

III. Public Involvement

A. Purpose

To develop a Stormwater Master Plan that meets the needs of the residents and the businesses, as well as the City, a program was developed that provided the opportunity for city officials and the residents to become actively involved. This involvement was initiated before any field investigations or analyses. Shortly after the start of the project, City officials stated the type and extent of assistance to be solicited from the public.

Public involvement took the form of a Citizen's Stormwater Committee, participation in a written information survey, a telephone hotline, and participation at public information meetings.

B. Citizen's Stormwater Committee

The Citizen's Stormwater Committee was formed specifically for this project. The purpose of the Committee was to review, comment on, and participate in, the development of the Stormwater Master Plan for Leavenworth.

The numbers and types of members were determined by the City, as were the structure and duties of the Committee. Following is a summary list of the duties for which their input was requested:

- Review existing storm drainage ordinances, policies, and design criteria.
- Develop new or modifications to existing storm drainage ordinances, policies, and design criteria.
- Representation at Leavenworth City Commission meetings pertaining to stormwater issues with the City and Black & Veatch.
- Representation at Public Information Meetings pertaining to stormwater issues.
- Verify locations of known historic flooding.
- Develop storm drainage system improvement alternatives.
- Finalize storm drainage system improvement alternatives and develop improvement cost estimates.
- Develop a priority ranking system.
- Develop an Improvements Priority List.
- Develop the Storm Drainage Capital Improvements Program.
- Develop an Implementation Plan.
- Review the draft and final Master Plan Reports.

- Define alternative design criteria, specifications, and details for the new Storm Drainage Design Manual.
- Review the new Subdivision Plan Review procedures.
- Review the draft and final Storm Drainage Design Manual.
- Examine the City's financing policies, objectives, and information resources.
- Identify and evaluate stormwater management funding sources.
- Develop new public information/education program needs.
- Review the draft and final financial reports and related information.

The membership of the Committee consisted of two technical experts, two representatives of institutional complexes, one representative from Fort Leavenworth, one City Planning Commission member, two developers, two representatives of business and industry, and four members "at-large." A list of the members of the Citizen's Stormwater Committee is included in the Executive Summary.

The Committee was active for the duration of the project. Meetings were on the fourth Monday of each month, and were led by the elected chairman Bob Euler. Minutes were not recorded, as input from Committee members was inserted directly into policy documents, onto maps, and other master plan deliverables.

C. Stormwater Questionnaire

A Stormwater Questionnaire was distributed to nearly 1,000 Leavenworth residents. The questionnaire was also printed several times in the two local newspapers, and copies were available for the public at City Hall. The questionnaire requested information on the location, extent, and severity of flooding throughout the city. The intent was to identify and classify known flooding locations (in addition to those identified by City staff) for verifying and assessing the validity of the stormwater model. A second objective was to provide a means for public input, as it is believed that people are generally more supportive of projects of this kind if given an opportunity to participate and voice their opinions.

The Stormwater Questionnaire was developed in response to the need to identify the stormwater flooding issues that are important to residents, City staff, and the overall goals of the project. The questionnaire included a short description of the ongoing Stormwater Master Plan project, the Stormwater Hotline number, explanation of the purpose of the questionnaire and the importance of public participation, and a request for response and comments.

With the incorporation of the City's Geographic Information System (GIS), the questionnaire was designed to elicit responses that could be coded into a database and queried by the GIS. Although this method did not allow residents to expand on their responses, it did serve as a straightforward means of interpreting and displaying the responses consistently with the GIS. Additional comments were requested, but were not necessarily used in the GIS analyses. An example of the Stormwater Questionnaire is presented on Figure III-1.

Questionnaires were mailed out in March/April 1995 and responses were received through June 1995. Recipients of the questionnaire were selected randomly to reach a broad geographical distribution.

To limit costs while maintaining a statistically relevant sample distribution, the Stormwater Questionnaire was mailed to approximately 968 occupants and owners. In addition to generating an address database and the mailing labels, City staff also provided a unique number for each returned questionnaire which, along with the responses, was keyed into the database to eliminate data entry errors for addresses and address matching.

Tables III-1 through III-4 present summaries of responses to the questionnaire. A total of 303 questionnaire responses were received, as indicated in Table III-1. The majority of responses to question No. 7, which involved ranking the severity of various stormwater-related problems, referred to some degree of flooding at their address. The questionnaires were divided into three mutually exclusive groups: according to whether they indicated the following: (a) at least one major flooding problem; (b) at least one minor flooding problem and no major problems; or (c) don't know or no major and no minor flooding problems. Tables III-3, III-4, and III-5 show the responses in each group, to questions 7 through 16. Responses to question No. 10, having to do with the frequency of occurrence of flooding and drainage problems, are shown on Figure III-2. The intent of question 15 was to solicit residents' opinions on stormwater management policies. The results of their responses are indicated graphically on Figures III-3 through III-6. Similarly, Figure III-7 shows the results from question number 16, in which residents were asked to prioritize stormwater improvements.

**CITY OF LEAVENWORTH, KANSAS - STORMWATER MASTER PLAN
STORMWATER MANAGEMENT QUESTIONNAIRE**

The City of Leavenworth is currently completing a comprehensive, City-wide Stormwater Master Plan, which, when completed, will allow the City to improve storm drainage services City-wide. This questionnaire outlines key issues and information important in the completion of this Stormwater Master Plan. Please complete separate copies for your residence and business locations (photocopy or request 2nd copy).

1. SURVEY NUMBER (official use) >>>>	2. DATE >>>>>>>>
3. NAME (opt.) >>>>	4. # YEARS AT THIS LOCATION >>>>
5. ADDRESS >>>>>>>>	
(optional: list nearby cross-street intersection) >>>>	
Is the Above Address Your Home or Business? >>>>	
Home	Business
6. AREA CODE AND PHONE NUMBER (optional) >>>>>>>>>>	

7. To what degree are the following conditions a problem in your area?

a. Basement flooding	Major Problem
b. Street flooding	Minor Problem
c. Yard flooding	Not a Problem
d. Trash/debris in ditches	Don't Know
e. Soil erosion	
f. Other	

8. Has rainfall or stormwater entered your home or business at the above address by way of the following in the last 5 years?

a. Floor drains	Yes
b. Bathtub/toilet/sink	No
c. Windows/window wells	Don't Know
d. Floors or walls	
e. Front yard or back yard	
f. Other	

9. Has flooding caused any of the following damages to your property at the above address?

a. Erosion of ditches	Yes
b. Flooded yard, little or no damage	No
c. Debris deposited by floodwaters	Don't Know
d. Damage to lawn, trees, or shrubs	
e. Damage to fences or buildings	
f. Extensive damage, loss of property	

10. How often do you have a problem with the flooding or drainage identified in Questions 8 or 9?

a. During every rainfall event	
b. Several times per year, or seasonally	
c. Once a year or so	
d. Once every 5 years or sooner	
e. Longer than 5 years since it occurred	
f. Never/Other	

11. Did you alter or cancel your travel route due to flooding caused by the Missouri River in 1993?

Yes	No	Don't Know
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If YES, indicate areas or roadway intersections that were impassable due to flooding:

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Figure III-1

Table III-1					
Stormwater Questionnaire Results					
Response to Question 7					
Question No.	Part		No. of Responses	No. of "Major"	No. of "Minor"
303 TOTAL Respondents					
7		To what degree are the following conditions a problem in your area?			
7	A	Basement flooding	272	38	73
7	B	Street flooding	279	50	53
7	C	Yard flooding	280	49	62
7	D	Trash/debris in ditches	269	50	64
7	E	Soil erosion	262	35	62
7	F	Other	19	7	12
			Percent "Major"	Percent "Minor"	% "No Prob" "Don't Know"
7		To what degree are the following conditions a problem in your area?			
7	A	Basement flooding	14.0	26.8	59.2
7	B	Street flooding	17.9	19.0	63.1
7	C	Yard flooding	17.5	22.1	60.4
7	D	Trash/debris in ditches	18.6	23.8	57.6
7	E	Soil erosion	13.4	23.7	63.0
7	F	Other	36.8	63.2	0.0

Stormwater Questionnaire Results									
108 Respondents with MAJOR FLOODING PROBLEMS									
Question No.	Part	No. of Responses	Major	Minor	No. of Responses	Major	Minor	Percent	Major
			No. of	No. of		No. of	No. of	Percent	Percent
7	A	Basement flooding	86	38	22	44	25	42	25
7	B	Street flooding	94	28	22	52	29	52	29
7	C	Yard flooding	94	28	22	52	29	52	29
7	D	Travellers in ditches	80	50	14	58	16	58	16
7	E	Soil erosion	80	35	18	43	22	43	22
7	F	Other	10	7	3	7	3	7	3
8	Part	Has rainfall or stormwater entered your home or business at the above address by way of the following in the last 5 years?	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
8	A	Floor drains	74	22	29	74	22	29	
8	B	Bathroom/sink	71	6	8	67	4	7	
8	C	Windows/window wells	72	14	19	72	14	19	
8	D	Floors or walls	75	31	41	75	31	41	
8	E	Front yard or back yard	90	50	56	90	50	56	
8	F	Other	9	9	100	9	9	100	
9	Question No.	Has flooding caused any of the following damages to your property at the above address?	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
9	A	Erosion of ditches	87	38	43	87	38	43	
9	B	Flooded yard little or no damage	96	85	67	96	85	67	
9	C	Debris deposited by floodwaters	94	54	57	94	54	57	
9	D	Damage to lawn, trees or shrubs	85	28	32	85	28	32	
9	E	Damage to fences or buildings	84	22	26	84	22	26	
9	F	Extensive damage loss of property	82	17	20	82	17	20	
10	Part	How often do you have a problem with the flooding or drainage identified in Questions 8 or 9?	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
10	A	During every rainfall event	32	40	10	32	40	10	
10	B	Several times per year or seasonally	40	12	10	40	12	10	
10	C	Once a year or so	12	13	10	12	13	10	
10	D	Once every 5 years or sooner	13	2	10	13	2	10	
10	E	Longer than 5 years since it occurred	2	2	10	2	2	10	
10	F	Never/Other	2	2	10	2	2	10	
11	Question No.	Did you alter or cancel your travel route due to flooding caused by the Missouri River in 1993?	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
11	A	Did you alter or cancel your travel route due to flooding caused by the Missouri River in 1993?	94	27	28	94	27	28	
12	Question No.	Have you ever had to alter or cancel your travel route due to flooding in the last 5 years?	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
12	A	Have you ever had to alter or cancel your travel route due to flooding in the last 5 years?	89	14	15	89	14	15	
13	Question No.	Have you observed flooding in a street near your property?	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
13	A	Have you observed flooding in a street near your property?	98	68	69	98	68	69	
14	Question No.	Have you seen flooding at storm drain inlets or culverts?	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
14	A	Have you seen flooding at storm drain inlets or culverts?	96	65	67	96	65	67	
15	Part	Your opinions on drainage criteria and policies	No. of Responses	Yes	Percent	No. of Responses	Yes	Percent	
15	A	Street cuts and storm sewer pipes increase the desirability and value of property	93	82	88	93	82	88	
15	B	New projects that increase runoff should pay for onsite & offsite drainage improvements	91	63	69	91	63	69	
15	C	Those who benefit more from drainage improvements should pay for them	86	24	27	86	24	27	
15	D	Property along open channels should have extra open space along the channel to allow for increased runoff from future upstream development	87	52	59	87	52	59	
15	E	Property along open channels should leave extra open space along the channel to allow for increased runoff from future upstream development	88	43	48	88	43	48	
15	F	The City should acquire easements along all open channels and piped drainageways	87	40	46	87	40	46	
15	G	The City should assume ownership of all open channels and piped drainage systems	87	48	52	87	48	52	
15	H	The City should assume maintenance of all open channels and piped drainage systems	84	58	69	84	58	69	
15	I	It would be acceptable to share the cost of drainage improvements with the City	86	29	33	86	29	33	
15	J	Open channels on private property are acceptable vs. piped storm sewers	86	24	27	86	24	27	
15	K	Improving water quality in our streams is worth some extra cost to achieve	86	46	52	86	46	52	
15	L	It's O.K. to send stormwater runoff to large detention basins to reduce flooding	89	48	53	89	48	53	
15	M	It's best to concentrate on reducing many routine flooding problems rather than on reducing a few major flooding problems	85	44	51	85	44	51	
16	Part	Rank the following drainage improvements in order of importance (1 = most important)	No. of Responses	Sum	Average	Rank			
16	A	Minimizing or eliminating major soil and streambank erosion due to flooding is important	65	287	4.4	6			
16	B	Ensuring personal safety during severe storm events is important	72	137	1.9	1			
16	C	The relationship of drainage improvement costs vs. the benefit of reduced flooding is important	65	291	4.5	7			
16	D	Minimizing or eliminating street flooding during storm events is important	71	225	3.2	4			
16	E	Maintaining emergency services (police, ambulance, etc.) during flooding events is important	74	163	2.2	2			
16	F	It's not sure what is most important concerning prioritizing improvements	45	237	5.3	8			
16	G	Minimizing or eliminating the potential for property damage/loss from flooding is important	72	205	2.8	3			
16	H	Containing flooding & storm runoff within piped systems or under culverts/bridges is important	67	281	4.2	5			

Table III-2

Major Problem Group

Question		Part		Responses		Percent	
No.	Part	No. of Responses	No. of "Yes"	Percent	No. of Responses	No. of "Yes"	Percent
109	To what degree are the following conditions a problem in your area?						
	A	105	0	0.0	105	0	0.0
	B	105	51	48.6	105	51	48.6
	C	103	25	24.3	103	25	24.3
	D	105	35	33.3	105	35	33.3
	E	102	50	49.0	102	50	49.0
	F	100	44	44.0	100	44	44.0
	Other	9	0	0.0	9	0	0.0
8	Has rain/fall or stormwater entered your home or business at the above address by way of the following in the last 5 years?						
	A	102	1	0.9	102	1	0.9
	B	101	6	5.9	101	6	5.9
	C	101	17	16.8	101	17	16.8
	D	104	32	30.8	104	32	30.8
	E	103	12	11.7	103	12	11.7
	F	104	6	5.8	104	6	5.8
	Other	102	1	1.0	102	1	1.0
9	Has flooding caused any of the following damages to your property at the above address?						
	A	104	20	19.2	104	20	19.2
	B	106	32	30.2	106	32	30.2
	C	104	17	16.3	104	17	16.3
	D	103	12	11.7	103	12	11.7
	E	104	6	5.8	104	6	5.8
	F	102	1	1.0	102	1	1.0
10	How often do you have a problem with the flooding or drainage identified in Questions 8 or 9?						
	A	6	0	0.0	6	0	0.0
	B	21	1	4.8	21	1	4.8
	C	32	3	9.4	32	3	9.4
	D	11	1	9.1	11	1	9.1
	E	107	27	25.2	107	27	25.2
	F	104	40	38.5	104	40	38.5
11	Did you alter or cancel your travel route due to flooding caused by the Missouri River in 1993?						
	A	109	26	23.9	109	26	23.9
	B	103	80	77.7	103	80	77.7
15	Your opinions on drainage criteria and policies:						
	A	105	91	86.7	105	91	86.7
	B	103	80	77.7	103	80	77.7
	C	105	80	76.2	105	80	76.2
	D	105	46	43.8	105	46	43.8
	E	105	79	75.2	105	79	75.2
	F	104	62	59.6	104	62	59.6
15	The City should assume ownership of all open channels and piped drainage systems						
	A	104	53	51.0	104	53	51.0
	B	104	66	64.1	104	66	64.1
	C	104	55	52.9	104	55	52.9
	D	104	44	42.3	104	44	42.3
	E	104	79	76.0	104	79	76.0
	F	103	73	70.9	103	73	70.9
15	The City should acquire easements along all open channels and piped drainageways						
	A	101	52	51.5	101	52	51.5
	B	104	66	64.1	104	66	64.1
	C	104	55	52.9	104	55	52.9
	D	104	44	42.3	104	44	42.3
	E	104	79	76.0	104	79	76.0
	F	103	73	70.9	103	73	70.9
15	It's best to concentrate on reducing many "routine" flooding problems rather than on reducing a few "major" flooding problems						
	A	105	49	46.7	105	49	46.7
16	Rank the following drainage improvements in order of importance (1 = most important)						
	A	87	396	45.6	87	396	45.6
	B	98	169	18.1	98	169	18.1
	C	88	394	45.5	88	394	45.5
	D	91	363	40.0	91	363	40.0
	E	99	196	20.0	99	196	20.0
	F	66	419	63.3	66	419	63.3
	G	91	340	37.3	91	340	37.3
	H	92	435	47.3	92	435	47.3

Table III-3
Stormwater Questionnaire Results
Minor Problems Group

Stormwater Questionnaire Results									
Table III-4									
No Problems Group									
86 Respondents with NO FLOODING PROBLEMS, or "don't know"									
Question	No.	Part	No. of Responses	No. of "Yes" Responses	Percent "Yes"	No. of Responses	No. of "Yes" Responses	Percent "Yes"	Rank
7	7	A	81	0	0.0	81	0	0.0	1
7	7	B	82	0	0.0	82	0	0.0	2
7	7	C	81	0	0.0	81	0	0.0	3
7	7	D	82	0	0.0	82	0	0.0	4
7	7	E	82	0	0.0	82	0	0.0	5
7	7	F	82	0	0.0	82	0	0.0	6
7	7	F	82	0	0.0	82	0	0.0	7
7	7	F	82	0	0.0	82	0	0.0	8
7	7	F	82	0	0.0	82	0	0.0	9
7	7	F	82	0	0.0	82	0	0.0	10
7	7	F	82	0	0.0	82	0	0.0	11
7	7	F	82	0	0.0	82	0	0.0	12
7	7	F	82	0	0.0	82	0	0.0	13
7	7	F	82	0	0.0	82	0	0.0	14
7	7	F	82	0	0.0	82	0	0.0	15
7	7	F	82	0	0.0	82	0	0.0	16
7	7	F	82	0	0.0	82	0	0.0	17
7	7	F	82	0	0.0	82	0	0.0	18
7	7	F	82	0	0.0	82	0	0.0	19
7	7	F	82	0	0.0	82	0	0.0	20
7	7	F	82	0	0.0	82	0	0.0	21
7	7	F	82	0	0.0	82	0	0.0	22
7	7	F	82	0	0.0	82	0	0.0	23
7	7	F	82	0	0.0	82	0	0.0	24
7	7	F	82	0	0.0	82	0	0.0	25
7	7	F	82	0	0.0	82	0	0.0	26
7	7	F	82	0	0.0	82	0	0.0	27
7	7	F	82	0	0.0	82	0	0.0	28
7	7	F	82	0	0.0	82	0	0.0	29
7	7	F	82	0	0.0	82	0	0.0	30
7	7	F	82	0	0.0	82	0	0.0	31
7	7	F	82	0	0.0	82	0	0.0	32
7	7	F	82	0	0.0	82	0	0.0	33
7	7	F	82	0	0.0	82	0	0.0	34
7	7	F	82	0	0.0	82	0	0.0	35
7	7	F	82	0	0.0	82	0	0.0	36
7	7	F	82	0	0.0	82	0	0.0	37
7	7	F	82	0	0.0	82	0	0.0	38
7	7	F	82	0	0.0	82	0	0.0	39
7	7	F	82	0	0.0	82	0	0.0	40
7	7	F	82	0	0.0	82	0	0.0	41
7	7	F	82	0	0.0	82	0	0.0	42
7	7	F	82	0	0.0	82	0	0.0	43
7	7	F	82	0	0.0	82	0	0.0	44
7	7	F	82	0	0.0	82	0	0.0	45
7	7	F	82	0	0.0	82	0	0.0	46
7	7	F	82	0	0.0	82	0	0.0	47
7	7	F	82	0	0.0	82	0	0.0	48
7	7	F	82	0	0.0	82	0	0.0	49
7	7	F	82	0	0.0	82	0	0.0	50
7	7	F	82	0	0.0	82	0	0.0	51
7	7	F	82	0	0.0	82	0	0.0	52
7	7	F	82	0	0.0	82	0	0.0	53
7	7	F	82	0	0.0	82	0	0.0	54
7	7	F	82	0	0.0	82	0	0.0	55
7	7	F	82	0	0.0	82	0	0.0	56
7	7	F	82	0	0.0	82	0	0.0	57
7	7	F	82	0	0.0	82	0	0.0	58
7	7	F	82	0	0.0	82	0	0.0	59
7	7	F	82	0	0.0	82	0	0.0	60
7	7	F	82	0	0.0	82	0	0.0	61
7	7	F	82	0	0.0	82	0	0.0	62
7	7	F	82	0	0.0	82	0	0.0	63
7	7	F	82	0	0.0	82	0	0.0	64
7	7	F	82	0	0.0	82	0	0.0	65
7	7	F	82	0	0.0	82	0	0.0	66
7	7	F	82	0	0.0	82	0	0.0	67
7	7	F	82	0	0.0	82	0	0.0	68
7	7	F	82	0	0.0	82	0	0.0	69
7	7	F	82	0	0.0	82	0	0.0	70
7	7	F	82	0	0.0	82	0	0.0	71
7	7	F	82	0	0.0	82	0	0.0	72
7	7	F	82	0	0.0	82	0	0.0	73
7	7	F	82	0	0.0	82	0	0.0	74
7	7	F	82	0	0.0	82	0	0.0	75
7	7	F	82	0	0.0	82	0	0.0	76
7	7	F	82	0	0.0	82	0	0.0	77
7	7	F	82	0	0.0	82	0	0.0	78
7	7	F	82	0	0.0	82	0	0.0	79
7	7	F	82	0	0.0	82	0	0.0	80
7	7	F	82	0	0.0	82	0	0.0	81
7	7	F	82	0	0.0	82	0	0.0	82
7	7	F	82	0	0.0	82	0	0.0	83
7	7	F	82	0	0.0	82	0	0.0	84
7	7	F	82	0	0.0	82	0	0.0	85
7	7	F	82	0	0.0	82	0	0.0	86
7	7	F	82	0	0.0	82	0	0.0	87
7	7	F	82	0	0.0	82	0	0.0	88
7	7	F	82	0	0.0	82	0	0.0	89
7	7	F	82	0	0.0	82	0	0.0	90
7	7	F	82	0	0.0	82	0	0.0	91
7	7	F	82	0	0.0	82	0	0.0	92
7	7	F	82	0	0.0	82	0	0.0	93
7	7	F	82	0	0.0	82	0	0.0	94
7	7	F	82	0	0.0	82	0	0.0	95
7	7	F	82	0	0.0	82	0	0.0	96
7	7	F	82	0	0.0	82	0	0.0	97
7	7	F	82	0	0.0	82	0	0.0	98
7	7	F	82	0	0.0	82	0	0.0	99
7	7	F	82	0	0.0	82	0	0.0	100
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7	7	F	82	0	0.0	82	0	0.0	128
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7	7	F	82	0	0.0	82	0	0.0	133
7	7	F	82	0	0.0	82	0	0.0	134
7	7	F	82	0	0.0	82	0	0.0	135
7	7	F	82	0	0.0	82	0	0.0	136
7	7	F	82	0	0.0	82	0	0.0	137
7	7	F	82	0	0.0	82	0	0.0	138
7	7	F	82	0	0.0	82	0	0.0	139
7	7	F	82	0	0.0	82	0	0.0	140
7	7	F	82	0	0.0	82	0	0.0	141
7	7	F	82	0	0.0	82	0	0.0	142
7	7	F	82	0	0.0	82	0	0.0	143
7	7	F	82	0	0.0	82	0	0.0	144
7	7	F	82	0	0.0	82	0	0.0	145
7	7	F	82						

Frequency Of Occurrence Of Flooding / Drainage Problems

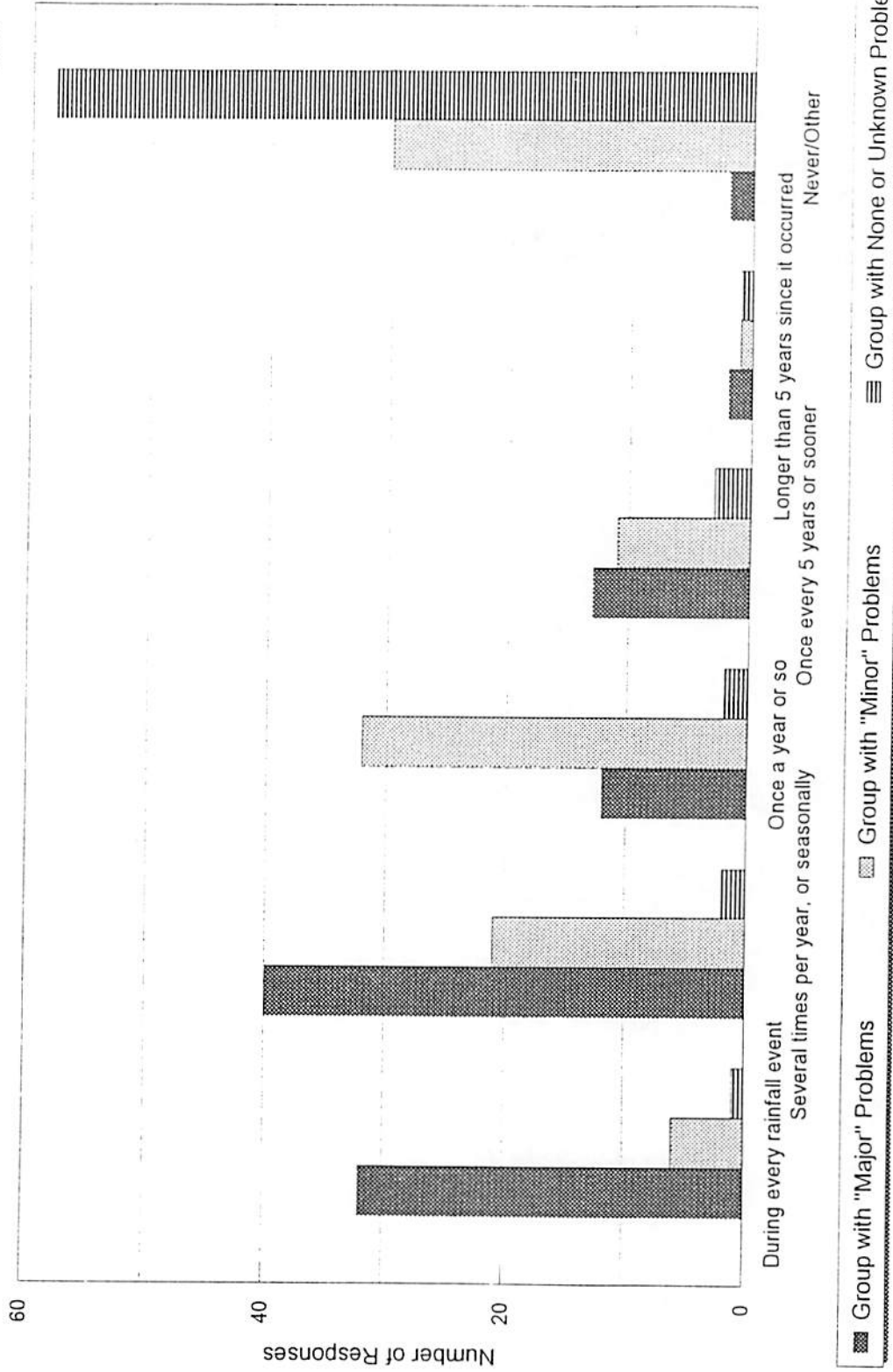


Figure III-2

OPINIONS ON COSTS RELATED TO DRAINAGE IMPROVEMENTS

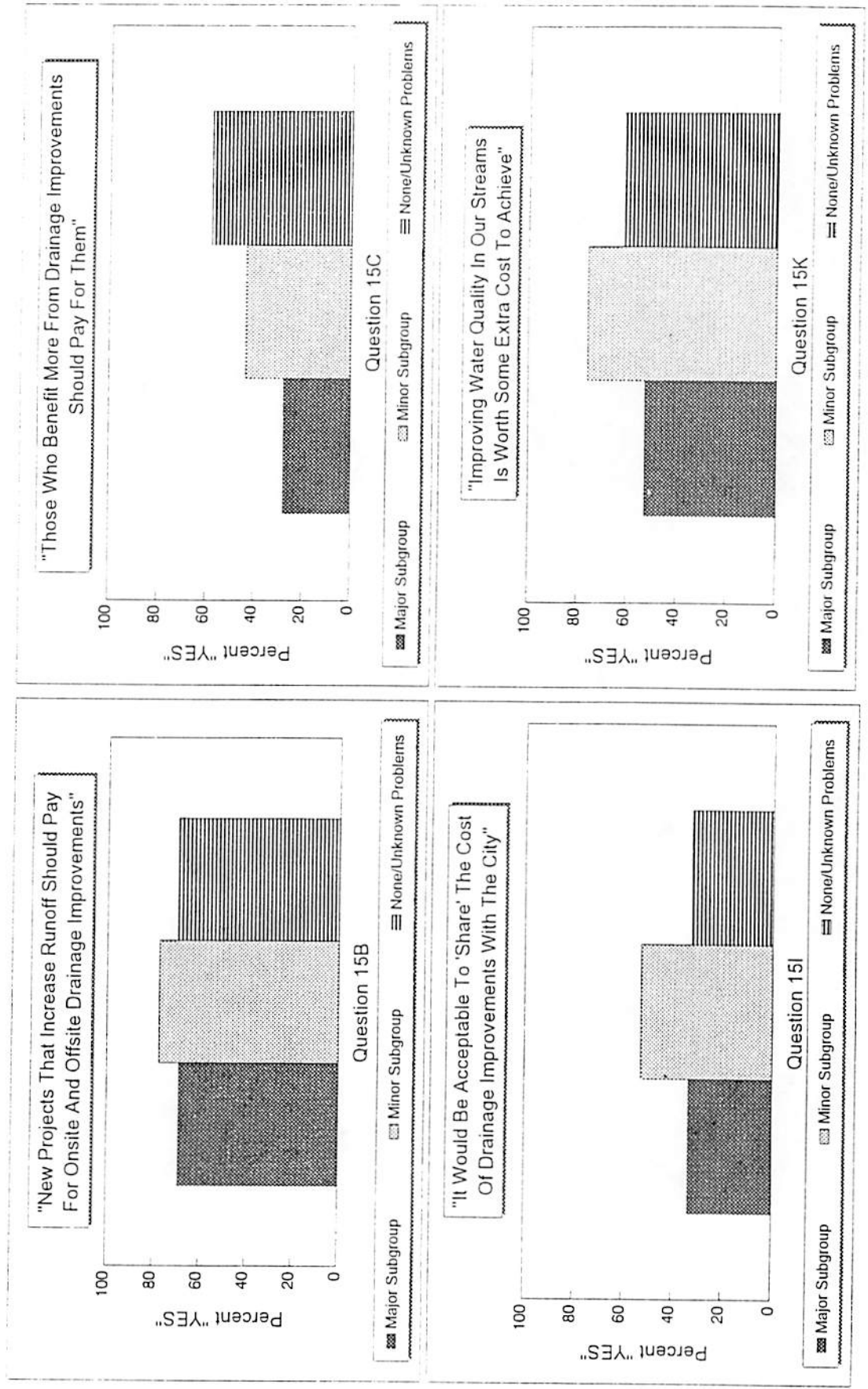


Figure III-3

OPINIONS ON CITY OWNERSHIP / MAINTENANCE OF STORMWATER CONVEYANCE FACILITIES

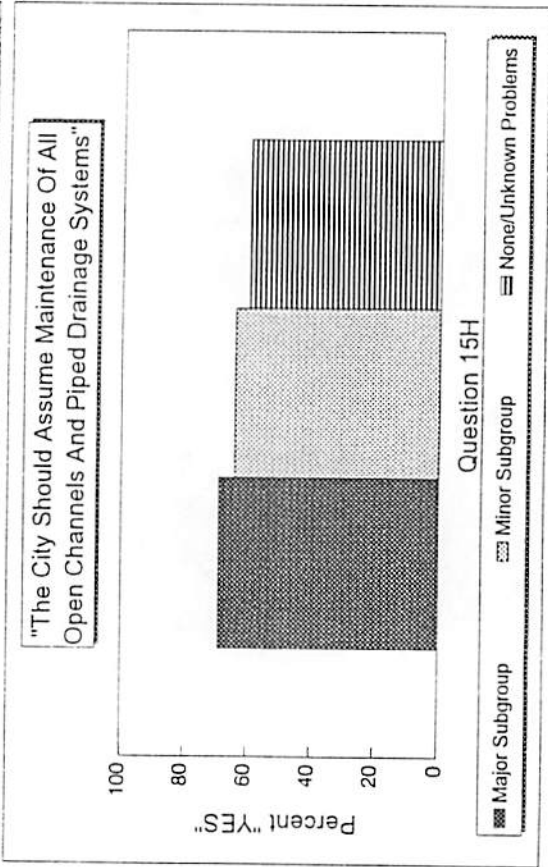
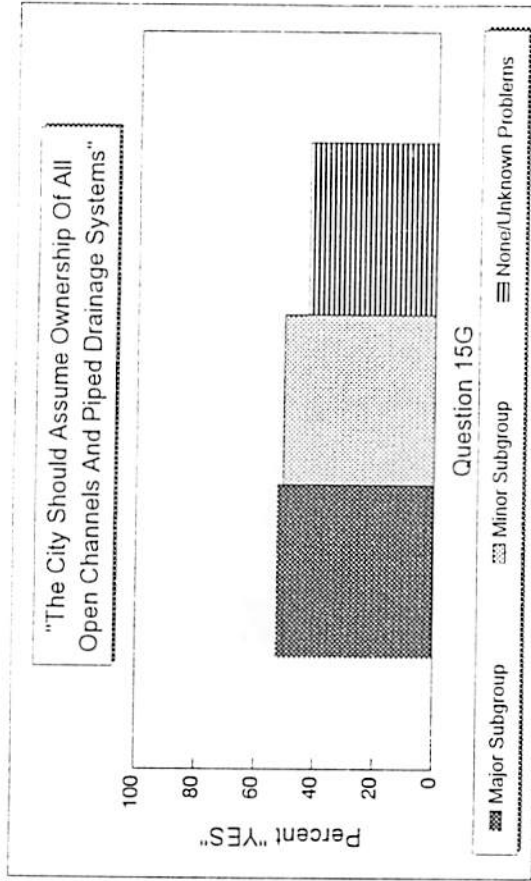
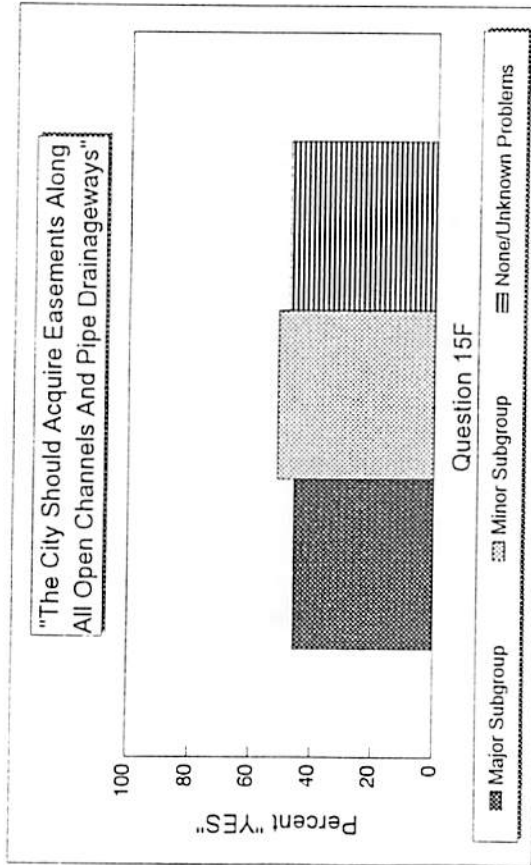


Figure III-4

OPINIONS ON AESTHETICS AND EFFECT OF DRAINAGE IMPROVEMENTS ON PROPERTY VALUES

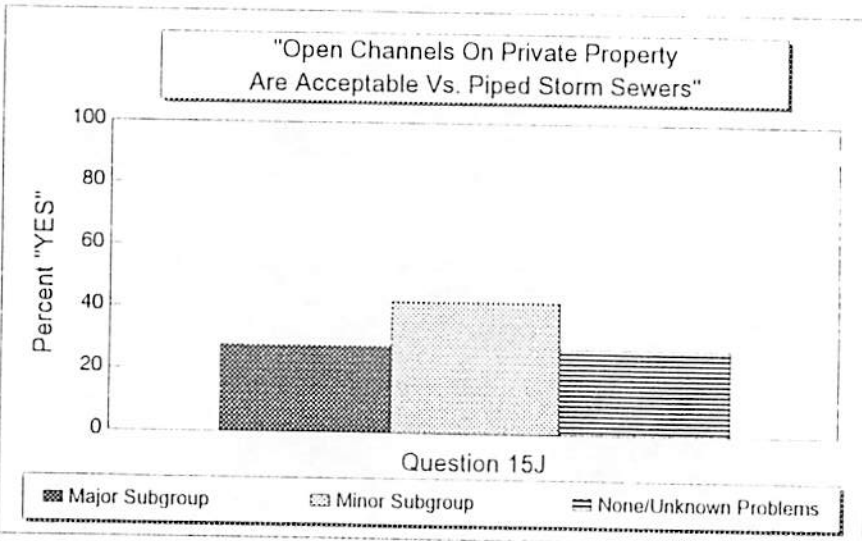
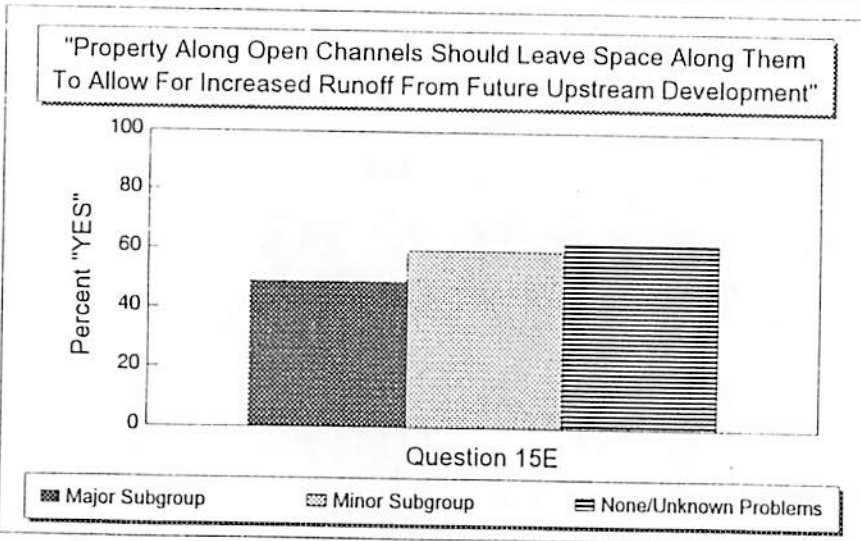
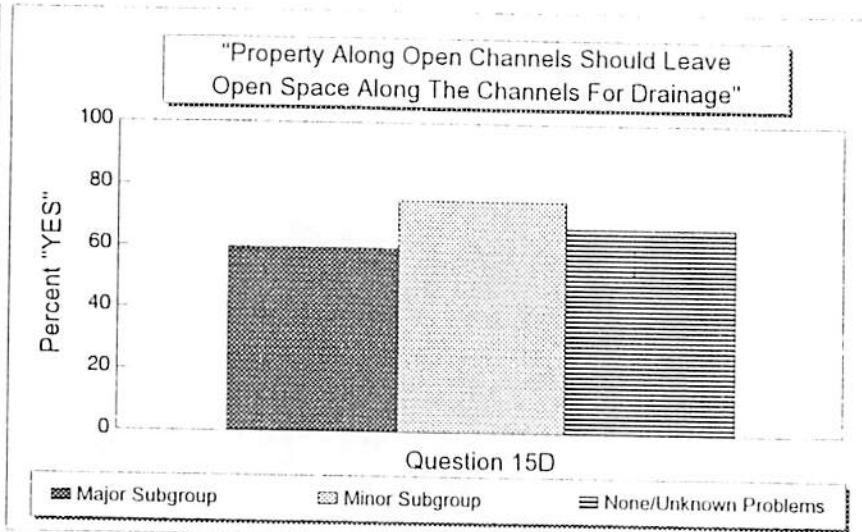
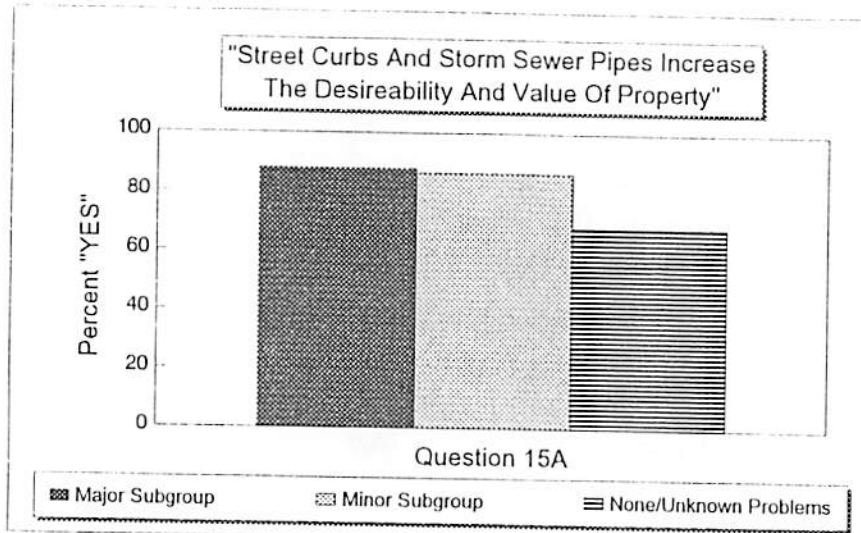


Figure III-5

OPINIONS ON FLOOD CONTROL

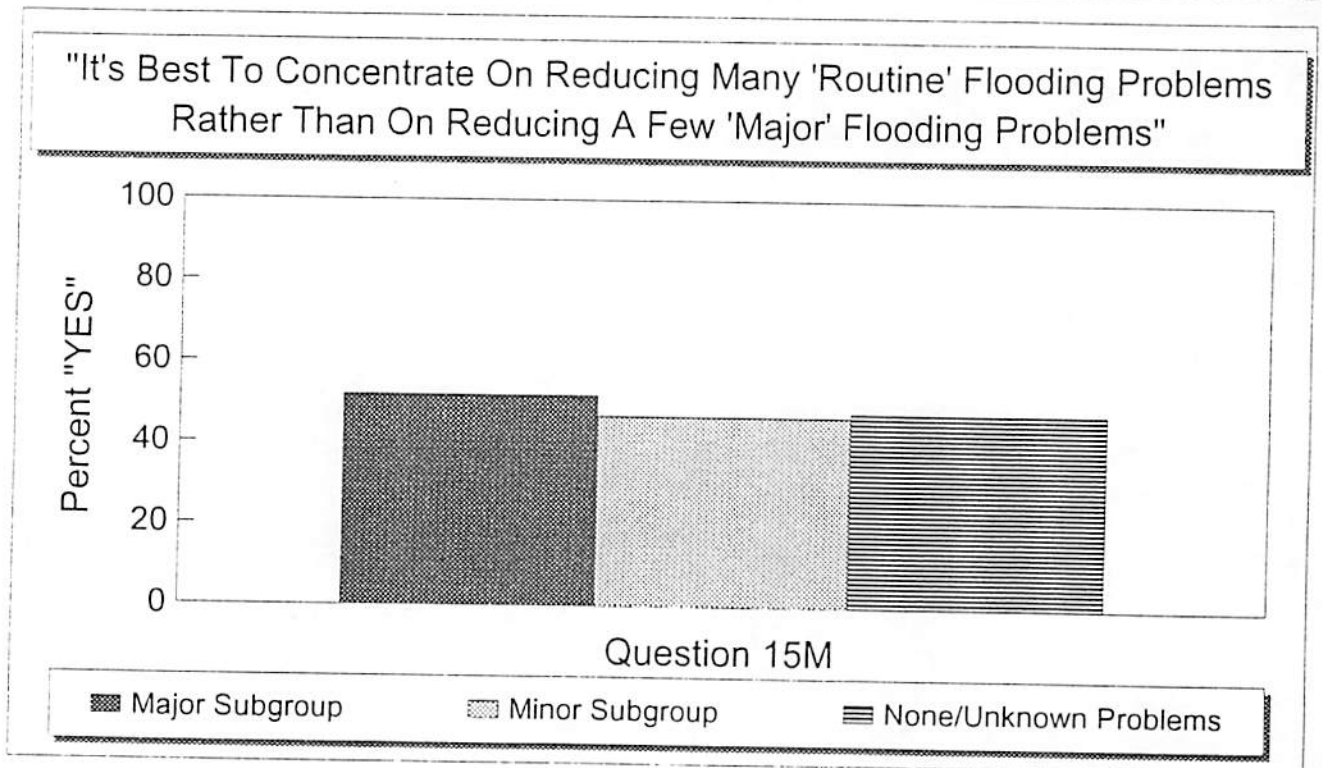
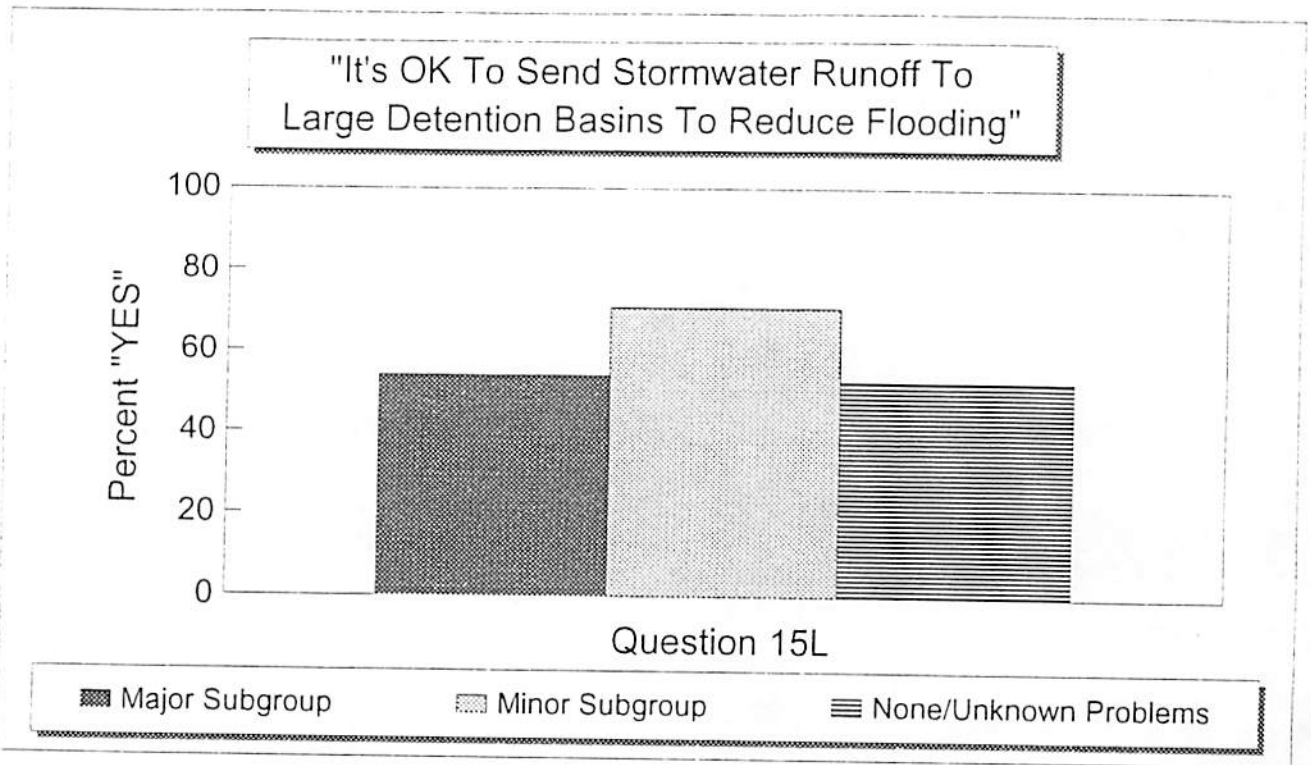
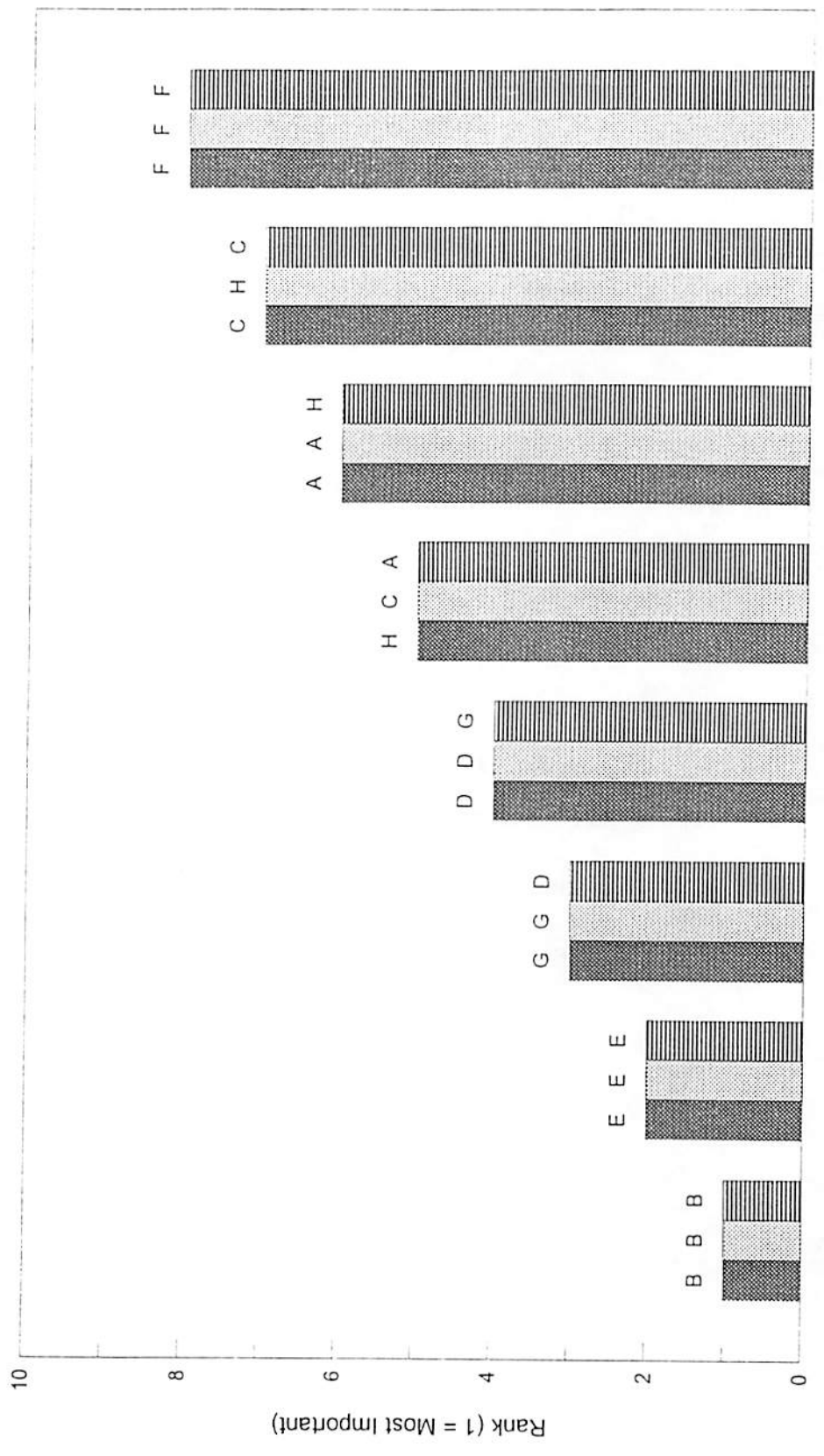


Figure III-6

Rank Of Drainage Improvements In Order Of Importance



Group with "Major" Problems
 Group with "Minor" Problems
 Group with None or Unknown Problems

Figure III-7

Figures VI-11 and VI-12 (Chapter VI) indicate a good correlation between the questionnaire responses and the system inadequacies identified by computer modeling. Responses that are a measurable distance away from the conveyance system are most likely on smaller system components that drain to the analyzed system. These flooding problems may be alleviated by correcting the identified inadequacies since the surcharging will be significantly reduced. Additionally, inadequacies may be identified where flooding presently has no adverse impact on residents or where no complaint has been registered. This approach of combining questionnaire responses with model results provides the opportunity to react to existing system inadequacies, as well as proactively address potential flooding locations before they actually occur.

D. Stormwater Hotline

A telephone hotline was established for reporting drainage problems during storm events. Black & Veatch answered the calls, recorded the pertinent information for database entry, and forwarded calls pertaining to sanitary sewer backups, street maintenance, etc., to the City. Some calls warranted site visits by City or Black & Veatch personnel. Publicity regarding the establishment of the hotline was provided through local news media. To provide the service at no cost to residents of Leavenworth, a local service was established, using a local call-in phone number which, in turn, was transferred long-distance to the Black & Veatch office. The Stormwater Hotline was set up in January 1995 and operated through to the end of the project in 1996. During the 24-month period, 25 telephone calls were recorded.

E. Public Information Meetings

The public was invited to attend the presentation of project information at Public Information Meetings. Two Public Information Meetings were held. The first meeting, held on May 17, 1995, was attended by approximately 20 citizens in addition to City and Black & Veatch personnel.

The final public presentation of the study was made by the City, Black & Veatch, and the Citizen's Stormwater Committee on June 15, 1999. Black & Veatch prepared visual aids for these meetings and assisted with answering questions.