of Trips (incoming)

Self Haul Vehicles	7
Large Trucks	21
Trailer Trucks	19

TotalTrips	47
ADT	93

Soil Traffic Total (outgoing)

	Density lbs/CY	Load Size CY	Percentage of total	Annual Tons	Annual CY
Self Haul Vehicles	3000	1	1	1950	1300
Large Trucks	3000	6	20	39000	26000
Trailer Trucks	3000	12	79	154050	102700
Total			100	195000	130000

Number of Annual Trips (outgoing)	CY/Yr	CY/Load	Loads	Tons/Load
Self Haul Vehicles	1300	1	1300	1.5
Large Trucks	26000	6	4333.333	9
Trailer Trucks	102700	12	8558.333	18
Total	130000		14192	

Average Daily Number of Trips (outgoing)

Self Haul Vehicles	4
Large Trucks	12
Trailer Trucks	23
Total Trips	39
ADT	78

Soil Traffic Summary

Total Average Daily Number of Trips (incoming)	47
Total Average Daily Number of Trips (outgoing)	39
Total Daily Round Trips	85
ADT	171
Assume Peak Traffic is =	150%
	= 128 Round Trip Per Day
Peak ADT	= 256 Trips (one way)

COMPILATION OF OTHER MATERIALS AT WCL BMPC

WET WASTES/POWDERY WASTES PROCESSING

1/27/03

Cubic Yards of Processing Capacity Estimate

Assume	Raw Liquid Wastes	11500 gallons per batch
	Raw Wet Wastes	120 CY per batch
	Raw Powdery Wastes	220 CY per batch
	Products	400 CY per batch

Density:

Raw Wet Wastes	2500 lbs/CY =	150 tons/batch
Raw Powdery Wastes	1800 lbs/CY =	198 tons/batch
Products	2800 lbs/CY =	560 tons/batch

Estimate of Annual Materials Estimate

Each batch processed in 2 days = 2.5 batches/Week

Annual Production 130 Batches per year

Processing capacity =

amount of liquids processed annually	1495000 gal/year
amount of wet wastes processed annually	19500 tons/year
amount of powdery wastes processed annually	25740 tons/year

Annual products = 72800 tons/year

Wet/Powdery Wastes Traffic Total (incoming)

	Batch Amount	Load Size	Trips/ Batch
Tank Trucks gallons	11500	2000 gal	6
Wet Wastes Large Trucks tons	150	8 tons	19
Powdery Wastes Trucks tons	198	6 tons	33
	total		<u>58</u>

Number of Annual Trips (incoming)

Tank Trucks	748 trips
Wet Wastes Vehicles	2438
Powdery Wastes Trucks	4290
	<u>Total</u> 7475 (rounded)

Average Daily Number of Trips (incoming)

Tank Trucks	2
Wet Wastes Vehicles	7

Powdery Wastes Trucks 12

Total Trips 20 (rounded)
ADT 41

Wet/Powdery Wastes Traffic Total (outgoing)

	Batch Amount	Load Size tons	Percentage of total	Trips/ Batch
Trailer Trucks	560	12	100	47
Total			<u>100</u>	<u>47</u>

Number of Annual Trips (outgoing)

Trailer Trucks 6067
Total 6067

Average Daily Number of Trips (outgoing)

Trailer Trucks 17
Total Trips 17 (rounded)
ADT 33

Wet/Powdery Wastes Traffic Summary

Total Average Daily Number of Trips (incoming) 20

Total Average Daily Number of Trips (outgoing) 17

Total Daily Round Trips **37**

ADT **74**

Assume Peak Traffic is = 150% = 56 Round Trip
Per Day
Peak ADT = 111 Trips
(one way)