

## **VII. Measurement of Progress Toward Waste Reduction Goals [ORC Section 3734.53]**

The purpose of this Chapter of the Plan is to demonstrate the District's progress toward complying with Goal #1 and Goal #2 of the State Solid Waste Management Plan.

In this chapter, the term waste reduction means source reduction, recycling, and composting. Resource recovery (incineration with energy recovery) is not included in the discussion and tables in this chapter because it is not a waste reduction method that the District plans to utilize during the planning period.

### **A. and B. District Will Comply with Goals #1 and #2**

The District will comply with both Goal # 1 and Goal #2. Although the District is not required to comply with both Goals, the District realizes that continued access to convenient recycling opportunities is the most important factor in maintaining the levels of recycling required to comply with Goal #2. So the District is planning on complying with both Goals.

Goal #1 in the 2001 State Solid Waste Management Plan is as follows:

To obtain an Ohio EPA approved plan, a SWMD must demonstrate that at least 90 percent of the residential population in each county comprising the SWMD will have access to waste reduction and recycling programs by the third year following approval of the SWMD's solid waste management plan. These programs can be existing or new programs, but all programs used to demonstrate 90 percent access must be in place within three years of obtaining an approved solid waste management plan. All programs and activities being used to demonstrate compliance with the residential sector component of Goal #1 must collect a minimum of five of the materials identified as highly amenable to recovery from solid waste generated by the residential sector. The SWMD must also demonstrate that generators in the commercial/institutional sector have access to recycling or other alternative management methods for at least five of the materials identified as highly amenable to recovery from solid waste generated by the commercial/institutional sector.

The twelve "highly amenable" materials are listed in Table VII-1. The 2001 State Plan does not place a limit on the number of materials that can be targeted for both sectors. The same five residential materials need not be targeted for every residential recycling program.

The Darke County Solid Waste Management District is in compliance with Goal # 1 and will continue to be in compliance with Goal #1 at the beginning of the new planning period in 2015 and for the remainder of the fifteen year planning period.

**Table VII-1. Materials Targeted to Demonstrate Compliance with Goal #1**

<b>Twelve Materials Highly Amenable to Recycling</b>	<b>Five Materials Designated for the Residential Sector</b>	<b>Five Materials Designated for the Commercial/Institutional Sector</b>
Corrugated cardboard	X	X
Office paper	alternate residential material	X
Newspaper	X	
Glass containers	alternate residential material	
Steel containers	X	X
Aluminum containers	X	X
Plastic containers	X	
Wood packaging & Pallets		X
Lead-acid batteries		
Major appliances		
Yard wastes		
Food waste		
Total	5	5

1. Demonstration of Compliance with Residential Standards

a. Service Area: For the purpose of determining compliance with this goal the service area will be all of Darke County which is included in the Darke County Solid Waste Management District.

b. Access: Access is defined as the presence of waste reduction services or opportunities and other alternative management programs. Opportunity is defined as drop-off recycling, non-subscription curbside (curbside collection programs which are contracted and paid for by a political jurisdiction or programs in which the resident does not pay separately for curbside collection), subscription curbside (curbside provided at the option of the residential customer, usually with an added service fee), centralized MRF (materials recovery facility), or a combination of any of these. The State Plan requires districts to demonstrate access for:

- minimum of 90 percent of the population of the service area; and

- the five materials targeted for the recycling program (Table VII-1)<sup>1</sup>.

The OEPA plan format allows the district to use a formula to determine the percentage of the population which has access to services depending upon the type of service provided. Below are the types of service which pertain to the Darke County Solid Waste Management District with an explanation of the population credit attached to each type of service.

Non-subscription Curbside: Credit may be given for all households provided service within the specified political jurisdiction. There are four non-subscription curbside programs currently operating in Darke County. These programs are listed in Table III-4.

Subscription Curbside: Access for subscription curbside is determined by the number of residents who have the opportunity to subscribe to the curbside collection multiplied by 25%. (The District can claim greater access through the actual number of subscriptions, participation, or tons recovered. The results of a District survey could also be used as an alternative way to measure access.) At the present time there are no subscription curbside programs operated in Darke County.

Recycling Drop-offs: Credit may be taken for 2,500 persons served in a rural area and 5,000 persons served in an urban area per full service drop-off.

A full service drop-off is a site open to the public at least 40 hours per week which handles at least the five designated materials. Districts may take credit for a higher number served per drop-off if the District can demonstrate that more people use the drop-off based on tons recovered.

A rural area is defined as any municipality or township less than 5,000 in population.

An urban area is any municipality or township equal to or greater than 5,000 in population.

Credit may be taken for 2,500 persons served by a part-time drop-off.

A part-time drop-off must meet the following criteria: the five designated materials are handled and the drop-off is available to the public at a regularly scheduled time at least once per month.

Table VII-2. shows the calculation of residential sector access for the Darke County Solid Waste Management District. The program listings correspond to the programs that were in

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<sup>1</sup> The 2001 *State Solid Waste Management Plan* does not require that every recycling opportunity collect the same five materials. The materials that the Authority expects to collect are the five “targeted” materials. However, market conditions, collection equipment and other factors may require that one or more of the targeted materials be replaced by other materials from the list of materials that are highly amenable to recycling.

place in the reference year, that were added in 2013, or that are planned as described in Chapter V.

Note that *not* all of the existing and planned recycling and composting opportunities listed on Table III-5 or referred to in Chapter V are listed on Table VII-2. Some recycling opportunities are not listed for access credit because, even in combination with other programs, they do not meet the access criteria. In most cases they do not meet the access criteria because they handle only one or two of the designated materials or they do not handle any of the designated materials. For example, a scrap yard buys ferrous and non-ferrous metals, but the only designated material that they accept is aluminum cans. The District will actively encourage the recycling of a broad range of materials even though the facilities or programs that handle some of these materials do not contribute access credit.

Table VII-2.A.

## Calculation of Access for Residential Sector in the Darke County Service Area

Program/Facility	Reference Year (2012) Population	Reference Year Population with Access	2015 Population	Access in 2015	2020 Population	Access in 2020
<b>Non-Subscription Residential Curbside</b>						
Arcanum Village	2,111	2,111	2,098	2,098	2,061	2,061
City of Greenville	13,114	13,114	13,035	13,035	12,805	12,805
Village of Versailles	2,664	2,664	2,648	2,648	2,601	2,601
<b>Subscription Curbside</b>						
Village of Palestine (credit for 25% of population)	198	50	197	49	194	48
<b>Full-Service, Urban Drop-off</b>						
Rumpke Transfer Facility Drop-off (Greenville Twp.,)	17,463	5,000	17,357	5,000	17,051	5,000
<b>Full-Service, Rural Drop-off</b>						
Ansonia/Brown Twp.	2,055	2,500	2,043	2,500	2,007	2,500
Arcanum/Twin Twp.,	4,025	2,500	4,001	2,500	3,931	2,500
Butler Twp.	1,522	2,500	1,513	2,500	1,486	2,500
Gettysburg/Adams Twp.	3,412	2,500	3,391	2,500	3,331	2,500
Hollansburg/Harrison Twps.	2,236	2,500	2,222	2,500	2,183	2,500
New Madison Village	884	2,500	879	2,500	864	2,500
New Weston/ Allen Twp.	1,089	2,500	1,082	2,500	1,063	2,500
North Star/Wabash Twp.	879	2,500	874	2,500	862	2,500
Palestine Village	198	2,500	197	2,500	183	2,500
Pittsburg/Monroe Twp.	1,720	2,500	1,710	2,500	1,680	2,500
Union City/Jackson Twp.	2,851	2,500	2,834	2,500	2,784	2,500
Wayne Twp.	4,451	2,500	4,424	2,500	4,346	2,500
Village of Wayne Lakes	712	2,500	708	2,500	695	2,500
Versailles Drop-off, Service garage	2,664	2,500	2,648	2,500	2,601	2,500
Versailles Drop-off, School District	2,664	2,500	2,648	2,500	2,601	2,500
Total access calculation		60,439		60,330		60,016
Population of District	51,675		51,363		50,458	
<b>Percent of Population with access</b>		<b>117%</b>		<b>117%</b>		<b>119%</b>

c. Participation: Districts must demonstrate meeting the participation standard by: developing and implementing an adequate education and awareness program, and evaluating the feasibility of education programs for promotion of financial incentives to encourage increased recycling and/or waste reduction.

Education and Awareness: The District residential education and awareness program will be utilized to educate the public about the residential curbside and drop-off recycling programs. The specific activities that will support the residential recycling program are described in Chapter V.

The audience for educational and promotional programs to encourage recycling will be the residents of the cities, villages, and townships served by the curbside and drop-off programs.

The District will work with the providers of residential recycling services to try to get specific data as to the amount recycled by individual recycling programs to be better able to monitor the effectiveness of promotional efforts. The District realizes that the same statement was made in the past District Plan and the District was not able to accomplish this. However, the District is hopeful that with a renewed and more forceful effort reporting methods and the specificity of the data can be improved/

The materials and mechanisms that will be used for promotion of all the residential recycling programs including the new mobile drop-off program are described under Goal #3 and Goal #4, in Chapter V of this Plan.

Even though the education, awareness and promotion strategies are listed under Goals #3 and #4, they can and will be used to support Goal #1.

Financial incentives: This Plan anticipates the continuation of pay-as-you-throw waste collection programs in the communities that are already served by these programs. The District staff will provide information and technical assistance upon request to municipalities, townships or private haulers who voluntarily initiate studies or make a commitment to implement alternate fee structures like volume based rates. It has been shown that volume based waste disposal rates increase participation in all types of residential recycling programs.

## 2. Demonstration of Compliance with Commercial/Institutional Standards

This sector includes retail and wholesale businesses, schools, banks, government office buildings, and similar businesses and organizations. In order to demonstrate compliance with plan standards the District must address the following:

a. Service Area: The service area is the entire area of Darke County under the jurisdiction of the District.

b. Access: In order to meet the access standards, districts must demonstrate that there are recycling services available to this sector which handle five of the materials considered to be highly amenable to recycling. The materials designated for this sector are office paper,

corrugated cardboard, wood waste including wood pallets, aluminum containers, and steel containers.

The following table shows the services that are currently in place to demonstrate access for this sector. Additional information about these facilities is entered on Table III-5.

**Table VII-2.B. Demonstration of Access for the Commercial Sector**

Facility/activity	Type of facility/activity	Designated Materials Accepted
Available for small amount of commercially generated material: All of the multi-material drop-off provided by the Darke County Solid Waste Management District and serviced by Rumpke. These are the multi-material drop-offs listed for access in Table VII-2.A.	Drop-off recycling bins open 24 hours/7day a week for residential material and material from small commercial and institutional generators.	Office and mixed paper, corrugated cardboard, aluminum can, steel cans, plus all of the other materials that are included in the "Rumpke" mix (see Rumpke drop-off below).
Rumpke Transfer Facility Drop-off 5474 Jaysville St. Johns Rd. Greenville, OH 45331 937-548-1939	Drop Box provided by Rumpke. Open 7 days/24 hours.	BIG, BrG, ClG, GrG; ArC, <u>AIC, StC</u> ; <u>OCC</u> , Mag, <u>MxP</u> , <u>OffP</u> , ONP, PBd, PBdC, PhBk; P#1, P#2, P#6
Village of Versailles Recycling Trailer-2 locations Village Service Garage, 137 N. Center St. and Board of Education Office 450 S. Center St.	Provided by Village of Versailles	BIG, BrG, ClG, GrG; ArC, <u>AIC, StC</u> ; <u>OCC</u> , Mag, <u>MxP</u> , <u>OffP</u> , ONP, PBd, PBdC, PhBk; P#1, P#2, P#6
Darke County School Recycling: Ansonia Local Schools, Ansonia; Anthony Wayne Schools, Greenville; Franklin Monroe Local Schools, Arcanum; St. Mary's School, Greenville; Arcanum Butler Local Schools, Arcanum; Mississinawa Valley Local Schools, Union City; Greenville City Schools; Versailles Exempted Schools, Versailles;	School recycling using 6 yard bins which are emptied weekly. One bin per location except Versailles with 2 bins	Rumpke Mix. See Rumpke Transfer facility above. Significant percentage of material is paper.
PFP (Kamps) 68 Subler Dr Versailles, OH 45380 937-526-3059	Pallet sales and pallet reclaimer	Wood Pallets
Union City Recycling 205 S. Division St. Union City, OH 45390 937- 968-6509	Scrap yard	Non-ferrous metals, including aluminum cans.
1- Shot Recycling 6377 Hahn Rd. Bradford, OH 45308 927-447-3300	Scrap yard	<u>AIC</u> , App, Fer, Non-Fer, LAB

A & M Pallet 3860 Rangeline Rd. Russia, OH 45363 937-295-3093	Pallet Reclaimer	Wood Pallets
Anderson Pallet Service, Inc. 210 Western Ave. PO Box 669 Lewisburg, OH 45358 937-962-2614	Pallet Reclaimer	Wood Pallets
Boggs Recycling 12355 Kinsman Road Newbury, OH 44065 800-837-8101	Scrap Yard	<u>AIC</u> , F, NonF
Confidential Material Destruction, Inc. 2609 Nordic Rd. PO Box 292062 Kettering, OH 45429 888-337-8782	Document destruction and paper recycling	<u>MxP</u> , <u>OffP</u>
Franklin Iron & Metal Corp. 1939 East First Avenue Dayton, OH 45403 800-826-9222	Scrap Yard	<u>AIC</u> , F, NonF
Integrity Metals 115 S. First at Central Ave. PO Box 326 Connersville, IN 47331 765-8251136	Scrap Yard	<u>AIC</u> , App, F, NonF
Liberty Tire Services of Ohio 3041 Jackson Pike Grove City, OH 43123 614-871-8097	Registered tire transporter/link to tire recycler	tires
Midwest Iron & Metal 461 Homestead Avenue Dayton, OH 45417 937-222-5992	Scrap Yard	<u>AIC</u> , App, F, NonF
Montgomery Paper Company 400 E Fourth Street Dayton, OH 45402 937-222-4059	Paper Recycler	<u>OCC</u> , <u>MxP</u> , <u>OffP</u> , ONP
My Way Trading, Inc. 308 NW F St. PO Box 1282 Richmond, IN 47375 765-939-2133	Industrial Plastic Processor	Variety of Plastic Resins from Industrial Sources Only
Ohio Recycling Inc. 7837 St. Rt. 274 Chickasaw, OH 45826 419-925-4444	Scrap Yard	BIG, BrG, ClG, GrG; <u>AIC</u> , <u>StC</u> ; <u>OCC</u> , Mag, <u>MxP</u> , <u>OffP</u> , ONP, PhBk; P#1, P#2



OmniSource Corp. 04575 County Road 33A Saint Marys, OH 45885 419-394-3351.	Scrap Yard	<u>AIC</u> , App, F, NonF
Recycling Center, Inc. 630 South M St PO Box 2038 Richmond, IN 47374 765-966-8295	Scrap Yard	<u>AIC</u> , App, F, NonF, P#1, P#2, Pother, <u>OCC</u> , ONP, <u>OffP</u> , <u>MxP</u>
Rock Tenn Converting Co 800 A South Romy St. Route 1, Box 1-A Eaton, IN 47338 765-396-3317	End use industry	<u>OCC</u> , <u>MxP</u> , <u>OffP</u> , ONP
Rumpke Recycling Materials Recovery Facility 1300 E. Monument Avenue Dayton, OH 45402 937-461-0004	MRF	BlG,BrG,ClG,GrG; ArC, <u>AIC</u> , <u>StC</u> ; <u>OCC</u> , Mag, <u>MxP</u> , <u>OffP</u> , <u>ONP</u> , PBd, PBdC, PhBk; P#1, P#2, P#6
Schoenlein Salvage 8031 Darke Mercer County Line Rd. Maria Stein, OH 45860 419-582-4011	Scrap Yard	<u>AIC</u> , App, F, NonF
Shred-It Cincinnati-Dayton 9850 Windisch Road West Chester, OH 45069 513-777-3327	Document shredding/paper recycling	<u>OffP</u> , <u>MxP</u>
Smith Pallet Recycling 9855 State Route 121 Versailles, OH 45380 - View Map 937- 564-6492	Pallet Manufacturer and reclaimer	Wooden Pallets
Special Waste Systems 11591 N. Dixie Dr. Tipp City, OH 45371 937-669-900	Scrap Yard	<u>AIC</u> , App, F, NonF
Superior Pallet 2930 Airport Hwy, Toledo, OH, US 43609-1404 419-82-0693	Pallet reclaimer	Wooden Pallets
Maharg Trash Service 3726 Monroe Road Celina, OH 45822 419-586-3130	Waste Hauler: Commercial recycling	<u>AIC</u> , <u>OCC</u> , F, NonF
Rumpke Consolidated Companies 5474 Jaysville St. John Rd. Greenville, OH 937-548-2514	Waste Hauler Recycling Collection: Commercial, Industrial. Residential curbside in Arcanum and Greenville	BlG,BrG,ClG,GrG; ArC, <u>AIC</u> , <u>StC</u> ; <u>OCC</u> , Mag, <u>MxP</u> , ONP, <u>OffP</u> , PBd, PBdC, PhBk; P#1, P#2, P#6

c. Participation: The District must demonstrate that education/awareness strategies, developed and targeted at the commercial/institutional sector are in place for each program used to meet the access and participation standards. The strategies that meet this requirement are listed and explained in Chapter V, Goal #3 and Goal #4, *Commercial and industrial waste reduction, recycling, reuse and composting information, education and technical assistance*.

### C. Goal #2, the Waste Reduction Rate

The 1995 and 2001 State Plans encourage districts to implement programs which will lead to compliance with Goal #1 and Goal #2 of the State Plan, but compliance with only one of the two goals is required. Goal #2 in the 2001 State Plan: a) 25 percent waste reduction rate for residential/commercial sector, and b) 66 percent waste reduction rate for the industrial sector. As of the reference year, the Authority was in compliance with Goal #2. The District intends to remain in compliance with Goal #2 for the entire planning period.

Using the formulas as shown below the residential/commercial and the industrial waste reduction rates (WRR) and per capita waste reduction rates (PCWR) are calculated for the Darke County Solid Waste Management District for the reference year and each year of the planning period. The results of the calculations for residential/commercial waste are entered on Table VII-3. The results for industrial waste are entered on Table VII-4. The results for the total District are entered on Table VII-5.

Calculation of tons waste reduction (TWR):

**$TWR = Ri + (Ci - NCi) + (Ii - Ai) + RAi$**  where:

$TWRi$  = Tons of Waste Reduction for year  $i$

$Ri$  = tons of waste source reduced and recycled in year  $i$

$Ci$  = tons of waste Composted in year  $i$

$NCi$  = tons of Non-Compostables delivered for composting and separated for landfilling

$Ii$  = tons of waste Incinerated in year  $i$

$Ai$  = tons of incinerator ash and by-pass waste in year  $i$

$RAi$  = tons of Recycled incinerator Ash in year  $i$

Calculation of estimated generation based on disposal and waste reduction amounts (EGDWR):

**$EGDWRi = TWRi + Dli$**  where:

$EGDWRi$  = Estimated Generation based on Disposal and Waste Reduction in year  $i$

$Dli$  = tons of waste Disposal in Sanitary Landfills

Calculation of waste reduction rate (WRR):

$$\frac{WRRi}{EGSWRi} = \frac{TWRi}{\text{EGSWRi}} \times 100$$

where  $WRRi$  = Waste Reduction Rate in year  $i$  as a percent

Calculation of per capita waste reduction per day (PCWR)

$$PCWRi = \frac{TWRi \times 2000 \text{ lbs.}}{Pi \times 365}$$

where  $PCWRi$  = Per Capita Waste Reduction per day in year  $i$

$P_i$  = the Population of the RCRSWMA in year  $i$

The following data sources, assumptions and definitions are used in the calculations for Table VII-3, Table VII-4 and Table VII-5:

R - Tons of Source Reduction and Recycling.

The values for R for residential/commercial waste are taken from Table VI-2. Note that R includes yard waste composting.

C - Tons of Municipal Solid Waste Composted. For all of the following Tables the value of C is zero. No MSW from Darke County is known to be composted. Yard waste composting and field spreading are included in the value of R. Also, note that the amount of non-compostable and by-pass waste from yard waste composting is assumed to be negligible so the value of NC is always entered as zero.

DL - Tons Waste Disposed in Landfills. The values for DL for residential/commercial waste are taken from Table VI-2. The values for DL for industrial waste are taken from Table VI-3. The values for DL for total waste are taken from Table VI-1.

The values for industrial recycling/reduction are taken from Table V-6. Landfilling for 2012 is the amount reported by industry as shown in Table IV-3.B. Note that the industrial recycling total used for R does not, by virtue of exclusions in the State Plan, include train boxcars, ferrous metals from motor vehicle salvage operations or metals from demolition activities.

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**Table VII-3 Annual Rate of Waste Reduction: Residential/Commercial Waste**

Year	R-Reduced and Recycled (includes Yard Waste Diversion)	C-MSW Composted	NC - Non-Compostables Landfilled	Tons Waste Incinerated	DL - District Waste Landfilled	TWR - Tons Waste Reduced	P - Population	WRR - Waste Reduction Rate	PCRW - Lbs./Person/
	2012 from Table IV-1.B. 2015 on from Table VI-2	No MSW Composting Anticipated	Not Applicable	No Incineration Anticipated	2012 from Table IV-1.B. 2015 on from Table VI-2	2012 adjusted amount from Table V-5, 2015 on from Table VI-2	Table V-1	$\frac{TWR}{(TWR + DL)}$ 2012 is adjusted % from Table V-5	$\frac{TWR \times 2000}{365 \times P}$ 2012 adjusted
2012 reference year	25,133	0	0	0	33,121	18,022	51,675	35.2%	1.91
2015	17,813	0	0	0	33,649	17,813	51,363	34.6%	1.90
2016	17,975	0	0	0	33,305	17,975	51,182	35.1%	1.92
2017	18,136	0	0	0	32,963	18,136	51,001	35.5%	1.95
2018	18,296	0	0	0	32,622	18,296	50,820	35.9%	1.97
2019	18,454	0	0	0	32,282	18,454	50,639	36.4%	2.00
2020	18,611	0	0	0	31,944	18,611	50,458	36.8%	2.02
2021	18,637	0	0	0	31,623	18,637	50,163	37.1%	2.04
2022	18,611	0	0	0	31,354	18,611	49,869	37.2%	2.04
2023	18,585	0	0	0	31,085	18,585	49,575	37.4%	2.05
2024	18,558	0	0	0	30,817	18,558	49,281	37.6%	2.06
2025	18,531	0	0	0	30,550	18,531	48,986	37.8%	2.07
2026	18,503	0	0	0	30,283	18,503	48,692	37.9%	2.08
2027	18,475	0	0	0	30,017	18,475	48,398	38.1%	2.09
2028	18,445	0	0	0	29,751	18,445	48,104	38.3%	2.10
2029	18,416	0	0	0	29,486	18,416	47,809	38.4%	2.11

**Table VII-4 Annual Rate of Waste Reduction: Industrial Waste**

Year	R-Reduced and Recycled (includes Yard Waste Diversion)	C-MSW Composted	NC - Non-Compostables Landfilled	Tons Waste Incinerated	DL - District Waste Landfilled	TWR - Tons Waste Reduced	P - Population	WRR - Waste Reduction Rate	PCRW - Lbs./Person/Day
	From Table V-6	No MSW Composting Anticipated	Not Applicable	No Incineration Anticipated	2012 from Table IV-3.B. 2015 on is from Table V-	From Table V-6	From Table V-6	$\frac{TWR}{(TWR + DL)}$	$\frac{TWR \times 2000}{365 \times P}$
2012 reference year	14,786	0	0	0	2,675	14,786	51,675	84.7%	1.57
2015	14,346	0	0	0	2,591	14,346	51,363	84.7%	1.53
2016	14,202	0	0	0	2,566	14,202	51,182	84.7%	1.52
2017	14,060	0	0	0	2,540	14,060	51,001	84.7%	1.51
2018	13,920	0	0	0	2,514	13,920	50,820	84.7%	1.50
2019	13,781	0	0	0	2,489	13,781	50,639	84.7%	1.49
2020	13,643	0	0	0	2,464	13,643	50,458	84.7%	1.48
2021	13,506	0	0	0	2,440	13,506	50,163	84.7%	1.48
2022	13,467	0	0	0	2,433	13,467	49,869	84.7%	1.48
2023	13,467	0	0	0	2,433	13,467	49,575	84.7%	1.49
2024	13,467	0	0	0	2,433	13,467	49,281	84.7%	1.50
2025	13,467	0	0	0	2,433	13,467	48,986	84.7%	1.51
2026	13,467	0	0	0	2,433	13,467	48,692	84.7%	1.52
2027	13,467	0	0	0	2,433	13,467	48,398	84.7%	1.52
2028	13,467	0	0	0	2,433	13,467	48,104	84.7%	1.53
2029	13,467	0	0	0	2,433	13,467	47,809	84.7%	1.54

**Table VII-5 Annual Rate of Waste Reduction: Total District Solid Waste (Excludes Exempt Waste)**

Year	R-Reduced and Recycled (includes Yard Waste Diversion) Table VI-1 (Recycling + Yard Waste Composting)	C-MSW Composted	NC - Non-Compostables Landfilled	Tons Waste Incinerated	DL - District Waste Landfilled	TWR - Tons Waste Reduced	P - Population	WRR - Waste Reduction Rate	PCRW - Lbs./Person/Day
		No MSW Composting Anticipated	Not Applicable	No Incineration Anticipated	2015 on from Table VI-1 less 3,177 tons exempt waste each year	From Table VII-3 and VII-4	From Table V-6	$\frac{TWR}{TWR + DL}$	$\frac{TWR \times 2000}{365 \times P}$
2012 reference year See Note 1	32,808	0	0	0	35,797	32,808	51,675	47.5%	3.48
2015	32,159	0	0	0	36,240	32,159	51,363	47.0%	3.43
2016	32,178	0	0	0	35,870	32,178	51,182	47.3%	3.44
2017	32,197	0	0	0	35,502	32,197	51,001	47.6%	3.46
2018	32,216	0	0	0	35,136	32,216	50,820	47.8%	3.47
2019	32,235	0	0	0	34,771	32,235	50,639	48.1%	3.49
2020	32,254	0	0	0	34,408	32,254	50,458	48.4%	3.50
2021	32,143	0	0	0	34,063	32,143	50,163	48.6%	3.51
2022	32,079	0	0	0	33,786	32,079	49,869	48.7%	3.52
2023	32,052	0	0	0	33,518	32,052	49,575	48.9%	3.54
2024	32,026	0	0	0	33,250	32,026	49,281	49.1%	3.56
2025	31,998	0	0	0	32,982	31,998	48,986	49.2%	3.58
2026	31,970	0	0	0	32,715	31,970	48,692	49.4%	3.60
2027	31,942	0	0	0	32,449	31,942	48,398	49.6%	3.62
2028	31,913	0	0	0	32,183	31,913	48,104	49.8%	3.64
2029	31,883	0	0	0	31,918	31,883	47,809	50.0%	3.65

Note 1: The amount of recycling for 2012 is the adjusted amount as shown on Table V-6. Therefore, the recycling rate for 2012 for combined residential/commercial and industrial recycling is not the same rate as calculated and included in the text in Chapter V. The adjusted rate is used so that it can be compared with projected future recycling rates.