MARKETING RESEARCH STUDY

FOR

CITY OF MEMPHIS ENVIRONMENTAL ENGINEERING

- Survey of Memphis Consumers' Opinions About Stormwater Pollution -

Prepared for:

City of Memphis Environmental Engineering

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Background and Objectives

In 1999, the City of Memphis (City) developed and began a public relations campaign designed to educate the public about the causes and prevention of stormwater pollution.
Prior to beginning the campaign, the City Environmental Engineering Department commissioned Research Dynamics, Inc. to measure Memphis residents' awareness and opinions about stormwater pollution and other environmental issues through a marketing research study. Now that the stormwater education program has been in place, the City Environmental Engineering Department commissioned a follow-up survey to measure changes in public knowledge about stormwater pollution.

Specific questions to be answered by this study include:

•How concerned are respondents with various environmental issues facing Memphis?

•How do respondents define stormwater and the causes of stormwater pollution? Are they aware of the correct definitions when read to them?

•How many respondents are aware of there being a problem with stormwater pollution in Memphis?

•Do respondents feel businesses or individuals are responsible for causing stormwater pollution? Whose responsibility do respondents feel it is to prevent stormwater pollution?

•What term do respondents feel best describes the opening where stormwater flows?

•Do respondents believe that stormwater goes through a cleaning process before reaching the Mississippi River?

•How many respondents would stop doing something that they learned could cause pollution of the river?

•How interested are respondents in learning more about stormwater pollution?

•How do respondents dispose of items such as automobile oil, fertilizers/ pesticides/herbicides, leaves/grass clippings, household cleaning products, and old paint?

•Do respondents clean up after their pets?

•How have the results to survey questions changed since 1999?

Methodology

•A total of 250 random telephone interviews were conducted with adults 18 years old or older who live in Memphis.

•Interviews were conducted between September 16 and September 28, 2000.

•The margin of error for results based on the total sample of 250 respondents is +/- 6 points. This means that if all adults in Memphis were interviewed, in 95 out of 100 cases the results would differ by no more than 6 points in either direction from the results of the 250 respondents interviewed for this study.

•Note: The 1999 survey sample was composed with a sample size of 400, as compared to the 250 sample size in this 2000 survey. The smaller sample size should be kept in mind when reviewing survey results that compare the 1999 and 2000 surveys, but the margin of error was only one point lower (i.e., +/-5 points) in the 1999 survey.

•A copy of the questionnaire is appended.

Summary of Findings

1.**Importance Of Environmental Issues**

- Of four environment-related issues respondents were asked to rate in terms of their importance, **Running out of space for disposing trash** was seen as being a Major Concern by 76% of respondents; this compares to around half the survey sample who said the three other issues were a Major Concern: **Not enough people recycling** (53%), **Poor air quality** (52%), and **Stormwater pollution** (45%).
- Since the 1999 survey, the percentage of respondents who consider **Running out of space for disposing trash** a Major Concern increased seven points (to 76%), while mentions of **Stormwater Pollution** as a Major Concern decreased slightly (from 52% to 45%).

2.**Awareness Of Definitions Of Stormwater And Stormwater Pollution**

- When asked for a definition of stormwater, before being read a description by interviewers, **Rain water/Water from rain** (16%) and **Water that goes into drains/gutters/sewer system** (15%) were the leading categories of responses given by survey participants.
- Upon hearing a definition of stormwater, 66% of respondents said they were **Aware of the definition of stormwater**. A slightly lower percentage of respondents, 57%, was **Aware of the definition of stormwater pollution** read to them.

3.**Causes Of Stormwater Pollution**

- **Garbage/Trash/Debris** (39%) was given most often by survey participants as an example of an item that causes stormwater pollution, followed by **Oil/Motor oil** (19%), and **Chemicals** (17%).

4.**Awareness Of Stormwater Pollution Problem In Memphis**

•About one in four survey respondents, 23%, said they were **Aware of a problem with stormwater pollution in Memphis**.

•**Awareness of a problem with stormwater pollution in Memphis** increased slightly in this 2000 survey from the 1999 level of 18% (to 23%).

5.**Responsibility For Causing/Preventing Stormwater Pollution**

•A clear majority of respondents in this 2000 survey felt that **Businesses and Individuals are Equally responsible** for causing stormwater pollution (73%). However, among those who believe either Businesses or Individuals are mostly responsible for causing stormwater pollution, Businesses were cited by 19% of respondents, Individuals by 5%.

•As far as preventing stormwater pollution, 86% of those surveyed said **They themselves, Other people, and Businesses are Equally responsible**.

•Respondent opinion about the groups most responsible for causing and preventing stormwater pollution was little changed from last year's survey results.

6.**Term For Opening Where Stormwater Flows**

•Thirty-nine percent (39%) of respondents identified **Storm drain** as the term that best describes the opening where stormwater flows.

•About 20% of the survey sample said either **Gutter** or **Sewer** describes the opening where stormwater flows (21% each), or **Didn't know** which of the three terms they thought described the opening (19%).

7.**Stormwater Going Through A Cleaning Process**

- Many more respondents believe stormwater does **Not go through a cleaning process before reaching the Mississippi River** than believe stormwater **Does go through a cleaning process** (65% vs. 15%). The remaining 20% of those surveyed **Don't know if stormwater goes through a cleaning process**.
- The 65% of respondents in this 2000 survey who were of the opinion that stormwater does **Not go through a cleaning process** is an increase of 11 points from 54% in 1999; this increase is the result of the percentage of respondents who **Don't know if stormwater goes through a cleaning process** decreasing from 35% in 1999 to 20% in 2000. Belief that stormwater **Does go through a cleaning process** also increased this period (from 11% to 15%), again as the result of the decline in Don't know mentions since 1999.

8.**Stopping Actions That Could Cause Pollution Of The River**

- As in the 1999 survey, 97% of this year's survey participants said they **Would stop doing something they learned could cause pollution of the river**.

9.**Interest In Learning More About Stormwater Pollution**

- Respondents expressed a fairly high level of interest in learning more about stormwater pollution, as 26% of respondents said they are **Very Interested** and 57% **Somewhat Interested** in learning more about the topic.
- The combined 83% of survey participants either **Very Interested** or **Somewhat Interested** in learning more about stormwater pollution in this 2000 survey was just as strong as the 86% of respondents who last year said they were Very Interested/Somewhat Interested in learning more about stormwater pollution.

10.**How Automobile Oil Is Disposed**

•Two out of ten respondents, 20%, **Change their own oil**.

•As far as how used oil is disposed, 62% of respondents who change their own oil said they **Take their used oil to a Recycling center**; this is far higher than the 18% who perform the second most-often mentioned action -- **Putting used oil in the trash**.

•**Taking used oil to a Recycling center** has been the primary way of disposing of used oil in both the 1999 and 2000 surveys, with more than 60% of oil changers both years saying they Take used oil to a Recycling center (68% in 1999, 62% in 2000).

•In this 2000 survey, nearly two-thirds of those respondents who change their own oil purchase oil or other automotive fluids **Five times or less per year** (64%), as 20% make such purchases **1 to 2 times per year** and 44% **3 to 5 times per year**.

11.**How Fertilizers/Pesticides/Herbicides Are Disposed**

•About eight in ten respondents, 79%, **Have either a yard or garden**.

•Among those survey respondents who do have a yard or garden, 35% said **They themselves** apply Fertilizers/Pesticides/Herbicides on their yard or garden; this compares to 28% who report that an **Outside service** applies these products. Thirty-seven percent (37%) of people with a yard or garden have no Fertilizers/ Pesticides/Herbicides applied.

•Leftover Fertilizer/Pesticide/Herbicide is **Stored and used later** by 74% of the respondents who apply these products on their yard or garden Themselves. Respondents who have an Outside service apply Fertilize/Pesticide/Herbicide were also most likely to say leftover product is **Stored and used later** (50%), although 33% of respondents using an Outside service **Don't know** what such services do with leftover product.

12.**How Leaves/Grass Clippings Are Disposed**

- **Bagging for the city to pick up** (70%) is clearly the leading way respondents who have a yard or garden dispose of their Leaves and Grass clippings. Either **Composting Leaves and Grass clippings** or **Leaving Leaves and Grass clippings** in **their yard/garden** is what just over 10% of respondents do with these items (14% and 13%, respectively).
- The ways in which survey participants deal with Leaves and Grass clippings in this 2000 survey were very similar to the responses received in the 1999 survey.

13.**How Household Cleaning Products Are Disposed**

- When respondents have Household cleaning products leftover, 59% of those surveyed **Store leftover Household cleaning products and use them later**; about one-fourth of respondents, 26%, **Put leftover Household cleaning products in the trash**.
- Likely due to a change in the phrasing of a response choice in this 2000 survey (see page 45 for explanation), there was an 18-point increase in respondents since 1999 who **Store leftover Household cleaning products** (from 41% to 59%).

14.**How Old Paint Is Disposed**

- Old Paint is **Stored and used later** by 44% of respondents, roughly double the 23% who **Put old Paint in the trash**.
- Twenty-three percent (23%) of those participating in this 2000 survey **Don't have any Paint**.
- The 44% of respondents in this year's survey who **Store their old Paint** is up from 32% in 1999; as was the case with the increase in people who **Store leftover Household cleaning products**, we attribute the increase to a change in the wording of a response choice in this year's survey.

15.**Cleaning Up After Pets**

- About one-fourth of the survey sample, 23%, **Does clean up after their pet** when they walk their pet, while 14% doesn't. Just over half of the respondents interviewed **Don't have a pet** (54%), and 9% either have a pet they don't walk, or don't walk their pet away from their property.
- The 23% of respondents in this 2000 survey who **Do clean up after their pet** and the 14% who don't compared nearly identically with the 23% of 1999 survey respondents who said they **Do clean up after their pet** and the 17% who don't.

Conclusions

1)General Comment. This 2000 survey of consumer attitudes toward various environmental issues was designed, in part, to allow comparisons to a similar survey conducted in 1999. However, between changes to question wording, answer choices, and question order since last year's survey, the ability to make conclusions about the change in consumer behavior is somewhat limited. Still, as we offer conclusions based on this 2000 survey, any noteworthy differences from the 1999 survey will be pointed out.

2)Respondents' Overall Thoughts About Stormwater Pollution. While it is true that the percentage of respondents who consider Stormwater pollution to be a Major Concern ranked fourth out of the four environmental issues tested in this 2000 survey, it is important to keep in mind that roughly half of all survey participants do consider Stormwater pollution a Major Concern. Regarding whether or not they are aware of Memphis having a problem with Stormwater pollution, 23% of the survey sample is aware that the city has such a problem. The number of respondents who are aware of Memphis having a Stormwater pollution problem actually increased slightly from 1999, and could be the result of some of the City's public relations efforts that have served to draw attention to the issue. Still though, three-fourths of those surveyed in both 1999 and 2000 aren't aware of Memphis having a problem with Stormwater pollution.

As far as defining Stormwater in their own words -- before any information was given by interviewers -- although certainly some respondents were not able to offer much of a definition other than to incorporate the words "storm" or "water" into their responses, others demonstrated at least some knowledge about the subject by saying that Stormwater is the water that goes into the drainage/sewer system or involves runoff.

Similarly, as we will discuss further in a later section of these conclusions, some respondents have a good feel for the types of items that cause Stormwater pollution, while others don't.

When respondents were read definitions of Stormwater and Stormwater pollution, 66% of all survey participants said they were aware of the definition of Stormwater, and 57% were aware of the definition of Stormwater pollution. While these scores would certainly seem to indicate that many people are aware of the definitions of Stormwater and Stormwater pollution, it also shows room for the City to further educate the public about the causes of Stormwater pollution, as well as ways to prevent Stormwater pollution from occurring.

So, in summary, we see respondents in this survey considering Stormwater pollution to be a fairly important issue, but one for which they are not totally sure of the definition or causes. Public receptiveness to learning more about Stormwater pollution is fairly strong however, as evidenced by the fact that an impressive 83% of 2000 survey participants said they were either Very Interested or Somewhat Interested in learning more about Stormwater pollution; that this 83% Very Interested/Somewhat Interested score nearly matches the 86% score from the 1999 survey confirms that people would likely pay attention to additional education efforts by the City relative to the subject of Stormwater pollution.

3)Causes Of Stormwater Pollution. In this year's survey, as in the one conducted last year, three broad classifications of items were named by respondents as causes of Stormwater pollution: Garbage, Oil, and Chemicals. Since we have now seen the same three categories of items given in both surveys -- and assuming people are right in noting these items as causes of Stormwater pollution -- the City should probably highlight these items in future public relations efforts designed to educate the public about the causes of Stormwater pollution. We make this suggestion because if people are aware of certain items that cause Stormwater pollution, it is likely that people not aware of the items that cause Stormwater pollution will most easily identify with those items that already have made an impact with others' knowledge about the issue.

4)How Respondents Dispose Of Items. One of the focal points of both the 1999 and 2000 surveys has been to determine how respondents dispose of various items when they have some leftover -- Oil, Fertilizers/Pesticides/Herbicides, Leaves/Grass clippings, and Paint. In addition, respondents were asked if they clean up after their pet when walking their pet. The ways in which people dispose of the items listed above is important, because it is such items that are among the most likely to cause Stormwater pollution when improperly disposed.

In this year's survey, due to a slight change that was made in order to clarify one of the answer choices (i.e., adding the word "use it later" to the choice that read "store it"), it appears that most respondents are disposing of items properly. For instance, 74% of those surveyed who have a yard or garden reported that when they have some Fertilizer/Pesticide/Herbicide product leftover, they store it and then use it up until there is none left. And, about 60% of respondents dispose of their leftover Household cleaning products by storing the product and using it up.

The only red flag exhibited by respondents' disposal patterns is that about 20% to 25% of those surveyed continue to say they throw leftover Oil, Fertilizer/Pesticide/Herbicide, Household cleaning product, or Paint in the trash. Therefore, any future PR efforts of the City should definitely inform people that disposing in the trash one's leftover products found around home could result in causing Stormwater pollution.

As far as people cleaning up after their pets, again this year, as in last year's survey, there were not tremendously more respondents who clean up after their pets than those who don't clean up after their pets. Since animal waste can easily get into Stormwater from people's yards, the City should remind people of the importance of cleaning up after their pet when walking their pet.

5)Automobile Products. As in the 1999 survey, Oil again ranked second as an item that respondents believe cause Stormwater pollution.

Among those survey respondents who change their own Oil, 62% dispose of their used Oil by taking it to a recycling center. However, 18% of Oil changers said they place their used Oil in the trash. Given that, as we have discussed previously, so many respondents identified Oil as a cause of Stormwater pollution (even if some don't change their own oil), it would probably be a good idea for the City to highlight the proper disposal of used Oil in any future advertising and PR efforts. As was touched on in last year's recommendations, AutoZone's involvement in a campaign designed to communicate the proper way to dispose of used Oil and other automotive products would seem to make a lot of sense.

6)Running Out Of Space For Disposing Trash. In the first survey question that asked respondents to rate the importance of four environment-related issues facing the city of Memphis, Running out of space for disposing trash was named -- for the second consecutive survey -- as easily the issue of the four most often considered by respondents to be a Major Concern.

Although Running out of space for disposing trash does not directly relate to Stormwater pollution, we have already discussed the fact that Garbage was the leading item that respondents identified as a cause of Stormwater pollution. Therefore, if the role that Garbage plays in causing Stormwater pollution was not already going to figure prominently in any future PR and awareness-building efforts of the City relative to the issue of Stormwater pollution, the fact that so many respondents believe Memphis has a problem with Running out of space for disposing trash would suggest that highlighting Garbage as a cause of Stormwater pollution would make an impact with people.

7)Businesses Vs. Individuals. In this 2000 survey, as in the 1999 survey, a definite majority of respondents -- 70% or more -- said that businesses and individuals were equally responsible for both causing and preventing Stormwater pollution.

However, in both surveys, among those who thought either businesses or individuals were more responsible for causing or preventing Stormwater pollution, businesses were assigned responsibility more often than individuals.

It is certainly possible that those respondents who said businesses were more responsible than individuals for causing and preventing Stormwater pollution were making such comments out of a sense of denial (i.e., "I would never cause Stormwater pollution, so it must be businesses!"), but, at the same time the City should not entirely focus on individuals' behavior in educating and informing people about Stormwater pollution, as there are no doubt many businesses who are contributing to the problem. In addition, focusing some attention on businesses' contribution to the problem of Stormwater pollution may encourage consumers to be more vigilant in preventing Stormwater pollution if they see that they are not being singled out as the only group causing Stormwater pollution.

8)Terminology. A new question was added to this 2000 survey that asked respondents which of three terms they felt best described the opening where Stormwater flows: Gutter, Storm drain, or Sewer. Of these three, Storm drain was chosen as the term that best describes the opening where stormwater flows two times more often than either Gutter or Sewer. So, as the process of causing and preventing Stormwater pollution is communicated as a part of the City's future educational efforts designed to increase awareness of Stormwater pollution, "Storm drain" would certainly seem to be the term that will resonate most with people.

9)Differences In Survey Responses By Gender/Race. For all four of the environment-related issues tested for their importance, more Female respondents than Male respondents in this year's survey consider each issue to be a Major Concern. Females were also somewhat more likely than Males to be Very Interested or Somewhat Interested in learning more about Stormwater pollution. The City might give consideration to choosing advertising and marketing venues that would appeal to and be noticed by Males, in order to increase Males' awareness of issues such as Stormwater pollution.

In this 2000 survey, Black respondents were generally more likely than White respondents to consider the environmental issues tested in the first survey question to be a Major Concern. In addition, Black survey participants expressed somewhat more desire than Whites to learn more about Stormwater pollution. On the flip side, however, more Blacks than Whites said they were not aware of the definitions of Stormwater and Stormwater pollution read to them by interviewers. And, when asked how they dispose of leftover items found in their yard and home, Black respondents were somewhat more likely to dispose of these items by simply putting leftover product in the trash (as opposed to using the product until there was none left). Finally, basically equal numbers of Black survey participants do and don't clean up after their pet when walking their pet; among Whites, by contrast, clearly more respondents do clean up after their pet than don't. While the City certainly does not want White citizens to get complacent in the ways in which they dispose of items, the larger educational effort seems to be needed in the Black community; the good news is that Black survey participants seem quite interested in learning more about Stormwater pollution, as well as being concerned about other environment-related issues.

DETAILED FINDINGS

How Much Of A Concern Are Various Environmental Issues Facing Memphis?

- 2000 Results -

•In the first survey question, respondents were asked how concerned they were with four environment-related issues facing Memphis.

•Three-fourths of all respondents, 76%, judged **Running out of space for disposing trash** to be a Major Concern; this was a noticeably higher Major Concern percentage than was given to three other issues.

•The issues **Not enough people recycling** and **Poor air quality** were seen as a Major Concern by just over half the survey sample (53% and 52%, respectively), while just under half consider **Stormwater Pollution** a Major Concern (45%).

•In addition to being named slightly less often than the other issues as a Major Concern, **Stormwater pollution** was the issue more survey participants consider to be Not A Concern (15%).

Issues	Major Concern (250)	Minor Concern (250)	Not A Concern (250)
Running out of space for disposing trash	76%	18	6
Not enough people recycling	53%	42	5
Poor air quality	52%	37	11
Stormwater pollution	45%	40	15

Note: Percentages read across.

How Did The Percentage Of Respondents Saying Each Environmental Issue Is A Major Concern Change Since 1999?

- In both the 1999 and 2000 surveys, **Running out of space for disposing trash** has clearly ranked as the leading concern among the four environment-related issues tested. In this 2000 survey, mentions of Running out of space for disposing trash as being a Major Concern increased seven points (from 69% to 76%).
- Major Concern scores for **Poor air quality** and **Not enough people recycling** saw basically no chance since the 1999 survey (54% to 52% and 52% to 53%, respectively).
- After basically tieing for second-place as an issue of Major Concern in last year's survey, the seven-point decrease in mentions of **Stormwater pollution** as a Major Concern this year (to 45%) resulted in the issue ranking fourth as a Major Concern.

	1999 (400)	2000 (250)
Major Concern		
Running out of space for disposing trash	69%	76%
Poor air quality	54	52
Not enough people recycling	52	53
Stormwater pollution	52	45

How Did Respondents Define Stormwater?

- 2000 Results -

•Survey participants were next asked to provide a definition -- in their own words -- of "stormwater." Keep in mind that at this point in the survey, stormwater had not been defined for the respondent, which means words such as "runoff" and "polluted water" had not been introduced to respondents. The categories of definitions listed on the next page were mentioned by a minimum of 4% of respondents. In addition, the Appendix lists all definitions before being categorized for the table on the next page.

•Because these stormwater definitions were given in respondents' own words and therefore had to be categorized for the table on the next page, comparing results from last year's survey is not as easy to do as with other survey questions in which respondents are given specific answer choices. This being said, a cursory comparison of the category scores in the two years' surveys saw little meaningful change in response.

•In this 2000 survey, 30% of those interviewed were not able to define stormwater.

•No individual category of definitions of stormwater were mentioned more often than the other categories.

•As we saw in the 1999 survey, many respondents' definitions of stormwater simply involved the words "storm" or "water": **Rain water/Water from rain** (16%) and **Storm rain/Water from storms** (8%).

•The 15% of respondents who defined stormwater as **Water that goes into drains/gutters/ sewer system** reflect people who know perhaps a bit more about stormwater, as do the 12% defining stormwater as **Runoff**.

•**Heavy rain that causes backup** reflected the definitions of stormwater given by 10% of those surveyed, while 4% of respondents defined stormwater as either **Polluted water/Dirty water** or **Water that sits/stands/collects**.

(please see table on the next page)

How Did Respondents Define Stormwater?
(continued)

- 2000 Results -

		Total
		(250)
Stormwater Definitions		
Rain water/Water from rain		16%
Water that goes into drains/gutters/sewer system		15
Runoff (in general, including water and rain)	12	
Heavy rain that causes backup		10
Storm rain/Water from storms		8
Polluted water/Dirty water		4
Water that sits/stands/collects		4
Other		3
Don't know		30

Note:The Appendix lists all of the specific definitions given by respondents.
Note:Multiple responses are allowed, resulting in the total percentage adding to more than 100%.

How Many Respondents Said They Were Aware Of The Definitions Of Stormwater And Stormwater Pollution Read To Them?

- 2000 Results -

- Respondents were next presented with the actual definitions of "stormwater" and "stormwater pollution," and asked whether they were aware of those definitions.
- About two-thirds of the survey sample said they were **Aware of the definition of stormwater** read by the interviewer (66%), while 57% were **Aware of the definition of stormwater pollution**.
- This roughly 60% to 65% awareness of the definitions for stormwater and stormwater pollution that were presented to respondents would seem to indicate some room for awareness of these two definitions to increase.

What Items Did Respondents Say Get Into Stormwater To Cause Stormwater Pollution?

- 2000 Results -

•After being given definitions of "stormwater" and "stormwater pollution," respondents were

asked to name items that might get into stormwater, thereby causing stormwater pollution. The various categories of items mentioned by at least 2% of all survey participants are listed on page 22. In addition, the Appendix lists all the exact items mentioned by respondents, before the items were categorized for the table on page 22.

•Because these causes of stormwater pollution were given in respondents' own words and therefore had to be categorized for the table on the page 22, comparing results from last year's survey is not as easy to do as with other survey questions in which respondents are given specific answer choices. This being said, a cursory comparison of the category scores in the two years' surveys saw little meaningful change in response, with both surveys resulting in the same three leading category definitions of stormwater pollution.

•Twelve percent (12%) of respondents could not come up with examples of items that cause stormwater pollution.

•**Garbage/Trash/Debris** (39%) was mentioned two times more than any other category of items in this 2000 survey as causing stormwater pollution. In addition, some of the other categories of responses, such as **Paper/Bags** (8%), **Cans** (7%), **Bottles** (4%), and **People dumping/throwing things away** (2%) refer to specific items that could certainly be considered Garbage/Trash/Debris.

•As was the case last year, automotive-related products were mentioned relatively often as examples of items that cause stormwater pollution. **Oil/Motor oil** (19%) ranked second overall as a category of items mentioned as causing stormwater pollution, while 6% believe **Gas** is a cause of stormwater pollution and 3% mentioned **Anti-freeze/Other automotive fluids**.

(continued)

What Items Did Respondents Say Get Into Stormwater To Cause Stormwater Pollution? (continued)

- 2000 Results -

- **Chemicals in general, including from yards** (17%) nearly tied with Oil/Motor oil as the second most-often mentioned category of items that respondents think cause stormwater pollution. Several other specific types of chemicals were also mentioned as contributors to stormwater pollution in the opinion of those surveyed: **Pesticides** (8%), **Fertilizers** (4%), and **Herbicides** (2%).
- Nearly one out of ten respondents singled out business as a contributor to stormwater pollution, as evidenced by the 8% of respondents who said **Waste from businesses, including chemicals** causes stormwater pollution.
- In addition to Pesticides, Fertilizers, and Herbicides that are applied to property (i.e., yards and gardens), several survey participants noted other causes of stormwater pollution that also emanate from property, such as **Limbs/Fallen trees/Branches/Sticks** (6%), **Dirt/Mud** (5%), **Leaves** (5%), and **Grass** (2%).
- Although not mentioned very often, we did notice that **Miscellaneous metals**, such as Aluminum or Tin, were noted as causes of stormwater pollution by 3% of respondents in this 2000 survey, but hardly at all in the 1999 survey.

(please see table on the next page)

What Items Did Respondents Say Get Into Stormwater To Cause Stormwater Pollution? (continued)

- 2000 Results -

Items That Cause Stormwater Pollution	Total (250)
Garbage/Trash/Debris (in general)	39%
Oil/Motor oil	19
Chemicals (in general, including from yards)	17
Paper/Bags	8
Pesticides	8
Waste from businesses (including chemicals)	8
Cans (coke, beer, etc.)	7
Gas	6
Limbs/Fallen trees/Branches/Sticks	6
Air pollution/Things in the air/Germs	5
Dirt/Mud	5
Leaves	5
Waste (in general)	5
Bottles	4
Dead animals	4
Fertilizers	4
Anti-freeze/Other automotive fluids	3
Miscellaneous metals	3
Bacteria	2
Cigarettes	2
Grass	2
Herbicides	2
Human waste	2
Needles/Drug paraphernalia	2
People dumping/throwing things away (especially improperly)	2
Sewage	2
Toxins/Poisons	2
Other	18
Don't know	12

Note:The Appendix lists all of the specific items given by respondents.
Note:Multiple responses are allowed, resulting in the total percentage adding to more than 100%.

How Many Respondents Are Aware Of There Being A Problem With Stormwater Pollution In Memphis?

- 2000 Results -

- About one out of four respondents in this 2000 survey, 23%, said they are **Aware of a problem with stormwater pollution in Memphis**.
- A full three-fourths of those surveyed are **Not aware of a problem with stormwater pollution in Memphis** (75%).
- Two percent (2%) of respondents had no firm opinion regarding whether or not there exists a problem with stormwater pollution in Memphis.

How Did The Percentage Of Respondents Aware Of A Problem With Stormwater Pollution In Memphis Change Since 1999?

•Although there was a slight increase in this 2000 survey in the percentage of respondents who are **Aware of a problem with stormwater pollution in Memphis** (from 18% in 1999 to 23% this year), the larger point is that in both surveys at least three-fourths of those interviewed are **Not aware of a problem with stormwater pollution in Memphis** (78% in 1999, 75% in 2000).

	1999 (400)	2000 (250)
Aware Of Problem With Stormwater Pollution In Memphis?		
Yes, Aware of problem	18%	23%
Not aware of problem	78	75
Don't know	4	2

What Group Do Respondents Feel Is Most Responsible
For Causing Stormwater Pollution?
What Group Is Most Responsible For Preventing Stormwater Pollution?

- 2000 Results -

- In consecutive survey questions, respondents were asked who is responsible for causing stormwater pollution, and then who is responsible for preventing the problem.
- As far as who is responsible for causing stormwater pollution, 73% of respondents believe **Business and Individuals are Equally responsible**. However, among those who think one of these groups is more responsible than the other, far more mentioned **Businesses** than **Individuals** as a cause of stormwater pollution (19% vs. 5%).
- The vast majority of those interviewed, 86%, were of the opinion that **They themselves, Other people, and Businesses are Equally responsible** for preventing stormwater pollution; eight percent (8%) of respondents did single out **Businesses** as being responsible for preventing stormwater pollution.

What Change Has Taken Place Since 1999 In The Groups Respondents Feel Are Most Responsible For Causing And Preventing Stormwater Pollution?

- The two tables below show that there was barely any change in this 2000 survey in the parties that respondents said were responsible for causing and preventing stormwater pollution.
- In both survey periods, most respondents expressed the opinion that Businesses and Individuals were jointly responsible for both causing and preventing stormwater pollution.
- Among those respondents who don't see Businesses and Individuals being Equally responsible for causing and preventing stormwater pollution, more respondents in both surveys said Businesses, rather than Individuals, either cause or should prevent stormwater pollution.

	1999 (400)	2000 (250)
Responsible For Causing Stormwater Pollution		
Businesses	21%	19%
Individuals	7	5
Both equally	69	73
Don't know	3	3
Responsible For Preventing Stormwater Pollution		
The respondent	2%	1%
Other people	2	2
Businesses	8	8
All groups equally	85	86
Don't know	3	3

What Term Do Respondents Feel Best Describes The Opening Where Stormwater Flows?

- 2000 Results -

- A new question was added in this 2000 survey that asked respondents which of three terms they felt best describes the opening where stormwater flows. Respondents were also given the opportunity to say they Don't know if any of the terms describe the opening.
- About two times more survey participants said **Storm drain** (39%) best describes the opening where stormwater flows than said **Gutter** (21%) or **Sewer** (21%) is the best description of the opening.
- Two out of ten respondents, 19%, **Don't know** which of the three terms best describes the opening where stormwater flows.

Do Respondents Believe Stormwater Goes Through A Cleaning Process Before Reaching The Mississippi River?

- 2000 Results -

- Not too many respondents -- 15% in this 2000 survey -- believe stormwater **Goes through a cleaning process before reaching the Mississippi River**.
- While it is true that 65% of those surveyed said stormwater does **Not go through a cleaning process**, 20% **Don't know if stormwater goes through a cleaning process before reaching the Mississippi River**.

What Change Has Taken Place Since 1999 In The Percentage Of Respondents Who Believe Stormwater Goes Through A Cleaning Process Before Reaching The Mississippi River?

- The 35% of respondents in the 1999 survey who **Didn't know if stormwater goes through a cleaning process before reaching the Mississippi River** decreased to 20% in this 2000 survey.
- As a result of the decline in respondents who said they Don't know if stormwater goes through a cleaning process, this year's survey saw a slight increase in both those respondents who were of the opinion that stormwater **Does go through a cleaning process** (from 11% in 1999 to 15% in 2000) and does **Not go through a cleaning process** (from 54% to 65%). Even with these increases in both categories, far more respondents in both survey periods believe stormwater does Not go through a cleaning process before reaching the Mississippi River than believe stormwater Does go through a cleaning process.

	1999 (400)	2000 (250)
Does Stormwater Go Through A Cleaning Process?		
Yes, Does go through a cleaning process	11%	15%
Does not go through a cleaning process	54	65
Don't know	35	20

How Many Respondents Would Stop Doing Something They Learned Could Cause Pollution Of The River?

- 2000 Results -

•Nearly all respondents, 97%, **Would stop doing something they learned could cause pollution of the river**. This is not a terribly surprising result, since it would be expected that most people would at least say they would stop doing an action they learned was causing pollution of the river.

What Change Has Taken Place Since 1999 In The Percentage Of Respondents Who Would Stop Doing Something They Learned Could Cause Pollution Of The River?

•In both 1999 and 2000, 97% of survey participants said they **Would stop doing something they learned could cause causing pollution of the river**.

	1999 (400)	2000 (250)
Stop Doing Something That Causes Pollution Of River?		
Yes, Would stop	97%	97%
Wouldn't stop	-	1
Don't know	3	2

How Interested Are Respondents In Learning More About Stormwater Pollution?
- 2000 Results -

- An impressive 83% of respondents in this 2000 survey said they are either **Very Interested** (26%) or **Somewhat Interested** (57%) in learning more about the issue of stormwater pollution. This result would seem to indicate people are open to messages that might be communicated by the City about the causes and preventions of stormwater pollution.
- Only 17% of those interviewed are **Not Interested** in learning more about stormwater pollution.

How Did Interest In Learning More About Stormwater Pollution Change Since 1999?

•The 83% of respondents in this 2000 survey who are Very Interested/Somewhat Interested in learning more about the issue of stormwater pollution, following the 86% so inclined in last year's survey, serves as important verification that the general public is indeed interested in learning more about stormwater pollution.

	1999 (400)	2000 (250)
Interest In Learning More About Stormwater Pollution		
Very Interested	26%	26%
Somewhat Interested	60	57
Not Interested	14	17

How Many Respondents Change The Oil In Their Automobile Themselves?

- 2000 Results -

- The focus of survey questions next moved to learning how respondents dispose of various items, the first of which was used oil.
- Before asking how they dispose of used oil, respondents were asked if they usually change their own oil. Two out of ten survey respondents, 20%, **Change their own oil**, but most don't (80%). (Although not shown in a graph or table, the percentage of respondents who Change their own oil was basically unchanged from the 19% level measured in the 1999 survey.)

How Do Respondents Dispose Of Their Used Automobile Oil?
- 2000 Results -

•Those respondents who said they usually change their own oil were then asked in which of five ways they most often dispose of their used oil.

•In this 2000 survey, a definite majority of oil changers dispose of their used oil by **Taking it to a Recycling center** (62%).
•If they don't take their used oil to a Recycling center, respondents were most likely to either **Put it in the trash** (18%) or **Store it** (10%).
•Although not shown in the graph below, here is how the five respondents who Store their used oil dispose it after storing: two Take the used oil to a Recycling center, two Put it in the trash, and one Pours it on tall grass or weeds to kill them.

How Have The Ways In Which Respondents Dispose Of Their Used Oil Changed Since 1999?*

- There was not much change from the 1999 survey to this 2000 survey in terms of how respondents dispose of their used oil.
- This 2000 survey did see a very slight decrease in the percentage of people who dispose of used oil by **Taking it to a Recycling center** (from 68% in 1999 to 62% in 2000) or **Storing it** (from 15% to 10%), while respondents who dispose of used oil by **Putting it in the trash** increased a bit (from 11% in 1999 to 18% in 2000). Given the relatively small sample size of oil changers in both survey periods, none of these changes should be considered noteworthy.

	1999 (75)	2000 (50)
How Dispose Of Used Oil		
Take it to a recycling center	68%	62%
Store it	15	10
Put it in the trash	11	18
Put it in the street	1	4
Pour it down the drain	1	-
Other	4	6

* Only asked of respondents who change their own oil.

Approximately How Many Times Per Year Do Respondents Purchase Automotive Oil/Fluids At A Retail Store?

- 2000 Results -

- In addition to being asked how they dispose of their used oil, those survey participants who change their own oil were also asked approximately how many times per year they purchase oil or other automotive fluids at a store such as AutoZone or Wal-Mart.
- Oil or other automotive fluids are purchased **3 to 5 times** per year by 44% of respondents who change their own oil; an additional 20% purchase oil/automotive fluids **1 to 2 times** per year.
- Among more frequent oil/automotive product purchasers, 18% of respondents who change their own oil reported purchasing oil or other automotive fluids **6 to 10 times** a year, 12% **More than 10 times**.

How Many Respondents Have Either A Yard Or Garden?
- 2000 Results -

•Seventy-nine percent (79%) of the survey sample **Has either a yard or garden**, while 21% doesn't. In the 1999 survey, this survey question asked respondents if they live in a house (rather than whether or not they have a yard or garden), with 80% of respondents saying they did live in a house.

How Many Respondents Said Fertilizers/Pesticides/Herbicides Are Used On Their Yard/Garden, Either By Themselves Or A Service?

- 2000 Results -

- In a change in question wording from the 1999 survey, respondents who have a yard or garden were asked whether Fertilizers, Pesticides, or Herbicides are applied by They themselves, by an Outside service, or by no one. (Last year, respondents were simply asked if Fertilizers/Pesticides/Herbicides are used on their lawn.)
- Slightly more survey participants who have either a yard or garden said **They themselves** apply Fertilizers/Pesticides/Herbicides than said an **Outside service** applies these (35% vs. 28%).
- Fertilizers/Pesticides/Herbicides are **Not applied** to the yards/gardens of 37% of respondents who have a yard or garden.

What Do Respondents Do With Their Leftover Fertilizers/Pesticides/Herbicides?

- 2000 Results/Based On Who Applies -

- The table on the next page compares how respondents dispose of leftover Fertilizers/ Pesticides/Herbicides, based on whether The respondent or an Outside service applies such products.
- Among both groups, **Storing and using later** is the most frequent way Fertilizer/Pesticide/ Herbicide is disposed when some is leftover. However, because 33% of respondents **Don't know** how their Outside service disposes of these products, it seems like more respondents who apply Fertilizers/Pesticides/Herbicides Themselves Store the product (74%, vs. 50% of those who said a Service applies); in fact, Storing Fertilizer/ Pesticide/Herbicide and using the product again, on a relative basis, is done equally often by both respondents who apply these products Themselves and those who have an Outside service apply the product.
- One difference that does exist in how Fertilizers/Pesticides/Herbicides are disposed is that 16% of survey participants who apply these products Themselves dispose of leftover product by **Putting it in the trash**, as compared to just 2% of respondents who have an Outside service apply Fertilizer/Pesticide/Herbicide who said the service Puts leftover product in the trash. However, this difference could be simply due to respondents not knowing what their Outside does with leftover product and assuming that it is just Stored and used again.
- Results for this survey question are not trended to the 1999 results because of the change in question wording described on the previous page.

(please see table on the next page)

What Do Respondents Do With Their Leftover Fertilizers/Pesticides/Herbicides?* (continued)

- 2000 Results/Based On Who Applies -

What Do With Leftover Fertilizer/Pesticide/Herbicide	Respondent Applies (68)	Service Applies (54)
Store it and use it later	74%	50%
Put it in the trash	16	2
Take it to a recycling center	9	11
Put it in the street	-	2
Pour it down the drain	-	2
Other**	1	-
Don't know	-	33

* Only asked of respondents who said fertilizers/pesticides/herbicides are used.

**See Appendix.

What Do Respondents Do With Their Leaves/Grass Clippings?

- 2000 Results -

- As far as Leaves and Grass clippings, seven out of ten respondents who have a yard or garden **Bag Leaves/Grass clippings for the city to pick up** (70%).
- Those relatively few respondents who don't Bag their Leaves/Grass clippings either **Compost** their Leaves and grass clippings or **Leave Leaves/Grass clippings in their yard** (14% and 13%, respectively).
- In addition to the 2% of respondents who use their Leaves/Grass clippings for **Mulch** (which was not a response choice read to respondents), some of those who Leave Leaves/Grass clippings in their yard also considered that to be using Leaves/Grass clippings for Mulch.

What Change Has Taken Place Since 1999 In What Respondents Do With Leaves/Grass Clippings?

- Even though the results to this 2000 survey question about how Leaves/Grass clippings are dealt with are based on respondents who Have a yard or garden (as opposed to being based on those who Live in a house in the 1999 survey), the manner in which survey participants treat their Leaves and Grass clippings changed very little from 1999 to 2000.
- In both survey periods, more than two-thirds of the respondents asked this survey question concerning what they do with Leaves and Grass clippings said they **Bag Leaves and Grass clippings for the city to pick up** (67% in 1999, 70% in 2000).

What Do With Leaves/Grass Clippings	1999 (319)	2000 (192)
Bag it for the city to pick up	67%	70%
Compost it yourself at your home	15	14
Just leave it in your yard	11	13
Use for mulch	2	2
Put it in the street	2	1
Service disposes	1	-
Other	2	-

What Do Respondents Do With Their Leftover Household Cleaning Products?

- 2000 Results -

- In this 2000 survey, 59% of respondents **Store their leftover Household cleaning products and use them later**.
- An additional 26% of those surveyed **Put leftover Household cleaning products in the trash**.
- Therefore, most respondents, 85%, dispose of their leftover household cleaning products by **Storing them and using them later** or **Putting them in the trash**.

What Change Has Taken Place Since 1999 In What Respondents Do With Leftover Household Cleaning Products?

- In the 1999 survey, one of the choices given respondents for what they do with leftover household cleaning products was simply "Store it." However, due to a feeling that some respondents did not understand the implication of that response choice was supposed to be that "Storing it" meant "Store the product and use it up," this response choice was changed in this 2000 survey to "Store it and use it later."
- While this change in wording might seem minor, we do feel that many respondents chose other response alternatives in last year's survey because of uncertainly over what "Store it" meant.
- As a likely result of the wording change to a more expansive definition of "Storing product" in this 2000 survey, the percentage of respondents who do **Store their Household cleaning products and Use them later** rose to 59% (from 41% in the 1999 survey).
- While many respondents continue to say they **Put leftover Household cleaning products in the trash**, the percentage using this disposal method decreased slightly (32% in 1999, 26% in 2000).

	1999 (400)	2000 (250)
What Do With Leftover Household Cleaning Products		
Store it/Use it later*	41%	59%
Put it in the trash	32	26
Take it to a recycling center	11	8
Pour it down the drain	5	4
Put it in the street	1	-
Don't have any household cleaning products	10	2
Other	-	1

* Phrased "Store it" in 1999, "Store it and use it later" in 2000.

What Do Respondents Do With Their Old Paint?

- 2000 Results -

•The final item for which survey respondents described their usual means of disposal was old Paint.
•By about a 2:1 margin, old Paint is most often **Stored and used later** (44%).
•The second most-often method of dealing with old Paint is to **Put it in the trash** (23%).
•About one-fourth of all respondents **Don't have any Paint** (23%).

How Have The Ways In Which Respondents Dispose Of Old Paint Changed Since 1999?

- Just as we saw on page 45, regarding the change since 1999 in how Household cleaning products are disposed, the more detailed response choice "Store it and use it later" in this 2000 survey resulted in an increase in respondents identifying **Storing and using later** as the method most often used for disposing old Paint (to 44%, from 32% in 1999).
- Since the 1999 survey, no noticeable differences in disposing of old Paint were noted for the other disposal alternatives.
- A change since 1999 was seen in the fact that the percentage of survey participants who **Don't have any paint** decreased from 37% last year, to 23% this year.

	1999 (400)	2000 (250)
What Do With Old Paint		
Store it/Use it later*	32%	44%
Put it in the trash	20	23
Take to a recycling center	9	8
Put it in the street	1	1
Don't have any paint	37	23
Other	1	1

* Phrased "Store it" in 1999, "Store it and use it later" in 2000.

Summary Of How Respondents Dispose Of Various Items

- 2000 Results -

- The table below summarizes how respondents dispose of Oil, Fertilizers/Pesticides/ Herbicides, Household cleaning products, and Paint.
- In this 2000 survey, respondents said they most often dispose of three of the four products -- Fertilizers/Pesticides/Herbicides, Household cleaning products, and Paint -- by Storing and using later. This method of disposal was especially pronounced for Fertilizers/Pesticides/Herbicides (74%, vs. 16% for Putting in the trash).
- For all three of the products mentioned above, Putting in the trash was the second most-often mentioned means of disposal, with relatively few of those surveyed disposing of any of these three products by Taking them to a Recycling center, Putting them in the street, or Pouring them down the drain.
- Used Oil, in contrast to three other products, is primarily disposed of by Taking it to a Recycling center (62%), but as with the other products, Putting it in the trash ranked second as a way the product is disposed (18%).

	Disposed Items			
How Dispose	Oil	Fertilizers/ Pesticides Herbicides	Household Cleaning Products	Paint
Take to recycling center	62%	9	8	8
Put in trash	18%	16	26	23
Store it/Use it later	10%	74	59	44
Put in street	4%	-	-	1
Pour down drain	-%	-	4	N/A

Note: Percentages read across.

Note: Included are the disposal alternatives that were tested for all of the various disposed items except Leaves/Grass clippings, because the disposal alternatives for Leaves/Grass clippings did not match those of the other items.

How Many Respondents Clean Up After Their Pet?

- 2000 Results -

- In the final survey question before the concluding demographic questions, respondents were asked if they clean up after their pet when they walk their pet.
- Among those respondents who gave definitive answers to this survey question, somewhat more pet owners **Do clean up after their pet** than do **Not clean up after their pet** (23% vs. 14%).
- Slightly more than half of the survey sample, 54%, **Doesn't have a pet**.
- The 9% "No Answer" responses were made up of respondents who have pets they don't walk (such as a cat), or who said their pet does not leave the respondent's property.

How Has The Percentage Of Respondents Who Said They Clean Up After Their Pet Changed Since 1999?

- In this 2000 survey, as in 1999, 23% of all respondents reported that they **Do clean up after their pet** when walking their pet.
- The 17% of survey participants in the 1999 survey who do **Not clean up after their pet** remained at about the same level in this year's survey -- 14%.
- In both survey periods, roughly half of those surveyed said they **Don't have a pet** (50% in 1999, 54% in 2000).

	1999 (400)	2000 (250)
Clean Up After Pet?		
Yes, Clean up after pet	23%	23%
Don't clean up after pet	17	14
Don't have a pet	50	54
No answer	10	9

Sample Demographic Profile

- 2000 Results -

•The table on the next page profiles the demographic characteristics of the 400 respondents participating in this survey.

Age

•The median age of the survey's respondents is **43 years old**. (Note: The median is the middle value when all values are arrayed from the lowest value to the highest value.)

Race/Ethnicity

•This survey's sample was balanced between **Whites** (52%) and **Blacks** (46%), with the remaining 2% of respondents being of other races/ethnicities.

Geographic Location

•Six geographic areas of Memphis were represented by between 12% and 21% of all respondents: 21% in **Midtown Memphis**, 18% in **Northeast Memphis**, 18% in **North Memphis**, 16% in **South Memphis**, 14% in **Southeast Memphis**, and 12% in **East Memphis**.

Gender

•Sixty-six percent (66%) of survey participants were **Female**, 34% **Male**.

(please see table on the next page)

Sample Demographic Profile
(continued)

- 2000 Results -

	Total (250)
Age	
18-24	10%
25-34	20
35-44	22
45-54	17
55-64	13
65-74	11
75 or older	7
Median	43
Race/Ethnicity	
White	52%
Black	46
Other	2
Geographic Location (Component Zip Codes In Parenthesis)	
Midtown (38104/38111)	21%
Northeast (38133/38134/38135)	18
North (38105/38107/38108/38112/38127/38128)	18
South (38106/38109/38114/38116)	16
Southeast (38115/38118/38125)	14
East (38117/38119/38120/38122)	12
Downtown (38103)	1
Gender	
Female	66%
Male	34

ADDITIONAL ANALYSIS

•In addition to analyzing survey results for the 250 respondents in total, we looked at some demographic sub-segments of respondents to determine how their responses to the various survey questions differed from the responses of other respondents.
•The following pages analyze sub-segments of respondents based on:
•Respondents' age (pages 54-57)
•Respondents' gender (pages 58-60)
•Respondents' race (pages 61-64)
•Respondents' geographic location (pages 65-66)

•Although this additional analysis section focuses on survey questions in which noticeable differences existed within the demographic categories being compared, if there are other survey questions whose responses you would like to see compared by the various breakdowns described above, we will supply that information to you.
•In looking at the tables on the following pages, keep in mind that some survey questions
-- such as Question #15a. concerning how respondents dispose of their used oil -- were not asked of the full sample of respondents.
•Note: This Additional Analysis section includes information only from the 2000 survey.

(continued)

Additional Analysis -- Respondents' Age

•The tables beginning on page 55 note survey questions on which there was a difference between the responses of respondents 18-34 years old, 35-54 years old, and 55 years old or older.
•Of the three age segments, responses of respondents in the oldest age segment, age 55 or older, differed from those in the two younger age groups on several survey responses:
•They are the most likely to be **Aware of the definitions of stormwater and stormwater pollution** read to them by the interviewer (70% and 65%, respectively), as well as the most likely to say they are **Aware of a problem with stormwater pollution in Memphis** (29%).

•Were of the opinion that **Businesses are most responsible for both causing and preventing stormwater pollution** (29% and 14%, respectively).

•**Don't change their own oil** (95%).

•Said **They themselves apply Fertilizers/Pesticides/Herbicides on their yard or garden** (42%).

•Most likely to **Bag Leaves/Grass clippings for the city to pick up** (82%).

•Survey participants age 18-34 differed from those age 35-54 or 55 or older on the following survey questions:
•Dispose of used oil by **Putting it in the trash** (29%).
•Said an **Outside service applies Fertilizers/Pesticides/Herbicides on their yard or garden** (40%).

•**Store and use later their leftover Household cleaning products** (69%).

•Respondents in the 35-54 age segment differed from those age 18-34 or 55 or older by saying:

•They are **Very Interested in learning more about stormwater pollution** (31%).

•**No one applies Fertilizers/Pesticides/Herbicides on their yard or garden** (44%).

(please see tables on the next three pages)

Additional Analysis -- Respondents' Age
(continued)

		Age			
		Total	18-34	35-54	55+
		(250)	(73)	(94)	(79)
Aware Of Definition Of Stormwater? (Question #4)					
Yes, Aware	66%	62%	65%	70%	
Not aware	34	38	35	30	
Aware Of Definition Of Stormwater Pollution? (Question #5)					
Yes, Aware	57%	52%	54%	65%	
Not aware	43	48	46	35	
Aware Of Problem With Stormwater Pollution In Memphis? (Question #7)					
Yes, Aware of problem		23%	19%	21%	29%
Not aware of problem		75	81	77	68
Don't know	2	-	2	3	
Responsibility For Causing Stormwater Pollution? (Question #8)					
Businesses	19%	12%	14%	29%	
Individuals	5	8	5	3	
Both equally	73	80	75	65	
Don't know	3	-	6	3	
Responsibility For Preventing Stormwater Pollution? (Question #9)					
The respondent	1%	1%	-%	-%	
Other people	2	3	1	3	
Businesses	8	4	5	14	
All groups equally		86	89	90	82
Don't know	3	3	4	1	

(continued)

Additional Analysis -- Respondents' Age
(continued)

	Age			
	Total	18-34	35-54	55+
	(250)	(73)	(94)	(79)
Interest In Learning More About Stormwater Pollution (Question #13)				
Very Interested 26%	21%	31%	24%	
Somewhat Interested	57	65	53	56
Not Interested 17	14	16	20	
Change Own Oil? (Question #14)				
Yes, Change own oil	20%	29%	27%	5%
Don't change own oil	80	71	73	95
How Dispose Of Oil? (Question #15a.)				
Take to a recycling center	62%	62%	64%	50%
Put it in the trash	18	29	12	-
Store it	10	-	12	50
Put it in the street	4	5	4	-
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden? (Question #18)				
The Respondent	35%	30%	35%	42%
An outside service	28	40	21	31
No one applies 37	30	44	27	
What Do With Leaves/Grass Clippings? (Question #20)				
Bag for the city to pick up	70%	66%	66%	82%
Compost	14	11	20	10
Just leave in the yard	13	18	12	8
Put it in the street	1	2	-	-

(continued)

Additional Analysis -- Respondents' Age
(continued)

	Age			
	Total	18-34	35-54	55+
	(250)	(73)	(94)	(79)
What Do With Leftover Household Cleaning Products? (Question #21)				
Store it/Use it later	59%	69%	53%	58%
Put it in the trash	26	22	31	25
Take it to a recycling center	8	4	11	8
Pour it down the drain	4	4	3	5

Additional Analysis -- Respondents' Gender

•Differences on survey questions between Male and Female survey participants are shown in the tables on the next two pages.
•Compared to Females, Males were more likely to give the following survey responses. More Males:
•Were **Aware of the definitions of Stormwater** (73% or Males, vs. 62% of Females) and **Stormwater pollution** read to them (65% vs. 53%).
•Consider **Businesses to be responsible for both causing and preventing stormwater pollution** (26% vs. 15% and 13% vs. 6%, respectively).
•Said they believe stormwater **Does go through a cleaning process before reaching the Mississippi River** (21% vs. 12%).
•**Change their own oil** (29% vs. 15%).
•Dispose of used oil by **Taking used oil to a Recycling center** (72% vs. 52%).
•**Compost Leaves/Grass clippings** (20% vs. 11%).
•**Don't clean up after their pet** when walking their pet (21% vs. 10%).
•Females differed from Males on several survey questions:
•Considered all four issues facing the city of Memphis to be more of a Major concern than did Males.
•Are **Very Interested in learning more about stormwater pollution** (31% of Females, vs. 18% of Males).
•**Store Used oil** (16% vs. 4%).
•Were more likely to **Bag Leaves/Grass clippings for the city to pick up** (76% vs. 62%).

(please see tables on the next two pages)

Additional Analysis -- Respondents' Gender
(continued)

	Total	Gender	
		Male	Female
	(250)	(85)	(165)
Issues That Are A Major Concern (Question #2)			
Running out of space for disposing trash	76%	67%	81%
Not enough people recycling	53	45	56
Poor air quality	52	45	55
Stormwater pollution	45	40	48
Aware Of Definition Of Stormwater? (Question #4)			
Yes, Aware	66%	73%	62%
Not aware	34	27	38
Aware Of Definition Of Stormwater Pollution? (Question #5)			
Yes, Aware	57%	65%	53%
Not aware	43	35	47
Responsibility For Causing Stormwater Pollution? (Question #8)			
Businesses	19%	26%	15%
Individuals	5	7	4
Both equally	73	66	77
Don't know	3	1	4
Responsibility For Preventing Stormwater Pollution? (Question #9)			
The respondent	1%	1%	-%
Other people	2	5	1
Businesses	8	13	6
All groups equally	86	79	90
Don't know	3	2	3

(continued)

Additional Analysis -- Respondents' Gender
(continued)

	Total	Gender	
		Male	Female
	(250)	(85)	(165)
Does Stormwater Go Through A Cleaning Process? (Question #11)			
Yes, Is cleaned	15%	21%	12%
Not cleaned	65	64	66
Don't know	20	15	22
Interest In Learning More About Stormwater Pollution (Question #13)			
Very Interested	26%	18%	31%
Somewhat Interested	57	56	57
Not Interested	17	26	12
Change Own Oil? (Question #14)			
Yes, Change own oil	20%	29%	15%
Don't change own oil	80	71	85
How Dispose Of Oil? (Question #15a.)			
Take to a recycling center	62%	72%	52%
Put it in the trash	18	16	20
Store it	10	4	16
Put it in the street	4	-	8
What Do With Leaves/Grass Clippings? (Question #20)			
Bag for the city to pick up	70%	62%	76%
Compost	14	20	11
Just leave in the yard	13	16	11
Put it in the street	1	-	1
Clean Up After Pet? (Question #23)			
Yes, Clean up after pet	23%	24%	22%
Don't clean up after	14	21	10
Don't have a pet	54	42	61

No answer	9	13	7

Additional Analysis -- Respondents' Race

•Tables on pages 62-64 report survey questions on which there was a difference between the responses of White respondents and Black respondents.
•White respondents were somewhat more likely than Black respondents to exhibit the following characteristics:
•**Aware of the definition of stormwater** (73% or White respondents, vs. 56% of Black respondents) and **Aware of the definition of stormwater pollution** (64% vs. 47%).

•Believe **Businesses are responsible for causing stormwater pollution** (25% vs. 12%).

•More likely to **Take used oil to a Recycling center** (71% vs. 52%).

•Said **They themselves apply Fertilizers/Pesticides/Herbicides on their yard or garden** (43% vs. 23%).

•**Just leave Leaves/Grass clippings in the yard** (18% vs. 5%).

•Take **Old Paint to a Recycling center** (13% vs. 4%).

•**Clean up after their pet** when walking their pet (31% vs. 12%).

•Compared to White survey participants, Black respondents were more likely to give the following survey responses:
•Clearly more often consider **Running out of space for disposing trash** (84% of Blacks, vs. 71% of Whites), **Poor air quality** (64% vs. 40%), and **Stormwater pollution** (58% vs. 35%) to be Major concerns facing the city of Memphis.

•More likely to be **Very Interested in learning more about stormwater pollution** (33% vs. 20%).

•**Put used oil in the trash** (28% vs. 8%).

•Said **No one applies Fertilizers/Pesticides/Herbicides on their yard/garden** (51% vs. 26%).

•More likely to **Bag Leaves/Grass clippings for the city to pick up** (81% vs. 66%).

•More often **Put leftover Household cleaning products in the trash** (37% vs. 18%).

(please see tables on the next three pages)

Additional Analysis -- Respondents' Race
(continued)

	Total	Race	
		White	Black
	(250)	(128)	(115)
Issues That Are A Major Concern (Question #2)			
Running out of space for disposing trash	76%	71%	84%
Not enough people recycling	53	52	51
Poor air quality	52	40	64
Stormwater pollution	45	35	58
Aware Of Definition Of Stormwater? (Question #4)			
Yes, Aware	66%	73%	56%
Not aware	34	27	44
Aware Of Definition Of Stormwater Pollution? (Question #5)			
Yes, Aware	57%	64%	47%
Not aware	43	36	53
Responsibility For Causing Stormwater Pollution? (Question #8)			
Businesses	19%	25%	12%
Individuals	5	6	5
Both equally	73	67	79
Don't know	3	2	4
Interest In Learning More About Stormwater Pollution (Question #13)			
Very Interested	26%	20%	33%
Somewhat Interested	57	59	56
Not Interested	17	21	11

(continued)

Additional Analysis -- Respondents' Race
(continued)

	Total	Race	
		White	Black
	(250)	(128)	(115)
How Dispose Of Oil? (Question #15a.)			
Take to a recycling center	62%	71%	52%
Put it in the trash	18	8	28
Store it	10	8	12
Put it in the street	4	4	4
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden? (Question #18)			
The Respondent	35%	43%	23%
An outside service	28	31	26
No one applies	37	26	51
What Do With Leaves/Grass Clippings? (Question #20)			
Bag for the city to pick up	70%	66%	81%
Compost	14	14	13
Just leave in the yard	13	18	5
Put it in the street	1	1	-
What Do With Leftover Household Cleaning Products? (Question #21)			
Store it/Use it later	59%	63%	55%
Put it in the trash	26	18	37
Take it to a recycling center	8	11	4
Pour it down the drain	4	5	3
What Do With Old Paint? (Question #22)			
Store it/Use it later	44%	48%	41%
Put it in the trash	23	21	25
Take to a recycling center	8	13	4
Put it in the street	1	2	-

(continued)

Additional Analysis -- Respondents' Race
(continued)

		Race	
	Total	White	Black
	(250)	(128)	(115)
Clean Up After Pet? (Question #23)			
Yes, Clean up after pet	23%	31%	12%
Don't clean up after	14	13	14
Don't have a pet	54	42	70
No answer	9	14	4

Additional Analysis -- Respondents' Geographic Location

•The table on the next page notes survey questions on which responses differed based on whether a respondent lived in Midtown Memphis, Northeast Memphis, North Memphis, South Memphis, Southeast Memphis, or East Memphis. The zip codes comprising each geographic area can be found in the footnote that accompanies the table on the next page.

Major Issues (Question #2)

•Taking into account all four environment-related issues, North Memphis respondents were the most likely to consider the various issues a Major Concern, while East Memphis survey participants generally assigned a lower importance to the issues (in terms of Major Concern percentages).

Awareness Of Definitions (Questions #4 and #5)

•For both the definition of stormwater and the definition of stormwater pollution, East Memphis respondents were the most likely to be **Aware of the definitions**, while those surveyed in North Memphis and South Memphis were the least likely to say they were **Aware of the definitions**.

Interest In Learning More (Question #13)

•Nearly all South Memphis respondents, 97%, reported being **Very Interested or Somewhat Interested** in learning more about stormwater pollution. By contrast, the percentage of Southeast Memphis and East Memphis survey participants who said they are **Very/Somewhat Interested** in learning more about stormwater pollution was a bit lower than in other areas of the city (77% and 70%, respectively).

Use Of Fertilizers/Pesticides/Herbicides (Question #18)

•Southeast Memphis respondents were above average in saying **An outside service applies Fertilizers/Pesticides/Herbicides** on their yard or garden (44%). Those in South Memphis were by far the most likely to say **No one applies Fertilizers/Pesticides/Herbicides** on their yard or garden (58%).

(please see table on the next page)

Additional Analysis -- Respondents' Geographic Location (continued)

				Area Of Memphis*			
	Total (400)	Mid-town (52)	Mid-east (45)	North-North (44)	South (39)	South-east (35)	South-East (33)
Issues That Are A Major Concern (Question #2)							
Running out of space for disposing trash	76%	70%	68%	88%	82%	88%	59%
Not enough people recycling	53	55	50	57	48	53	48
Poor air quality	52	43	62	59	56	52	36
Stormwater pollution	45	42	41	56	61	40	32
Aware Of Definition Of Stormwater? (Question #4)							
Yes, Aware	66%	69%	67%	54%	59%	71%	82%
Not aware	34	31	33	46	41	29	18
Aware Of Definition Of Stormwater Pollution? (Question #5)							
Yes, Aware	57%	54%	53%	50%	46%	69%	79%
Not aware	43	46	47	50	54	31	21
Interest In Learning More About Stormwater Pollution (Question #13)							
Very Interested	26%	24%	28%	30%	21%	26%	27%
Somewhat Interested	57	61	54	54	76	51	43
Not Interested	17	15	18	16	3	23	30
Who Applies Fertilizers/ Pesticides/Herbicides On Yard/Garden? (Question #18)							
The Respondent	35%	39%	45%	40%	23%	20%	41%
An outside service	28	25	36	26	19	44	21
No one applies	37	36	19	34	58	36	38

*Zip codes: 38104/38111 (Midtown); 38133/38134/38135 (Northeast); 38105/38107/38108/38112/38127/38128 (North); 38106/38109/38114/38116 (South); 38115/38118/38125 (Southeast); 38117/38119/38120/38122 (East).

Appendix

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 1 of 5)

•Dirty water.
•Rain water.
•Rain water.
•Runoff passed into the drainage.
•Runoff.

•Drainage.
•Runoff from neighborhood underground.
•Runoff from rain.
•Runoff that goes into the drainage and carries everything with it.
•Cleaning of the water.

•Comes from rain.
•Water from the rain.
•The water that flows down the drain after it rains.
•Water from rain and overflow from river banks.
•Comes from rain and there is no drainage for it.

•The runoff of rain.
•Runoff of rain.
•Rain water.
•Runoff of rain.
•Sewage.

•Water that collects from rain.
•Water from a storm.
•Drainage of water.
•Water from a storm.
•Rain water.

•Sewer water runoff.
•Rain water. Polluted water.
•Rain water.
•Rain.
•Rain.

•Rain.
•Rain water.
•Water from a storm.
•The runoff after heavy rain.
•Washed away water from a storm.

•Runoff from rain.
•Washed off pesticides with rain.

•Rain water.
•Trash running after it rains.
•Water that happens through rain.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 2 of 5)

•Rain.
•Rain runoff.
•Water after storm.
•Runoff of rain.
•Rain water.

•Runoff of rain.
•Rain.
•Runoff water from rain.
•Water running down to drain.
•Water after precipitation.

•Polluted water.
•Purified water.
•Runoff of rain.
•Rain runoff into storm drain.
•Floods.

•Storm-polluted water.
•Water runoff.
•Water runs off in streets.
•Water does not runoff fast enough.
•Runoff.

•Surface runoff water.
•Water that runs off from rain.
•Backup from sewer system.
•Rain runoff.
•Water from storm.

•Water from rain and ground water.
•Water down the drain.
•Sewage system drainage runoff.
•Water from a storm.
•Runoff. Drain off.

•From the drain. Rain.
•Runoff.
•Water after rains.
•Rain water.
•Overflow in streets.

•Runoff after a storm.
•Rain.

•Drainage ditches.
•Rain water.
•Water after if storms. Polluted water.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 3 of 5)

•From rain or weather.
•Flood.
•Water left from storms.
•Drainage.
•Rain from storm.

•Cloudy (not clean) water.
•Rain water.
•Rain water.
•Water from rain.
•Water standing with trash in it.

•Water that comes from storm.
•Bad water.
•Water from hurricane.
•Water that comes from storm.
•Water after storm.

•Rain water.
•Water runoff from rain.
•Runoff of water into gutters.
•Any runoff of water after storm.
•Rain causing flooding.

•Rain gets backed up.
•Water after rain or storm.
•Water after storm.
•Rain water sitting.
•Water runoff into drain.

•Water that washes into drains.
•Water after storm.
•Rain water.
•Water backed up.
•Heavy rain that collects and maybe gets backed up.

•Water draining into gutters.
•Water after a storm.
•Water from rain.
•Water builds up after rain.
•Water from rain.

•Water going into gutters.
•Runoff of rain.

•Back up of water.
•Runoff of casual water from paved surfaces.
•Water after storm.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 4 of 5)

•Water built up in the ground.
•Flood water that backs up.
•Rain water.
•Pollution rain.
•Water that stands in puddles.

•Water remaining after rain.
•Water from storm.
•Water collected in ditches.
•Water that goes into drains.
•Runoff water from rain.

•Backed up water.
•Water that is stagnant.
•Water accumulated after storm.
•Polluted water.
•Water from storms that goes into sewer.

•Water left from rain.
•Water not purified.
•Runoff of water.
•Rain water that drains down storm drains.
•Water runoff from rain; collects in ditches.

•Water that is collected in drains after a storm.
•Rain that goes in the sewers.
•Surface water, drain water, or water coming off the streets.
•Rain water runoff.
•Water after the rain.

•Water runoff from rain.
•Drainage off the street.
•Associated with rain water.
•Anything coming from buildings, going into the sewer.
•Water running off the land.

•Rain water runoff.
•Water for storms comes up from the Mississippi.
•Flooding.
•Water runoff in sewer.
•Heavy rain runs off.

•Comes off the ground; surface runoff.
•Water gets into reservoir from rain.

•Extra runoff from the rain.
•Rain water.
•Water that runs into the sewer.

Question #3 -- Respondents' Definitions Of Stormwater
(List of All Responses -- Page 5 of 5)

•Water from rain that contributes to flooding.
•Water from storms that runs off into the drainage system.
•Water drains off roads into the gutter.
•Water collected in drains, from rain and people watering yards.
•Flash flood.

•Water that runs off and gets into the main drainage.
•Drainage overflow.
•Water that comes from rain.
•Water from storm.
•Water after storms with debris in it.

•Water from storm in drainage ditch.
•Use in case of emergency -- earthquake, tornado, etc.
•Water from rain.
•Water draining into sewer after it rains.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 1 of 6)

•Oil.
•Rain water.
•Air.
•Chemicals.
•Fertilizers. Heavy metals. Things in the soil.

•Garbage.
•Cutting grass. Cans. Bottles. Pesticides. Fertilizer.
•Chemicals. Oil from the street.
•Pesticide. Oil. Chemicals.
•Toxins. Air pollution.

•Waste.
•Trash.
•Human waste. Chemicals.
•Rain water and snow melted.
•Fertilizers. Agriculture. Chemicals.

•Oil. Hazardous items.
•Garbage. Ice. Germs.
•Toxins (cars and evaporation). Salt. Grain.
•Gas. Chemicals.
•Bad germs.

•Chemicals.
•Trash.
•Branches. Leaves.
•Chemicals.
•Fertilizers.

•Poor drainage.
•Waste.
•Chemicals. Trash.
•Waste from factories.
•Dead animals.

•Trash. Dirt.
•Chemicals. Waste. Trash.
•Car fumes. Factory chemicals.
•Trash.
•Chemicals from airplanes.

•Waste.
•Dirt.

•Trash. Cans. Paper.
•From factories.
•Trash. Branches. Leaves.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 2 of 6)

•Chemicals in the water.
•Chemicals.
•Engine oil.
•Chemical plants.
•Pesticides.

•Trash. Oil. Chemicals.
•Pesticides.
•Fertilizer. Pesticides. Chemicals.
•Trash. Oil. Gas.
•Minerals. Chemicals.

•Cans.
•Trash. Air pollution. Car pollution.
•Paint. Gas.
•Chemicals.
•Lead. Trash.

•Trash. Oil.
•Trash.
•Debris. Trash.
•Oil. Gas. Trash.
•Oil. Hazardous waste.

•Trash.
•Trash.
•Trash.
•River overflows.
•Mud.

•Trash.
•Beer bottles. Cans. Cigarettes.
•Dirt off the ground.
•Papers.
•Trash. Leaves.

•Rodents.
•Garbage. Petroleum. Chemicals.
•Trash. Oil. Cleaning solution.
•Waste.
•Pesticides. Waste. Oil. Gasoline.

•Pesticides. Herbicides.
•Business. Oil in drains. Chemicals. Agricultural areas.

•Tree branches. Trash.
•Old batteries. Tires. Whatever is in the street.
•Garbage. Sewer. Waste.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 3 of 6)

•Oil from cars. Sewer waste.
•Chemicals.
•Heavy trash. Dead animals.
•Urine. Fecal matter.
•Chemicals. Trash.

•Chemicals.
•Industrial chemicals.
•Trash. Anything in the street.
•Chemicals.
•Trash. Limbs.

•Industrial items. Household items. Getting rid of things improperly.
•Trash. Sticks. From the side curbs.
•Coke cans. Clothing. Lawn grass and weeds. Branches.
•Paper. Cans.
•Cigarette butts. Bottles. Cans. Needles from drug dealers.

•Debris. Tree limbs.
•Dead animals. Garbage thrown from car. Broken glass. Tree limbs.
•Chemicals from factories. Iron. Tin. Aluminum.
•Sticks. Bottles. Paper.
•Plastic. Paper.

•Socks. Cans. Bottles.
•Large pieces of trash. Clothing. Branches. Improperly disposed stuff like tires.
•Trash. Needles.
•Trash. Plastic bags.
•Trash thrown into gutter.

•Anti-freeze. Oil. Trash.
•Waste from factories. Waste on streets.
•Trash. Bacteria.
•Cigarette butts. Beer cans. Political signs.
•Oil. Anti-freeze. Fertilizer.

•Trash.
•Cans. Plastic containers. Grass.
•Waste. Garbage. Dead animals.
•Oil. Gas. Dirt.
•Oil. Waste.

•Trash. Dirt. Paper.
•Oil. Gas. Garbage.

•Trash.
•Garbage. Tires.
•Trash. Paper. Plastic products.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 4 of 6)

•Trash. Garbage. Drug paraphernalia.
•Oil.
•Trash. Raw sewage.
•Agricultural waste. Trash. Cans.
•Paper. Cans. Bottles.

•Bacteria. Animal excretion. Chemicals.
•Glass. Trash.
•Grass clippings. Bottles. Trash.
•Animal excretion. Drugs. Chemicals.
•Chemicals.

•Gas. Dirt.
•Dirt. Branches. Leaves. Bottles.
•Chemicals. Oil. Medical waste.
•Fertilizer. Pesticides. Oil.
•Paper. Cans.

•Needles. Cans. Debris.
•Trash. Rock. Vandalism.
•Dead animals. Food. Garbage.
•Chemicals.
•Chemicals. Garbage.

•Trash. Paper. Glass.
•Oil.
•Oil. Chemicals.
•Sticks. Trash.
•Gas. Oil. Pesticides. Chemicals.

•Gas. Oil.
•Fuel residues. Chemicals. Leaves. Grass. Vegetation. Acid rain.
•Waste. Dirt.
•Industrial waste. Dead animals. Radio-active products in the air.
•Trash. Dead animals.

•Pouring oil, anti-freeze into drain.
•Sticks. Paper. Trash.
•Oil. Trash.
•Paper.
•Waste. Garbage.

•Dirty diapers.
•Oil. Toxic products.

•Chemicals.
•Garbage. Plastic bags. Oil.
•Limbs. Trees. Trash.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 5 of 6)

•Oil from the street. Pesticides.
•Acid rain.
•Trash.
•Pesticides.
•Bottles. Cans. Paper.

•Trash.
•Trash.
•Dirt.
•Food in sacks. Cans.
•Oil. Fertilizer.

•Debris from the street. Leaves. Trash.
•Bacteria from animals. Things in the air.
•Fertilizer. Pesticides. Grass clippings. Leaves.
•Trash thrown in the street that washes into the gutter. Pouring oil into the gutter.
•Trash. Cans.

•Fertilizer. Insect spray. Herbicide.
•Trash.
•Trash.
•Trash. Factory runoff. Dumping of chemicals.
•Bacteria. Insects. Trash.

•Lawn chemicals. Pesticides.
•Leaves. Garbage.
•Metal. Chemicals. Bacteria.
•Gasoline. Pesticide. Herbicides.
•Chemicals. Trash.

•Human waste. Trash.
•Waste.
•Pesticides. Herbicides.
•Debris thrown from car. Cigarettes. Disposal of waste in drainage.
•When embalming people it goes into the drain.

•Gasoline. Oil. Food products. Anything people dump into the drains. Overflow from parks and lagoons. Chemical plants.
•Road pollution. Oil.
•Oil.
•Oil. Anti-freeze. Debris.
•Garbage. Trash. Toxins.

•Oil. Pesticides.

•Chemicals.
•Sewer runs over. Chemical company dumps stuff.
•Leaves. Trash.

Question #6 -- Respondents' Definitions Of Stormwater Pollution
(List of All Responses -- Page 6 of 6)

•Oil changes. Anti-freeze. Pesticides.
•Sewage. Gasoline. Oil. Plants dumping. Acid rain.
•Debris.
•Chemicals.
•Pesticides. Herbicides. Garbage.

•Paper. Trash. Metal. Things people throw out in the street.
•Trash. Fertilizer.
•Oil. People dumping things into the drainage system.
•Lawns treated with chemicals. Oil spills on the road.
•Pesticides. Oil not being properly disposed.

•Debris. Paper. Leaves.
•Dirt. Debris. Leaves. Dead animals.
•Oil. Anti-freeze. Chemicals.
•Dead animals. Oil.
•Dirt. Garbage. Trash.

•Oil. Leaves.
•Oil. Trash. Bottles. Paper.
•Trash. Paper.
•Trash. Rags.
•Waste from by-products from oil and gas. Dirty air. Chemicals in the air.

•Anti-freeze or oil poured down the drain.
•Trash. Chemicals. Rubbish.

Questions #15a., #19a., #21, #22 -- Other Ways In Which Items Are Disposed
(Each Item Mentioned By One Respondent -- Page 1 of 1)

Question #15a. -- Disposal Of Used Oil

•Pour in the yard.
•Give it away.
•Pour it next to a building to stop termites.

Question #19a. -- What Do With Leftover Fertilizers/Pesticides/Herbicides

•Give to someone else.

Question #21 -- What Do With Leftover Household Cleaning Products

•Give it away.

Question #22 -- What Do With Leftover Old Paint

•Give it away.

Respondent Telephone #

Interviewer_____ Date

Good evening, I'm ____ with Research Dynamics marketing research. We are conducting a brief public opinion survey. We are not selling anything.

1.Are you at least 18 years old?

Yes__1 ->CONTINUE

No__2 ->ASK TO SPEAK TO ANY OTHER HOUSEHOLD MEMBER WHO IS AT LEAST 18 YEARS OLD AND REPEAT INTRODUCTION ABOVE. IF UNAVAILABLE, EITHER MAKE NOTE TO CALL BACK OR TERMINATE.

In this survey, we would like to ask your opinion about various issues facing the city of Memphis.

2.First, I am going to read a list of a few issues facing the city of Memphis. Please tell me if you consider each issue to be a Major concern, Minor concern, or Not a concern. (READ LIST OF CONCERNS. CIRCLE ONE RESPONSE FOR EACH CONCERN.)

	Major Concern	Minor Concern	Not A Concern
Poor air quality	1	2	3
Stormwater pollution	1	2	3
Not enough people recycling	1	2	3
Running out of space for disposing trash	1	2	3

3.As far as you know, what is Stormwater? (WRITE RESPONSE IN BLANK.)

4.Stormwater is the runoff from rain and melted snow that flows into the city's storm drain system. Were you aware of this? (CIRCLE ONE ONLY.)

Yes_____1

No_____2

Don't know (DON'T READ)_____3

5.Stormwater pollution occurs when items get into the stormwater, whether accidentally or on purpose. Were you aware of this? (CIRCLE ONE ONLY.)

Yes_____1

No_____2

Don't know (DON'T READ)_____3

6.As far as you know, what items get into Stormwater that cause Stormwater pollution? (WRITE RESPONSE IN BLANK.)

7.Are you aware of there being a problem with Stormwater pollution in Memphis?
(CIRCLE ONE ONLY.)

Yes.....1
No.....2

Don't know (DON'T READ).....3

8.Based on the definition of Stormwater pollution I read earlier, who do you feel is responsible for causing Stormwater pollution? Would it be...(READ LIST. CIRCLE ONE ONLY.)

Businesses.....1
Individuals.....2
Both equally.....3

Don't know (DON'T READ).....4

9.And whose responsibility do you feel it is to prevent Stormwater pollution? Would it be...(READ LIST. CIRCLE ONE ONLY.)

You yourself.....1
Other people.....2
Businesses.....3
All of these equally.....4

Don't know (DON'T READ).....5

10.Which of the following terms do you feel best describes the opening where stormwater flows? (READ LIST. CIRCLE ONE ONLY.)

Gutter.....1
Storm drain.....2
Sewer.....3
Don't know.....4

11.As far as you know, does stormwater go through a cleaning process before it reaches the Mississippi River, or does it not go through a cleaning process? (CIRCLE ONE ONLY.)

Cleaned.....1
Not cleaned.....2

Don't know (DON'T READ).....3

12.If you learned that something you were doing could cause pollution of the river, would you stop doing it? (CIRCLE ONE ONLY.)

Yes.....1
No.....2

Don't know (DON'T READ).....3

13.How interested are you in learning more about the issue of Stormwater pollution? Would you say...(READ LIST. CIRCLE ONE ONLY.)

Very interested.....1
Somewhat interested.....2
Not interested.....3

Don't know (DON'T READ).....4

14.Do you usually change the oil in your automobile yourself? (CIRCLE ONE ONLY.)

Yes.....1 -> CONTINUE
No.....2 -> GO TO QUESTION #17
Don't know (DON'T READ).....3 -> GO TO QUESTION #17

15a.ONLY ASK IF "YES" CIRCLED IN QUESTION #14: How do you usually dispose of your used oil? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Store it.....2
Take it to a recycling center.....3
Put it in the trash.....4
Pour it down the drain.....5

Other

15b.ONLY ASK IF "STORE IT" CIRCLED IN QUESTION #15a.: And after you store your used oil, how do you usually dispose of it? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Take it to a recycling center.....2
Put it in the trash.....3
Pour it down the drain.....4

Other

16.ONLY ASK IF "YES" CIRCLED IN QUESTION #14: Approximately how many times per year do you buy oil or other automotive fluids at a store like AutoZone or Wal-Mart? (WRITE NUMBER IN BLANK.)

17.Do you have either a yard or garden? (CIRCLE ONE ONLY.)

Yes.....1 -> CONTINUE
No.....2 -> GO TO QUESTION #21
Don't know (DON'T READ).....3 -> GO TO QUESTION #21

18.ONLY ASK IF "YES" CIRCLED IN QUESTION #17: Which of the following best describes the use of fertilizers, pesticides, or herbicides on your yard or garden? (CIRCLE ONE ONLY.)

You yourself apply these.....1 -> GO TO QUESTION #19a.
An outside service applies these.....2 -> GO TO QUESTION #19b.
No one applies these.....3 -> GO TO QUESTION #20

19a.ONLY ASK IF "YOU YOURSELF" CIRCLED IN QUESTION #18: How do you usually dispose of fertilizers, pesticides, or herbicides when you have some leftover? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Store it and use it later.....2
Take it to a recycling center.....3
Put it in the trash.....4
Pour it down the drain.....5

Other

19b.ONLY ASK IF "AN OUTSIDE SERVICE" CIRCLED IN QUESTION #18: Which of the following do you believe your service does with fertilizers, pesticides, or herbicides when it has some leftover? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street_____1
Store it and use it later_____2
Take it to a recycling center_____3
Put it in the trash_____4
Pour it down the drain_____5

Other

20.ONLY ASK IF "YES" CIRCLED IN QUESTION #17: What do you usually do with your leaves and grass clippings? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Bag it for the city to pick up.....2
Compost it yourself at your home.....3
Just leave it in your yard.....4

Don't have any leaves/
grass clippings (DON'T READ).....5

Other

21.RESUME ASKING ALL RESPONDENTS: What do you usually do with household cleaning products when you have some leftover? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Store it and use it later.....2
Take it to a recycling center.....3
Put it in the trash.....4
Pour it down the drain.....5

Don't have any household
cleaning products (DON'T READ).....6

Other

22.What do you usually do with your old paint when you have some leftover? (READ LIST. CIRCLE ONE ONLY.)

Put it in the street.....1
Store it and use it later.....2
Take it to a recycling center.....3
Put it in the trash.....4

Don't have any paint (DON'T READ).....5

Other

23.If you have a pet, do you usually clean up after your pet when you are walking your pet? (CIRCLE ONE ONLY.)

Yes.....1
No.....2

Don't have a pet (DON'T READ)....3

24.One final question: May I ask your age, please? (WRITE AGE IN BLANK.)

25.INTERVIEWER NOTE RACE IF OBVIOUS. IF RACE IS NOT OBVIOUS: Please stop me when I read your correct ethnic background:

White.....1
Black.....2
Hispanic.....3
Asian.....4
Other.....5

This completes our interview. Thank you for your cooperation.

28.INTERVIEWER DO NOT ASK. PLEASE WRITE IN ZIP CODE FROM DATABASE OF PHONE NUMBERS:

27.INTERVIEWER DO NOT ASK. PLEASE CIRCLE:

Male.....1
Female.....2