



BUCKS COUNTY PENNSYLVANIA

2018 - 2028 MUNICIPAL WASTE MANAGEMENT PLAN

Pennsylvania Department of Environmental Protection

DRAFT





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Plan Prepared by the Bucks County Planning Commission and the
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Preparation of this plan was funded in part by the a grant from the Pennsylvania Department of Environmental Protection under Section 901 of the Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101) of 1988.

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MUNICIPAL WASTE MANAGEMENT

PLAN REVISION

Bucks County, PA

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Executive Summary

The Pennsylvania Department of Environmental Protection (PADEP) approved the current Bucks County Municipal Waste Management Plan on January 17, 2006. The plan was prepared by the firm of RW Beck and the Bucks County Planning Commission in response to Act 101 of 1988. The plan was intended as a ten-year plan to provide guidance for solid waste management in Bucks County. The plan provided for the regulation of haulers, the designation of disposal sites for municipal solid waste and recyclables, documented the flow of municipal waste generated in Bucks County and provided an assurance of disposal capacity for ten years. To assure disposal capacity, the County of Bucks had entered into a waste capacity agreement with Waste Management, Inc. (WMI).

On December 23, 2000 the Commonwealth of Pennsylvania adopted changes to the municipal waste planning regulations. Those changes to the regulations required that each county revise its Act 101 plan at the earlier of 1) having less than three years of assured capacity, or 2) within three years of the expiration of its plan. As ten years had lapsed since the preparation of the current plan it was necessary for Bucks County to prepare a plan revision.

Through the Bucks County Solid Waste Advisory Committee (SWAC) it was recommended that the Bucks County Planning Commission be tasked in the development of the revision to the Bucks County Municipal Waste Management Plan. The process began with a notification to the Pennsylvania Department of Environmental Protection (PADEP) in August 2014.

In the initial planning process, due to some changes in recycling options and the severance of the Bucks County multi-municipal recycling contract, it was determined that a substantial revision was required. A draft plan (Public Review Draft) was prepared, and reviewed by the SWAC and the staff of the Bucks County Planning Commission. The draft document was required to be submitted to all Bucks County municipalities, other stakeholders and the public. After that comment period all of the pertinent municipal comments received will be incorporated into the document prior to the Bucks County Commissioners adoption and the Pennsylvania Department of Environmental Protection (PADEP) review and approval.

Executive Summary

This revised plan provides continued guidance for the management of solid waste in Bucks County through the year 2028. It provides recommendations for maintaining the goal of recycling thirty-five percent of the waste stream.

The plan relies heavily on the private sector to handle the day-to-day collection, transportation, processing and disposal of municipal solid waste, as well as the collection, transportation, processing and marketing of recyclable materials. The private sector has shown itself to be quite adept at handling these responsibilities and therefore the plan does not propose any changes in this area.

The Bucks County Planning Commission will continue its solid waste management activities including: the coordination with municipal efforts, public education, promotion and coordination of recycling efforts throughout the county, provision of a household hazardous waste collection program and assistance to the Bucks County Solid Waste Advisory Committee.

Section 1

DESCRIPTION OF WASTE

The purpose of Section 1 is to describe and determine the quantity of waste generated in Bucks County, Pennsylvania, that will be managed by the system defined in this Plan.

1.1 Background

To estimate the quantity of municipal waste and residual waste generated on an annual basis, current and historical quantity data were used, including weight records from the facilities at which waste generated in the County was disposed of and annual municipal recycling reports. For recycling data, tonnage data supplied by Pennsylvania Department of Environmental Protection (PA DEP) was utilized for years prior to 2015, but because 2016 and later was not yet available, the analyses rely upon data supplied by the County, and some extrapolation of trend lines.

1.2 Waste Generation, Recycled and Disposal Quantities

Generation rates can be examined in a variety of ways. United States Department of Environmental Protection (U.S. EPA) has devised a standardized way of calculating waste generation and recovery rates. The U.S. EPA generation rate includes municipal solid waste (MSW) only (e.g., excludes residual waste, construction and demolition debris (C&D) waste, infectious waste, ash, sludge and asbestos), and includes U.S. EPA standard recyclables, which include yard waste, car batteries, typical “program” recyclables such as paper materials, bottles and cans, electronics, household hazardous waste (HHW), mattresses, fluorescent tubes, wood, textiles, antifreeze, oil filters, tires, and food waste. The U.S. EPA definition is helpful in that it provides a “standard” means of measurement. Residual waste is defined as the byproduct of a manufacturing process. Sludge is typically, but not always, defined as a sewage byproduct. Ash, as well, is typically the product of a commercial operation.

In planning for waste disposal and management, however, it also makes sense to consider total generation of materials, to the greatest extent possible. The “total generation” includes all municipal waste generated, including those categories excluded in the EPA definition, and

Section 1

additional (nonstandard) recyclables such as used motor oil, furniture, C&D materials, nickel batteries, automobile parts, fiber, and industrial metals.

Table 1-1 reports the total quantities of waste from County sources that was generated, disposed and recycled from 2009 through 2015. Information regarding the amount of waste disposed is from the PA DEP annual reports.

Information regarding the amount of material recycled is from Act 101 Annual Reports (2009 through 2015); PA DEP's website (Municipal Waste Yearly Reports); Recycling data collected by the County through a survey; and Follow-up surveying of non-respondents.

Annual generation quantities are the sum of disposal and recycling quantities, and pounds per person throughout this document are based on either US Census data, DVRPC projections, or a combination of both.

Table 1-1
Bucks County Waste Generation, 2009 – 2015

Waste Type	Tons per Year ¹							
	2009	2010	2011	2012	2013	2014	2015	Average
▪ Municipal Solid Waste	378,318	333,245	295,928	262,146	248,164	269,012	268,590	303,560
▪ Residual	159,797	154,514	197,144	150,454	157,699	121,468	109,114	163,922
▪ Sludge	12,982	11,532	11,264	11,070	9,575	10,423	12,150	11,285
▪ Construction and Demolition ²	33,525	32,905	36,345	54,001	52,218	39,832	55,479	41,799
▪ Ash	150,501	143,582	149,402	147,843	145,133	140,137	140,469	147,292
▪ Asbestos	147	202	101	110	570	458	300	226
▪ Infectious	5,590	5,752	3,445	1,283	1,239	1,270	1,182	3,462
Total Waste Disposed (Includes all waste disposed at in-State facilities)	740,858	681,731	693,628	626,906	614,600	582,600	587,284	671,545
Residential Recycling	90,976	89,459	93,834	166,621	87,622	91,127	76,660	88,178
Commercial Recycling	109,056	91,625	90,030	108,023	56,419	90,807	87,480	91,031
▪ Recycling (All Recorded Materials) ³	200,032	181,084	183,864	274,644	144,041	181,934	164,140	196,733
Total Waste Generated	940,890	862,815	877,492	901,550	758,641	764,534	751,424	868,278

¹ For years other than 2010, interpolated based on 2000 and 2010 Census data and forecasted DVRPC population projections.

² Includes only C&D waste disposed of at MUNICIPAL WASTE landfills, as C&D landfills are not required to report. Supplementary research indicates that an additional 19,336 tons of C&D waste were known to be generated in Bucks County and sent to C&D landfills. Some C&D waste may not appear in the totals.

³ Includes standard and "non-standard" recyclables, as reported in PA DEP Recycling Annual Reports for 2009-2013, and as calculated using Bucks County survey data, supplemented by follow-up calls to non-respondents for 2015.

Waste Type	Tons per Year							
	2009	2010	2011	2012	2013	2014	2015	Average
Population ⁴	604,500	623,195	626,484	626,377	626,976	645,785	665,158	631,142
Annual Per Capita Disposal Rate	1.23	1.09	1.11	1.001	0.98	0.91	0.89	1.03
Annual Per Capita Recycling Rate	.33	.29	.29	.44	.23	.28	.24	.30
Annual Per Capita Generation Rate	1.56	1.38	1.40	1.44	1.21	1.19	1.13	1.33

A review of Table 1-1 shows that between 2009 and 2015, the annual per capita generation rate for Bucks County was fairly flat with a downward trend. For the 1999-2002 period studied in the prior update the County's generation rate (including disposed of waste and recyclables) was 1.3 tons per capita. This rate increased to 1.33 tons per capita in the 2009-2015 period of study for this current update. Recycling, although fluctuating wildly from year to year due to difficulties in collecting consistent reports, has increased an average of 40% from the 1999-2003 period to the 2009-2015 period. Table 1-1 shows that the annual disposal rate declined steadily from 2009 through 2015, with a considerable decrease between 2011 and 2013 – from 1.11 to 0.98. The disposal rate appears to have a downward trend in the County since 1999, but remains in a tight range of 1.06-1.10, with a few outlying anomalies. Bucks County's recycling rates over time and recycling programs are discussed more fully in Sections 3 and 4 of this Plan Update.

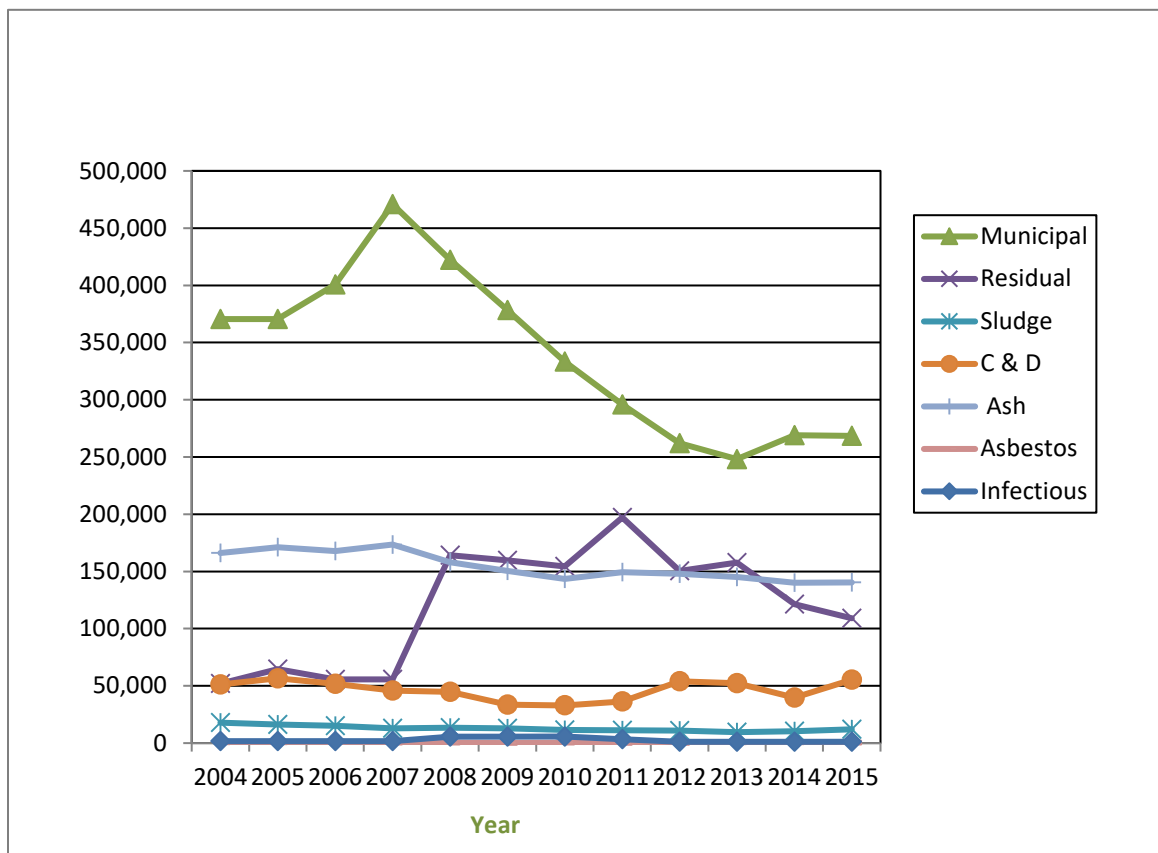
Figure 1-1 also shows the quantity of municipal waste that is generated and disposed of by Bucks County sources over a longer time-period; 2004–2015. The figure shows that, despite an approximate 1 percent per year increase in population, the quantity of municipal solid waste disposed has declined since 1996, with a few exceptions. These exceptions could be poor reporting or waste being disposed of outside of the reporting area (Pennsylvania). It remains to be seen if the decrease in total waste generate since 2009 is a trend or can be explained in some other way. Although the lack of a solid conclusion on the decrease makes forecasting more difficult, for the purpose of this plan waste disposal amounts will be assumed to be flat, or with a slight upward trend. That would mean a forecasted volume of 700,000 tons of all categories of waste disposed for the 2016-2026 period. Recycling will be forecast at approximately 150,000 tons per annum, with a belief that the estimate will be on the low end of the reality.

⁴ Bucks County population data excludes Telford Borough, as their waste and recyclables are recorded with Montgomery County

Section 1

Figure 1-1

Annual Quantity of Municipal Waste Generated and Disposed of by
Bucks County Sources, 2004 – 2015



As Figure 1-1 illustrates, the amount of municipal waste represents a large portion (45 percent) of the total waste stream disposed. The total waste trend, therefore, tends to mirror the trend for municipal waste. The amount of ash disposed increased significantly from 1993 to 1995, presumably due to the increase in use of Waste-To- Energy (WTE) facilities, particularly the Wheelabrator Falls WTE facility, which began operating in 1994. The amount of ash disposed was flat from 2007 to 2015, presumably due to there being roughly the same if not less volume going into the Waste-To- Energy (WTE) facilities.

The amount of residual waste disposed can vary significantly over the years, as variations in quantities of residual waste can be due to a change to the industrial base of a community, a catastrophic event, changes in reporting requirements, or changes in policies. The data presented in Figure 1-1 indicate that the amount of residual waste per capita disposed increased significantly in Bucks County between 2006 and 2015. Bucks County's reported residual is now

100,000 tons higher per year than it had been in the prior update. The nature and cause of this consistent increase is still unknown.

Similarly, asbestos quantities disposed can fluctuate significantly depending on demolition and/or renovation project schedules. In Bucks County, there was a significant increase in asbestos disposed in 2000, which was likely due to an unusually large asbestos abatement project(s) undertaken in the County that year. For the study period, levels of asbestos disposed remained fairly consistent. In general, since asbestos represent such a small percentage of the overall total, this plan update will not spend a lot of time trying to identify annual fluctuations, but will ensure that the capacity is available if the volume increases tenfold in a given year.

U.S. Census data indicates that the population in Bucks County (excluding Telford Borough, which is included in Montgomery County's Plan) increased from 595,424 in 2000 to 623,042 in 2010. This is an increase of approximately 4.4 percent, or 0.44 percent per year. The projected 2020 population for Bucks County (excluding the portion of Telford Borough in Bucks County, as they are not included in Bucks County's Plan) is 651,900⁵, which is an increase of 4.6 percent, or an average of 0.46 percent per year. Based on these studies, the 2025 population projection for Bucks County is 671,015. Even with a significant increase in economic growth, this number should be an accurate, if not optimistic, projection of the population of Bucks County during the period of this plan.

1.3 Benchmarking Analysis

As shown in Table 1-1, Bucks County had an estimated 2009-2015 total generation rate of 1.33 tons per capita per year based on total tons disposed and recycled. The disposal rate for all Bucks County material disposed at a municipal waste landfill was 1.03 tons per capita per year. Table 1-2 provides the generation, recycling, and disposal rates for waste generated in Bucks County and the counties contiguous to Bucks— Philadelphia, Montgomery, Lehigh and Northampton. Again, all waste disposed at in-state municipal waste landfills is included in the figures.

⁵ (Delaware Valley Regional Planning Commission, http://www.dvrpc.org/OurRegion/pdf/DVRPC_2040_Population_Forecasts.pdf as a part of 2045 population forecasts)

Section 1

Table 1-2

Disposal Rate Analysis Bucks County and Surrounding Contiguous Counties⁶

Year	Waste Category	Bucks County	Philadelphia County	Montgomery County	Lehigh County	Northampton County
2009	Tons MW Disposed	740,858	1,564,724	1,012,928	330,534	272,493
	Tons Recycled	200,032	1,194,843	251,742	542,475	75,633
	Population	604,500	1,482,661	777,039	339,512	289,089
	Disposal Rate	1.23	1.06	1.3	0.97	0.94
	Recycling Rate	.33	.81	.32	1.60	.26
	Generation Rate	1.56	1.86	1.63	2.57	1.20
2010	Tons MW Disposed	681,731	1,484,337	948,356	319,139	283,988
	Tons Recycled	181,084	2,743,433	253,363	400,164	80,074
	Population	623,195	1,528,516	801,071	350,012	298,029
	Disposal Rate	1.09	0.97	1.18	0.92	0.95
	Recycling Rate	.29	1.79	.32	1.14	.27
	Generation Rate	1.38	2.77	1.50	2.06	1.22
2011	Tons MW Disposed	693,628	1,536,855	979,990	325,014	289,683
	Tons Recycled	183,864	2,482,841	246,573	397,982	85,393
	Population	626,484	1,538,497	805,217	353,255	298,361
	Disposal Rate	1.11	0.998	1.22	0.92	0.97
	Recycling Rate	.29	1.61	.31	1.13	.29
	Generation Rate	1.40	2.61	1.52	2.05	1.26
2012	Tons MW Disposed	626,906	1,432,597	886,000	316,185	291,251
	Tons Recycled	274,644	2,200,336	1,168,635	346,922	123,537
	Population	626,377	1,548,647	808,946	354,746	299,371
	Disposal Rate	1.001	0.93	1.1	0.89	0.97
	Recycling Rate	.44	1.42	1.44	.98	.41
	Generation Rate	1.44	2.35	2.54	1.87	1.39
2013	Tons MW Disposed	614,600	1,401,014	937,406	296,687	324,192
	Tons Recycled	144,041	1,806,460	297,806	398,055	135,187
	Population	626,976	1,553,165	812,376	355,092	299,791
	Disposal Rate	0.98	0.9	1.15	0.84	1.08
	Recycling Rate	.23	1.16	.37	1.12	.45
	Generation Rate	1.21	2.07	1.52	1.96	1.53
2014	Tons MW Disposed	582,600	1,407,838	899,454	304,308	340,201
	Tons Recycled	181,934	1,642,260	318,530	398,055	142,367
	Population	645,785	1,563,165	816,742	355,092	299,791
	Disposal Rate	0.91	0.89	1.16	0.84	1.08
	Recycling Rate	.28	1.05	.39	1.12	.45
	Generation Rate	1.19	1.96	1.45	1.96	1.53
2015	Tons MW Disposed	587,284	1,621,140	920,920	304,534	359,473
	Tons Recycled	164,140	2,146,160	328,105	403,255	140,683
	Population	665,785	1,593,142	820,000	355,092	299,791
	Disposal Rate	0.89	1.02	1.15	0.84	1.08
	Recycling Rate	.24	1.35	.40	1.12	.45
	Generation Rate	1.13	2.37	1.53	1.96	1.53
TOTAL	Average Generation	1.33	2.28	1.67	2.06	1.31

⁶ Data Source: PA DEP Municipal Waste Yearly Reports; Data from Counties; Annual Recycling Reports; Data from PA DEP (total tons recycled)

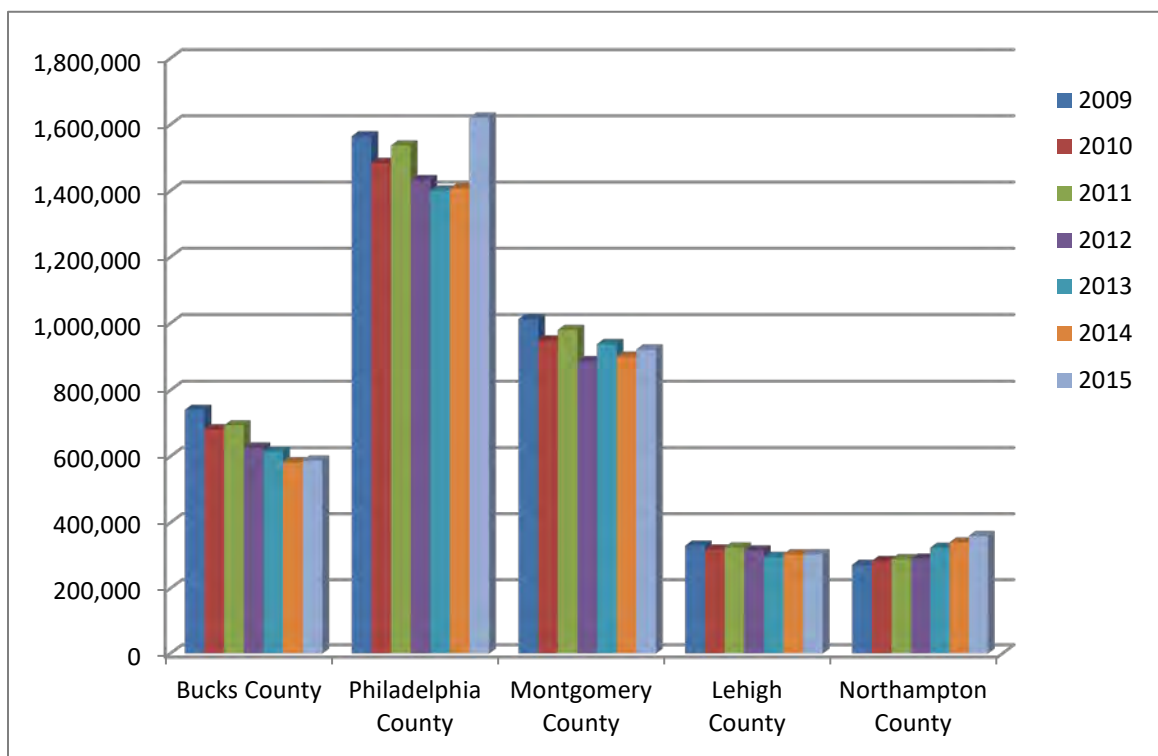
Table 1-2 shows that, relative to the contiguous counties, Bucks County has the lowest total generation rate and the lowest disposal rate. Table 1-2 shows that, relative to the contiguous counties, Bucks County has the second lowest total generation rate and the third highest disposal rate. The highest average generation and recycling rates are in Philadelphia County, where the generation rate is 2.28 tons per capita per year, and the recycling rate is 1.36. The high recovery rate in Philadelphia County is attributable to the high amount of C&D materials recycled in the city. The highest disposal rate is in Montgomery County, where the average disposal rate is 1.19 tons per capita per year. Bucks County's per capita disposal rate is 9 percent lower than that of Montgomery County, 11 percent higher than that of Philadelphia County, 17 percent higher than Lehigh County's, and 10 percent higher than Northampton County's. In terms of total waste generated (recycled and disposed combined), Bucks County's per capita generation rate is 63 percent less than Philadelphia County's, 34 percent below Montgomery County's, 18 percent below Lehigh County's, and 20 percent below Northampton County's.

The generation rates discussed above include all waste disposed at in-state municipal waste landfills and waste-to-energy facilities, and all recyclables, both standard and nonstandard. For that reason, they do not correspond with PA DEP "generation rates," which is based on a state average of 0.86 tons per capita per year. They are presented here in this manner to give a more accurate picture of the facilities that are required to adequately manage the processing and disposal of the waste generated. Figure 1-2, below, illustrates the total amount of waste disposed at municipal waste landfills in Pennsylvania, that was generated in Bucks County and the contiguous surrounding counties, from 2009–2015.

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Figure 1-2

Total Tons of Waste Disposed¹ by County of Origin, 2009 – 2015



Data Source: PA DEP—data from Municipal Waste Yearly Reports.

¹Includes all types of waste disposed at in-state municipal waste landfills, including municipal, sewage sludge, ash, asbestos, residual, construction, and infectious wastes.

1.4 Disposal Sites

Most of the waste generated and not recycled in Bucks County is disposed of at the following facilities:

- GROWS North Landfill, Falls Township (Bucks County);
- Wheelabrator Falls WTE Facility, Falls Township (Bucks County); and
- Tullytown Resource Recovery Facility, Tullytown Borough (Bucks County).

These facilities and others that received a relatively small amount of waste generated in Bucks County are described in more detail in Section 2. See Table 1-3 for a listing of which facility, how much in each category, and total amounts received.

Table 1-3

Bucks County Waste Destinations, 2009 – 2015
Weight in Tons (2,000 lbs)

Permit #	Disposal Facility	Municipal	Residual	Sewage Sludge	Infectious	Construction	Ash Residual	Asbestos	Total:	
100020	IESI PA BETHLEHEM LANDFILL CORP.	80,704	11,849	405	0	16,629	0	11	109,598	2.66%
100022	CHRIN BROTHERS SANITARY LANDFILL	22,904	611	2	0	10,891	0	34	34,442	0.83%
100113	MODERN LANDFILL	0	1,254	0	0	0	0	14	1,268	0.03%
100148	G.R.O.W.S. LANDFILL	2,955	1,684	14	0	286	23,139	0	28,078	0.68%
100265	GRAND CENTRAL SANITARY LANDFILL INC	7,458	1,459	214	1,156	42	0	0	10,329	0.25%
100346	PIONEER CROSSING LANDFILL	47,298	1,099	6,748	13,791	1,123	0	0	70,059	1.70%
100739	WESTERN BERKS COMMUNITY LANDFILL	58,689	139	0	0	540	0	186	59,554	1.44%
100944	CHESTER COUNTY SWA LANCHESTER LAN	163	0	0	0	19	5,178	37	5,397	0.13%
100945	CUMBERLAND COUNTY LANDFILL	1	3,109	1,516	0	71	0	19	4,716	0.11%
100955	CLINTON COUNTY SWA WAYNE TOWNSHIP	0	0	0	0	0	0	1	1	0.00%
100963	LYCOMING COUNTY RESOURCE MANAGEM	0	2	0	0	0	0	0	2	0.00%
101243	BRADFORD COUNTY SANITARY LANDFILL	0	0	0	0	0	0	0	0	0.00%
101247	KEYSTONE SANITARY LANDFILL	7	35	0	0	0	0	0	42	0.00%
101397	ADVANCED DISPOSAL SERVICES GREENT	3	8,819	0	0	113,418	0	0	122,240	2.96%
101421	SHADE LANDFILL	0	15	0	0	0	0	0	15	0.00%
101427	PINE GROVE LANDFILL INC	18,332	0	0	0	0	0	0	18,332	0.44%
101494	TULLYTOWN RESOURCE RECOVERY FACIL	184,534	498,572	29,522	3,807	26,577	303,644	184	1,046,840	25.37%
101509	CONNESTOGA LANDFILL	1,277	20,093	0	37	274	0	355	22,036	0.53%
101615	COMMONWEALTH ENVIRONMENTAL SYST	29	7,942	0	0	135	0	0	8,106	0.20%
101680	G.R.O.W.S. NORTH	271,476	466,484	35,130	947	40,595	433,427	697	1,248,756	30.27%
400558	COVANTA PLYMOUTH RENEWABLE ENERG	218,216	4,264	0	0	0	0	0	222,480	5.39%
400592	LCSWMA RESOURCE RECOVERY FACILITY	0	15,332	0	0	0	0	0	15,332	0.37%
400593	COVANTA DELAWARE VALLEY	43	3,145	0	0	0	0	0	3,188	0.08%
400633	WHEELABRATOR FALLS INC	996,131	4,244	602	0	68,083	0	0	1,069,060	25.91%
	BERKS CNTY SWA ROLLING HILLS					25,621			25,621.0	0.62%
	Total:	1,910,220.3	1,050,151.5	74,152.9	19,738	304,304.2	765,387.7	1,537.2	4,125,491.8	100.00%

1.5 Composition of Municipal Waste

A statewide multi-season waste composition study was conducted in 2000 by R. W. Beck. The results of the study indicate that the materials listed in Table 1-4 compose the municipal waste stream. Tonnage quantities in this section are based on total tons disposed of in 2000 that were generated in Bucks County, as reported in the Annual Waste Destination Reports by County. These tonnages exclude waste disposed of out-of-state, as this waste is not reported to PA DEP. It is expected that most waste generated in-County would be disposed in Pennsylvania facilities, as tip fees are more expensive in New Jersey, which borders Bucks County to the east.

The waste characterization data from the PA DEP *Waste Characterization Study of 2000* was applied to the disposed figures. The waste characterization study devised different sets of waste characterizations for the five regions of the state, residential waste, commercial waste, and aggregate waste disposed. The aggregate waste characterization results were weighted using the population density specifications (rural, suburban, or urban), for the 54 municipalities of Bucks County, by percent of population living in each type of community. Thirty-one municipalities are

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classified as suburban, but a higher proportion of the population, 82.7 percent, lives in suburban communities, and 17.3 percent lives in rural communities, according to 2010 U.S. Census Data. There are no urban jurisdictions in Bucks County.

It should be noted that, since the study was undertaken in 2000, several changes to how waste is collected, how recycling is processed (e.g. single stream), and how recession-driven consumption could have changed several of the percentages in each material category. Although this and several other calculating assumptions could call into question the accuracy, the study will still provide areas where potential materials could be diverted from disposal.

For this Plan, a weighted average was developed to customize the southeast region's waste composition study results for Bucks County, specifically. Weighted averages were applied to reflect the fact that 82.7 percent of the County's population lives in suburban communities, and 17.3 percent lives in rural communities. This is expected to provide the County with a more accurate picture of the composition of the County's municipal waste stream. This customized waste composition is provided in Table 1-4.

Table 1-4
Aggregate Waste Composition for Bucks County's
Disposed of Municipal Waste, 2014

Material	Percent of Waste ¹	Tons Disposed ²
Newspaper	4.10%	10,748
Corrugated Cardboard	7.52%	19,713
Office	4.73%	12,400
Magazine/ Glossy	2.50%	6,554
Polycoated/Aseptic Containers	0.50%	1,311
Mixed Paper	4.40%	11,534
Non-Recyclable Paper	10.42%	27,316
All Paper	34.18%	89,602
#1 PET Bottles	0.83%	2,176
#2 HDPE Bottles	0.58%	1,520
#3-#7 Bottles	0.15%	393
Expanded Polystyrene	0.80%	2,097
Film Plastic	3.99%	10,460
Other Rigid Plastic	3.50%	9,175
All Plastics	9.85%	25,821
Clear Glass	1.61%	4,221
Green Glass	0.74%	1,940
Amber Glass	1.16%	3,041
Non-recyclable Glass	0.63%	1,652

Material	Percent of Waste ¹	Tons Disposed ²
All Glass	4.14%	10,853
Steel Cans	0.76%	1,992
Aluminum Cans	0.58%	1,520
Other Ferrous	2.85%	7,471
Other Aluminum	0.41%	1,075
Other Non-Ferrous	0.53%	1,389
All Metals	5.13%	13,448
Yard Waste- Grass	1.23%	3,224
Yard Waste- Other	5.78%	15,152
Wood- Unpainted	5.53%	14,497
Wood- Painted	1.63%	4,273
Food Waste	10.55%	27,656
Textiles	3.51%	9,201
Diapers	2.05%	5,374
Fines	0.93%	2,438
Other Organics	1.90%	4,981
All Organics	33.10%	86,770
Electronics	2.44%	6,396
Carpet	1.84%	4,823
Drywall	0.92%	2,412
Other C&D	5.72%	15,073
HHW	0.23%	603
Other Inorganics	2.08%	5,452
Furniture	0.37%	970
All Inorganics NEC ²	13.61%	35,678
All Disposed Waste ³	100%	262,146

¹ Composition derived from data provided in PA DEP Waste Characterization Study, 2002.

² NEC = Not elsewhere classified.

³ All "municipal waste" disposed at in-state MUNICIPAL WASTE landfills.

1.5.1 Construction and Demolition Waste

A review of the tonnages of construction and demolition (C&D) waste disposed in Figure 1-3, below, indicates that the tonnage of C&D waste disposed varied widely over the years, with a dramatic decrease in 2009, and a great recovery in 2012. This is not uncommon with C&D waste, as construction and demolition activities are highly cyclical and are impacted by economic and demographic factors. Clearly there was an impact, not only on C&D generation, but also on municipal solid waste and other categories due to the recession. The question raised in the prior section would be whether the composition of any of these types of waste changed as well. Figure 1-3 also shows that the total tons of C&D waste disposed follows the same trend as pounds per

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person disposed. The estimated average generation rate of C&D waste (for the 2009-2013 time period) is 41,799 tons, or 134.5 pounds per person per year. But, since C&D landfills are not required to submit annual tonnage reports to PA DEP, as are municipal waste landfills, some of the volume of C&D waste may be uncaptured in these numbers. Likewise, tons of C&D waste recovered through C&D recovery and reuse centers are not necessarily captured in the recycling figures either.

In an attempt to better quantify the amount of C&D waste generated in the County, representatives from C&D transfer stations, inert landfills, and recovery operations that were known to accept C&D waste generated in Bucks County were interviewed. Most facilities, however, were unable to identify what portion of the materials was recovered and what portion was disposed of, although they did indicate where their materials were delivered for disposal. The use of transfer stations for C&D waste further complicates this process of attempting to track C&D waste from generation to disposal or recovery. C&D facilities are discussed in more detail in Section 2 of this Plan Revision. From these calls, it was found that:

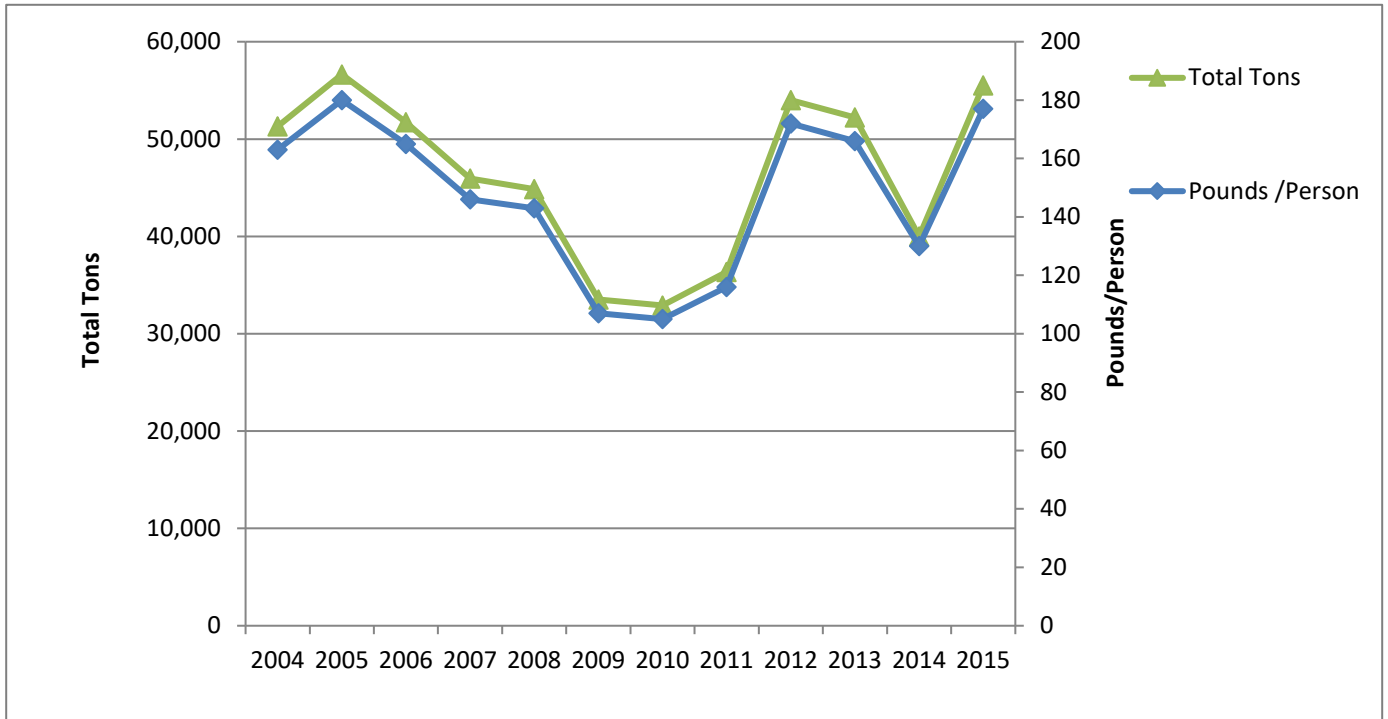
Onyx Lancaster received an estimated 19,000 tons of C&D waste generated in Bucks County per year.

These generation figures are not included in the generation figures calculated in Table 1-1, however, because such figures have not been used before, and would skew comparisons over time, and among counties. If these disposed quantities were added to C&D waste disposed of at municipal waste disposal facilities in 2012, the per capita generation rate would be close to 200 pounds.

Figure 1-3 illustrates the total tons of C&D disposed, and pounds per person disposed of at municipal waste landfills and WTE facilities from 2004 through 2015. Again, this figure underestimates total C&D waste generated and disposed, but it is not known to what degree.

Figure 1-3

Total Tons C&D Disposed, and Pounds per Person per Year Disposed
2004 – 2015



Data Source: PA DEP Municipal Waste Yearly Reports.

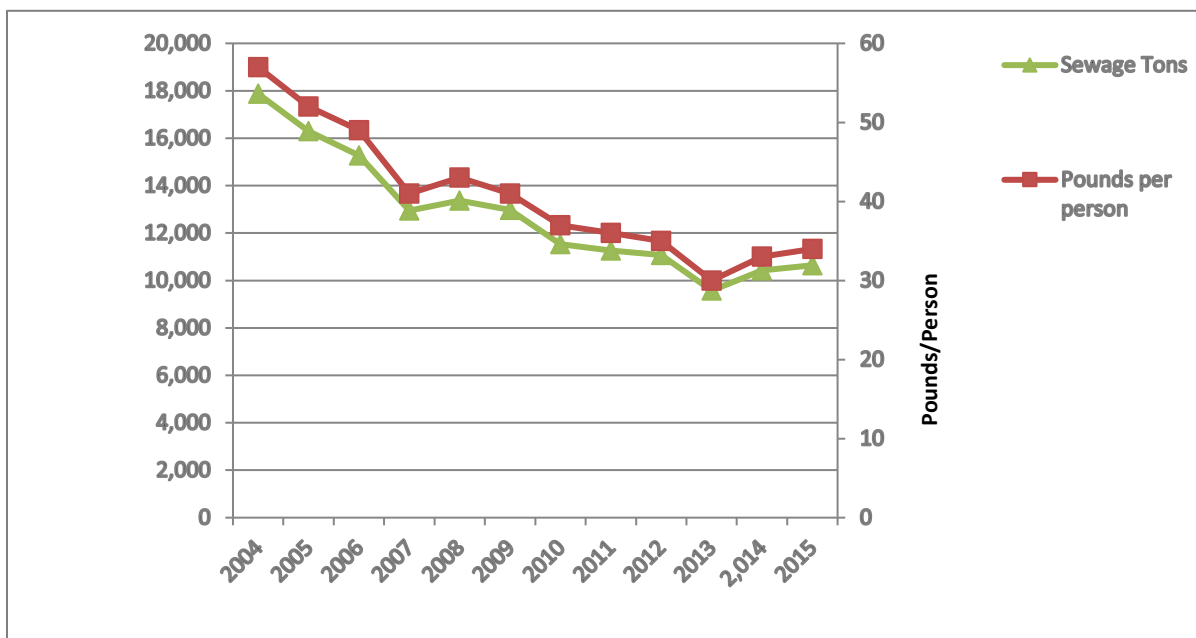
1.5.2 Septage Waste and Biosolids

The total and per-capita septage waste disposed of has been declining steadily in Bucks County since 2004, as illustrated in Figure 1-4. Also, as illustrated in Figure 1-4, the trend in overall septage waste generation has followed the same trend as the per-capita septage waste disposed.

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Figure 1-4

Total Tons and Pounds Per Capita of Septage Waste Disposed of per Year
2004 – 2015



Data Source: PA DEP Municipal Waste Yearly Reports.

In 2012 a survey of wastewater treatment plants in Bucks County was undertaken. The survey was distributed to municipal authorities, private owners, and corporate owners of wastewater treatment facilities in Bucks County. The survey requested general information and wastewater treatment plant information. Specific information requested included plant name and address, plant capacity, solids stabilization process, waste acceptance practices, and biosolids disposal information.

The 123 municipalities, authorities, and private entities on the PA DEP list of wastewater treatment facilities operating in Bucks County were contacted to identify how they manage their biosolids. Thirty six (36) wastewater generating facilities responded to the survey. Thirty-two of these facilities reported to be biosolids-generating facilities.

- Thirteen (13) use landfill disposal exclusively;
- Four (4) use a lagoon system;
- Ten (10) transport to a wastewater treatment plant, exclusively;
- Three (3) use incineration exclusively;

- One (1) uses incineration as well as transporting some to a WWTP for final processing;
and
- One (1) uses land application in conjunction with landfilling.

It is nearly impossible to determine the percentage of sludge that is landfilled versus that which is managed by land application and lagoon because no tonnage figures are reported by these facilities. In most counties, disposal methods such as lagoons and land application are generally used by smaller facilities. Based on survey response, it is estimated that approximately 475 tons of biosolids are land applied. Of the responses that indicated the use of lagoons, only one specified a volume of material. This facility, Milford Trumbauersville Sewer Authority, distributes, at least 19,500 gallons per week to a lagoon system, 2.75 percent of which is estimated to be biosolids. There are three other facilities that report disposing to lagoon systems, but they were unable to provide estimates of the quantities disposed. According to the survey results, the majority of biosolids are landfilled—around 48 percent.

The County also used this survey to collect information on which treatment plants accept septage (on-lot system pumpings), and which plants are willing to consider accepting septage in the future. Of the 32 plants responding to the survey, the following four (4) facilities are accepting septage:

- Quakertown Borough
- Cloves “D” Inc., Tohickon Family Campground
- The Gathering Group
- USS Real Estate (Division of U.S. Steel)

The majority of the facilities that responded to the 2012 survey have no plans for expansion of their treatment plants. Although the amount of septage received is expected to increase, the available plant capacities are sufficient to handle the increase.

Septage represents a small overall percentage of the total waste disposed and needs no further narrative.

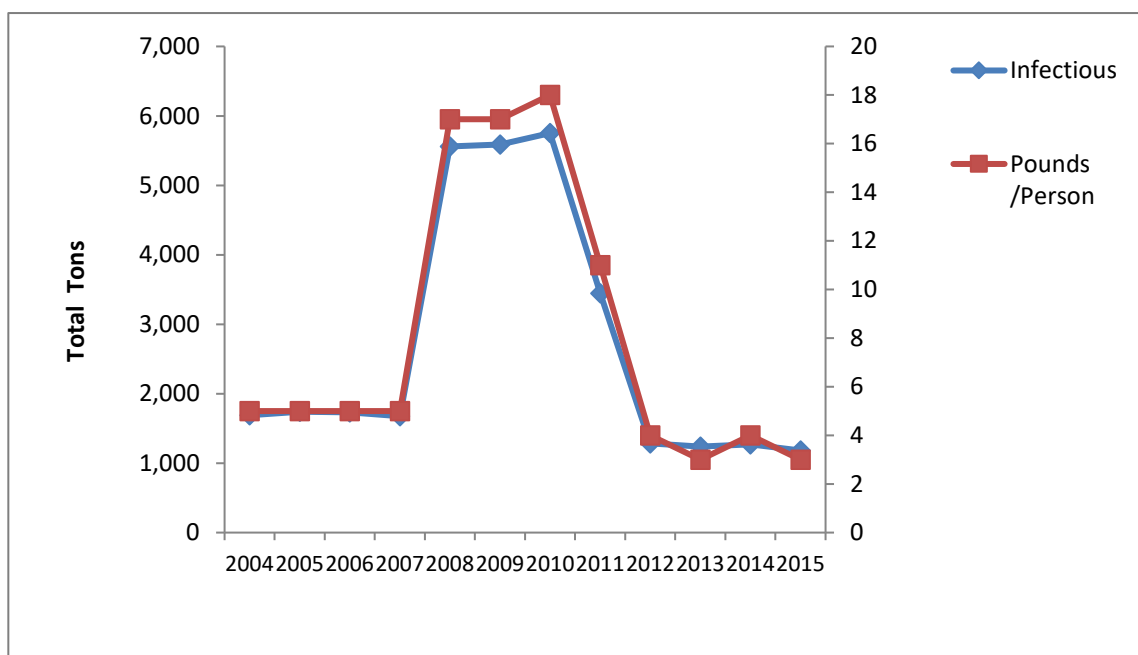
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1.5.3 Infectious and Chemotherapeutic Wastes

Total tons of infectious and chemotherapeutic wastes decreased in Bucks County throughout 2011-2015, but much of this decrease may be due to better data collection and a higher percentage being disposed of outside of Pennsylvania. In 2002, 1,807 tons of infectious and chemotherapeutic waste was generated in Bucks County. In 2015, 1,239 tons of infectious and chemotherapeutic waste was generated in Bucks County. The average of six pounds per person for the year in 2002 dropped in half by 2013. Figure 1-5 shows total tons of infectious and chemotherapeutic waste generated in Bucks County over time. As the graph shows, total tons and tons per capita have increased significantly throughout the 1990s but have decreased slightly over the past couple of years. As the graph shows, total tons and tons per capita have fluctuated significantly throughout the 2000s with a great increase from 2007 into 2008 and then soon followed by a dramatic decrease from 2010 to 2012 as well as a slight decrease into 2013. This waste type represents only 0.4 percent of the waste stream disposed in municipal waste landfills from 2004 to 2013.

Figure 1-5

Infectious and Chemotherapeutic Waste Generated in Bucks County
2004 – 2015



Data Source: PA DEP Municipal Waste Yearly Reports

To determine the manner in which the bulk of the infectious and chemotherapeutic wastes (ICW) are being handled in Bucks County, the County had surveyed funeral homes and hospitals and

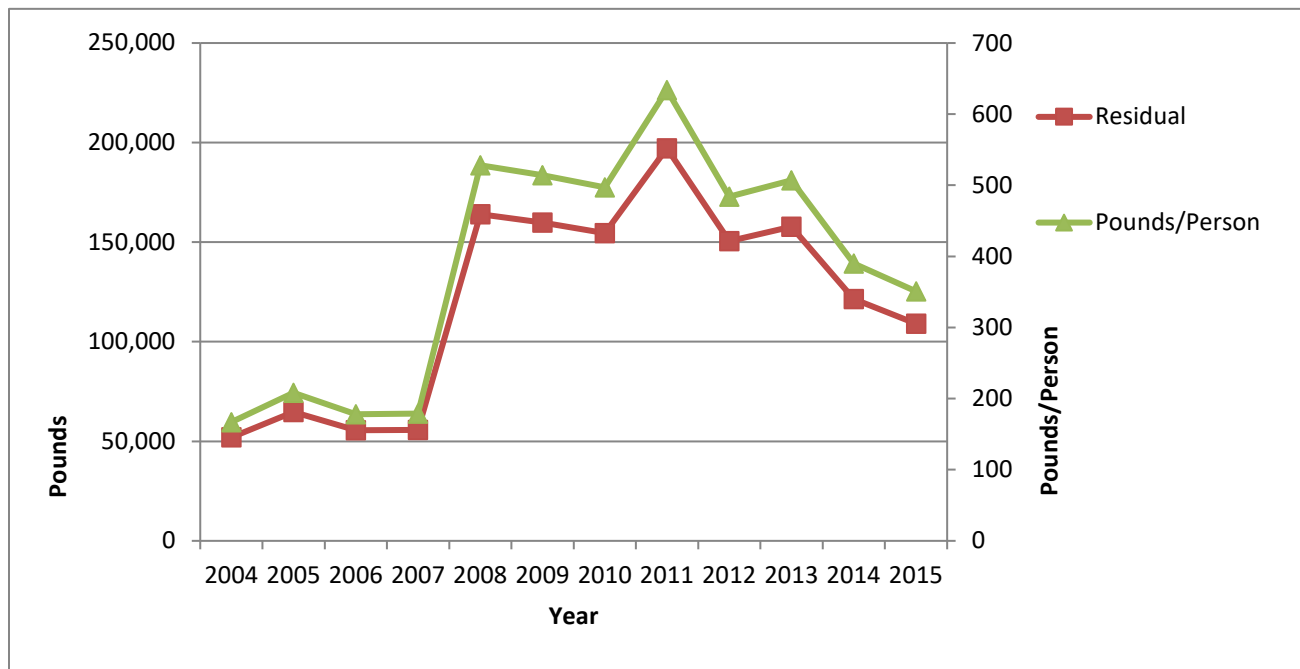
nursing homes with more than 50 beds located in Bucks County. To identify the facilities, data pertaining to funeral homes, hospitals, and nursing homes from the 2000 Harris Directory for Bucks County was analyzed. All 12 facilities were surveyed, most of which were nursing homes. Only two facilities responded to the survey—one hospital and a nursing center. The infrastructure for collection and disposal of infectious and chemotherapeutic waste is in place and generally handled by private contractors. Generation of infectious waste during the planning period is not expected to have an impact on County facilities or programs.

1.5.4 Residual Waste

Bucks County also generates residual waste at the rate of around 121,154 tons per year. This is a doubling of the average quantity in the prior plan update. Residual wastes (including sludges) are generated by industrial, mining, agriculture, or water supply treatment facilities. While Bucks County does not manage residual waste disposal, it bears mentioning because the total tonnage of residual waste disposed annually represents about 17 percent of the total tonnage of municipal waste disposed from Bucks County. Figure 1-6 shows the amount of residual waste generated in Bucks County from 2004–2015.

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Figure 1-6
Residual Waste Disposed, 2004 – 2015



Data Source: PA DEP Municipal Waste Yearly Reports.

1.6 Waste from Special Events

The Middletown Grange Fair is the largest special event known to take place in the County. Since 2012 the hauler for the event has provided recycling. Haulers implementing a recycling system have found limitations regarding participation and the quantity and quality of materials collected. In years prior to 2012 the event has not had recycling options. Although it is not a significant amount of material, the Act requires recycling in mandated communities at special events. Waste from special events is not expected to have a significant impact on solid waste management during the planning period.

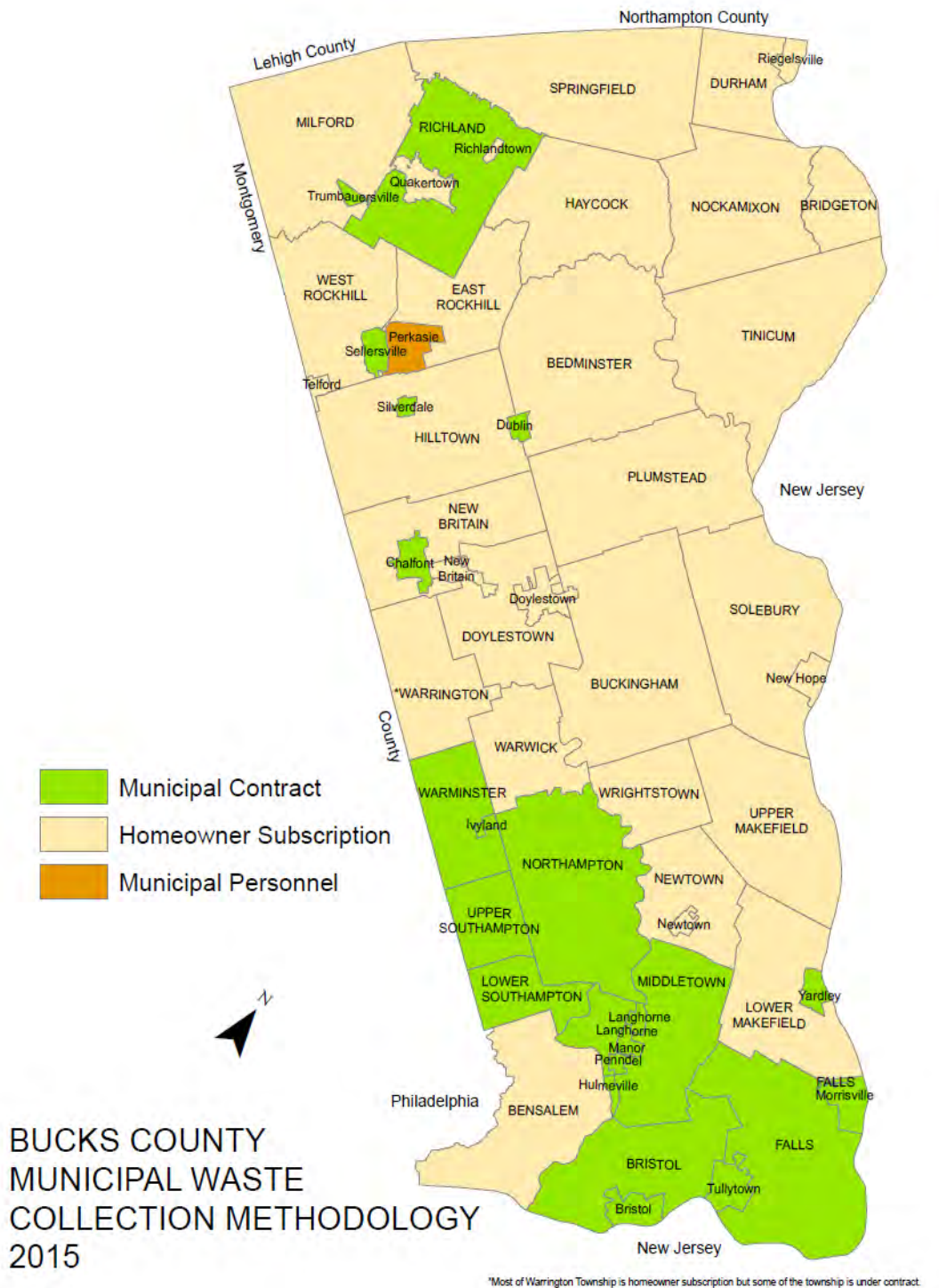
In addition to the Middletown Grange Fair, numerous special events, such as high school football games and community festivals, occur in Bucks County. These events generate wastes, such as beverage containers and food wastes, which could be targeted by the County for recovery. Thus, the County will evaluate options for educating these event coordinators about recycling opportunities available to them. It is suggested that municipalities incorporate special collection recycling into to their ordinances and into their own community events. Taken as a whole, it could have a significant impact if it were more widely required.

1.7 Municipal Collection Practices

Bucks County recently conducted a survey to identify the methods local governments use with regard to waste collection and recycling activities. All of the 54 municipalities responded. To supplement information obtained through this survey, representatives from the remaining municipalities were interviewed to determine their solid waste and recycling collection practices. An overview of municipality refuse collection practices is provided in Figure 1-7. In addition, details regarding these practices are presented in Table 1-7.

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Figure 1-7
Municipal Collection Practices, 2015



As Figure 1-7 and Table 1-7 illustrate, most communities in Bucks County rely upon homeowners to subscribe to waste haulers privately. Several municipalities, particularly those in lower Bucks County, contract with a private hauler or haulers for collection of residential refuse. Only one municipality, Perkasio Borough, provides collection of municipal refuse via municipal crews.

Some communities in Bucks County have implemented pay-as-you-throw (PAYT) trash collection programs, whereby residents pay a disposal rate based on the quantity of trash they dispose. In general, such programs are seen as a more equitable way of paying for trash collection services, and they tend to encourage recycling. The seven communities known to have PAYT trash programs are noted in the “Limitations” column in Table 1-7.

Table 1-5
Bucks County Municipal Waste Collection Practices

Municipality	Population ¹ 2017	Method	Fee	Limitations
Bedminster Twp	6,846	Open Market Residential	N/A	N/A
Bensalem Twp	60,925	Open Market Residential	N/A	N/A PAYT trash program
Bridgetown Twp	1,275	Open Market Residential	N/A	N/A
Bristol Boro	9,711	By Contract	N/A	(3) 30-gallon cans
Bristol Twp	55,121	By Contract	N/A	(1) bulk, 10 packages
Buckingham Twp	20,730	Open Market Residential	N/A	N/A
Chalfont Boro	4,033	By Contract	Flat \$54.50	6-containers (3) 30-gallon bags
Doylestown Boro	8,380	Open Market Residential	N/A	N/A PAYT trash program
Doylestown Twp	19,800	Open Market Residential	N/A	N/A
Dublin Boro	2,165	By Contract	Flat Fee	(1) bulk item per week
Durham Twp	1,149	Open Market Residential	23.50/mo 23.95/mo	None
E. Rockhill Twp	6,190	Open Market Residential	N/A	N/A
Falls Twp	34,900	By Contract	N/A	N/A
Haycock Twp	2,310	Open Market Residential	N/A	N/A
Hilltown Twp	15,333	Open Market Residential	N/A	N/A

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Municipality	Population ¹ 2017	Method	Fee	Limitations
Hulmeville Boro	1,019	By Contract	N/A	(8) container ≤50 lbs.
Ivyland Boro	1,071	By Contract	Flat	None
Langhorne Boro	1,970	By Contract		
Langhorne M. Boro	1,438	By Contract	N/A	50 Lb Container, (5) Containers PAYT trash program
L. Makefield Twp	35,120	Open Market Residential	N/A	No dirt, sod, or pressure treated wood
L.. Southampton Twp	19,540	By Contract	Flat	12 bags per collection
Middletown Twp	46,131	By Contract	Flat	(10) cans per collection (1) bulk item/week
Milford Twp	10,480	Open Market Residential	N/A	N/A PAYT trash program
Morrisville Boro	8,729	By Contract	Flat	10 bags - 3 bins
New Britain Boro	3,155	Open Market Residential	N/A	None PAYT trash program
New Britain Twp	12,660	Open Market Residential	N/A	None
New Hope Boro	2,575	Open Market Residential	N/A	N/A
Newtown Boro	2,350	Open Market Residential	N/A	N/A
Newtown Twp	19,870	Open Market Residential	N/A	None
Nockamixon Twp	3,670	Open Market Residential	N/A	N/A
Northampton Twp	40,940	By contract	Flat	12 bags
Penndel Boro	2,340	By Contract	Flat	(10) cans (1) bulk item/week
Perkasie Boro	9,060	Municipality	Pay as throw	(1) bulk item/month PAYT trash program
Plumstead Twp	13,018	Open Market Residential	N/A	N/A PAYT trash program
Quakertown Boro	9,130	By Contract	Combo	(1) 95-gal cart plus two bags
Richland Twp	13,668	By Contract	N/A	N/A

DESCRIPTION OF WASTE

Municipality	Population ¹ 2017	Method	Fee	Limitations
Richlandtown Boro	1,325	Open Market Residential	N/A	N/A
Riegelsville Boro	879	Open Market Residential	N/A	N/A
Sellersville Boro	4,249	By Contract	Flat	(2) 30-gall containers
Silverdale Boro	1,080	By Contract	N/A	N/A
Solebury Twp	8,878	Open Market Residential	N/A	N/A
Springfield Twp	5,880	Open Market Residential	N/A	None
Tinicum Twp	5,120	Open Market Residential	N/A	N/A
Trumbauersville Boro	1,130	By Contract	Flat	None
Tullytown Boro	2,050	By Contract	None	None
U. Makefield Twp	8,440	Open Market Residential	None	None
U.Southampton Twp	16,650	By Contract	Flat	12 Bags
Warminster Twp	33,538	By Contract	Flat	(11) bag limit/day
Warrington Twp	24,292	Open Market Residential	N/A	(10) bags/day
Warwick Twp	14,908	Open Market Residential	N/A	None
West Rockhill Twp	5,600	Open Market Residential	N/A	
Wrightstown Twp	3,420	Open Market Residential	N/A	N/A
Yardley Boro	2,550	By Contract	Flat	N/A

¹ Population data interpolated based on 2010 U.S. Census data and population projections from Delaware Valley Regional Planning Commission

² Individual subscription indicates that residents arrange for trash collection with hauler of their choice

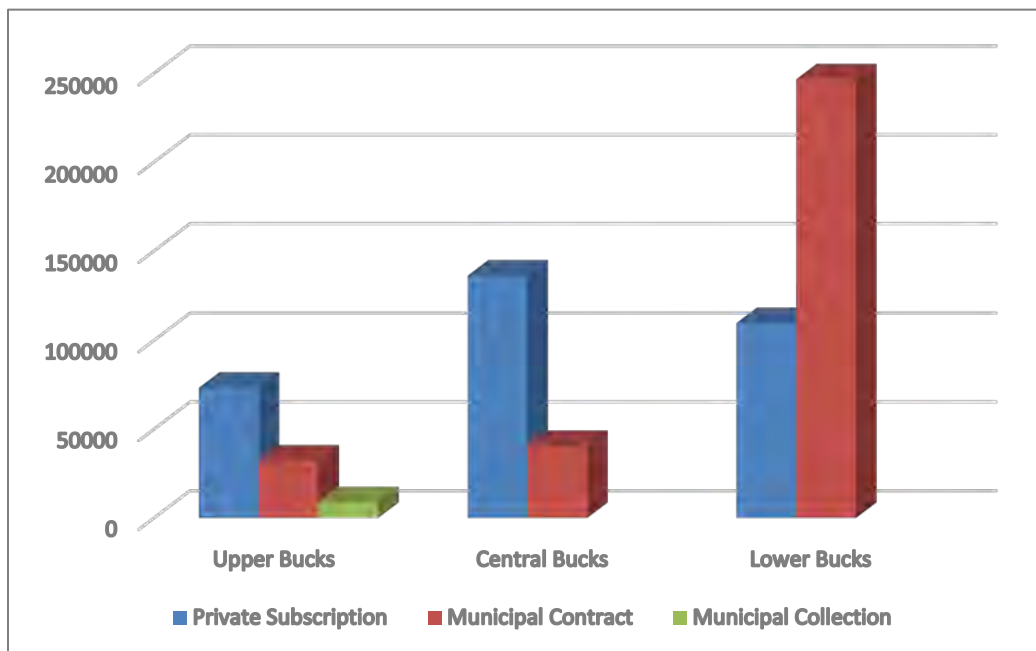
Data Source: Bucks County Municipal Survey; County Recycling Office Interviews

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Figure 1-8 shows the percent of each solid waste planning region's population under each type of hauler category. Clearly the more prevalent method of arranging for waste collection services varies from region to region in the County. The most widely used method overall is Open Market Residential: having individual households hire their own waste haulers (the method that 33 communities rely upon). This is the method of managing waste most used in the central and eastern regions of the County, whereas the southwestern portion and lower Bucks are more commonly served by private haulers via municipal contracts.

Figure 1-8

Portion of Population Served by Each Waste Collection Category



Data Source: Municipal Survey and Interviews

Section 2

DESCRIPTION OF FACILITIES

The purpose of Section 2 is to describe the facilities that are currently being used to manage the municipal waste (MW) generated in Bucks County.

2.1 Introduction

In 2015, 65 percent of the disposed waste generated in the County was disposed of in municipal waste landfills, and 35 percent was disposed of in waste-to-energy (WTE) facilities.

Some construction and demolition debris was disposed of at in-state construction and demolition landfills, but the exact amount is not known, as C&D landfills are not required to report disposed of tonnages to the County or State. Representatives from disposal facilities known to have received waste from Bucks County were interviewed to supplement reported generation data. The information is included in Table 2-1. While the information provides a more realistic picture of the amount of disposed of C&D waste being generated in Bucks County, it most likely understates the true amount of such waste generated, because not all of the waste could be accounted for; some Bucks County waste gets shipped out of state.

Municipal waste generated in Bucks County was disposed of at 17 in-state facilities (including WTE facilities and MW landfills) in 2015. However, 79 percent of Bucks County's disposed waste was delivered to three in-county facilities. Table 2-1 lists the facilities that received more than 2 percent of the waste from Bucks County in 2015.

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Table 2-1
Disposal Sites for Waste Generated in Bucks County, 2015

Disposal Facility Name and Location	Type of Facility	County of Facility	Total Tons	% of Disposed Waste	Permitted Average Daily Volume(Tons)
Municipal Solid Waste Facilities					
Tullytown Resource Recovery Facility	MW LF	Bucks	203,701	34.7%	8,333
Wheelabrator Falls, Inc	WTE	Bucks	161,129	27.5%	2,800
Grows Landfill	MW LF	Bucks	100,229	17.1%	10,000
Covanta Plymouth Renewable Energy	WTE	Montgomery	44,597	7.59%	
Delaware Cnty SWA Rolling Hills	MW LF	Berks	25,621	4.6%	3,200
Advanced Disposal Services Greentree	MW LF	Elk	11,828	2.0%	3,000
Chrin Brothers Sanitary Landfill	MW LF	Northampton	11,510	1.9%	1,200
9 Other MW Landfills	MW LF	Various Counties	26,643	4.27%	NA
1 Other WTE Facilities	WTE	Lancaster	2,022	0.34%	NA
TOTAL			601,997	100%	NA

In addition to disposal sites, Bucks County has several processing facilities. There is one privately owned and operated transfer station for municipal waste, one privately owned and operated transfer station for construction and demolition debris, and three scrap metal recovery facility, which are also private. In addition, there are three privately owned and operated yard waste composting facility, and two municipal composting operations strictly for those municipalities' own leaf waste. These facilities are discussed in more detail later in this section.

2.2 Landfills

Bucks County's 1991 plan indicated that the landfills operating in the County included GROWS Landfill and Tullytown Landfill, both of which are owned and operated by Waste Management. At that time a third landfill, an ash monofill called the Fairless Landfill, was also proposed. The facility, which is located in Falls Township, is currently in operation as of March 2016 as a MSW

landfill. Other landfills that were known to be accepting waste from Bucks County during 2015 included the following:

- Chrin Landfill, Northampton County
- Advanced Disposal Greentree Landfill, Elk County
- Rolling Hills Landfill, Berks County
- Conestoga Landfill, Berks County
- Western Berks Community Landfill, Berks County
- Pioneer Crossing Landfill, Berks County

The landfills receiving waste from Bucks County currently are described below in the following subsections.

2.2.1 Tullytown Resource Recovery Facility

The Tullytown Resource Recovery Facility (TRRF) is located in Tullytown Borough, Bucks County. It is owned and operated by Waste Management of Pennsylvania. The facility was permitted to receive an average daily volume of 8,333 tons. In 2003 the facility estimated that it had 4.5 years of remaining capacity based on current waste receipts but has received several expansion approvals. The facility closed in May 2017.

In 2015, 203,701 tons of municipal waste generated in Bucks County was sent to TRRF, 35.7 percent of the waste disposed of from Bucks County. The composition of this waste was:

- 25,575 tons municipal solid waste
- 44,889 tons residual waste
- 384 tons sludge
- 2,915 tons C&D waste
- 129,319 tons ash
- 73 tons asbestos
- 546 tons infectious waste

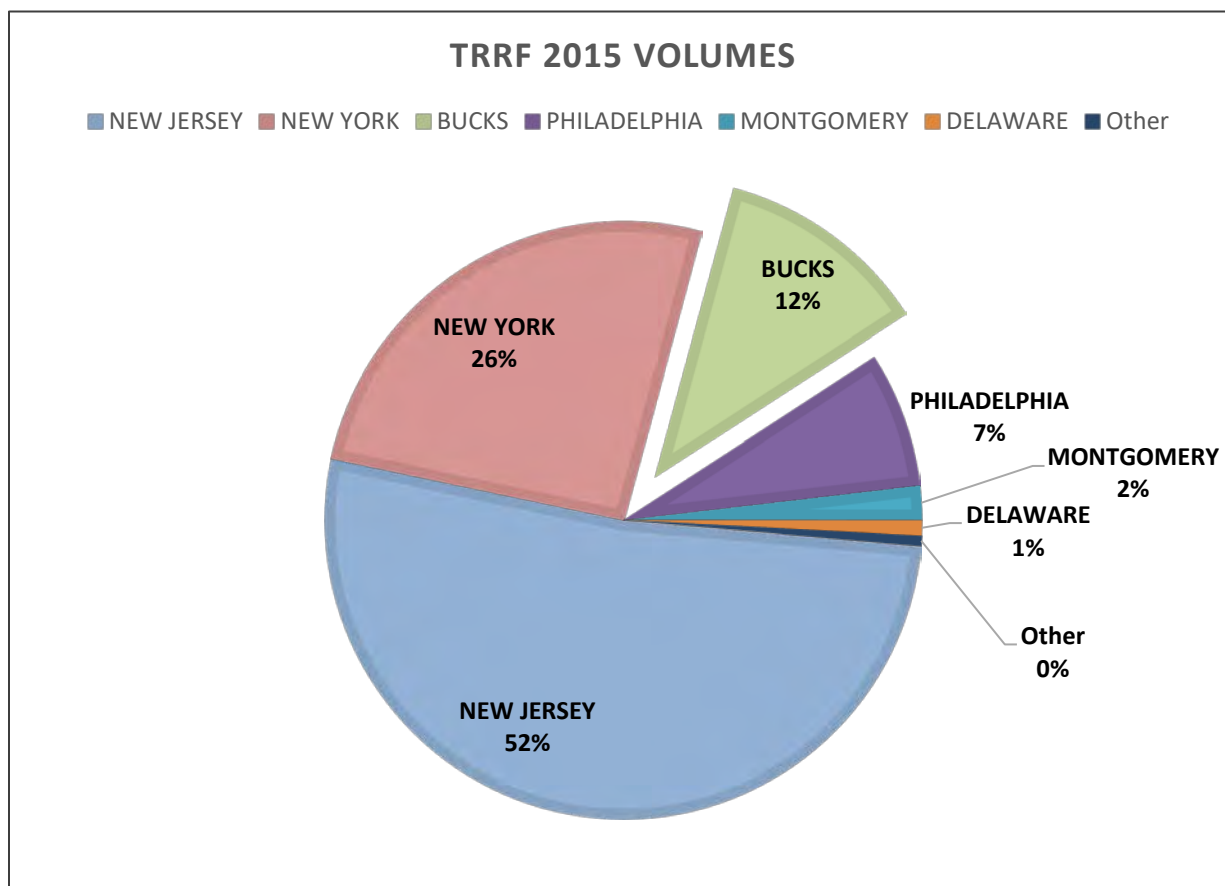
In 2015 the Tullytown Resource Recovery Facility received 1,753,415.3 tons of waste, for an average of 4803.9 tons per day. Approximately 2.5 percent of the waste delivered to the facility

Section 2

originated in Bucks County. Nearly 78 percent of the waste received at TRRF was from ten out-of-state sources, and 22 percent originated in fifteen counties throughout Pennsylvania, including Bucks. Figure 2-2 illustrates in more detail the source of waste sent to TRRF in 2015.

Figure 2-2

Sources of 2015 Waste Disposed at Tullytown Resource Recovery



2.2.2 GROWS North Landfill

The GROWS North Landfill is owned and operated by Waste Management Disposal Services of Pennsylvania, Inc. It is located in Falls Township, Bucks County and is an addition after the original GROWS closed. The GROWS Landfill is permitted to receive an average daily volume of 10,000 tons. In December 2003, the original landfill estimated that it had three years of remaining capacity based on current waste receipts. The facility is permitted by PA DEP and meets current Resource Conservation and Recovery Act (RCRA) Subtitle D and Pennsylvania requirements.

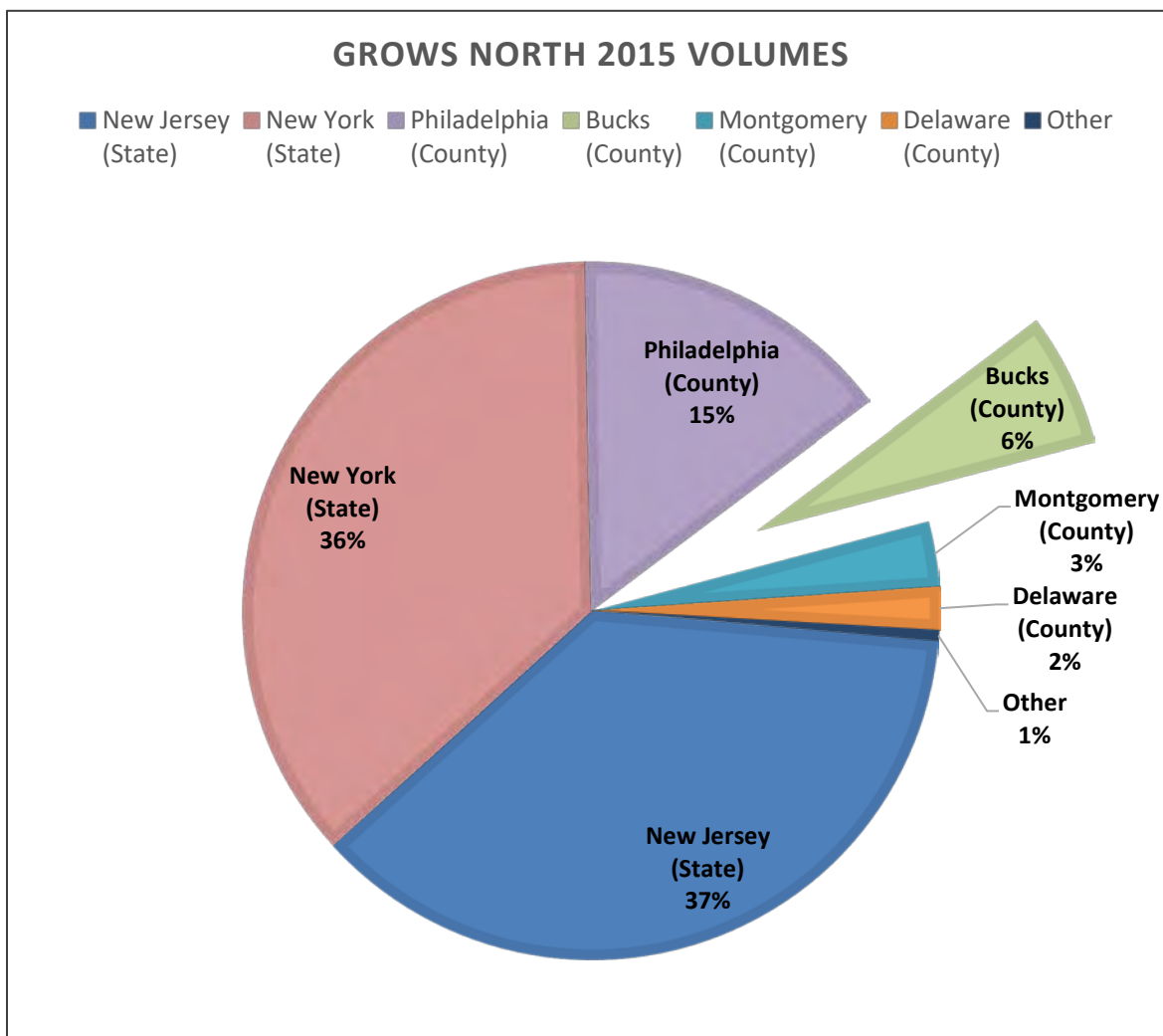
In 2015, 100,229 tons of municipal waste generated in Bucks County was disposed of at GROWS. This is 17 percent of the disposed of waste generated in Bucks County. The composition of this waste is as follows:

- 25,153 tons municipal solid waste
- 53,007 tons residual waste
- 11,453 tons sludge
- 4,560 tons C&D waste
- 5,972 tons ash
- 0 tons asbestos
- 84 tons infectious waste

In 2015, GROWS Landfill received 1,632,902 tons of waste—an average of 4,474 tons per day. Waste was received from 14 counties in Pennsylvania, including Bucks County, and five other states. Seventy four percent of this waste was from out-of-state sources, and twenty six percent was from in-state. Bucks County was the fourth largest contributor to the landfill, after the states of New York and New Jersey, and Philadelphia County. Almost 94 percent of the waste that GROWS received was from out-of-county sources. Figure 2-1 details the sources of the waste.

Figure 2-1

2015 Sources of Waste Received at Grows Landfill



2.2.3 Advanced Disposal Services - Greentree

The Advanced Disposal Greentree landfill is a municipal waste landfill located in Kersey, Elk County. The facility is permitted to receive an average daily volume of 5500 tons. In 2008, the facility expanded and has at least 10 years left of remaining capacity based on current waste receipts.

In 2015, 122,240 tons of municipal waste generated in Bucks County was disposed of at the Advanced Disposal Greentree Landfill, representing 3.0 percent of the waste from Bucks County. The composition of this waste was as follows:

- 3 tons municipal waste
- 8,819 tons residual waste
- 113,418 tons construction waste

The Advanced Disposal Greentree Landfill received 616,409 tons of waste in 2015. Fifty percent of this waste was municipal and half was from out-of state sources (primarily New York and New Jersey). Waste generated in Bucks County comprised just 2 percent of the waste received at this facility.

2.2.4 IESI PA Bethlehem (Waste Connections Inc.)

The IESI PA Bethlehem landfill is a municipal waste landfill located in Lower Saucon Township, Northampton County. The facility is permitted to receive an average daily volume of 750 tons. In December 2008, the facility reported that it had 10 years left of remaining capacity based on current waste receipts.

In 2015, 5,642 tons of municipal waste generated in Bucks County was disposed of at IESI PA Bethlehem, representing 2.5 percent of the waste from Bucks County. The composition of this waste was as follows:

- 4,428 tons municipal waste
- 1,102 tons residual waste
- 292 tons construction waste

The IESI PA Bethlehem Landfill received 259,825 tons of municipal waste in 2015. Over half of this waste was from out-of state sources (New York and New Jersey). Waste generated in Bucks County comprised nearly 2.3 percent of the waste received at this facility.

2.2.5 Chrin Brothers Sanitary Landfill

The Chrin Brothers Sanitary Landfill is located in Williams Township, Northampton County. The Chrin Brothers Landfill is permitted to accept an average daily volume of 1,200 tons. In December 2013, the facility estimated that it had 10 years of capacity remaining based on current waste receipts.

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In 2015, 34,442 tons of municipal waste generated in Bucks County was disposed of at Chrin, representing 1.0 percent of the disposed municipal waste generated in the County. The composition of this waste is as follows:

- 22,904 tons municipal solid waste
- 611 tons residual waste
- 2 tons sludge
- 10,891 tons C&D waste
- 34 tons asbestos

The Chrin Brothers Landfill received 259,825 tons of waste in 2015. Just under 2.4 percent of this waste originated in Bucks County. Nearly 60 percent originated out of state, and the remainder originated in thirteen other PA counties.

2.2.6 Other Landfills

The following twelve landfills in Pennsylvania each received less than 1 percent of disposed of waste generated in Bucks County, and collectively they received less than 2 percent of the disposed of waste generated in Bucks County:

- Pioneer Crossing Landfill (Berks County)
- Conestoga Landfill (Berks County)
- Commonwealth Environmental Systems (Schuylkill County)
- Keystone Sanitary Landfill (Lackawanna County)
- Grand Central Sanitary Landfill (Northampton County)
- Greentree Landfill (Elk County)
- Cumberland County Landfill (Cumberland County)
- Western Berks Community Landfill (Berks County)
- Modern Landfill, Inc. (York County)
- Lycoming County Resource Management (Lycoming County)
- Chester County Solid Waste Authority Landfill (Chester County)
- Lancaster County Solid Waste Management Authority Frey Farm Landfill (Lancaster County)
- Shade Landfill (Somerset County)
- Clinton County SWA (Clinton County)

- Bradford County Sanitary Landfill (Bradford County)

2.3 Waste-to-Energy Facilities

There are six permitted waste-to-energy facilities in the state of Pennsylvania. In 2015, three of these facilities collectively received 32.1 percent of the disposed of waste generated in Bucks County. Nearly all of this waste was disposed at the Wheelabrator Falls facility located in Bucks County. When Bucks County's original plan was submitted in 1991, no waste generated in Bucks County was being sent to waste-to-energy facilities. At that time, the Wheelabrator Falls Resource Recovery Facility was proposed, as was the Technochem facility, also to be located in Falls Township. The Wheelabrator Falls Facility was constructed, but the Technochem facility, which was only to have a capacity of 70 tons per day, was not.

2.3.1 Wheelabrator Falls, Inc.

The Wheelabrator Falls waste-to-energy facility is located in Falls Township, Bucks County. The facility began operation in 1994 and is owned and operated by Wheelabrator Technologies. The facility is permitted to process an average daily volume of 2,800 tons per day. It generates electricity, which is sold to the local utility. At full capacity, the facility generates enough electricity to suit the needs of 49,000 homes.

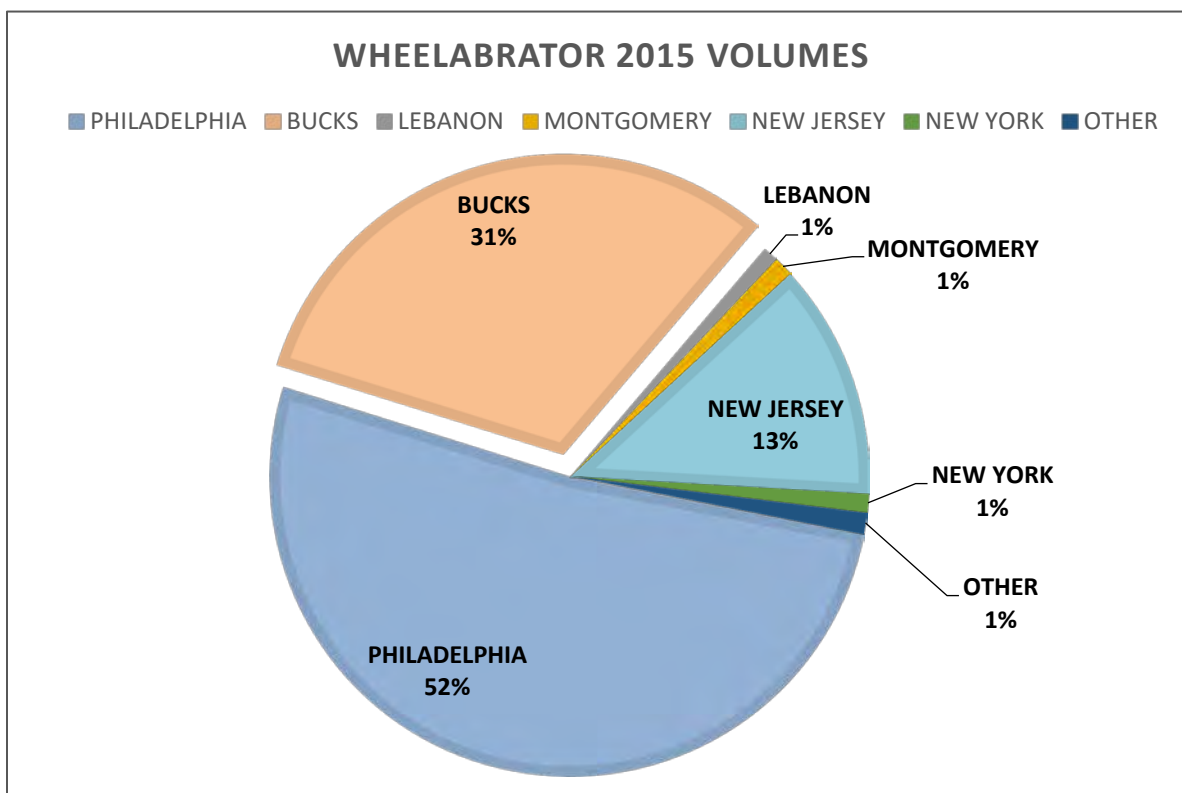
In 2015, the Wheelabrator Falls, Inc. waste-to-energy facility received the second most municipal waste generated in Bucks County of all of the facilities to receive waste from the County. The facility received 161,128 tons of solid waste, the composition of which was as follows:

- 150,856 tons municipal waste
- 344 tons residual waste
- 9,929 tons construction waste

In 2015, the Wheelabrator Falls WTE Facility received 508,904 tons of waste. Thirty eight percent of the waste was from out-of state sources, and 62 percent from in-state sources. Nearly 51 percent of the waste disposed of at Wheelabrator originated in Bucks County. Figure 2-3 details the sources of the waste delivered to Wheelabrator Falls in 2015. Most waste delivered to the facility is from six counties in Pennsylvania, and nearly 10 percent of the waste received is from New Jersey. A small amount, under 1 percent, is from Maryland.

Figure 2-3

2015 Sources of Waste Received at Wheelabrator Falls WTE Facility



2.3.2 Other WTE Facilities

A total of 6,029 tons, or 1 percent of the disposed of waste generated in Bucks County, was sent to the following WTE facilities combined in 2002:

- Covanta (former Montenay Energy Resources, Montgomery County)
- Lancaster County Solid Waste Management Authority's WTE facility (Lancaster County)

2.4 Material Recovery Facilities (MRFs)

When the original *Bucks County Municipal Waste Management Plan* was submitted in 1991, Bucks County's recyclables were being processed at five facilities:

- Bucks County/Empire Returns Corporation Recycling Center
- Springfield Township Recycling Center

- Bucks County/Otter Recycling Center
- Bristol Recycling
- Delaware Valley Scrap Recycling

Since that time the Bucks County/Empire Facility has been purchased and is operated by BFI, and the Springfield Township Recycling Center has been closed, and the Otter Recycling Center in Bristol Borough is now the Falls MRF, owned and operated by Waste Management of Pennsylvania (WMPA). In addition a recycling processing facility, Waste Alternatives, was proposed to be constructed in Bristol Township. This facility, which was to have a capacity of 1,000 tons per day, was not constructed. Total Recycle, a facility owned and operated by J.P. Mascaro recently opened in Birdsboro using the most state-of-the-art single stream equipment. The operating facilities in Bucks County are described in further detail below.

2.4.1 Falls MRF

The Falls Material Recovery Facility (MRF) is located in Falls Township on New Ford Mill Road and is owned and operated by Waste Management of Pennsylvania (WMPA). The facility processes commercial and residential tonnage, and has additional available capacity and expansion possibilities.

2.4.2 Delaware Valley Scrap Recycling

The Delaware Valley Scrap Recycling Facility is located on Beaver Dam Road in Bristol Township. The facility accepts ferrous metals, nonferrous metals, and cardboard. It receives materials primarily from lower Bucks County and parts of New Jersey. The company is unable to provide information regarding the number of tons per year processed at the facility.

2.4.3 MRFs Located Outside of Bucks County

Other MRFs located in the southeastern region indicating that they receive recyclable materials from Bucks County or that are cited by Bucks County municipalities as receiving recyclables include:

- King of Prussia Recyclery, Republic Services
- United States Recycling Inc., Newman & Co.
- Total Recycle, J.P. Mascaro

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- Accurate Recycling
- Philadelphia Material Recovery Facility, Philadelphia (Waste Management)
- Rapid Recycling Oaks

2.4.4 USRI United State Recycling Inc.

United States Recycling Inc. began operations at 6101 Tacony Street in Philadelphia, PA in 1985 as an independently owned collector, processor and marketer of recyclable material. An emphasis on quality service and long-term relationships enabled the company to grow to its current state: a full-service packer, broker and exporter handling the entire range of recyclable materials, shipping to paper mills and other end users all across the United States, Canada, and the rest of the world.

United States Recycling offers a complete range of solutions to the recyclable generators in the Tri-State area and beyond. They offer printers, converters, direct mail houses, binderies, box or carton plants, distribution centers, chain stores, beverage or food manufacturers, office parks, hospitals, municipal recycling plants, or other generators, help in designing and implementing a high quality recycling program.

2.5 Construction and Demolition Debris Landfills

There are no known C&D landfills located in Bucks County. There are, however, several C&D landfills located relatively close to Bucks County that receive C&D waste generated in the County. One of these facilities is described in the subsection below.

2.5.1 Onyx, Lancaster

The Onyx C&D landfill in Mount Joy Township, Lancaster County, was formerly the Milton Grove Landfill. The facility has received approximately 20,000 tons of C&D waste generated in Bucks County. The landfill reports that it receives waste from several Counties in central and southern Pennsylvania, as well as from Delaware and New Jersey. The facility's permit capacity is 2,500 tons a day.

2.6 Transfer Stations

In 1991, Bucks County reported that there were two transfer stations operating in the County. One was the Alderfer & Frank Transfer Station, in Hilltown Township, and the other was the

Bristol Recycling facility, in Bristol Township, which was operated by Northeast Disposal, Inc. The Bristol Recycling Facility is no longer operational, and the Alderfer & Frank Transfer Station is now owned and operated by Waste Management/Indian Valley. Three additional transfer stations were proposed in 1991. BFI proposed the construction of a transfer station in Plumstead Township, which was not constructed, and Tri-State Transfer, Inc. proposed the development of a transfer station in Tinicum Township, which did not come to fruition. Details regarding the transfer station currently operating in Bucks County are provided below.

2.6.1 USRI United States Recycling Inc.

United States Recycling Inc. began operations at 6101 Tacony Street in Philadelphia, PA in 1985 as an independently owned collector, processor and marketer of recyclable material. It also has a fully permitted MSW transfer station to service the Delaware Valley.

2.6.2 Waste Management/Indian Valley

Waste Management of Indian Valley owns and operates a transfer station on Progress Drive in Hilltown Township. The facility is permitted by PA DEP (permit #101390) to accept up to 1,200 tons per day. The facility currently has no plans for expansion, but is in the process of being upgraded. This is the only municipal waste transfer station permitted in Bucks County at this time.

2.6.3 Construction and Demolition Recycling

Construction and Demolition Recycling (CDR) owns and operates a transfer station for construction and demolition debris on Industrial Boulevard in Southampton, Bucks County. The facility management estimates that they receive 45,000 tons of material from Bucks County per year. This comprises roughly 85 percent of the total amount of debris the facility receives each year, based on 2014 figures.

Some materials are then sent to C&D landfills, and other materials such as concrete, metal, brush, and wood, are recovered. For the most part, the debris and recovered materials are delivered to facilities outside of the County. The facility manager estimates that 30–40 percent of the materials delivered to the transfer station is recovered. The facility is permitted by PA DEP (permit # 101567) to receive a maximum of 300 tons per day; but they have requested to increase to 600 tons per day. This request is currently under DEP's review.

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Facility management indicates that recovered materials are sent to the following processing facilities:

- Richard Burns & Sons (construction recovery), Philadelphia
- Kurtz Metals, (metal recovery)
- Abington Metals
- Simms Metals

2.7 Composting Facilities

In the *1991 Bucks County Municipal Waste Management Plan*, there was no mention of composting facilities. Currently there are three known composting facilities located in Bucks County. One is a large-scale public operation, and the other two are small municipal operations.

2.7.1 Warner Compost Facility

Waste Management of Pennsylvania owns and operates the Warner Compost Facility at the former Tullytown Landfill site on Tyburn Road, in Falls Township. The facility accepts leaf and yard waste, wood waste, and shrubbery from haulers and private landscaping companies. The facility is permitted to process up to 30,000 tons per year, and is operating at full capacity. There are no plans to expand the facility. Waste Management sells the compost produced at the facility commercially.

2.7.2 Morrisville Borough

Morrisville Borough operates a leaf waste composting facility. The facility accepts leaf waste collected by the municipality, as well as leaves collected by private landscaping companies, as long as they are from properties in Morrisville Borough. In 2014 the Borough processed 193 tons of leaf waste, using windrows. The compost is used in municipal landscaping projects. There are no plans to expand the facility, nor does the facility have the capability of accepting leaf waste from other municipalities at this time, due to staffing limitations. There are plans, however, to improve access to the facility in the coming year.

2.7.3 New Hope Borough

New Hope Borough receives bagged leaves, which are collected by municipal crews every Wednesday during leaf season. Leaves are emptied from the bags, and trash or contaminants,

including plastic bags, are disposed in the dumpster, and the leaves are emptied on the ground. Leaves are moved periodically with a backhoe. When the leaves are composted, they are used by municipal staff for projects, such as for flower beds. They receive about 400 33-gallon bags of leaves per season. They do not accept leaves from other communities, and have no plans to do so.

2.8 Mulch Processing Facilities

There are several known mulch processing facilities located in Bucks County. They are both municipal and commercial operations.

2.8.1 Lower Makefield Township

Lower Makefield Township has a mulching operation located at the Township Building. Residents may drop materials off at the facility. The facility accepts the following types of yard waste:

- leaves
- grass
- brush
- branches
- Christmas trees
- wood waste

Residents can deliver materials behind the municipal garage building. End products are mulch and wood chips. Materials are placed out for residents and nonprofit organizations to use free of charge. In 2015 the facility produced 11,350 cubic yards of mulch. Pre-processed quantities are not known.

The township does not have plans to expand their program or accept materials from other jurisdictions.

Lower Makefield Township also collects leaves in the fall, and delivers them to a farm that is owned by the Township. The farm processes the leaves into the soil.

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2.8.2 Quakertown Borough

Quakertown Borough has a mulching/chipping operation. The facility is located at the borough's sewer plant. The facility accepts the following types of yard waste:

- leaves
- brush
- Christmas trees
- Branches

The borough allows residents to drop yard waste off at the mulching facility four or five times per year. Mulch is produced and used in borough projects, such as in the parks area. If there is extra, it is given to residents free of charge. The borough estimates that they produce 60 to 100 cubic yards of mulch per year, depending on the number of storm events.

In addition, the township delivers leaves from municipal households to two privately owned farms that are located outside the borough. The farms process the leaves into the soil as an amendment. There is no payment of any kind involved. The borough says that it doesn't deliver that much to the farms, as they use most of the leaves as feedstock for making mulch and just deliver what they can't use to the farms.

2.8.3 Richland Township

Richland Township has a mulching facility located at the municipal garage. Residents can deliver yard waste to the facility, and municipal crews run it through a brush chipper. The facility only accepts yard waste from residents and also processes brush and branches that are collected in maintaining municipal properties such as parks and public property. The mulch is left in a pile, and residents can take the mulch free of charge, and the Township also uses it on walking trails.

The following types of waste are mulched:

- brush
- Christmas trees

2.8.4 Victory Gardens/ Milford Township

Victory Garden operates several yards for delivery of finished material, but also operates a commercial composting facility in Milford Township. They accept most organics and have considered possibly adding some food wastes. A decision on that is still pending.

2.8.5 K&D Growers- Green Grinders/Warwick Township

K&D Growers is a preserved farm in Warwick Township. They have an arrangement with the township that allows residents and local landscapers to deliver their yard waste to the farm for processing. There is no charge to the resident. Materials accepted include:

- brush
- branches and limbs up to four inches in diameter
- leaves
- general yard waste (excluding grass)

Waste is converted to mulch, and is available to residents at no charge. The mulch is sold to local landscapers.

2.8.6 Additional Composting/Mulching Facilities

Several other mulching/composting operations exist, many of which are primarily landscaping or excavating businesses that also will accept wood and/or leafy waste for processing. Such businesses include:

- Jeffrey Sparks; Doylestown; and
- Victory Gardens; Warrington.

2.9 Alternative Facilities

Other disposal facilities relatively close to Bucks County that received minimal waste generated in Bucks County in 2014, but are eligible for inclusion are:

MW Landfills

- Chester, London Grove Twp

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- Commonwealth Environmental Systems, Frailey and Reilly Twps - 99 Commonwealth Road, Hegins, PA 17938-10161
 - Alliance Landfill - 398 S Keyser Avenue, Taylor, PA 18517 100933
 - Grand Central, Plainfield Twp - 1963 Pen Argyl Road, Pen Argyl, PA 18072
 - Keystone Sanitary Landfill - 249 Dunham Road, Dunmore, PA 18512
 - Advanced Disposal Services Sandy Run Landfill - 995 Landfill Road, Hopewell, PA 16650 101538
 - Conestoga Landfill- Berks County - Harvey and Shiloh Road, Morgantown, PA 19543
 - Rolling Hills Landfill- Berks County - 583 Longview Road, Boyertown, PA 19512 100345
 - Cumberland County Landfill - 135 Vaughn Road, Shippensburg, PA 17257 100945
 - LCSWMA Frey Farm Landfill - 3049 River Road, Conestoga, PA 17516
 - Greater Lebanon Refuse Authority Landfill - 1610 Russell Road, Lebanon, PA 17046
 - Lanchester Landfill - 7224 Division Highway, Narvon, PA 17555 100944
 - Modern Landfill - 4400 Mt. Pisgah Road, York, PA 17402 100113
 - Mountain View Reclamation - 9446 Letzburg Road, Greencastle, PA 17225 101100
 - Pioneer Crossing - 727 Red Lane Road, Birdsboro, PA 19508 100346
 - IESI Blue Ridge Landfill - 1578 Orchard Road, Scotland, PA 17254
 - Western Berks Landfill - 455 Poplar Neck Road, Birdsboro, PA 19508 100739
 - Bradford County Landfill - 108 Steam Hollow Road, Troy, Pa 16947 101243
 - Wayne Township Landfill - P.O. Box 209, McElhattan, PA 17748 100955
 - Lycoming County Landfill - 447 Alexander Drive, Montgomery, PA 17752
 - Arden Landfill - 200 Rangos Lane, Washington, PA 15301 100172
 - Chestnut Valley Landfill - Route 21, McClellandtown, PA 15458
 - Greenridge Reclamation - Landfill Road, Scottdale, PA 15683
 - Imperial Landfill - Route 980, 11 Boggs Road, Imperial, PA 15126
 - J.J. Brunner, Inc. Landfill - 211 Brunner Road, Zelienople, PA 16063
 - Kelly Run Sanitation - 1500 Hayden Boulevard, Elizabeth, PA 15037
 - Laurel Highland Landfill - 260 Laurel Ridge Road, Johnstown, PA 15909
 - South Hills Landfill - 3100 Hill Road, South Park, PA 15129
 - Monroeville Landfill - 600 Thomas St., Monroeville, PA 15146
 - Mostoller Landfill - 7095 Glades Pike, Somerset, PA 15501 101571
 - Evergreen Landfill - Route 119 N & Luciousdoro Road, Coral, PA 15731
-

DESCRIPTION OF FACILITIES

- Shade Landfill - 1176 No. 1 Road, Cairnbrook, PA 15924
- Tervita Sanitary Landfill - 900 Tyrol Boulevard, Belle Vernon, PA 15012
- Southern Alleghenies - 843 Miller Picking Road, Davidsville, PA 15928
- Valley Landfill - 6015 Pleasant Valley Road, Irwin, PA 15642
- Lake View Landfill - 851 Robison Road, Erie, PA 16509
- McKean County Landfill - 19 Ness Lane, Kane, PA 16735
- Northwest Sanitary Landfill - 1436 West Sunbury Road, W Sunbury, PA 16061
- Seneca Landfill - 421 Hartman Road, Evans City, PA 16033

C&D Landfills

- Advanced Disposal Services Landfill - 2487 Cloverleaf Road, Elizabethtown 17022
- Tioga County C/D Landfill - 540 Old Bloss Road, Blossburg, Pa 16912
- Meadville Redi-Mix - 19824 Cochran Road, P.O. Box 418, Meadville 16335

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MRFs

WHEELABRATOR FALLS INC.
1201 NEW FORD MILL ROAD
MORRISVILLE PA 19067

A. J. BLOENSKI INC.
P.O. BOX 392 289 LIPPITT ROAD
ELVERSON PA 19520

ACCURATE RECYCLING CORP.
508 E. BALTIMORE AVENUE
LANSDOWNE PA 19050-2508

REPUBLIC SERVICES (MCCUSKER & OGBORNE)
10 REANEY STREET
CHESTER PA 19013-2847

ALLIED WASTE RECYCLERY (OWNER REPUBLIC SERVICES)
215 W. DEKALB PIKE
KING OF PRUSSIA PA 19406

GREAT VALLEY RECYCLING
315 WEST 6TH STREET
BRIDGEPORT PA 19405

RECOMMUNITY MONTGOMERYVILLE
1050 BETHLEHEM PIKE - BLDG. 6
NORTH WALES PA 19454

RECOMMUNITY UPPER DUBLIN
1030 FITZWATERTOWN ROAD
WILLOW GROVE PA 19090

JOHN D'ORAZIO AND SONS, INC.
2900 E. BRIDGE STREET
PHILADELPHIA PA 19137

NEWMAN AND COMPANY INC
6101 TACONY STREET
PHILADELPHIA PA 19135

PHILADELPHIA TRANSCYCLERY CO.

DESCRIPTION OF FACILITIES

2209 SOUTH 58TH STREET
PHILADELPHIA PA 19143

RECOMMUNITY PHILADELPHIA
2904 ELLSWORTH STREET
PHILADELPHIA PA 19146-2713

WASTE MANAGEMENT PHILADELPHIA RECOVERY FACILITY
5201 BLEIGH AVENUE
PHILADELPHIA PA 19136

WESTROCK FORMERLY ROCKTENN
5000 FLAT ROCK ROAD
PHILADELPHIA PA 19127

COUGLE'S RECYCLING, INC.
1000 SOUTH 4TH STREET
HAMBURG PA 19526

TOTALRECYCLE, INC.
1270 LINCOLN ROAD
BIRDSBORO PA 19508

WASTE MANAGEMENT/GREENSTAR RECYCLING
799 SMITH LANE
NORTHAMPTON PA 18067

UNITED STATES RECYCLING
6101 STATE ROAD
PHILADELPHIA, PA 19135

Section 2

Section 3

ESTIMATED FUTURE CAPACITY REQUIREMENTS

The purpose of Section 3 is to analyze the future need for waste disposal capacity, enabling the County to plan for adequate disposal capacity through 2025.

3.1 Waste Generation Projections

The data from Section 1 is used as a basis for projecting waste generation figures for the next ten years. Projecting waste generation and recycling rates is necessary to determine the waste processing/disposal capacity required by the County. These projections help the County ensure proper management of all waste.

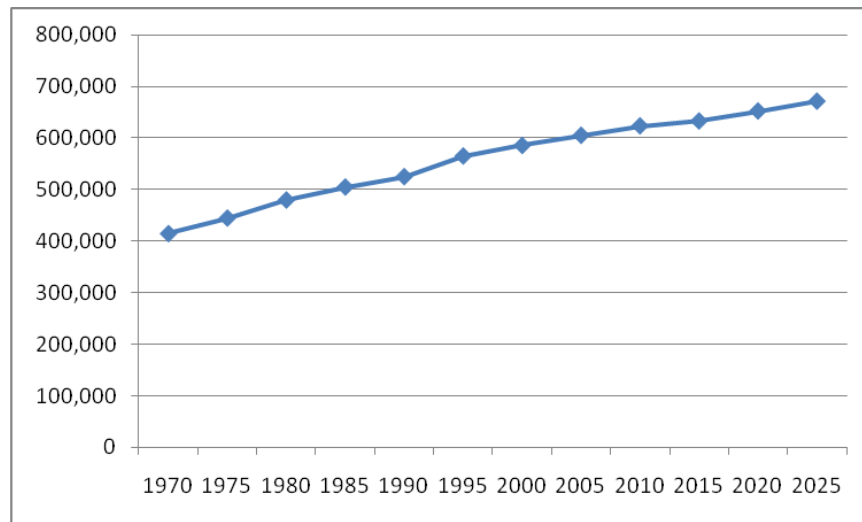
3.1.1 Population Projections

Waste generation is a function of a number of factors, particularly population. Bucks County's U.S. Census population since 1970 and projected population through 2025 are provided in Figure 3-1.

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Figure 3-1

Population Growth and Projected Growth in Bucks County, 1970 – 2025



Source: U.S. Census and Delaware Valley Regional Planning Commission;

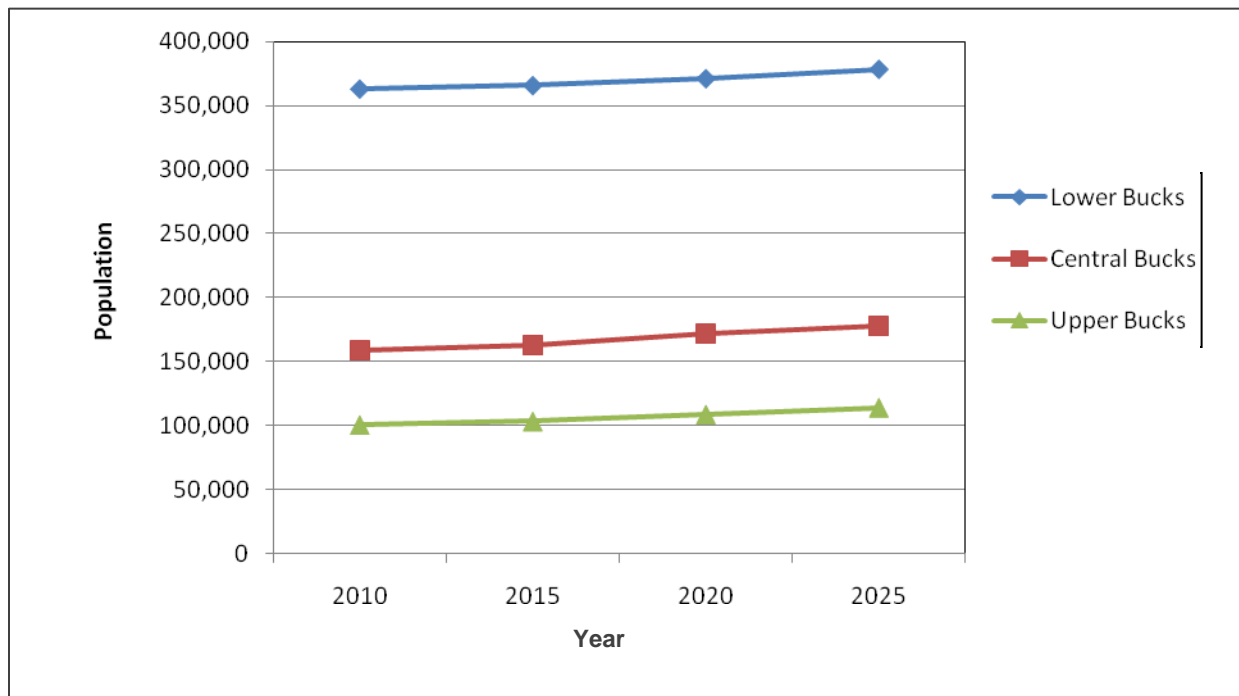
Note: The years 1975, 1985, 1995, and 2005 are interpolated. Population Data excludes Telford Borough, as they are not included in this Plan Update.

As Figure 3-1 shows, the population of Bucks County is expected to increase steadily throughout the planning period. By 2025, it is expected that the population of Bucks County included in this Plan Revision (all those except Telford Borough) will reach 691,015. From the period of 2000 to 2015 there was a forecasted increase of 15 percent based on 2000 Census data, for an average of one percent growth in population per year. Population growth had slowed substantially when the 2010 Census data was released. Based on this data the forecast 2025 population calls for an increase of 8 percent over 2010 Census data, yielding an average of a half percent growth in population per year. Some of the areas of the County that are highly developed will experience lower population growth, while areas that have a lower population density have the potential for significant growth going into 2025. Actual growth could come in higher overall as the economy recovers, but the projection should be within an adequate range to ensure waste disposal capacity.

The County is divided into three regions. The population projections for each of these regions are presented in figure 3-2.

Figure 3-2

Population Projections by Section of Bucks County



Data Source: U.S. Census and Population Projections by Delaware Valley Regional Planning Commission.

Figure 3-2 illustrates that the projected gradual increase in population is expected to impact the Lower, Central, and Upper Bucks areas. The population in Lower Bucks is the highest, however their growth rate is the lowest out of the three sections with 4 percent in the period between 2010 and 2025. The population of Upper Bucks is considerably less than Central Bucks but the growth rate in both of them is similar. The population in Central Bucks is expected to increase 12 percent and the population in Upper Bucks is expected to increase by 14 percent in the period between 2010 and 2025 (This does not include Telford Borough which is included with Montgomery County's plan). Central Bucks has the greatest potential for the largest population growth due to economic expansion during this plan period, but some mild population growth should be seen in all regions.

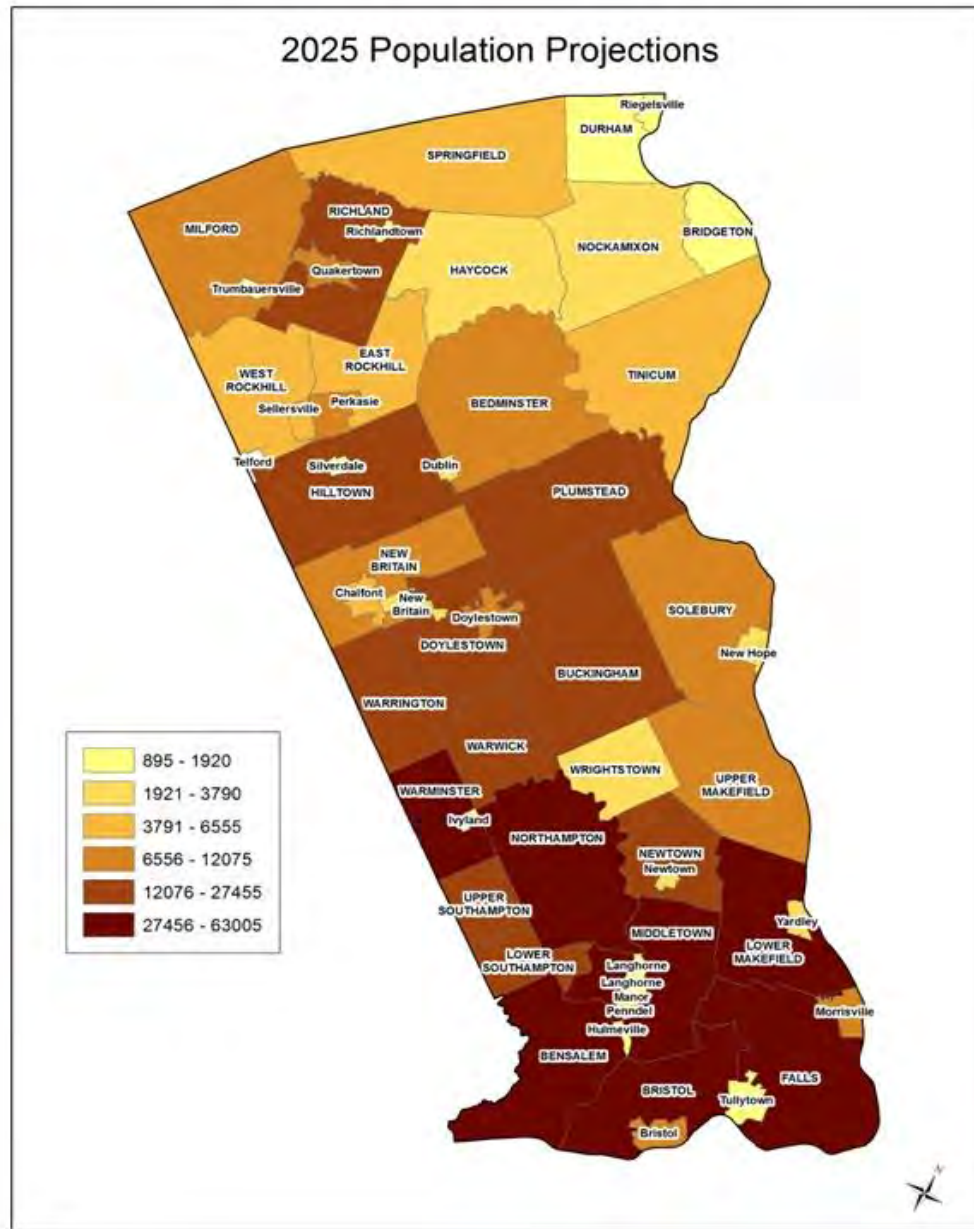
3.1.2 Population Density

Population density is an important factor in solid waste management planning, as some types of programs are less cost-effective in less densely populated areas. Also, considering population density is important in siting solid waste management facilities, recycling centers and special

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waste/recyclable materials collection events. An additional consideration in Pennsylvania is the fact that PA Act 101 uses population density as one of the criteria for becoming a “mandated community.” This is discussed in more detail in Section 4. Figure 3-3 illustrates the estimated population densities of the townships and boroughs in 2025.

Figure 3-3
Estimated Population Densities in the Municipalities, 2025¹



¹ The population density map was developed by the Bucks County Planning Commission GIS Department, 2014.

ESTIMATED FUTURE CAPACITY REQUIREMENTS

Overall, lower Bucks will continue to have a higher population density than central or upper portions of Bucks County. The most densely populated municipality in 2025 is expected to be Bensalem Township, with a density of 63,005 people. Bristol Township will be the next most densely populated municipality, with a density of 57,465 people. Other relatively densely populated municipalities will include Warminster Township, Northampton Township, and Middletown Township. On the opposite end of the spectrum, Riegelsville Borough and Durham Township are among the lowest in population in the County with a population of 925 and 1,180 respectively, projected in 2025. Other municipalities that have low projected population are Silverdale Borough, Trumbauersville Borough, Hulmeville Borough, as well as Ivyland Borough.

3.1.3 Calculating Projected Generation Rates

While it would be simple to apply the per capita generation rate calculated in Section 1 of 1.3 tons per year to the projected populations over the years, doing so would ignore the fact that some types of waste have a much higher generation rate in some years compared to others. The generation of C&D waste, for example, can be highly cyclical, as can the generation of asbestos. For these categories of waste, therefore, an average per-capita generation is calculated, using generation rates from 2009-2012. That generation rate is then applied to the population projections throughout the planning period. Table 3-1 shows the generation rates for each category of waste disposed at in-State municipal waste landfills and WTE facilities used to calculate the tons of waste expected to be generated in Bucks County.

Table 3-1

Generation Rates Used to Calculate Projected Waste Received by in-State Landfills

Waste Type	Tons per Capita
Disposed Waste	
Municipal	0.514
Residual	0.089
Sludge	0.031
Construction	0.081
Ash	0.274
Asbestos	0.015
Infectious	0.003
Total Disposed	1.007 ¹
Recovered Materials	
All Recycled Materials	0.258
Generated Materials	
All Generated Materials	1.265

¹This disposal rate differs slightly from the disposal rate calculated in Section 1, since Asbestos and Construction rates are not from one year, but averaged over four years, to account for the volatility of their volume. Generation rates for all other materials are based on 2011 data.

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Table 3-2, below, shows expected waste generation through 2015, with projections based on the population projections illustrated in Figure 3-1 and applying the generation rates shown in Table 3-1.

Table 3-2
Projected Disposal and Recycling Capacity Requirements, 2003 – 2030

Year	Total Tons Disposed	All Recycled Tons	Total Tons Generated
2011	693,628	183,864	877,492
2012	626,906	274,644	901,550
2013	614,600	144,041	758,641
2014	693,628	175,000	868,628
2015	697,096	176,225	873,321
2016	700,582	177,459	878,040
2017	704,085	178,701	882,785
2018	707,605	179,952	887,557
2019	711,143	181,211	892,354
2020	714,699	182,480	897,179
2021	718,272	183,757	902,029
2022	721,864	185,043	906,907
2023	725,473	186,339	911,812
2024	729,100	187,643	916,743
2025	732,746	188,957	921,702
2026	740,073	190,847	930,920
2027	747,474	192,755	940,229
2028	754,949	194,683	949,632
2029	762,498	196,629	959,128
2030	770,123	198,596	968,719

As Table 3-2 shows, by 2025 it is estimated that the County will require capacity to handle 732,746 tons per year of disposed municipal solid waste. This estimation assumes that the County's recycling rate remains constant at the 2012 recycling rate. For years 2026 through 2030 an average 1% increase in generation rates has been assumed.

3.2 Impact of Recycling on Future Generation Projections

As will be detailed in Section 4, Pennsylvania Act 101 requires Bucks County to achieve a recycling rate of at least 35 percent. In estimating the recycling rate, PA DEP requires communities to examine U.S. EPA standard recyclables, not “all recyclables.” The EPA standard recyclables include:

newsprint

mixed paper

office paper

magazines

corrugated cardboard

glass bottles and jars

commingled containers

aluminum cans

steel/bi-metal cans

mixed plastics

PET and HDPE

yard waste

other materials (such as food waste, HHW, film plastic, oil filters, auto batteries, textiles, auto tires and wood)

Non-U.S. EPA standard materials include the following:

construction and demolition materials

drum fiber

furniture and furnishings

nickel-cadmium batteries

auto parts

used motor oil

aluminum scrap

miscellaneous

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In addition, materials recovered in industrial processes are excluded from the EPA standard category.

As shown in Table 1-1, a total of 183,864 tons of Bucks County-generated waste was recycled in 2011. However, of that total, only 152,457 tons were U.S. EPA standard materials.

To calculate progress toward achieving the 35 percent recycling rate, the “denominator” of the equation is the tons of EPA standard materials recycled, plus the municipal portion of municipal solid waste disposed, as estimated by the reporting jurisdiction. In Bucks County during 2011 it was reported that 295,928 tons of municipal waste was disposed and 152,457 tons of U.S. EPA standard recyclables were recovered, yielding a 2011 recycling rate of 34.0 percent.

To project the disposal and recycling capacity needs if Bucks County were to maintain its goal of a 35 percent recycling rate, assumptions had to be made regarding the cyclical nature of certain waste streams and the decline in overall MSW. It was assumed that any further implementation of recycling programs might take some time to have an impact, therefore it was assumed that the current recycling rate of 34.0 percent would hold steady throughout the remainder of this plan. It is then assumed that the 34-35 percent recycling rate will be sustained throughout the rest of the planning period. Table 3-3 illustrates the projected disposal capacity and recycling capacity that would be required under such assumptions. The assumed recycling rate for each year is also indicated.

ESTIMATED FUTURE CAPACITY REQUIREMENTS

Table 3-3

Projected Disposal and Recycling Capacity Requirements
Assuming Recycling Goal Reached 2011–2025

Year	Recycling Rate	Total MSW Tons Disposed	EPA Standard Tons Recycled	All Tons Recycled
2011	34.00%	295,928	152,457	183,864
2012	40.00%	262,146	174,228	274,644
2013	35.00%	248,164	131,223	144,041
2014	34.00%	249,405	131,879	162,412
2015	34.60%	250,652	132,539	163,224
2016	34.60%	251,905	133,201	164,040
2017	34.60%	253,165	133,867	164,860
2018	34.60%	254,430	134,537	165,685
2019	34.60%	255,703	135,209	166,513
2020	34.60%	256,981	135,885	167,346
2021	34.60%	258,266	136,565	168,182
2022	34.60%	259,557	137,248	169,023
2023	34.60%	260,855	137,934	169,868
2024	34.60%	262,159	138,623	170,718
2025	34.60%	263,470	139,317	171,571

Due to the variability of the data from year to year, stretching the percentage to reach 35 percent is impracticable. Bucks County has decided to fully implement as many of the recycling recommendations as it realistically can; with the belief that that will increase the recycling percentage well beyond the commonwealth's goal. These would include: better data collection, expanded education, model recycling ordinances, increased enforcement, and expanded single stream availability.

Figure 3-4, below, illustrates the difference in disposal capacity required if the current recycling rate holds steady and maintains the commonwealth's recycling goal of 35 percent, calculated per Act 101 Guidelines, throughout the ten year plan update. The 2011 – 2013 period is actual data and clearly shows how problematic it will be to make assumptions based on the current downward trend line. As the economy recovers more recycling would need to take place to keep to the current goal. Any additional increases in recycling would help preserve future disposal capacity and reduce municipal solid waste generation. For municipalities that have a contract that requires payments based on volume of municipal waste disposed; this could represent a significant cost savings.

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Figure 3-4

Tons of Municipal Solid Waste Disposed Assuming a 35 Percent Recycling Rate,
2011 – 2025

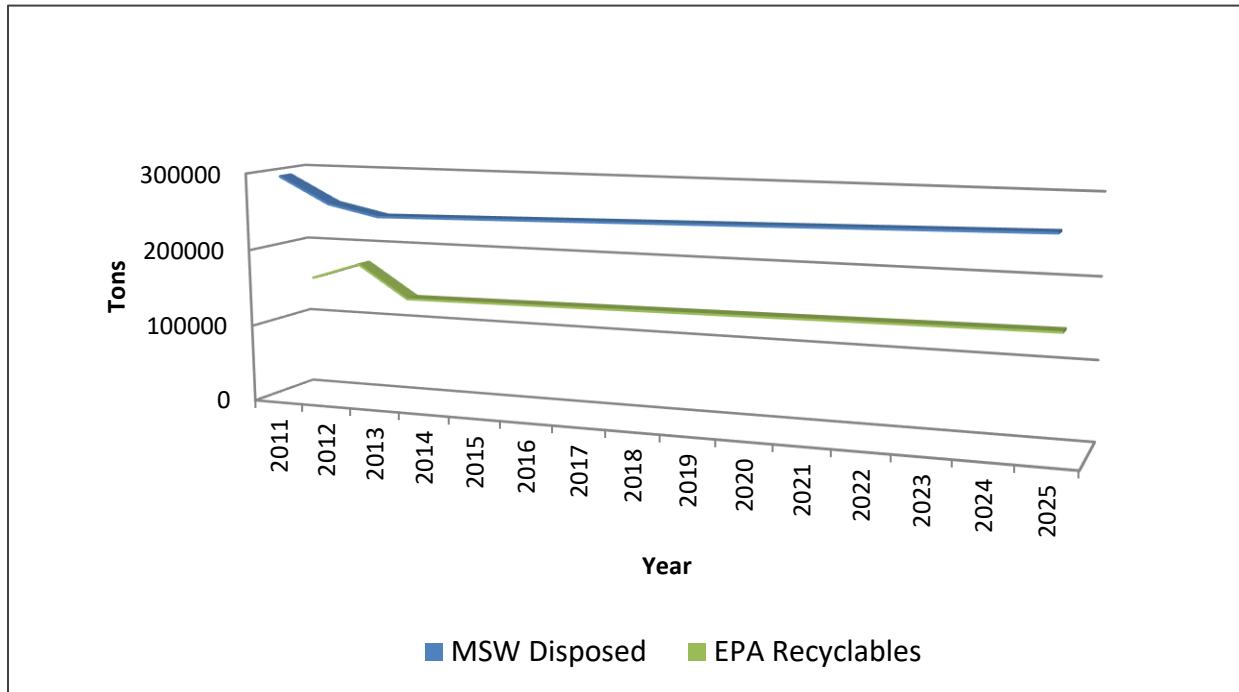


Table 3-4, on next page, shows the amount of disposed waste and recyclables that would be generated and disposed and processed if the 35 percent goal were reached in all remaining years in the planning period. Having no more current composition study data, it is assumed that the individual commodities recycled would be recovered in similar proportions as they were in the 2000 Pennsylvania waste composition study mentioned in section 1.

ESTIMATED FUTURE CAPACITY REQUIREMENTS

Table 3-4

Bucks County Municipal Waste Generation Projections Tonnage Required to Annually Achieve 35 Percent Recycling Goal

Waste Category	Year											
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Municipal Solid Waste Generated ¹	470,116	475,628	479,841	484,054	488,266	492,479	496,691	500,630	504,569	508,507	512,446	516,385
Municipal Solid Waste Disposed	305,575	309,158	311,897	314,635	317,373	320,111	322,849	325,410	327,970	330,530	333,090	335,650
Residual Waste	320,986	324,750	327,626	330,503	333,379	336,255	339,131	341,821	344,510	347,199	349,888	352,578
Sludge	55,594	56,246	56,744	57,242	57,740	58,238	58,737	59,202	59,668	60,134	60,600	61,065
Construction ²	19,404	19,631	19,805	19,979	20,153	20,327	20,501	20,663	20,826	20,989	21,151	21,314
Ash	50,530	51,123	51,576	52,029	52,481	52,934	53,387	53,810	54,234	54,657	55,080	55,504
Asbestos ²	171,060	173,066	174,599	176,132	177,664	179,197	180,730	182,163	183,596	185,030	186,463	187,896
Infectious	9,378	9,488	9,572	9,656	9,740	9,824	9,908	9,987	10,065	10,144	10,222	10,301
All Municipal Waste Disposed at MW Facilities	613,392	620,584	626,081	631,577	637,074	642,570	648,067	653,206	658,345	663,484	668,623	673,762
Total Recyclables	176,812	178,885	180,469	182,054	183,638	185,222	186,807	188,288	189,769	191,251	192,732	194,213
EPA Standard Recyclables	164,541	166,470	167,944	169,419	170,893	172,368	173,842	175,221	176,599	177,978	179,356	180,735
- Newsprint	21,928	22,186	22,382	22,579	22,775	22,972	23,168	23,352	23,535	23,719	23,903	24,087
-- Mixed Paper	8,240	8,337	8,411	8,485	8,558	8,632	8,706	8,775	8,844	8,913	8,982	9,051
- Office Paper	4,356	4,407	4,446	4,485	4,524	4,563	4,602	4,639	4,675	4,712	4,748	4,785
- Magazines	361	365	368	372	375	378	381	384	387	390	393	396
- Corrugated Cardboard	42,522	43,021	43,402	43,783	44,164	44,545	44,926	45,282	45,638	45,995	46,351	46,707
- Glass	683	691	697	703	709	715	721	727	733	739	744	750
- Commingled Containers	19,265	19,491	19,663	19,836	20,009	20,181	20,354	20,515	20,677	20,838	20,999	21,161

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Waste Category	Year											
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
- Aluminum Cans	273	277	279	282	284	286	289	291	293	296	298	300
- Steel/Bimetal Cans	167	169	171	172	174	175	177	178	180	181	183	184
- Mixed Plastics	1,077	1,089	1,099	1,109	1,118	1,128	1,138	1,147	1,156	1,165	1,174	1,183
- HDPE	62	63	64	64	65	65	66	66	67	67	68	68
- Yard Waste	57,825	58,503	59,021	59,539	60,058	60,576	61,094	61,578	62,063	62,547	63,032	63,516
-Other EPA Standard Recyclables	7,780	7,871	7,941	8,011	8,080	8,150	8,220	8,285	8,350	8,415	8,481	8,546
Recycling Rate ³	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Per Capita Recycling Rate ⁴	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Per Capita Generation Rate ⁵	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
Per Capita Disposal Rate ⁶	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98

¹Includes municipal solid waste disposed and EPA Standard Recyclables

²Based on average generation rates for 1999-2002

³Total quantity of EPA Standard divided by the total quantity of municipal solid waste generated

⁴Includes EPA Standard and Non Standard Recyclables

⁵Includes all waste and all recyclables generated.

⁶Includes all waste disposed.

ESTIMATED FUTURE CAPACITY REQUIREMENTS

As Table 3-4 shows, a 35 percent recycling rate could be achieved if the per capita generation rate were 1.26 tons per year, including all recyclables and all waste categories; the per capita recycling rate were 0.28 tons per year (or 560 pounds); and the per capita disposal rate were 0.98 tons per year (or 1,960 pounds per year). Table 3-5 shows these rates relative to the generation, disposal, and recycling rates that Bucks County has experienced recently.

Table 3-5
Generation, Disposal, and Recycling Rates in Bucks County
(Tons per Capita per Year)

	2010	Average 2005–2012	To Achieve 35% Recycling Rate
Annual Per Capita Disposal Rate	0.99	1.06	0.98
Annual Per Capita Recycling Rate	0.26	0.23	0.28
Annual Per Capita Generation Rate	1.25	1.29	1.26

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DESCRIPTION OF RECYCLING PROGRAM

The purpose of Section 4 is to describe the recycling activities taking place in Bucks County and the impact recycling has on the amount of municipal waste requiring disposal/processing capacity.

4.1 Current Recycling Rate

The recycling goal set forth in Act 101 is for communities to reach a recycling rate of at least 35 percent. This goal was to be reached by 2003. Between 2000-2011 the County of Bucks hovered around the 35 percent level; sometimes a few percentage points above or below. In estimating the recycling rate, PA DEP requires communities to examine EPA standard recyclables, not “all recyclables.” The “denominator” of the equation is the tons of EPA standard materials recycled plus the municipal portion of municipal solid waste, as estimated by the reporting jurisdiction. PA DEP follows U.S. EPA Guidelines in determining what materials are to be considered municipal solid waste and what materials are to be considered “EPA-Standard Recyclables.” Section 3 of the Plan Revision provides details regarding which materials are included as EPA standard materials.

Bucks County’s recycling rate, as calculated in this fashion, is provided in Table 4-1 below for the years 2012 through 2015.

Table 4-1
Bucks County Recycling Rate, 2012 – 2015

Waste Category	2012	2013	2014	2015	Average
Municipal Waste Disposed	262,146	248,164	269,012	268,590	261,978
Total EPA Standard Materials Recycled	274,644	144,041	181,934	164,140	191,190
Total Generated	536,790	392,205	450,946	432,730	453,168
Recycling Rate	51.16%	36.72%	40.35%	37.93%	42.19%

Data Source: PA DEP Municipal Waste Annual Reports (waste figures); County-provided data (Recycled tons).

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As Table 4-1 illustrates, the County’s recycling rate has fluctuated over the last few years. All of the annual rates are well above the goal of 35 percent. The recycling rate declined significantly in 2013, but since the drop is most likely due to a change in the quality of data reporting, it is unlikely to occur again or be a valid reflection of a real decrease. The four-year average for the 2012–2015 timeframe is approximately 42 percent. The goal of a 35 percent recycling rate appears to have been met, although improvements to the recycling program and the data collection should ensure that Bucks County is never below that rate, and is working towards being significantly above it.

4.2 Potential Recyclable Materials in the Municipal Waste Stream

Table 4-2 shows selected recoverable materials and the estimated percent of each material that is disposed of (based on data from the PA DEP 2002 Waste Composition Study, adjusted to account for Bucks County’s demographic makeup). Percent of waste stream refers to the municipal solid waste portion of the waste stream only, e.g., excludes residual waste, sludge, ash, and asbestos. Tons recovered is from 2012 data supplied by Bucks County. The County’s “commingled” category, which consists of aluminum cans, steel cans, HDPE and PET plastic bottles, and glass containers, was “broken out” into the individual commodity categories. The portion of each material in the “commingled” category was estimated based on the portion of the materials recovered separately, e.g., in their own category, in the County. In the case of HDPE and PET plastics, however, there was no data pertaining to PET—only HDPE and “mixed plastics.” PET and HDPE were therefore extrapolated based on their relative prevalence in the disposed waste stream. It is also assumed that only half of the “mixed plastics” recovered in the County in 2012 were PET and HDPE bottles. This is because municipalities may include film plastics and other types of plastics, as well.

DESCRIPTION OF RECYCLING PROGRAM

Table 4-2

Selected Recoverable Materials in Bucks County Waste Stream 2015

Material	% of Disposed Municipal Waste Stream (by weight)	Tons Generated	Tons Recycled	% Recovered	Tons Disposed (not recycled)
Corrugated Cardboard	7.5%	61,221	37,636	61.5%	23,585
Newspaper	4.1%	32,266	19,408	60.2%	12,857
Magazines	2.5%	8,166	319	3.9%	7,846
Office Paper	4.7%	18,672	3,856	20.6%	14,817
Mixed Paper	4.4%	21,090	7,293	34.6%	13,797
Glass	3.5%	21,160	11,004	52.0%	11,004
Yard Waste	7.0%	73,167	51,180	69.9%	21,988
Wood	7.2%	22,545	102	0.5%	22,444
PET	0.8%	5,128	2,614	51.0%	2,614
HDPE	0.6%	3,640	1,827	50.2%	1,827
Steel Cans	0.8%	4,575	2,370	51.8%	2,370
Aluminum Cans	0.6%	3,658	1,829	50.0%	1,829

Data Source: PA Municipal Waste Yearly Report, 2012; PA DEP Waste Composition Study; County Recycling Survey; Interviews with non-responding municipalities.

Note: For the sake of the analysis, “commingled containers” are broken out by material in the proportion in which they are present in the disposed waste stream. It is also assumed that half of the “mixed plastics” recovered from municipalities are PET and HDPE bottles, as municipalities may include film plastic and commercial plastic in the tons they report.

According to the estimates shown in Table 4-2, yard waste is the most successfully recovered material, with a 70 percent recovery rate. Corrugated cardboard also appears to be recovered at a high level, with a 62 percent recovery rate. Newspaper recovery, according to the data, is also successful, with a rate of 60 percent. It is likely, however, that many communities combine their newspaper and magazines, so the magazine recovery rate of about 4 percent is likely to be understated, and the newspaper rate to be overstated, but it is unknown to what extent. In addition, the amount of paper available for recycling has dropped dramatically with the growth of online news sources and magazines. Overall, paper is estimated to be recovered nationally at a rate of 50 percent.¹ Mixed paper and office paper are recycled at a rate of 35 percent and 21 percent respectively, in Bucks County.

Aluminum cans are recovered at a rate of 50 percent, which is approximately the national average recycling rate for aluminum cans,² and steel cans at a rate of 52 percent, which is lower

¹ American Forest and Paper Association

² The Aluminum Association

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than the national average of 58 percent.³ Glass containers have a recovery rate of 48 percent, much higher than the national average of 35 percent⁴.

At the national level, plastic bottles are recovered at a rate of 58 percent.⁵ The analysis of Bucks County data indicates that slightly under 50 percent of both HDPE and PET plastic bottles are recovered.

4.3 Existing Material Recovery Programs

There are 54 municipalities in Bucks County; all but one, Telford Borough, which is partially located in Montgomery County and partially in Bucks County and which participates in Montgomery County's program, therefore, there are effectively 53 municipalities to consider.

4.3.1 Curbside Recycling Programs

Of the 53 participating communities, 49 indicate that curbside recycling is available to their residents, either through municipal contract, private subscription contracts, or directly through the municipality. Most communities indicate that haulers generally accept the following recyclable materials in their curbside program:

- brown glass
- green glass
- clear glass
- aluminum cans
- steel cans
- #1 plastic bottles
- #2 plastic bottles
- #3-#7 assorted plastics
- cardboard
- chipboard
- newspaper
- magazines

³ The Steel Recycling Institute

⁴ Glass Packaging Institute

⁵ American Plastics Council

- junk mail
- mixed paper

Recyclables had generally been collected in two streams—commingled containers and paper throughout all of the previous plans. Some haulers would accept cardboard at the curb, but others will not, as it tends to fill the collection vehicle quickly. The collection of recyclables has changed dramatically, starting in about 2009, and now a single-stream recycling mix is the predominant collection type.

The majority of programs provide collection on a weekly basis, but in a handful of communities collection is every other week. One municipality, Langhorne Manor Borough, indicates that their contracted hauler collects recyclables on the first, third, and fifth Wednesday of the month. Some survey respondents/interviewees could not indicate how frequently recyclables are collected at the curb, as this depends on the hauler selected by the household.

4.3.2 Single-Stream Recycling

When evaluating single-stream recycling, it is important to take a look at the evolution of curbside recycling. When Act 101 was passed in Pennsylvania, recyclables from a household were collected in multiple small containers: the most common being five gallon buckets. Buckets would contain sorted glass (green, clear, brown), aluminum cans, bimetal cans, plastic bottles (often separated into PET and HDPE), and newspaper. Each household would have the time-consuming responsibility of sorting the material and placing this multitude of sorted buckets at the curb for collection.

The waste hauler would collect this material in specialized trucks. Each truck would have separate compartments for the sorted material. These trucks would often have to weigh their vehicle for each material dumped at a Materials Recovery Facility (MRF), unload that material, and then weigh the truck again for the next material. These vehicles offered no compaction of the recyclables, were inefficient, and expensive.

Curbside collection and unloading were time consuming. For the resident this source-separated, multi-container system was time consuming and required a fair amount of storage space. For the MRF there was very little additional work needed, other than inspecting, baling, loading and shipping. The MRF needed relatively inexpensive machinery and little labor to handle this multiple stream material.

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In the early nineties this system was replaced by the commingled curbside collection system (often called dual-stream). The resident placed all bottles and cans into one container, and either placed a bag of newspaper on top, or placed paper items in a separate container. This system required less separating and took less space. It also allowed some programs to include many additional paper items, including cardboard.

For the hauler it was quicker to collect from the curb, took less time to unload at a MRF, and allowed for vehicles that only had two compartments: it also allowed for compaction in these compartments.

The MRF, however, now needed additional equipment to sort the bimetal cans out of the commingle mix, additional labor to sort the various types of plastic by hand, and a more complex system of conveyors, loaders, balers and storage bunkers. In essence, the time and cost burden was shifting from the household and hauler to the MRF.

In a residential single-stream system all recyclables are placed in a container similar in size and shape to the household's trash can/cart. These carts often have wheels to bring the material easily to the curb. The resident has very little work to do to separate and store their waste and recyclables. Paper and cardboard can be placed in the carts at any point and does not need to be in a separate bag/container.

For the hauler, this system allows the use of the same vehicles that are used for residential waste; as long as waste and recycling are not mixed together and the truck is clearly labeled as to what it is collecting on that given day. Single-stream recycling allows the hauler to accept more items in the curbside program, allows for mechanized collection (a mechanical arm that grabs the can and dumps it in the vehicle), allows for greater compaction, limits unloading time, and reduces the amount of labor required for collection.

For the MRF, however, the single-stream system requires the greatest amount of specialized equipment, labor and expense. Often MRFs use blowers, trommels, shaker screens, eddy current units and even optical scanning sorters to get the recyclable material clean enough to market. Recently some end-use mills have been more selective about the quality of recyclable material that they will accept.

In summary, although single-stream recycling typically increases the amount of material being recovered from the waste stream, it does so by shifting the cost to the MRF: and possibly by lowering the quality of the processed recyclable material.

4.3.3 Drop-Off Recycling Programs

Twelve communities have available drop-off recycling of at least one material, and another recommends that their citizens use a drop-off facility located in another municipality. Of the four municipalities that do not have curbside recycling available to them, three have drop-off recycling sites in their municipalities. Nine communities offer both curbside and drop-off recycling programs. During the interview process a handful of communities noted that they used to have drop-off programs, but that their drop-off sites were abused, and the municipality cannot afford to have a staffed drop-off facility.

4.3.4 Appliance Recycling

Appliance recycling is handled in the County, for the most part, through private haulers and scrap recyclers. In most cases private haulers will allow residents to set out bulky items, including appliances, on a weekly basis. Many haulers charge an extra fee for the service, and/or require residents to call in advance to schedule a pick-up. Perkasio Borough, which does its own hauling, offers the service on a monthly basis. There is a \$15.00 fee (sticker program) for the service. There are several private scrap recyclers located in the County, therefore the infrastructure is in place and is adequate.

4.3.5 Leaf/Yard Waste Collection and Processing Programs

Of the 53 communities, 31 indicate that leaves are collected curbside. This service is most frequently provided by the private haulers, who collect bagged leaves at the curb, or by municipal or private leaf vacuum services. Ten municipalities indicate that they have a leaf vacuum program. Morrisville Borough does not have curbside collection of leaves but allows residents to drop leaves off at their composting site. In most cases collection of yard waste other than leaves is provided by the same entity that collects leaf waste in the jurisdiction, unless curbside leaf vacuum service is provided. In that case, brushy waste cannot be vacuumed, and residents must bag or bundle their yard waste. In some communities, particularly the rural areas, on-site composting of leaves is common. Burning of leaf and yard waste is still a common practice in some of these areas as well. Of the 53 municipalities in the County's plan, 31 municipalities indicate that they have bans on backyard burning; 21 municipalities indicate that they do not, and one was uncertain.

Once yard waste is collected, it can either be mulched (brushy waste, wood waste, limbs, Christmas trees, and leaves) or composted (leaves, primarily, and some ground wood waste).

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Several communities indicate that they have arrangements with farms to deliver leaf waste to the farms. The leaves are tilled into the soil for soil amendment. Warwick Township has an arrangement with a farm, whereby residents deliver their yard waste directly to the farm for processing. Alternatively, leaves may be composted at a municipal site, or at a private composting facility. Waste Management owns and operates a large compost operation at the Tullytown Landfill, as noted in Section 2. Some landscaping and gardening businesses also provide that service.

Several municipalities in the County own chippers, and will chip brushy waste and wood that is delivered to them. One community, Perkasie Borough, indicates that it will chip wood waste curbside, on a weekly basis. Fifteen municipalities indicate that Christmas trees may be dropped off at a municipal building or public location for chipping.

Table 4-3 provides a summary of curbside recycling, drop-off recycling, and leaf waste programs available to the residents of each municipality in the County (except Telford Borough, as it is included with Montgomery County's solid waste management plan).

Table 4-3

Recycling Programs Available in Bucks County Municipalities – 2015

	Curbside Collection¹	Drop Off	Mandatory²	Frequency³	Leaves Collected at Curb	Note
Bedminster Twp	S		V	W		Christmas tree drop-off
Bensalem Twp	S		M	W	✓	
Bridgeton Twp	S		V	Varies		
Bristol Boro	MC		M	W	✓	
Bristol Twp	MC		M	W	✓	
Buckingham Twp	S		M	Varies	✓	Christmas tree drop-off
Chalfont Boro	MC		M	W		
Doylestown Boro	S		M	Varies	✓	Leaf vacuum
Doylestown Twp	S		M	W	✓	Christmas tree drop-off
Dublin Boro	MC		M	W	✓	
Durham Twp	S	✓	V	E2Wks		Christmas tree drop-off
E. Rockhill Twp	S	✓	M	Varies	✓	
Falls Twp	MC		M	W	✓	
Haycock Twp	S	✓	V	E2Wks		

DESCRIPTION OF RECYCLING PROGRAM

	Curbside Collection ¹	Drop Off	Mandatory ²	Frequency ³	Leaves Collected at Curb	Note
Hilltown Twp	S		M	Varies	✓	
Hulmeville Boro	MC		V	E2Wks	✓	
Ivyland Boro	MC		V	W	✓	Leaf vacuum
Langhorne Boro	MC		M	W	✓	
Langhorne M. Boro	MC		M	1st, 3rd, and 5th wk of month	✓	
L. Makefield Twp	S	✓	M	W	✓	Leaves, grass, branches, brush, wood waste and Christmas trees recycled at municipal site (mulched); Leaf vacuum
L. Southampton Twp	MC		M	W	✓	
Middletown Twp	MC		M	W	✓	
Milford Twp	S	✓	M	Varies		Leaf & Christmas tree drop-off
Morrisville Boro	MC		M	W	✓	Curb side & drop off at municipal site (composted)
New Britain Boro	S		V	W	✓	
New Britain Twp	S		M	W	✓	Christmas tree drop-off
New Hope Boro	S		V	W	✓	Leaves recycled at municipal site (composted)
Newtown Boro	S		V	W	✓	
Newtown Twp	S		M	W	✓	
Nockamixon Twp	S	✓	V	E2Wks		
Northampton Twp	MC		M	W	✓	
Penndel Boro	MC		M	W	✓	
Perkasie Boro	MP	✓	M	W	✓	Brush/wood chipped at curb weekly; Bulk collection monthly for fee; Christmas tree drop-off; Leaf vacuum
Plumstead Twp	S		M	W	✓	

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	Curbside Collection ¹	Drop Off	Mandatory ²	Frequency ³	Leaves Collected at Curb	Note
Quakertown Boro	MC		M	W	✓	Leaves, brush and branches recycled at municipal facility (mulched). Delivers leaves to farms for land application; Leaf vacuum
Richland Twp	MC		M	E2Wks	✓	Leaves, brush, and Christmas trees recycled at municipal facility (mulched); Leaf vacuum
Richlandtown Boro	S		V	Varies	✓	
Riegelsville Boro	S		M	E2Wks	✓	
Sellersville Boro	MC	✓	V	N/A	✓	Christmas tree drop-off
Silverdale Boro	MC	✓	V	N/A	✓	Christmas tree drop-off; Leaf vacuum
Solebury Twp	S		M	W	✓	Christmas tree drop-off
Springfield Twp	S		M	E2Wks	✓	
Tinicum Twp	S		V	W		Christmas tree drop-off
Trumbauersville Boro	MC		V	N/A		Residents use recycling drop off site in Milford Twp
Tullytown Boro	MC		V	W	✓	
U. Makefield Twp	S		M	W	✓	
U. Southampton Twp.	MC		M	W	✓	
Warminster Twp	MC		M	W	✓	Christmas tree drop-off
Warrington TWP	S		M	W	✓	One subdivision has collection through municipal contract
Warwick Twp	S		M	W	✓	Residents deliver yard waste to K&D Growers (farm) where it is ground.
West Rockhill Twp	S	✓	V	N/A		
Wrightstown Twp	S	✓	M	Varies		
Yardley Boro	MC		V	W	✓	

S = subscription service; MC = municipal contract; MP = municipality provides the service directly.

³V= Voluntary, M= Mandatory, based on municipality's response to survey and follow-up interviews

³W = Weekly; E2Wks = every other week; Varies = subscription service, and respondent indicated that frequency depends on hauler.

Data Sources: Bucks County Municipal Survey and municipal interviews (2013).

4.4 Voluntary vs. Mandatory Programs

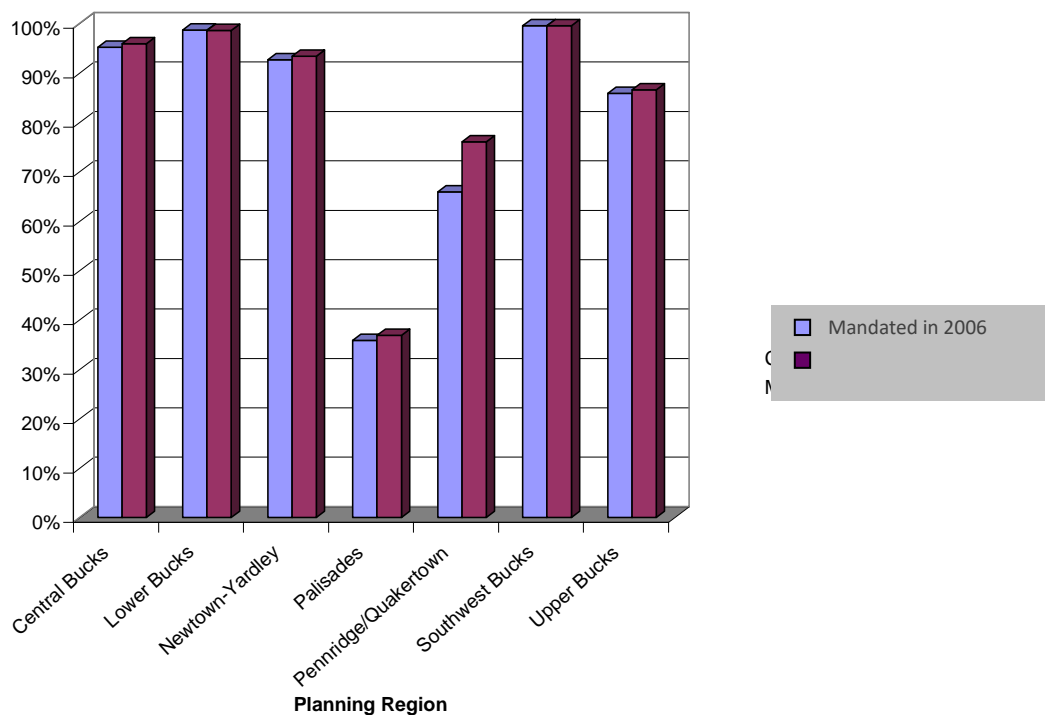
According to Chapter 15 of Act 101, Pennsylvania municipalities with a population of 10,000 or more were to implement the requirements of Act 101 as "Large Populations" within two years after the effective date of the act. Municipalities with populations greater than 5,000 and less than 10,000 with a population density of greater than 300 residents per square mile would have to implement a source-separation and collection program for recyclable materials under the auspices of a "Small Population" community. Act 101 requires mandated communities to provide the opportunity for their residents to adopt local ordinances requiring residents and businesses to recycle at least three materials deemed appropriate by the municipality from other waste, and to separate leaf waste from other waste generated at home. In addition, people must separate high grade office paper, aluminum, corrugated paper and leaf waste as well as other materials deemed appropriate at commercial, institutional, municipal establishments located in the mandated municipalities.

Currently, 39 municipalities in Bucks County indicate that recycling is mandatory in their community, even though several communities that indicate that recycling is mandatory in their municipality do not yet meet the Act 101 guidelines for being a mandated community.

Figure 4-1, below, indicates the portion of the population of each planning region that was mandated to recycle in 2003 and the portion of the population of each region that is mandated to recycle according to Act 101 guidelines in 2013, based on U.S. Census data and DEP reports. As indicated above, many communities indicated that it is mandatory to recycle in their municipality, although the Act 101 Guidelines do not indicate that this would be the case. It is assumed that these jurisdictions have voluntarily implemented ordinances making recycling mandatory.

Figure 4-1

Portion of Population Mandated to Recycle in 2006 and 2016
by Planning Region



As Figure 4-1 indicates, in most planning regions the majority of the population is already mandated to recycle. The Palisades planning region has the lowest portion of their residents mandated to recycle, at 32 percent. Palisades is not expected to see much change in the status of their communities over the planning period, but the Penridge/Quakertown Planning Region, where, in 2003, 66 percent of their residents were mandated to recycle, jumped to about 76 percent mandated by 2013. There are no additional Bucks County municipalities forecast to become mandated in the 2020 census.

4.5 Household Hazardous Waste and Electronics

Recycling Programs

Bucks County manages household hazardous waste (HHW) by holding collection events throughout the County, which are open to all residents. Events are held five times per year. The County had advertised the events in newspapers, such as *The Courier Times* and *The Intelligencer*; and using flyers, radio (public service announcements); and on the County's web site.

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Municipalities also advertise and promote the events via signs, municipal newsletters, flyers, and municipal web sites, and newsletters.

Chester, Delaware, Montgomery, Philadelphia, and Bucks counties have joined forces to form the Southeastern Pennsylvania HHW Drop-Off Program. Because of their collaborative efforts, residents of any of the participating counties may attend a HHW/electronics collection event in any of the other counties. The regional program has been implemented for sixteen years. Electronics are accepted at selected HHW events only. Originally there were two events when Bucks County started accepting electronics in 2003, and each other participating County also offered a few events that would accept electronics during the year. This has grown to five events per year, and, as table 4-5 shows, has grown to represent 66 percent of the total volume of collected material.

In 2015 the County and the other four partner counties were unable to secure an electronic contractor. It is unclear whether the electronic part of this program will be able to be restored in subsequent years.

Materials accepted at the collection events are listed in Table 4-4.

Table 4-4
Materials Accepted at Southeastern Pennsylvania HHW Collection Events

■ Pesticides	■ Aerosols
■ Oil-based paints	■ Automotive batteries
■ Solvents	■ Household batteries
■ Cleaning products	■ Propane
■ Weed killers	■ Antifreeze

Residents may bring up to 25 gallons or 220 pounds to a single HHW event. Events take place from 9:00 am to 3:00 pm, rain or shine. The HHW events are not open to industry, commercial entities, or institutions.

Clean Harbor, Inc, (CHI) is the contracted service provider for these events. Funding for this program is provided by PA DEP grants and local municipalities. Volunteers from the Bucks County Planning Commission, the Bucks County Adult Probation Community Service Program, the Retired Senior Volunteers Program and others assist with traffic control, administering surveys,

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and distributing educational materials. Some corporate funds are also contributed by Waste Management and Wheelabrator.

In 2016, there were 4,876 participants in the HHW collection programs, who delivered a total of 136.5 tons of materials to the events. The average participant, therefore, brought 56 pounds of materials in 2016. In the previous plan update, 2004 saw only 6,000 participants and had a total of only 180 tons of material. It is of note that 2016 was the first year the County was not actively involved in the collection and recycling of electronics due to state legislation and changing market conditions. This resulted in a serious decline in the amount of material at these collection events and an increase in the unit cost. A breakout of the types and quantities of materials collected is provided in Table 4-5.

Table 4-5

Materials Collected at 2015 HHW Collection Events in Bucks County

Material	Pounds Collected	% of Total Collected	Material	Pounds Collected	% of Total Collected
Acids	3,290	0.37%	Oxidizer Solid	1,133	0.13%
Aerosols	9,736	1.11%	Oxidizer Liquid	152	0.02%
Alkaline Waste	3,775	0.43%	Flammable Liquids	55,879	6.36%
Antifreeze	2,908	33.00%	Paint (loose packed)	74,115	8.44%
Asbestos	36	0.00%	Cyanide	9	0.00%
Batteries - Household	0	0.00%	PCBs	218	0.02%
Batteries Lead-Acid	41,240	7.20%	Pesticide (Liquid)	20,424	2.33%
Batteries-Rechargeable	960	0.07%	Pesticide (Solid)	14,877	1.69%
Fire Extinguishers	1,241	0.14%	Propane - Large	20,622	2.24%
Flares	140	0.02%	Propane-Small	2,420	0.26%
Latex & Non-hazardous. Materials	102,493	11.67%	Other Cylinders	18	0.00%
Mercury	162	0.02%	Computer Equipment	579,125	65.95%

Data Source: 2015 HHW Results provided by Bucks County

4.5.1 Additional Waste Minimization Programs

Compost Bin Sales

The County coordinated a “truckload sale” of Earth Machine compost bins to help promote backyard composting. The sale took place on April 23, 2012 at the Bucks County Planning Commission in Doylestown.

During the eight-hour event, the following products were sold:

- 664 compost bins;
- 132 rain barrels;
- 200 compost turning tools; and
- 185 under sink scrap pails.

Compost bins were sold for \$35.00 each. The County received a grant from the EPA to defray the cost of the bins to the residents. The grant was intended to help the growth of food waste composting. More of these type of grant opportunities should be pursued.

4.6 Education

4.6.1 County Education/Outreach Programs

Bucks County's role as educator is primarily to "get the word out" regarding how to recycle materials. The planning commission staff members are able to respond to inquiries from municipalities, individuals, businesses, and institutions regarding how to recycle materials and reduce the generation of waste. Personnel can also tell residents how to manage materials that they may not know how to dispose of, such as materials not accepted at HHW collection events.

Specific outreach measures that the County undertakes include:

- Working with the Pennsylvania Resource Council (PRC) to print information in Verizon telephone books and website to inform citizens about recycling opportunities;
- Writing about waste/recycling issues in planning commission's newsletter, which is sent to a mailing list of approximately 2,000 officials and interested individuals;
- Maintaining information on the County's web site;
- Issuing press releases to newspapers, radio, and cable television regarding HHW/electronics collection events; and
- Purchasing advertising space in newspapers to advertise HHW/computer collection events.

County staff and officials also serve as coordinators and resources for municipalities, as well as for commercial and institutional entities. In this role, the County regularly conducts the following types of education and outreach activities:

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- Speak publicly, such as at a club function, classroom or on a cable television spot, about a topic of interest, such as the importance of recycling computers;
- Meet with a school administrator to discuss how a recycling program in a school might be improved; and
- Meet with representatives from local jurisdictions to discuss how they might improve their multifamily housing recycling program.

The County has organized events to supplement teachers' curriculum to promote waste reduction and recycling. From 2010–2014 the County recycling coordinator gave presentations to 14 classrooms in 4 school districts about the importance of recycling.

4.6.2 Municipalities' Education/Outreach Programs

The municipalities also perform education and outreach activities regarding solid waste management issues. They educate residents about the proper way to recycle materials and notify them of upcoming HHW/electronics collection events, composting opportunities, leaf collection schedules, and any other solid waste/recycling information via the following media:

- newsletters
- radio
- web sites
- flyers
- posters

4.7 Efforts to Increase Recovery of Recyclable Materials

To maintain the state goal of a 35 percent recycling rate, the County must focus on strategies designed to expand or supplement existing recycling programs and improve current data collection techniques. Implementing a number of strategies would help make it possible for the County to continually reach and sustain the 35 percent recycling goal. These strategies are discussed in detail in Section 5.

Section 5

SELECTION AND JUSTIFICATION OF MUNICIPAL WASTE MANAGEMENT PROGRAM

The purpose of Section 5 is to describe the process used to select the overall waste management system for the County and provide justification for the selection. The County must ensure that the selected system provides the required capacity needed to properly process/dispose of all municipal waste generated within its boundaries for the next 10 years. Court decisions at the federal and state level, and a change in the state policy on flow-control, have put counties in a position where it is nearly impossible for them to enforce flow control requirements directing waste to a single facility. Although more recent court rulings allow flow-control under certain circumstances, it is the County's preference to allow a free market system determine the most efficient way to handle waste and recycling volumes.

A fair, open, and competitive market for the management of the municipal waste stream is defined as follows:

- **Fair** - marked by impartiality and honesty, free from self-interest, prejudice or favoritism.
- **Open** - not restricted to a particular group or category of participants.
- **Competitive** - selling or buying goods or services in the same market as another.

The system defined in this Plan must ensure that the County meets its legislative mandate of securing disposal capacity for all municipal waste generated and creates the fair, open, and competitive marketplace required by the Commonwealth's policy regarding the content of County Municipal Waste Management Plan.

5.1 Overview of Selected Municipal Waste Management System

5.1.1 Refuse

The current municipal waste system employed by Bucks County is managed by both the public and private sectors. All municipalities' solid waste collection services are provided by the private sector, with the exception of Perkasie Borough, which provides residential collection services. Private hauling companies provide service through contracts or individual subscriptions.

The County does not own or operate any municipal waste disposal facilities, but it does have a waste capacity agreement with Waste Management of Pennsylvania, Waste Management Disposal Services of Pennsylvania, Inc. (hereinafter referred to as "WMPA") to ensure disposal capacity at their permitted disposal facilities in Bucks County. Through the agreement, WMPA pays Bucks County 85 cents per ton for all out-of-County solid waste delivered for disposal at the Fairless landfill, GROWS landfills, and disposal sites developed in the County during the term of this Plan; and WMPA annually provides up to \$25,000 for the County's household hazardous waste collection events. A copy of this agreement may be found in Appendix A. The current contract expires on December 31, 2024.

5.1.2 Recycling

The public and private sectors collect recyclables, and processing is managed by the private sector. The County allows any collector of recyclables to direct them to whichever facility they see fit, provided that the facility meets state requirements. This does, however, make the collection of recycling data more difficult and could explain some of the large variations in material quantities from year to year.

5.1.3 Yard Waste

Of the 53 participating communities in Bucks County, 37 indicate that leaves are collected curbside. This service is most frequently provided by private haulers who collect bagged leaves at the curb, or by municipal or private leaf services. Ten of these municipalities indicated that they have a leaf vacuum program. Morrisville Borough utilizes curbside collection of leaves, but also allows residents to drop leaves off at their composting site. In most cases collection of yard

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waste other than leaves is provided by the same entity that collects leaf waste in the jurisdiction, unless curbside leaf vacuum service is provided. In that case, brushy waste cannot be vacuumed, and residents must bag or bundle their yard waste. In some communities, particularly the rural areas, on-site composting of leaves is common. Burning of leaf and yard waste is still practiced in some of these areas as well. Of the 53 municipalities in the County's plan, 37 municipalities indicate that they have bans on backyard burning; 16 municipalities indicate that they do not, and one was uncertain. Sixteen communities indicate that grass is collected at the curb.

5.1.4 Special Wastes

Bucks County manages household hazardous waste (HHW) by holding collection events throughout the County, which are open to all residents. Events are held five times per year. Chester, Delaware, Montgomery, Philadelphia and Bucks counties have joined forces to form the Southeastern Pennsylvania HHW Drop-Off Program. Because of their collaborative efforts, residents of any of the participating counties may attend a HHW/electronics collection event in any of the other counties.

Other recyclables such as scrap metals, used oil, lead acid batteries, and tires are managed primarily by the private sector, though the County has promoted the recycling of these and other non-Act 101 materials through public education and arrangements with private processors. All of these other recyclables are marketed by the private sector. Biosolids and septage are managed by a combination of private and public entities. Infectious and chemotherapeutic waste is managed privately.

5.2 Future Strategies for Managing Solid Waste In Bucks County

The County plans to maintain the current solid waste management structure where public and private entities provide collection services, but the private sector is responsible for providing solid waste management facilities. Additionally, with the adoption of Act 90 in 2002 only the Pennsylvania Department of Environmental Protection may now license waste haulers. The Act precludes municipalities from continuing to license haulers or initiating any new licensing programs.

The reasons for deciding to continue with the current system are as follows:

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- **Fulfillment of Public Goals:** The system that is planned for the next 10 years has fulfilled the needs of Bucks County residents throughout the previous planning period. The open market for collection/disposal services will encourage some level of competition for waste collection/disposal services, which should help to keep the cost of these services reasonable.
- **Efficiency:** Materials are currently flowing efficiently from points of generation to disposal or recycling sites with little or no difficulty.
- **Cost-Effectiveness:** With the potential for the County to rely upon numerous disposal facilities, disposal is expected to remain cost-competitive, which will serve to keep tipping fees reasonable. Availability of local recyclers to manage some non-Act 101 materials provide low or no-cost options for residents to recycle items such as white goods, tires, and used oil at a reasonable cost.
- **Sufficient Capacity:** The system has more than adequate capacity to manage all waste and recyclables generated in Bucks County. There is no need to seek additional facilities or consider other management options unless substantial changes occur in waste generation and composition or in costs associated with other management options.

5.3 Existing Municipal Waste Disposal Systems

In accordance with the Waste Capacity Agreement between WMPA and Bucks County, WMPA agreed to provide the County continued disposal capacity throughout the ten-year planning period. In return, the County agreed to identify and designate in the Plan that multiple WMPA's disposal facilities and are willing to receive and dispose of municipal solid waste generated in Bucks County. In addition, through the Facility Qualification Request (FQR) process, the County has identified over 1.2 million tons of annual disposal capacity that will be available to Bucks County, more than double the projected annual capacity requirements (Table 3-2). Five of the landfills have over 10 years of permitted capacity remaining, and in aggregate, these facilities can provide 3,648,357 tons of annual disposal capacity. Even if there is a disruption in service for any reason at any of the facilities, there will be more than sufficient backup capacity for the foreseeable future. Finally, the Wheelabrator WTE Facility is located in Bucks County. This facility can accept up to **2,800** tons per day with a permitted throughout capacity of **1,600** tons per day.

The FQR was conducted by collecting pertinent information on disposal/processing facilities interested in being considered for inclusion in the Bucks County Plan. The FQR packet that was provided to facilities is in Appendix C

The planned disposal system appears to be efficient and cost-effective. Having multiple facilities available should help to promote competition that will help to keep the system cost-effective. Having numerous facilities available should also promote efficiency by giving haulers the option

SELECTION AND JUSTIFICATION OF MUNICIPAL WASTE MANAGEMENT PROGRAM

of using the closest facility, rather than facilities designated by the County. As noted above, the disposal system is more than sufficient to meet the disposal needs of the County, and the County is not exploring further options for this ten-year planning period. Identified facilities are listed and described in Table 5-1.

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Table 5-1
Bucks County Identified Disposal Facilities

	Covanta Plymouth Renewable Energy LP	Pioneer Crossing Landfill	White Pines Landfill	Keystone Sanitary Landfill	IESI PA Bethlehem Landfill	Commonwealth Landfill Environmental System	York County Resource Recovery Center	Conestoga Landfill	Grand Central Sanitary Landfill	Wheelabrator WTE Facility	Fairless Landfill	GROWS Landfill
Facility Owner	Covanta Plymouth Renewable Energy LP	F.R.&S., Inc.	F.R.&S., Inc.	Louis DeNaples & Dominic DeNaples	IESI PA Corporation	Louis DeNaples & Dominic DeNaples	York County Solid Waste & Refuse Authority	New Morgan Landfill Company	WMI of PA, Inc	Energy Capital Partners	WMI of PA, Inc	WMI of PA, Inc
Contact	Mark Harlackner	Albert DeGennaro	Albert DeGennaro	Dan Obrien	Samuel Donato	Dan Obrien	Gregg Pearson	Matt Kingsley	Charles Raudenbush, Jr.	Fred Lodini	Charles Raudenbush, Jr.	Charles Raudenbush, Jr.
Materials Accepted	Municipal	Municipal, Residual, Asbestos, C&D, Sewage Sludge, Other	Municipal, Residual, Asbestos, C&D, Sewage Sludge, Other	Municipal, Residual, Asbestos, C&D, Sewage Sludge, Other	Municipal, Residual, C&D,	Municipal, Residual, Asbestos, C&D, Sewage Sludge, Other	Municipal, Residual, C&D	Municipal, Residual, Asbestos, C&D, Sewage Sludge, Other	Municipal, Residual, C&D, Asbestos, Sewage Sludge, Other	Municipal, Residual	Municipal, Residual, C&D, Asbestos, Sewage Sludge, Other	Municipal, Residual, C&D, Asbestos, Sewage Sludge, Other
Permitted Annual Capacity (tons)	420,000	488,000	488,000	1,200,000		1,200,000	435,000	1,200,000	700, 000	584,000	5,719,896	3,120,000
Permitted Life (years)	Permit expires 3/24/2024	12	12	5		10	5/5/2023	8	12.5	6	8	6

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5.4 Existing Alternatives

In accordance with state plan requirements, Bucks County has identified alternatives for the processing and marketing of recyclables and yard waste, processing and disposal of municipal waste, and processing and/or disposal of biosolids/septage, infectious and chemotherapeutic wastes, and household hazardous waste.

5.4.1 Recycling

There are alternatives available inside and outside the County for the processing and marketing of recyclables. Haulers, businesses, institutions, and individuals may choose to deliver materials to any facility that processes materials for recycling and/or composting. Any of these entities may choose to haul their recyclables to any chosen processor and/or market if the economics of doing so are in their favor. A statewide list of recycling markets is available from the DEP, and most county recycling coordinators keep lists of all processors and markets for their own counties. While in general the current system is effectively meeting the solid waste management needs of Bucks County residents, businesses, and elected officials, this 10-year plan will address mechanisms to:

- Improve reporting
- Increase participation
- Enhance business recycling

5.4.1.1 Improve Reporting

Currently, Bucks County surveys municipalities to quantify materials recycled and the municipalities receive the information on recycling quantities from the waste haulers, who receive the information from the processing facility. If a municipality has a contract with a waste hauler for recycling, they sometimes receive this information from the hauler. Communities that do not require their hauler to provide this information as part of their contract do not always receive this information. For communities without a collection contract, reporting the quantity of recyclables collected curbside is extremely difficult. Finally, it has been reported that unlicensed haulers are collecting recyclables, as well as refuse, within Bucks County and not reporting these quantities to the municipality and/or the County.

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Since the majority of Bucks County residential recyclables are delivered to local facilities, Bucks County will work with these facilities to develop a reporting system where recycling tonnage is reported directly to the County Recycling Coordinator. Using this approach will streamline the reporting process, and will enable the County Recycling Coordinator to determine Countywide recycling rates even if it is not possible to allocate recycling tonnages to individual municipalities.

For communities who are served by independent haulers the County may prioritize its Targeted Outreach Effort (see Section 5.4.1.2) to work with these communities first.

To address uncooperative and out of state haulers, the County will implement the following initiatives:

- Reach out and assist the haulers with establishing hauling options that satisfy the haulers needs, while meeting the requirements of Act 101;
- Work with municipalities to enhance their ordinance language on hauler regulations and penalties; and
- Conduct periodic inspections in the field and the landfills to identify unknown haulers.

5.4.1.2 Increase Participation Rates

Bucks County has continually promoted waste reduction and recycling alternatives, but has experienced difficulty in consistently reaching large quantities of residents due to limited County resources relative to population.

If the County is going to increase participation rates, outreach programs will need to:

- Target individual communities;
- Determine why residents within these communities do or do not recycle;
- Develop specific strategies for increasing recycling within these communities.

To accomplish this, the County, based on input from the individual communities, may identify one region per year in which to conduct a targeted and comprehensive recycling campaign. Once identified, the County may work with the region to establish a solid waste steering committee or even one individual that can serve as the County liaison with the communities within that region. The County may conduct focus groups within the region or conduct a survey to identify individual recycling habits and concerns. The County could then, with the assistance of the County liaison, conduct initiatives such as:

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- **Institute School Education Programs** - Educating students in grades K-12 can be a very effective way of reaching residents both now and in the future. Students often become the strongest advocates for recycling, and will ensure that recycling is taking place in their homes.

Activities that have been used in other areas include:

- A community-sponsored art show and/or “inventions” using recycled materials. This could also take a seasonal form, such as recycled Christmas ornaments. Student creations could be displayed at a local shopping center or other heavily traveled location. It would be particularly helpful to have a local sponsor or sponsors—including a media outlet—to provide funding, awards, and publicity. A jury of art teachers and community leaders could be used to judge the entries, and could determine what is actually shown to the public if there are too many entries to include them all.
- Several performing groups have delivered the recycling message very successfully to schools throughout the Commonwealth. These groups have included The Illusion Maker and the Kids Matter National Theatre. These groups will come into the schools and perform at student assemblies. These programs are occasionally eligible for funding through the Section 902 Recycling Program Grants. Application must be made through a municipality or county.
- If the schools are not recycling or if the in-school recycling programs have been struggling, school recycling programs are also eligible for Section 902 grants for containers and educational materials. Some districts have benefited from establishing student committees to promote recycling and help manage the programs. Some schools have used recycling as an opportunity to promote exchanges between older and younger students. In Plum Borough (Allegheny County), high school students were trained to teach primary school students about recycling and waste reduction.
- **Develop An Outreach Campaign Specific To That Community** - The community may want to implement activities that are fun, inexpensive, and bring attention to the recycling program through public outreach. Some potential public outreach activities for consideration include:
 - Obtain Commitments - Research has shown that individuals who make either a written or oral commitment to recycle will recycle more frequently and in larger quantities than those who were merely informed of the recycling program. To illustrate, one study asked individuals to sign a pledge to recycle newspapers during a two-week period. Not only did the majority of individuals who signed the commitment recycle their newspapers during that time frame but these same individuals continued their recycling behavior after the two-week period.
 - Conduct Slogan/Logo/Mascot Contests - The community may want to have a contest to create a slogan, logo, or mascot to be associated with its recycling program. Having one or more of these audio and/or visual items that identify the program would help to increase program visibility. The planning region may want to consider a contest to ask

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residents to submit a slogan, a logo, and/or a mascot to be considered for use by the planning region, with the winning entry incorporated into future educational materials used by the region. If the region is unsure of which vehicle might be preferred, it could solicit entries in all three categories and choose a single winner from one category, or one from each category. This way, there is an option of using any of the winners' submissions, such that the most appropriate one can be selected for a given situation. The winner or winners would be recognized by the region in some way, and given some type of reward for their effort. Prizes could be donated by local businesses.

- Establish Block Leader Programs - The County could encourage the community to establish a "block leader program" to enlist community support to promote recycling throughout the region and to engage in friendly competition designed to boost recycling. In this program, individuals could be identified either by municipality or within established zones. These individuals could be responsible for setting an example for the rest of their area, visiting neighbors to personally encourage recycling and other waste reduction activities, and to distribute materials on behalf of the County of Bucks.
- Continually Remind Residents About What Can Be Recycled - Residents will need to be constantly reminded about what to recycle and how materials should be prepared to facilitate the success of recycling programs. Three-by-five-inch refrigerator magnets are recommended to accomplish this because they are:
 - 1) Durable;
 - 2) Large enough to provide material and preparation information; and
 - 3) Regularly seen by the intended target audience, in a location where the decision to recycle often takes place.
- Promote Community Recycling Goals - The region could bring attention to recycling goals by developing a visual method of showing progress. The planning region could create a sign that could be placed in a highly visible location (similar to those used by The United Way). The sign would show progress toward the goal (a thermometer, a recycling truck traveling to a materials recovery facility, etc.) and would help residents see where they are in relation to the goal and encourage them to recycle more to meet the goal.

5.4.1.3 Increase Business Recycling

To increase recycling in the business community, the County may implement a business waste reduction program during the planning period that would include:

- Targeting businesses by the type of waste they generate; and
- Designing specific workshops for specific generator types.

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Target Businesses by the Type of Waste They Generate

Industries within the same Standard Industrial Classification (SIC) Code exhibit similarities in the composition of their disposed waste streams. The SIC system is used throughout the federal government to group establishments into industries. The SIC Division Structure makes it possible to collect and calculate establishment data by broad industrial divisions (labeled A through K), industrial groups (the 2-and 3-digit SIC levels), and specific industries (the 4-digit level). It is helpful for communities looking to establish or enhance commercial recycling programs to assess local industries using this classification system. This information can provide insight as to the types of materials most likely to be recovered, and the prevalence of particular industries in a region. If one industry is particularly prevalent in a region, for example, it might be cost-effective to target businesses in that particular industry. Table 5-2, below, provides two-digit SIC Codes and their definitions.

Table 5-2

Two-Digit SIC Code Definitions – Division D: Manufacturing

SIC Code	Industry
20	Food and Kindred Products
21	Tobacco Products
23	Apparel and Other Products Made from Textiles
24	Lumber and Wood Products, Except Furniture
25	Furniture and Fixtures
26	Paper and Allied Products
27	Printing, Publishing, and Allied Industries
28	Chemicals and Allied Products
29	Petroleum Refining and Related Industries
30	Rubber and Miscellaneous Plastic Products
31	Leather and Leather Products
32	Stone, Clay, Glass and Concrete Products
33	Primary Metal Industries
34	Fabricated Metal Products, Except Machinery and Transportation Equipment
35	Industrial and Commercial Machinery and Transportation Equipment
36	Electronic and Other Electrical Equipment and Components, Except Computers
37	Transportation Equipment
38	Measuring, Analyzing and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks

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SIC Code	Industry
39	Miscellaneous Manufacturing Industries

By targeting business outreach efforts to just one or two SIC codes per year, the County could:

- Identify key decision-makers;
- Coordinate face-to-face meetings with key decision-makers;
- Design educational and promotional materials that are specific to that particular business category and waste stream;
- Determine motivators and barriers to waste reduction that are specific to that particular business category and waste stream;
- Focus research on materials markets to just one or two waste streams;
- Facilitate alliances among similar waste generators; and
- Conduct timely follow-up.

The County may develop an annual business outreach plan. This plan could include information such as:

- Names of key decision-makers within the targeted firms;
- Identification of materials these businesses currently dispose that could be recycled; and
- Case studies from similar businesses that have successfully implemented a recycling program.

5.4.2 Increase the Diversion of Organics

As previously discussed, residents in 31 of the 53 Bucks County municipalities have their leaves collected separately, but very few communities indicated that grass clippings were collected separately. This may be due to the limited number of composting facilities located in Bucks County, especially in central Bucks County. Thus, the County may work with a coalition of municipalities to establish a composting facility to serve central Bucks County.

To comply with Pennsylvania regulations and optimize performance of the operation, the topography and hydrology of the compost site should:

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- Enhance drainage of precipitation away from windrows to minimize ponding of water around windrows;
- Have a minimum of a 1 percent slope and no greater than a 5 percent slope;
- Prevent drainage into streams, lakes, or other surface areas;
- Provide natural visual/sound barriers using berms and/or vegetation;
- Not be located in a wetland;
- Not be located within ¼ mile up-gradient or 300 feet down-gradient of any public or private water source; and
- Allow for adequate control of surface water and control erosion and sedimentation in accordance with existing laws.

If a front-end loader is already available, the operating equipment associated with a yard waste composting facility includes:

Table 5-3
Composting Operating Equipment

Equipment	Cost Range	Capacity Range	Comments
Chippers and Shredders	\$15,000 - \$100,000	20 cubic yard – 200 cubic yard/hr	Includes both Shear Shredders and Hammermills. Loader may be needed to feed hopper.
Tub Grinders	\$50,000 - \$150,000	10 tons – 50 tons/hr	Loader and/or knuckle boom may be needed to feed hopper.
Screens	\$60,000 - \$150,000	10 tons – 50 tons/hr	Loader and/or knuckle boom may be needed to feed hopper
Thermometers Analog Digital	\$50 - \$150 \$300 - \$750		Stem needs to be 3 to 4 feet long. Temperature range should be 0° to 200°F
Forage Moisture Meters	Approximately \$350		
Oxygen Meters	\$200 - \$400		

Beyond yard waste, Bucks County may evaluate options for increasing the diversion of food waste from the landfill. As discussed in Section 1, approximately 10 percent of the Bucks County

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waste stream is composed of food waste. Food waste can be used for a wide variety of products that fall into four categories: recovery for human consumption, animal feeds, compost products, and other products.

Table 5-4
Products and Applications of Food Waste

Surplus Food Recovery for Human Consumption

- Perishable and prepared food recovered for distribution to the needy; and
- Canned foods and dry goods recovered for distribution to the needy.

Animal/Fish Feed

- Direct feeding of food waste to swine, dairy cattle and other livestock; and
- Conversion of food waste into animal/fish feed or ingredients therein.

Compost

- Soil amendment for various horticultural and landscaping applications;
- Mulch products for various applications;
- Ingredient in manufactured soil products for sale as topsoil or loam; and
- Ingredient in plant growing media.

Other Products

- Fertilizer;
- Tallow (rendered animal or vegetable fat used to make soap or candles); and
- Industrial chemicals.

5.4.2.1 Surplus Food Recovery for Human Consumption

Surplus food recovery for human consumption is accepted primarily by two types of entities: food banks and food rescues. A food bank is a warehouse for excess non-perishable food supplies—grocery store or manufacturing overstock, for example. These items are warehoused until they are needed, and distributed to people in need for consumption. Food banks focus on distributing large volumes of nonperishable (canned, dried, or prepackaged) food. Much of the

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food distributed by food banks is diverted from the landfill; however, they also distribute foods donated by citizens (that would not have been discarded).

Food rescues, on the other hand, provide an outlet for prepared and perishable foods. Food is collected by the rescue, and generally is delivered immediately to a church, soup kitchen, or shelter, where the food can be served that day. Food donor programs provide edible foods to the needy through food banks, and prepared and perishable food programs (PPFPs).

5.4.2.2 Surplus Food as Composting Feedstock

Food waste that is not fit for human consumption can be used for composting with great success. Food waste provides a high amount of nitrogen in making compost. There are a number of composting technologies that can be used to compost food waste at a commercial scale. Whatever technology is used, the composting operation must produce a stable and consistent quality product in order to meet market requirements. Food is generally ground, then added to high-carbon ingredients, such as leaves and/or ground wood. Vegetative food waste is most commonly utilized, however animal products can also be used if the temperatures in the compost become high enough to break down the enzymes. Most composting operations use windrows. With this technique, the organics are mixed together, aerated, and turned regularly. Microbial action breaks down the organics, creating heat in the process, and turning the matter into compost. At the end of the process, the material is screened to remove larger pieces of material.

In addition to the centralized, commercial composting approach, there are a few programs throughout the country that have successfully merged urban food waste sources with local farmers for on-farm composting. A project in Massachusetts, for example, links commercial food waste generators, commercial waste haulers, and farm composting sites. The majority of food waste comes from supermarkets and a large wholesale grocer. Generators have reported 12–20 percent reductions in their solid waste management costs. One supermarket chain reported a 23 percent reduction in trash generated. In Pennsylvania, the DEP has a program that identifies land application sites for compost.

Only two composting operations in Pennsylvania, Agrecycle and Nutra Soils, have the DEP permit required to use pre-consumer food waste as a feedstock for compost manufacturing. Using post-consumer food as feedstock in composting operations is not permitted in Pennsylvania, nor can animal products be utilized.

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5.4.2.3 Animal Feed

Direct Animal Feeding

Direct animal feeding of human food waste is a traditional farming practice. The most common practice is swine feeding. Pig farms that practice direct animal feeding prefer post-consumer food waste because it is heterogeneous. The mix of food wastes provides a wider variety of nutrition and food value to the pigs as compared to food processing wastes, which tend to be very uniform. The USDA, however, does not allow the practice of post-consumer food waste being directly fed to farm animals if the food waste contains meat, due to concerns about diseases.

The Greater Pittsburgh Food Bank operates a reclamation center on-site, where employees process nonperishable food items donated by a regional supermarket chain, Giant Eagle Foods. Approximately 30 percent of the food received from Giant Eagle is deemed unfit for human consumption, due to opened boxes, dented cans, etc. These food items are opened and the contents are dumped into a container. A hog farmer collects the food a couple of times a week. The boxboard and steel cans are recycled. The food bank expressed interest in working with a local composting operation located approximately six miles away; but at the time, the composting operation was awaiting a permit to utilize food in manufacturing compost.

Throughout the 10-year planning period, Bucks County will work with food waste generators and PA DEP to identify opportunities to divert food waste from disposal in an environmentally sound and cost-effective manner.

5.4.3 Disposal

As shown in Table 5-1, 12 permitted municipal waste landfills and 2 permitted waste-to-energy facility responded to the County's FQR. In aggregate, these facilities have over 11,000,000 tons of annual disposal capacity that will be available to Bucks County, more than 16 times the projected annual capacity requirements. In the current system, haulers and municipalities may use these facilities without requesting authorization from Bucks County.

The current municipal waste disposal system has produced adequate disposal capacity, and is:

- **Fair** - marked by impartiality and honesty, free from self-interest, prejudice or favoritism.
- **Open** - not restricted to a particular group or category of participants.
- **Competitive** - selling or buying goods or services in the same market as another.

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Thus, Bucks County is not planning to implement an alternative to the existing municipal waste disposal system

5.4.4 Construction and Demolition Waste Management

Bucks County currently relies on privately owned and operated infrastructure for managing the disposal of C&D waste. Because C&D landfills do not have the same reporting requirements as municipal waste landfills, the quantity of C&D waste that is generated and disposed in non-municipal waste landfills or that is recovered, is difficult to quantify. Adding to the complexity is the fact that some C&D materials are processed at a transfer station, and the potential exists to “double count” this waste— once at the transfer station and once at the point of processing or disposal.

Bucks County researched private C&D landfills, recyclers, and transfer stations in the area and interviewed them to obtain information pertaining to the amount of C&D materials generated in Bucks County delivered to the site, as well as the portion of the materials that were recovered. Through this process, it is estimated that, above and beyond the 41,799 tons of C&D materials generated annually in Bucks County and disposed in municipal waste landfills, many other C&D materials were generated in Bucks County.

Assuming that this information is incomplete, and assuming that a substantial portion of C&D is unaccounted for in the data the County would support the recycling of components of this waste stream as cost effective options become available. Table 5-5 provides estimates of the amounts of each component of this waste stream based on the anticipated generation of C&D waste over the 10-year planning period. The percentages of each material are based on findings from a 1998 study of the feasibility of C&D waste recycling in Lancaster County.

The largest categories by weight, each at more than 10 percent of the total C&D waste stream, are, in order of generation:

- Wood—25.3 percent;
- Roofing/Shingles—18 percent;
- Concrete/Brick/Dirt/Asphalt—17.8 percent; and
- Drywall/Plaster—13.2 percent.

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Assuming all of this material, which comprises 74.3 percent of the C&D waste stream, could be diverted, there is a potential to divert, on average, approximately 103,420 tons of additional materials per year from the waste stream. Of this, 33,500 would be diverted from disposal facilities each year. Diversion of these materials would be dependent, however, on availability of markets. Similarly, cost effectiveness is dependent on the proximity of markets. If materials must be shipped great distances to be recycled, recycling of these materials becomes cost prohibitive.

Another barrier to recycling has to do with how materials are collected. The Lancaster County study found that C&D waste was being delivered to the Lancaster County Solid Waste Management Authority's facilities in predominantly mixed loads. It appears that this would also be the case in Bucks County. While it is possible to sort C&D components for recycling, sorting would add significantly to the cost of operating a program. If markets were to become available for any of the major components of the C&D waste stream, generators would need to be trained to segregate the marketable materials and deliver them based on market requirements.

There are, however, some low to reasonable cost options that the County could investigate for encouraging diversion of some materials from C&D waste. Some of the materials and potential outlets include:

- **Metals:** It is assumed that metals separation is already taking place, based on the low percentage of metals found in C&D waste. Exactly which metals and how much is removed are probably determined by market value. In the Lancaster study, most of the higher value metals such as copper, brass and aluminum were not observed, or observed in very small amounts and mixed with other materials.
- **Wood:** Some wood could be diverted for composting or manufacturing of mulch. Using wood for either of these purposes would require processing to separate contaminated or otherwise treated wood from "clean" wood. The uncontaminated wood could be chipped and incorporated into composting operations as a bulking agent, or chipped or shredded and used as mulch. The material could be used on county or municipal properties, provided at little or no cost to residents, or marketed to businesses.
- **Concrete, Brick, Dirt, and Asphalt:** Some of this material could be crushed and marketed as aggregate substitutes, though the ability to do this is highly dependent on economics and the availability of what are considered to be better aggregates. Asphalt can be reclaimed and used in road building and maintenance. In the absence of specific markets, these materials can be diverted from sanitary landfills to be used as clean fill in a manner consistent with PA DEP's policies and regulations.

The preferred method for managing C&D wastes for recycling, where markets exist, is source separation. Educating contractors and others who generate this waste may be difficult, however,

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and some type of sorting and processing would probably be required to generate marketable materials. The Lancaster study considered the cost to build and operate a C&D waste recycling facility. The capital cost was estimated at approximately \$6,900,000, though it should be noted that this is for a facility that would manage C&D waste from Lancaster County, which generates relatively lower volumes of this waste than Bucks County. More important for long-term consideration is the cost of operation. The Lancaster County study estimated that the fee required to offset expenses was \$31.55 per ton. The processing expenses for Bucks County, with somewhat higher levels of generation of materials (historically, Lancaster County has generated in the 60,000–65,000 tons per year range) might be less, depending on available markets. There would also be additional expenses for residue disposal.

The County may investigate new technologies and markets that may make C&D waste an economically feasible option and share this information with the C&D sector through workshops and educational materials.

The County does not anticipate managing C&D waste for recycling beyond the efforts listed above at this time.

5.4.4.1 Home Demolition Waste

Home C&D waste generated during remodeling, roof or shingle/siding replacement, home additions, flooring replacement, etc. often ends up in illegal dumps in an effort to avoid the cost of disposal. Generally, haulers will not accept this material as part of their regular residential routes, and customers are required to rent a roll-off container for the collection and disposal of these materials, even though the municipal waste facilities where the County's waste is disposed are permitted to accept C&D waste. Also, some homeowners in municipalities with individual subscription services may choose not to have waste collection service. When it is a burden for homeowners to haul this material to a disposal facility, or when a contractor who has agreed to dispose of the material decides to avoid the cost of disposal, some of this waste may be dumped illegally.

The County will consider investigating options for the safe disposal of small volumes of C&D waste such as those described above, including, but not limited to:

- Educating citizens about the availability of safe and legal opportunities to dispose of these materials;

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- Educating residents about the option to rent dumpsters or roll off containers for collection and disposal of wastes created during remodeling projects; and
- Providing a drop-off site for these materials; enforcing the County's municipal waste ordinance as it applies to illegal dumping.

Table 5-5 provides estimates of the construction and demolition debris that would be landfilled, assuming the data described above represents all landfilled C&D materials, and assuming that the portion of materials recovered currently remains constant over the planning period.

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Table 5-5
Bucks County Projected C&D Waste Disposed¹

Material	Year											
	2016 Tons	2017 Tons	2018 Tons	2019 Tons	2020 Tons	2021 Tons	2022 Tons	2023 Tons	2024 Tons	2025 Tons	2026 Tons	2027 Tons
Wood (25.3%)	31,263	31,357	31,451	31,545	31,640	31,735	31,830	31,925	32,021	32,117	32,214	32,310
Roofing/Shingles (18.0%)	22,320	22,387	22,454	22,521	22,589	22,657	22,725	22,793	22,861	22,930	22,999	23,068
Concrete/Brick/Dirt / Asphalt (17.8%)	21,471	21,535	21,600	21,665	21,730	21,795	21,860	21,926	21,992	22,058	22,124	22,190
Drywall/Plaster (13.2%)	16,104	16,152	16,201	16,249	16,298	16,347	16,396	16,445	16,495	16,544	16,594	16,643
Ferrous (1.9%)	1,921	1,927	1,933	1,938	1,944	1,950	1,956	1,962	1,968	1,973	1,979	1,985
Corrugated (1.6%)	2,487	2,494	2,502	2,509	2,517	2,525	2,532	2,540	2,547	2,555	2,563	2,570
Aluminum (0.7%)	407	408	409	411	412	413	414	416	417	418	419	421
Other Waste Components (21.5%)	27,345	27,427	27,509	27,592	27,675	27,758	27,841	27,924	28,008	28,092	28,177	28,261
Total C&D Waste	107,230	123,688	124,059	124,431	124,804	125,179	125,554	125,931	126,309	126,688	127,068	127,449

¹ Based on data from 1998 Lancaster County C&D Recycling Study

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5.4.5 Biosolids and Septage Management System

Bucks County will continue to rely on the current system for managing biosolids and septage. Biosolids management involves processing of wastewater at a number of publicly operated facilities into biosolids that are primarily landfilled. Of the 31 facilities that responded to the disposal portion of the survey administered by the County, 13 facilities use landfilling, four (4) use a lagoon system, 10 transport material to another facility for processing, one uses land application in conjunction with landfilling, and four use incineration. The GROWS Landfills accept biosolids for disposal as do the Chrin Brothers Landfills as do several others, and this material is included as part of the disposal capacity reserved with these facilities for Bucks County.

There are four in-county wastewater treatment plants (WWTPs) that currently accept septage for processing and/or disposal. The majority of the facilities that responded to the survey have no plans for expansion of their treatment plants. Although the amount of septage received is expected to increase, the available plant capacities should be sufficient to handle the increase. Details regarding these facilities are provided in Section 1 of this Plan Revision. The County has no plans to change the manner in which biosolids and septage waste are managed.

5.4.6 Infectious and Chemotherapeutic Waste

The current system for managing infectious and chemotherapeutic waste generated in hospitals and nursing homes, which is managed solely by the private sector, is adequate for handling this material. Some infectious wastes are delivered to disposal facilities that are indicated in the County's plan, and these tonnages are included in the total tons of reserved disposal capacity. Disposal facilities that have accepted infectious waste generated in Bucks County in 2015 are included in section 2 of this plan.

The County will continue to rely on this system and is not considering other options for this 10-year planning period.

5.4.6.1 Home Medical Waste

Small amounts of medical wastes are generated in the home, mostly related to the administration of drugs and changing dressings. When generated in the home, this waste, which is a special handling waste when generated in medical and nursing facilities, may be disposed of with other residential wastes.

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However, because of the danger to haulers, primarily from “sharps” used for activities such as blood testing and drug injections, mostly by diabetics, Bucks County has and will provide information to residents about the safe disposal of these wastes. Over the past few years, this type of information has been more readily available through individual doctors and clinics and pharmacies. Some doctors and pharmacies provide sharps containers to patients who use syringes, lancets, and similar instruments and permit patients to return them for disposal. There are also residential mail-in programs available for sharps disposal.

Options for helping to educate the public could include: (1) working with doctors and pharmacies to provide sharps containers; (2) encouraging patients to request sharps containers from their doctor or pharmacy; (3) providing instructions on how to dispose of sharps safely if dedicated containers are not available; and (4) providing information on the safe disposal of other medical wastes.

5.4.7 Household Hazardous Waste

PA DEP reports that Pennsylvania’s four million households generate around 25,000 tons of waste that is hazardous in nature. Household hazardous waste, or HHW, includes such items as paints, pesticides and herbicides, drain cleaners, pool chemicals, solvents, and cleaning products. While these products are exempted from regulation as hazardous wastes and may be disposed of with other municipal waste generated in the home, they can present hazards for homeowners and waste collectors, particularly if the materials leak from their packaging.

Pennsylvania encourages counties and municipalities to establish collection programs to manage this waste for recycling and/or disposal. Bucks County provides a HHW program that manages the recycling and/or disposal of special wastes including electronics, at some events. HHW collection events are held five times per year. In addition, because the County is part of the Southeastern PA HHW Drop-Off Program (HHW Program Group), residents can attend drop-off events located in Chester, Delaware, Montgomery, and Philadelphia Counties. Final disposition of materials is contracted to a private vendor, with a separate private entity handling electronics. Additional details regarding the HHW program are found in Section 4 of this Plan Revision.

While the current HHW program is working, the HHW Program Group may evaluate implementing the following strategic options to cost-effectively increase the convenience and participation in HHW programs:

- Establishment of a permanent HHW facility; and/or

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- Implementation of a curbside HHW collection program.

5.4.7.1 Option 1 Permanent HHW Collection and Processing Facility

The County and the HHW Program Group may consider investing in a permanent HHW collection and processing facility. If located near the center of the HHW Program Group's region or near the highest population concentration, the facility would provide several benefits to residents including:

- **Convenience to the residents.** A permanent facility would provide residents with a year-round option to properly dispose of HHW materials, rather than having to store the materials until the next collection event.
- **Option for a product exchange or reuse center.** A segment of the facility could be designated as a product exchange area in which facility staff would place usable products on shelves for residents to take free of charge. Types of items likely to be included in a reuse program are paint, household cleaners, and automotive products. By offering these materials for reuse, the HHW Program Group could potentially realize savings from avoided processing costs. Most product exchange programs require the resident or "customer" to sign a liability waiver that states they are over the age of 18 and they will use the product for its intended purpose. An attorney should be consulted to provide indemnification language.
- **Potential to reduce processing costs.** A permanent facility would provide the ability to bulk materials such as flammable liquids and oil based paint. This would result in shipping less lab packs and more drums of waste, which may result in cost savings.
- **Potential to reduce transportation costs.** A permanent facility would allow the HHW Program Group to ship materials as consolidated loads, rather than shipping materials on a per-event basis.

Permanent HHW Facility Design/Overview

The basic design features of a permanent facility include:

- A parcel of land large enough to accommodate the building, a small parking area, an entrance and exit for vehicle traffic, and a turning area for trucks.
- A steel-sided, fully enclosed building with sufficient height to allow for the loading of a semi-trailer from a ramp or a loading dock. The facility should have a receiving area, a bulking area for paints and flammable liquids, and separate storage rooms for lab packed materials and fluorescent bulbs. Other design aspects include restrooms, a decontamination station, an office, a product exchange room, and a storage room for items such as personnel protection equipment and incidentals. The building should be designed with a catch basin under the foundation to which all liquid materials would flow in the event of a spill.

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- A pre-engineered hazardous material storage locker for the storage of drums of bulked flammable liquids, and other hazardous materials. These noncombustible units are fire rated and have either a sprinkler system or a chemical suppression system.

The size of the facility would be determined by the quantities of materials expected, the needs of the HHW Program Group, and local zoning requirements. At a minimum, a two-acre site with building dimensions of at least 100 feet by 50 feet is needed. Figures 5-1 through 5-2 below show a permanent HHW collection facility built for Lancaster County, PA.

Figure 5-1

Entrance of HHW Collection Facility, Lancaster County, PA



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Figure 5-2

Aerial view of the Lancaster County Solid Waste Management Authority
(The HHW building is the second from the right in the lower section of the picture. Also pictured are the compost yard, MRF, transfer station, and education center.)



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Permanent HHW Facility Future Considerations

If a permanent HHW collection facility is established, supplemental collection options such as developing satellite facilities and/or adding a mobile collection unit will be necessary since the facility will serve a multi-county region. Each option is described below.

Satellite System

Satellite HHW collection facilities are designed to support a permanent processing site. Satellite facilities serve as permanent drop-off locations for program participants that typically would not travel the distance to deliver HHW materials to the central or main facility. To provide a full-service program, the same HHW materials that are accepted at the permanent site should be collected at the satellite facilities. HHW materials are regularly collected from the satellites and transported to the “hub” permanent facility where materials are sorted, bulked and lab packed for recycling or disposal. A satellite facility design may include:

- A pre-engineered metal building to house a small office, a product exchange or re-use room, a mechanical room, and one unisex bathroom;
- A metal canopy attached to the building to cover two drive-through lanes of traffic and provide shelter for staff while they unload HHW materials from the vehicles;
- Adequate parking for up to six vehicles at one time for staff persons working at the facility as well as residents who may want to park and peruse the product exchange room; and
- A pre-engineered hazardous material storage locker, enclosed with a chain-link fence and gate. The entire satellite facility property would also be surrounded by a chain-link fence.

Depending on the needs and the budget of the HHW Program Group, satellite facilities could be as basic as a seasonal, open-air collection site with a hazardous materials storage locker, or it could include a fully enclosed building designed to be open year-round.

Mobile Collection System

With a permanent HHW facility, the HHW Program Group could also consider providing mobile collection events for communities located beyond a six mile radius from the permanent collection facility and satellite facilities. A collection vehicle, such as a box truck and/or a trailer would be needed to conduct the mobile events. The HHW Program Group could coordinate the events and perhaps provide two or three staff persons to help with the collection, and request that the host community be responsible for providing volunteers to assist with the traffic and unloading of the

SELECTION AND JUSTIFICATION OF MUNICIPAL WASTE MANAGEMENT PROGRAM

vehicles. To provide a full service program, the same HHW materials that are accepted at the permanent site should be collected at the mobile events. All HHW materials collected at the mobile events would be transported to the central HHW building for processing.

When the City of Kansas City, Missouri built its permanent facility in 1996, the staff originally considered satellite collection sites, however they opted for mobile collections instead because the staff considered this approach more manageable and cost effective. The City currently conducts 25 to 30 mobile collection events per year in cooperation with the Mid-America Regional Council (MARC). MARC arranges the mobile collection events to be held on certain Saturdays from April through October. Each community pays its share of the cost of the event. Collection events usually take place at a school, church, or public facility with a large parking lot. (See discussion below under “Partnerships” section for more details on Kansas City’s HHW program.)

Partnerships

The HHW Program Group may consider a public/private or a public/public partnership to finance the land acquisition, construction and/or operation of a permanent HHW collection facility. Two examples of successful HHW program partnerships are provided below.

Dakota County, Minnesota

Forming a public-private partnership may provide a means to decrease program costs and increase flexibility. An example of a successful public-private partnership is Dakota County, Minnesota. Part of the Minneapolis/Saint Paul metropolitan area, the County is largely suburban in nature, with an estimated population of 355,904 (and approx. 133,750 households). The County held its first HHW collection event in 1985 and by 1987, the County was sponsoring multiple (three to four) collection events per year. In 1991, Dakota County implemented a permanent collection system at two sites in the County, together with occasional off-site collection events. In 1996, the County chose to consolidate operations and issued a Request for Proposals (RFP) for HHW management services. The RFP stated that the vendor would be responsible for siting, constructing, operating and staffing a permanent HHW collection facility. The RFP excluded HHW material recycling/disposal services.

Gopher Resources, a local private company that also operates a plastics recycling company and a lead smelter, contracted with the County to provide HHW services. Services included operation, maintenance and management of the HHW facility. The private contractor pre-sorts delivered

Section 5

materials into general categories, bulks liquids, and selects usable materials to be placed in the reuse center.

Located near the County's population center, the contractor's permanent facility is approximately 3,000 square feet. It has a product reuse area, which allows residents to choose HHW materials for their use, free of charge. The HHW facility is housed in the same building as the plastics recycling company and adjacent to the lead smelting facility. As part of this partnership, the County provides all of the movable fixtures within the facility, including waste processing equipment, shelving, drum dolly, drum scale, and office equipment and oversight of facility activities. The HHW facility is staffed by Gopher Resources employees and includes one primary manager, two technicians, and up to twelve additional trained part-time staff.

In addition to offering HHW services at the permanent collection facility, the County hosts four collection events per year in order to increase customer convenience by decreasing distance to HHW services. The collection events are held in cooperation with cities, who are responsible for advertising the event, locating a temporary collection event site, and providing labor for the daylong event. At the conclusion of each collection event, County staff transports materials to the permanent collection facility.

Kansas City, Missouri

Kansas City (approx. 202,273 households in 1996) provides an example of successful cooperation among multiple jurisdictions. Kansas City's Regional HHW Facility is located centrally within five counties: Cass, Clay, Jackson, Platte, and Ray. The facility opened in September of 1996 and it operates under an intergovernmental agreement between cities and counties.

The facility was initially designed to process 425,000 pounds of HHW material annually. In 1998, the quantity of materials collected surpassed that amount and the facility now processes close to 1 million pounds per year.

A "Swap Shop" is located within the HHW collection facility. Reusable household products are available to residents free of charge, except latex paint. The city re-processes latex paint and sells it in five-gallon buckets.

5.4.7.2 Option 2 Curbside Collection of HHW

A second program option for collecting HHW materials is to offer curbside collection to residents. This option could be carried out in several ways, as listed below:

SELECTION AND JUSTIFICATION OF MUNICIPAL WASTE MANAGEMENT PROGRAM

- In conjunction with a reduced number of annual drop-off collection events;
- In place of the collection events; or
- It could be limited to only the elderly and disabled residents.

Some municipalities in the United States offer curbside collection of HHW. The city of Denver, Colorado (approximately 251,000 households) has been offering this service to residents for four years through a contract with a local vendor. The program is funded through Denver's Wastewater Management Division as part of the city's stormwater permit requirements. Residents call the vendor's toll-free customer service phone number to schedule a pick-up and they must have at least three different types of materials for disposal. The contractor then sends the resident a collection kit which contains a heavy-duty clear plastic bag, instructions, labels and a cable tie that cannot be re-opened once it has been secured. The bag cannot exceed 125 pounds. If the resident has more HHW than will fit in the bag, they may choose to set out the extra materials and pay for its collection. The city pays the contractor a per-household collection fee. Approximately 1 percent of the city's population currently participates in this program. The City of Denver opted for this type of program as an alternative to building a permanent HHW collection facility.

The City of Laguna Beach, California (approximately 13,000 households) also contracts for the curbside collection of HHW as well as electronics. The residents do not pay the contractor directly for the service; the city pays the contractor monthly based on the number of stops and the types and quantities of materials collected. (There is a reduced cost to collect certain items such as antifreeze, batteries, used motor oil, and paint.) The city subsidizes this program through a solid waste fee incorporated into the residential refuse bill. Commercial businesses may also take advantage of the program, although they are required to pay the contractor directly.

Another option is to offer curbside collection of certain items. For example, municipalities in Sarasota County, Florida, have been collecting used motor oil from the curb for several years with great success. The County (approximately 193,000 households) contracts with private haulers for the collection of residential municipal solid waste, including motor oil and electronics. As part of the regular refuse collection service, all residents of the County have the opportunity to set out used motor oil and oil filters for collection at the curb. The oil must be placed in see-through plastic beverage containers with a screw top, and oil filters must be placed in sealed food storage bags. As a result, less motor oil has been collected at the County's two permanent HHW collection facilities in the last three years, as shown in Table 5-6 below.

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Table 5-6
Sarasota County, FL
Used Motor Oil Collected (in pounds)

	2001	2002	2003
HHW Collection Facility 1	85,810	91,220	75,751
HHW Collection Facility 2	36,790	43,200	28,570
Curbside Collection	62,400	105,840	141,140

Adding HHW materials to the current refuse collection program would require extensive planning. Not all haulers will be interested or equipped for this type of collection. However, an RFP to offer this type of collection could be distributed to assess the extent of the interest.

5.5 Inappropriate Methods of Disposal

Every county in Pennsylvania has had to address problems that result if its residents do not dispose of the wastes they generate in a legal, responsible manner. This section addresses the most common inappropriate disposal practices.

5.5.1 Illegal Dumping

Illegal dumping issues tend to be more problematic in rural areas, and involve items that are difficult or relatively costly items to dispose of such as waste tires, furniture, and appliances. While most would view illegal dumps as eyesores, they also create significant concerns for public health and safety, property values, and the general quality of life. When they are ignored, these sites often become chronic dumping areas.

No significant problems regarding illegal dumping have been brought to the County Planning Commission's attention, but as part of the Solid Waste Management Review Process, the County requested that municipalities indicate whether illegal dumping is an issue in their area. If feedback warrants, Bucks County may consider appropriate actions to take in order to help the municipalities abate illegal dumping. Examples of programs that the County and municipalities could consider include:

- Strengthening ordinances and enforcement activities;
- Conducting education/public outreach campaigns; and

- Ensuring that residents have access to bulk waste collection

5.5.2 Waste Burning

Bucks County does not specifically prohibit burning of waste. It is the responsibility of municipalities to determine rules for any waste burning that takes place within their borders. Some municipalities permit some types of open burning. However, it should be noted that burning in a mandated community is prohibited. All mandated communities in the County of Bucks have ordinances prohibiting open burning of organics, waste and recyclables.

Burning waste at home in a barrel or pile results in an incomplete burning because of low temperatures. It causes heavy concentrations of smoke at ground level, with high concentrations of toxic materials that are easily inhaled. This smoke can affect the health of people by causing eye irritation, asthma, restricted breathing, or worse, chronic diseases such as emphysema. Children are more at risk than adults, because they breathe more quickly than adults and absorb up to six times the contamination that adults do breathing the same air. And according to the EPA, other health risks occur when particles deposited on soil and crops are ingested.

No type of home burning is entirely safe. While many are concerned about plastics, even “clean” materials such as paper, wood and yard waste can cause problems. Bleached papers (such as those used to manufacture bakery and pizza boxes and lightweight cardboard) release carbon compounds with chlorine and fluorine. These compounds have been associated with blood abnormalities, low white cells and leukemia. Papers with synthetic inks release heavy metals when burned, and these are associated with birth defects, interference with red blood cell production, liver and kidney deterioration, and loss of coordination. Absorbing heavy metals through the lungs has a more pronounced effect than absorption through the stomach.

Aside from the health problems, however, are safety concerns. Pennsylvania has had severe drought conditions in previous years. If not properly contained, flames may spread and cause wildfires that damage crops, grazing land, livestock, and buildings.

Regulating burning and enforcement is the responsibility of municipalities. The County does not hold responsibility for these activities within municipalities.

Section 6

LOCATION OF WASTE MANAGEMENT FACILITIES

The purpose of Section 6 is to identify the physical location of disposal/processing facilities used by waste management programs operating in Bucks County.

6.1 Location of Facilities that are Part of Overall System

Two municipal waste landfills, one waste-to-energy facility, and a municipal waste transfer station described in this Plan are located in Bucks County. The remainder are in surrounding counties and in adjacent states, although the out-of-state facilities are not listed, as they are not subject to PA DEP reporting requirements. Figures 6-1 through 6-4 show the geographic location of the facilities listed below.

6.1.1 MSW Disposal/Transfer Facilities

Table 6-1 lists permitted municipal waste disposal facilities and transfer stations that indicated in their FQR their desire to receive solid waste from Bucks County. Figure 6-1 depicts their approximate location:

Table 6-1
Municipal Waste Disposal/Transfer Facilities
Identified for Bucks County Waste

Facility	Map ID Number	Owner	Facility Permit Number	Host County
BFI Imperial Landfill	LF1	BFI North America	100620	Allegheny
Fairless Landfill	LF2	Waste Management	101699	Bucks
Lanchester Landfill	LF3	Chester County SW Authority	100944	Lancaster
Keystone Sanitary Landfill	LF4	Louis & Dominick DeNaples	101247	Lackawanna
Commonwealth Landfill Environmental System	LF5	Louis & Dominick DeNaples	101615	Schuylkill
Chrin Brothers Landfill	LF6	Charles Chrin	100022	Northampton

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Facility	Map ID Number	Owner	Facility Permit Number	Host County
IESI PA Bethlehem Landfill	LF7	IESI PA Bethlehem Landfill Corporation	100020	Northampton
Pioneer Crossings Landfill	LF8	F.R. & S. Inc	100346	Berks
White Pines Landfill	LF9	F.R. & S. Inc.	301626	Columbia
Conestoga Landfill	LF10	New Morgan Landfill Company	101509	Berks
Brooke County Sanitary Landfill	LF11	Solid Waste Services, Inc.	NA	Brooke County W.V.
Grand Central Sanitary Landfill	LF12	Waste Management	100265	Northampton
Onyx Greentree Landfill, LLC	LF13	Onyx Waste Services	101397	Elk
GROWS Landfill	LF14	WMI of PA, Inc.	100148	Bucks
Wheelabrator Falls WTE	WTE1	Energy Capital Partners (ECP)	400633	Bucks
Covanta Plymouth Renewable Energy WTE	WTE2	Covanta Plymouth Renewable Energy	400558	Montgomery
Indian Valley/Telford Transfer Station	T1	WMI of PA, Inc.	101390	Bucks
Philadelphia Forge Transfer Station	T2	WMI of PA, Inc.	101376	Philadelphia
Mascaro Transfer Station	T3	Solid Waste Services, Inc.	101237	Montgomery
United States Recycling	T4	US Recycling	101470	Philadelphia
SpecFuel Facility	S1	Waste Management	WMGM037	Philadelphia

Figure 6-1

Map of Pennsylvania showing county boundaries and locations of sampling sites. Red dots indicate sampling sites, with labels for specific sites: LF1, LF13, LF4, LF9, LF12, LF6, LF7, LF5, LF10, LF8, LF11 - W.V., LF14, LF2, LF3, T4, T3, T1, T2, WTE1, WTE2, S1. County names are labeled throughout the map.

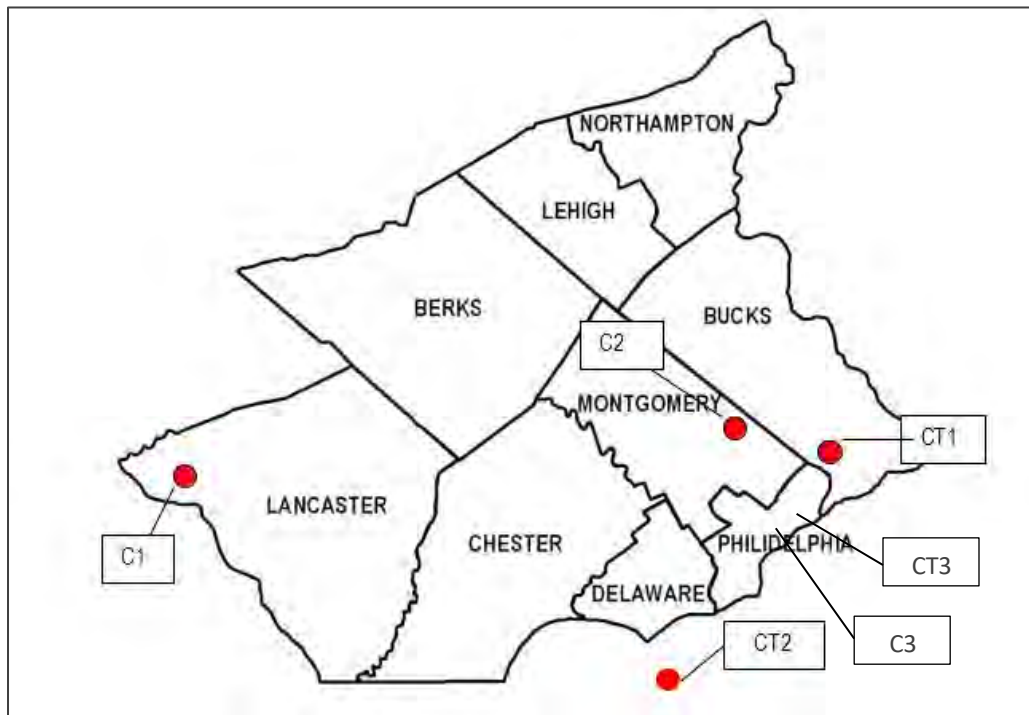
Table 6-2 identifies the Construction and Demolition Debris facilities known to be used for managing the C&D waste generated in Bucks County. In addition, many of the municipal waste landfills identified in Table 6-1 accept C&D waste. Facility locations are shown in Figure 6-2.

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Table 6-2
C&D Facilities for Waste Generated in Bucks County

Facility	Map ID Number	Owner	Host County	Facility Type	Permit Number
Onyx Lancaster Landfill LLC	C1	Onyx Waste Services	Lancaster	C&D Landfill	101559
Indian Valley Transfer Station	C2	Waste Management	Montgomery	Transfer Station	101390
Richard Burns & Co. Inc.	C3	Richard Burns & Co. Inc.	Philadelphia	C&D Transfer Station	101429
CDR	CT1	Construction & Demolition Recycling	Bucks	C&D Transfer Station	101567
Delaware Recyclable Products, Inc.	CT2	Waste Management	State of Delaware	C&D Landfill	SW-15/02
Revolution Recovery	CT3	John Wyburn	Philadelphia	C&D Transfer Station	

Figure 6-2
C&D Disposal/Transfer Stations



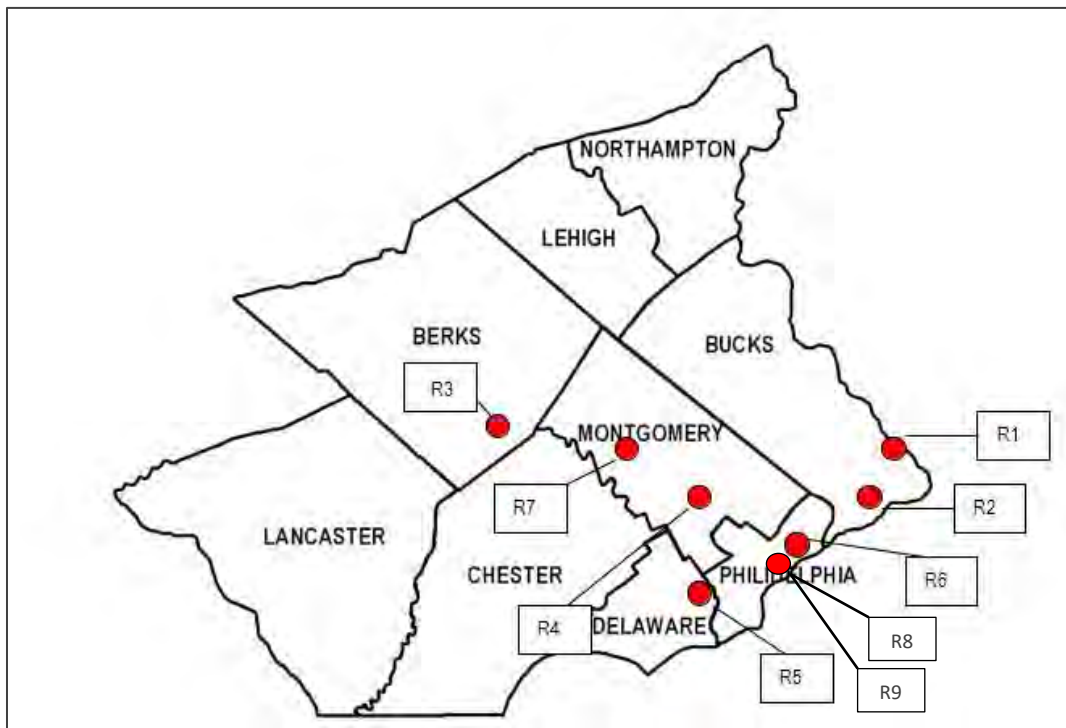
6.1.3 Recyclables Processing Facilities

The facilities known to be processing recyclables generated in Bucks County are listed in Table 6-3. Other recycling facilities may also be utilized. The general locations of the facilities are indicated in Figure 6-3.

Table 6-3
Recyclables Processing Facilities

Facility	Map ID Number	Facility Owner	Location
Falls MRF	R1	Waste Management	Falls Township, Bucks County
Delaware Valley Scrap Recycling	R2	Delaware Valley	Bristol Township, Bucks County
TotalRecycle	R3	JP Mascaro & Sons	Birdsboro, Berks County
The Recyclery, King of Prussia	R4	Republic Services	King of Prussia, Montgomery County
Accurate Recycling	R5	Accurate Recycling	Lansdowne, Delaware County
Philadelphia MRF	R6	Waste Management	Philadelphia, Philadelphia County
Rapid Recycling	R7	A.J. Catagnus, Inc.	Oaks, Montgomery County
United States Recycling, Inc.	R8	USRI	Philadelphia, Philadelphia County
Newman & Company Inc.	R9	Newman & Company Inc.	Philadelphia, Philadelphia County

Figure 6-3
Recyclables Processing Facilities
known to be Processing Bucks County Generated Materials



6.1.4 Composting/Mulching Facilities

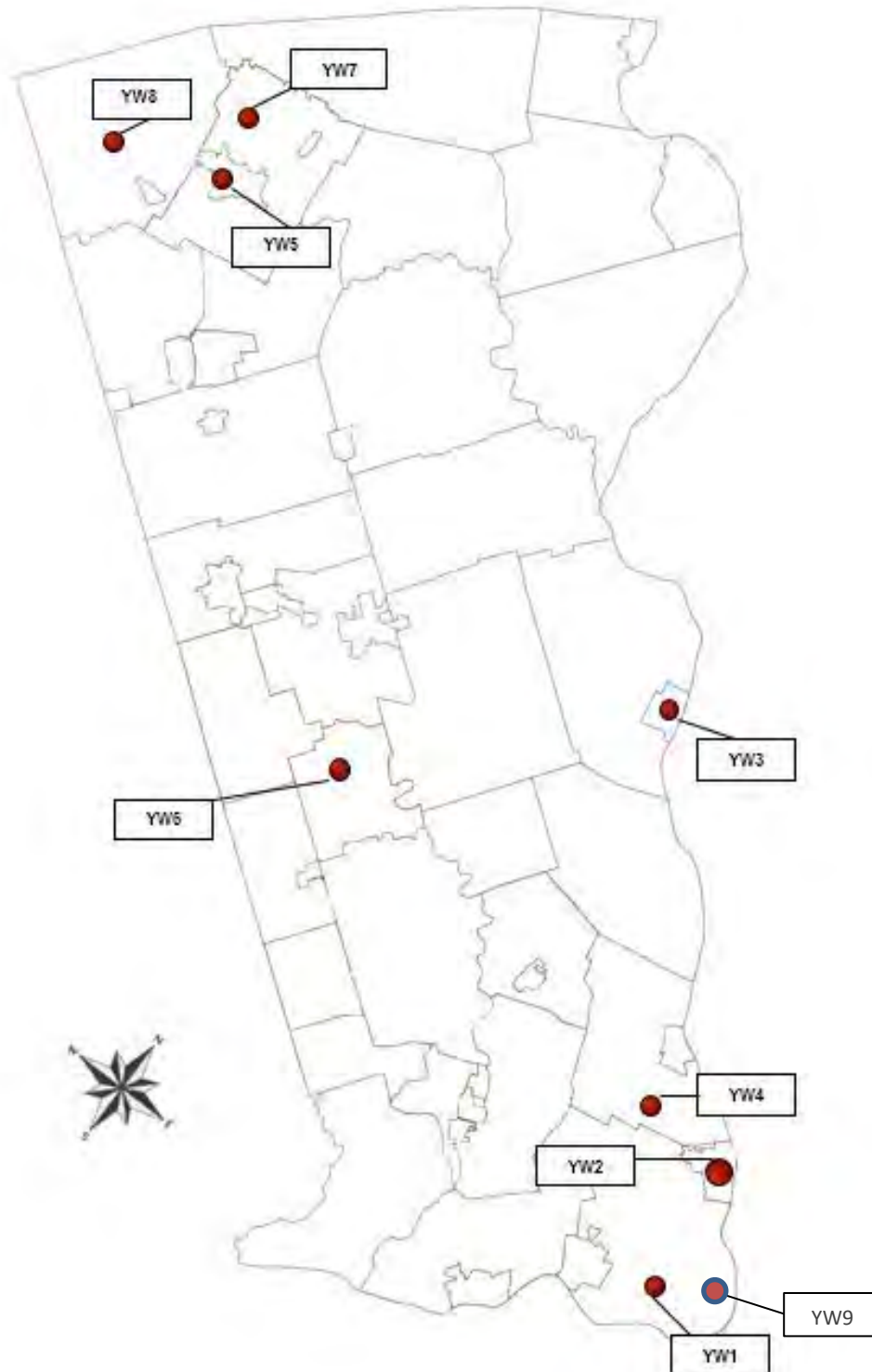
There is only one privately owned and operated large-scale composting facility known to be accepting yard waste generated in Bucks County for composting. In addition several townships have their own small processing facilities, and a preserved farm (K&D Growers) has an arrangement with Warwick Township to provide for their yard waste processing as well as material from local landscapers. Known composting/mulching facilities processing yard waste generated in Bucks County are listed in Table 6-4. Figure 6-4 shows the facilities' general locations.

LOCATION OF WASTE MANAGEMENT FACILITIES

Table 6-4
Composting/Mulching Facilities

Facility	Map ID Number	Type of Processing	Owner	Location
Warner Compost Facility	YW1	Composting	Waste Management	Falls Township, Bucks County
Morrisville Borough	YW2	Composting	Borough	Morrisville Borough, Bucks County
New Hope Borough	YW3	Composting	Borough	New Hope Borough, Bucks County
Lower Makefield Township	YW4	Mulching	Township	Lower Makefield Township, Bucks County
Quakertown Borough	YW5	Mulching	Borough	Quakertown Borough, Bucks County
K&D Growers	YW6	Mulching	K&D Growers	Warwick Township, Bucks County
Richland Township	YW7	Mulching	Township	Richland Township, Bucks County
Victory Gardens	YW8	Composting/Mulching	Victory Gardens	Milford Township, Bucks County
Britton Industries	YW9	Composting/Mulching	Britton Industries	Morrisville Borough, Bucks County

Figure 6-4
Yard Waste Processing Facilities



6.1.5 Biosolids and Septage Processing Disposal Facilities

Forty-one biosolids generating facilities responded to the survey of wastewater-generating facilities surveyed. As described in more detail in Section 1 of this Plan Update, the facilities that indicated that they generate and manage biosolids indicate that they manage biosolids using the following means:

- Thirteen (13) use landfill disposal exclusively;
- Four (4) use a lagoon system;
- Ten (10) transport to a wastewater treatment plant, exclusively;
- Three (3) use incineration exclusively;
- One (1) uses incineration as well as transporting some to a WWTP for final processing; and
- One (1) uses land application in conjunction with landfilling.

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Section 7

IMPLEMENTING ENTITY IDENTIFICATION

7.1 Define Entity Responsible for Implementing the Municipal Waste Management Plan

The implementing entity for the 1991 Bucks County Municipal Waste Management Plan was the Bucks County Commissioners. In that Plan, the Bucks County government was the entity deemed responsible for continuing the development of the Bucks County recycling program, as well as for providing ongoing coordination, planning, technical assistance, and public information/education regarding solid waste, recycling, and waste minimization. The 1991 Plan also indicated that the Bucks County Planning Commission staff and the Bucks County Recycling Coordinator would be responsible for providing technical assistance to municipalities and the sub-county planning committees, coordinating the Bucks County Solid Waste Advisory Committee, conducting periodic Plan reviews, and educating the public about solid waste issues.

Since the 1991 Plan Bucks County has and will continue to serve this role, with support from municipal government, the private sector and the PA DEP. The roles and responsibilities of each of these partners are as follows:

7.2 Municipal Government

Municipal governing bodies will play a substantial role in the implementation of this plan, including the oversight of solid waste collection, storage and transportation. Municipal governments will also be instrumental in the development of mandatory and non-mandatory recycling programs, which may include the adoption of solid waste recycling ordinances.

Unlike the 1991 Plan, the County will not require municipalities to designate a facility or facilities to which haulers providing service within a municipality must haul waste from that municipality.

7.3 Private Sector

In general, the private sector will be responsible for the ownership and operation of major transfer, processing, and disposal facilities. However, Bucks County and the municipalities will retain the right to own and/or operate solid waste facilities. Collection of solid waste will continue to be provided by both the public and private sectors.

7.4 Pennsylvania Department of Environmental Protection

Bucks County will continue to look to PA DEP for technical and financial assistance through the planning period, including the following grants shown in Table 7-1. The County is also, however, keeping program self-sufficiency in mind, as Act 175 of 2002 recommends.

Table 7-1
Grants

Grant Name	Section 901	Section 902	Section 903	Section 904
Grant Purpose	To help counties update solid waste management plans. Also, for feasibility studies, surveys, investigations, research, and analyses and HHW Education.	To help municipalities implement or upgrade recycling programs or composting programs.	To help each County pay for the recycling coordinator.	To reward municipalities based on tons recycled.
Award Criteria	No set criteria	No set criteria	County must have recycling coordinator and must complete appropriate forms.	Act 101 materials must be recycled, and documentation must exist.
Who Applies	Counties	Municipalities	Every County in state that has a recycling coordinator.	Municipalities and Counties (on behalf of municipalities)
What does Application Entail?	Scope of services for completing the plan and budget estimates	Must submit a fiscal summary form, as well as an itemized expenditure list for each line item.	Grant application (Sections A-F), Activity Log, and W-9 Form.	Providing and documenting with weight slips quantities of Act 101 materials recycled.

IMPLEMENTING ENTITY IDENTIFICATION

Grant Name	Section 901	Section 902	Section 903	Section 904
Deadline	Can apply at any time.	DEP issues a call for 902 grant applications and deadline is announced at that time.	Annually by April	Annually
Amount of Grant	80% of approved costs.	90% of approved costs.	50% of eligible expenditures.	Based on formula, but currently gets reduced by 40% due to budget constraints.
Jurisdiction Contribution Required	20% of approved costs.	10% of approved costs. "Financially Distressed Municipalities" can apply for an additional grant to cover this.	50% of eligible expenditures and 100% of non-eligible expenditures.	None, but supporting documentation is required to be held for seven years.

7.5 Other Responsibilities of the Implementing Entity

Other responsibilities of the implementing entity include the following:

- Coordinating household hazardous waste events;
- Assisting communities in adopting, issuing and enforcing local rules and regulations;
- Assisting in informing other County agencies and municipalities about changes in federal and state laws, rules and regulations that may affect or would affect solid waste management in the County or municipalities;
- Administering agreements with Waste Management of PA, Inc., Wheelabrator Falls, Inc., and other entities;
- Providing technical assistance to municipalities in implementing municipal recycling and composting programs;
- Providing technical assistance to commercial establishments and institutions in implementing recycling programs;
- Planning and implementing countywide programs to provide general education to the public about recycling and composting, and to provide information about the range of recycling opportunities throughout the County;
 - Collecting and evaluating data on recycling and waste generation by municipalities and county;
 - Collecting and evaluating data on recycling and waste generation by commercial, institutional and industrial establishments in the County;

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- Researching, developing, and implementing new programs as they become needed and cost effective (e.g. a permanent electronic drop-off site);
- Preparing and submitting required reports to the DEP; and,
- Applying for grants to carry out countywide recycling and composting programs, administering grants received, and reporting results to PA DEP.

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PUBLIC FUNCTION

Bucks County does not intend to purchase or operate its own disposal or recycling processing facility. Consequently, this Plan does not contain any information relative to the costs of development of such facilities.

The County supports using the private sector to manage most aspects of the municipal waste system, including recyclables processing and waste disposal services. The majority of the municipalities within Bucks County intend to continue to rely on the private sector to provide municipal waste and recyclables collection (for municipalities with curbside recycling programs). The private sector will also remain responsible for managing recyclable materials generated by commercial and institutional entities in Bucks County, including collection, processing and marketing. The private sector will also continue to be responsible for the collection of liquid sludge and septage. The public sector will continue to process sewage to generate sludges that will be managed by the private sector for disposal. The private sector will remain responsible for the processing and disposal of infectious and chemotherapeutic waste.

ORDINANCES AND RESOLUTIONS

9.1 Documents Required to Implement Plan

- Municipal Waste Disposal Capacity Agreement;
- Recycling Agreement, and;
- Municipal Waste Management Ordinances.

The Municipal Waste Disposal Capacity Agreement is with Waste Management Disposal Services of Pennsylvania, Inc. (Waste Management) and ensures adequate permitted processing and disposal capacity for municipal waste generated within Bucks County through 2024 at the Tullytown and GROWS landfills, as well as the Wheelabrator Falls WTE Facility. This agreement can be found in Appendix A.

The Recycling Agreement is with Waste Management of PA and is for the purchasing, processing and marketing of recyclable materials collected in Bucks County. Updated in October 2011, this agreement requires Waste Management of PA (WMPA) to accept recyclables from communities who have signed an agreement with Bucks County to deliver all collected recyclables to the WMPA (member municipalities). In exchange for agreeing to deliver all collected recyclables to the facility, the WMPA guarantees a rebate and holds a floor minimum of \$0. The agreement was also revised to include single stream options, which the agreement's predecessor (Otter Recycling Corp ORC) was reluctant to do. These options greatly expanded the amount of material being recycled in participating municipalities.

This agreement can be found in Appendix B.

Due to the availability of recycling options, municipalities no longer require this program and haulers feel it infringes on their hauling services. Although there is some advantage and bargaining weight to multi-municipal group negotiating {e.g. Southwestern Bucks Solid Waste Advisory Committee (SWBSWAC)}, the County no longer feels the agreement is necessary to meet the goal of increasing recycling. Upon expiration of this agreement, it is the County's intent not to renew.

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Some Municipal Waste Management Ordinances that were received and reviewed as part of the Plan update process provide authority to municipalities to license waste haulers, require recycling and address illegal disposal of municipal waste. The level of requirements and enforcement of the requirements varies among the municipalities.

The County Planning Commission will review additional municipal ordinances to ensure that they are consistent and do not include licensing fees. The municipalities that currently have language that allows licensing will be informed about the new laws and court rulings in regards to having a fee associated with licensing. As part of this process, the County will develop a model ordinance, and encourage municipalities to adopt it. Since many municipalities will have a more restrictive ordinance than the model, the impact will be limited.

Upon completion of the development of implementing ordinances, the County ordinance was adopted by the Bucks County Commissioners on _____ (County Ordinance No. _____), see Appendix E. The Plan Revision, along with an implementing ordinance, is now being submitted to the Bucks County municipalities for their adoption. Should additional implementing documents become necessary for full implementation of this Plan, the implementing entities will exercise their authority for the adoption and execution of any and all documents deemed necessary to carry forth its obligations to implement this Plan.

Section 10

ORDERLY EXTENSION

10.1 Demonstration that Plan is Consistent with State, Regional, and Local Plans

This Plan has been revised to provide for the orderly extension of municipal waste management programs in a manner that is consistent with the needs of Bucks County. The Plan revision has been developed using the best available estimates of population and economics and best available technologies and good engineering practice, and in accordance with current federal, state and local laws and regulations. It is also substantially in accordance with the management concepts presented in the 1991 Plan and subsequent plan revisions.

This Plan does not conflict with any state, regional, or local plans.

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Section 11

METHODS OF DISPOSAL OTHER THAN BY CONTRACTS

11.1 Vehicles for Managing Processing/Disposal Other Than Contracts

As discussed in Section 5, the current municipal waste system in Bucks County is managed by both the public and private sectors. All municipalities' solid waste collection services are provided by the private sector, with the exception of Perkasio Borough, which provides residential collection services. Private hauling companies provide service through contracts or individual subscriptions. All municipalities may still adopt ordinances, regulations and standards for collection services.

The County does not own or operate any municipal waste disposal facilities; however, it does have a Waste Capacity Agreement with Waste Management of Pennsylvania and Waste Management Disposal Services of Pennsylvania, Inc. (hereinafter referred to as "WMPA") and Wheelabrator Falls WTE Facility to provide assurance of disposal capacity at their permitted disposal facilities in Bucks County. Through the agreement, WMPA pays Bucks County 85 cents per ton for all out-of-county solid waste delivered for disposal at their disposal facilities located in Bucks County for the term of this plan, including Tullytown and GROWS landfills, Wheelabrator Falls WTE, and the Fairless site currently in development. WMPA annually provides up to \$25,000 for the County's household hazardous waste collection events. Wheelabrator also contribute \$11,500 for the HHW program. In exchange, Bucks County agrees not to object to WMPA and Wheelabrator accepting waste from outside of Bucks County. A copy of this contract may be found in Appendix A

11.1.1 Recycling

Recyclables are collected by the public and private sectors, and processing is managed by the private sector. The County currently has a contract with one private processor, Waste

Section 11

Management, to accept recyclables from communities who have signed an agreement with Bucks County to deliver all collected recyclables to the facility. As discussed in Section 2, financial compensation is offered to the community in exchange for agreeing to deliver all collected recyclables to the facility. This agreement can be found in Appendix B.

The current recycling system employed by Bucks County is managed by both the public and private sectors. All municipalities' recycling collection services are provided by the private sector, with the exception of Perkasio Borough, which provides residential collection services. Private hauling companies provide service through contracts or individual subscriptions.

11.1.2 Yard Waste

Of the 53 communities in Bucks County, 37 indicate that leaves are collected curbside. This service is most frequently provided by private haulers who collect bagged leaves at the curb, or by municipal or private leaf services. Ten municipalities indicate that they have a leaf vacuum program. In most cases collection of yard waste other than leaves is provided by the same entity that collects leaf waste in the jurisdiction, unless curbside leaf vacuum service is provided. In that case, brushy waste can not be vacuumed, and residents must bag or bundle their yard waste. In some communities, particularly the rural areas, on-site composting of leaves is common. Burning of leaf and yard waste is becoming less common in some of these areas due to anti-burning ordinances adopted by the local municipalities. Of the 53 municipalities in the County's plan, 35 municipalities indicate that they have bans on backyard burning; 17 municipalities indicate that they do not.

11.1.3 Special Wastes

Bucks County manages HHW by holding collection events throughout the County, which are open to all residents. Events are held multiple times per year in Bucks County. Chester, Delaware, Montgomery, Philadelphia and Bucks counties have joined forces to form the Southeastern Pennsylvania HHW Drop-Off Program. Due to the Covered Devices Recovery Act (CDRA), that bans certain electronics from being landfilled or incinerated, electronics have become the biggest item (by weight) collected at these events. The private sector manages some of the collection of these items, but will be encouraged to participate more fully. Because of their collaborative efforts, residents of any of the participating counties may attend approximately 37 HHW/electronics collection events held annually throughout Southeastern Pennsylvania.

METHODS OF DISPOSAL OTHER THAN BY CONTRACTS

Other recyclables such as scrap metals, used oil, lead acid batteries and tires are managed primarily by the private sector, though the County has promoted the recycling of these and other non-Act 101 materials through public education and arrangements with private sector processors. All of these other recyclables are marketed by the private sector. Biosolids and septage are managed by a combination of private and public entities. Infectious and chemotherapeutic waste is managed privately.

Section 11

Section 12

NON-INTERFERENCE

12.1 Demonstration That Plan Does Not Interfere With Other Plans or Facilities

The Bucks County Municipal Waste Management Plan does not interfere with the design, construction, operation, financing or contractual obligations of any other municipal or private waste processing or disposal facility. The County has expressed a desire to encourage additional local private sector capacity through cooperative efforts and business development incentives.

This Plan also does not interfere with any local solid waste ordinances, zoning regulations or currently established municipal waste management plans.

Section 12

Section 13

PUBLIC PARTICIPATION

13.1 Public Participation in Plan Update Process

Bucks County established a Solid Waste Advisory Committee (SWAC) in 1989, pursuant to Act 101, to advise the County in the preparation of its Municipal Waste Management Plan. There are currently 16 positions on the SWAC, and 13 of these positions are filled. A list of members is included in Appendix F. The SWAC continues to provide for public participation in the Plan development process. This group functions under the direction of the Bucks County Planning Commission.

The SWAC met on an as-needed basis during the time of the county's involvement in this Plan revision process. The group has been involved in every phase of the plan revision process, and the group's input was very important to the process and was taken into consideration in preparing this revised plan. The committee reviewed and commented on each section of this plan during its preparation.

Since this substantial plan update requires municipal approval, after it is conditional approved and commented on by the DEP, municipalities will be asked to comment and vote on the plan's adoption

Below is a list of meetings and significant actions taken at each:

- 2012 Held several SWAC meetings to outline the plan update. Held a pre-application meeting with several regional and central office DEP representatives to discuss the requirements and the County of Bucks timeline to address the needed items.
 - February 20, 2014 An issue mapping session was conducted and the following solid waste management challenges were identified by the SWAC:
 - Providing for long-term disposal capacity;
 - Improving the process for gathering information on recycling quantities from haulers and municipalities;
 - Increasing recycling and improving the accounting system for recyclables;
 - Improving the cost of disposal and recycling;
-

Section 13

- Increasing multi-family recycling;
 - Addressing new single-stream practices;
 - Including narratives on tire recycling and construction and demolition debris;
 - Including conservation and reuse ideas and programs;
 - Addressing the difference in lower, central and upper Bucks County;
 - Encouraging additional leaf waste effort; and
 - Expanding yard waste collection.
- **May 8, 2014** The current section 1 and 2 were discussed with the SWAC. These Sections indicate that generation rates declined dramatically after the 2009 recession. The data demonstrated that while the county's population increased the generation rate per capita decreased. Section 2 showed that there are numerous solid waste management facilities in proximity to Bucks County.

The SWAC also recommended that Bucks County ensure disposal capacity without requiring municipal waste disposal facilities to enter into a contract with Bucks County. The exception to this is the existing contract that Bucks County has with Waste Management. It was recommended that Bucks County evaluate extending this contract through 2024.

To demonstrate access to disposal capacity, Bucks County would place advertisement in local and national publications indicating that Bucks County municipal waste was available. Municipal waste disposal facilities would complete a document that indicates they are interested in receiving Bucks County waste, but no contractual arrangement would be established.

During this meeting the problem of hauler licensing was discussed. Since the Commonwealth took over hauler licensing, municipalities and the county can no longer have a licensing program. It is unclear if the County has any authority to register haulers (without a fee) as the state's regulation instituting state licensing also precludes any municipal licensing program.

- **July 10, 2014 & August 14, 2014** The FQR (Facility Qualification Request) was discussed again. After much discussion it was decided that the Planning Commission would streamline the several versions into one more tailored to meeting our needs. Jay offered to send the Montgomery County version as an example to be considered as well. That streamlined version will be presented at the August meeting.
- The committee discussed the section of Act 101 that discusses the committee make-up and the vacancies. The Planning Commission was reviewing candidate applications and discussing the need for specific types of named representation with the Commissioners for consideration.

- A document hosting website, Drop Box, was discussed. Several members had problems with access to the site. Others felt that downloading the site's program application was too much of an intrusion.
 - DEP SERO has asked the committee to resend the letter of intent to revise the Solid Waste Management Plan. After receipt of that letter the committee should receive a notice on whether this will be a substantial or non-substantial revision update.
 - At the August meeting the Drop Box alternative was discussed. The planning commission has built, and will update and keep the relevant documents on a website (<http://bucksswac.weebly.com>). The update to the county's Recycling Guide and several letters were posted as a test. Overall the SWAC members were satisfied that the site would meet their needs going forward.
 - **October 9, 2014**
 - A discussion was held to understand the substantial revision requirements in case a denial of the committee's non-substantial request was received from the DEP; and what was need to undergo a substantial revision.
 - Act 101 requires a certain composition of members. It was discussed on how to fill the current vacancies and meet the requirements.
 - Some problems with the committee's website were discussed.
 - **November 13, 2014**
 - Having no DEP approval for a non-substantial update, the committee agreed to work under the substantial auspices.
 - Gretchen Schatschneider was contacted about the non-profit citizen group opening on the committee and was present at the meeting while the County Commissioners reviewed her application for appointment.
 - Several sections of the plan were reviewed and many comments on needed changes and research were made.
 - **December 4, 2014**
 - The formal letter from DEP was received and included in the committee's packet. It affirmed that a substantial plan update was required.
 - The rest of the meeting was focused on the Covered Device Recycling Act (CDRA) that prohibited the disposal of certain electronic waste. The Act forced Bucks County's current HHW vendor to drop that part of the HHW program. The problems coming up with an alternative and similar situations in the surrounding counties were discussed.
 - **February 12, 2015**
-

Section 13

- The entirety of the meeting was consumed with the CDRA and the problems it has created. This included the growing problem of warehouses being abandoned chock-full of electronics (primarily cathode ray tube TVs (CRTs)).
- **March 12, 2015**
 - It was decided that the Bucks County Planning Commission should work with the DEP to develop a Request for Facility Qualifications (RFQ) that satisfied the Department, but also met the needs of plan update's goals.
- **May 14, 2015; June 11, 2015; 2016**
 - Lacking a quorum, no formal meeting was held or minutes taken. Informal discussions about current waste topics (CDRA, HHW, etc.) and the direction that the plan could move forward were discussed.
- **April 13, 2017**
 - The officers of the Solid Waste Advisory Committee were reappointed.
 - All chapters were reviewed and comments were solicited.
 - It was agreed that the draft was in the final stage where it could be sent to the Bucks County municipalities, the DEP, neighboring and other stakeholders for approval.

Appendix A

Waste Capacity Agreement

Waste Capacity Agreement

AMENDED and RESTATED WASTE CAPACITY AGREEMENT dated July 30th, 2014 ("Agreement") by and between the County of Bucks ("County") and Waste Management of Pennsylvania, Inc; Waste Management Disposal Services of Pennsylvania, Inc.; and Waste Management of Fairless, LLC, collectively "WM"; and Wheelabrator Falls, Inc. ("Wheelabrator").

WHEREAS the County is revising its municipal waste management plan (the "Plan") in accordance with the Municipal Waste Planning, Recycling and Waste Reduction Act, 53 P.S. §§4000.101 et seq. (the "Act") to provide for the adequate permitted processing and disposal capacity for municipal solid waste generated within the County for the period running through December 31, 2024;

WHEREAS WM and Wheelabrator own, operate and develop environmental service facilities included by the County in the Plan;

WHEREAS the County conducts an annual household hazardous waste and electronic collection program for the receipt and handling of such materials which cannot be disposed at the WM and Wheelabrator facilities herein; and

WHEREAS the County, WM and Wheelabrator are parties to the Agreement as last amended on December 15, 2004 and the parties wish to restate, renew and extend the Agreement as forth herein.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto, intending to be legally bound hereby, agree as follows:

1. WM and Wheelabrator agree to support and assist, where practical, the County in the implementation of the County's municipal waste management system and the County Plan.
2. The County agrees to include in the Plan, for receipt of municipal solid waste generated in the County, the current and prospective solid waste disposal and recycling facilities and any expansions thereof owned or operated by WM or Wheelabrator or any affiliate thereof duly permitted and properly zoned located in the Township of Falls and the Borough of Tullytown (the Plan Facilities").
3. WM and Wheelabrator agree to provide disposal capacity for municipal solid waste generated within the County at the Plan Facilities equivalent to the annual rate of generation of municipal solid waste generated within the County.
4. The County agrees not to interpose any objection to the receipt by WM or Wheelabrator at the Plan Facilities of municipal solid waste originating outside of the County or the Commonwealth of Pennsylvania, in compliance with the permits and

authorities governing the Plan Facilities.

5. WM agrees to pay to the County the sum of eighty-five cents (\$0.85) per ton, without escalation, through the expiration of this Agreement for each ton of municipal solid waste **disposed** at the Plan Facilities which is **not generated** within the County. No fee shall be due or payable for any municipal solid waste or other material reclaimed or recycled and not disposed at the Plan Facilities. Likewise, no fee shall be due or payable for the disposal of municipal solid waste generated within the County. Payments shall be calculated on a scaled tonnage weight basis or volume basis (3 cubic yards= 1 ton) for any such qualifying municipal solid waste disposed at the Plan Facilities. Payment shall be made thirty (30) days following the preceding calendar quarter, accompanied by a statement setting forth the basis for the calculation.
6. Wheelabrator, operator of waste to energy facilities, shall not be required to pay the fee set forth in paragraph 5 above.
7. WM agrees that during each full calendar year of disposal operations of the WM Plan Facilities, WM will contribute not less than Fifty Thousand Dollars (\$50,000) in contributions or in-kind services to organizations or entities engaged in providing charitable, historic site or philanthropic services in the County.
8. (a) WM further agrees that during each full calendar year of disposal operations of the WM Plan Facilities, WM will contribute not more than Twenty Five Thousand Dollars (\$25,000) toward the documented expenses of the County's implementation of a household hazardous waste collection program. The County shall send an invoice to WM not later than March 31st each year setting forth the relevant expenses; WM shall submit payment within 45 days of receipt of the invoice.

(b) Wheelabrator further agrees that during each full calendar year, Wheelabrator will contribute not more than Eleven Thousand and Five Hundred Dollars (\$11,500) toward the documented expenses of the County's implementation of a household hazardous waste collection program. The County shall send an invoice to Wheelabrator no later than March 31st each year setting forth the relevant expenses; Wheelabrator shall submit payment within 45 days of receipt of the invoice.
9. The term of this Agreement shall commence on the date on which all parties have executed this Agreement ("Effective Date") and shall run through December 31, 2024 unless sooner terminated as provided herein.
10. As of the Effective Date all prior agreements between the parties governing the subject matter hereof shall be deemed terminated. Upon the Effective Date the parties shall be released and do hereby release each other from their respective obligations under the prior agreements.

11. The parties acknowledge and agree that this Agreement has been negotiated in accordance and full satisfaction of the Act and all authorities governing the relationship between a municipal waste processing or disposal facility and a host county.
12. No party shall assign, transfer or convey this Agreement without the prior written consent of the other parties, except that WM or Wheelabrator may assign their interest to a corporate affiliate which expressly assumes the obligations hereunder. No one other than the specifically named parties (or their permitted assigns) shall have any rights to enforce the obligations hereunder and it is specifically agreed and understood that there are no third party beneficiaries to this Agreement.
13. Any party may be relieved of its obligation and duty to perform hereunder if such performance is prevented or adversely affected, directly or indirectly, by any cause, act, condition or event beyond the reasonable control of the party.
14. All notices required or contemplated under this Agreement shall be personally served, or sent by overnight delivery service, or mailed, postage prepaid with return receipt requested, or faxed or sent via electronic mail to the parties addressed as follows:

County of Bucks

Brian Hessenthaler
Chief Operating Officer
Administration Building
55 East Court Street, 5th Floor
Doylestown, PA 18901

Waste Management

District Manager
1000 New Ford Mill Road
Morrisville PA 19067

Wheelabrator Falls, Inc.

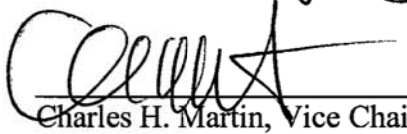
District Manager
1201 New Ford Mill Road
Morrisville PA 19067


15. The parties agree that the laws of the Commonwealth of Pennsylvania shall govern the rights, obligations, duties and liabilities of the parties to this Agreement and shall govern the interpretation of this Agreement.
16. This is the entire agreement of the parties concerning the subject matter of this Agreement and supersedes all prior agreements among the parties, oral or written, to the extent they relate to the subject matter hereof.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed by their duly authorized representatives as of the date first above written.

BUCKS COUNTY COMMISSIONERS

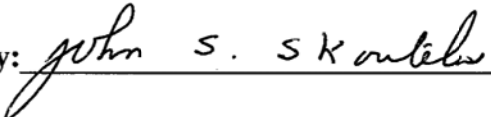

Robert G. Loughery, Chairman


Charles H. Martin, Vice Chairman

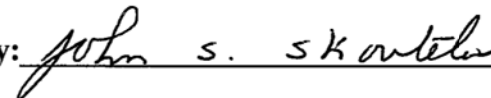

Diane M. Ellis-Marseglia, LCSW

 8-5-14
County Chief Clerk Date

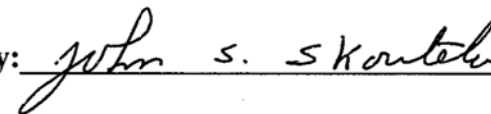
**WASTE MANAGEMENT OF
PENNSYLVANIA, INC.**

By: , V. P.

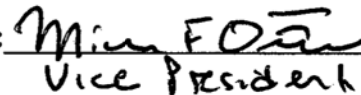
**WASTE MANAGEMENT DISPOSAL
SERVICES OF PENNSYLVANIA, INC.**

By: , V. P.

**WASTE MANAGEMENT OF
FAIRLESS, LLC**

By: , V. P.

WHEELABRATOR FALLS, INC.

By: 
Vice President

Appendix B

Sample Advertisement for Proposals

ATTACHMENT B

SAMPLE ADVERTISEMENT FOR PROPOSALS

In accordance with Act 101 and Section 272 of the PA Solid Waste Rules and Regulations (as amended), Bucks County is seeking waste disposal capacity for municipal waste (MSW) for a minimum of five (5) years, with an option to extend said capacity for an additional five (5) years, for a total of ten (10) years. Bucks County is also seeking information from other waste processing facilities (electronics, recycling, composting, food waste, construction and demolition, etc.). Bucks County is hereby soliciting responses to qualify facilities to provide processing/disposal capacity for County-generated MSW, to begin on or after July 1, 2015

Copies of Bucks County's Facility Qualification Request (FQR) may be obtained from the Bucks County Planning Commission, The Almshouse, Neshaminy Manor Center, Doylestown, PA 18901, (215) 345-3400. All responses must be made on the Submittal Form and in accordance with the Instructions to Respondents provided in the FQR. The Respondent must submit the original and three (3) copies to the address listed above, Attention Art Feltes, by 3:00 p.m. EDT on August 1, 2015. Qualified facilities will be notified once all applications have been reviewed by the Bucks County Solid Waste Advisory Committee

Bucks County reserves the right to reject any or all responses and to waive any informalities in the solicitation process.

Appendix C

Published Advertisement for Proposals

Thinking of Selling Your Company?

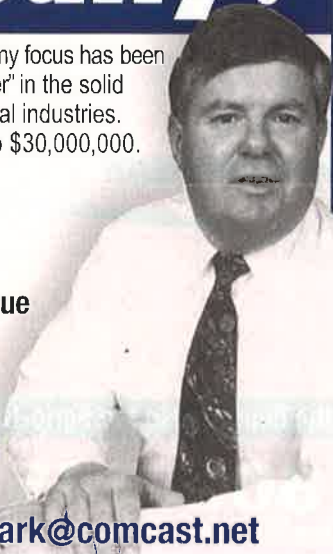
With over 35 years in the industry, my focus has been working nationally only for the "seller" in the solid waste, recycling and environmental industries. Transactions from \$250,000 up to \$30,000,000. Personal one-on-one service. References available on request.

It's all about . . .

- Experience • Contacts
- Integrity • Created Value
- Maximized Profit.



717-632-3473 • timclark@comcast.net



ADVERTISEMENT FOR PROPOSALS

In accordance with Act 101 and Section 272 of the PA Solid Waste Rules and Regulations (as amended), Bucks County is seeking waste disposal capacity for municipal waste (MSW) for a minimum of five (5) years, with an option to extend said capacity for an additional five (5) years, for a total of ten (10) years. Bucks County is also seeking information from other waste processing facilities (electronics, recycling, composting, food waste, construction and demolition, etc.). Bucks County is hereby soliciting responses to qualify facilities to provide processing/disposal capacity for County-generated MSW, to begin on or after October 1, 2017.

Copies of Bucks County's Facility Qualification Request (FQR) may be obtained from the **Bucks County Planning Commission, The Almshouse, Neshaminy Manor Center, Doylestown, PA 18901, (215) 345-3400.**

All responses must be made on the Submittal Form and in accordance with the Instructions to Respondents provided in the FQR. The Respondent must submit the original and three (3) copies to the address listed above, Attention

Art Feltes, by 3:00 p.m. EDT on June 1, 2016.

Qualified facilities will be notified once all applications have been reviewed by the Bucks County Solid Waste Advisory Committee.

Bucks County reserves the right to reject any or all responses and to waive any informalities in the solicitation process.



We Understand the Value of Advertising.

WasteAdvantage^{magazine}

The Advantage in the Waste and Recycling Industry

We offer more ways to market than any other publication in the waste and recycling industry.

For successful advertising, it is always a good practice to reach your target audience using all avenues marketing with print, digital, social media, and website. If you would like more information on how to develop an advertising campaign to reach the waste and recycling industry, call our seasoned sales professionals today.

Noreen Cocron: 800.358.2873 x1 noreen@wasteadvantagemag.com

Marcus Rubio: 800.358.2873 x3 marcus@wasteadvantagemag.com

Deborah Jones: 800.358.2873 x4 deborah@wasteadvantagemag.com

Appendix D

Letter to Department of Environmental Protection



BUCKS COUNTY PLANNING COMMISSION

The Almshouse Neshaminy Manor Center 1260 Almshouse Road
Doylestown, Pennsylvania 18901 215.345.3400 FAX 215.345.3886
E-mail: bcpc@co.bucks.pa.us

COUNTY COMMISSIONERS:

Robert G. Loughery, *Chairman*
Charles H. Martin, *Vice Chairman*
Diane M. Ellis-Marseglia, *LCSW*

PLANNING COMMISSION:

Robert M. Pellegrino, *Chairman*
David R. Nyman, *Vice Chairman*
Walter S. Wydro, *Secretary*
Joseph A. Cullen, Esq.
James J. Dowling
Raymond W. Goodnoe
Edward Kisselback
Carol A. Pierce
Evan J. Stone
Lynn T. Bush
Executive Director

August 11, 2014

Mrs. Ann Ryan
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401-4915

Dear Mrs. Ryan,

This letter is to inform you of Bucks County's desire to start on its required update of the waste management plan as outlined in Act 101. It is our intent to work through our Solid Waste Advisory Committee (SWAC), and are currently adding the needed members to meet the composition requirements in Act 101. We also are looking to perform most, if not all, of the tasks in-house through the Bucks County Planning Commission staff. The SWAC considers this appropriate to save money, and because no substantive changes are anticipated in this revision.

This revision is being undertaken to include additional narrative regarding single-stream recycling, yard and food waste composting, specialty item recycling, household hazardous waste and to update the lists of current waste and recycling service providers. We will also update all of the outdated information on population, disposal tonnage, facilities and need capacity forecasts. The current capacity system the County has in place should not change.

Although the Bucks County Planning Commission is qualified to prepare the plan update, we appreciate the meeting we had in 2012 with some of the key regional DEP personnel to discuss details of the needed plan elements, the department's new guidance documents on flow-control, and the structure, eligibility and deadlines for a 901 grant. If the Department would like, please give us a time that would be convenient for us to come to your offices during business hours in the next few months. Please let us know at your earliest convenience.

Sincerely,

Art Feltes
Bucks County Recycling Coordinator

Appendix E

Municipal Notification of Plan Update

Kimmel, Jessica M.

From: Planning Commission
Sent: Monday, April 18, 2016 9:53 AM
To: rschilling@bedminsterpa.com; wcmorey@bensalempa.gov; info@bridgetontwp.org; jdillon@bristolboro.com; manager@bristoltownship.org; contact@buckinghampa.org; info@chalfontborough.com; jdavis@doylestownborough.net; info@doylestownpa.org; manager@dublinborough.org; info@durhamtownship.org; staff@eastrockhilltownship.org; rmolle@fallstwp.org; info@haycocktownship.com; rschnaedter@hilltown.org; 'info@hilltown.org'; hulmeville@comcast.net; ivylandboro@yahoo.com; manager@langhorneborough.com; Langhorne Manor Borough (borooffice@comcast.net); Lower Makefield Township (admin@lmt.org); 'administration@ustwp.org'; administration@lowersouthamptontownship.org; Middletown Township (steoli@middletownbucks.org); jvey@milfordtownship.org; office@morrisvillegapgov.com; nbt@newbritaintownship.org; info@newhopeborough.org; mscull.newtown@comcast.net; kurtf@newtownpa.gov; nockamixon@ptd.net; lrusso@nhtwp.org; mserota@boroughhofpenndel.org; admin@perkasieborough.org; cmccreary@plumstead.gov; smcelree@quakertown.org; steve@richlandtownship.org; richlandtown@gmail.com; Riegelsville Borough (riegelsville@gmail.com); Riegelsville Borough (riegelsville@gmail.com); drivet@sellervilleboro.org; silverdaleboro@comcast.net; soleburytownship@soleburytwp.org; info@springfieldbucks.org; telfordboro@comcast.net; lmcneill@tinicumbucks.org; tvilleboro@comcast.net; admin@tullytownboro.org; Upper Makefield Township (manager@uppermakefield.org); administration@warminsterpa.org; mail@warringtontownship.org; gweniger@warwickbucks.org; info@westrockhilltownship.org; manager@wrightstownpa.org; pjohanson@yardleyboro.com; 'jgolden@ustwp.org'; 'manager@newbritainboro.com'
Cc: Arthur Feltes (aafeltes@buckscounty.org)
Subject: Notification to Municipalities SWCPU 2015

April 18, 2016

Dear Municipal Manager:

This letter is official notification to each Bucks County municipality regarding a substantial revision to the County's Solid Waste Management Plan, as provided for and required by the Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101 of 1988), encoded as 25 Pa. Code § 272.252. The proposed revision is deemed by the Department of Environmental Protection to be a "substantial Plan revision" pursuant to § 272.252(e) of Act 101.

In accordance with § 272.203 of Act 101, this is official notification to all municipalities of the substantial Plan revision and the process that the County will follow in completing this task. This process requires the County to solicit each municipality's feedback and approval on the Plan Update. A draft of the Plan revision should be available in the summer for you to comment on. Those comments will be reviewed by the Bucks County Solid Waste Advisory Committee and every attempt to incorporate them into the final version will be made. No municipality is required to ratify the Plan Update or provide comment, although not doing so within the review period would be considered consent.

Appendix F

Substantial Plan Letter from Department of Environmental Protection



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE



September 15, 2014

Mr. Art Feltes
Buck County Recycling Coordinator
Bucks County Planning Commission
1260 Almshouse Road
Doylestown, PA 18901

Re: Bucks County MWMP

Dear Mr. Feltes:

This is in response to your letter of August 11, 2014, notifying the Department of Environmental Protection (Department) of the County's intent to update the Bucks County Solid Waste Management Plan. The Department considers the changes being made to be a substantial revision to the plan.

As a substantial revision, the county will need to meet the planning requirements of 25 Pa. Code, Sections 272.251 and 272.252 of the Department's municipal waste regulations. Please provide this office with notices regarding the SWAC meeting and progress of the planning process.

If you have any further questions concerning these requirements please contact Ann Ryan at 484.250.5755.

Sincerely,

Calvin E. Ligons
Solid Waste Supervisor
Waste Management

cc: Mr. Holley
Ms. Ryan
Re 30 (rw14wm) 255.2

Appendix G

Bucks County Solid Waste Advisory Committee Agendas and Minutes

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

February 20, 2014

Members Present:

Pete Palestina, Chairman
Gary Roberts, Vice-Chairman
David Newman, Secretary
William Wert

Joe Golden
Lynn Bush
Art Feltes
Scott Swichar

I. Pledge of Allegiance

II. New Business

- a) Having established a quorum the committee went into election of officers. The Chairman and Vice-Chairman remained the same, as no other nominations were forthcoming. For the Secretary vacancy David Newman offered to serve and was duly elected.
- b) Household Hazardous Waste program- The continued grow of the volume of participants and material was discussed. There has been a steady growth of at least 10% each year since the program inception. It was explained that a new vendor, Clean Harbors, was going through some growing pains in servicing the Southeastern PA joint program. The growth of electronics and the securing of a qualified subcontractor for recycling were a key problem. The Governor's budget proposal to slash 50% of the funding for this program was also discussed.

The Covered Device Recovery Act (CDRA) was discussed as well. Some of the many problems with the legislation and implementation were explained to the group. This included an explanation of the RMC/DEP meeting with electronic manufacturers earlier in February and the DEP requirement of manufacturers to only recycle 50% of the volume they sell. In 2014 that number is supposed to grow to 100% per DEP in that meeting. It was noted that the 50% goal was met by most manufacturers in May and that a 100% goal would be achieved in approximately August; leaving the end of the year without adequate programs to meet the demand.
- c) Revision to the County Solid Waste Capacity Plan – A CD with the current Plan (due to expire in 2015) was distributed to the group. Feedbacks on content changes for the first two chapters were solicited. The County Recycling Coordinator will be working on developing drafts of those two chapters.

IV. Adjourn

The Meeting was adjourned at 3:45 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – May 8, 2014
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) County Waste Capacity Plan approval of documents
 - i) Public Notice
 - ii) FQR
 - iii) Draft grant application
 - b) Review of Committee members classification
 - c) 2014 Meeting Dates;

2014 Regular Meeting Dates –

July 10
October 9
Others as needed

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

6. Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

May 08, 2014

Members Present:

Pete Palestina, Chairman

David Newman, Secretary

William Wert

Lynn Bush

Guests: Dennis Livrone, Ann Ryan

Joe Golden

Art Feltes

Chuck Raudenbush

Jay McLaughlin

I. New Business

Having established a quorum the Minutes of the February 20, 2014 were reviewed. Joe Golden made a motion to accept. David Newman seconded the motion. Motion carried.

The Public Notice for the Waste Capacity Plan Update was reviewed and approved with some minor changes that Ann Ryan of the DEP suggested.

The FQR (Facility Qualification Request) was reviewed and discussed. After much discussion it was decided that Chuck Raudenbush would send a sample version from another County to be tailored into meeting our needs. Pete Palestina made a motion that the Planning Commission and Art Feltes prepare the FQR, grant application and advertisement, solicit input from the committee, and then send the documents out. Jay McLaughlin seconded the motion. Motion carried.

The committee discussed the section of Act 101 that discusses the committee make-up and the vacancies. It was pointed out by Ann Ryan that a non-profit member needed to part of the composition of the committee. It was decided to let Lynn Bush and Dennis Livrone select which non-profit individual should be presented to the Commissioners for consideration.

It was also decided that the Committee should meet monthly until the Plan is complete. The dates selected were:

- June 12
- July 10
- August 14
- September 11
- October 9
- November 13

IV. Adjourn

Chuck Raudenbush made a motion to adjourn. David Newman seconded the motion. Motion carried. The Meeting was adjourned at 3:45 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – July 10, 2014
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) County Waste Capacity Plan documents
 - i) Public Notice
 - ii) FQR
 - b) Grant application
 - c) Drop Box
 - i) Review of Recycling Guide
 - (1) Content
 - (2) Disclaimer
 - ii) Posting of documents to Dropbox
 - d) 2014 Meeting Dates;

2014 Regular Meeting Dates –

August 14, 2014
September 11, 2014
October 9, 2014
November 13, 2014

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

6. Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

July 10, 2014

Members Present:

Pete Palestina, Chairman

David Newman, Secretary

Gary Roberts, Vice Chairman

Lynn Bush

Guests: Dennis Livrone, Bryan Guthrie, Jon Litizio

Joe Golden

Art Feltes

Chuck Raudenbush

Jay McLaughlin

Scott Swichar

I. New Business

Having established a quorum the Minutes of the July 10, 2014 meeting were reviewed. Chuck Raudenbush made a motion to accept. Jay McLaughlin seconded the motion. Motion carried.

The FQR (Facility Qualification Request) was discussed again. After much discussion it was decided that the Planning Commission would streamline the several versions into one more tailored to meeting our needs. Jay offered to send the Montgomery County version as an example to be considered as well. That streamlined version will be presented at the August meeting.

The committee discussed the section of Act 101 that discusses the committee make-up and the vacancies. Lynn Bush and Dennis Livrone were reviewing candidate applications and discussing the need for specific types of named representation with the Commissioners for consideration.

A document hosting website, Drop Box, was discussed. Several members had problems with access to the site. Others felt that downloading the site's program was too much of an intrusion. Art Feltes was tasked to contact the additional committee members not in attendance and ascertain their comfort level with "Drop Box".

DEP SERO has asked the committee to resend the letter of intent to revise the Solid Waste Management Plan. After receipt of that letter the committee should receive a notice on whether this will be a substantial or non-substantial revision update.

It was also decided in May that the Committee should meet monthly until the Plan is complete. As a reminder, the dates selected were:

- September 11
- October 9
- November 13

IV. Adjourn

Chuck Raudenbush made a motion to adjourn. David Newman seconded the motion. Motion carried. The Meeting was adjourned at 3:15 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – August 14, 2014
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) County Waste Capacity Plan documents
 - i) Modified FQR
 - b) Drop Box
 - i) Review of problems
 - c) Website Alternative to Drop Box
 - i) Documents to be posted and notification procedure
 - d) 2014 Meeting Dates;

2014 Regular Meeting Dates –

September 11, 2014
October 9, 2014
November 13, 2014

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

6. Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

August 14, 2014

Members Present:

Pete Palestina, Chairman
David Newman, Secretary
Gary Roberts, Vice Chairman
Lynn Bush
Advisors: Dennis Livrone, Ann Ryan

Joe Golden
Art Feltes
Chuck Raudenbush
Jay McLaughlin
Scott Swichar

I. New Business

Having established a quorum the Minutes of the July 10, 2014 meeting were reviewed. Gary Roberts made a motion to accept. Jay McLaughlin seconded the motion. Motion carried.

MOTION: Pete Palestina made a motion to have the Planning Commission prepare the PA Bulletin advertisement and work with DEP to get it posted; and to settle on an FQR document to send out. Jay McLaughlin seconded. Motion carried.

The committee discussed the section of Act 101 that discusses the committee make-up and the vacancies. Lynn Bush and Dennis Livrone were reviewing candidate applications and discussing the need for specific types of named representation with the Commissioners for consideration. The position of citizen organization is vacant and needs to be filled.

The website was discussed, and there was a general consensus that it will meet the needs of the committee. Document to review will be posted and an email notice will be sent out. The Agenda and Minutes will be posted before each meeting as well.

DEP SERO has asked the committee to resend the letter of intent to revise the Solid Waste Management Plan. After receipt of that letter the committee should receive a notice on whether this will be a substantial or non-substantial revision update.

Plan Additions:

- Add single stream narrative
- Expand section on special waste (tires, electronics, etc.)
- Change licensing narrative

It was also decided in May that the Committee should meet monthly until the Plan is complete. As a reminder, the dates selected were:

- November 13

IV. Adjourn

Chuck Raudenbush made a motion to adjourn. David Newman seconded the motion. Motion carried. The Meeting was adjourned at 3:15 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – October 9, 2014
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) Substantial Update
 - i) What that changes to the process
 - (1) Municipal approval
 - (2) Timeline
 - ii) Additional tasks to accomplish
 - b) Citizen Organization
 - i) Definition
 - ii) Possible candidates
 - c) Website
 - i) Timing of feedback and suggestions
 - ii) Process for section approval
 - d) 2014 Meeting Dates;
 - i) Dates for 2015

2014 Regular Meeting Dates –

November 13, 2014

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 4) Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

October 9, 2014

Members Present:

Pete Palestina, Chairman

Gary Roberts, Vice Chairman

Chuck Raudenbush

Scott Swichar

Lynn Bush

Advisors: Dennis Livrone, Ann Ryan - DEP

Joe Golden

Art Feltes

Jay McLaughlin

Walt Leck

I. New Business

Having established a quorum the Minutes of the August 14, 2014 meeting were reviewed. Gary Roberts made a motion to accept. Chuck Raudenbush seconded the motion. Motion carried.

A discussion was held regarding the Substantial Revision letter the committee received from the DEP. Art Feltes explained the differences between a substantial and non-substantial update: the most noteworthy difference was the public/municipal notification and the municipal ratification. Art Feltes had discussed whether there was a need for the County Recycling Contract. Walt Leck felt that it had served its useful purpose, but was no longer relevant. Chuck Raudenbush and Joe Golden see a benefit to negotiating as a group, but Joe noted that SWBSWAC had decided not to participate the last time the agreement was renewed. After much debate, it was decided that the County should try to keep the agreement in place and draft a letter to the DEP to ask them to reconsider the need for a substantial plan revision. This was done by a Motion offered by Gary Roberts and seconded by Jay McLaughlin.

The committee discussed the section of Act 101 that discusses the committee make-up and the vacancies. Lynn Bush and Dennis Livrone were reviewing candidate applications and discussing the need for specific types of named representation with the Commissioners for consideration. Dennis Livrone discussed the types of non-profit members that neighboring counties had on their SWACs. Several were from watershed associations or litter prevention groups. As a courtesy to the group Art Feltes will post the application for appointment to a Bucks County Board or Committee on the website. There will be an attempt to have a non-profit environmental citizen organization appointed by the next meeting.

There was some discussion about how the website is working, and how to tell if document had been revised and re-posted. The County will look at ways to make this process work smoother.

It had been decided in May that the Committee should meet monthly until the Plan is complete. As a reminder, the dates going forward are:

- December 4
- January 8, 2015
- February 12, 2015
- March 12, 2015
- April 9, 2015
- July 9, 2015
- October 8, 2015

IV. Adjourn

Joe Golden made a motion to adjourn. Scott Swichar seconded the motion. Motion carried. The Meeting was adjourned at 3:15 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – November 13, 2014
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) Substantial vs. Non-substantial Update
 - b) Additional tasks to accomplish
 - c) Citizen Organization
 - i) Welcome new member
 - d) Review
 - i) Section 1
 - ii) Section 3
 - iii) Section 7
 - iv) Section 11
 - v) Section 8, 10, 12
 - vi) Section 13 Ongoing Update
 - e) 2014 Meeting Dates;
 - i) Dates for 2015

2014 -2015 Regular Meeting Dates –

November 13, 2014
January 8, 2015

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 4) Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

November 13, 2014

Members Present:

Pete Palestina, Chairman
Gary Roberts, Vice Chairman
David Newman, Secretary
Scott Swichar
Jay McLaughlin
Lynn Bush

Joe Golden
Art Feltes
Jay McLaughlin
Bill Wert
Gretchen Schatschneider

Advisors: Dennis Livrone, Ann Ryan - DEP

I. New Business

Having established a quorum the Minutes of the October 9, 2014 meeting were reviewed. Bill Wert made a motion to accept. Jay McLaughlin seconded the motion. Motion carried.

Having not received the letter from DEP approving a non-substantial update, and not having an updated agreement to present to the Commissioners; it was the general consensus that we should work under the parameters of a substantial update until there is resolution on this issue.

Although not formally approved yet by the Commissioner, Gretchen Schatschneider was present and introduced herself. When appointed she will fill the non-profit environmental citizen group as the lead on Keep Bucks Beautiful. KBB is a part of Keep Pennsylvania Beautiful, which is a part of Keep America Beautiful.

The committee reviewed sections 1, 3, 10, 11, 12, and 13.

There was much discussion about the totals in section 1. Essentially waste and recycling totals are significantly lower than in prior years, and the trend appears to be downward. Art Feltes at the Planning Commission was tasked with reaching out to recyclers and waste haulers to see if established hauler routes has a similar decline in the weight of each route over the past five years

There was some discussion about how the website is working, and how to tell if document had been revised and re-posted. Art will email the group when a newly updated file needs to be re-reviewed.

It had been decided in May that the Committee should meet monthly until the Plan is complete. As a reminder, the dates going forward are:

- December 4
- January 8, 2015
- February 12, 2015
- March 12, 2015
- April 9, 2015
- July 9, 2015
- October 8, 2015

IV. Adjourn

The Meeting was adjourned at 3:45 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – December 4, 2014
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) Electronic Recycling Update
 - i) The Law
 - ii) Problems in the Market
 - iii) Problems with the County's current program
 - b) Last month's changes
 - c) Review
 - i) Section 4
 - d) 2014 Meeting Dates;
 - i) Dates for 2015

2014 -2015 Regular Meeting Dates –

January 8, 2015
February 12, 2015
March 12, 2015
April 9, 2015

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 4) Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

December 4, 2014

Members Present:

Pete Palestina, Chairman
Gary Roberts, Vice Chairman
David Newman, Secretary
Gretchen Schatschneider
Jay McLaughlin
Lynn Bush

Joe Golden
Art Feltes
Jay McLaughlin
Bill Wert
Walt Leck

Advisors: Dennis Livrone, Ann Ryan - DEP

I. Approval of the Minutes

Having established a quorum the Minutes of the November 13, 2014 meeting were reviewed. Gary Roberts made a motion to accept. Walt Leck seconded the motion. Motion carried.

II. New Business

Although it had been reported earlier that all the updates to the website had been posted, apparently there is a problem with the website not updating the newest file version to the site. The Planning Commission staff has been working on resolving this issue and should have an update by the next meeting. Art will email the group when a newly updated file needs to be re-reviewed.

Art outline the problem the Southeastern PA Regional Household Hazardous Waste counties have been having with securing a contractor to run the E-waste part of the program. The current Covered Device Recycling Act (CDRA) has created an environment that has made it difficult to continue the program in its existing form.

Essentially the current vendor has lost dedicated volume from the manufacturers they represent. Compounding this problem is the precipitous drop in the scrap value of electronics, coupled with the increase in the cost of CRT glass recycling. Added to that is the fact that DEP is requiring counties to use a vendor that has Original Equipment Manufacturer (OEM) contracts.

If a vendor has OEM contracts he is not allowed to charge the county for the collection, transportation or recycling of the electronics. This has led many recyclers to conclude that one-day collection events are a too costly option.

It was also explained that at the present time no E-waste events were planned for 2015 due to the Catch-22 in the law regarding costs and the inability to secure a vendor.

Art went on to describe the steps taken since the E-waste vendor cancelled service. Bucks County was included in an RFP with Montgomery County to solicit bids, not only collection events, but also Drop-off options. Bidders were given the latitude to offer additional options beyond these as well. He has also had informal conversations with several electronic recyclers and manufacturers to solicit advice and informal suggestions on how to tailor a program that will secure a vendor. One vendor has scheduled a meeting with several staff at the Planning Commission in late December to outline their vision of a successful E-waste collection system for the County.

The SWAC unanimously agreed that the Commissioners should be notified immediately of the situation. Chuck Raudenbush went on to say that the HHW program was one of the top-rated services that Bucks County provides: as determined by a residential survey. Joe Golden asked why a municipality could not include E-waste collection into its waste and recycling hauling contracts. DEP will check on this and report back to the committee.

There appeared to be a general consensus that the law has created many of the current problems, and that there may need to be some efforts made to amend it. The Committee asked Art to forward copies of the CDRA legislation to the group.

Motion: Chuck Raudenbush moves that the Committee advise the Commissioners to continue the program in its current form, even if there is a financial burden to doing so. Walt seconded the motion. Motion carries.

III. It had been decided in May that the Committee should meet monthly until the Plan is complete. As a reminder, the dates going forward are:

- March 12, 2015
- April 9, 2015
- July 9, 2015
- October 8, 2015

The SWAC Committee would like to recognize and thank Dennis Livrone for all his hard work over the many years he advised the Committee, and wish him all the best in his semi-retirement.

IV. Adjourn

The Meeting was adjourned at 3:45 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – February 12, 2015
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) E-Waste Recommendation to the Commissioners
 - i) Electronic Recycling Update
 - ii) Options
 - (1) Do Nothing
 - (a) Available alternative outlets
 - (2) Continue with current program at an exorbitant fee
 - (a) Non-OEM vendor
 - (3) Establish a system of Drop-Offs
 - (a) Staffing
 - (b) Cost
 - b) For the Good of the Order;

2015 Regular Meeting Dates –

March 12, 2015
April 9, 2015

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 4) Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – March 12, 2015
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) E-Waste Recommendation to the Commissioners
 - i) Electronic Recycling Update
 - ii) Options
 - (1) Do Nothing
 - (a) Available alternative outlets
 - (2) Continue with current program at an exorbitant fee
 - (a) Non-OEM vendor
 - (3) Establish a system of Drop-Offs
 - (a) Staffing
 - (b) Cost
 - b) Plan Status
 - c) For the Good of the Order;

2015 Regular Meeting Dates –

April 9, 2015

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 4) Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

March 12, 2015

Members Present:

Pete Palestina, Chairman

Chuck Raudenbush

Gary Roberts, Vice Chairman

Gretchen Schatschneider

Advisors: Tim Koehler, Ann Ryan

Art Feltes

Joe Golden

Walter Leck

Jay McLaughlin

Scott Swichar

1. New Business

Having established a quorum the Minutes of the February 2015 meeting were reviewed. Jay McLaughlin made a motion to accept. Gary Roberts seconded the motion. Motion carried.

The committee discussed several issues surrounding the Covered Device Recycling Act (CDRA). In summary, the County of Bucks can no longer hold its one-day collection events for electronics due to costs and several sections of the current law.

Art Feltes has been trying to solicit an electronic recycler that will be able to fulfill the needs of Bucks County residents. So far, nothing has worked out.

The options of a countywide drop-off were discussed along with several other ideas. In the end it was decided to ask Lynn Bush to brief the County Commissioners on the current issue and recommend that some form of collection be established. Since changes to the CDRA were seen as necessary, a recommendation to hold a legislative forum to brief Bucks County representatives was also suggested.

2. Waste Capacity Plan Update

Samples of the revisions to the Request for Facility Qualifications (RFQ) were distributed. It was ultimately decided that Art Feltes, the Planning Commission should work out a RFQ that will meet all the requirements of the law, the needs of the plan, and be streamlined for the facilities.

3. Motion to Adjourn

Chuck Raudenbush made a motion to adjourn. Jay McLaughlin seconded the motion. Motion carried. The Meeting was adjourned at 3:15 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – May 14, 2015
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) New Business
 - a) E-Waste Recommendation to the Commissioners
 - i) Follow up
 - b) Plan Status
 - c) For the Good of the Order;

2015 Regular Meeting Dates –

June 11, 2015

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 4) Adjourn

NOTES:

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

May 14, 2015

Members Present:

David Newman, Secretary
Joe Golden
Gretchen Schatschneider
Scott Swichar

Art Feltes
Jay McLaughlin
Advisor: Tim Koehler

1. New Business

Not having a quorum the Minutes were tabled for a meeting where one was present.

In the absence of a formal meeting, the group informal discussed issues with electronic recycling, bringing some of the members absent at the prior meeting up to speed on the topic and current actions.

2. Waste Capacity Plan Update

No discussion or actions were taken.

3. Motion to Adjourn

Needing no formal motion the Meeting was informally adjourned at 3:30 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – June 11, 2015
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) Approval of the Minutes
- 3) Plan Status and Approval of RFQ
- 4) For the Good of the Order;

2015 Regular Meeting Dates –

TBD

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 4) Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

June 11, 2015

Members Present:

Pete Palestina, Chairman

Scott Swisher

Joe Golden

Art Feltes

Advisor: Tim Koehler

1. New Business/Waste Capacity Plan Update

Not having a quorum the Minutes were tabled for a meeting where one was present. It was decided no meeting would be held, but that approval had been given at prior meeting to solicit waste capacity from facilities. It was further determined that subsequent meetings be postponed until a draft was available that included these facilities in order to enhance the possibility a quorum. It was suggested that several forms of outreach to committee members be made to insure that a voting quorum was present when the draft version was ready.

2. Motion to Adjourn

Needing no formal motion the Meeting was informally adjourned at 3:30 p.m.

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

Thursday – April 13, 2017
2:00 p.m.

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 and Almshouse Road
Doylestown, PA 18901

AGENDA

- 1) Pledge of Allegiance
- 2) New Business
 - a) Introduction of new members
 - b) Election of Officers
 - c) Comments on the Plan Update
 - d) Approval of the County Waste Capacity Plan
 - e) Next Steps
 - (1) DEP comments
 - (2) SWAC meeting to approve any DEP changes
 - (3) Agreements with capacity partners
 - f) 2017 Meeting Dates;

2017 Regular Meeting Dates –

July 13
October 12
November 9

4th Floor Conference Room - The Almshouse
Neshaminy Manor Center
Route 611 & Almshouse Road

- 3) Adjourn

BUCKS COUNTY SOLID WASTE ADVISORY COMMITTEE

MINUTES April 13, 2017

Members Present:

Pete Palestina, Chairman
Gary Roberts, Vice Chairman
David Newman, Secretary
Walt Leck
Sam Bryant
Lynn Bush

Joe Golden
Art Feltes
Jay McLaughlin
Angela Benner
Jay McLaughlin
Chuck Raudenbush

Advisors: Ann Ryan - DEP

I. Approval of the Minutes

Having established a quorum the Minutes of the June 2015 meeting were reviewed. Gary Roberts made a motion to accept. Walt Leck seconded the motion. Motion carried.

The 2016 Meetings, all of which lacked a quorum, were briefly summarized.

II. Election of Officers

The current slate of Officers was re-nominated. Having no other nominations, and having all Officers agreeing to continue in their current capacity, Jay McLaughlin motioned that all Officer continue in their positions, Joe Golden seconded. Motion carried unanimously.

III. New Business

The SWAC reviewed the final draft of the plan. Several minor corrections and additions were suggested, but overall, the Plan update looked solid enough to move to the next phase of soliciting the Commissioners' approval of the Plan and submit to the municipalities.

Art Feltes said it would take several months to clean up and format the plan for final approval.

Motion: Chuck Raudenbush moves that the Committee advise the Planning Commission to proceed to the next steps in finalizing and approving the draft. Walt seconded the motion. Motion carries.

IV. Adjourn

The Meeting was adjourned at 3:45 p.m.