



**Client: Essex and Suffolk Water**  
**Research – Showers Types Use and Habits**  
**Final Report**

**June 2006**

# TABLE OF CONTENTS

<b>1. INTRODUCTION .....</b>	<b>1</b>
<b>2. PCS APPROACH AND METHODS.....</b>	<b>2</b>
<b>3. ANALYSIS.....</b>	<b>3</b>
3.1 General Information .....	3
3.2 Comparison of Property Types with Property Ages .....	4
3.3 Specific Questions .....	4
<b>4. CONCLUSIONS .....</b>	<b>29</b>
4.1 General Conclusions .....	29
4.2 Property Ages and Types .....	29
4.3 Charge Types .....	29
4.4 Number of Showers .....	29
4.5 Number of Baths .....	30
4.6 Shower Type.....	30
4.7 Performance .....	30
4.8 Demographics.....	30
4.9 Shower Usage .....	31
4.10 Plumbing Types .....	31

## TABLES

Table 1: Property Age .....	3
Table 2: Property Type.....	3
Table 3: Age and Property Type .....	4
Table 4: Proportion of Properties Metered.....	4
Table 5: Comparison of Property Ages with Metering Status .....	5
Table 6: Comparison of Property Types with Metering Status .....	5
Table 7: Number of Showers per home .....	6
Table 8: Comparison of Property Age with Number of Showers .....	6
Table 9: Comparison of Property Types with Number of Showers.....	6
Table 10: Number of Baths per home .....	7
Table 11: Comparison of Property Age with Number of Bathrooms.....	7
Table 12: Comparison of Property Type with Number of Baths .....	8
Table 13: Type of Shower Installed.....	8
Table 14: Comparison of property ages with shower types in main and en-suite 1 bathrooms .....	9
Table 15: Comparison of Property Types vs. Shower Types in Main Bathroom and En-suite.....	10
Table 16: Proportion of Showers that are used .....	11
Table 17: Proportion of Showers that are used by Property Type.....	11
Table 18: Did you install the Shower(s)? .....	11
Table 19: Property type vs. proportion of showers installed by current occupants .....	12
Table 20: Most often used showers .....	12
Table 21: Choice of Shower .....	13
Table 22: Selection of Showers - Summary.....	13
Table 23: Shower Choice Criteria .....	14

## TABLES (CONTINUED)

Table 24: Main Criteria for Selecting Shower .....	14
Table 25: Reason for Shower Selection: difference between Measured and Unmeasured.....	14
Table 26: Main Factor vs. Shower Choice (for main bathroom) .....	15
Table 27: Number of adults in the house .....	16
Table 28: Comparison of number of Adults with Property Types .....	16
Table 29: Number of Children in the House.....	17
Table 30: Number of Children and Property Type .....	17
Table 31: Do Respondents have more Baths in Winter and Showers in Summer? .....	18
Table 32: Average number of baths and showers per week .....	18
Table 33: Preference between shower/bath for measured/unmeasured.....	19
Table 34: Why respondents take showers rather than baths .....	19
Table 35: Do you run the shower for more than one minute before entry? .....	20
Table 36: Does your shower have a water efficiency setting?.....	20
Table 37: Comparison of Showers with Water Efficiency Device with Metering Status .....	20
Table 38: Number of Properties with Aerated Shower Heads .....	21
Table 39: Respondents happy with Shower Performance.....	21
Table 40: Customer Satisfaction and Shower Type.....	21
Table 41: Types of Hot Water Systems .....	22
Table 42: Types of Boiler Installed.....	22
Table 43: Comparison of Property Age with Heating System.....	23
Table 44: Comparison of Property Type with Heating System .....	23
Table 45: Approximate Age of Boiler .....	24
Table 46: Comparison of Boiler Age with Boiler Type .....	24
Table 47: Comparison of Property Age with Boiler Age.....	25
Table 48: Comparison of Boiler Type with Shower Type (main bathroom) .....	25
Table 49: Comparison of Boiler Age with Shower Type (main bathroom).....	26
Table 50: Plumbing System Types .....	26
Table 51: Comparison of Plumbing System with Shower Types .....	26
Table 52: Comparison of Property Age with Plumbing System.....	27
Table 53: Would Respondents Consider a High Performance Water Efficient Shower .....	27
Table 54: Summary of Additional Comments .....	27
Table 55: Respondents Allowing Flow-Rate Checks .....	28
Table 56: Is the average flow rate 10 litres or less? .....	28

## APPENDICES

Appendix A	Map of the area
Appendix B	Cold Calling Script
Appendix C	Telephone script
Appendix D	Questionnaire
Appendix E	Additional Customer Comments
Appendix F	Comments Requiring a Response

# 1. INTRODUCTION

---

Per Capita Solutions was invited by Essex & Suffolk Water (ESW) to undertake a research study into shower types, use and habits. The main objective of the study is to identify shower use patterns, the factors influencing shower use and choice and their interrelationships.

Survey questionnaires were completed across a wide cross-section of the ESW customer base in Essex, taking account of social demographics, property types and property age bands. Appendix A shows the area in which the survey was conducted along with the number of surveys carried out in each postcode.

The research was completed on both metered & un-metered properties where a shower was installed. Properties where no shower was installed, or used, were excluded from the survey.

Surveys were carried out face-to-face with visual prompts and completed using a mixture of appointments and cold calls.

This report details the method used, the statistical data obtained, observations drawn from the results and recommendations and conclusions made.

## 2. PCS APPROACH AND METHODS

---

PCS drafted a research questionnaire for ESW approval, along with a telephone script for making appointments. The questionnaire included specific questions previously detailed by ESW. Copies of the Questionnaire and Scripts are given in Appendices B to D.

ESW provided 10,929 addresses for the purpose of this study. To ensure good customer relations on behalf of ESW, and to screen out customers who did not have showers installed/use showers, PCS made survey appointments where possible a few days in advance. Cold calls were also carried out on customers' doorsteps.

1140 calls were attempted in total and 425 contacts were made. Of these, 238 declined to take part in the survey and 79 had no showers. 108 appointments were made of which 9 were either cancelled or missed.

PCS made appointments from 9.30am into the early evening Monday-Friday. Under Health & Safety regulations lone researchers did not work alone in the hours of darkness and in accordance with Market Research Society guidelines all researchers carried ID at all times. In addition, researchers carried a mobile telephone and female researchers were provided with personal alarms.

All researchers were briefed on the appropriate behaviour to be adopted when entering a customer's property, including staying in the same location as the principal householder who is being interviewed, at all times.

PCS undertook cold-calls where there were gaps in the appointment programme to maximize cost benefits. The researchers had a pre-agreed script to ensure that this activity was undertaken sensitively and professionally. A total of 229 surveys were completed in this manner.

After the main body of the survey, PCS obtained consent from as many customers as possible to undertake a shower flow rate test. Customers were asked to run the shower themselves while researchers monitored and recorded the flow.

On average, a survey took about 25 minutes.

On completion of 328 surveys, PCS processed all responses into a MS Access database, the data summary, analysis and commentary is provided in Section 3 of this report.

A copy of the final database containing all customer responses is included with this report on CD as an Access 97 database.

### 3. ANALYSIS

---

There were 136 appointments made and 200 cold calls. Of the total sample, 328 respondents said they owned at least one shower, whilst 136 said they did not own a shower (29%).

The following section summarises the results. It should be noted that in some cases the sample size is small, and detailed statistical analysis has not been performed. Nevertheless, the results provide some interesting observations.

#### 3.1 General Information

Prior to completion of the questionnaire, the sample was asked a series of general questions. The results are presented below.

**Table 1: Property Age**

	Customers	%
Pre-1945	29	9
1945 – 1960	127	39
1961 – 1990	109	33
1990 – 2001	9	3
2001 – 2006	1	0
Don't know	53	16
<b>Total</b>	<b>328</b>	<b>100</b>

A breakdown of the age of properties surveyed shows that 81% of the properties are more than 15 years old. Nearly half (48%) are over 45 years old and 9% are over 70 years old. There were few 'modern' homes in the sample, however ESW did not provide data to allow us to compare the sample profile with the population in the Company's Essex supply area.

**Table 2: Property Type**

	Sample	%	Population
Detached	64	20	18.6
Semi-detached	103	31	32.1
Flat	12	4	19.7
Bungalow	80	24	N/A
End-terraced	21	6	29.2
Mid-terraced	44	13	
Other	4	1	0.4
<b>Total</b>	<b>328</b>	<b>100</b>	<b>100</b>

From this data we are able to see that there was a good cross-section of property types in the sample, with all main types of properties covered to varying extent. Semi-detached houses (31%), bungalows (24%) and detached houses (20%) account for over 70% of the dataset with terraced properties and flats represented to a lesser extent.

It is not possible to make detailed comparisons between sample and population (provided by the client and sourced from the census 2001) as the categories definitions are not the same.

### 3.2 Comparison of Property Types with Property Ages

A comparison of property types with property ages in the dataset shows that detached houses represent the only category with any notable number (10%) of post-1990 units. The majority of terraced houses and bungalows were constructed prior to 1960. This comparison however must be treated with caution since the age of a significant number of bungalows (28%), flats (25%) and end-terraced houses is not known.

**Table 3: Age and Property Type**

Property Type	No.	pre 1945		1945-1960		1961-1990		1990-2001		2001-2006		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Detached	64	9	14	12	19	28	44	6	9	1	2	8	12
Semi Detached	103	10	10	38	37	43	42	1	1			11	10
Flat	12			1	8	7	58	1	8			3	25
Bungalow	80	9	11	35	44	13	16	1	1			22	28
Mid-terraced	44			29	66	10	23					5	11
End terraced	21	1	5	10	48	6	28					4	19
Other	4			2	50	2	50						

### 3.3 Specific Questions

#### Q1. Do you have a water meter?

**Table 4: Proportion of Properties Metered**

	Customers	%	ESW Meter Penetration % (2006)
Yes	158	48	34
No	160	49	66
Don't know	10	3	0
<b>Total</b>	<b>328</b>	<b>100</b>	<b>100</b>

Almost exactly half of those customers surveyed had a meter with the other half having no meter. Surprisingly, 10 customers (3% of those surveyed) did not know if they had a meter or not. The results suggest that the proportion of metered properties in the sample (48%) is greater than the population as whole (34%).

**Table 5: Comparison of Property Ages with Metering Status**

Property Age	Total	Water Meter					
		Yes	%	No	%	Don't know	%
Pre-1945	29	14	48	13	45	2	7
1945-1960	127	55	43	71	56	1	1
1961-1990	109	59	54	46	42	4	4
1991-2001	9	9	100				
2001-2006	1	0	0	1	100	0	0
Don't know	53	21	40	29	55	3	5

No clear-cut pattern is seen in the comparison of property ages with their metering status. Slightly higher percentage (48%) of pre-1945 properties have water meters compared to those which do not (45%). A majority (56%) of properties constructed in the 1945-1960 period do not have meters whereas the opposite is true for properties in the 1961-1990 band with 54% having water meters. All of the surveyed properties constructed in the period between 1991 and 2000 have water meters. The only surveyed property constructed after 2000 is (reportedly) not metered.

**Table 6: Comparison of Property Types with Metering Status**

Property Type	Total	Water Meter					
		Yes	%	No	%	Don't know	%
Detached	64	38	59	23	36	3	5
Semi detached	103	52	50	47	46	4	4
Bungalow	80	38	47	39	49	3	4
Flat	12	6	50	6	50		
Mid-terraced	44	16	36	28	64		
End terraced	21	8	38	13	62		
Other	4			4	100		

The majority of detached houses (59%) have meters whereas majority of mid-terraced (64%) and end-terraced (62%) houses are without meters. The proportion of semi-detached houses with meters (50%) is slightly higher than non-metered (46%) houses. The opposite is true for bungalows where the proportion of unmetered properties (49%) is slightly higher than metered properties (47%). Flats are equally split between metered and unmetered units.

**Q2. How many showers do you have in your home?**

**Table 7: Number of Showers per home**

No. Showers	No of Properties	%	Total showers
1	270	82	270
2	53	16	106
3	4	1	12
4	1	0	4
5	0	0	0
more than 5	0	0	0
<b>Total</b>	<b>328</b>	<b>100</b>	<b>392</b>

82% properties have only one shower and 16% have two showers. The number of properties with more than two showers is less than 1%.

**Table 8: Comparison of Property Age with Number of Showers**

Property Age	No. of Showers				Percentage			
	1	2	3	4	1	2	3	4
pre 1945	23	5	1		79%	17%	3%	
1945-1960	114	12	1		90%	9%	1%	
1961-1990	83	24	2		76%	22%	2%	
1991-2000	2	7			22%	78%		
2001-2006		1				100%		
don't know	48	4		1	91%	7%		2%

An overwhelming proportion of properties constructed before 1990 contain only one shower. The proportion of properties with more than one shower appears to have increased steadily since the 1960s with two-shower properties constituting 22%, 78% and 100% of properties constructed during 1961-1990, 1991-2000 and 2001-2006 respectively. However the number of surveyed properties constructed during the 1991-2000 and 2001-2006 bands is rather low for these proportions to be considered truly representative.

**Table 9: Comparison of Property Types with Number of Showers**

Property Type	No. of showers				Percentage			
	1	2	3	4	1	2	3	4
Detached	32	28	3	1	50%	44%	5%	1%
Semi-detached	87	16	0	0	84%	16%		
Flat	12	0	0	0	100%			
Bungalow	75	4	1	0	94%	5%	1%	
End-terraced	19	2	0	0	90%	10%		
Mid-terraced	42	2	0	0	95%	5%		
Other	3	1	0	0	75%	25%		

Detached properties are equally split between single-shower and multiple-shower units with 44% having two showers, 5% having three and 1% having four showers. Over half of all properties (55%) containing more than one shower are detached houses. Bungalows are the only other category containing a unit with more than two showers. Semi-detached and terraced properties have two showers at the most. None of the flats contain more than one shower.

**Q3. How many baths do you have in your home?**

**Table 10: Number of Baths per home**

	Bathrooms	%	Total Bathrooms
0	49	15	0
1	272	83	272
2	7	2	14
3	0	0	0
4	0	0	0
5	0	0	0
more than 5	0	0	0
<b>Total</b>	<b>328</b>	<b>100</b>	<b>286</b>

15% of properties have no baths. 83% of the properties have one bath and only 2% of the properties have two baths. None of the properties have more than two baths.

**Table 11: Comparison of Property Age with Number of Bathrooms**

Property Age	Total	No. of bathrooms			Percentage		
		0	1	2	0	1	2
Pre 1945	29	3	25	1	10%	86%	4%
1945-1960	127	25	100	2	20%	79%	2%
1961-1990	109	11	96	2	10%	88%	2%
1990-2001	9		7	2	0%	78%	22%
2001-2006	1		1			100%	
Don't know	53	10	43		19%	81%	

The overwhelming majority of all property types have at least one bathroom but none have more than two. Properties constructed during 1991-2000 have the highest percentage (22%) of two-bath houses. Interestingly when these figures are compared to number of showers, 78% of properties in this time period have one bath and two showers and 22% have two baths and one shower.

**Table 12: Comparison of Property Type with Number of Baths**

Property Type	Total No.	No. of bathrooms			Percentage		
		0	1	2	0	1	2
Detached	64	6	54	4	9%	84%	6%
Semi-detached	103	14	87	2	14%	84%	2%
Flat	12	2	100	0	2%	98%	
Bungalow	80	21	58	1	26%	73%	1%
End-terraced	21	2	19	0	10%	90%	
Mid-terraced	44	4	40	0	10%	90%	
Other	4		4	0	0%	100%	

Over 84% of all property types have at least one bath. A significant proportion of bungalows (26%) have no bath. A small proportion of detached (6%), semi-detached (2%) and bungalows (1%) have two bathrooms.

When looking at the comparisons between property types/ages and number of showers/baths, it should be borne in mind that the data represent current configuration of the surveyed properties which may be different from the original configuration of these properties. This may especially be true in the case of older properties which may have been modified to keep up with changing trends.

**Q4. This question is about the showers you have in your home.**

**a) What type of showers are they?**

**Table 13: Type of Shower Installed**

	Power	Electric	Mixer storage/tank	Mixer Combi boiler	Hand held	Don't know	Total
Main bath	67	114	46	23	70	2	322
En-suite 1	17	8	11	5	3	1	45
En-suite 2	1	1	2	0	0	0	4
2 <sup>nd</sup> bath	3	1	3	1	0	0	8
Other	2	2	3	1	5	0	13
<b>Total</b>	<b>90</b>	<b>126</b>	<b>65</b>	<b>30</b>	<b>78</b>	<b>3</b>	<b>392</b>

82% of showers are fitted in the main bathroom, 11% in en-suite, 2% in second bathroom and 1% in en-suite 2 with another 3% in the 'other' category. Electric showers appear to be more popular overall with 32% representation in the dataset but other types, with the possible exception of mixer combi boiler (CB mixer) (8%), are also common with power, mixer storage/tank (ST mixer) and handheld showers accounting for 23%, 17% and 20% of the dataset respectively. 90% of electric showers are fitted in the main bath. Overall 35% of main baths have electric showers, 22% have handheld showers, 21% have power showers, 14% have mixer storage/tank and 7% have mixer combi boiler

showers. 38% of en-suite bathrooms have power showers followed by mixer storage/tank (24%), electric (18%), mixer combi boiler (11%) and handheld (7%) showers.

**Table 14: Comparison of property ages with shower types in main and en-suite 1 bathrooms**

Property Type	Total	Main Bathroom													
		No shower		Power		Electric		ST Mixer		CB Mixer		Hand held		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Pre-1945	29	2	7	5	17	11	38	6	21	1	3	4	14		
1945-1960	127			25	20	47	37	15	12	8	6	31	24	1	1
1961-1990	109	3		24	22	33	30	20	18	9	8	20	18		
1991-2000	9	1	11	1	11			2	22	2	22	3	33		
2001-2006	1											1	100		
Don't know	53			12	23	23	43	3	6	3	6	11	21	1	2
		En-Suite 1													
Pre-1945	29	28	97	1	3										
1945-1960	127	118	93	2	2	3	2	2	2	1	1	1	1		
1961-1990	109	86	79%	10	9	4	4	7	6	1	1			1	1
1991-2000	9	2	22	2	22					3	33	2	22		
2001-2006	1					1	100								
Don't know	53	49	92	2	4			2	4						

In pre-1945 properties, electric showers are followed by ST mixer (21%), power shower (17%), handheld (14%) shower and CB mixer (3%). In properties in the 1945-1960 age band the ranking is as follows: electric 37%, handheld 24%, power 20%, ST mixer 12% and CB mixer 6%. In the 1961-1990 age group, electric showers (30%) continue to be most common but less so when compared to pre-1960 properties. These are followed by power (22%), handheld (18%), ST mixer (18%) and CB mixer (8%). With the exception of 1991-2000 properties, CB mixer showers are the least common. In 1991-2000 age band they join ST mixer in second place with 22% share after handhelds (33%).

Comparison of property ages with the types of shower in the main bath shows a very interesting trend. None of the properties built after 1990 have electric showers in the main bath whereas these are the most common types of showers in all older properties. Here again one has to take into consideration the relatively small number of post-1990 properties in the dataset. Furthermore, 38% of main baths in pre-1945 properties have electric shower but it is unlikely that there would have been electric showers available 60 years ago. As shall be seen later, a large number of showers were installed after the houses were built. The relatively large proportion of electric showers in pre-1945 and even pre-1960 houses may be related to the type of plumbing. This is investigated later in the report.

Only properties constructed between 1961 and 1990 have any notable number of showers in en-suite 1. Of the 9% properties with en-suite showers in the 1961-1990 band, 6% have ST mixer,

4% have power shower and 1 percent have handhelds. 77% properties in the 1991-2000 group have en-suite showers. 33% of these are CB mixers followed by handhelds and power showers at 22% each.

**Table 15: Comparison of Property Types vs. Shower Types in Main Bathroom and En-suite**

Property Type	Total	Main Bath													
		No shower		Power		Electric		ST Mixer		CB Mixer		Hand held		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Detached	64	3	5	13	20	15	23	18	28	4	6	11	17		
Semi Detached	103	1	1	19	18	33	32	15	15	8	8	25	24	2	2
Flat	12					5	42	1	8	1	8	5	42		
Bungalow	80	2	3	18	23	36	45	4	5	8	10	12	15		
Mid-terraced	44			10	23	14	32	5	11	2	5	13	30		
End terraced	21			6	29	9	43	2	10			4	20		
Other	4			1	25	2	50	1	25						
		En-Suite 1													
Detached	64	36	56	11	17	4	6	8	13	3	5	1	2	1	2
Semi Detached	103	92	89	4	4	4	4	1	1	1	1	1	1		
Flat	12	12	100												
Bungalow	80	76	95	1	1			1	1	1	1	1	1		
Mid-terraced	44	43	98	1	2										
End terraced	21	20	95					1	5						
Other	4	4	100												

With the exception of detached houses, electric showers are the most popular choice for the main bathroom accounting for 32% to 50% of shower types. CB mixers are the least common except in bungalows. ST mixer are the most common (28%) in detached properties followed by electric (23%), power (20%), handheld (17%) and CB mixer (6%). In the case of semi-detached properties the percentages are: electric (32%), handheld (24%), power (18%), ST mixer (15%) and CB mixer (6%). Electric and handheld are the main shower types in flats accounting for 42% of flats each. ST mixer and CB mixer are the other types, each found in 8% of flats. Power showers (23%) follow electric showers (45%) in bungalows. Handhelds, CB mixer and ST mixer are found in 15%, 10% and 5% flats respectively. Mid-terraced and end-terraced distributions are similar to semi-detached and bungalows respectively in terms of ranking but with different absolute percentage values.

Detached properties are the only type of properties that have a significant number (44%) of en-suite bathrooms. Power showers are the most common, found in 17% of properties (39% of all en-suite showers), followed by ST mixer that are found in 13% (22% of all en-suite showers). Electric, CB mixer and handheld showers are found in 6%, 5% and 2% of properties respectively (14%, 11% and

4% respectively of all en-suite showers). The remaining property types have statistically insignificant number of en-suite showers.

**b) Are they used or not used?**

**Table 16: Proportion of Showers that are used**

	Used		Not used	
	Count	Percentage	Count	Percentage
Main bathroom	303	94%	19	6%
En-suite 1	44	98%	1	2%
En-suite 2	4	100%	0	
2 <sup>nd</sup> bathroom	6	75%	2	25%
Other	11	85%	2	15%
<b>Total</b>	<b>368</b>	<b>94%</b>	<b>24</b>	<b>6%</b>

94% of all installed showers are used and their use does not appear to be influenced by location.

**Table 17: Proportion of Showers that are used by Property Type**

	Detached	Semi Detached	Flat	Bungalow	Mid-Terraced	End-Terraced	Other	Total
Main Bath	58	97	12	72	42	20	2	303
En-suite 1	28	10		4	1	1		44
En-suite 2	2			2				4
2 <sup>nd</sup> Bathroom	4	2						6
Other	4	4		1	1		1	11
<b>Total</b>	<b>96</b>	<b>113</b>	<b>12</b>	<b>79</b>	<b>44</b>	<b>21</b>	<b>3</b>	<b>368</b>

**c) Did you fit them yourself or were they already at the property when you moved in?**

**Table 18: Did you install the Shower(s)?**

	Put in yourself		Already at property	
	Count	Percentage	Count	Percentage
Main bathroom	216	67%	106	33%
En-suite 1	25	56%	20	44%
En-suite 2	3	75%	1	25%
2 <sup>nd</sup> bathroom	6	75%	2	25%
Other	3	23%	10	77%
<b>Total</b>	<b>253</b>	<b>65%</b>	<b>139</b>	<b>35%</b>

The data shows a very interesting trend. Only 35% of the surveyed properties had pre-installed showers i.e., had showers in them before the current occupants moved in. Of the 82% properties that have a shower in the main bathroom only 33% had a shower installed before the current occupants

moved in. A similar trend is seen for all other types of bathrooms (En-suite 1 - 44% pre-installed showers; En-suite 2 – 25% pre-installed showers; 2<sup>nd</sup> bathroom – 25% pre-installed) with the exception of the ‘Other’ category where 77% of the showers were already installed.

**Table 19: Property type vs. proportion of showers installed by current occupants**

	Detached		Semi Detached		Flat		Bungalow		Mid-Terraced		End-Terraced		Other	
		%		%		%		%		%		%		%
Main Bath	37	17	68	31	6	3	53	25	35	16	15	7	2	1
En-suite 1	12	48	8	32			3	12	1	8	1	8		
En-suite 2	1	33					2	67						
2 <sup>nd</sup> Bathroom	4	67	2	33										
Other	1	33	1	33					1	33				
<b>Total</b>														

31% of all showers installed by the occupants in main bathroom were installed in semi-detached properties followed by bungalows (25%), detached houses (17%), mid-terraced properties (16%) and end-terraced properties (7%). In case of en-suite 1, 48% of showers were installed in detached properties, 32% in semi-detached properties, 12% in bungalows and 8% each in mid- and end-terraced properties. For en-suite 2, 67% of showers were put in bungalows and 33% in detached houses. 67% of showers in second bathroom were put in detached properties and 33% in semi-detached properties. In the ‘other’ category detached, semi-detached and mid-terraced properties each had one shower (33%) installed.

**Q5. Which shower in your property is used the most often?**

**Table 20: Most often used showers**

	Most often	%
Main bathroom	292	89
En-suite 1	26	8
En-suite 2	1	0.5
2 <sup>nd</sup> bathroom	2	0.5
Other	4	1
Used same amount	3	1
<b>Total</b>	<b>328</b>	<b>100</b>

89% of showers in the main bathroom are the ones used most often. Showers in rooms other than main bathroom are regularly used in the remaining 11%, the bulk of them (8%) in en-suite 1. This would suggest that shower location is more important than shower type when it comes to frequency of use.

**Q6. Of the shower(s) you had fitted did you choose the model yourself**

*Full Question: Of the shower(s) you had fitted did you choose the model yourself or were they/it chosen by the external recommendation of the supplier/plumber?*

**Table 21: Choice of Shower**

No. of Showers Chosen	Total number of showers chosen by customer	Total number of showers chosen by plumber	Shower not fitted by customer
1	147	68	
2	26	8	
3	0	0	
4	4	0	
5	0	0	
<b>Total</b>	<b>177</b>	<b>76</b>	<b>95</b>

The table shows the number of showers chosen by either the property owner or the plumber/supplier. For instance, there were 147 properties, where one shower was selected by the owner, and 68 properties where one shower was selected by the plumber. There were also 13 houses where the owner had chosen two replacement showers (26 showers in total) and 4 houses where the plumber had selected the two showers. Finally, there was one house with 4 showers where the owner had chosen to replace all four showers.

**Table 22: Selection of Showers - Summary**

No. of showers	Occupant Chosen		Plumber/Supplier Chosen	
253	177	70%	76	30%

Of the 253 showers that have been installed by current occupants of surveyed properties, 70% were chosen by the occupants while the remaining 30% were chosen on the recommendation of plumber/supplier etc.

**Q7. Which of the following did you think about when you chose your shower?**

*Full question: If you selected your shower which of the following criteria did you think about to make your decision?*

If you selected your shower, or specified any requirements to the plumber /supplier which of the following criteria did you think about to make your decision? (Customers could circle more than one answer).

**Table 23: Shower Choice Criteria**

	Main bathroom	En-suite 1	En-suite 2	2 <sup>nd</sup> bathroom	Other	Total	Rank
Performance	92	14	3	4	3	116	1
Price	74	8	1	2	0	85	2
Water consumption	39	5	1	0	0	45	3
Appearance	34	7	1	1	0	43	4
Other (specify)	37	3	1	1	0	42	5
Energy consumption	30	5	1	2	0	38	6=
Best type for plumbing system	35	1	0	2	0	38	6=

Performance (28.5%) and Price (21%) are the two most common criteria cited in shower selection. Water consumption (11%) ranks third, closely followed by Appearance (10.5%) and Others (reliability, safety, make/brand, quality, recommendation etc. – 10.5%). Energy consumption (9%) and suitability for plumbing system (9%) rank the lowest.

**Q8. Which was the most important factor?**

**Table 24: Main Criteria for Selecting Shower**

	Main bathroom	En-suite 1	En-suite 2	2 <sup>nd</sup> bathroom	Other	Total	Rank
Performance	58	11	4	3	3	79	1
Other (specify)	34	3	0	0	0	37	2
Price	32	1	0	1	0	34	3
Best type for plumbing system	21	0	0	0	0	21	4
Water consumption	15	3	0	0	0	18	5
Appearance	7	2	0	0	0	9	6
Energy consumption	5	0	0	1	0	5	7

Examples of other factors include reliability, safety, make or brand, quality and recommendation.

39% of the respondents cited Performance as the most important factor in their selection of shower, more than twice as many that considered Price to be the most important (17%). Only 9% based their selection on water consumption. It would appear that ‘performance’ is mainly linked to flow rate.

**Table 25: Reason for Shower Selection: difference between Measured and Unmeasured**

Main factor main	Total	Metered		Unmetered		Don't know	
			%		%		%
Price	32	12	38	18	56	2	6
Appearance	7	3	43	4	57		
Performance	58	25	43	31	53	2	3

Main factor main	Total	Metered		Unmetered		Don't know	
			%		%		%
Water Con	15	7	47	8	53		
Energy Con	5	3	60	2	40		
Plumbing	21	11	52	9	43	1	5
Other	34	13	38	20	59	1	3

A comparison of expressed main factors and metering status has been made to see if metering has influence on choice of shower. The aim primarily was to see if metering has any influence on relative preference for performance (i.e. higher flow rate) and/or water consumption. Unsurprisingly, a greater proportion of unmetered customers (53%) had performance as the choice for main bathroom shower compared to metered customers (43%). However, perhaps we might have expected the difference to be greater. When it comes to water consumption a greater proportion of unmetered (53%) customers cited it as an important factor compared to metered (47%) customers. This would suggest that either water tariffs are considered to be affordable enough for water consumption not to be the top priority for metered customers and/or shower use is not seen as a major water consuming activity.

**Table 26: Main Factor vs. Shower Choice (for main bathroom)**

Main factor	Total	Power		Electric		ST Mixer		CB Mixer		Handheld		Don't Know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Price	32	4	13	18	56	2	6	3	9	5	16		
Appearance	7			1	14	3	43			3	43		
Performance	58	21	36	16	28	10	17	3	5	8	14		
Water Consumption	15	5	33	6	40	2	13	2	13				
Energy Consumption	5	2	40	3	60								
Plumbing	21	2	10	6	29	4	19	4	19	5	24		
Other	34	7	21	9	26	8	24	2	6	8	24		

The main factor for choosing shower type (for main bathroom) was cross-checked to see if the final choice was in line with expressed preference. For example did customers citing energy consumption as the main factor choose non-electric showers etc. Results show that majority of respondents (56%) that cited price as the main factor opted for electric showers, followed by handheld (16%), power (13%), CB mixer (9%) and ST mixer (6%). Handheld and ST mixer types are equally popular (43%) with customers considering appearance to be important. For performance conscious respondents, power showers are most popular (36%) followed by electric (28%), ST mixer (17%), handheld (14%) and CB mixer (5%) variants. Electric showers are most common with customers in the 'water consumption' category (40%) but power showers with high flow rates are not far behind with (33%). Surprisingly, all of the energy-conscious customers chose showers that either use electricity for

heating water (electric showers – 60%) or showers that require electricity to be operated (power showers – 40%). But these results must be viewed in the light of overall ranking of important factors where energy consumption has the lowest ranking. Electric showers are again most common (29%) among respondents who thought of their plumbing system in selecting showers. These are following by handhelds (24%), ST mixer and CB mixer types with 19% each and power showers (10%). These results are not surprising since electric showers heat water themselves and as such are independent of the type of heating system in the property and require a single supply line. Handhelds are also relatively simple to install as they can be fitted using the existing cold and hot lines for example in the bath tub. With the exception of ‘appearance’ and ‘performance’ categories, electric showers are the most common shower type in all ‘main factor’ categories suggesting that while their flow rates may not be as high as power showers or as good looking as some of the handhelds or CB mixer types they are considered a good choice overall.

**Q9. How many adults 18 and over live in your house?**

**Table 27: Number of adults in the house**

Adults	Properties	Total Adults
1	72	72
2	197	394
3	45	135
4	12	48
5	2	10
more than 5	0	0
<b>Total</b>		<b>659</b>

The average number of adults per property is 2. 60% of the households surveyed consist of two adults and 11% consist of a single adult. Households with three adults account for 20% of households. Households with 4 and 5 adults account for 7% and 1.5% of total households respectively.

Results are as expected with flats dominated by single adults whereas all other property categories for the most part consist of two adults.

**Table 28: Comparison of number of Adults with Property Types**

	No.	No. of Adults									
		1		2		3		4		5	
		No.	%	No.	%	No.	%	No.	%	No.	%
Detached	64	3	4.69	41	64.06	14	21.87	6	9.38		
Semi-detached	103	20	19.42	60	58.25	19	18.45	4	3.88		
Flat	12	9	75.00	3	25.00						
Bungalow	80	25	31.25	51	63.75	3	3.75			1	1

	No.	No. of Adults									
		1		2		3		4		5	
		No.	%	No.	%	No.	%	No.	%	No.	%
End-terraced	21	7	33.33	11	52.38	3	14.29				
Mid-terraced	44	8	18.18	28	63.64	5	11.36	2	4.55	1	2.27
Other	4			3	75.00	1	25.00				

**Q10. How many children under 18 live in your house?**

**Table 29: Number of Children in the House**

Children	Properties	Total Children
0	232	0
1	48	48
2	31	62
3	11	33
4	4	16
5	2	10
more than 5	0	0
<b>Total</b>		<b>169</b>

The average number of children for each property is 0.5. 71% of the properties have no children, 15% have one child, 9% have two children, 3% have three children, 1% has four children and less than 1% has five children. No property contains more than five children.

**Table 30: Number of Children and Property Type**

Property Type	No.	No. of Children											
		0		1		2		3		4		5	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Detached	64	39	60.94	12	18.75	7	10.94	2	3.13	3	4.69	1	1.56
Semi-detached	103	71	68.93	18	17.48	7	6.80	5	4.85	1	0.97	1	0.97
Flat	12	8	66.67	1	8.33	2	16.67	1	8.33				
Bungalow	80	68	85.00	8	10.00	4	5.00						
End-terraced	21	17	80.95	1	4.76	3	14.29						
Mid-terraced	44	28	63.64	7	15.91	7	15.91	2	4.55				
Other	4	1	25.00	1	25.00	1	25.00	1	25.00				

All property types are dominated by households with no children. There seems to be no particularly dominant property type for households consisting of up to three children. Only detached and semi-detached properties contain households with more than three children.

**Q11. Do you have more baths in winter and more showers in summer?**

*Full question: Overall, do you think that your household tends to have more baths in the winter and more showers in the summer?*

**Table 31: Do Respondents have more Baths in Winter and Showers in Summer?**

	Total	%	Metered		Unmetered		Don't know	
<b>Yes</b>	55	17	32	58%	22	40%	1	2%
<b>No</b>	228	70	100	44%	119	52%	9	4%
<b>N/A (no baths)</b>	45	13	26	58%	19	42%		
<b>Total</b>	<b>328</b>	<b>100</b>						

13% of the properties have no baths. Of the respondents who have a choice between showers and baths (283), over 80% prefer to shower all round the year. When these results are compared with meter status, it is seen that a majority of respondents (58%) who change their washing habits during the year live in properties with water meters whereas the majority (52%) of respondents who use a shower throughout the year live in unmetered properties.

**Q12. On average how many showers and baths does each person have per week?**

*Full Question: This question is about all of the people living in your house and the water they use. On average how many showers and baths does each person have per week?*

**Table 32: Average number of baths and showers per week**

	No. of showers per week	No. of baths per week	Child under 5	Child under 5 baths
Total	3742	1140	20	88
Average per house (328)	11.4	3.5		
Average per person (828)	4.5	1.4		4.4

The number of showers is over three times more frequent compared to baths in all three categories (total, average per house and average per person). It is only in children under 5 years of age that baths are far more frequent than showers.

**Q13. Do you (person answering the questionnaire) prefer a shower or a bath?**

**Table 33: Preference between shower/bath for measured/unmeasured**

	Total	%	Metered		Unmetered		Don't know	
Prefer shower	239	73	115	48%	115	48%	9	4%
Prefer bath	69	21	34	49%	34	49%	1	2%
Both the same	14	4	8	57%	6	43%		
Other	6	2	1	17%	5	83%		
<b>Total</b>	<b>328</b>	<b>100</b>						

“Other” represents 3 people who have no bath, 1 person who only has body washes and 2 people who cannot use the bath because they are disabled.

73% of respondents prefer to shower over having a bath whereas 21% prefer to take baths. 4% have no preference. Whether or not the properties are metered appears to have no influence over respondents’ preference as an equal number of respondents in both categories live in metered and unmetered properties.

**Q14. If you prefer a shower, what are the reasons for your preference?**

*Full question: If you prefer a shower, what are the reasons for your preference? (Customers could chose more than one answer)*

**Table 34: Why respondents take showers rather than baths**

	Total	%	Metered					
			Yes	%	No	%	Don't know	%
Quicker	186	78	89	48	88	47	9	5
Uses less water	68	28.5	40	59	26	38	2	3
Cheaper	22	5	13	59	7	32	2	9
More enjoyable	11	2	5	45	5	45	1	9
Habit	5	1	2	40	2	40	1	10
More hygienic	58	24	27	47	28	48	3	5
More refreshing	34	14	18	53	15	44	1	3
Disability	4	2	1	25	2	50	1	25
Other	57	24	34	60	23	40	0	0
<b>Total</b>	<b>407</b>							

Since the respondents could choose more than one answer, the reasons given are not mutually exclusive. ‘Quicker’ is the most common reason for preference of showers over baths. Metering status does not seem to matter much for the most part. However a majority of respondents (59%) citing ‘uses less water’ as one of the reasons for preferring showers have water meters. The same is

true for people who consider showers to be cheaper (59%), but 'cheaper' ranks sixth among reasons for shower preference whereas 'uses less water' ranks second.

**Q15. Do you run the shower for more than 1 minute before entry?**

*Full question: Do you (person being interviewed) run the shower for more than 1 minute before entry?*

**Table 35: Do you run the shower for more than one minute before entry?**

	Total	%	Metered				Don't Know	
			Yes	%	No	%		%
Always	117	36	57	49	55	47	5	4
Sometimes	37	11	19	51	17	46	1	3
Never	161	49	76	47	81	50	4	2
Don't shower	13	4	6	49	7	51		
<b>Total</b>	<b>328</b>	<b>100</b>						

36% of the respondents always run the shower for one minute before entry whereas 11% sometimes do that. 49% never do so. When compared to metering status, the trend is opposite to that one would normally expect. The proportion of respondents who run the shower for more than a minute in both 'always' and 'sometimes' categories is greater, albeit slightly, for metered than unmetered properties.

**Q16. Do any of your showers have an environmental / water efficiency setting?**

**Table 36: Does your shower have a water efficiency setting?**

	No. of Customers	%
Yes	19	6
No	264	80
Don't know	45	14
<b>Total</b>	<b>328</b>	<b>100</b>

80% of the showers in the data set do not have water-efficiency setting and only 6% showers have this option.

**Table 37: Comparison of Showers with Water Efficiency Device with Metering Status**

Water Efficiency Device	Total	Metered				Don't Know	
		Yes	%	No	%		%
Yes	19	6	32	13	68		
No	264	131	50	129	49	4	1
Don't know	45	21	47	18	40	6	13
<b>Total</b>	<b>328</b>						

Although only a small number of properties has showers with water efficiency devices, the majority of such showers (68%) are in unmetered properties.

**Q17. Are any of your showerheads aerated?**

*Full question: Are any of your showerheads aerated? – (only power showers with combi boilers).*

**Table 38: Number of Properties with Aerated Shower Heads**

	No.	%
Yes	23	7
No	244	74
Don't know	61	19
<b>Total</b>	<b>328</b>	<b>100</b>

Only 7% of power showers with combi boilers are aerated.

**Q18. Are you happy with the performance of your showers?**

**Table 39: Respondents happy with Shower Performance**

	No.	%
Yes	286	87
No	39	12
N/a	3	1
<b>Total</b>	<b>328</b>	<b>100</b>

87% of the respondents are happy with the performance of shower.

**Table 40: Customer Satisfaction and Shower Type**

Satisfied	Total	Power		Electric		ST Mixer		CB Mixer		Hand held		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	286	64	97	104	92	39	85	22	96	49	71	2	100
No	39	2	3	9	8	7	15	1	4	20	29		
N/A	3	1		1									

The majority of all shower types is seen to be performing satisfactorily. In the case of handheld showers however a significant number of respondents (29%) are not happy with the performance.

**Q19. How is your hot water heated?**

**Table 41: Types of Hot Water Systems**

	Number	%
Immersion	37	11
Boiler	267	81
Both	21	7
Don't know	3	1
<b>Total</b>	<b>328</b>	<b>100</b>

Boilers are the dominant choice for heating water with 81% of properties using them for heating water.

**Q20. What type of boiler is installed?**

**Table 42: Types of Boiler Installed**

	No.	%
Conventional Gas boiler	170	59
Combi Gas boiler	77	27
Condensing boiler	6	2
Don't know	19	6.5
Other	16	5.5
<b>Total</b>	<b>288</b>	<b>100</b>

Other	No.
Back boiler	5
Back of fire boiler	1
Baxi back boiler	3
Baxi boiler	3
Combi Condensor Boiler	1
Electric Boiler	1
Fan assisted boiler Johnsons & Stanley	1
Oil	1
<b>Total</b>	<b>16</b>

Gas boilers, including both conventional and combi account for over 85% of all boilers in the surveyed properties.

**Table 43: Comparison of Property Age with Heating System**

Property Age	Total	Heating System											
		Immersion		Conventional gas boiler		Combi boiler		Condensing gas boiler		Others		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Pre-1945	29	6	21	14	48	5	17	1	3	2	7	1	3
1945-1960	127	18	14	63	50	30	24	2	2	5	4	9	7
1961-1990	109	7	6	67	61	23	21	3	3	6	6	3	3
1991-2000	9	1	11	4	44	3	33					1	11
2001-2006	1			1	100								
Don't know	53	8	15	21	40	16	30			3	6	5	9

With the exception of pre-1945 properties, conventional gas boilers and combi-boilers rank first and second respectively in all age bands consistently constituting over 70% of installed heating systems. Conventional gas boilers are most common in pre-1945 properties as well but immersion systems occupy the second place with 21% representation followed by combi boilers at 17%. Condensing gas boilers are the least common of major types of heating systems throughout the data set.

**Table 44: Comparison of Property Type with Heating System**

Property Type	Total	Heating System											
		Immersion		Conventional gas boiler		Combi boiler		Condensing gas boiler		Others		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Detached	64	3	5	41	64	12	19	2	3	1	1	5	8
Semi-detached	103	11	11	50	49	25	24	4	4	8	8	5	5
Flat	12	6	50	3	25	2	17					1	8
Bungalow	80	9	11	42	53	23	29			1	1	5	6
End-terraced	21	4	19	13	62	3	14			1	5		
Mid-terraced	44	6	14	19	43	12	27			5	11	2	5
Other	4	1	25	2	50							1	25

Conventional boilers are more common in all types of properties with the exception of flats where immersion systems cover 50% of the properties with conventional boilers occupying second place with 25%. Combi boilers are second to conventional boilers in detached, semi-detached, bungalow and mid-terraced property types. Immersion systems rank second at 19% behind conventional boilers (62%) with combi boilers third at 14%.

**Q21. What is the approximate age of your boiler?**

**Table 45: Approximate Age of Boiler**

	No.	%
Less than 1 year	18	6
1 – 5 years	86	30
6 – 10 years	41	14
11 – 15 years	27	9
Over 15 years	65	23
Don't know	51	18
<b>Total</b>	<b>288</b>	<b>100</b>

50% of the boilers are less than 10 years old of which 60% are less than 5 years old. The proportion of older (more than 15 years) boilers is significant as well accounting for almost a quarter of the dataset.

**Table 46: Comparison of Boiler Age with Boiler Type**

Boiler Type	Total	Boiler Age											
		Less than 1 year		1-5 years		6-10 years		11-15 years		Over 15 years		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Conventional	170	2	1	42	25	25	15	23	14	46	27	32	19
Combi boilers	77	13	17	34	44	11	14	1	1	8	10	10	13
Condensing boilers	6	1	17	3	50	1	17	1	17				
Others	16			4	25	2	13	1	6	8	50	1	6
Don't know	19	2	11	3	16	2	11	1	5	8	42	1	5

41% of conventional boilers are less than 10 years and 41% are over 10 years old. The age of the remaining sample is not known. By comparison 61% of combi boilers are less than 5 years old and only 10% are over 15 years old. 67% of condensing boilers are less than 5 years old and none are older than 15 years. 50% in the 'others' category are over 15 years old. These trends would suggest that while conventional boilers have historically been more popular and continue to be more common in the surveyed properties, there has been a shift towards combi and condensing boiler types over the last 5 years or so.

**Table 47: Comparison of Property Age with Boiler Age**

Property Age	Total	No Boiler		<1 year		1-5 years		6-10 years		11-15 years		> 15 years		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
pre 1945	29	6	21		6	6	21	6	21	4	14	5	17	2	7
1945-1960	127	18	14	7	8	38	30	18	14	8	6	27	21	11	9
1961-1990	109	7	6	9	11	28	26	14	13	8	7	27	25	16	15
1990-2001	9	1	11	1	1	1	11	1	11	4	44			1	11
2001-2006	1					1	100								
don't know	53	8	15	1	2	12	23	2	4	3	6	6	11	21	40

Nearly half of all pre-1945, 1945-1960 and 1961-1990 properties have had a boiler change during the last 10 years where as only a quarter of 1990-2001 have changed boilers since they were first constructed.

**Table 48: Comparison of Boiler Type with Shower Type (main bathroom)**

	Total	Power		Electric		ST Mixer		CB Mixer		Hand held		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Conventional	170	35	21	53	31	31	18	4	2	41	24	1	0.5
Combi boiler	77	16	21	25	32	7	9	16	21	12	16		
Condensing boiler	6	1	17	3	50	1	17			1	17		
Other	16	5	31	3	19	3	19			5	31		
Don't know	19	2	11	9	47	2	11	1	5	5	26		
<b>Total</b>	<b>288</b>	<b>59</b>	<b>20</b>	<b>93</b>	<b>32</b>	<b>44</b>	<b>15</b>	<b>21</b>	<b>7</b>	<b>64</b>	<b>22</b>	<b>1</b>	

Electric showers are the most common among all types of boilers with the exception of the 'Other' category where power showers and handheld showers jointly share the top spot with 31% distribution each. In the case of conventional boiler types, electric showers (31%) followed by handhelds (24%) and power showers (21%) constitute the three most common shower types. In the case of combi boilers, electric showers (32%) are followed by power and CB mixer types (21% each). Half of the showers in the case of condensing boiler types are electric and the rest are equally divided among power, ST mixer and handheld types. Overall, electric showers are most common with 32% distribution among all boiler types followed by handhelds (22%) and power showers (20%).

Electric (39%) and handheld (33%) showers are the dominant types of showers in the most recent (less than 1 year old) properties as well as being the most common overall. Interestingly, none of these properties have power showers whereas overall power showers constitute 20% of all shower types. CB mixer types also appear to have become more popular over the last 5 years or so but still lag behind electric and handheld types. ST mixer types are most common in 6-10 years old properties without being really dominant. Overall, ST mixer types have been the least common types of showers and appear to have become even less common over the last 5 years or so.

**Table 49: Comparison of Boiler Age with Shower Type (main bathroom)**

Boiler age	Total	Power		Electric		ST Mixer		CB Mixer		Hand held		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 1 year	18		0	7	39	1	6	4	22	6	33		
1-5 years	86	20	23	32	37	9	10	9	10	14	16		
6-10 years	41	8	20	9	22	11	27	3	7	9	22		
11-15 years	27	9	33	6	22	4	15	2	7	4	15		
over 15 years	65	12	18	21	32	14	22	1	2	16	25		
Don't know	51	10	20	18	35	5	10	2	4	15	29	1	2
	288	59	20	93	32	44	15	21	7	64	22	1	

**Q22. Can you recognise your plumbing system?**

**Table 50: Plumbing System Types**

		%
<b>System A – Mains Fed</b>	60	18.5
<b>System B – Combination boiler</b>	74	22.5
<b>System C – Gravity Fed</b>	96	29
Can't recognise	98	30
<b>Total</b>	<b>328</b>	<b>100</b>

30% of the respondents are not aware of the nature of their plumbing system. Gravity-fed systems appear to be more popular of the options available without really being the dominant system.

**Table 51: Comparison of Plumbing System with Shower Types**

Plumbing System	Total	Power		Electric		ST Mixer		CB Mixer		Hand held		Don't know	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mains Fed	60	14	23	23	38	8	13	1	2	12	20		
Combination Boiler	74	15	20	24	32	7	9	15	20	12	16		
Gravity Fed	96	15	16	25	26	26	27	5	5	22	23		
Don't know	98	23	23	42	43	5	5	2	2	24	24	2	2

A comparison of plumbing system with shower types shows that installation of power, electric and handheld showers is not particularly influenced by the nature of plumbing system. ST mixer systems are mainly associated with gravity-fed systems. 56% of ST mixers are associated with gravity-fed systems. Similarly, 58% of CB mixer showers are found in properties with combination boiler plumbing system.

**Table 52: Comparison of Property Age with Plumbing System**

Property Age	Total	System A Mains Fed		System B Combination Fed		System C Gravity Fed		Don't Know	
		No.	%	No.	%	No.	%	No.	%
pre 1945	29	3	10	7	24	10	34	9	31
1945-1960	127	28	2	26	20	30	24	43	34
1961-1990	109	21	2	23	21	46	42	19	17
1990-2001	9	2	22	3	33	1	11	3	33
2001-2006	1	1	100						
don't know	53	5	9	15	28	9	17	24	45

**Q23. Would you consider a Water Efficient Shower?**

If you were to replace your shower, would you consider a high performance water efficient shower?

**Table 53: Would Respondents Consider a High Performance Water Efficient Shower**

	Total	%	Metered					
			Yes		No		Don't know	
Yes	213	65	103	48%	104	49%	6	3%
No	42	13	25	60%	16	38%	1	2%
Don't know	73	22	30	41%	40	55%	3	4%
<b>Total</b>	<b>328</b>	<b>100</b>						

Although a majority (65%) of responded positively, a significant proportion were either non-committal (22%) or responded in the negative (13%). Those willing to switch were almost equally divided between metered and unmetered customers. However, metered customers are in the majority (60%) among customers who are not willing to switch. A majority of undecided customers (55%) are unmetered.

**Q24. Do you wish to make any further comments?**

Comments are included in Appendices C and D. A summary is provided below.

**Table 54: Summary of Additional Comments**

	Customers
Positive	11
Negative	43
Requires response	21
<b>Total</b>	<b>75</b>

**Q25. Can I do a quick, simple flow rate check on your shower?**

Finally is it possible that I can do a quick, simple flow rate check on your main bathroom shower unit using your normal settings?

**Table 55: Respondents Allowing Flow-Rate Checks**

	Customers	%
Yes	175	53
No	153	47
<b>Total</b>	<b>328</b>	<b>100</b>

Almost half of the respondents did not allow their shower flow rate to be checked.

**Table 56: Is the average flow rate 10 litres or less?**

	Total	%	Power		Electric		ST mixer		CB mixer		Handheld		Don't know	
				%		%		%		%		%		%
Yes	148	85	29	20	59	40	25	17	7	5	24	28	1	0
No	25	14	9	36	1	0	6	43	3	12	5	25		
Void	2	1												
<b>Total</b>	<b>175</b>	<b>100</b>												

Total average flow rate overall  $1142 / 175 = 6.5$

85% of the showers tested had a flow rate of less than 10 litres per minute. Among shower types, electric showers rank first 98% having a flow rate below 10 litres. 83% handhelds, 81% ST mixers, 70% CB mixers and 66% of power showers had flow rates lower than 10 litres. The minimum flow rate recorded was less than 5 litres per minute and the maximum was 18 litres per minute.

## 4. CONCLUSIONS

---

### 4.1 General Conclusions

- 1) 71% of properties had a shower whilst 29% did not own a shower.
- 2) Of those 71% which had a shower, 90% of the customers contacted, totalling 328, used showers in their homes.

### 4.2 Property Ages and Types

- 3) 81% of the surveyed properties are more than 15 years old. 48% are over 45 years old and 9% are over 70 years old. 16% respondents did not know the construction age band of their property.
- 4) All the main property types are represented in the survey with 31% semi-detached houses, 24% bungalows, 20% detached houses, 13% mid-terraced houses, 6% end-terraced houses, 4% flats and 1% in the 'other' category.
- 5) There is no clear relationship between property types and ages.

### 4.3 Charge Types

- 6) 48% of surveyed customers have water meters while 49% do not. 3% did not know whether or not they have a water meter. The sample contains high levels of metered properties compared to the population.
- 7) There is no clear-cut relationship between property ages and their metering status.
- 8) The proportion of metered units for detached and semi-detached houses is greater than unmetered units. The opposite is true for bungalows, mid- and end-terraced properties. Flats are equally divided between metered and unmetered units while none of the properties in the 'other' category have a water meter.

### 4.4 Number of Showers

- 9) 82% of the surveyed properties have one shower, 16% have two showers, 1% has three showers and less than 1% of properties have 4 showers. No property has more than 4 showers.
- 10) The overwhelming majority (76-90%) of properties constructed before 1990 have only one shower installed in them. Most of the properties constructed after 1990 have two showers. 91% of properties with unknown ages have a single shower.
- 11) Half of the detached houses in the dataset have two showers or more. All other property types are dominated by single-shower units.
- 12) 82% of the showers are installed in the main bathroom.
- 13) 94% of all installed showers are used indicating that shower use is not influenced by its location (main bath, en-suite etc.).
- 14) 65% of the respondents fitted showers in their properties themselves.

- 15) Showers in the main bathroom are used most often accounting for 89% of all showers.
- 16) 70% of the respondents who installed showers in their houses chose the showers themselves.

#### **4.5 Number of Baths**

- 17) 83% properties have one bath in addition to shower(s), 2% have two baths while the remaining 15% have no baths.
- 18) Properties constructed during 1991-2000 have the highest percentage (22%) of two-bath units.
- 19) Only detached (6%), semi-detached (2%) and bungalows (1%) have more than one bath. Bungalows have the highest proportion (26%) of 'no bath' units.

#### **4.6 Shower Type**

- 20) Electric showers are relatively more common compared to other shower types and are installed in 32% of the surveyed properties followed by power showers (23%), handheld showers (20%), ST mixers (17%) and CB mixer (8%).
- 21) Over 90% of all electric showers are installed in the main bathroom. Power showers are the most common type found in en-suite bathrooms (38%).
- 22) Electric showers are the most common showers in the properties constructed before 1990.
- 23) None of the properties constructed after 1990 have electric showers in the main bath.
- 24) Electric showers are the most common in the main bathroom of all property types with the exception of detached houses.

#### **4.7 Performance**

- 25) Performance (=flow rate) and price are the top ranked factors influencing shower choice.
- 26) 53% of the customers citing 'performance' as the main criterion for choosing showers do not have water meters while 43% do. The same is true when it comes to 'water consumptions' with more unmetered respondents (53%) citing it as a factor compared to metered customers.
- 27) Electric showers do not rank the highest in 'performance' and 'appearance' categories but are more common overall.
- 28) Only 6% of the installed showers have environmental/water efficiency settings. 68% of these are installed in unmetered properties.
- 29) 87% of respondents are happy with their showers. Handheld showers have the largest proportion (29%) of unhappy customers.
- 30) Average flow rate in the tested showers is 6.5 l/min.
- 31) Electric showers are most water efficient while power showers are the least.

#### **4.8 Demographics**

- 32) The majority (60%) of surveyed households have two adults.

- 33) Detached houses have the largest proportion of 'two or more adults' households.
- 34) 71% of households have no children.
- 35) All property types are dominated by households with no children but larger families tend to prefer detached houses.

#### **4.9 Shower Usage**

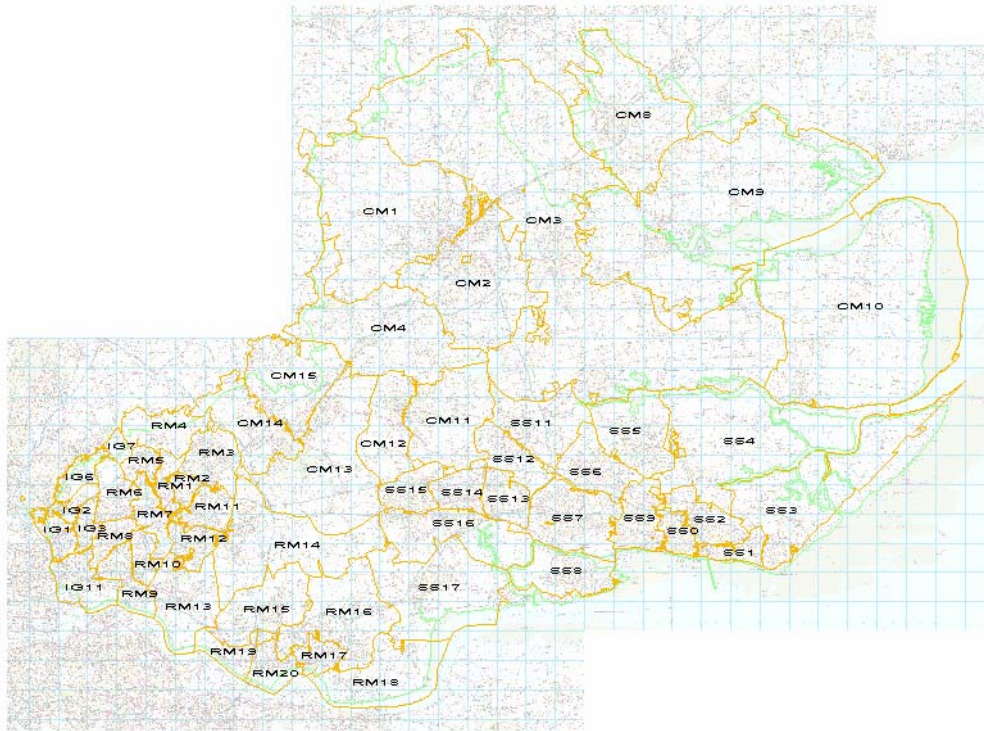
- 36) 283 customers had a choice between shower and bath. 84% in general prefer to take a shower, approximately half of which do not have water meters. Only 19% of customers change their bathing habits in the summer. Just over half, 58% of respondents (32 customers) who switch to taking baths during winters have water meters.
- 37) The total number of showers per week, average showers per house per week and average shower per person per week are over three times higher compared to baths in the same categories.
- 38) Children under 5 years tend to bath more frequently compared to showers. Only two of the 20 children under 5 had showers at all (10%).
- 39) 73% of respondents prefer a shower over taking bath and the choice does not seem to be influenced by the presence or absence of water meters.
- 40) Showers are considered to be 'quicker', 'less water intensive' and 'more hygienic' compared to baths.
- 41) 36% of the respondents always run the shower for more than one minute before entry while 11% do this occasionally. A larger proportion of respondents in both these categories live in metered properties.

#### **4.10 Plumbing Types**

- 42) 81% of the properties use boilers as part of the heating system.
- 43) Conventional and combi gas boilers account for 86% of all installed boilers.
- 44) 36% of the boilers are less than 5 years old.
- 45) Gravity-fed plumbing systems are slightly more common compared to combination boilers and mains fed. This is not confirmed as nearly one-third of the respondents are not aware of the type of plumbing system in their properties.
- 46) 65% of the respondents expressed their willingness to switch to a high performance, water efficient showers. Exactly half of these customers had water meters and half did not.

**APPENDIX A**

**MAP OF THE AREA INCLUDED THE SURVEY**



Post code	No. of surveys
CM1	15
CM2	57
SS4	30
SS5	18
SS7	50
SS9	76
SS11	14
SS12	17
SS14	51
<b>Total</b>	<b>328</b>

**APPENDIX B**  
**COLD CALLING SCRIPT**

Hello, my name is ..... and I am a representative of Essex & Suffolk Water. Please can I speak to <name of householder provided by ESW>.

Essex & Suffolk Water is undertaking some very important research on shower types, use and habits.

I would like to emphasise that we are not selling anything, we are just trying to find out which of our customers have shower facilities in their homes and how they make use of them.

Please would you be able to help us with a short survey about showers? It takes approximately 15 minutes and will contain questions such as whether you prefer showers to baths, whether you take more showers in the summer and what you might think about when selecting which shower to buy.

**If they agree**

Please could I start by asking just a few quick questions before the main survey:

Q1. Do you have a shower in your house that you use?

If no, thank and close, explaining that they are not able to help with this particular survey

***Remember to record this information for the final report so that we can say how many customers had no shower or did not wish to participate.***

Q2. Do you know which of the following property bands your house fits into:

Pre 1945

1945 – 1960

1961 – 1990

1990 – 2001

2001 – 2006

Don't know

***Remember to record the property band at the end of the questionnaire after the customer name and address.***

Thank you.

Now we can move forward on to the questionnaire, there are around 20 simple questions.

**APPENDIX C**  
**TELEPHONE SCRIPT**

Hello, I am calling on behalf of Essex & Suffolk Water, please can I speak to <name of householder provided by ESW>.

Essex & Suffolk Water is undertaking some very important research on shower types, use and habits.

I would like to emphasise that we are not selling anything, we are just trying to find out which of our customers have shower facilities in their homes and how they make use of them.

We would like to arrange for one of our researchers to visit you *sometime next week* to carry out a short survey on the use of showers in your home. The survey will take approximately 10 minutes and will contain questions such as whether you prefer showers to baths, whether you take more showers in the summer and what you might think about when selecting which shower to buy.

**If they agree**

Please could I just ask a few quick questions now:

Q1. Do you have a shower in your house that you use? *(If no thank and close, explaining that they are not able to help with this particular survey)*

Q2. Do you know which of the following property bands your house fits into:

Pre 1945

1945 – 1960

1961 – 1990

1990 – 2001

Thank you, would it be convenient for us to visit you on ..... *(book date and time)*

Many thanks for your help.

Our interviewer will see you on ..... *(repeat date and time booked)*

**APPENDIX D**  
**QUESTIONNAIRE**

## Essex & Suffolk Water – Research – Shower types, Use & Habits

Hello my name is ..... I am a representative of Essex & Suffolk Water and I have come to see you about our shower research. Thank you for agreeing to answer this questionnaire, which should take about 20 minutes.

I'm sure that you will find most of the questions very straightforward but if there are any you don't understand I will try and explain them to you. Your answers and comments will be recorded on this form and analysed by UPM, an independent Research Company. Your answers will be treated confidentially and not attributed to any individual.

**Firstly please can I confirm your details.**

**Customers Name** \_\_\_\_\_  
**House no. & Street** \_\_\_\_\_  
**Town** \_\_\_\_\_  
**Postcode** \_\_\_\_\_

**Property Age**      Pre 1945                      1945 – 1960                      1961 – 1990                      1990 – 2001                      2001 – 2006                      Don't know

**Property Type**      Detached      Semi-detached      Flat      Bungalow      End-terraced      Mid-terraced      Other

**Thank you. Now we can begin the main questionnaire**

**Q1. Do you have a water meter? (Please circle answer)**                      Yes                      No                      Don't know

**Q2. How many showers do you have in your home? (Please circle correct answer)**

1      2      3      4      5      more than 5

**Q3. How many baths do you have in your home?** (Please circle correct answer)

0    1    2    3    4    5    more than 5

**Q4. This question is about the showers you have in your home.**

a) **What type of showers are they?**

b) **Are they used or not used?**

c) **Did you fit them yourself or were they already at the property when you moved in?**

	Power shower off storage/tank	Electric shower off storage/tank	Mixer shower off storage /tank	Mixer shower off combi boiler (mains)	Hand held shower attachment on bath taps	Don't know	Used	Not used	Put in yourself	Already at property
Main bathroom										
Ensuite 1										
Ensuite 2										
2 <sup>nd</sup> bathroom										
Other										
<b>Total</b>										

N.B. Surveyor please total up the number of ticks in each column and write the total in figures in the bottom row.

**Q5. Which shower in your property is used the most often?** (Please circle ONE only)

Main bathroom      Ensuite 1                  Ensuite 2                  2<sup>nd</sup> bathroom                  Other

**Q6. Of the shower(s) you had fitted did you choose the model yourself or were they/it chosen by the external recommendation of the supplier/plumber?**

*(Please circle)*

Chose model ourselves      0      1      2      3      4      5                                  None fitted yourself

Plumber/supplier chose model   0      1      2      3      4      5

*If customer did not choose any shower or specify any requirements to the plumber/supplier go to Q9*

**Q7. If you selected your shower, or specified any requirements to the plumber/supplier which of the following criteria did you think about to make your decision?** *(Please answer for each shower -you may tick more than one answer)*

	Main bathroom	Ensuite 1	Ensuite 2	2 <sup>nd</sup> bathroom	Other
Price					
Appearance					
Performance					
Water consumption					
Energy consumption					
Best type for plumbing system					
Other (specify)					

**Q8. Which was the most important factor? (Tick ONE only)**

	Main bathroom	Ensuite 1	Ensuite 2	2 <sup>nd</sup> bathroom	Other
Price					
Appearance					
Performance					
Water consumption					
Energy consumption					
Best type for plumbing system					
Other (specify)					

**Q9. How many adults 18 and over live in your house? (Circle correct answer)**

1      2      3      4      5      more than 5

**Q10. How many children under 18 live in your house? (Circle correct answer)**

0      1      2      3      4      5      more than 5

**Q11. Overall, do you think that your household tends to have more baths in the winter and more showers in the summer?**

Yes                  No                  n/a (no baths)

**Q12. This question is about all of the people living in your house and the water they use. On average how many showers and baths does each person have per week?**

**PERSON 1 IS ALWAYS THE PERSON BEING INTERVIEWED**

**PLEASE INDICATE WITH A TICK IN THE FINAL COLUMN IF ANY OF THE PEOPLE ARE CHILDREN UNDER 5.**

Person	No. of showers per week	No. of baths per week	Child under 5
1			
2			
3			
4			
5			
6			
7			
8			
<b>Total</b>			

**Q13.** *Do you (person answering the questionnaire) prefer a shower or a bath? (Circle correct answer)*

Prefer shower

Prefer bath

Both the same

**Q14. If you prefer a shower, what are the reasons for your preference? (SHOWCARD A - you can circle more than one answer)**

Quicker      Uses less water      Cheaper      More enjoyable      Habit      More hygienic      More refreshing      Other

**Q15. Do you (person being interviewed) run the shower for more than 1 minute before entry? (Circle correct answer)**

Always      Sometimes      Never

**Q16. Do any of your showers have an environmental / water efficiency setting?**

Yes      No      Don't know

**Q17. Are any of your showerheads aerated? – (only power showers with combi boilers)**

Yes      No      Don't know

**Q18. Are you happy with the performance of your showers? (Circle correct answer)**

Yes      No

**Q19. How is your hot water heated? (Circle one answer only)**

Immersion      Boiler      Don't know

**Q20. What type of boiler is installed? (Circle one answer only) (If no boiler go to Q22)**

Conventional Gas boiler      Combi Gas boiler      Condensing boiler      Don't know      Other (please state) \_\_\_\_\_

**Q21. What is the approximate age of your boiler? (Circle one answer only)**

Less than 1 year      1 – 5 years      6 – 10 years      11 – 15 years      Over 15 years      Don't know

**Q22. Can you recognise your plumbing system from the attached SHOWCARD?**

System A      System B      System C      Can't recognise

**Q23. If you were to replace your shower, would you consider a high performance water efficient shower?**

Yes      No      Don't know

**Q24. Do you wish to make any further comments?**

---

---

---

Surveyor to assess comment from customer and grade      Positive       Negative       Requires response

**Q25. Finally is it possible that I can do a quick, simple flow rate check on your main bathroom shower unit using your normal settings?**

Yes                      No

*Record results on the next page. Ensure customer is in attendance on all checks and that they turn the shower on and off themselves to your instructions. If is not a convenient time to do the tests, tear off the following sheet and leave it with them along with the plastic flow test bag.*

**FLOW TEST RESULTS CHART**

Please follow the instructions on the plastic flow test bag and record on the table below.

	FIRST FLOW RATE TEST					SECOND FLOW RATE TEST							
Shower	5	7.5	10	12.5	15	5	7.5	10	12.5	15	Total	/2	Average
Main bathroom													

Is the average flow rate 10 litres or less?      Yes                      No

Once you have filled in the flow rate figures, please roll this sheet in the plastic flow bag, secure with an elastic band and leave on your doorstep for our surveyor to collect in the next few days.

Many thanks for your help.

**Customers Name** \_\_\_\_\_

**House no. & Street** \_\_\_\_\_

**Town** \_\_\_\_\_

**Postcode** \_\_\_\_\_

**APPENDIX E**  
**ADDITIONAL CUSTOMER COMMENTS**

<b>Positive Comments</b>
When replacing showers we would consider water usage.
We have saved a lot of money by having a water meter
We do try and conserve water
Water is very hard - but grateful for safe drinking water
Water information leaflets would be a good idea for teenagers and young adults.
very happy with shower
Nothing wrong with supply
No complaints - quite satisfied
Important to save water
Everyone should consider water meters - we must save water.
Every house should have a shower rather than baths to save water.

<b>Negative Comments</b>
The water meter is in the road on a bend - it is in a dangerous position - can this be given immediate attention please. People use this road as a cut through and drive very fast. I would like to have the water meter moved and brought inside the property
They are very expensive
They sprayed my wall with blue paint to identify the supply and did not remove it.
When are we all going on to water meters?
Cut down on leaks
Why do you have to pay 2 lots of water bills?
Hosepipe ban?
Water pressure has dropped in this area since roadworks in Springwater Road. Very concerned, extremely low.
Prices are too high
Prices are too high
More should be done to help keep/store water.
Lower Bills
The waters cloudy / using hot water - so what can be done?
Why are the sewage rates more than the water rates. I do not understand.
How much would it be to have a meter fitted? I have asked but no feedback received - Phoned more than once.
The water meters are higher than the pavements here and are tripped over - they need to be level
Prices are too high - don't preserve water
I wish they could stop my meter flooding!
Water pressure is very bad.
No not really not enough room!
Repair the leaks

### Negative Comments

When are we going to make seawater useable? Important to provide it this way

Not got good pressure on bath tap (hot water) and sink tap in bathroom (hot). I would love an outside tap.

Paperwork from post office to you took time for water. Pay by book at the post office - they just crossed over the payments.

There is a water leak all the time - there are workman there though.

We paid for my water meter - everybody gets it free now.

Cloudy water - hard water

The water comes out cloudy then it runs clear. Sewage separate to bill - I find that funny.

Stop putting my bills up!

A Leak report on the stop cock wasting water please look at it.

We have no stop cock we have one in the kitchen which needs changing because of leakage and I can't turn off mains. I have checked one outside but turns off next door.

Would like a meter and have been told we can't have one

Manhole cover on payment right outside of door is painted bright yellow with blue paint on it, it is hideous.

Softer water would be better

water is too hard - limescale is terrible

Didn't want water meter but had no choice

Water is very hard

Low water pressure for shower

Water pressure is too low - please would it be possible to have a water meter installed & what is the cost involved?

Street mains tap faulty 07821-439856

Stop building houses around here, the sewage is not good.

Shower leaks badly around the tap. Fitted by council due to Mrs Bannisters disability - they came three times but it still leaks everywhere.

I have to run my water for a very long time before it gets hot

Lower bills

**APPENDIX F**  
**COMMENTS REQUIRING A RESPONSE**

Property Number	Q24 Further comments
772636	A Leak report on the stop cock wasting water please look at it.
747504	Water pressure has dropped in this area since roadworks in Springwater Road. Very concerned, extremely low.
345017	Water pressure is too low - please would it be possible to have a water meter installed & what is the cost involved?
772218	We have no stop cock we have one in the kitchen which needs changing because of leakage and I can't turn off mains. I have checked one outside but turns off next door.
359513	Street mains tap faulty 07821-439856
637170	We are thinking of getting a power shower can we know about a water meter please.
635984	The waters cloudy / using hot water - so what can be done?
700881	Need info on economical to run but efficient showers if you have any.
305806	When are we all going on to water meters?
699478	Why do you have to pay 2 lots of water bills?
752149	How much would it be to have a meter fitted? I have asked but no feedback received - Phoned more than once.
637519	The water meter is in the road on a bend - it is in a dangerous position - can this be given immediate attention please. People use this road as a cut through and drive very fast. I would like to have the water meter moved and brought inside the property
652475	Shower leaks badly around the tap. Fitted by council due to Mrs Bannisters disability - they came three times but it still leaks everywhere.
754229	The water meters are higher than the pavements here and are tripped over - they need to be level
636723	I have 2 big dogs - I use a hosepipe to wash them down outside where they have messed - is there a permit I could apply for so I could use the hose in a ban?
747959	They sprayed my wall with blue paint to identify the supply and did not remove it.
699428	Manhole cover on pavement right outside of door is painted bright yellow with blue paint on it, it is hideous.
636423	Are there going to be water meters here?
635642	I would like a water meter.
347513	How bad is the water shortage going to be?
772894	Would like a meter and have been told we can't have one