

**ANNEX 3 (APPENDIX XVII)**  
**DETAILED FINANCIAL PROJECTIONS**  
**ALTERNATIVE 2**





NATIONAL WATER COMMISSION  
STATEMENT OF SOURCES & APPLICATION OF FUNDS

Alternative 2  
Scenario 3 Table 3

(0 Dollars Million)

FISCAL YEAR ENDING MARCH 31st	ACTUAL										PROJECTED																			
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
<b>SOURCES OF FUNDS:</b>																														
OPERATING INCOME	44.6	31.1	(102.3)	(93.6)	(76.9)	83.0	170.6	102.4	227.4	261.3	128.9	149.3	272.1	331.9	279.7	265.4	374.6	202.6	240.8	235.9	235.7	437.7	291.5	167.9	192.8	205.0	179.4	174.4	1,167.8	
ADD: DEPRECIATION	4.7	4.6	9.6	16.0	47.2	50.0	49.2	69.0	90.1	112.8	148.6	181.2	200.4	221.0	254.3	300.8	374.6	414.2	475.6	520.4	584.1	648.2	716.9	789.8	873.6	959.4	1,062.9	1,167.8	1,167.8	
DISPOSAL OF FIXED ASSETS	3.0	0.1																												
LESS: TAXES ON INCOME																														
TOTAL INTERNAL FUNDS GENERATION	52.3	35.8	(92.7)	(75.6)	(29.7)	133.0	219.8	171.4	317.5	374.1	277.5	330.5	472.4	552.9	534.0	574.1	749.2	616.8	716.4	756.3	819.8	1,085.8	1,008.4	957.7	1,066.4	1,164.5	1,242.4	1,342.2	1,342.2	
GOVERNMENT GRANTS	5.0	30.2	46.3	57.9	130.0	160.0	90.0	208.3	122.4	126.7	333.7	336.5	131.2	135.8	294.5	557.8	622.8	269.5	530.0	268.2	493.0	452.3	469.8	477.3	573.5	540.1	719.4	664.2	664.2	
WORLD BANK LOAN						208.0	190.0	190.0		118.3	122.4	336.5	131.2	135.8	294.5	557.8	622.8	269.5	530.0	268.2	493.0	452.3	469.8	477.3	573.5	540.1	719.4	664.2	664.2	
LONG-TERMS LOANS																														
TOTAL EXTERNAL SOURCE OF FUNDS	8.0	84.1	107.4	116.2	278.6	368.0	280.0	516.5	244.8	253.3	667.4	672.9	262.5	271.6	588.9	1,115.5	1,345.6	539.0	1,076.0	536.3	986.1	904.7	939.6	954.5	1,147.0	1,080.2	1,438.9	1,328.3	1,328.3	
TOTAL SOURCES OF FUNDS	60.3	119.9	14.7	46.6	248.9	501.0	499.8	687.9	562.3	627.5	944.9	1,003.4	734.9	824.5	1,122.9	1,689.7	2,094.8	1,155.8	1,792.4	1,292.6	1,805.9	1,996.5	1,948.0	1,912.2	2,213.4	2,244.7	2,681.2	2,670.6	2,670.6	
<b>APPLICATION OF FUNDS:</b>																														
CAPITAL EXPENDITURE-BANK PROJECT	22.5	108.6	65.9	117.6	204.8	429.0	270.0	270.0	244.8	253.3	667.4	672.9	262.5	271.6	588.9	1,115.5	1,345.6	539.0	1,076.0	536.3	986.1	904.7	939.6	954.5	1,147.0	1,080.2	1,438.9	1,328.3	1,328.3	
-OTHER																														
TOTAL CAPITAL EXPENDITURE	22.5	108.6	65.9	117.6	204.8	429.0	270.0	270.0	244.8	253.3	667.4	672.9	262.5	271.6	588.9	1,115.5	1,345.6	539.0	1,076.0	536.3	986.1	904.7	939.6	954.5	1,147.0	1,080.2	1,438.9	1,328.3	1,328.3	
LOAN INTEREST CHARGED TO INCOME	39.9	36.7	35.6	38.8	69.1	83.0	83.2	101.2	116.8	116.2	122.7	136.2	131.7	116.2	106.7	113.2	145.7	160.6	169.7	181.3	190.8	181.3	162.8	145.4	139.9	144.4	153.9	167.5	167.5	
REPAYMENT OF LONG-TERM LOAN PRINCIPAL	11.7	5.7	15.8	6.9	13.8	20.2	76.7	95.7	151.8	151.8	151.8	151.6	365.8	365.6	365.6	365.6	288.9	270.3	250.9	250.9	250.9	227.9	227.9	229.5	513.9	513.9	513.9	513.9	513.9	
DEBT SERVICE	42.6	42.4	51.4	46.7	82.9	103.7	159.9	196.9	268.4	267.8	274.3	287.8	497.3	481.8	472.3	478.8	434.6	430.9	420.6	432.2	441.7	899.2	890.7	874.9	653.8	658.3	667.8	681.0	681.0	
SHORT-TERM DEPOSITS																														
OTHER CURRENT ASSETS	27.7	54.4	(15.2)	44.1	531.2	205.9	57.5	(71.5)	(22.0)	5.6	(124.4)	(72.3)	(168.5)	61.2	57.6	95.6	138.7	55.7	132.1	103.1	132.2	176.3	114.7	128.1	176.1	179.5	199.4	214.6	214.6	
SHORT-TERM LOANS	5.0	(5.9)	(4.5)	(4.7)	(21.1)	(50.7)	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
OTHER CURRENT LIABILITIES	(35.0)	(76.5)	(86.8)	(155.1)	(541.2)	(223.9)	(10.1)	(3.0)	1.8	17.4	16.6	20.1	97.2	(35.0)	(47.9)	(68.8)	(81.4)	(64.5)	(80.3)	(74.4)	(94.0)	(96.4)	(102.7)	(109.0)	(121.6)	(136.0)	(145.2)	(153.7)	(153.7)	
CHANGE IN WORKING CAPITAL(INCR/DECR)	(3.1)	(28.0)	(106.5)	(115.7)	(31.1)	(66.8)	47.4	(65.8)	(11.5)	31.7	(99.1)	(43.6)	(62.6)	34.9	18.5	35.5	65.8	(8.8)	43.8	28.7	38.2	79.9	12.0	19.1	54.5	53.6	54.2	60.8	60.8	
LONG-TERM DEPOSITS(INVESTMENTS INCR/DECR)																														
OTHER LONG-TERM LIABILITIES(INCR/DECR)																														
DIRECT TRANSACTIONS TO EQUITY FUNDS																														
TOTAL APPLICATION OF FUNDS	62.0	123.0	10.8	48.6	236.6	463.9	476.6	637.5	501.6	552.9	842.6	917.2	697.2	788.4	1,079.7	1,629.9	1,846.1	961.1	1,540.5	997.2	1,466.0	1,893.8	1,842.4	1,848.5	1,855.3	1,792.1	2,160.9	2,070.1	2,070.1	
CASH INCREASE/DECREASE	(1.7)	(3.1)	3.9	(8.0)	(7.8)	37.0	21.3	50.4	60.7	74.5	103.3	66.3	37.7	36.1	41.2	59.8	248.8	194.7	251.9	295.4	340.0	96.7	105.7	63.7	358.1	452.6	520.3	600.4	600.4	
CASH BALANCE, BEGINNING	24.4	22.7	19.8	23.8	15.5	7.8	44.8	68.1	118.5	179.2	253.7	338.0	412.3	480.0	516.1	593.3	619.1	807.9	1,082.6	1,314.5	1,609.9	1,949.8	2,046.6	2,152.2	2,216.0	2,574.1	3,026.7	3,547.0	3,547.0	
CASH BALANCE, ENDING	22.7	19.6	23.5	15.5	7.8	44.8	68.1	118.5	179.2	253.7	338.0	412.3	480.0	516.1	593.3	619.1	807.9	1,082.6	1,314.5	1,609.9	1,949.8	2,046.6	2,152.2	2,216.0	2,574.1	3,026.7	3,547.0	4,147.4	4,147.4	

SUMMARY FINANCIAL ANALYSIS

SUMMARY FINANCIAL ANALYSIS

Alternative 2  
Scenario 3/ Table 4

(In Dollars Million)

FISCAL YEAR ENDING MARCH 31st	ACTUAL												PROJECTED																
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
OPERATING RATIO	85.4%	88.1%	111.7%	114.5%	94.1%	82.1%	81.0%	87.5%	85.4%	87.1%	94.0%	94.7%	91.9%	91.0%	93.0%	94.0%	92.7%	96.3%	96.0%	96.4%	96.5%	94.6%	96.7%	96.2%	96.1%	96.2%	96.2%	96.5%	94.7%
DEPRECIATION (%)	1.8%	1.7%	1.8%	3.3%	5.0%	4.7%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
RATE OF RETURN ON NET FIXED ASSETS	45.4%	15.7%	-30.0%	-20.1%	-12.2%	9.9%	16.8%	7.4%	12.1%	10.9%	4.2%	3.9%	6.3%	7.1%	5.5%	4.4%	5.1%	2.5%	2.6%	2.4%	2.2%	3.7%	2.3%	1.2%	1.3%	1.3%	1.1%	1.1%	1.5%
DEBT SERVICE COVERAGE (TIMES)	1.2	0.8	(1.8)	(1.6)	(0.4)	1.3	1.4	0.9	1.2	1.4	1.0	1.1	0.9	1.1	1.1	1.2	1.7	1.4	1.7	1.7	1.9	1.2	1.1	1.1	1.6	1.8	1.9	2.0	
SELF-FINANCING RATIO (%)(3-YEAR AVERAGE)	19.5%	32.6%	-38.6%	-5.1%	-32.5%	32.5%	3.1%	11.9%	18.1%	19.2%	19.3%	16.1%	9.4%	9.6%	6.8%	5.9%	24.9%	19.7%	35.1%	34.1%	42.0%	10.2%	11.3%	6.3%	33.8%	37.0%	40.6%	43.4%	
SELF-FINANCING RATIO (%)(1-YEAR)	56.9%	19.7%	-57.1%	-5.6%	-39.8%	22.8%	4.6%	8.0%	24.8%	29.4%	15.3%	12.8%	14.4%	13.3%	7.3%	5.4%	18.5%	36.1%	23.4%	55.1%	10.7%	11.2%	6.7%	31.2%	41.9%	36.2%	45.2%		
% LONG-TERM DEBT TO LONG-TERM DEBT + EQUITY	53.2%	54.0%	67.8%	80.0%	85.9%	73.3%	58.4%	52.7%	44.1%	37.3%	35.5%	30.6%	23.3%	17.6%	14.7%	16.2%	18.0%	17.0%	17.7%	16.8%	14.0%	11.1%	8.8%	8.2%	8.0%	7.7%	8.1%	9.3%	
CURRENT RATIO - (CURR.ASSETS/CURR.LIAB'S)	1.2	1.0	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.9	1.0	0.9	0.9	0.9	1.0	1.2	1.5	1.6	1.8	2.1	1.8	1.8	1.9	2.1	2.1	2.3	2.5	2.7	3.3
QUICK RATIO - (QUICK ASSETS/CURR.LIAB'S)	1.1	0.9	0.7	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.8	0.7	0.8	0.9	1.0	1.3	1.4	1.7	1.9	1.6	1.7	1.7	1.9	2.1	2.3	2.5	3.0	
ACCOUNTS RECEIVABLE - AVER. NO. MONTHS SALES	10.1	11.3	9.4	9.3	9.3	8.5	7.2	6.2	5.1	4.5	3.6	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Acc. Rec. - No of days worth of water & sewerage billings	310.8	345.1	289.4	284.7	285.4	270.8	228.3	194.9	159.5	141.7	113.8	88.5	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Acc. Payable/ Cash Expenditures - No. of days	30	55	94	150	230	200	190	160	140	120	100	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Debt/Allowance/Water and Sewerage Billings	9.3%	5.4%	13.3%	12.1%	4.4%	5.0%	9.9%	12.2%	11.2%	11.3%	10.7%	6.7%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Other Accounts Receivable/ Other Income	344	1,971	730	1,253	659	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Inventories/Materials, chemicals, etc.	445	599	995	466	225	200	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Cash & Bank	36	28	25	14	3	15	20	31	41	52	62	44	63	63	62	61	75	84	94	105	116	111	107	101	107	116	124	133	

**APPENDIX XIX**

**Preliminary Sociological Assessment  
of the Soapberry Lands**

(by Environmental Solutions Ltd.)



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November 24, 1993

Mr. Horace Beckford  
Sentar Consultants Ltd.  
231a Old Hope Road  
Kingston 6

Dear Mr. Beckford

Attached, please find the report on the Preliminary Sociological Assessment of the Soapberry Lands, St. Catherine.

As we discussed, this report addresses two main themes, a public education programme outline and qualification of benefits from Harbour clean-up. Please let us know if this report meets your requirements.

Yours sincerely  
ENVIRONMENTAL SOLUTIONS LTD.

*E. S. L.*  
ELEANOR JONES  
MANAGING DIRECTOR

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Comprehensive Services in Environmental Management

PRELIMINARY SOCIOLOGICAL ASSESSMENT  
OF THE  
SOAPBERRY LANDS, ST. CATHERINE

Submitted to  
SENTAR CONSULTANTS LTD.  
231a Old Hope Road  
Kingston 6

ENVIRONMENTAL SOLUTIONS LTD.  
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## 1.0 INTRODUCTION

SENTAR Consultants Ltd. (Canada) is proposing sewage treatment facilities using sewage stabilisation ponds to be sited on the Soapberry Lands, St. Catherine. Environmental Solutions Ltd (ESL) was requested by SENTAR to carry out a site description of the Soapberry Lands. This was completed in September 1993. ESL has now been requested to carry out a Preliminary Sociological Assessment of the proposed project.

### 1.1 BACKGROUND

The site was formerly a floodplain with mangroves and other wetland/swamp vegetation above a peaty substrate. The site was dumped with various types of landfill in preparation for a housing development, which has since been aborted.

### 1.2 SCOPE OF WORK

ESL was retained by SENTAR to carry out a Preliminary Sociological Assessment of the proposed project based on previous site inspection, informed opinion and structured interviews. This assessment will focus on two areas:

1. Public Education Programme Outline
2. Qualification of Benefits from Harbour Clean Up.

## 2.0 EXISTING SOCIOLOGICAL ENVIRONMENT

The Soapberry Lands are situated on Jamaica's south east coast between Hunts Bay and the railway right-of-way south and north, respectively, and between the Rio Cobre and the Duhaney River, west and east, respectively. The Lands are surrounded by the settlements of Waterford to the west, Riverton City to the north east and the periphery of the Kingston Metropolitan Area to the east.

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To the south east is the city of Kingston, the capital and largest city in the island and to the south west is Portmore a town which is reported as being the fastest growing area in Jamaica (PIOJ, 1993).

## 2.1 CURRENT LAND USE

At present there is considerable evidence of human disturbance at the site. These include the following:

1. Use of dykes as walkways
2. Mangrove cutting
3. Squatting
4. Overgrown agricultural plots
5. Unfinished construction
6. Sand mining

Mangrove cutting, squatting and sand mining are all illegal activities. Fishermen use the dykes as walkways to access the mouth of the Rio Cobre and Hunts Bay from surrounding townships such as Waterford and Riverton City. Agricultural activities have been abandoned and it is not known at present who is responsible for the unfinished construction.

The acreage and layout of the land suggest that the construction of sewage ponds should not have a negative impact on the surrounding communities.

## 3.0 PUBLIC EDUCATION PROGRAMME OUTLINE

### 3.1 THE NEED FOR PUBLIC EDUCATION

It is anticipated that a public education programme will be essential for the following reasons:

1. To increase awareness of the existing condition of Kingston Harbour and Hunts Bay
2. To inform the public of the role of SENTAR Consultants in the clean up of Kingston Harbour

3. To inform the public of the establishment of the sewage ponds, and
4. To inform the public of the potential benefits of the sewage ponds.

Without adequate public education there could be resistance and non-acceptance of the project by the public. This could result in public resentment, bad publicity, blocking of the project and non cooperation.

Sewage ponds are a relatively new concept in Jamaica being recently implemented by the National Water Commission due to the low technology, low maintenance and low energy benefits. Sewage ponds are currently in use in the Greater Portmore Development.

### 3.2 OUTLINE OF PUBLIC EDUCATION PROGRAMME

The public education programme outline being put forward will specifically assist with:

1. Acceptance of ponds
2. Acceptance of need for dislocation during construction
3. Gully clean-up and alternatives to gully dumping, and
4. Health benefits of Harbour clean-up.

#### 3.2.1 Target Groups and Areas

The following groups should be targeted:

1. Fishermen
2. School children

The following townships/communities should be targeted:

1. Portmore
2. Waterford
3. Riverton City
4. Spanish Town
5. Periphery of the KMA

## 5.0 OPINIONS

During the course of the site assessment the opportunity was taken to interview available persons in order to get their opinions on the use of the Soapberry Lands for sewage ponds. Three fishermen were interviewed. They had similar views and collectively their responses were:

1. There was no knowledge at all of the proposed project.
2. There was no objection to the idea of the establishment of sewage ponds.
3. There was eagerness to have the Harbour and Hunts Bay cleaned up as they recognise that the problem of pollution has resulted in diminished fish stocks.
4. If sewage ponds will improve the fisheries in any way they will support them.
5. If sewage ponds will decrease the fisheries in any way they will reject them.

## REFERENCES

PLANNING INSTITUTE OF JAMAICA (PIOJ). 1993. Economic and Social Survey, Jamaica 1992. PIOJ, June 1993.

GENTAR CONSULTANTS LTD. 1993. Kingston Harbour Environmental Project - Site Description of the Soapberry Lands, St. Catherine. Prepared by Environmental Solutions Ltd. September 1993.

### 3.2.2 Acceptance of Ponds

The following outlines the topics that should be addressed in order to ensure acceptance of the ponds:

1. Current state of degradation of Kingston Harbour
2. Reasons for this current state of degradation
3. Current methods of sewage treatment for surrounding townships
4. The need for adequate sewage facilities
5. Sewage ponds vs alternative methods
6. Short term and long term benefits of the sewage ponds.

### 3.2.3 Dislocation during construction

At present it does not appear that there will be any need for dislocation of residents in surrounding communities. This should be made known. It is anticipated that there will have to be removal of the single squatter. There may be possible dislocation of fishermen who currently use the dykes as walkways although this should not be necessary if construction boundaries are placed inside the dykes and not on top of them. The public needs to be informed of site preparation and construction activities as well as maintenance activities in the long term.

### 3.2.4 Gully Clean-Up

The following issues should be addressed:

1. Effects of dumping in gullies and rivers (flooding, reduction of aesthetic appeal, public health risk)
  2. Existing legislation prohibiting dumping
  3. Schools clean-up programme
  4. Proper methods for solid waste disposal.
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### 3.2.5 Health Benefits of Harbour Clean-Up

The following topics should be addressed:

1. Existing health risks and causes
2. Skin disorders
3. Improved quality of fish and other marine life.

### 4.0 QUALIFICATION OF BENEFITS FROM CLEAN-UP

The following table summarises the main areas of interest regarding Harbour clean-up, the existing problems and potential benefits from clean-up.

Table 1: Harbour Clean-Up: Areas of Interest, Existing Problems and Potential Benefits

Area of Interest	Existing Problems	Potential Benefits
Fish Resources	<ol style="list-style-type: none"> <li>1. Diminishing fish stocks</li> <li>2. Reduction in size of catch</li> <li>3. Increasing catch of 'trash' fish'</li> </ol>	<ol style="list-style-type: none"> <li>1. Long term increase in fish stocks</li> <li>2. Increase in size of catch</li> <li>3. Increasing catch of 'market fish'</li> </ol>
Recreational Opportunities	<ol style="list-style-type: none"> <li>1. Poor swimming conditions due to poor water quality and solid waste deposition</li> </ol>	<ol style="list-style-type: none"> <li>1. Better water quality and hence better swimming conditions</li> </ol>
Aesthetics/Visual Amenities	<ol style="list-style-type: none"> <li>1. Solid waste deposition</li> <li>2. Scum/slime on water</li> <li>3. Ambient smell</li> </ol>	<ol style="list-style-type: none"> <li>1. Improved visual appeal</li> <li>2. Overall improved aesthetic conditions</li> </ol>
Health Benefits	<ol style="list-style-type: none"> <li>1. Skin disorders</li> <li>2. Consumption of fish that ingest poor quality water</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduction of skin disorders</li> <li>2. Consumption of cleaner fish and other marine organisms</li> </ol>



period under review. Projected current ratio is in some years lower than 1, and never higher than 2.2.

Since the need for cash flow to service debt is the most important factor driving tariff increases, the rate of return target is a less critical determinant of tariffs. As is shown in Table 4 (Scenario 1), the NWC is expected to generate an annual return on net fixed assets not lower than 3.0%. However, the rate of return projected is higher than this, due to the revenue provided to meet debt service requirements and the fact that the fixed assets have never been revalued. Projected revaluation over the 1994-2015 period will be sufficient to reflect future inflation, but cannot offset its influence over the past period. Net income which is presented in the projected income statement in Table 1 (Scenario 1), is projected to be positive over the whole period under review.

Under Scenario 2, the average annual increase in the total revenue over the 1995-2015 period is projected not to be higher than 16.5%. The average annual increase in incremental sewerage tariffs is projected to be very high, in some years more than 75%. The required increase in total revenue and average incremental tariffs is presented in Table 5 and Table 6 respectively. The requirement for tariff increases is primarily driven by the need to generate sufficient cash flows to cover debt service. However, Government grants would reduce internal cash generation needs and, therefore, would reduce somewhat the magnitude of required tariff increases. Cash balances should increase significantly over the 1995-2015 period. As shown in Table 4 (Scenario 2), projected ending cash balances increased from 31 days worth of cash operating and maintenance expenses in 1995 to 82 days in 2005 and 181 days by 2015.

Under Scenario 3, the average annual increase in the total revenue over the 1995-2015 period is projected not to be higher than 16.5%. The average annual increase in incremental sewerage tariffs is projected to be very high; in some years more than 75%. The required increase in total revenue and average incremental tariffs is presented in Table 5 and Table 6 respectively. The lower rate of increase required under Scenario 3 relative to Scenario 2 is due entirely to the lower rate of return target established for the former.

Although the annual rates of return generated under Scenario 3 are 1.0%, while those for Scenario 2 are 3.0%, cash flows under the former scenario should be satisfactory. Projected total internal cash generation is shown in Table 3 (Scenario 3). As shown in Table 4 (Scenario 3), projected ending cash balances increase from 31 days worth of cash operating and maintenance expenses in 1995 to 84 days in 2005 and to 133 days by 2015.

## **7.2 PROJECTED FINANCIAL PERFORMANCE**

There is presently a requirement to significantly increase water and sewerage tariffs totally independent of the proposed project. This requirement is due to a lack of an adequate increase in tariffs over the past period. Therefore, existing tariffs need to be immediately increased in order to offset the cumulative impact on operating and maintenance costs of inflation over the 1988-1992 period and to reflect the existing NWC operation and maintenance costs.

In order to obtain full cost recovery by 1998, it is estimated that the average water and sewerage tariffs would need to be increased by just over 20%. All of the three scenarios evaluated, therefore, incorporate a 19.6% increase in the average water and sewerage tariff by 1998 which is that required to ensure an adequate cash flow position and to offset a portion of past inflation.

However, it is important to bear in mind that all projections are based on the NWC's 1993 budget, which already incorporated 28% tariffs increase in the same year.

The other important fact is that all of the three scenarios include only the proposed project. Due to limited available data, it was not possible to project all other capital works to be undertaken by NWC over the project implementation time period.

NATIONAL WATER COMMISSION

INCOME STATEMENT

(In Dollars Million)

Alternative 1  
Scenario 3/ Table 1

	ACTUAL										PROJECTED																		
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	20	
LOAN INTEREST CHARGED TO INCOME	307.2	313.6	357.7	415.1	1,083.6	1,406.5	1,716.5	1,802.3	2,024.9	2,168.7	2,208.8	2,312.2	2,386.5	2,505.8	2,631.1	2,762.7	2,900.8	3,045.8	3,198.1	3,358.0	3,525.9	3,702.2	3,887.3	4,081.7	4,328.6	4,545.1	4,772.3	5,086	
REVENUE: NEW PROJECT																													
REVENUE: EXISTING																													
WATER																													
SEWERAGE																													
OTHER OPERATING INCOME	3.4	1.5	3.0	3.0	9.7	66.9	72.3	75.9	79.7	83.6	87.8	92.2	96.8	101.7	106.7	112.1	117.7	123.6	129.8	136.2	143.1	150.2	157.7	165.6	173.9	182.6	191.7	201	
TOTAL OPERATING REVENUE	310.6	315.1	360.7	418.1	1,093.3	1,473.4	1,788.7	1,928.9	2,246.5	2,509.4	2,683.6	3,072.3	3,343.3	3,667.2	3,947.6	4,412.6	4,862.1	5,313.5	5,946.0	6,449.7	7,346.2	7,833.2	8,467.6	9,123.9	9,937.3	10,806.0	11,682.6	12,552	
OPERATING EXPENSES																													
SALARIES, WAGES, & STAFF BENEFITS	85.9	106.1	159.7	148.2	310.9	398.5	430.3	453.8	478.4	504.2	531.6	560.4	590.5	622.2	655.5	690.5	728.2	773.2	820.8	870.8	923.3	978.5	1,036.5	1,097.5	1,161.6	1,228.9	1,299.6	1,374	
ELECTRICITY	71.4	58.6	67.6	155.7	407.6	381.3	415.9	444.1	473.9	505.6	540.2	576.9	615.8	657.1	700.9	748.2	803.1	882.2	970.0	1,063.1	1,161.8	1,266.5	1,377.5	1,497.0	1,623.6	1,758.7	1,902.2	2,055	
MATERIALS, CHEMICALS, SUPPLIES, & SPARE PARTS	16.8	21.4	12.8	27.0	56.0	58.4	72.5	90.1	111.9	117.5	123.4	129.5	136.0	142.8	149.9	157.4	165.3	173.6	182.3	191.4	200.9	211.0	221.5	232.6	244.2	256.4	269.3	282	
MAINTENANCE	36.0	46.5	71.5	21.1	45.4	53.4	98.5	179.5	285.4	421.0	638.9	985.7	1,147.2	1,264.7	1,455.1	1,741.3	2,090.9	2,314.2	2,662.4	2,915.3	3,276.2	3,639.5	4,028.6	4,441.5	4,916.5	5,402.5	5,880.2	6,355	
ADMINISTRATION	21.9	23.5	34.1	58.2	114.0	198.1	213.9	224.6	237.0	249.9	263.5	277.9	293.1	309.0	325.8	343.3	361.9	384.4	408.0	435.5	464.4	494.7	526.7	560.3	595.8	633.0	672.3	713	
PROVISION FOR DEPRECIATION	4.7	4.6	9.6	18.0	47.2	50.0	49.2	69.0	90.1	112.8	148.6	181.2	200.4	221.0	254.3	304.4	365.4	404.5	465.4	509.7	572.8	636.3	704.4	776.7	859.8	944.9	1,028.5	1,111	
DOUBTFUL ACCOUNTS ALLOWANCE	28.7	17.0	47.6	50.4	48.0	70.0	169.3	226.2	241.8	275.0	277.0	199.0	129.9	142.6	153.6	172.0	189.8	207.8	232.7	252.5	288.1	307.3	332.4	358.3	390.5	424.9	459.6	494	
TOTAL OPERATING EXPENSES	265.4	277.7	402.9	478.6	1,029.1	1,209.7	1,449.8	1,687.3	1,918.5	2,185.9	2,523.0	2,910.6	3,113.0	3,359.5	3,695.2	4,157.2	4,704.5	5,137.9	5,741.5	6,238.3	6,887.6	7,533.9	8,227.8	8,963.8	9,792.0	10,649.4	11,511.6	12,387	
NET OPERATING INCOME	45.2	37.4	(42.2)	(60.5)	64.2	263.7	339.0	241.7	328.1	323.5	160.6	161.7	230.3	307.8	252.4	255.4	157.5	181.6	204.5	211.5	458.6	299.3	239.8	160.1	145.3	156.6	170.9	165	
LOSSES ON FOREIGN EXCHANGE	0.6	6.3	60.1	33.1	141.1	180.8	168.4	139.4	101.0	62.7	32.5	13.4	4.2	0.9	0.1														
NET INCOME BEFORE INTEREST	44.6	31.1	(102.3)	(93.6)	(76.9)	83.0	170.6	102.2	227.1	260.8	128.1	148.3	226.1	306.9	252.3	255.4	157.5	181.6	204.5	211.5	458.6	299.3	239.8	160.1	145.3	156.6	170.9	165	
TOTAL INTEREST ON LOANS	30.9	36.7	35.6	39.8	69.1	83.0	83.2	100.2	115.8	114.2	120.7	135.2	133.7	121.2	114.7	133.2	150.7	166.6	177.7	193.3	187.8	166.3	152.8	139.4	135.9	141.4	142.9	138	
LESS: INTEREST DURING CONSTRUCTION CAPITALIZED						(0.0)	87.4	2.1	111.3	146.5	7.4	13.0	92.4	185.7	137.6	122.2	6.8	15.0	26.8	18.2	270.8	133.0	87.0	20.7	9.4	15.2	28.0	26	
NET INTEREST CHARGED TO OPERATIONS	30.9	36.7	35.6	39.8	69.1	83.0	83.2	100.2	115.8	114.2	120.7	135.2	133.7	121.2	114.7	133.2	150.7	166.6	177.7	193.3	187.8	166.3	152.8	139.4	135.9	141.4	142.9	138	
NET INCOME BEFORE TAXES	13.7	(5.6)	(137.9)	(133.4)	(146.0)	(0.0)	87.4	2.1	111.3	146.5	7.4	13.0	92.4	185.7	137.6	122.2	6.8	15.0	26.8	18.2	270.8	133.0	87.0	20.7	9.4	15.2	28.0	26	
TAXES ON INCOME						(0.0)	87.4	2.1	111.3	146.5	7.4	13.0	92.4	185.7	137.6	122.2	6.8	15.0	26.8	18.2	270.8	133.0	87.0	20.7	9.4	15.2	28.0	26	
NET INCOME	13.7	(5.6)	(137.9)	(133.4)	(146.0)	(0.0)	87.4	2.1	111.3	146.5	7.4	13.0	92.4	185.7	137.6	122.2	6.8	15.0	26.8	18.2	270.8	133.0	87.0	20.7	9.4	15.2	28.0	26	



**ANNEX 1**

**APPENDIX XVI**

**IMPACT OF WETLANDS DISCHARGE TO FRESH RIVER**

**(BY UNDERGROUND WATER AUTHORITY)**

## Effluent Discharge to Ferry River

### Background

SENTAR Consultants Ltd. is considering the use of the abandoned 600 acre experimental fresh water removal pond at Caymanas Bay for sewage treatment.

An estimated 30 - 60 MGD of treated effluent would then be discharge into the Ferry River.

SENTAR has requested the UWA to advise on:-

- (1) Embankment height and width of channel required to contain flow adjacent to "Wetlands"
- (2) Capacity of lower river channel to contain the additional flow.

### Methodology

The present assessment should be considered preliminary or pre-feasibility level.

Feasibility level assessment to enable engineering design will require detailed survey of channel profile at different cross-section, back-water analysis and tidal-integration analysis of stream flow.

The analysis is done by considering the following:

- 1 Review of existing stream flow data for the two stations on the Ferry River to determine average flow velocity
- 2 Determination of cross-section area at the two stations
- 3 Review of stream hydrograph to assess magnitude of tidal influence
- 4 Review of existing information on flooding in the Ferry-Caymanas Bay area.

The increase in river stage as a result of addition of treated effluent is calculated from the relationship :

$$h = Q/WV$$

where

h - river stage (ft)  
Q - discharge (cfs)  
W - width of stream channel (ft)  
V - average flow velocity (ft/s)

## River Discharge

The UWA in the past, have monitored the flow in the Ferry River at gauging stations at Caymanas and at the high-way bridge (see map).

The stream flow at Caymanas gauging station range from 31 cfs to 94.4 cfs with a mean of 48.9 cfs.

The flow at the high-way bridge station range from 26.8 cfs to 144 cfs and a mean of 49.10 cfs. The discharge measurements at the high way bridge station is influenced by flow regulation at the weir. The weir has since been removed.

The period of record at the two stations are not the same.

The maximum stage observed at the Ferry River gauging station and at the high-way bridge station are 6.25 ft. and 5.95 ft. respectively.

The Ferry River is influenced by tide. The tidal influence on the river extends to the Caymanas gauging station where the river bed is 4 ft below sea level. The tidal range is 0.25 ft. at the Caymanas gauging station and 0.61 ft. at the high-way bridge station.

## Impact of Effluent Discharge

The exact point of discharge of the treated effluent into the river is not known.

The addition of 60 MGD (93 cfs) of treated effluent represent approximately 100% of the high flow at the Caymanas gauging station, and 65% of the recorded high flow at the high-way bridge station.

Preliminary calculation indicates that the addition of 60 MGD of effluent discharge would create a 3 feet rise in stage at the highway bridge and 4.5 feet rise at the Caymanas gauging station. This is assuming the discharge point will be up-stream of the Caymanas gauging station.

The influence of the tide will create an additional increase in stage which is expected to be approximately 0.5 - 0.75 feet.

The estimated rise in stage as a result of effluent discharge is expected to cause flooding in low lying areas adjacent to the river channel.

The addition of this quantity of discharge will create a back-water effect, which could result in flooding in the Caymanas Bay area.

An embankment of a minimum 3 ft. would be required adjacent to the Wetlands and also along other sections of the stream to confine peak flow to the river channel.

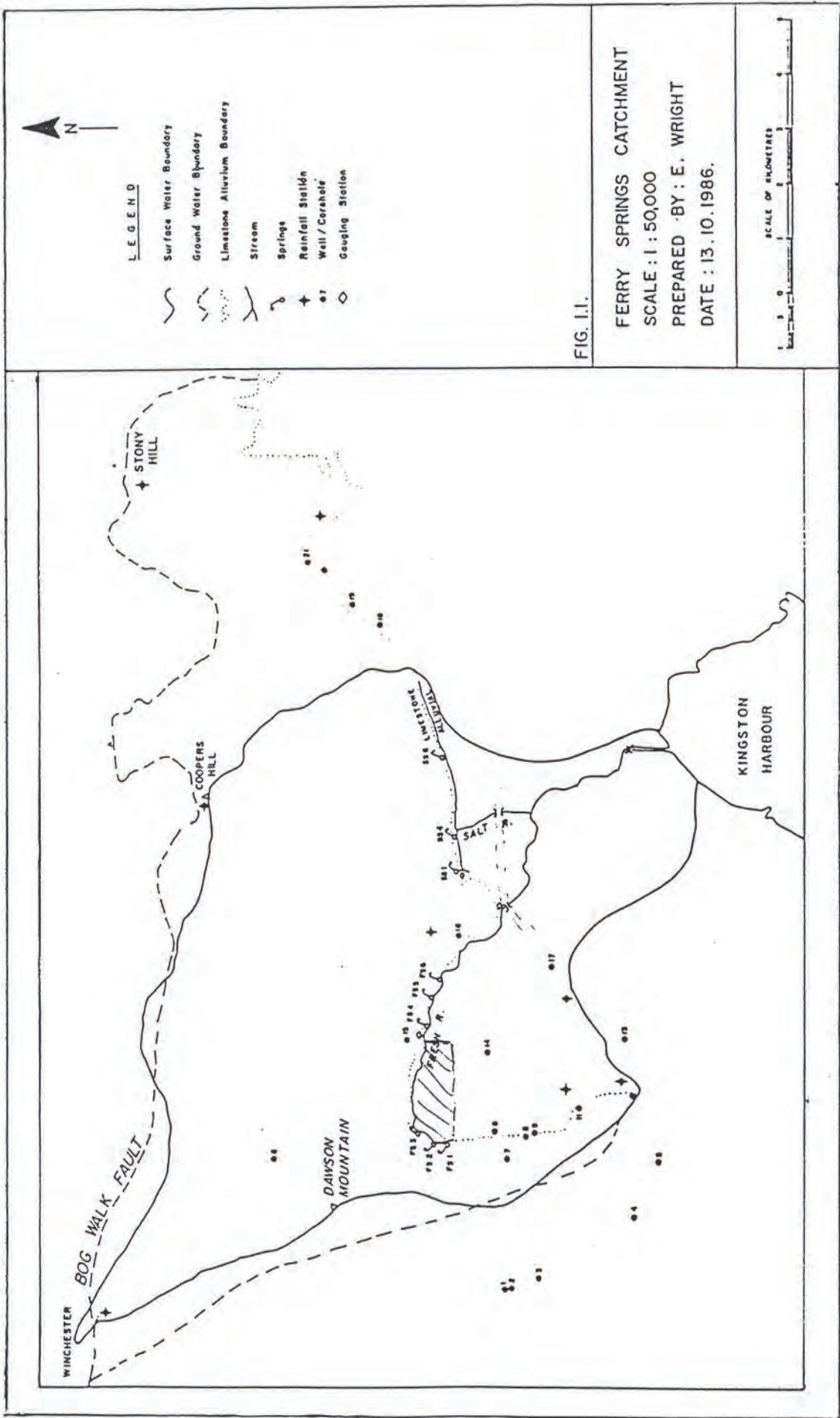
### Conclusions

The findings presented are very preliminary and more detailed work is necessary for engineering design.

The addition of 60 MGD of treated effluent to the Ferry River is likely to cause flooding at Caymanas Bay and also in the lower section of the channel.

An embankment of a minimum 3 feet is required to confine the additional flow to the river channel. This will not only be required adjacent to the wetlands but also in other areas.





**APPENDIX XVII**

**Financial Analysis of Sewerage System**

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## 1.0 FINANCIAL MANAGEMENT POLICIES AND OBJECTIVES

The National Water Commission (NWC) is a statutory body of the Government of Jamaica, providing potable water and sanitary sewer services throughout the island. The NWC provides retail service to approximately 265,000 customers, about 50,000 of whom also are registered as customers of sewerage.

The overall financial policies and objectives of the NWC have been set by the National Water Commission Act of 1980. Since its establishment, the National Water Commission has alternatively been assigned to either the Ministry of Local Government or the Ministry of Public Utilities and Transport. After recent changes implemented by a newly elected Government, the National Water Commission is currently assigned to the Ministry of Water and Transport. Those policies and objectives stated in the Act, relating to financial management are as follows:

- It shall be the function of the Commission to provide and improve water supply services within the limits of its resources throughout the island.
- All rates and charges imposed by the Commission for water sold and services rendered by the Commission shall be so fixed that, taking one year with another, the revenue derived in any year by the Commission from such sales and services, together with its revenue (if any) in such year from other sources, will be sufficient and only sufficient as nearly might be, to pay all remunerations, allowances, salaries, gratuities, working expenses and other outgoings of the Commission properly chargeable to income in that year including the payments falling to be made in such year by the Commission in respect of the interest on, or repayment of, the principal of any money borrowed by the Commission under this Act, and such sums as the Commission may think proper to set aside in that year for reserve fund, expansions, extensions, renewals, depreciations, loans and other like purposes.

- The rates and charges may, if the Commission thinks fit, be fixed on different scales for different localities.
- The accounts and records shall be kept in such manner as to serve the provisions of separate information as respects the supply of water, and each of any other main activities or undertaking of the Commission, and to show as far as may be, the financial and operating results of each such activity or undertaking.
- It shall be the function of the Commission to prepare and submit to the Minister from time to time proposals for the establishment of an efficient, co-ordinated and economical water supply system capable of meeting the needs for water throughout the island.

The 1980 Act provided the NWC with broad powers and autonomy in key matters. However, all significant powers (policy making, rates and charges, annual budgets, power to borrow and spend money) are subject to review and approval by the Minister, so the NWC has never been allowed to fully exercise this autonomy.

## 2.0 FINANCIAL MANAGEMENT SYSTEMS

The NWC operates on a fiscal year ending March 31. Its annual financial statements are audited by auditors appointed annually by the National Water Commission's Board of Directors, subject to approval by the Minister of Water and Transport. The Auditor General is entitled, on the direction of the Minister, at all reasonable times to examine the accounts and other records in relation to the business of the NWC.

The results of the audit are reported to the Members of the NWC. The audit, by law, should be completed and the financial statements, together with a copy of any report made by the auditor on these statements, should be sent to the Minister within four months after the end of the fiscal year. The 1991 audit was completed in March 1993.

All annual audit reports reviewed (years 1988-1991) are 'disclaimer of' reports. Although the financial statements are in agreement with the accounting records, the auditor was unable to express an opinion as to whether or not the financial statements gave a true and fair view of the state of affairs of the Commission at March 31, and of the results of its operations and changes in its financial position for the years then ended, due to the possible material effects of the matters referred to in the audit report.

The annual audits have, in all given years, identified deficiencies in internal controls over the accuracy of billings generated in the current year and accordingly, a lack of internal controls in recording revenue in previous years. This prevented the auditor from verifying the accuracy of the total revenue, the consequent consumer receivable balances and the adequacy of the provision for doubtful consumer receivable balances, again in all given years.

Due to inadequate internal controls over the fixed assets (fixed assets were reported incorrectly) the auditors were unable to substantiate the balances shown in the financial

statements and verify the Commission's rights and titles to certain lands included in fixed assets.

It appears that the Internal Audit Department within the NWC has not been able to assist in monitoring internal accounting controls or to assist the external auditors. As a result, the NWC was not able to remedy weaknesses identified in the past audit reports. A project to identify and assign values to fixed assets is underway, but due to problems such as assets age estimation and difficulties in underground assets survey, its completion is not expected before the year end.

Financial Statements are produced annually on an accrual basis, under the historical cost convention modified for the inclusion of certain fixed assets at valuation. However, according to the information available, none of the net fixed assets in operation have ever been revalued.

The NWC Accounting Department has continuously operated with a number of vacant staff positions. This problem has recently become increasingly severe with the departure of two key staff members. It is estimated that Accounting Department requires approximately sixty employees, which is twice the current number of staff. This situation is primarily attributable to low salaries and unsatisfactory work conditions.

The NWC produces a detailed financial budget, usually during the fourth quarter of each year for the upcoming financial year and submits it to the Minister for approval. The NWC has recently improved its approach to budgeting. A 1991/92 Operations Plan was based on zero-based budgeting and required that participants justify their budget requests with detailed work programs. Prior to this, budgets were imposed by top management. Unfortunately, unforeseen circumstances affecting revenue generation, such as high inflation rates, have prevented the NWC from fully implementing this plan. Due to the same reasons, the

1992/93 budget could not contribute towards the NWC's ability to control its operating, maintenance and capital expenditures.

The NWC currently produces a monthly financial report for the Board of Directors. Several other reports dealing with the commercial, engineering, finance and administration functions of the NWC are also produced on a monthly basis. As the balances of the accounts are not reconciled to the general ledger on a monthly basis, overall reliability of these reports is doubtful.

The current management information system reports only aggregate information and cost centre details are not available. In order to adequately address these deficiencies, the NWC contracted International Computers Limited (ICL) to implement a new management system. Under the new system, more than three hundred cost centres have been identified in order to provide as much detailed information on all aspects of the NWC operations as is cost effective. In this way, various reports could be derived, depending on the current needs. This will provide management with the details on each of the main activities in order to show the financial and operating results of each such activity or undertaking.

The application software environment called Prophecy has been chosen as the core of the new system. The package contains 11 modules covering general ledger, accounts payable, purchasing, inventory control, bank reconciliation, project costing, asset register, payroll, budgeting and human resources. The system will be implemented gradually by the end of 1993. The general ledger and the accounts payable module implementation was to be completed by the end of July 1993.

Further, serious consideration has been given to improving the integrity of the billing process. The new billing system has been proposed by the Welsh Water Authority.



After the implementation of the new management information system, data retrieval will be much quicker and the system will enable the NWC to use information produced for projections and decision-making, not just for retroactive analysis.

However, the accuracy and reliability of the accounting data is the problem with the most significant impact on the NWC financial position. It is expected that all of the NWC's accounts will be brought up to date and cleaned up by the time the new management information system is implemented.

### 3.0 BILLINGS AND COLLECTIONS

The NWC has implemented a new billing system in January 1993. To date, this system covers Kingston, St. Andrew, St. Catherine and St. Thomas areas which represent 55% of existing water accounts and approximately 70% of existing water revenue. By August 1993, the system was to be implemented in all NWC service areas.

Upon the full implementation of the new billing system, all bills will be prepared and printed in the NWC Central Office in Kingston. Prior to the system's implementation, bills were prepared by the Fiscal Services Limited (FSL), a Government Agency, and sent to the NWC.

The water and sewerage charges are incorporated into a single monthly customer bill. In the case of metered customers, bills are prepared on the basis of actual water consumption. Meter readings should be undertaken every two months (monthly for commercial consumers), but this objective is not consistently achieved. This failure to consistently achieve the meter reading target is primarily attributable to absenteeism.

The handheld devices incorporated in the new system should replace the existing meter books. Meter readers will be equipped with such devices containing the present meter reading route for the whole week. Once the meter reader completes his task at the premises and registers the reading, the device indicates the next one to be read. At the end of the day, all data entered are downloaded by supervisors to PC computers (in the parish and metro offices) linked by telephone lines to the central system in Kingston. Such readings could be billed the next day.

Customers will be able to pay their bills at any commercial office regardless of the location of their premises. All payments made in NWC offices can be updated the same day, while payments made under the existing system sometimes take more than one month to be

reflected in the accounts. The payments sent through banks or post offices will be updated in four to seven days.

The new system will be designed to produce a number of financial reports which will enable the management staff to identify the key accounts (the biggest customers) and monitor these accounts to ensure that they are metered properly. A significant improvement is expected in providing precise sewerage revenues information.

The system is currently used by Welsh Water Authority (Wales, Great Britain) and consists of hardware and software components which have been already tested (for example ITRON, USA - handheld devices) in actual service. The software to be employed by the NWC will be a modified version of that used in Wales in order to reflect legislation and regulations applicable in Jamaica. Staff will be recruited from the already existing staff and properly trained.

Unmetered customers are divided into two categories. The first, customers who have been metered in the past, pay a charge based on estimated water consumption. The second category, consisting of all other customers, pays a flat charge, referred to as the minimum rate, which equates to the rate for consumption up to 3,000 imperial gallons per month.

The fact that less than 50% of existing customers are metered has a negative impact on NWC financial performance. In order to improve the control of revenue, a meter replacement program is planned, which consists of the installation of 30,000 new meters during the 1993 fiscal year. An additional 40,000 meters will be purchased and installed within the next upcoming two years.

The NWC's collections performance over the 1988-1991 period has been extremely poor. At the end of 1988, consumer receivables represented J\$261.6 million or 311 days worth of water and sewerage billings. Although the NWC exhibited slight improvement in its

collections performance over the period, gross consumers receivables as of the end of 1991 remained at an unsatisfactory level of J\$323.9 million or 285 days worth of water and sewerage billings. The 1989 audit report indicated the following ages of the accounts receivable: 18% collectable in 6 months, 19% collectable in 12 months, 23% collectable after 12 months and 41% uncollectible. The provision for uncollectible accounts receivable over the 1988-1991 period represented 6%-7% of the annual billings. This percentage, somewhat high relative to other water and sewerage utilities in developing countries, has been provided only to cover inactive accounts, but has not been sufficient to cover non-paying accounts. The NWC's July 1991 staff study indicated the problem of red zones. Red zones are areas of low income residences where the NWC is unable to collect payments for its services. These accounts represent about 4% of total accounts billed. The situation described indicates a total lack of an adequate disconnection policy and the absence of the organisational and institutional ability to enforce collection of overdue accounts.

In an effort to address its poor collection performance, the NWC has contracted collections in certain areas to independent private contractors. Currently, two private firms collect overdue accounts in the Metro Region on the NWC's behalf. Collectors are monitored by Accounts Executives, two in Metro and one each for the other regions. It is planned that the number of persons acting as collectors will be expanded, but since the requirements for indemnity insurance are very high, this activity has to date been limited to corporate entities. In order to further improve its control of revenue, the NWC has undertaken actions such as privatisation of disconnection and reconnection activities and meter installation.

#### 4.0 TARIFFS

Under the provision of the National Water Commission Act of 1980, the NWC is allowed to establish water and sewerage tariffs which will achieve full cost recovery. Water and sewerage charges are assessed as a uniform set of tariffs, although the NWC under the provisions of the same Act, has the right to fix charges on different scales for different localities.

The existing tariff structure, which became effective on July 1, 1992, consists of two customer classifications: (i) domestic; and, (ii) commercial and industrial.

Metered customers are charged for water on the basis of actual consumption. An increasing step tariff is applied to domestic consumers with a monthly minimum charge of J\$65 for water consumption up to 3,000 imperial gallons, rising to J\$84.38 per 1,000 gallons/month for consumption in excess of 20,000 IG. The commercial and industrial customers pay a uniform rate of \$81.24 per each 1,000 IG consumed.

Unmetered domestic customers who have been metered in the past, pay rates based on the estimated consumption which are contracted with the NWC. Other unmetered domestic consumers are charged with a flat rate of J\$65 per month.

Sewerage charges are assessed on the basis of metered water consumption, representing 45% of the water bill amount for domestic customers and 100% of the same amount for commercial and industrial customers.

In addition to water and sewerage, the National Water Commission has implemented a standardized schedule of charges for water and sewer connections, disconnections, reconnections, removal and replacement of service. Connection service charge varies from \$19 to \$608 according to connection size.

The NWC's water and sewerage tariffs are subject to regulation by the Ministry of Water and Transport (MWT) under the authority of the National Water Commission Act. Before any changes in tariffs can be implemented, a written request must be prepared by the NWC and submitted to the Ministry for approval. The MWT prepares submission and makes presentation to Cabinet. After the decision is made by Cabinet, the MWT advises the NWC of the decision and publishes the rate increase. Water and sewerage tariffs have undergone relatively major changes since 1988, being characterised by large increases at irregular intervals (88% in 1986, 30% in 1990, 25% in 1992). However, the rates of inflation in the prices of the NWC's operating and maintenance inputs have exceeded increase in tariffs approved over the same period, which led to the NWC's request for a 100% tariff increase in June 1992. The application was approved and the new tariffs became effective on July 1, 1992. The requested increase in rates were based on the assumption that there would be refinancing of outstanding payments for electricity and statutory deductions. Due to the costs, attributable to the current restructuring process in the NWC which were not taken into account, and increase in inflation rates and a depreciation of the Jamaican dollar, which occurred after the request had been approved, the 1992 budget, projected as a surplus of J\$146 million turned out to be a deficit of the same amount.

A detailed tariff study was undertaken in 1986. Some of the study's recommendations were implemented, but no major changes were made. The study was reviewed and updated in 1991, recommending an application of an automatic index in order to adjust rates in Jamaica's high inflation environment.

## 5.0 FINANCING

The NWC is eligible for government grants to subsidize the cost of capital works. There is no formalized methodology for the determination of grant eligibility for capital works. The NWC's management recommends new projects to its Board and the government on the basis of economic and financial feasibility.

It sometimes happens that the NWC starts projects based on the government's budget approval and that, after significant expenditure has been incurred, are faced with inadequate revenues to cover project costs.

The NWC received government grants totalling J\$143.5 million over the 1987-1991 period. These funds, consisting of government internal revenues, were channelled to the NWC through the Ministry of Finance. During the same period, total NWC capital expenditures were J\$347.6 million.

Over the 1989-1991 period, the NWC received a grant of J\$28.1 million from United States Agency for International Development (USAID), which represented 9.6% of the NWC's total capital expenditures in these years. However, attributable to net losses generated in 1990 and 1991, government grants received during the same period were partly used to absorb the National Water Commission's operating losses.

Most of the NWC's capital expenditures over the past have been financed through long term debt. As at the end of 1991 fiscal year, foreign exchange loans represented 82% of total NWC long term liabilities. All long term debt financing has been provided by the Government with the exception of the one loan provided by the World Bank and one by the Caribbean Development Bank. An amount of J\$34.7 million due to the Government, on account of debt service payments, has been netted off against payment of outstanding

accounts by the Government to the NWC in 1990, according to the agreement with the Government.

Consistent with the provisions of the National Water Commission Act, the NWC "should meet payments of interest falling due in any year from money borrowed, while the expenditure out of such moneys remains unremunerative, for such period and subject to such conditions as the Minister may determine". Under the provisions of the same Act, "the Minister responsible for finance, with the approval of the House of Representatives, may guarantee the repayment of the principal and the payment of interest and charges on any authorized borrowings of the Commission".

The repayments of some foreign loan principal and interest are settled by the Accountant General and Bank of Jamaica on behalf of the National Water Commission. There is no clear indication whether these payments are government grants or loans to NWC.



## 6.0 RECENT FINANCIAL PERFORMANCE

The NWC, with the exception of 1988, did not achieve full cost recovery over the 1988-1992 period. Although it did generate revenue sufficient to cover all cash operating and maintenance expenses and depreciation in 1989, the NWC did not cover interest expenses. The NWC's financial performance significantly deteriorated over the 1990-1991 period. Due to the NWC's inability to obtain the tariff increases necessary to offset inflationary cost increases, it was not able to generate positive income before depreciation in these years.

Summary financial statements for the years 1988-1992 are presented in Tables 1,2 and 3. The statements presented are based on audited financial statements for the years 1988-1991 and preliminary revenue, operating and maintenance expenses data for 1992, produced by the NWC for its Board. The statements have been reorganised in order to conform to that format employed by the World Bank in its appraisal of potential projects. Due to the present incomplete status of the financial statements and limited information available for 1992, this analysis focuses primarily on the NWC's financial performance over the 1988-1991 period.

The NWC's revenues were insufficient to cover depreciation and interest expenses which resulted in annual net losses ranging from a low J\$5.6 million in 1989 to a high of J\$137.9 million in 1990. In 1991 the annual net loss declined by 3%, to J\$133.3 million, as a result of foreign exchange loss decrease.

A number of factors have contributed to the generation of net losses. The first, and the most important factor is that the NWC's operations were exposed to the influence of very high inflation rates, while tariffs were maintained at lower levels. While NWC total revenue increased by 35% over the 1988-1991 period, operating expenses increased by 77%. The Jamaica Consumer Price Index increased by 310% over the same period. Although tariffs were increased twice in 1992, on January 1, by 25% and on July 1, by 100%, these increases were not sufficient to offset the cumulative impact of inflation up to 1992 on the

NATIONAL WATER COMMISSION

INCOME STATEMENT

(J Dollars Million)

Table 1

	ACTUAL				
	1988	1989	1990	1991	1992
EXISTING REVENUE	307.2	313.6	357.7	415.1	1083.6
WATER				348.7	910.2
SEWERAGE				66.4	173.4
OTHER OPERATING INCOME	3.4	1.5	3.0	3.0	9.7
<b>TOTAL OPERATING REVENUE</b>	<b>310.6</b>	<b>315.1</b>	<b>360.7</b>	<b>418.1</b>	<b>1,093.3</b>
OPERATING EXPENSES					
SALARIES, WAGES & STAFF BENEFITS	85.9	106.1	159.7	148.2	310.9
ELECTRICITY	71.4	58.6	67.6	155.7	407.6
MATERIALS, CHEMICALS, SUPPLIES, & SPARE PARTS	16.8	21.4	12.8	27.0	56.0
MAINTENANCE	36.0	46.5	71.5	21.1	45.4
ADMINISTRATION	21.9	23.5	34.1	58.2	114.0
PROVISION FOR DEPRECIATION	4.7	4.6	9.6	18.0	47.2
DOUBTFUL ACCOUNTS ALLOWANCE	28.7	17.0	47.6	50.4	48.0
<b>TOTAL OPERATING EXPENSES</b>	<b>265.4</b>	<b>277.7</b>	<b>402.9</b>	<b>478.6</b>	<b>1,029.1</b>
<b>NET OPERATING INCOME</b>	<b>45.2</b>	<b>37.4</b>	<b>(42.2)</b>	<b>(60.5)</b>	<b>64.2</b>
LOSSES ON FOREIGN EXCHANGE	0.6	6.3	60.1	33.1	141.1
<b>NET INCOME BEFORE INTEREST</b>	<b>44.6</b>	<b>31.1</b>	<b>(102.3)</b>	<b>(93.6)</b>	<b>(76.9)</b>
TOTAL INTEREST ON LOANS	30.9	36.7	35.6	39.8	69.1
LESS: INTEREST-DURING-CONSTRUCTION CAPITALIZED					
<b>NET INTEREST CHARGED TO OPERATIONS</b>	<b>30.9</b>	<b>36.7</b>	<b>35.6</b>	<b>39.8</b>	<b>69.1</b>
<b>NET INCOME BEFORE TAXES</b>	<b>13.7</b>	<b>(5.6)</b>	<b>(137.9)</b>	<b>(133.4)</b>	<b>(146.0)</b>
TAXES ON INCOME					
<b>NET INCOME</b>	<b>13.7</b>	<b>(5.6)</b>	<b>(137.9)</b>	<b>(133.4)</b>	<b>(146.0)</b>

NATIONAL WATER COMMISSION

BALANCE SHEET

(J Dollars Million)

Table 2

FISCAL YEAR ENDING MARCH 31st	ACTUAL				
	1988	1989	1990	1991	1992
<b>ASSETS</b>					
FIXED ASSETS IN OPERATION	261.9	275.1	547.5	551.2	944.0
PROVISION FOR DEPRECIATION	61.0	65.6	75.2	93.2	140.4
<u>NET FIXED ASSETS IN OPER'N</u>	<u>200.9</u>	<u>209.5</u>	<u>472.3</u>	<u>458.0</u>	<u>803.6</u>
FIXED ASSETS OUT OF USE					
WORK-IN-PROGRESS	298.2	393.5	181.1	295.0	107.0
<b>TOTAL NET FIXED ASSETS</b>	<b>499.1</b>	<b>603.0</b>	<b>653.4</b>	<b>753.0</b>	<b>910.6</b>
LONG-TERM DEPOSITS/INVESTMENTS	0.8	0.8	0.8	0.8	0.8
<b>CURRENT ASSETS:</b>					
CASH & BANK	22.7	19.6	23.5	15.5	7.8
SHORT TERM DEPOSITS/LOANS					
CONSUMERS ACCOUNTS RECEIVABLE	261.6	296.5	283.6	323.8	847.3
INVENTORIES	20.5	35.1	34.9	34.5	35.0
OTHER ACCOUNTS RECEIVABLE	3.2	8.1	6.0	10.3	17.5
<b>TOTAL CURRENT ASSETS</b>	<b>308.0</b>	<b>359.3</b>	<b>348.0</b>	<b>384.1</b>	<b>907.6</b>
<b>TOTAL ASSETS</b>	<b>807.9</b>	<b>963.1</b>	<b>1,002.2</b>	<b>1,137.9</b>	<b>1,819.0</b>
<b>EQUITY &amp; LIABILITIES</b>					
<b>EQUITY:</b>					
OPERATIONAL SURPLUS	18.5	12.9	(125.0)	(258.4)	(404.4)
RESERVE FUND	71.5	71.5	64.0	64.0	64.0
GOVERNMENT GRANTS	167.9	198.1	244.4	302.3	432.3
REVALUATION SURPLUS					
<b>TOTAL EQUITY</b>	<b>257.9</b>	<b>282.5</b>	<b>183.4</b>	<b>107.9</b>	<b>91.9</b>
<b>LIABILITIES:</b>					
<b>LONG-TERM LIABILITIES:</b>					
FOREIGN LOANS & DOMESTIC CURRENCY LOANS	293.1	331.2	387.0	431.5	559.4
OTHER LONG-TERM LIABILITIES					
<b>TOTAL LONG-TERM LIABILITIES-REVAL'D</b>	<b>293.1</b>	<b>331.2</b>	<b>387.0</b>	<b>431.5</b>	<b>559.4</b>
<b>CURRENT LIABILITIES:</b>					
ACCOUNTS PAYABLE	19.0	38.9	88.8	168.3	589.1
CURRENT PORTION OF LONG-TERM DEBT	5.7	15.8	6.9	13.8	20.7
SHORT-TERM LOANS & CREDITS		5.9	10.4	15.1	36.2
OTHER CURRENT LIABILITIES	232.2	288.8	325.7	401.3	521.7
<b>TOTAL CURRENT LIABILITIES</b>	<b>256.9</b>	<b>349.4</b>	<b>431.8</b>	<b>598.5</b>	<b>1,167.7</b>
<b>TOTAL LIABILITIES</b>	<b>550.0</b>	<b>680.6</b>	<b>818.8</b>	<b>1,030.0</b>	<b>1,727.1</b>
<b>TOTAL EQUITY &amp; LIABILITIES</b>	<b>807.9</b>	<b>963.1</b>	<b>1,002.2</b>	<b>1,137.9</b>	<b>1,819.0</b>

NATIONAL WATER COMMISSION  
STATEMENT OF SOURCES & APPLICATION OF FUNDS

(J Dollars Million)

Table 3

FISCAL YEAR ENDING MARCH 31st	ACTUAL				
	1988	1989	1990	1991	1992
<b>SOURCES OF FUNDS:</b>					
OPERATING INCOME	44.6	31.1	(102.3)	(93.6)	(76.9)
ADD: DEPRECIATION	4.7	4.6	9.6	18.0	47.2
DISPOSAL OF FIXED ASSETS	3.0	0.1			
LESS: TAXES ON INCOME					
<b>TOTAL INTERNAL FUNDS GENERATION</b>	<b>52.3</b>	<b>35.8</b>	<b>(92.7)</b>	<b>(75.6)</b>	<b>(29.7)</b>
GOVERNMENT GRANTS	8.0	30.2	46.3	57.9	130.0
WORLD BANK LOAN					
LONG-TERMS LOANS		53.9	61.1	58.3	148.6
<b>TOTAL EXTERNAL SOURCE OF FUNDS</b>	<b>8.0</b>	<b>84.1</b>	<b>107.4</b>	<b>116.2</b>	<b>278.6</b>
<b>TOTAL SOURCES OF FUNDS:</b>	<b>60.3</b>	<b>119.9</b>	<b>14.7</b>	<b>40.6</b>	<b>248.9</b>
<b>APPLICATION OF FUNDS:</b>					
CAPITAL EXPENDITURE-BANK PROJECT					
-OTHER	22.5	108.6	65.9	117.6	204.8
<b>TOTAL CAPITAL EXPENDITURE</b>	<b>22.5</b>	<b>108.6</b>	<b>65.9</b>	<b>117.6</b>	<b>204.8</b>
LOAN INTEREST CHARGED TO INCOME	30.9	36.7	35.6	39.8	69.1
REPAYMENT OF LONG-TERM LOAN PRINCIPAL	11.7	5.7	15.8	6.9	13.8
<b>DEBT SERVICE</b>	<b>42.6</b>	<b>42.4</b>	<b>51.4</b>	<b>46.7</b>	<b>82.9</b>
SHORT-TERM DEPOSITS					
OTHER CURRENT ASSETS	27.7	54.4	(15.2)	44.1	531.2
SHORT-TERM LOANS	5.0	(5.9)	(4.5)	(4.7)	(21.1)
OTHER CURRENT LIABILITIES	(35.8)	(76.5)	(86.8)	(155.1)	(541.1)
<b>CHANGE IN WORKING CAPITAL-INCR/(DECR)</b>	<b>(3.1)</b>	<b>(28.0)</b>	<b>(106.5)</b>	<b>(115.7)</b>	<b>(31.1)</b>
LONG-TERM DEPOSITS/INVESTMENTS-INCR/(DECR)					
OTHER LONG-TERM LIABILITIES-INCR/(DECR)					
DIRECT TRANSACTIONS TO EQUITY FUNDS					
<b>TOTAL APPLICATION OF FUNDS</b>	<b>62.0</b>	<b>123.0</b>	<b>10.8</b>	<b>48.6</b>	<b>256.6</b>
CASH INCREASE/DECREASE	(1.7)	(3.1)	3.9	(8.0)	(7.8)
CASH BALANCE, BEGINNING	24.4	22.7	19.6	23.5	15.5
CASH BALANCE, ENDING	22.7	19.6	23.5	15.5	7.8

NWC's cost structure. Meanwhile, in 1992, a further 40% increase in Consumer Price Index occurred.

A second contributing factor is the NWC's high level of non-revenue water (NRW). The NWC can account for only 60%-70% of water produced. The fact that almost 20% of all active accounts do not have a meter and that of the total number classified as metered, less than 50% have functioning or accessible meters, indicates a serious problem, which together with inadequate maintenance and high operation expenses had a strong negative impact upon the NWC's financial results.

The existence of 40,000 inactive (disconnected) accounts prevents the NWC from billing the actual volume of water used. A significant proportion of these inactive accounts have made illegal connections to the system, while other customers are billed for water they have not actually used. Income generated from connections and other related services is insufficient to meet relative costs. Water supply to standpipes is essentially free of charge, which further affects NWC's revenue.

The single largest NWC expense item, representing about 26% of total expenses, is electricity. The NWC utilizes about 10% of Jamaica's production and is the largest consumer of electricity. Expenditures on maintenance fell to 4.4% of total costs in 1991 and 1992. This reduction should not be regarded as an efficiency improvement but rather as an indication that the system is not being adequately maintained due to the NWC's constrained financial position.

The NWC's return on net fixed assets over the 1990-1991 period has been negative due to its net operating losses shown in the same years. Fixed assets have never been revalued and as a result, the rates of return on net fixed assets of 45.4% and 15.2% in the years 1988 and 1989 respectively, provide a misleading indication of financial performance. In order to

determine an accurate return on investments, fixed assets should be annually revalued and their costs maintained at a current value.

The NWC's average depreciation rates, even on such underestimated values of fixed assets, were maintained on the very low level of 1.7-1.8% annually, with the exception of 1991, when the rate was 3.3%. This is because reservoirs, pumps and sewerage plants totalling J\$130.8 million which were originally the property of the National Water Authority have not been depreciated at all. Consequently, if the generally accepted rate of depreciation on gross reevaluated assets in the range of 3.0%-4.0% had been applied on the NWC's assets, its financial performance would have been significantly worse than has been reported.

The NWC's cash flow, with exceptions of 1988 and 1989, and liquidity positions have not been satisfactory over the 1988-1991 period. As is illustrated in Table 3, total internal cash generation decreased from about J\$52.3 million in 1988 to a deficit of J\$92.7 million in 1990. While in 1988 and 1989, internally generated cash represented 87% and 30% of the NWC's total sources of cash, respectively, losses generated in later years prevented the NWC from any satisfactory cash generation performance. The NWC's cash balances have declined annually since 1988 and as of the end of 1991 were J\$15.5 million, which represented a decrease of 37% from that in 1988. Consistent with this reduction, the proportion of NWC's net internally generated funds available for investments has declined and, as is presented in Table 4, the self-financing ratio has dropped from 56.9% in 1988 to negative 57.1% and 5.6% in 1990 and 1991 respectively.

As shown in Table 4, the NWC's current ratio is less than satisfactory and has deteriorated over the 1988-1991 period. The current ratio has declined from 1.2 in 1988 to 0.7 in 1991. Accordingly, the quick ratio has decreased from 1.1 in 1988 to 0.6 in 1991.

Historically, the Government has not paid for water and sewer services. It has not been clear in the records how much of the total revenues are from the government. It is estimated that

## 7.0 PROJECTED FINANCIAL PERFORMANCE

### 7.1 DESCRIPTION OF SCENARIOS EMPLOYED IN FINANCIAL PROJECTIONS

Several implementation scenarios have been proposed under this project.

Financial projections for the NWC over the 1993 - 2015 period have been prepared under a number of different scenarios for the implementation Scenario 1B (referred to as Alternative 1). While most of the assumptions underlying each of the financial scenarios are identical, important differences exist between the scenarios in terms of the assumed sources of financing for capital works and the financial performance objectives employed in deriving the projections. Financial Scenario 1 assumes that the capital cost of the proposed Bank project is provided as a loan. Financial Scenario 2 assumes that the capital cost of the proposed project is provided to the NWC partly as a grant (50%), partly as a loan (50%). Financial Scenario 3 is identical to Scenario 2 in terms of the assumed funding arrangements but incorporates a lower rate of return target.

For implementation Scenario 2 (referred to as Alternative 2), requiring the highest capital costs, the financial projections have been prepared only under Scenario 3 assumptions. This Alternative is environmentally most acceptable, so the analysis has been performed in order to assess its affordability under the most favorable financing terms. Detailed financial projections are presented in Annex 2 and Annex 3. The affordability for the lowest income groups is analyzed in Section 8.2.

The key assumptions which are unique to each financial scenario are as follows:

**Scenario 1:** It is assumed that the Government provides 100% of the capital cost of the proposed project, including the proposed Bank loan, to the NWC as a loan. The term of the loan is assumed to be 17 years, including a five year grace period, with an interest rate of 7.25% which is the World Bank's current rate. The key financial performance objective to be achieved by the World Bank's current rate. The key financial performance objective to be achieved by the NWC is to generate at least a 3.0% return on net fixed assets (operating income/average net fixed assets in operation

on a revalued basis) annually. The minimum acceptable ending cash balance is assumed to be the equivalent of 50 days cash operating and maintenance expenses.

**Scenario 2:** It is assumed that the Government provides 100% of the capital cost of the proposed project, including a proposed Bank loan to the NWC, 50% as a loan, 50% on a grant basis. The key financial performance objective to be achieved by the NWC is to generate a 3.0% return on net fixed assets annually. The minimum acceptable ending cash balance is assumed to be the equivalent of 50 days cash operating and maintenance expenses.

**Scenario 3:** Scenario 3 is identical to Scenario 2 with the exception of the rate of return target. Under Scenario 3, the NWC is to generate at least a 1.0% return on net fixed assets annually.

The analysis of the three scenarios, as described above, is intended to provide the data necessary to determine appropriate funding arrangements for the proposed Bank project and the establishment of realistic financial performance objectives to be achieved by the NWC. For a complete description of the assumptions common to the above scenarios, please refer to Annex 1.

Under Scenario 1, the average annual increase in the total revenue over the 1995-2015 period is projected not to be higher than 24.1%. Project implementation will result in a high average annual increase in incremental sewerage tariffs, which are projected to be in some years over 100%. The required increase in total revenue and average incremental tariffs is presented in Table 5 and Table 6 respectively. The higher required rate of increase in tariffs under this scenario relative to Scenarios 2 and 3 is due to the assumption that the funds required for the proposed project are provided to the NWC as a loan, rather than a grant. The major factor driving tariff increases is not the 3.0% rate of return target, but rather the requirement to generate cash flows sufficient to service debt and maintain acceptable cash balances. Even given these large increases in incremental tariffs, as is shown in Table 6, cash balances expressed in terms of day work of cash operating and maintenance expenses are projected at a level not higher than 67 days over the whole



NATIONAL WATER COMMISSION

PROJECTED REVENUE

(In Dollars Millions)

Table 5

FISCAL YEAR ENDING MARCH 31st	PROJECTED											2015										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005		2006	2007	2008	2009	2010	2011	2012	2013	2014	
<b>REVENUE: Total</b>																						
Scenario 1	1,955.1	2,280.9	2,564.9	2,701.0	3,006.3	3,498.3	3,740.6	4,018.8	4,334.8	4,872.8	5,207.6	5,754.1	6,143.6	6,728.5	8,192.3	8,500.7	9,141.6	9,414.5	10,223.4	11,050.3	11,709.7	11,709.7
Scenario 2	1,935.9	2,267.9	2,518.3	2,659.9	2,947.5	3,422.6	3,504.2	3,778.6	4,091.5	4,649.0	5,073.2	5,634.4	6,103.6	6,684.3	7,380.5	7,956.1	8,631.0	9,414.5	10,223.4	11,050.3	11,709.7	11,709.7
Scenario 3	1,935.9	2,267.9	2,518.3	2,659.9	2,947.5	3,422.6	3,504.2	3,778.6	4,091.5	4,585.0	4,994.8	5,547.1	5,997.1	6,566.7	7,380.5	7,807.6	8,437.4	9,171.7	9,951.6	10,753.9	11,569.2	11,569.2
<b>REVENUE: New Project</b>																						
Scenario 1	77.0	176.4	312.6	404.4	594.8	1,014.9	1,133.1	1,230.9	1,460.0	1,854.3	2,038.2	2,406.3	2,649.3	3,059.5	4,339.8	4,455.6	4,894.3	4,911.9	5,495.8	6,086.3	6,422.3	6,422.3
Scenario 2	57.7	163.3	266.0	363.3	536.1	759.3	896.7	1,040.7	1,216.7	1,630.5	1,903.8	2,306.3	2,609.4	3,015.3	3,528.1	3,911.0	4,383.7	4,911.9	5,495.8	6,086.3	6,422.3	6,422.3
Scenario 3	57.7	163.3	266.0	363.3	536.1	759.3	896.7	1,040.7	1,216.7	1,566.5	1,825.4	2,219.2	2,502.9	2,897.7	3,528.1	3,762.5	4,190.1	4,669.1	5,223.9	5,789.8	6,281.8	6,281.8
<b>ANNUAL INCREASE:</b>																						
Scenario 1	9.3%	16.7%	12.4%	5.3%	11.3%	16.4%	6.9%	7.4%	7.9%	12.4%	6.9%	10.1%	7.1%	9.5%	21.8%	3.8%	7.5%	3.0%	8.6%	8.1%	6.0%	6.0%
Scenario 2	8.2%	17.1%	11.0%	5.6%	10.8%	10.0%	8.1%	7.8%	8.3%	13.6%	9.1%	11.1%	8.3%	9.5%	10.4%	7.8%	8.5%	9.1%	8.6%	8.1%	6.0%	6.0%
Scenario 3	8.2%	17.1%	11.0%	5.6%	10.8%	10.0%	8.1%	7.8%	8.3%	12.1%	8.9%	11.1%	8.1%	9.5%	12.4%	5.8%	8.1%	8.7%	8.5%	8.1%	7.6%	7.6%

NATIONAL WATER COMMISSION  
PROJECTED INCREMENTAL TARIFFS

Table 7

(Dollars/000 IG)

FISCAL YEAR ENDING MARCH 31st	PROJECTED																					
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Scenario 1																						
Residential	12.0	27.0	47.0	59.0	81.0	131.0	139.0	144.0	150.0	174.0	182.0	193.0	199.0	208.0	278.0	270.0	278.0	263.0	283.0	308.0	320.0	
Industrial	9.6	21.4	36.8	45.8	62.9	101.5	107.6	112.3	117.9	138.0	144.4	155.0	160.6	169.7	227.6	221.8	229.5	218.0	234.8	254.8	264.0	
	20.5	45.6	78.4	97.5	134.0	216.5	229.1	239.1	251.1	293.9	307.5	330.3	342.0	361.5	484.9	472.4	488.8	464.3	500.0	542.8	562.3	
Scenario 2																						
Residential	9.0	25.0	40.0	53.0	73.0	98.0	110.0	117.0	125.0	153.0	170.0	185.0	196.0	205.0	226.0	237.0	249.0	263.0	283.0	308.0	320.0	
Industrial	7.2	19.8	31.3	41.1	56.7	76.0	85.1	91.2	98.3	121.3	134.9	148.6	158.2	167.2	185.1	194.7	205.5	218.0	234.8	254.8	264.0	
	15.4	42.2	66.7	87.6	120.7	161.8	181.3	194.3	209.3	258.4	287.3	316.6	336.9	356.2	394.2	414.7	437.8	464.3	500.0	542.8	562.3	
Scenario 3																						
Residential	9.0	25.0	40.0	53.0	73.0	98.0	110.0	117.0	125.0	147.0	163.0	178.0	188.0	197.0	226.0	228.0	238.0	250.0	269.0	293.0	313.0	
Industrial	7.2	19.8	31.3	41.1	56.7	76.0	85.1	91.2	98.3	116.6	129.3	143.0	151.7	160.7	185.1	187.3	196.5	207.2	223.1	242.4	258.2	
	15.4	42.2	66.7	87.6	120.7	161.8	181.3	194.3	209.3	248.3	275.4	304.6	323.1	342.3	394.2	398.9	418.5	441.4	475.3	516.3	550.0	





## **8.0 PROPOSED TARIFFS**

### **8.1 OBJECTIVES**

To date, separate cost accounts for water and sewerage have not been kept. Based on aggregate figures for various elements of NWC's operations, it was possible to determine the impact of the project on the overall financial performance, but not on the sewerage elements of NWC's activities. For the same reason a useful separate tariff structure could not be developed, nor could the adequacy of such a structure be assessed.

Table 5 shows projected increase in total NWC revenue over the 1993 - 2015 period under each scenario, while average incremental sewerage tariff per 1000 IG are presented in Table 6. More details on incremental sewerage tariffs are given in Table 7, which shows the relation between projected residential and industrial tariffs based on the existing tariff structure. The incremental sewerage tariffs are developed in order to assess acceptable and affordable funding requirements and realistic financial targets to be achieved.

However, these tariffs can be only considered as an indicator of global relation between scenarios. This is because the projected financial performance is based on the aggregate NWC data, which already incorporated influence of a certain degree of cross-subsidizing between water and sewerage elements of the NWC's activities.

### **8.2 AFFORDABILITY**

The target group for the affordability analysis is the lower income consumers group. Tariffs are generally considered to be affordable if low income consumers do not pay more than approximately 6% of their gross income for water and sewerage. It is estimated that a low income household currently earns about J\$5,200 per month. A household earning J\$5,200 per month would currently pay 2.6% of its gross income for water and sewerage. Given the assumption that this household income increases at a projected 5% annual inflation rate, the estimated level in the year 2015 should be

J\$15,200 per month. The proportion of household income required to pay for water and sewerage would increase by 2015 under each scenario. Based on the projected incremental tariffs, following are the incremental percentages:

<b>Alternative 1</b>	<b>Stage 1</b>	<b>Stage 2</b>
Scenario 1	0.1 % - 2.1 %	2.2 % - 4.1 %
Scenario 2	0.1 % - 1.9 %	2.1 % - 4.1 %
Scenario 3	0.1 % - 1.8 %	2.0 % - 4.0 %

Although these proportions could be considered to be affordable, they reflect only incremental sewerage tariffs. Therefore, it is assumed that each household should also pay for water used. Based on the current tariff structure and the estimated water consumption, the amounts of total monthly bills are projected.

The analysis indicates, as is shown in the table below, that, rates are within generally accepted affordability, with exception of the last year of Scenario 1 and 2, over the whole Stage 1 period. However, the implementation of the second phase, Stage 2 phase could impose higher tariffs, which might not be affordable, under current circumstances.

<b>Alternative 1</b>	<b>Stage 1</b>	<b>Stage 2</b>
Scenario 1	0.4 % - 6.8 %	7.1 % - 13.1 %
Scenario 2	0.4 % - 6.1 %	6.7 % - 13.1 %
Scenario 3	0.4 % - 5.9 %	6.5 % - 12.8 %

The total amounts of monthly bills are estimated only for the illustrative purpose. However, they clearly indicate that the funding of the second phase should be provided under more favourable conditions than it is assumed in this analysis.

NATIONAL WATER COMMISSION  
 PROJECTED INCREMENTAL TARIFFS

Table 6  
 (T Dollars / 000 IG)

FISCAL YEAR ENDING MARCH 31 <sup>st</sup>	PROJECTED																					
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
TARIFFS: New project																						
Scenario 1	12	27	47	59	81	131	139	144	150	174	182	193	199	208	278	270	278	263	283	308	320	
Scenario 2	9	25	40	53	73	98	110	117	125	153	170	185	196	205	226	237	249	263	283	308	320	
Scenario 3	9	25	40	53	73	98	110	117	125	147	163	178	188	197	226	228	238	250	269	293	313	





SUMMARY FINANCIAL ANALYSIS

Alternative 1  
Scenario 2/ Table 4

FISCAL YEAR ENDING MARCH 31st	ACTUAL										PROJECTED																	
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
OPERATING RATIO	85.4%	88.1%	111.7%	114.5%	94.1%	82.1%	81.0%	87.5%	85.4%	87.1%	94.0%	94.7%	93.1%	91.6%	93.6%	94.2%	95.6%	95.4%	95.6%	93.8%	93.8%	95.6%	95.7%	95.8%	95.8%	95.7%	95.9%	97.3%
DEPRECIATION (%)	1.8%	1.7%	1.8%	3.3%	5.0%	4.7%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
RATE OF RETURN ON NET FIXED ASSETS	45.4%	15.2%	-30.0%	-20.1%	-12.2%	9.9%	16.8%	7.3%	12.1%	10.9%	4.2%	3.9%	5.2%	6.6%	4.9%	4.3%	3.1%	3.1%	3.1%	3.0%	4.4%	3.0%	3.0%	3.0%	3.0%	3.1%	3.0%	
DEBT SERVICE COVERAGE - (TIMES)	1.2	0.8	(1.8)	(1.6)	(0.4)	1.3	1.4	0.9	1.2	1.4	1.0	1.1	0.9	1.2	1.2	1.2	1.5	1.6	1.9	2.0	1.2	1.2	1.3	1.4	2.0	2.2	2.4	
SELF-FINANCING RATIO (Pct/3-YEAR AVERAGE)	19.5%	32.8%	-38.6%	-5.1%	-32.5%	32.5%	3.1%	12.1%	18.3%	19.6%	19.5%	16.1%	9.7%	11.2%	7.8%	6.8%	16.4%	23.6%	43.5%	41.8%	12.1%	13.3%	21.3%	30.5%	56.6%	88.7%	92.8%	
SELF-FINANCING RATIO (%/YEAR)	56.9%	19.7%	-57.1%	-5.6%	-39.8%	22.8%	4.6%	8.2%	25.1%	30.0%	15.5%	12.8%	14.8%	15.4%	8.2%	6.4%	12.3%	41.4%	29.0%	67.8%	9.9%	13.9%	21.2%	32.4%	52.4%	66.5%	89.8%	
% LONG-TERM DEBT, TO L-TERM DEBT + EQUITY	53.2%	54.0%	67.8%	80.0%	85.9%	73.3%	58.4%	52.6%	44.0%	37.2%	35.5%	31.2%	25.4%	20.0%	17.5%	18.5%	20.1%	19.2%	19.9%	15.7%	13.0%	10.6%	8.6%	7.9%	7.7%	7.4%	6.8%	
CURRENT RATIO - (CURR.ASSETS/CURR.LIAB'S)	1.2	1.0	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.9	1.0	0.9	0.9	1.0	1.1	1.2	1.4	1.7	1.9	1.7	1.7	1.8	1.9	2.3	2.6	2.9	3.3	
QUICK RATIO - (QUICK.ASSETS/CURR.LIAB \$)	1.1	0.9	0.7	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.8	0.8	0.8	0.9	1.1	1.2	1.5	1.7	1.5	1.6	1.6	1.7	2.1	2.4	2.7	3.0	
ACCOUNTS RECEIVABLE - AVER. NO. MONTHS SALES	10.1	11.3	9.4	9.3	9.3	8.5	7.2	6.2	5.1	4.5	3.6	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Acc. Rec. - No of days worth of water & sewerage billings	310.8	345.1	289.4	284.7	285.4	270.8	228.3	194.9	159.5	141.7	113.8	88.5	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
Acc. Payable/ Cash Expenditures - No. of days	30	55	94	150	230	200	180	160	140	120	100	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Double/diff Allowances/ Water and Sewerage Billings	9.3%	5.4%	13.3%	12.1%	4.4%	5.0%	9.9%	12.2%	11.2%	11.3%	10.7%	6.7%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Other Accounts Receivable/ Other Income	344	1,971	730	1,253	659	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Inventories/Materials, chemicals etc.	445	599	995	466	228	200	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	
Cash & Bank	36	28	25	14	3	15	20	31	42	52	63	64	64	64	64	63	69	82	96	112	108	106	107	113	129	147	166	

# **Attachment 6.9 Environmental Monitoring Checklist**

	Environmental Monitoring Checklist	
		Ref:

Monitoring \_\_\_\_\_ Time \_\_\_\_\_  
 Date: \_\_\_\_\_

**Air Quality**

**General:**

	Yes	No	Photo/Remarks/ECPAR Ref.
Are site vehicles travelling within the site speed limit of 20 kmh?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are site vehicle movements confined to designated roads?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is the public road around the site entrance kept clean and free from dust?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Do areas of the site with regular traffic movement have hard surface?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are the roads watered regularly to avoid dust generation?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are unpaved areas watered regularly to avoid dust generation?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are materials transported on trucks covered?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are all trucks loaded to a level within the side and tail boards to prevent spillage?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is open burning avoided?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are completed earthworks sealed as soon as practicable?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are vehicles and equipment switched off whilst not in use?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are vehicles maintained to prevent black smoke?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Have Dust Barriers been installed at any problem locations?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are Dust Barriers which have been installed effective?	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Observable dust sources**     Wind erosion                       Vehicle/equipment movements  
 Loading/unloading of materials     Others

**Air Quality Other Remarks:**



	<b>Environmental Monitoring Checklist</b>	
		Ref:

<b>Water Quality</b>	<b>Yes</b>	<b>No</b>	<b>Photo/Remarks/ECPAR Ref.</b>
Is drainage: system adequate?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are there dykes surrounding areas of earthworks for flood protection	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are there temporary ditches for runoff discharge into appropriate watercourse and	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is the drainage system well maintained?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is exposed earth stabilized after earthworks have been completed?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are exposed slope: surfaces covered (by tarpaulin or other means)?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are open stockpiles covered during rainstorm?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are manholes covered and sealed?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Modified sections of culverts	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Sediment traps installed upstream and downstream of the section?	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Vortex tube silt traps installed within the section?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pumping Station	<input type="checkbox"/>	<input type="checkbox"/>	_____
Drainage system adequately designed for storm flow?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sediment control measures inspected and maintained after rain storms?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Chemical/fuel storage area	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Is storage area bunded?	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Adequate bund capacity? (>110% of the largest tank)?	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Are storage areas provided with locks and located on sealed areas?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is construction work force sewage discharge directed to foul sewer or treatment facility?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are chemical toilets provided during construction?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is debris and rubbish on Site collected and disposed of properly?	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Water Quality Other Remarks :**

	Environmental Monitoring Checklist	
		Ref: _____

**Noise**

	Yes	No	Photo/Remarks/ECPAR Ref.
Are the construction works scheduled to minimise noise nuisance?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are the works or equipment sited to minimise noise nuisance?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are all plant and equipment well maintained and in good operating condition?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are powered mechanical equipment covered or shielded by appropriate acoustic materials (if required)	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are silenced equipment used where practicable?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are noise enclosures, noise barriers, or portable noise barriers used where necessary?	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Major noise Source(s)**  Traffic  Construction activities inside of site

Construction activities outside of site  Other \_\_\_\_\_

**Noise Management Other Remarks**

**Waste Management**

	Yes	No	Photo/Remarks
<b>General refuse</b>			
Accumulation avoided?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Receptacles (e.g. rubbish bins) available?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Disposed of regularly and properly?	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Chemical waste (e.g. Oil and Chemicals)</b>			
Have temporary storage areas been approved by the Construction Manager?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stored properly?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Disposed of properly?	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Construction Waste (including topsoil)</b>			
Has construction waste, in particular stripped topsoil, been stored properly?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Reused where practicable?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Disposed of properly?	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Waste Management Other Remarks**

	Environmental Monitoring Checklist	
		Ref: _____

**General Environmental Management**

Yes      No      Photo/Remarks/ECPAR Ref.

***Environmental Planning & Communication***

Have any specific License / Permit needs been identified & obtained?

\_\_\_\_\_

Are the required licenses / permits publicly displayed?

\_\_\_\_\_

Have public meetings been held if works may affect the surrounding community?

\_\_\_\_\_

Have specific meetings been held with any companies or communities based on the relevant Environmental Mitigation Plan?

\_\_\_\_\_

Have any Artefacts been discovered and reported to the Jamaican National Heritage Trust and been appropriately demarcated / protected to prevent damage.

\_\_\_\_\_

***Environmental Training and Awareness***

Has Environmental Training been conducted?

\_\_\_\_\_

Are there records of training conducted?

\_\_\_\_\_

Is the workforce aware of any required general or specific mitigation measures?

\_\_\_\_\_

***Checking and Corrective Action***

Have any Nonconformities identified been raised & recorded on an ECPAR?

\_\_\_\_\_

Have suitable Corrective Actions been agreed?

\_\_\_\_\_

Have agreed actions been completed satisfactorily within the agreed timescale?

\_\_\_\_\_

**General Remarks**

---

**Details of any Complaints Received during the Reporting Period (include all parties, such as NEPA and the local community)**

---

**Monitoring conducted by:**

Name

Position

Signature

**APPENDIX H**  
**SOCIAL SURVEYS**

**THE PREPARATORY SURVEY  
FOR  
KINGSTON SEWERAGE DEVELOPMENT PROJECT**

**FINAL REPORT  
APPENDIX H  
SOCIAL SURVEYS**

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**Summary**

**Survey Result**



# **Summary**

## Summary

### 1. Community Profiles

#### 1) Outline of the target area

The target area includes four catchment areas in Portmore namely Independence City Catchment, Bridgeport Catchment, Hamilton Gardens Catchment and Caymanas Gardens Catchment, and four lots in North Kingston namely Lot-A (Pembroke Hall), Lot-B (Havendale), Lot-C (Birdsucker) and Lot-D (Hope Pastures). Estimated population of the target area in 2010 is 154,534 or 99,160 in Portmore side and 55,374 in North Kingston side as shown in Table 1.

**Table 1 Outline of the Target Areas**

Catchment	Community	2010 Estimated Population	Responses of Questionnaire Survey
<i>Portmore</i>	<i>Subtotal</i>	<i>99,160</i>	<i>97</i>
Independence City	Meadowvale, Portsmouth, Passagefort, Independence City, Waterford, Portmore Gardens, Cumberland, Westchester, South East, South Central and Town Center	60,409	19
Bridgeport	Westport, Bridgeview, Garveymeade, Westmeade, Bridgeport, Southboro, West Bay, Edgewater, Marine Park, Breaton, Maggo Head, Bayside and Forum	30,318	16
Hamilton Gardens	Hamilton Gardens, Cedar Grove, Christian Gardens, Christian Meadows and Christian Pen	1,960	24
Caymanas Gardens	Caymanas Gardens including Caymanas Estate	6,473	38
<i>North Kingston</i>	<i>Subtotal</i>	<i>55,374</i>	<i>83</i>
Lot-A (Pembroke Hall)	Pembroke Hall	12,998	20
Lot-B (Havendale)	Havendale, Meadowbrook and White Hall	25,678	33
Lot-C (Birdsucker)	Birdsucker, Billy Dunn and a small part of Barbican	5,869	18
Lot-D (Hope Pasture)	Hope Pasture, Mona Heights and University of Technology	10,829	12
	<i>Total</i>	<i>154,534</i>	<i>180</i>

Almost all the houses in Portmore side are in the newly developed housing schemes and are connected to the sewage system, where most of the houses in North Kingston side are in old high-class residential areas, detached and not connected to the sewage system.

Development of Portmore started in 1969 with the construction of 1,100 two- / three-bedroom houses in Independence City as shown in Table 2. Bridgeport housing scheme followed in three phases from 1972 to 1977 with 700 two-bedroom and 660 three-bedroom houses. Waterford housing scheme near Independence City Water Treatment Plant was constructed with the largest number of 3,725 two-bedroom twins from 1975 to 1977. Cedar Grove Estate with 840 service lots and Christian Gardens with 632 studios in Hamilton Gardens Catchment are the newest schemes developed in 1998-2000. Houses are still being constructed in Cedar Grove Estate.

On North Kingston side, Mona Heights, which is a part of Lot-D (Hope Pasture), was developed under a large-scale housing scheme and 880 three-bedroom houses were constructed as early as in 1959-1960. College Green Estate in Hope Pasture is a newly developed large-scale housing scheme with 158 houses and was completed by 1998.

**Table 2 Development of Housing Schemes in Portmore**

Year		Name of community	Developer	1BRM	2BRM	3BRM	2BRM TWN	Studios	Service lots	Total
from	to									
1969	1970	Independence City	WHICON		1,100					1,100
1971	1972	Edgewater Villas	WHICON			700				700
1972	1972	Bridgeport Phase I	WHICON			280				280
1973	1974	Bridgeport Phase II	WHICON		700					700
1974	1976	Passagefort	WHICON		1,200					1,200
1975	1977	Waterford	WHICON				3,725			3,725
1976	1977	Bridgeport Phase III	WHICON			380				380
	1978	Braeton	MEH		435					435
	1978	Marine Park	Essn House Ltd.		100	110				210
	1978	Westmeade	Ashtrom		368					368
1978	1979	Portsmouth	WHICON		1,000					1,000
1979	1980	Southborough	WHICON		900					900
1979	1980	Caymanas Gardens	Gore Tuca	192	134	152				478
1983	1983	Westchester	WHICON		1,140					1,140
1983	1984	Cumberland	WHICON		1,134					1,134
1983	1984	Hamilton Gardens	MEH		300					300
1987	1987	Westbay Phase I	WHICON			20				20
	1988	Cumberland (Pureto Rican)	UDC		396	160				556
1988	1988	Westbay Phase II	WHICON			80				80
1990	1990	Westbay Phase III	WHICON			54				54
	1991	Christian Pen	MHT/Mutual Life		45					45
	1993	Bridgeview	UDC		408					408
1993	1994	Cumberland (Trunco)	Trunco		4					4
1993	1994	Cumberland Meadows	NHT		78			101		179
1996	1997	Bridgeport	WHICON			380				380
1998	1999	Cedar Grove Estate	Cedar Grove Invest. Ltd.						840	840
1999	2000	Christian Gardens	WHICON					632		632
Total										17,248

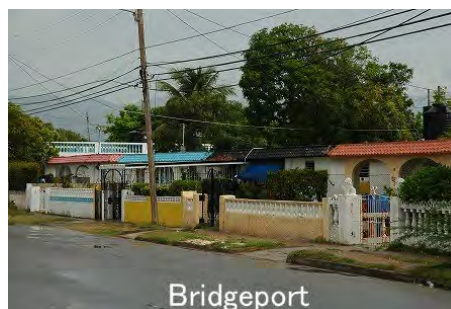
\* MEH: former Ministry of Environment and Housing  
\* Source: Portmore Municipal Council (NHT, WHICON and other developers.)

**2) Portmore side of the target area**

Independence City Catchment (Meadowvale, Portsmouth, Passagefort, Independence City, Waterford, Portmore Gardens, Cumberland, Westchester, South East, South Central and Town Center. 2010 estimated population is 60,409): There are eight housing schemes with 9,937 houses, of which 3,725 are two-bedroom twins and the rest are two-bedroom houses and some three-bedroom houses.

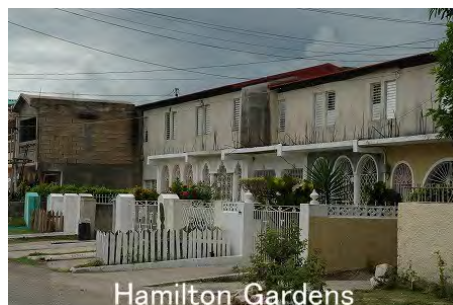


Bridgeport Catchment (Westport, Bridgeview, Garveymeade, Westmeade, Bridgeport, Southboro, West Bay, Edgewater, Marine Park, Braeton, Maggo Head, Bayside and Forum. 2010 estimated population is 30,318): There are 13 housing schemes & phases with 5,016 houses, of which 2,911 or about 60% are two-bedroom houses, 2,004 or about 40% are three-

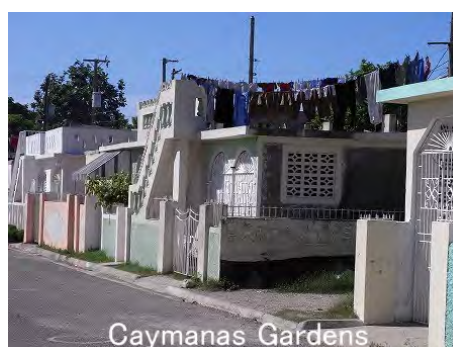


bedroom houses and 101 are studios.

Hamilton Gardens Catchment (Hamilton Gardens, Cedar Grove, Christian Gardens, Christian Meadows and Christian Pen. 2010 estimated population is 1,960): There are four housing schemes with 345 two-bedroom houses, 632 studios and 840 service lots. Not all the service lots are occupied by houses yet, but they are connected to the sewage system. This is newly developed area and is still under construction, so that the 2010 population might be underestimated.



Caymanas Gardens Catchment (Caymanas Gardens including Caymanas Estate. 2010 estimated population is 6,473): Caymanas Gardens Scheme has 192 one-bedroom, 134 two-bedroom and 152 three-bedroom houses. This is the only scheme in Portmore with one-bedroom houses.

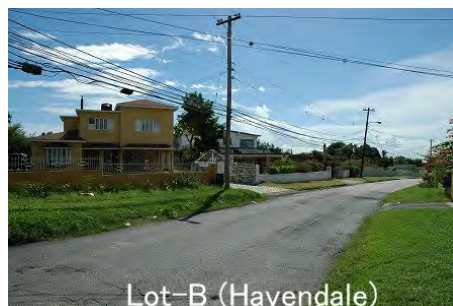


**3) North Kingston side of the target area**

Lot-A (Pembroke Hall, 2010 estimated population is 12,998): 1,311 houses were constructed under a housing scheme which was developed in the early 1970's.



Lot-B (Havendale, Meadowbrook and White Hall. 2010 estimated population is 25,678): There are 2,438 houses in Havendale and 569 houses in Meadowbrook which are developed in late 1970's. White Hall is one of the 'depressed' areas with 3,628 houses.



Lot-C (Birdsucker, Billy Dunn and a small part of Barbican. 2010 estimated population is 5,869): Statistical figures are available only for Barbican including Birdsucker and they are 9,744 with 3,453 houses. The average household size is 2.9 and is smaller than other lots of North Kingston where the average is 3 to 4. Barbican Road and Birdsucker Lane at the lower part of Lot-C represent the middle-low to low income level groups, where the upper part represents home-owners with tertiary level education.



Lot-D (Hope Pasture, Mona Heights and University of Technology. 2010 estimated population is 10,829): Mona Heights was originally developed in 1959-1960 with 880 three-bedroom houses and there are 1,547 houses with 5,003 residents in Hope Pasture. College Green Estate, which has 158 houses, was newly developed by 1998, and is connected to the sewage system. The residents represent the upper to middle-upper class.



## (2) Methodology of the Questionnaire Survey

### 1) Sample size and sampling

Target of the sample size was 200 in total, or 100 each from Portmore side and North Kingston side. Since there are four catchments / lots for Portmore and North Kingston, 20 was the minimum target size for each catchment / lot. The Team spent 10 days for visiting related institutions and for pre-interviews and preparation of the questionnaire survey:

- Since almost all the households in Portmore side are connected to the sewage system, while almost all the households in North Kingston side are not connected and using soak-away, two slightly different questionnaires were prepared.
- The Team got a list of citizens associations from Portmore Municipal Council, visited them and discussed the proposed sewage development project / the questionnaire survey. Many associations, including the ones in North Kingston side, agreed to invite the Team for their meetings and to do the survey.
- The Team adjusted the questions to the reality learned through observations and pre-interviews. Then the Team spent two weeks for attending the meetings of citizens associations and conducting a door-to-door survey.
- There were no citizens associations in Lot-C (Birdsucker), and the associations did not have general meetings during the survey period in Independence City and in Lot-D (Hope Pasture). The Team conducted more door-to-door survey in these three communities, however, the

responses were 18, 19 and 12 respectively and the minimum targets were not fulfilled. Also the numbers of attendants were not so large in the two meetings of Bridgeport Citizens Association so that the responses were only 16. (See Table 3.)

**Table 3 Collection of Questionnaire Survey**

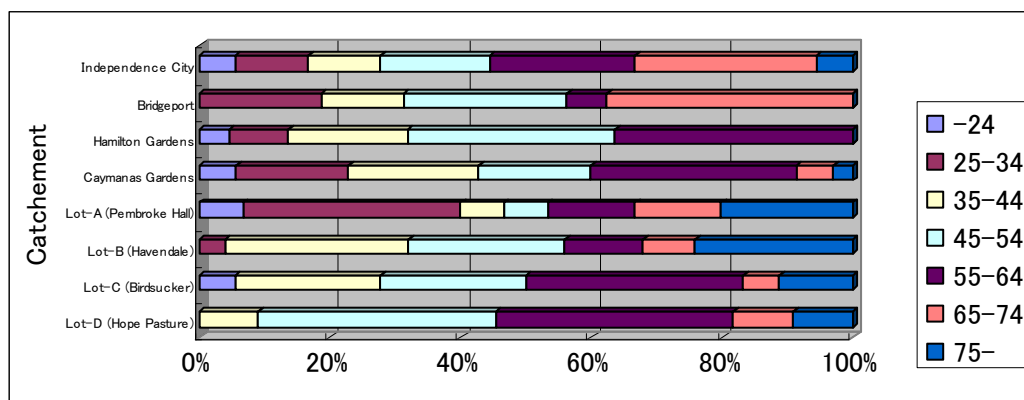
Catchment	Date & Time of Citizens Association Meetings	Responses at the Meetings	Additional Responses	Door-to-door Visits	Total
<i>Portmore</i>		40	22	35	97
Independence City	Cancelled	0	0	19	19
Bridgeport	5PM 4 Nov. 2009 Wednesday	8	2	0	16
	7PM 8 Nov. 2009 Sunday	6			
Hamilton Gardens	7PM 15 Nov. 2009 Sunday	8	0	16	24
Caymanas Gardens	1PM 8 Nov. 2009 Sunday	18	20	0	38
<i>North Kingston</i>		39	0	44	83
Lot-A (Pembroke Hall)	7PM 14 Nov. 2009 Saturday	16	0	4	20
Lot-B (Havendale)	4PM 15 Nov. 2009 Sunday	18	0	15	33
Lot-C (Birdsucker)	No Citizens Association	0	0	18	18
Lot-D (Hope Pasture)	7PM 9 Nov. 2009 Monday	5	0	7	12
Total		79	22	79	180

**(3) Social characteristics of the target area**

**1) Age Structure**

Age structures of the respondents of the questionnaire survey in Portmore and North Kingston are totally different. There are few respondents 75 years and over in Portmore, but close to 20% in North Kingston are over 75 years as shown in Figure 1. The ratios are especially high in Lot-A (Pembroke Hall) and Lot-B (Havendale). About 30% of the respondents in Lot-A (Pembroke Hall) are 25-34 years so that old generations, who live more in the upper part, and young generations, who live more in the lower part, coexist.

30-40% of the respondents of Independence City and Bridgeport are 65-74 years so that it is expected to see many people over 75 years in ten years. 30-40% of the respondents of Hamilton Gardens and Caymanas Gardens are 55-64 years and those age structures reflect the history of housing development.



**Figure 2 Age Composition of the Target Area (160 valid samples)**

2) **Sex of the heads of household.**

Female headed households are many especially in Lot-C (Birdsucker) and then in Hamilton Gardens and Lot-B (Heavendale) as shown in Figure 2.

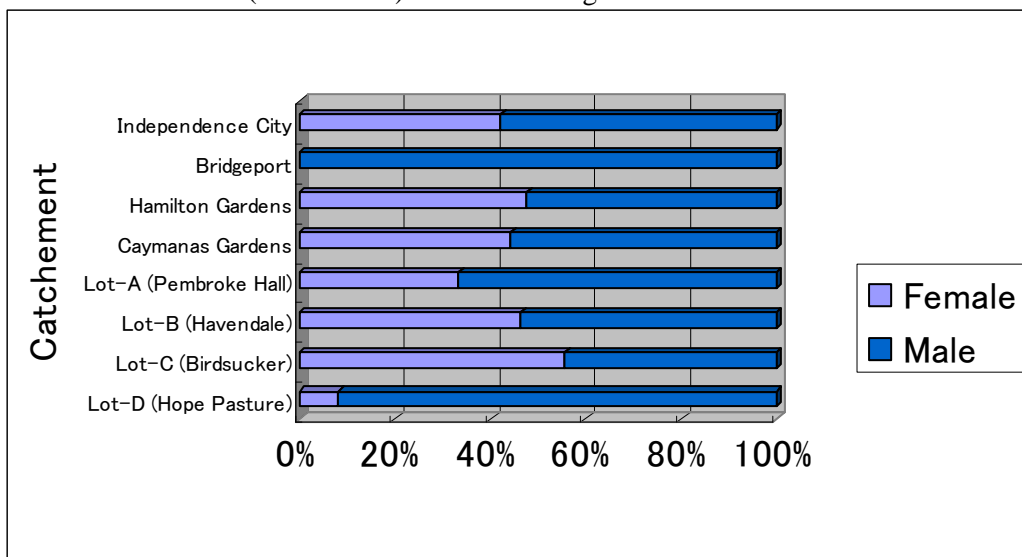
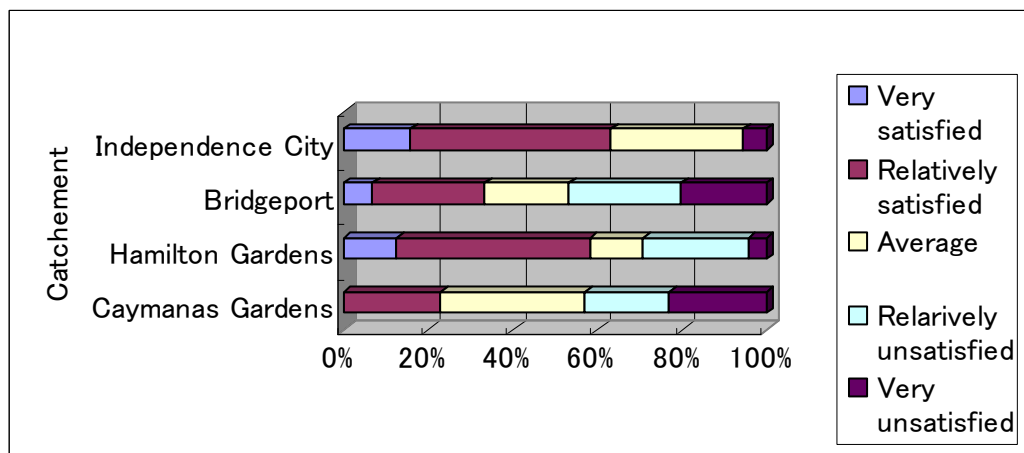


Figure 2. Sex of the Heads of the household (166 valid samples)

3) **Satisfaction Rating of the Sewage System**

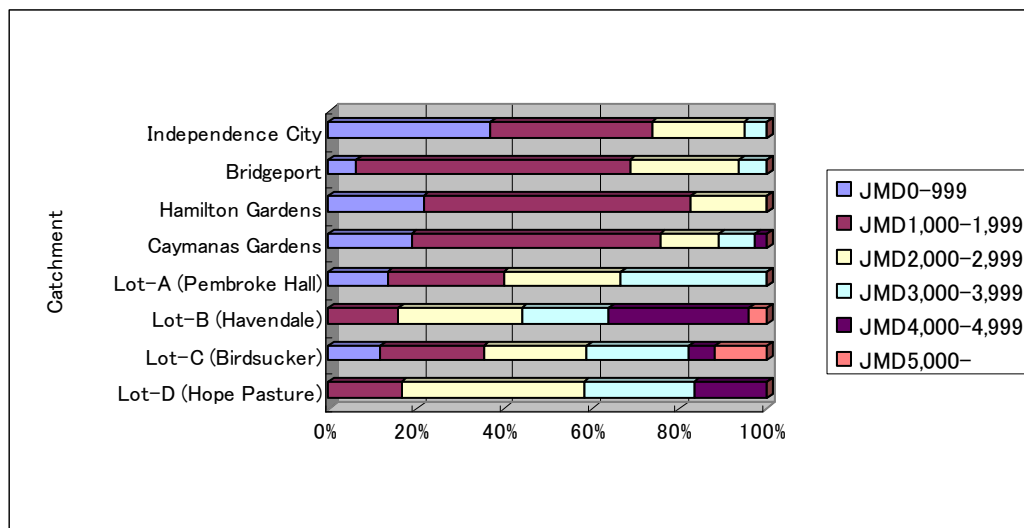
Satisfaction was rated according to the five-rank system of very satisfied, relatively satisfied, average, relatively unsatisfied and very unsatisfied by the respondents in the four catchments in Portmore, where houses are connected to the sewage system. Satisfaction rate is high in Independence City, but more than 20% of the respondents were very unsatisfied in Bridgeport and Caymanas Gardens as shown in Figure 3. From the open-ended questions of the questionnaire survey and the opinions at the citizens association’s meetings, the major issue in Bridgeport turned to be mosquitoes and the one in Caymanas Gardens is drainage. Odor is also mentioned by the nearby residents of Independence City and other Wastewater Treatment Plants.



**Figure 3 Satisfaction Rating of the Sewage System (93 valid samples)**

**4) Water Bills**

Out of 97 respondents in Portmore, only one respondent is not connected to the sewage system and she is not paying water bills. Only three out of 83 respondents in North Kingston are paying sewage bills. For comparison, water bills excluding sewage bills are shown in Figure 4.



**Figure 4 Water bills (164 valid samples)**

The average water bills of the catchments in Portmore are from JMD1,250 to 1,750, where those of the lots in North Kingston are from JMD2,150 to 3,800. The majority of the respondents of Portmore are paying less than JMD2,000, but the majority of the respondents in North Kingston are paying more than JMD3,000.

The sewage bills are equivalent to the water bills and all the respondents in Portmore except one and three respondents in North Kingston are actually paying that amount.

**5) JPS (Electricity) Bills**

The average JPS (electricity) bills of the catchments in Portmore are from JMD6,000 to 6,300, while those of the lots in North Kingston are from JMD7,000 to 10,000. Majority of the respondents in Portmore are paying less than JMD8,000, but majority of the respondents in North Kingston are paying more than JMD8,000.

Residents are paying three to four times more for JPS than water excluding sewage, or one and a half to double for JPS than water including sewage.



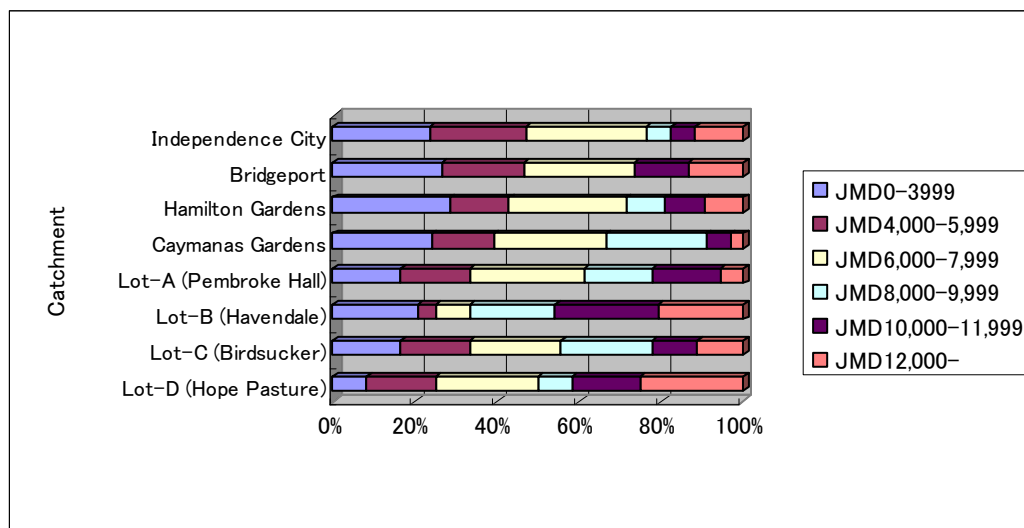


Figure 5 JPS (electricity) bills (158 valid samples)

6) **Income level**

Income level is highest in Lot-D (Hope Pasture) and relatively high in all the lots in North Kingston where majority of the employed households get more than JMD40,000 per month. No respondents in Lot-D (Hope Pasture) get less than JMD40,000. Pensioners are more than 30% except in Hamilton Gardens, Lot-D (Hope Pasture) and Caymanas Gardens. Some pensioners get more than JMD100,000 per month, but the pension is more likely to be JMD30,000 to 40,000.

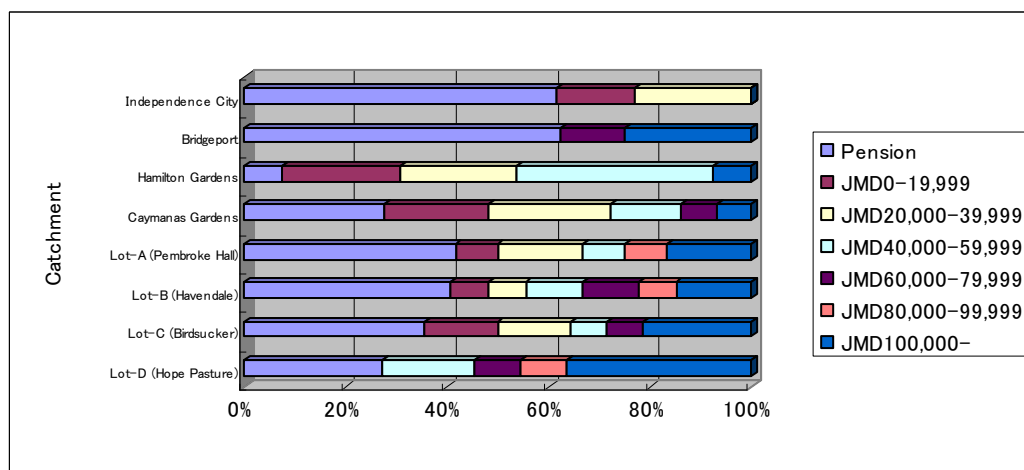


Figure 6 Income Level (127 valid samples)

7) **Individual connection to houses**

All the respondents in Portmore except one are in housing schemes and are connected to the sewage system from the beginning. On the other hand, all the respondents in North Kingston except one are not connected to the sewage system. All the respondents in Portmore except

one are paying water bills including sewage bills, but all the respondents in North Kingston except three are not paying sewage bills yet.

Among the respondents in North Kingston, only one house was already connected to the sewage system and they paid JMD400,000 for individual connection to the house including restoring cost of the walls and toilet. The house is also at the center of a town house and the connection cost must be higher than the average. Yet the connection cost could be JMD200,000 to 300,000 in the residential areas of North Kingston where average household income is JMD60,000 to 70,000 per month. It means the connection cost worth three to four months of income, or five to eight months of pension for ordinary residents.

**(4) Recommendations from social consideration aspect**

Most of the existing connections to houses are through housing schemes and no obstacles can be foreseen continuing that way. It would be same with new construction of detached houses or apartments. Replacement of existing soak-away and pits, however, is a difficult task because 1) most of the residents of the target area do not know about the project and particularly the cost for individual connection, and 2) the cost might be much higher than they think. At the moment, most of the residents are willing to pay less than JMD10,000 except the ones who know the actual cost, and the cost will be JMD100,000 or even JMD300,000 sometimes. A lot of questions were asked about the new billing system, K-factor and X-factor during the citizens associations meetings also. The residents of the target area need to have more information about the project, the sewage system, sewage bills and individual connection to houses. Regardless of the result of screening for Environmental Impact Assessment, the Team recommends NWC to have at least four explanation meetings in the target area; two meetings in North Kingston side and two meetings in Portmore side.

The means of the income could be JMD60,000 to JMD70,000 in North Kingston side and JMD30,000 to JMD40,000 in Portmore side. The length of pipes in the high-class residential areas in Lot-D (Hope Pasture) and Lot-B (Havendale) are longer than average because of the sizes of the lots and also the location of the houses. The main sewage pipes will come along the roads but soak-away is on gully side. Also more than 20% of the respondents in Lot-A (Pembroke Hall) and Lot-B (Havendale) are over 75 years old, about 40% of the heads of the households are pensioners in Lot-A (Pembroke Hall), Lot-B (Havendale) and Lot-C (Birdsucker), and more than 50% are female-headed households in Lot-C (Birdsucker). So that the Team recommends NWC to exempt senior pensioners from immediate connection and to defer until the registration of transfers. Also the Team recommends to include subsidies of JMD100,000 or more depending on the actual cost and the installment plan.

# **Survey Result**





Date	Communities
4 Nov. 2009 Wednesday	1. Mona Heights, 2-9 Bridgeport
5 Nov. 2009 Thursday	10-11 Lower Birdsucker
6 Nov. 2009 Friday	12 Meadowbrook, 13-14 White Hall
7 Nov. 2009 Saturday	15-17 Lower Birdsucker, 18-23 Upper Birdsucker
8 Nov. 2009 Sunday	24-41 Caymanas Gardens, 42-47 Bridgeport
9 Nov. 2009 Monday	48-52 Hope Pasture
10 Nov. 2009 Tuesday	53 Waterford, 54 Passage Fort, 55-57 Independence City, 58 Hamilton Gardens, 59 Christian Pen, 60-62 Hamilton Gardens
11 Nov. 2009 Wednesday	63-66 Birdsucker, 67-68 Birdsucker, 69 Shortwood, 70-71 Havendale, 72 Shortwood
12 Nov. 2009 Thursday	73 Caymanas Gardens, 74-79 Hamilton Gardens, 80-83 Passage Fort, 84 Gregory Park, 85-87 Independence City, 88 Christian Gardens, 89-90 Cumberland, 91-92 Bridgeport, 93 Cedar Grove, 94-101 Meadowbrook, 102 Hope Pasture
13 Nov. 2009 Friday	103-107 Passage Fort
14 Nov. 2009 Saturday	108-109 Mona Heights, 110-111 Lower Pembroke Hall, 112-113 Cedar Grove, 114-124 Caymanas Gardens, 125 Mona Heights, 126-143 Pembroke Hall
15 Nov. 2009 Sunday	144-158 Havendale, 159 Meadowbrook, 160 Heavendale, 161 Meadowbrook, 162-169 Hamilton Gardens, 170-177 Caymanas Gardens, 178 Birdsucker
17 Nov. 2009 Tuesday	179-180 Mona Heights

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sanitation service tariff

N/A

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 2600.00 \$/month

Drainage eg. septic tank / cess pool: N/A \$/month

Others: \_\_\_\_\_ \$/month for

N/A

3.2 Monthly payment for other utilities services

JPS: \$ 4800.00 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: 2100.00 How long does it last: 3 months

Others: N/A \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection \$ 1000.00 \$

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      4 persons  
5.2 Monthly income:      65000.00 \$/month  
5.3 Monthly saving:      2000.00 \$/month  
5.4 Area of Residence:      ~~HOPE PASTURE~~  
   Mona Heights

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation:      SUPERVISOR  
- Age:      47 YRS  
- Sex:      F (M)



6.2 Head of the Household

- Occupation:      SAME  
- Age:      \_\_\_\_\_  
- Sex:      F    M



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$5900 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$12000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6500 How long does it last: 6 months

Others: \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month      # 0

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons  
5.2 Monthly income: \_\_\_\_\_ \$/month  
5.3 Monthly saving: \_\_\_\_\_ \$/month  
5.4 Area of Residence: Bridgeport

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Businessman  
- Age: 49  
- Sex: F  M  
6.2 Head of the Household  
- Occupation: \_\_\_\_\_  
- Age: \_\_\_\_\_  
- Sex: F M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 3,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \$ 800 \$/month

Cooking gas: Size of cylinder: N/A lbs Price: \$ N/A How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      NONE

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 1 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: BRIDGEPORT

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Retired
  - Age: 66
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: Retired
  - Age: 66
  - Sex: F  M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water ✓

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied ✓ Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$3000.<sup>00</sup> \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

[Empty box]

[Empty box]

3.2 Monthly payment for other utilities services

JPS: \$5000.<sup>00</sup> \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$1200.<sup>00</sup> How long does it last: ONE month

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyer facility development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month      ✓

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons  
5.2 Monthly income: \$60000 \$/month  
5.3 Monthly saving: \$20000 \$/month  
5.4 Area of Residence: South Bairo Port More

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Engineer  
- Age: 50  
- Sex: F  M  
6.2 Head of the Household  
- Occupation: Same as above  
- Age: 50  
- Sex: F  M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water None

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,300 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$/month

Cooking gas: Size of cylinder: 150 lbs Price: \$ 6000 How long does it last: 6 months

Others: \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      Zero

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 1 person
- 5.2 Monthly income: \_\_\_\_\_ \$/month *→ Pensioner.*
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Bridgeport.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Retired Pensioner.
  - Age: 68
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: Same
  - Sex: F  M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 3000 /month

Drainage eg. septic tank / cess pool: /month

Others: /month for

3.2 Monthly payment for other utilities services

JPS: 6000 /month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 2000 How long does it last: 3 months

Others: /month

#### 4. Willingness to pay for sanitation services

##### [Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

\$100/month    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

#### 5. Profile of your household

5.1 Household size: 3 persons  
5.2 Monthly income: N/A \$/month  
5.3 Monthly saving: N/A \$/month  
5.4 Area of Residence: Bridgeport

#### 6. Profile of interviewee and household leader

##### 6.1 Interviewee

- Occupation: Events Planner  
- Age: 52  
- Sex:  F  M

##### 6.2 Head of the Household

- Occupation: Sales  
- Age: 53  
- Sex: F  M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes ✓                      No

1.2 Is your water connection metered?

Yes ✓                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes ✓                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied ✓                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow ✓                      Others  
Foul odors                      High sewage charge

6,000?

#### 3. Water consumption and demand

3.1 Monthly water charges of your household

Water bill including sewage: 600 \$/month

Drainage eg. septic tank / cess pool: n/a \$/month

Others: \_\_\_\_\_ \$/month for

Other water source(s) if any

3.2 Monthly payment for other utilities services

JPS: \$11,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 500 How long does it last: 2 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 5 persons
- 5.2 Monthly income: retired \$/month
- 5.3 Monthly saving: \$4000 \$/month
- 5.4 Area of Residence: Biagepost

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Retired
  - Age: 69 years
  - Sex: F M ✓
- 6.2 Head of the Household
  - Occupation: Same
  - Age: As Above
  - Sex: F M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      ~~Average~~  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge                     

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage:                      \$ 3,500 /month

Drainage eg. septic tank / cess pool:                      \$/month

Others:                      \$/month for

3.2 Monthly payment for other utilities services

JPS:                      \$ 10,000 /month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 59.00 How long does it last: 6 months

Others:                      \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      \$0

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Bridge port

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Housewife/Marketer
  - Age: 60
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Retired Journalist
  - Age: 70
  - Sex:  F  M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 4,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \$ 15,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,400 How long does it last: 6 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      \$0

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: bridgeport

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Retired Journalist
  - Age: 70
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: As Above
  - Age: \_\_\_\_\_
  - Sex:  F  M



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for 'Others' reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$6000 \$/month

Drainage eg. septic tank / cess pool: 0 \$/month

Others: \_\_\_\_\_ \$/month for

[Empty box for 'Other water source(s) if any']

[Empty box for 'Others' monthly charges]

3.2 Monthly payment for other utilities services

JPS: \$11,000 \$/month

Cooking gas: Size of cylinder: 25lbs Price: \$1800 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month
- (ii) Initial payment for connection      \$ 2500

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      3; 4 persons  
5.2 Monthly income:      25,000 \$/month  
5.3 Monthly saving:      4000 \$/month  
5.4 Area of Residence:      Barbican  
   Lower Birdsuiker

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation:      Plumbing  
- Age:      48  
- Sex:      F      M
- 6.2 Head of the Household  
- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:      F      M

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## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1,000 \$/month

Drainage eg. septic tank / cess pool: 0 \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

Never Drained -

3.2 Monthly payment for other utilities services

JPS: 7,000 \$/month

Cooking gas: Size of cylinder: 100 lbs    Price: \$ 6,000    How long does it last: 6 months

Others: \_\_\_\_\_ \$/month

#### 4. Willingness to pay for sanitation services

##### [North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges: \$600/month    \$800/month    \$1,000/month  
  \$1,200/month    \$1,400/month    \$1,600/month

(ii) Initial payment for connection    \$ 1,000 - 4500.

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

#### 5. Profile of your household

5.1 Household size: 4 persons  
5.2 Monthly income: 40,000 \$/month  
5.3 Monthly saving: 6 \$/month  
5.4 Area of Residence: Birdsucker  
*lower*

#### 6. Profile of interviewee and household leader

6.1 Interviewee  
- Occupation: Musician  
- Age: 39  
- Sex: F (M)

6.2 Head of the Household  
- Occupation: Same  
- Age: \_\_\_\_\_  
- Sex: F M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$49.70 \$/month

Drainage eg. septic tank / cess pool: \$/month

included in the rent

Others: \$/month for

[Empty box for other water source(s) if any]

[Empty box for others \$/month for]

3.2 Monthly payment for other utilities services

JPS: \$10,900 \$/month

Cooking gas: Size of cylinder: 10 lbs Price: \$5500 How long does it last: 10 months

Others: \$/month

#### 4. Willingness to pay for sanitation services

##### [North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:        \$600/month        \$800/month        ✓ \$1,000/month  
   \$1,200/month        \$1,400/month        \$1,600/month

(ii) Initial payment for connection    \$3000

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

#### 5. Profile of your household

5.1 Household size:            3 persons  
5.2 Monthly income:        \$89,500 \$/month  
5.3 Monthly saving:        \$40,000 \$/month  
5.4 Area of Residence:      Glendowbrook

(Townhouse)

#### 6. Profile of interviewee and household leader

##### 6.1 Interviewee

- Occupation:        Manager  
- Age:                      31  
- Sex:                      (F) M

##### 6.2 Head of the Household

- Occupation:        Sales Manager  
- Age:                      31  
- Sex:                      F (M)

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water    1

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No                      & Outdoor

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

None

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1,500 \$/month over 10 yrs  
Drainage eg. septic tank / cess pool: 6000 \$/month Haven't been drawn in yrs  
Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 6,000 \$/month  
Cooking gas: Size of cylinder: 30 lbs Price: \$1,600 How long does it last: 2-3 months  
Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
    \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 2,000

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      7 persons
- 5.2 Monthly income:      24,000 \$/month
- 5.3 Monthly saving:      0 \$/month
- 5.4 Area of Residence:      Whitehall

**7. Please feel free to write any opinion about sewage.**

Feels as if the current situation with the soak-away is adequate as opposed to the new system.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation:      Counter Clerk
  - Age:      36
  - Sex:      F (M)
- 6.2 Head of the Household
  - Occupation:      Same
  - Age:      \_\_\_\_\_
  - Sex:      F M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,500.00 \$/month

Drainage eg. septic tank / cess pool: 7,000.00 \$/month every 3 years

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 40,000.00 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,600 How long does it last: 2 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      8 persons  
5.2 Monthly income:      \_\_\_\_\_ \$/month  
5.3 Monthly saving:      \_\_\_\_\_ \$/month  
5.4 Area of Residence:      Whitehall

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Restaurant Owner
- Age:      60
- Sex:      (F) M

**6.2 Head of the Household**

- Occupation:      Same
- Age:      \_\_\_\_\_
- Sex:      F M

↓  
11/07  
Birdsucker  
13

## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

Is your house connected to water supply system?

Yes                       No

Is your water connection metered?

Yes                       No

Use of other water supply sources:

Communal tap     Well     Rainwater     Bottled water

### 2. Present status of wastewater treatment

Is your house connected to sewer collection network?

Yes                       No

If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                       Soakaway (pit latrine)

Does your house have indoor toilet(s)?

Yes                       No

How do you evaluate the current sewage services at your home?

Very satisfied                       Relatively satisfied                       Average  
 Relatively unsatisfied                       Very unsatisfied

Reason of dissatisfaction

Low discharging capability                       Sewage overflow                       Others  
 Foul odors                       High sewage charge

None

### 3. Water consumption and demand

Other water source(s) if any

Monthly water charges of your household

Water bill including sewage: 800 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

Does not drain

Monthly payment for other utilities services

JPS: 1,500 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 1,150 How long does it last: 2 months

Others: \_\_\_\_\_ \$/month

Every

4. Willingness to pay for sanitation services

[North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:
 

<u>\$600/month</u>	<u>\$800/month</u>	<u>\$1,000/month</u>
<u>\$1,200/month</u>	<u>\$1,400/month</u>	<u>\$1,600/month</u>
- (ii) Initial payment for connection \$ 0

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

5. Profile of your household

Household size: 1 persons  
 Monthly income: \_\_\_\_\_ \$/month  
 Monthly saving: \_\_\_\_\_ \$/month  
 Area of Residence: Birdsucker / Lower

7. Please feel free to write any opinion about sewage.

Thinks it is a good idea to implement because of the effect that it will have. In terms of improved health,

6. Profile of interviewee and household leader

Interviewee  
 - Occupation: Retired  
 - Age: 80  
 - Sex:  F  M

Head of the Household  
 - Occupation: Retired  
 - Age: 80  
 - Sex:  F  M



**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

Is your house connected to water supply system?

Yes                      No

Is your water connection metered?

Yes                      No

Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

**2. Present status of wastewater treatment**

Is your house connected to sewer collection network?

Yes                      No

If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank            Soakaway (pit latrine)

Does your house have indoor toilet(s)?

Yes                      No

How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

Monthly water charges of your household

Water bill including sewage: 1500 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

Monthly payment for other utilities services

JPS: 1500 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1300 How long does it last: 2 months

Others: \$/month

**4. Willingness to pay for sanitation services**

[North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 1,000

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

Household size:      8 persons  
Monthly income:      \_\_\_\_\_ \$/month  
Monthly saving:      \_\_\_\_\_ \$/month  
Area of Residence:      Birdsucker/Low

**7. Please feel free to write any opinion about sewage.**

Good idea, because it <sup>would</sup> retrieve the sewage in the pit.

**6. Profile of interviewee and household leader**

Interviewee  
- Occupation:      Porter  
- Age:      39  
- Sex:      F (M)  
Head of the Household  
- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:      F M

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## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

Is your house connected to water supply system?

Yes

No

Is your water connection metered?

Yes

No

Use of other water supply sources:

Communal tap

Well

Rainwater

Bottled water

### 2. Present status of wastewater treatment

Is your house connected to sewer collection network?

Yes

No

If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank

Soakaway (pit latrine)

Does your house have indoor toilet(s)?

Yes

No

How do you evaluate the current sewage services at your home?

Very satisfied

Relatively satisfied

Average

Relatively unsatisfied

Very unsatisfied

Reason of dissatisfaction

Low discharging capability

Sewage overflow

Others

Foul odors

High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

Monthly water charges of your household

Water bill including sewage: 4,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Not Drained

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

Monthly payment for other utilities services

JPS: 6,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,600 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

→ (ii) Initial payment for connection      \$ 1,500

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

Household size:      7 persons  
Monthly income:      25,000 \$/month  
Monthly saving:      0 \$/month  
Area of Residence:      Birdsucker/Low

**7. Please feel free to write any opinion about sewage.**

It would be a better option because it would free the ground of the contaminated water.

**6. Profile of interviewee and household leader**

Interviewee  
- Occupation:      Self-Employed  
- Age:      55  
- Sex:      F (M)  
Head of the Household  
- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:      F M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,500 \$/month

Drainage eg. septic tank / cess pool: 0 \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 16,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,800 How long does it last: 1 months

Others: \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges: \$600/month \$800/month \$1,000/month  
\$1,200/month \$1,400/month \$1,600/month

(ii) Initial payment for connection \$ 3,000

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size: 3 persons  
5.2 Monthly income: Pension \$/month  
5.3 Monthly saving: 0 \$/month  
5.4 Area of Residence: Birdsucker Heights

**7. Please feel free to write any opinion about sewage.**

It would be a good idea if implemented properly.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee**
- Occupation: Hairedresser
  - Age: 50
  - Sex:  F  M
- 6.2 Head of the Household**
- Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine) Q

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

None

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 5,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

Never Drained in

3.2 Monthly payment for other utilities services

JPS: 8,000 \$/month

Cooking gas: Size of cylinder: 60 lbs Price: \$ 5,000 How long does it last: 3 months

Others: \_\_\_\_\_ \$/month

#### 4. Willingness to pay for sanitation services

##### [North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges: (\$600/month)     \$800/month     \$1,000/month  
   \$1,200/month     \$1,400/month     \$1,600/month

(ii) Initial payment for connection     \$ 2,000

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

#### 5. Profile of your household

5.1 Household size: 4 persons  
5.2 Monthly income: → \_\_\_\_\_ \$/month  
5.3 Monthly saving: → \_\_\_\_\_ \$/month  
5.4 Area of Residence: Birdsucker Heights

#### 6. Profile of interviewee and household leader

6.1 Interviewee  
- Occupation: Unemployed  
→ Age: 50+  
- Sex:  F  M

6.2 Head of the Household  
- Occupation: ARCHITECT  
- Age: 50+  
- Sex: F  M

#### 7. Please feel free to write any opinion about sewage.

Thinks the project is long overdue from an infrastructural point of view. However, the included costs are a bit of an issue.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine) 2

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

None

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1,200 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 10,500 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 4 months

Others: \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month      \$0
- (ii) Initial payment for connection      \$ 0

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      1 persons  
5.2 Monthly income:      0 \$/month  
5.3 Monthly saving:      \_\_\_\_\_ \$/month  
5.4 Area of Residence:      Birdcucker Close

**7. Please feel free to write any opinion about sewage.**

*You have Has serious issues with the costs that are associated with the venture*

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation:      Unemployed.  
   ~~Assistant~~  
- Age:      40  
- Sex:      (F) M
- 6.2 Head of the Household  
- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:      F M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$13,500 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \$8,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6000 How long does it last: 10 months

Others: \$5,500 \$/month

**4. Willingness to pay for sanitation services**

[North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month
- (ii) Initial payment for connection      \$ 5,000

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      4 persons  
5.2 Monthly income:      \$120,000 \$/month  
5.3 Monthly saving:      — \$/month  
5.4 Area of Residence:      Birdsucker

**7. Please feel free to write any opinion about sewage.**

Fix the roads properly after laying pipes!!

**6. Profile of interviewee and household leader**

- 6.1 Interviewee**
- Occupation:      Manager
  - Age:      43
  - Sex:      F  M
- 6.2 Head of the Household**
- Occupation:      Same
  - Age:      \_\_\_\_\_
  - Sex:      F  M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water



#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

None

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 800 \$/month

Drainage eg. septic tank / cess pool: 0 \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

→ JPS: 6,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$5,800 How long does it last: 7 months

Others: 2,200 \$/month

↓  
Cable

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges: 

<u>\$600/month</u>	<u>\$800/month</u>	<u>\$1,000/month</u>	
<u>\$1,200/month</u>	<u>\$1,400/month</u>	<u>\$1,600/month</u>	<u>0</u>
- (ii) Initial payment for connection \$ 0

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size: 1 persons
- 5.2 Monthly income: 30,000 \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Birdsucker Estate

**7. Please feel free to write any opinion about sewage.**

Its a good idea, but the costs will be too great given the current financial situation.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
- Occupation: Retired nurse
  - Age: 75
  - Sex: (F) M
- 6.2 Head of the Household
- Occupation: Same
  - Age: \_\_\_\_\_
  - Sex: F M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

~~Yes~~ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: approx 1,000 \$/month

Drainage eg. septic tank / cess pool: 0 \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: approx 4,500 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,300 How long does it last: approx 7 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month → \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      2 persons  
5.2 Monthly income:      70,000 \$/month  
5.3 Monthly saving:      0 \$/month  
5.4 Area of Residence:      Bairican

**7. Please feel free to write any opinion about sewage.**

a central system/ is a fantastic idea and seems like it would be an effective solution. As well very pleased about the treatment plant idea.

**6. Profile of interviewee and household leader**

6.1 Interviewee  
- Occupation:      teacher  
- Age:      41  
- Sex:      F M  
6.2 Head of the Household  
- Occupation:      SAME  
- Age:      \_\_\_\_\_  
- Sex:      F M

**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓                      No

1.2 Is your water connection metered?

Yes ✓                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water ✓

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes ✓                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank ✓                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied ✓

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow ✓                      Others   
Foul odors ✓                      High sewage charge ✓

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 7000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$ 9000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,900 How long does it last: one months

Others: Phone bill: 3,700 \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 5 persons
- 5.2 Monthly income: \$10000 \$/month
- 5.3 Monthly saving: NONE \$/month
- 5.4 Area of Residence: ST CATHERINE PARADE

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: NONE
  - Age: 57
  - Sex: F M
- 6.2 Head of the Household HUSBAND
  - Occupation: \_\_\_\_\_
  - Age: 57
  - Sex: F M

**7. Please feel free to write any opinion about sewage.**

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied ✓ Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow ✓ Others   
Foul odors ✓ High sewage charge ✓

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$17,500 \$/month ✓  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$8,000 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$6,000 How long does it last: 3 months  
Others: Phone Bills \$/month \$2,500

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: ~~#~~ 3 persons
- 5.2 Monthly income: Pension \$/month
- 5.3 Monthly saving: Nil \$/month
- 5.4 Area of Residence: ~~St~~ Caymanas Gdn.  
St Catherine

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: House wife
  - Age: 56
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Pensioner
  - Age: 57
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

0 Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$400.00 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$3,000 for lighting \$/month for

3.2 Monthly payment for other utilities services

JPS: 7,500 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1800.24 How long does it last: 1.5 months

Others: \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: 5000.00 \$/month
- 5.3 Monthly saving: 1000.00 \$/month
- 5.4 Area of Residence: Laymanas, Gwd 5

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Driver
- Age: 45
- Sex: F  M

6.2 Head of the Household

- Occupation: Driver
- Age: 45
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Have a little foul odors in days.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$7,000.00 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$ 5,000.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 10 months

Others: \$ 2,600.00 (Telephone) \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

\$100/month

\$200/month

\$300/month

\$400/month

\$500/month

\$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 1 persons
- 5.2 Monthly income: 15,000 \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: Retired
- Age: 69
- Sex: F  M

**6.2 Head of the Household**

- Occupation: Same
- Age: \_\_\_\_\_
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

God. SAID HE HAS NO PROBLEM IN BATHING  
you rather too much WATER FROM THE POOR.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No estimated

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 7950.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6500 How long does it last: 4 months

Others: Dependents 3 1800 \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size:      4 persons
- 5.2 Monthly income:      37,500 \$/month
- 5.3 Monthly saving:      2000 \$/month
- 5.4 Area of Residence:      Caymanas Gdhs, Site D

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation:      Clerical Assistant
  - Age:      30
  - Sex:       F     M
- 6.2 Head of the Household
  - Occupation:      Same as above
  - Age:      \_\_\_\_\_
  - Sex:       F     M

**7. Please feel free to write any opinion about sewage.**

I feel that it is unfair that when you call NWC to clear the adjoining man hole between neighbouring houses, I have to stand the cost of it. I thought that was the reason for paying sewage charges that comes monthly on my bill.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank  Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow  Others  
Foul odors  High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$17 6.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 17.50 How long does it last: 120 months

Others: \_\_\_\_\_ \$/month

4. Willingness to pay for sanitation services

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month  \$200/month  \$300/month  \$400/month
- \$500/month  \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

5. Profile of your household

- 5.1 Household size: 5 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Coxmas garden

6. Profile of interviewee and household leader

- 6.1 Interviewee
  - Occupation: Labour
  - Age: 56
  - Sex: F Mr
- 6.2 Head of the Household
  - Occupation: Labour
  - Age: 56
  - Sex: F Mr

7. Please feel free to write any opinion about sewage.

Well the new sewage system  
 it will come and the project  
 will be supported by the Citizens of  
 Coxmas garden



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow ✓  
Foul odors High sewage charge ✓ Others All of the listed

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2800. \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month unknown

Others: JPS; \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 1850 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 6 persons
- 5.2 Monthly income: 30,000 \$/month
- 5.3 Monthly saving: Nil \$/month
- 5.4 Area of Residence: Caymanas Gdns.

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Clerical Officer
- Age: 25
- Sex:  F  M

6.2 Head of the Household

- Occupation: Security Officer
- Age: 39
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓                      No

1.2 Is your water connection metered?

Yes ✓                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water ✓

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes ✓                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average ✓  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability ✓                      Sewage overflow                      Others  
Foul odors                      High sewage charge ✓

N/A
-----

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage:                      2000 \$/month approx  
Drainage eg. septic tank / cess pool:                      \$/month  
Others:                      \$/month for

N/A
-----

--

3.2 Monthly payment for other utilities services

JPS:                      3500 \$/month  
Cooking gas: Size of cylinder: 30 lbs Price: \$ 1850 How long does it last: 2 months  
Others: phone                      4,000 \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: 40,000 \$/month
- 5.3 Monthly saving: Nil \$/month
- 5.4 Area of Residence: Caymanas Gdns

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: clerk
- Age: 42
- Sex:  F  M

6.2 Head of the Household

- Occupation: clerk
- Age: 42
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Sewerage charge is much to high for poor service.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap  Well  Rainwater  Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank  Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied  Average   
 Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability  Sewage overflow  Others   
Foul odors   High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 9700.00 \$/month

Cooking gas: Size of cylinder: 35 lbs Price: \$1600.00 How long does it last: 3 1/2 weeks

Others: Coal \$/month \$800.00

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      Nil

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: Pensioner \$/month
- 5.3 Monthly saving: Nil \$/month
- 5.4 Area of Residence: Caymanas Gardens Site D

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: SENIOR Citizens
  - Age: SENIOR Citizens
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Not Good, Need Improvement

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## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes ✓      No

1.2 Is your water connection metered?

Yes      No ✓ *estimated*

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater      Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes ✓      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied ✓                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors ✓                      High sewage charge ✓

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ 1000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ 7000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 2000 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons  
5.2 Monthly income: Pensioner \$/month  
5.3 Monthly saving: Nil \$/month  
5.4 Area of Residence: Caymanas Gdns.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Pensioner  
- Age: 80 yrs.  
- Sex: F  M  
6.2 Head of the Household  
- Occupation: Pensioner  
- Age: 80  
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

Needs improvement



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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water    None

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank            Soakaway (pit latrine)    No

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,500 \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 2,500 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,500 How long does it last: 2 months  
Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: 8,000 \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Caymanas Site D

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Practical Nurse.
  - Age: 44
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Same.
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Agrees with the system as long as it will give you a better service. The charges have to suit the financial situation of the customer.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

N/A Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

A new system is needed

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1500 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

[Empty box]

[Empty box]

3.2 Monthly payment for other utilities services

JPS: 3000 \$/month  
Cooking gas: Size of cylinder: 30 lbs Price: \$ 2000 How long does it last: 1 1/2 months  
Others: 12000 \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures. *Enough is being paid for inadequate system*

**5. Profile of your household**

- 5.1 Household size: 1 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Caymanas D.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Civil Servant
  - Age: 48
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex: F  M

**7. Please feel free to write any opinion about sewage.**

*The existing sewage rate should not be increased for the new system*

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2500.00 \$/month   
Drainage eg. septic tank / cess pool:            \$/month  
Others:            \$/month for

3.2 Monthly payment for other utilities services

JPS: 8000 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 5000 How long does it last: 4 months  
Others:            \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- ~~\$100/month~~    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons  
5.2 Monthly income: 40,500 \$/month  
5.3 Monthly saving: \_\_\_\_\_ \$/month  
5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Customer Care Rep
- Age: 30
- Sex: F  M

6.2 Head of the Household

- Occupation: Pensioner
- Age: 57
- Sex:  F M

**7. Please feel free to write any opinion about sewage.**

Instead of discharging the treated/~~non~~-treated sewage into the rivers, why not fill ground water deposits that can be used for agricultural purposes

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 6000 \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ 2000 How long does it last: 1.5 months

Others: \_\_\_\_\_ \$/month

30? 1

1.5 months

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      None

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Cayman Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Correctional Officer
  - Age: 43
  - Sex:  M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Why are we paying so much for sewage. It does not make sense. Water & Sewage must not be the same. Sewage must be less.



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine) None

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 8,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1,800 How long does it last: 1 months

Others: \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in-between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: 40,000 \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Caymanas Site D.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Housewife
  - Age: 42
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Thinks it is a good idea, ~~but~~ and is willing to foot the charges.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 8000.00 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 6000.00 \$/month

Cooking gas: Size of cylinder: 30lbs Price: \$ 2100 How long does it last: 2 months

Others: \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: 0 \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: UNEMPLOY
- Age: 64
- Sex: F  M

6.2 Head of the Household

- Occupation: SAME
- Age: \_\_\_\_\_
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

UNHAPPY WITH the sewage, and looking towards this programme.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability High sewage charge Others  
Foul odors Sewage overflow

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 10000+ \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$2050 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

\$100/month

\$200/month

\$300/month

\$400/month

\$500/month

\$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

5.1 Household size: 3 persons

5.2 Monthly income: Pensioner \$/month Belleuve Hospital

5.3 Monthly saving: \_\_\_\_\_ \$/month

5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: Retired

- Age: 60

- Sex: F  M

**6.2 Head of the Household**

- Occupation: Same

- Age: \_\_\_\_\_

- Sex: F M

**7. Please feel free to write any opinion about sewage.**

The rate that is charge which is equivalent to bill is totally unfair.  
The system is needed to be urgently upgrade.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Relatively unsatisfied Very satisfied Relatively satisfied Average Very unsatisfied

2.5 Reason of dissatisfaction

Foul odors Low discharging capability Sewage overflow High sewage charge Others

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2500 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1900. How long does it last: 1 months

Others: \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons  
5.2 Monthly income: 0 \$/month  
5.3 Monthly saving: 0 \$/month  
5.4 Area of Residence: EMYMANAS GRADENS

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Plumber Occupation: Plumber  
53 Age: 53 yrs  
Sex: F  M

6.2 Head of the Household

- Occupation: Same  
- Age: \_\_\_\_\_  
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**



11-00  
↓ Bridgeport  
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## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank            Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2900                      \$/month  
Drainage eg. septic tank / cess pool:                      \$/month  
Others:                      \$/month for

3.2 Monthly payment for other utilities services

JPS: 6500                      \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$6000<sup>+</sup> How long does it last: 7 months  
Others:                      \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

\$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month      \$0.00

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Bridgeport

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Pensioner
  - Age: \_\_\_\_\_
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex: F  M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3500 \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 7500 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 6000 How long does it last: 5 months  
Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

0

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 5 persons
- 5.2 Monthly income: - \$/month
- 5.3 Monthly saving: - \$/month
- 5.4 Area of Residence: Budgeport

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Housewife
  - Age: 46
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Businessman
  - Age: 52
  - Sex:  F  M

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# Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 4000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \$ 6000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6400 How long does it last: 6 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      NONE

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: NONE \$/month
- 5.4 Area of Residence: B Ridgeport

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Technician
  - Age: \_\_\_\_\_
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: 38
  - Sex: F  M

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## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank            Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      ~~Average~~  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge                     

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 5000 \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

\$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month      ~~##~~      nil

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 1 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: BRIDGEPORT

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
- Occupation: TEACHER
  - Age: 34
  - Sex:  F  M

- 6.2 Head of the Household
- Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex:  F  M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3100 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$4500 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$2000 How long does it last: \_\_\_\_\_ months

Others: \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size:      3 persons
- 5.2 Monthly income:      \_\_\_\_\_ \$/month
- 5.3 Monthly saving:      \_\_\_\_\_ \$/month
- 5.4 Area of Residence:      Bridgeport

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation:      Communicator
  - Age:      40
  - Sex:      F  M
- 6.2 Head of the Household
  - Occupation:      myself
  - Age:      \_\_\_\_\_
  - Sex:      F  M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes ✓                      No

1.2 Is your water connection metered?

Yes ✓                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water ✓

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes ✓                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied ✓                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$1200.00 \$/month

Drainage eg. septic tank / cess pool: - \$/month

Others: - \$/month for

3.2 Monthly payment for other utilities services

JPS: \$3,500.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ ? How long does it last: ? months

Others: ? \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size:      2 persons
- 5.2 Monthly income:      ? \$/month
- 5.3 Monthly saving:      ? \$/month
- 5.4 Area of Residence:      BRIDGEPORT

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      RETIREE.
- Age:      70
- Sex:      F    M ✓

**6.2 Head of the Household**

- Occupation:      RETIREE.
- Age:      70
- Sex:      F    M ✓

**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

11-09  
Hope  
Pasture  
48

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

N/A

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$1,000.00 \$/month

Drainage eg. septic tank / cess pool: N/A \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 15-20,000.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 7,000 How long does it last: 3-4 months

Others: \$7,000 (phone) \$/month

\$5,000.00                      Cable

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_ ? Not sure

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      4 persons  
5.2 Monthly income:      \$200,000 \$/month  
5.3 Monthly saving:      0 \$/month  
5.4 Area of Residence:      Hope Pastures

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

6.1 Interviewee  
- Occupation:      Lecturer  
- Age:      42 yrs  
- Sex:       F       M  
6.2 Head of the Household  
- Occupation:      Lecturer  
- Age:      46  
- Sex:      F       M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000.00 \$/month

Drainage eg. septic tank / cess pool: — \$/month

Others: — \$/month for

3.2 Monthly payment for other utilities services

JPS: 20,000 \$/month

Cooking gas: Size of cylinder: lbs Price: \$ N/A. How long does it last: months

Others: 6,000.00 (Phone) \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 20,000.00

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      4 persons  
5.2 Monthly income:      500,000.00 \$/month  
5.3 Monthly saving:      20,000.00 \$/month  
5.4 Area of Residence:      Hope Pastures.

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

6.1 Interviewee  
- Occupation:      Maintenance Engineer  
- Age:      56.  
- Sex:      F (M)

6.2 Head of the Household  
- Occupation:      As a soul.  
- Age:      \_\_\_\_\_  
- Sex:      F      M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4000.00 \$/month

Drainage eg. septic tank / cess pool: 500 \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 21,000.00 \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: 10,000.00 \$/month

(phone)

**4. Willingness to pay for sanitation services**

[North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month
- (ii) Initial payment for connection      \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      5 persons  
5.2 Monthly income:      \_\_\_\_\_ \$/month  
5.3 Monthly saving:      \_\_\_\_\_ \$/month  
5.4 Area of Residence:      Hope Parish.

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation:      Mechanical Engineer.  
- Age:      48  
- Sex:      F  M
- 6.2 Head of the Household  
- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:      F    M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank  Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied  Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

Environmental

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1200 \$/month

Drainage eg. septic tank / cess pool: Nil \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: \$10,000-00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$4,800 How long does it last: 8 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month ✓      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      2 persons  
5.2 Monthly income:      80,000.00 \$/month  
5.3 Monthly saving:      Nil \$/month  
5.4 Area of Residence:      Hope Pastures

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Sales Rep
- Age:      51
- Sex:      F      M ✓

**6.2 Head of the Household**

- Occupation:      Sales Rep.
- Age:      51
- Sex:      F      M ✓

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$3000 \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \$3000 \$/month for

3.2 Monthly payment for other utilities services

JPS: 6000 \$/month  
Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months  
Others: \$7000 \$/month  
(phone)

**4. Willingness to pay for sanitation services**

[North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month
- \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 0

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      3 persons
- 5.2 Monthly income:      100,000 \$/month
- 5.3 Monthly saving:      \_\_\_\_\_ \$/month
- 5.4 Area of Residence:      Hope Pastures

**7. Please feel free to write any opinion about sewage.**

*Sewage costs must be reasonable  
Sewerage Plants must be maintained*

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation:      Housewife
  - Age:      56
  - Sex:       F     M
- 6.2 Head of the Household
  - Occupation:      Arline Pilot
  - Age:      55
  - Sex:       F     M

5:

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap  Well  Rainwater  Bottled water  NON

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank  Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied  Average   
Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability  Sewage overflow  Others   
Foul odors  High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: LOW/HUNDRED \$/month 90/100  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 13,000 \$/month LOW 30 ROUND  
Cooking gas: Size of cylinder: LOW lbs Price: 2000 How long does it last: 1 months  
Others: PHONE \$/month for PHONE

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

\$100/month

\$200/month

\$300/month ✓

\$400/month

\$500/month

\$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: FIVE PERSONS
- 5.2 Monthly income: \$28,000 \$/month
- 5.3 Monthly saving: NO \$/month
- 5.4 Area of Residence: WATERFORD

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: MACHINIST
- Age: 54
- Sex: M

**6.2 Head of the Household**

- Occupation: SAM
- Age: \_\_\_\_\_
- Sex: F M

**7. Please feel free to write any opinion about sewage.**

I WOULD LIKE TO SEE IT MOVE TO A NEW LOW COSTING (WTP)



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1,600 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

[Empty box for other water source(s)]

[Empty box for others]

3.2 Monthly payment for other utilities services

IPS: 7,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1,800 How long does it last: 2-3 weeks

Phone Others: 3,000 \$/month for

[Empty box for phone]

Cable 1,800.

4. Willingness to pay for sanitation services

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      0

Please note that these payments would be in addition to your current monthly household expenditures.

5. Profile of your household

- 5.1 Household size: 2 persons
- 5.2 Monthly income: Pensioner \$/month Civil Servant, 30,000 + 10,000 N.I.P.
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Passagefort [Ind. City]

6. Profile of interviewee and household leader

- 6.1 Interviewee
  - Occupation: Retired
  - Age: 65
  - Sex: (F) M
- 6.2 Head of the Household
  - Occupation: Same,
  - Age: \_\_\_\_\_
  - Sex: F M

7. Please feel free to write any opinion about sewage.

Very dissatisfied with the smell that the plant gives. ~~She is affected~~ I am affected at home and also whilst at church. There was no smell initially, after installing more tanks the smell became apparent.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap  Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Averaget   
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors  High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1800.00 \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 2500.00 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 1300 How long does it last: 1 months  
Others: 4000.00 \$/month for Telex & Cable

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

\$100/month      \$200/month      \$300/month      \$400/month      None  
\$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

5.1 Household size: 4 persons  
5.2 Monthly income: \_\_\_\_\_ \$/month Retired  
5.3 Monthly saving: No \$/month  
5.4 Area of Residence: Independence City

**6. Profile of interviewee and household leader**

6.1 Interviewee  
- Occupation: Mechanic  
- Age: 67  
- Sex: F M  
6.2 Head of the Household Same  
- Occupation: \_\_\_\_\_  
- Age: \_\_\_\_\_  
- Sex: F M

**7. Please feel free to write any opinion about sewage.**

The sewage system we have now is bad must be made better for the same cost

56.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household 1,400

Water bill including sewage: ~~1,300.63~~ \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: ~~5308.21~~ \$300 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,000 How long does it last: 5 months

Others: 2,100 \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons  
5.2 Monthly income: 3,000 \$/month  
5.3 Monthly saving: 0 \$/month  
5.4 Area of Residence: Independence City

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Retired Brand Manager Tropical Battery  
- Age: 81  
- Sex: F  M
- 6.2 Head of the Household  
- Occupation: Same.  
- Age: \_\_\_\_\_  
- Sex: F M

**7. Please feel free to write any opinion about sewage.**

It is necessary, and I hope to see it come through in my time.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

[Empty box for other water source(s)]

[Empty box for others]

3.2 Monthly payment for other utilities services

JPS: 6,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,500 How long does it last: 1 months

Others: \$/month for

[Box containing handwritten 'Te']

4. Willingness to pay for sanitation services

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

\$100/month

\$200/month

\$300/month

\$400/month

\$500/month

\$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

5. Profile of your household

5.1 Household size: 5 persons

5.2 Monthly income: \_\_\_\_\_ \$/month

5.3 Monthly saving: \_\_\_\_\_ \$/month

5.4 Area of Residence: Independence City

6. Profile of interviewee and household leader

6.1 Interviewee

- Occupation: Housewife

- Age: 51

- Sex:  F  M

6.2 Head of the Household

- Occupation: ~~Housewife~~ Same

- Age: \_\_\_\_\_

- Sex:  F  M

7. Please feel free to write any opinion about sewage.

IF something can be constructed that will improve the system, then I am in agreeance.



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,500 \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,800 How long does it last: 3 wks months  
Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 7 persons
- 5.2 Monthly income: 50,000 \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Security Officer
  - Age: 48
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: Same -
  - Age: \_\_\_\_\_
  - Sex: F  M

**7. Please feel free to write any opinion about sewage.**

It will reduce the odor in the area, then I support the project.

Preparatory Survey for Kingston Sewerage Development Project

Questionnaire for ~~North Kingston Area~~

Portmore

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes

No

1.2 Is your water connection metered?

Yes

No

1.3 Use of other water supply sources:

Communal tap

Well

Rainwater

Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes

No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank

Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes

No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied

Relatively satisfied

Average

Relatively unsatisfied

Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability

Sewage overflow

Others

Foul odors

High sewage charge

Empty box for 'Others' response

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 0 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month

for

Empty box for 'Other water source(s) if any'

Empty box for 'Others' response

3.2 Monthly payment for other utilities services

JPS: 0 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1,500 How long does it last: 2 months

Others: \$/month for

Empty box for 'Others' response

**4. Willingness to pay for sanitation services**

~~[North Kingston Area]~~ – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      4 persons  
5.2 Monthly income:      \_\_\_\_\_ \$/month  
5.3 Monthly saving:      \_\_\_\_\_ \$/month  
5.4 Area of Residence:      Christian Pen

**7. Please feel free to write any opinion about sewage.**

I think it is a good idea, The country needs some support.

**6. Profile of interviewee and household leader**

6.1 Interviewee  
- Occupation:      Vendor  
- Age:      51  
- Sex:       F     M  
6.2 Head of the Household  
- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:       F     M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied  Average  
 Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability  Sewage overflow  Others  
 Foul odors  High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 900 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month

for

3.2 Monthly payment for other utilities services

JPS: 200 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 13.00 How long does it last: 2 months

Others: \$/month

for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month  
\$500/month       \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons  
5.2 Monthly income: \_\_\_\_\_ \$/month  
5.3 Monthly saving: \_\_\_\_\_ \$/month  
5.4 Area of Residence: Hamilton Garden

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Housekeeper
- Age: 40
- Sex:  M

6.2 Head of the Household

- Occupation: Bolliff/collector
- Age: \_\_\_\_\_
- Sex: F ~~M~~

**7. Please feel free to write any opinion about sewage.**

good idea for the jamaica

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate response and answer all questions the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine) No

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 5 000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 15,000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$1,980 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is connected to the sewerage system and you pay sanitation tariffs to NWC. If you were to receive the satisfactory sewerage service as explained above, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify amount in between)

- \$100/month      \$200/month      300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: 20 000 JMD/month
- 5.3 Monthly saving: # 5000 JMD/month
- 5.4 Area of Residence: # 20 D Hamilton Garden

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Shop Keeper
  - Age: 22
  - Sex:  F  M
- 6.2 Household leader
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M



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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2,300.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \$5,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1,700. How long does it last: 7 weeks ~~months~~

Others: \$1,000. Cable \$/month for

\$500. Phone

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: \$55,000 \$/month
- 5.3 Monthly saving: \$3,000 \$/month
- 5.4 Area of Residence: Hamilton Idnes

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Housewife
  - Age: 52 years old.
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Salesman (Self-employed)
  - Age: 52 yrs.
  - Sex: F  M

**7. Please feel free to write any opinion about sewage.**

Happy to have new systems in place  
Present one not very good.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,000 \$/month  
Drainage eg. septic tank / cess pool: \$/month Never in 12 years  
Others: \$/month for

3.2 Monthly payment for other utilities services

→ JPS: 8,000 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,700 How long does it last: 5-6 wks. months  
Phone: Others: 3,000 \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges: \$600/month    \$800/month    \$1,000/month  
\$1,200/month    \$1,400/month    \$1,600/month
- (ii) Initial payment for connection    \$ 8,000

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size: 2 persons  
5.2 Monthly income: \_\_\_\_\_ \$/month  
5.3 Monthly saving: \_\_\_\_\_ \$/month  
5.4 Area of Residence: Birdsucker Drive

**7. Please feel free to write any opinion about sewage.**

It is a good idea that will improve the water quality. It makes good sense.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Retired  
- Age: 62  
- Sex:  F  M
- 6.2 Head of the Household  
- Occupation: Same  
- Age: \_\_\_\_\_  
- Sex:  F  M

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## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank            Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2,400.00 \$/month

Drainage eg. septic tank / cess pool: NIL \$/month

Others: NIL \$/month

for

3.2 Monthly payment for other utilities services

JPS: \$15,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$5,500 How long does it last: 2 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month } I will have my
- \$1,200/month      \$1,400/month      \$1,600/month } choice but to pay
- (ii) Initial payment for connection    \$\_\_\_\_\_ (one-time payment) } the NWC Bill.

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      \_\_\_\_\_ 4 persons
- 5.2 Monthly income:      \_\_\_\_\_ \$/month
- 5.3 Monthly saving:      \_\_\_\_\_ \$/month
- 5.4 Area of Residence:    BARBIEN

**7. Please feel free to write any opinion about sewage.**

*The project is worthwhile as it is best way to go in an expanding town/community.*

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      RETIRED BANK OFFICER
- Age:                71
- Sex:                 F     M

**6.2 Head of the Household**

- Occupation:      Retired Accountant
- Age:                70+
- Sex:                F     M



**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank            Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$3000.50 \$/month   
Drainage eg. septic tank / cess pool: 0 \$/month  
Others: 0 \$/month for

3.2 Monthly payment for other utilities services

JPS: \$8000.00 \$/month  
Cooking gas: Size of cylinder: N/A lbs/Price: \$                      How long does it last: months  
Others: \$8000.50 \$/month for  Flow

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

- (ii) Initial payment for connection      \$ 10,000.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      5 persons  
5.2 Monthly income:      \$500.00 \$/month  
5.3 Monthly saving:      1000.00 \$/month  
5.4 Area of Residence:      BIRDSUCKER

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation:      COSMETOLOGIST  
- Age:      50  
- Sex:       F       M  
6.2 Head of the Household  
- Occupation:      SAME  
- Age:      \_\_\_\_\_  
- Sex:       F       M



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

Smell in both  
bath room @ times

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2,500.00 /month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$3,000.00 /month

Cooking gas: Size of cylinder: 100 lbs Price: \$5,000.00 How long does it last: 6-7 months

Others: \$3,800.00 (phone) /month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 8,000.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      4 persons  
5.2 Monthly income:      ~~\$100,000.00~~ \$/month  
5.3 Monthly saving:      \$10,000.00 \$/month  
5.4 Area of Residence:      Birdsuckin (Drive)

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Retired  
- Age:      64  
- Sex:       F     M

**6.2 Head of the Household**

- Occupation:      Same.  
- Age:      \_\_\_\_\_  
- Sex:       F     M

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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

~~Septic tank~~ Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2800 \$/month

Drainage eg. septic tank / cess pool: 500 \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$12000<sup>00</sup> \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$6300<sup>00</sup> How long does it last: 6 months

Others: \$6000<sup>00</sup> \$/month for

TELEPHONE / INTERNET

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:     \$600/month     \$800/month     \$1,000/month  
   \$1,200/month     \$1,400/month     \$1,600/month

- (ii) Initial payment for connection     \$ 10,000.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:     2 persons  
5.2 Monthly income:     \$45000.00 /month  
5.3 Monthly saving:     \_\_\_\_\_ /month  
5.4 Area of Residence:     HAVENDALE

**7. Please feel free to write any opinion about sewage.**

On the face it seems a good idea.  
Should be good for the environment.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
- Occupation:     COMPUTER TECHNICIAN
  - Age:     57
  - Sex:     F M
- 6.2 Head of the Household
- Occupation:     Same
  - Age:     \_\_\_\_\_
  - Sex:     F     M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No  → 2?

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors  High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month

for

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,900 How long does it last: 3 months

Others: 20,000 \$/month

for

20,000

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:     \$600/month     \$800/month     \$1,000/month  
  \$1,200/month     \$1,400/month     \$1,600/month

(ii) Initial payment for connection     \$ 5000 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:     2 persons  
5.2 Monthly income:     0 \$/month  
5.3 Monthly saving:     0 \$/month  
5.4 Area of Residence:     Havendale area

**7. Please feel free to write any opinion about sewage.**

*we Need This Service ASAP.*

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:     Sales Rep.  
- Age:     38  
- Sex:     ~~F~~ M

**6.2 Head of the Household**

- Occupation:     Sales Rep  
- Age:     38  
- Sex:     ~~F~~ M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank            Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sanitation service tariff                     

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,000. \$/month  
Drainage eg. septic tank / cess pool: 5,000 \$/month ←-? in several years?  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 4,500 \$/month  
Cooking gas: Size of cylinder: 30 lbs Price: 1,950 \$ How long does it last: 2 monthes  
Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month
- (ii) Initial payment for connection      \$ 50,000      \$

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      2 persons  
5.2 Monthly income:      150,000 \$/month  
5.3 Monthly saving:      50,000 \$/month  
5.4 Area of Residence:      Shortwood Area

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation:      Engineer.  
- Age:      22  
- Sex:      F  M



6.2 Head of the Household

- Occupation:      Banker  
- Age:      50  
- Sex:       F  M



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Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction NA

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2000, \$/month

Drainage eg. septic tank / cess pool: NIL \$/month

Others: NIL \$/month for

3.2 Monthly payment for other utilities services

JPS: \$8000. \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$6000. How long does it last: 12 months

Others: Phone \$4000. \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
    \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      4 persons
- 5.2 Monthly income:      0 \$/month
- 5.3 Monthly saving:      0 \$/month
- 5.4 Area of Residence:    Harvardale

**7. Please feel free to write any opinion about sewage.**

*good idea!  
 But where will  
 the 'plant' treatment  
 be located?  
 Need more details  
 about cost to make  
 a suggestion.*

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      unemployed
- Age:              50+
- Sex:                F M

**6.2 Head of the Household**

- Occupation:      Same
- Age:
- Sex:                F M

**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

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Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household 14,000

Water bill including sewage: ~~5,000~~ \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 20,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 10,000 How long does it last: 6 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:     \$600/month     \$800/month     \$1,000/month  
   \$1,200/month     \$1,400/month     \$1,600/month

(ii) Initial payment for connection     \$ 500 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:     8 persons  
5.2 Monthly income:     \$0 /month  
5.3 Monthly saving:     0 /month  
5.4 Area of Residence:     Havendale.

**7. Please feel free to write any opinion about sewage.**

It is a good thing to get rid of the pit system. The smell of the pit causes a problem.

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:     Retired Vendor  
- Age:     69  
- Sex:      F      M

**6.2 Head of the Household**

- Occupation:     Same  
- Age:     \_\_\_\_\_  
- Sex:      F      M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

3.1 Monthly water charges of your household

Other water source(s) if any

Water bill including sewage: strata 25000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3000 \$/month

Cooking gas: Size of cylinder: lbs Price: \$ 2000 How long does it last: 1.5 months

Others: 10000 \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      2 persons  
5.2 Monthly income:      20000 \$/month  
5.3 Monthly saving:      5000 \$/month  
5.4 Area of Residence:      Shorwood / Grants  
   Reg

**7. Please feel free to write any opinion about sewage.**

An efficient sewage collection system is necessary. We would welcome the upgrade

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Banker.  
- Age:      50  
- Sex:       F)  M

**6.2 Head of the Household**

- Occupation:      Banker.  
- Age:      50  
- Sex:       F)  M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$4000 \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \$ 6000 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$6,500 How long does it last: 3 months  
Others: \$ 5000 \$/month  
Phone

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 6 persons
- 5.2 Monthly income: \$120,000 \$/month
- 5.3 Monthly saving: ? \$/month
- 5.4 Area of Residence: CAYMANAS GARDENS (SITED)

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: BUSINESS CONSULTANT
- Age: 57 YEARS
- Sex: F (M)

**6.2 Head of the Household**

- Occupation: BUSINESS CONSULTANT
- Age: 57 YEARS
- Sex: F (M)

**7. Please feel free to write any opinion about sewage.**



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3500 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1800 How long does it last: 6-7 wks months

Others: 2000 \$/month -> Phone Bill

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month     \$200/month     \$300/month     \$400/month  
 \$500/month     \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons  
5.2 Monthly income: 40,000 \$/month  
5.3 Monthly saving: 4,000 \$/month  
5.4 Area of Residence: Hamilton Gasole

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Electrician  
- Age: 55  
- Sex: F  M  
6.2 Head of the Household  
- Occupation: Same  
- Age: \_\_\_\_\_  
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

I think it is a good idea.

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,000 \$/month 3000

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 2,000 \$/month 2000

Cooking gas: Size of cylinder: 10kg lbs Price: \$ 6000 How long does it last: 6 months

Others: 3,000 \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: ? \$/month
- 5.3 Monthly saving: ? \$/month
- 5.4 Area of Residence: Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: life underwriter
  - Age: 42
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

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Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 600 ~~2000~~ \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 5,000 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 12 months  
Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 1 persons
- 5.2 Monthly income: ? \$/month
- 5.3 Monthly saving: ? \$/month
- 5.4 Area of Residence: Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Teacher
  - Age: 55
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

→ Water bill including sewage: 2500 \$/month   
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

→ JPS: 12000 \$/month  
Cooking gas: Size of cylinder: 30 lbs Price: \$ 2,000 How long does it last: 1 months  
Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: 20,000 \$/month
- 5.3 Monthly saving: 10,000 \$/month
- 5.4 Area of Residence: Hamilton Garden.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Driver
  - Age: 35
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

have the plan that is in place.



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# Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

N/A

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 7,000 \$/month

Cooking gas: Size of cylinder: 85 lbs Price: \$ 2,000 How long does it last: 1 months

Others: 1,000 \$/month → Cable

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 5 persons  
5.2 Monthly income: ? \$/month  
5.3 Monthly saving: 3,000 \$/month  
5.4 Area of Residence: Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Nurse  
- Age: 49  
- Sex:  F  M  
6.2 Head of the Household  
- Occupation: Same  
- Age: \_\_\_\_\_  
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

I think its okay for the community.

**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area**

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Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage:                      \$ 3,000 \$/month

Drainage eg. septic tank / cess pool:                      \$/month

Others:                      \$/month                      for

3.2 Monthly payment for other utilities services

JPS:                      \$ 7,000 \$/month

Cooking gas: Size of cylinder: 25 lbs    Price: \$ 12,000    How long does it last: 1 months

Others: 2500 \$/month                      for

Cable  
Bill

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

\$100/month      \$200/month       \$300/month      \$400/month  
\$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: 0 \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Hamilton Jchs.

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: House wife
- Age: 51
- Sex:  F  M

6.2 Head of the Household

- Occupation: Same
- Age: \_\_\_\_\_
- Sex: F M

**7. Please feel free to write any opinion about sewage.**

Good idea on moving the Sewage System.

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# Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

## 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

## 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

## 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 7,000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 2,100 How long does it last: 2 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 6 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Passage fort

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Student
  - Age: 22
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Room Assistant
  - Age: 50
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

It is a good idea, because it will get rid of the smell.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 900 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3000 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$1700 How long does it last: 1 months  
Others: \$/month for

1500 phone 2000 cable 1

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 5 persons
- 5.2 Monthly income: \$12000 \$/month
- 5.3 Monthly saving: \$16000 \$/month
- 5.4 Area of Residence: PAREAGE EAST

**6. Profile of interviewee and household leader**

- 6.1 Interviewee *(Retired)*
  - Occupation: FARE OFFICER
  - Age: 62
  - Sex:  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

I think a good development programme as it would improve our quality of life as far as health concerns.



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: ~~5,000~~ 3,500 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 8,500 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$2,100 How long does it last: 1 month

Others: 800 \$/month → Cable

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month       -

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons  
5.2 Monthly income: 0 \$/month  
5.3 Monthly saving: 0 \$/month  
5.4 Area of Residence: PassageFort.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Retired  
- Age: 61  
- Sex:  F  M  
6.2 Head of the Household  
- Occupation: Same  
- Age: \_\_\_\_\_  
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

It is a good idea to implement.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average   
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors  High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

\$3000

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month ✓    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons  
5.2 Monthly income: \_\_\_\_\_ \$/month  
5.3 Monthly saving: \_\_\_\_\_ \$/month  
5.4 Area of Residence: Passage Subt

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Home Maker  
- Age: \_\_\_\_\_  
- Sex: E / M  
6.2 Head of the Household  
- Occupation: Sales man.  
- Age: \_\_\_\_\_  
- Sex: F / M ✓

**7. Please feel free to write any opinion about sewage.**

The smell is a problem, and should be removed.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine) N/A

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for 'Others' reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

[Empty box for 'Other water source(s) if any']

[Empty box for 'Others' monthly charges]

3.2 Monthly payment for other utilities services

JPS: ~~3000~~ 6,000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 2,100 How long does it last: 2 months

Others: 4,000 \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Gregory Park

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: un-employed
  - Age: \_\_\_\_\_
  - Sex:  F  M
- 6.2 Head of the Household same
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000 \$/month   
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 7,000 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$1,750 How long does it last: 1 months  
Others: 1,000 \$/month → Cable

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

\$100/month

\$200/month

\$300/month

\$400/month

\$500/month

\$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

5.1 Household size:

7 persons

5.2 Monthly income:

15,000 \$/month

5.3 Monthly saving:

0 \$/month

5.4 Area of Residence:

Independence City

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation:

Self-Employed

- Age:

33

- Sex:

F  M

6.2 Head of the Household

- Occupation:

Self Employed

- Age:

33

- Sex:

F  M

**7. Please feel free to write any opinion about sewage.**

I would like to see them implement a energy p system from the sewage.



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 4,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1,750 How long does it last: 1 month

Others: 1,700 \$/month → Cable.

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 7 persons
- 5.2 Monthly income: 20,000 \$/month
- 5.3 Monthly saving: 0 \$/month
- 5.4 Area of Residence: Independence City.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Carpenter/Sub-Contractor
  - Age: 36
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: Same.
  - Age: \_\_\_\_\_
  - Sex: F M

**7. Please feel free to write any opinion about sewage.**

It is a good idea to upgrade the system to suit the growing population.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,800 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$5,000 How long does it last: 4 months

Others: 7,000 \$/month

4. Willingness to pay for sanitation services

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

5. Profile of your household

- 5.1 Household size: 5 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Independence City

6. Profile of interviewee and household leader

- 6.1 Interviewee
  - Occupation: Retiree
  - Age: 73
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex: F  M

7. Please feel free to write any opinion about sewage.

I think it is a progressive venture.

JS

## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,200 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 8,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1,100 How long does it last: 1 months

Others: 1,000 \$/month → Cable

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 5 persons  
5.2 Monthly income: \_\_\_\_\_ \$/month  
5.3 Monthly saving: \_\_\_\_\_ \$/month  
5.4 Area of Residence: Christian Gardens

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Housewife  
- Age: 48  
- Sex:  F  M

6.2 Head of the Household

- Occupation: Police Officer  
- Age: 57  
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

It would be nice. The ~~to~~ sewage lines are always backed up.

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 4,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 2000 How long does it last: 1 months

Others: 2,000 \$/month → Cable,

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons  
5.2 Monthly income: 0 \$/month  
5.3 Monthly saving: 0 \$/month  
5.4 Area of Residence: Cumberland

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Self-Employed  
- Age: 58  
- Sex: F  M  
6.2 Head of the Household  
- Occupation: Same  
- Age: \_\_\_\_\_  
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

It should be a better idea.



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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$1,500 \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ \_\_\_\_\_ How long does it last: 3 months  
Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      0

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: 20,000 month
- 5.3 Monthly saving: N/A \$/month
- 5.4 Area of Residence: Cumbyland

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Business Man
- Age: 49
- Sex: F  M

6.2 Head of the Household

- Occupation: Theatre Attendant
- Age: 31
- Sex:  F M

**7. Please feel free to write any opinion about sewage.**

*Not willing to pay any more for sewage not enough money right now.*

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 2,000.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,200 How long does it last: 8 months

Others: 6,000.00 \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: 250,000 \$/month
- 5.3 Monthly saving: 40,000 \$/month
- 5.4 Area of Residence: Bridge port

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Manager
- Age: 30
- Sex:  F  M

6.2 Head of the Household

- Occupation: Manager
- Age: 30
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

Does not understand why sewage rate is 100% of water bill and service is not 100% good

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

When it rains

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,800 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

JPS: 3,200.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 4,800 How long does it last: 8 months

Others: 4,000.00 \$/month

for

Phone 3,000.00 Cable.

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: 300,000 \$/month
- 5.3 Monthly saving: 80,000 \$/month
- 5.4 Area of Residence: Bridge port

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Mr Senior Manager
- Age: 30
- Sex:  F  M

6.2 Head of the Household

- Occupation: Self-Employed
- Age: \_\_\_\_\_
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others No problems  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,000.00 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 2,000.00 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 2,000 How long does it last: 6 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size:      2 persons
- 5.2 Monthly income:      50,000.00\$/month
- 5.3 Monthly saving:      0 \$/month
- 5.4 Area of Residence:      Portmore (Cedar Grove)

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation:      Salon Prop.
  - Age:      40
  - Sex:      F  M
- 6.2 Head of the Household
  - Occupation:      Same
  - Age:      \_\_\_\_\_
  - Sex:      F    M

**7. Please feel free to write any opinion about sewage.**



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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1,800 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 1,500 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,800 How long does it last: 2 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 600.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      3 persons  
5.2 Monthly income:      24,000 \$/month  
5.3 Monthly saving:      0 \$/month  
5.4 Area of Residence:      Meadowbrook

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Household Helper  
- Age:      38  
- Sex:       M

**6.2 Head of the Household**

- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:       F       M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 2,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,000 How long does it last: 4 months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 5,000 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      2 persons  
5.2 Monthly income:      50,000 \$/month  
5.3 Monthly saving:      - \$/month  
5.4 Area of Residence:      Meadowbrook

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Florist  
- Age:      47  
- Sex:       F     M

**6.2 Head of the Household**

- Occupation:      Gardener  
- Age:      51  
- Sex:      F     M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others When it rains fowl odour sometimes and when full  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4000<sup>00</sup>-5000<sup>00</sup> \$/month  
Drainage eg. septic tank / cess pool: 3000<sup>00</sup> \$/month  
Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 8000<sup>00</sup>-9000<sup>50</sup> \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 5000-6000<sup>00</sup> How long does it last: 2 1/2 months  
Others: (SECURITY) 4000.00 \$/month for \_\_\_\_\_  
PHONE PREPAID - \$2000

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
    \$1,200/month      \$1,400/month      \$1,600/month
- (ii) Initial payment for connection      \$1500<sup>00</sup> (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      6 persons  
 5.2 Monthly income:      60,000<sup>00</sup> \$/month  
 5.3 Monthly saving:      0<sup>00</sup> \$/month  
 5.4 Area of Residence:      MEADOWBROOK

**7. Please feel free to write any opinion about sewage.**

I am open to upgrades, however as long as the system is well maintained there will be no objection from me. So please ensure parts and trained personnel are available to handle the system you implement.

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      HOUSEWIFE
- Age:      41 yrs
- Sex:       F       M

**6.2 Head of the Household**

- Occupation:      MKTG. MANAGER
- Age:      46 yrs
- Sex:      F       M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes 3 No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Foul odors Low discharging capability Sewage overflow Others  
High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000.00 \$/month  
Drainage eg. septic tank / cess pool: 0 \$/month  
Others: 0 \$/month for

3.2 Monthly payment for other utilities services

JPS: 11,000.00 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 2,800 How long does it last: 4 months  
Others: 13,000.00 phone \$/month for Phone / internet / cable

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ 15,000.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:            6 persons  
5.2 Monthly income:            320,000 \$/month  
5.3 Monthly saving:            0 \$/month  
5.4 Area of Residence:            Meadowbrook

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            Interior Decorator  
- Age:                            41  
- Sex:                             F     M

**6.2 Head of the Household**

- Occupation:            Sales Manager  
- Age:                            46  
- Sex:                            F     M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4-5,000                      \$/month

Drainage eg. septic tank / cess pool: -                      \$/month

Others: -                      \$/month                      for

3.2 Monthly payment for other utilities services

JPS: 8,000.00                      \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,200 How long does it last: 6 months

Others: -                      \$/month                      for



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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,200 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3,000 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,000 How long does it last: 6 months  
Others: 8,1000 \$/month for Phone

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ 10,000 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:            4 persons  
5.2 Monthly income:            80,000\$/month  
5.3 Monthly saving:            10,000\$/month  
5.4 Area of Residence:            Meadowbrook

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            Teacher  
- Age:                            35  
- Sex:                             M

**6.2 Head of the Household**

- Occupation:            Same  
- Age:                            \_\_\_\_\_  
- Sex:                             F     M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

~~Yes~~ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,800 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3,200 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,000 How long does it last: 10 months

Others: 3,000 \$/month for Phone

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 600.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      2 persons  
5.2 Monthly income:      25,000 \$/month  
5.3 Monthly saving:      0 \$/month  
5.4 Area of Residence:      Meadowbrook

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Retired  
- Age:      89  
- Sex:       (F)  (M)

**6.2 Head of the Household**

- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:      F M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,000.00 \$/month

Drainage eg. septic tank / cess pool: 15,000.00 \$/month

Others: \_\_\_\_\_ \$/month

2 years ago.

for

3.2 Monthly payment for other utilities services

JPS: 7,000.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,000 How long does it last: 6 months

Others: 2,500.00 \$/month for

4,000.00

Phone

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

- (ii) Initial payment for connection      \$ 1,000.00      (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      3      persons  
5.2 Monthly income:      75,000      \$/month  
5.3 Monthly saving:      0      \$/month  
5.4 Area of Residence:      Meadowbrook

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Self-Employed
- Age:      49
- Sex:       F       M

**6.2 Head of the Household**

- Occupation:      Same
- Age:      \_\_\_\_\_
- Sex:       F       M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,800 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

JPS: 3,800.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,000 How long does it last: 10 months

Others: 4,000.00 \$/month

for

Phone

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

- (ii) Initial payment for connection      \$ 8,000.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      3 persons  
5.2 Monthly income:      40,000.00 \$/month  
5.3 Monthly saving:      0 \$/month  
5.4 Area of Residence:      Hope Pastures

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Hair Dresser
- Age:      61
- Sex:       F     M

**6.2 Head of the Household**

- Occupation:      Same
- Age:      \_\_\_\_\_
- Sex:       F     M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

Empty box for 'Others' response.

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 3000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: ~~Telephone~~ \$/month for

Empty box for 'Other water source(s) if any' response.

Empty box for 'Others' response.

3.2 Monthly payment for other utilities services

JPS: \$ 600 \$/month

Cooking gas: Size of cylinder: 30lbs Price: \$2100 How long does it last: 2-4 months

Others: 3000 \$/month -> Telephone

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- ~~\$100/month~~      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Parangue West

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Computer Technician
  - Age: 34
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: Same
  - Sex: F  M

**7. Please feel free to write any opinion about sewage.**

Change right about now I really think it will be a good.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes ✓ No

1.2 Is your water connection metered? ✓

Yes ✓ No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water ✓

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes ✓ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓ No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied ✓

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 7,000\$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 14,000\$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 4 months

Others: CABLE 3,000\$/month for

4. Willingness to pay for sanitation services

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month ✓
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

5. Profile of your household

- 5.1 Household size: SEVEN 7 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: PASSAGE FORT

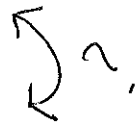
6. Profile of interviewee and household leader

6.1 Interviewee

- Occupation: SELF EMPLOYED
- Age: 57 YRS.
- Sex: F M ✓

6.2 Head of the Household

- Occupation: C. H/DE
- Age: 55 YRS
- Sex: F M



7. Please feel free to write any opinion about sewage.

I WOULD LIKE TO SEE SOME IMPROVEMENT IN THE SYSTEM

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water NIA.

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 6 months

Others: 1,200 \$/month for

Cable





Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap  Well  Rainwater  Bottled water  N/A

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank  Soakaway (pit latrine)  N/A

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied  Average   
Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability  Sewage overflow  Others   
Foul odors  High sewage charge  yes

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1000 + \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 5000 \$/month

Cooking gas: Size of cylinder: 50 lbs Price: \$ 2000 How long does it last: 2 months

Others: 2000 \$/month for

PAME

4. Willingness to pay for sanitation services *yes*

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month    \$200/month     \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

5. Profile of your household

- 5.1 Household size: 2 persons  
5.2 Monthly income: retiree \$/month *Civil Servant - Health.*  
5.3 Monthly saving: ✓ \$/month  
5.4 Area of Residence: Passage Fort

6. Profile of interviewee and household leader

- 6.1 Interviewee  
- Occupation: ✓  
- Age: 66 yrs.  
- Sex:  F  M  
6.2 Head of the Household yes  
- Occupation: ✓  
- Age: ✓  
- Sex:  F  M

7. Please feel free to write any opinion about sewage.

*water pressure low most times  
sewage fair.*

107/1

**Preparatory Survey for Kingston Sewerage Development Project**  
**Questionnaire for Portmore Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes / No

1.2 Is your water connection metered?

Yes / No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water N/A

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes    No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank    Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes / No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied    Relatively satisfied    Average /  
Relatively unsatisfied    Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability    Sewage overflow    Others   
Foul odors    High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage:    \$/month \$1000

Drainage eg. septic tank / cess pool:    \$/month

Others:    \$/month    for

3.2 Monthly payment for other utilities services

JPS: \$1000    \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$1800 How long does it last: 5 months

Others: Colby Bill \$1000/month    for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: one persons
- 5.2 Monthly income: 9,000 \$/month
- 5.3 Monthly saving: 6,000 \$/month
- 5.4 Area of Residence: press brook

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: SR in Office
- Age: 34
- Sex: F M

6.2 Head of the Household

- Occupation: Same
- Age: \_\_\_\_\_
- Sex: F M

**7. Please feel free to write any opinion about sewage.**

I think the sewage need a lot of work

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 5000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

(already paying)  
sewage bill

3.2 Monthly payment for other utilities services

JPS: 6,000 \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: 4000 \$/month for

3000 phone  
a credit of 1

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges: 

<u>\$600/month</u>	<u>\$800/month</u>	<u>\$1,000/month</u>
<u>\$1,200/month</u>	<u>\$1,400/month</u>	<u>\$1,600/month</u>

(ii) Initial payment for connection \$ 300,000 (one-time payment) ← estimate

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size: 4 persons  
 5.2 Monthly income: 45000 \$/month  
 5.3 Monthly saving: 10 \$/month  
 5.4 Area of Residence: mona

**7. Please feel free to write any opinion about sewage.**

Current cost of water bill is excessive could be about 30% - 40%.  
 Connection should be P.O.C. or combined in monthly bill over a period.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
 - Occupation: Retiree  
 - Age: 50 y  
 - Sex: (F) M
- 6.2 Head of the Household  
 - Occupation: Teacher  
 - Age: 50  
 - Sex: F (M)

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water  
None

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,500.00 \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

(already paying)  
sewage bill

3.2 Monthly payment for other utilities services

JPS: 4,000.00 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$6000.00 How long does it last: 3 months  
Others: Phone \$2,000.00 \$/month for   
Cable \$4,000.00

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

- (ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            3 persons  
5.2 Monthly income:            \$0,000 /month  
5.3 Monthly saving:            \$000 /month  
5.4 Area of Residence:            Mona

**7. Please feel free to write any opinion about sewage.**

Since Mona had no Central Sewage System, we should not be charged for it.  
Central Sewage System is a good idea.

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            Civil Servant  
- Age:                      45  
- Sex:                      F  M

**6.2 Head of the Household**

- Occupation:            Realtor  
- Age:                      60  
- Sex:                      F  M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water    N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000-3000 \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month    Not for 5 years  
Others: \_\_\_\_\_ \$/month    for

3.2 Monthly payment for other utilities services

JPS: 13,000, \_\_\_\_\_ \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000. How long does it last: 4 months  
Others: @ 2000 \_\_\_\_\_ \$/month for Telephone,  
+2000 Internet,

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 5,000 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      7 persons  
5.2 Monthly income:      20,000 \$/month  
5.3 Monthly saving:      0 \$/month  
5.4 Area of Residence:      Pembroke Hall

**7. Please feel free to write any opinion about sewage.**

I would really like to see it happen.

**6. Profile of interviewee and household leader**

6.1 Interviewee  
- Occupation:      Shopkeeper  
- Age:      60  
- Sex:      (F) M

6.2 Head of the Household  
- Occupation:      Same  
- Age:      \_\_\_\_\_  
- Sex:      F M

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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank              Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage:                      \$3,000.00 \$/month   
Drainage eg. septic tank / cess pool:                      \$/month  
Others:                      \$/month                      for

3.2 Monthly payment for other utilities services

JPS:                      \$600.00 \$/month  
Cooking gas: Size of cylinder:                      25 lbs                      Price: \$ 1800.00                      How long does it last:                      1 months  
Others:                      \$/month                      for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:            \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection    \$ 2000.00 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:            4 persons  
5.2 Monthly income:            \$35000.00 \$/month  
5.3 Monthly saving:            \$2000 \$/month  
5.4 Area of Residence:        Pembroke Hall

**7. Please feel free to write any opinion about sewage.**

I would Appreciate this service as soon as possible because I would benefit from it in more ways than one so I'm for it.

**6. Profile of interviewee and household leader**

6.1 Interviewee  
- Occupation:            Electrician  
- Age:                            29  
- Sex:                            F  M

6.2 Head of the Household  
- Occupation:            Same  
- Age:                            Same  
- Sex:                            F  M

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

(individual connection  
2 years ago)

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine) N/A.

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month  
Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months  
Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Cedar Grove Estate

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Secretary
  - Age: 31
  - Sex:  M
- 6.2 Head of the Household
  - Occupation: Same
  - Age: \_\_\_\_\_
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

I am not comfortable presently with the sewage in my area, reason why the manhole in my yard keep falling up and I have keep sending money to clear it.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$3000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

[Empty box for other water source(s)]

[Empty box for other water source(s)]

3.2 Monthly payment for other utilities services

JPS: 10K \$/month

Cooking gas: Size of cylinder: 100lbs Price: \$ 6500 How long does it last: 4 months

Others: 6000 \$/month

for

Cable / Telephone

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size:      4 persons
- 5.2 Monthly income:      \_\_\_\_\_ \$/month
- 5.3 Monthly saving:      \_\_\_\_\_ \$/month
- 5.4 Area of Residence:      Cedar Grove

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation:      Building Contractor ~~Banker~~
  - Age:      38
  - Sex:      F
- 6.2 Head of the Household
  - Occupation:      Building Contractor
  - Age:      38
  - Sex:      M

**7. Please feel free to write any opinion about sewage.**



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes ✓ No

1.2 Is your water connection metered?

Yes ✓ No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes ✓ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓ No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied ✓ Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$1452.77 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

[Empty box for other water source(s) if any]

[Empty box for others water charge]

3.2 Monthly payment for other utilities services

JPS: \$4735 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$1950 How long does it last: 2 months  
Others: \$/month for

[Empty box for others utility payment]

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: \$30,000 \$/month
- 5.3 Monthly saving: \$5,000 \$/month
- 5.4 Area of Residence: Caymanas Grcd. Site D

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Canteen Worker
  - Age: 54
  - Sex: F M
- 6.2 Head of the Household ✓
  - Occupation: Canteen Worker
  - Age: 54
  - Sex: F M

**7. Please feel free to write any opinion about sewage.**

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: over four thousand Dollars /month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS \$3000 and over \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for

4. Willingness to pay for sanitation services

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      Nil.

Please note that these payments would be in addition to your current monthly household expenditures.

5. Profile of your household

- 5.1 Household size: Four persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Caumarian gardens

6. Profile of interviewee and household leader

- 6.1 Interviewee
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex: F M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex: F M

7. Please feel free to write any opinion about sewage.

Its not good; very bad, it gives off a foul smell whenever it's running. Now I cant even open my door. I have to help in purchasing cement and other materials to fix the drain area and I so disappointed.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3000 \$/month   
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 3500 \$/month  
Cooking gas: Size of cylinder: 20 lbs Price: \$ 1,350 How long does it last: 3 WKS months  
Others: 5000 + 2000 \$/month for MORTGAGE & TELEPHONE

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons    2 ADULTS + 2 CHILDREN  
5.2 Monthly income: 169 000 \$/month  
5.3 Monthly saving: — \$/month  
5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: STUDENT  
- Age: 20  
- Sex:  F     M

6.2 Head of the Household

- Occupation: \_\_\_\_\_  
- Age: 42  
- Sex:  F     M

**7. Please feel free to write any opinion about sewage.**

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$ 900, 00 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$/month

Cooking gas: Size of cylinder: lbs Price: \$ How long does it last: months

Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: ~~100,000,00~~ 13000,00 \$/month
- 5.3 Monthly saving: 13000,00 \$/month
- 5.4 Area of Residence: CAYMANAS GARDEN

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Machine Operator
  - Age: 40
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: Duco Man
  - Age: 40
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

The sewage at my gate just do not stop running it need to stop please.



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 500 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,800 How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

~~\$100/month~~

\$200/month

\$300/month

\$400/month

\$500/month

\$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex: F M

*Mother take care of everything*

**6.2 Head of the Household**

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex: F M

**7. Please feel free to write any opinion about sewage.**

*I would like a better sewage system*

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2200.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      NIL

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: House wife
  - Age: Pensioner
  - Sex: F M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex: F M

**7. Please feel free to write any opinion about sewage.**

Want the Change  
Foul Odor.

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

Plants

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average

Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others

Foul odors High sewage charge

#### 3. Water consumption and demand Numerous water/lockoffs. Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1400.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

CAYMANAS Park  
Jtd. (TRAC)

3.2 Monthly payment for other utilities services

JPS: 8700.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5500.00 How long does it last: 4 months

Others: 6000.00 \$/month for \_\_\_\_\_

TELEPHONES

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: CAYMANAS Gardens Site D

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Mother
  - Age: 57
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: 57
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Could N.W.C. generate their own ENERGY,  
There should be a plan to recycle,  
Can we get the use of Bi products for fertilizer?  
This is not Sewage:- 'Have Dialogue with the people.'

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes ✓ No

1.2 Is your water connection metered?

Yes ✓ No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water ✓

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes ✓ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank ✓ Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓ No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average ✓  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow ✓ Others  
Foul odors ✓ High sewage charge ✓

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$8000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$2000 How long does it last: 2 months

Others: \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month      \$0

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: \$28,508.61 \$/month
- 5.3 Monthly saving: — \$/month
- 5.4 Area of Residence: Laymanas Garden

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Call Quality Analyst
- Age: 26
- Sex: Ev M

6.2 Head of the Household

- Occupation: Sales Assistance Assistant
- Age: 25
- Sex: F M

**7. Please feel free to write any opinion about sewage.**



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

(Yes) No

1.2 Is your water connection metered?

(Yes) No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

(Yes) No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

(Yes) No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied (Relatively satisfied) Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
(Foul odors) High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,145.46 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: Lime 2963.58 \$/month for

3.2 Monthly payment for other utilities services

JPS: 5,152.96 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 6 to 7 months

Others: \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month ✓

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons
- 5.2 Monthly income: 32,000 \$/month
- 5.3 Monthly saving: 4,000 \$/month
- 5.4 Area of Residence: Caymanas Gardens

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Diapery Making
- Age: 35
- Sex:  F  M

6.2 Head of the Household

- Occupation: Driver
- Age: 35
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes       No

1.2 Is your water connection metered?

Yes       No

1.3 Use of other water supply sources:

Communal tap     Well     Rainwater     Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes       No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank       Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes       No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied       Relatively satisfied       Average  
 Relatively unsatisfied       Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability       Sewage overflow       Others  
 Foul odors       High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month 5,000.00  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month 6,000.00  
Cooking gas: Size of cylinder: 30 lbs Price: \$ 2,000.00 How long does it last: 1 months  
Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month ✓    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 5 persons  
5.2 Monthly income: 70,000.00 /month  
5.3 Monthly saving: 13,000.00 \$/month  
5.4 Area of Residence: C/ GARDEN

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: \_\_\_\_\_  
- Age: \_\_\_\_\_  
- Sex: F M

6.2 Head of the Household

- Occupation: Pensioner  
- Age: 60yrs  
- Sex: F (M)

**7. Please feel free to write any opinion about sewage.**

Ⓐ NEED A worker at the pump House  
Ⓑ Maintenance of Pump, House of Pump, very poor

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average

Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability

Sewage overflow

Others

Foul odors

High sewage charge

[Empty box for 'Others' response]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1,413.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

[Empty box for 'Other water source(s) if any']

[Empty box for 'Others' response]

3.2 Monthly payment for other utilities services

JPS: \$ 3,900.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$6,200 How long does it last: 6 months

Others: \_\_\_\_\_ \$/month for

[Empty box for 'Others' response]

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: One persons
- 5.2 Monthly income: \$6000 \$/month
- 5.3 Monthly saving: N/A \$/month
- 5.4 Area of Residence: Caymanas Adios

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Teacher
- Age: 58
- Sex:  F  M

6.2 Head of the Household

- Occupation: Teacher
- Age: N/A as above
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

The sewage overflows frequently causing foul odour.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,000 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 8,000 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$6,000 How long does it last: 3 months  
Others: 7,000 \$/month for Cable + Internet

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ ~~30,000~~ + (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      6 persons  
5.2 Monthly income:      300,000 \$/month  
5.3 Monthly saving:      80,000 \$/month  
5.4 Area of Residence:      Mona

**7. Please feel free to write any opinion about sewage.**

I think the N.W.C should have put a subsidy in place to help with costs.

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Auditor  
- Age:      54  
- Sex:       F       M

**6.2 Head of the Household**

- Occupation:      Civil Servant  
- Age:      54  
- Sex:      F       M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes       No

1.2 Is your water connection metered?

Yes       No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater     Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes       No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank       Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes       No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied       Relatively satisfied       Average  
 Relatively unsatisfied       Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability       Sewage overflow       Others   
 Foul odors       High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month 2-3000

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month 6000

Cooking gas: Size of cylinder: 100lbs Price: \$ 6000 How long does it last: 3 months

Others: \_\_\_\_\_ \$/month



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

Is your house connected to water supply system?

Yes No

Is your water connection metered?

Yes No

Use of other water supply sources: N/A

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

Is your house connected to sewer collection network?

Yes No

If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

Does your house have indoor toilet(s)?

Yes No

How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

Monthly water charges of your household

Water bill including sewage: 3,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

Monthly payment for other utilities services

JPS: 10,500 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5,800 How long does it last: 3 months

Others: \_\_\_\_\_ \$/month



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

Is your house connected to water supply system?

Yes                      No

Is your water connection metered?

Yes                      No

Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

**2. Present status of wastewater treatment**

Is your house connected to sewer collection network?

Yes                      No

If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

Does your house have indoor toilet(s)?

Yes                      No

How do you evaluate the current ~~sewage services~~ at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 4 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

Household size:      4 persons  
Monthly income:      \$8,000 \$/month  
Monthly saving:      \_\_\_\_\_ \$/month  
Area of Residence:      Pembroke Hall

**6. Profile of interviewee and household leader**

Interviewee  
- Occupation:      RETIREE  
- Age:      84  
- Sex:      F  M  
Head of the Household  
- Occupation:      RETIREE  
- Age:      79  
- Sex:      F    M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

Is your house connected to water supply system?

Yes No

Is your water connection metered?

Yes No

Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

Is your house connected to sewer collection network?

Yes No

If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

Does your house have indoor toilet(s)?

Yes No

How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

N/A

3. Water consumption and demand

Other water source(s) if any

Monthly water charges of your household

Water bill including sewage: \$/month

Drainage eg. septic tank / cess pool: \$ 1,200 \$/month

Others: \$/month for

N/A

N/A

Monthly payment for other utilities services

JPS: \$ 5,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,200 How long does it last: 3 months

Others: N/A \$/month





### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

Is your house connected to water supply system?

Yes                       No

Is your water connection metered?

Yes                       No

Use of other water supply sources:

Communal tap     Well     Rainwater                       Bottled water

**2. Present status of wastewater treatment**

Is your house connected to sewer collection network?

Yes                       No

If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                       Soakaway (pit latrine)

Does your house have indoor toilet(s)?

Yes                       No

How do you evaluate the current sewage services at your home?

Very satisfied                       Relatively satisfied                       Average  
 Relatively unsatisfied                       Very unsatisfied

Reason of dissatisfaction

Low discharging capability                       Sewage overflow                       Others  
 Foul odors                       High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

Monthly water charges of your household

Water bill including sewage: \$1000 \$/month

Drainage eg. septic tank / cess pool: - \$/month

Others: - \$/month for

Monthly payment for other utilities services

JPS: \$6000 \$/month

Cooking gas: Size of cylinder: 25lbs Price: \$1900 How long does it last: 1 months

Others: Phone -3800 \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

Household size:            \_\_\_\_\_ persons  
Monthly income:            \_\_\_\_\_ \$/month  
Monthly saving:            \_\_\_\_\_ \$/month  
Area of Residence:        Pembroke Hall

**6. Profile of interviewee and household leader**

Interviewee  
- Occupation:            \_\_\_\_\_  
- Age:                        \_\_\_\_\_  
- Sex:                        F    M  
Head of the Household  
- Occupation:            \_\_\_\_\_  
- Age:                        \_\_\_\_\_  
- Sex:                        F    M

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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓                      No

1.2 Is your water connection metered?

Yes ✓                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water ✓

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                      No ✓

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine) ✓

2.3 Does your house have indoor toilet(s)?

Yes ✓                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied ✓                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others   
Foul odors                      High sewage charge ✓

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3500 \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 10000 \$/month  
Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months  
Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ 2,000 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:      5 persons  
5.2 Monthly income:      \_\_\_\_\_ \$/month  
5.3 Monthly saving:      \_\_\_\_\_ \$/month  
5.4 Area of Residence:      V/TOWN

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      SOCIAL WORKER  
- Age:      30  
- Sex:      F  M

**6.2 Head of the Household**

- Occupation:      RETIRED  
- Age:      78  
- Sex:      F  M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$ 20.88 /month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1.750 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

for



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## Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month 3600

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month                      for

3.2 Monthly payment for other utilities services

JPS: 9000 \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$13600 How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month                      for





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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$/month 3500

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 9000 \$/month

Cooking gas: Size of cylinder: lbs Price: \$ 8000 How long does it last: months

Others: \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:        \$600/month        \$800/month        \$1,000/month  
    \$1,200/month        \$1,400/month        \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:        \_\_\_\_\_ persons
- 5.2 Monthly income:        \_\_\_\_\_ \$/month
- 5.3 Monthly saving:        \_\_\_\_\_ \$/month
- 5.4 Area of Residence:    Pembroke Hall \_\_\_\_\_

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:        \_\_\_\_\_
- Age:                    \_\_\_\_\_
- Sex:                    F    M

**6.2 Head of the Household**

- Occupation:        \_\_\_\_\_
- Age:                    \_\_\_\_\_
- Sex:                    F    M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000 \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

[Empty box for other water source(s)]

[Empty box for others water charges]

3.2 Monthly payment for other utilities services

JPS: \$ 5000 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 5100 How long does it last: 6 months  
Others: \_\_\_\_\_ \$/month for [Empty box]

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:         \$600/month         \$800/month         \$1,000/month  
   \$1,200/month         \$1,400/month         \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:         4 persons
- 5.2 Monthly income:         PENSIONER \$/month
- 5.3 Monthly saving:         NIL \$/month
- 5.4 Area of Residence:         PEMBROKE HALL

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:         RETIRED
- Age:                    78
- Sex:                    ~~F~~ M

**6.2 Head of the Household**

- Occupation:         \_\_\_\_\_
- Age:                    \_\_\_\_\_
- Sex:                    F   M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

~~Yes~~ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1500 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: 700 \$/month

for

3.2 Monthly payment for other utilities services

JPS: 300 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 2000 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
    \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$\_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            5 persons
- 5.2 Monthly income:            \$10,000 \$/month
- 5.3 Monthly saving:            \$20,000 \$/month
- 5.4 Area of Residence:            Dem Brook Hall

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            Housewife
- Age:                            68
- Sex:                             F     M

**6.2 Head of the Household**

- Occupation:            Retired
- Age:                            78
- Sex:                             F     M

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Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap  Well  Rainwater  Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank  Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied  Average   
Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability  Sewage overflow  Others   
Foul odors  High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 600.00 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month

for

3.2 Monthly payment for other utilities services

JPS: 3,800 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,700 How long does it last: 5 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month
- \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      3 persons
- 5.2 Monthly income:      57,000 \$/month
- 5.3 Monthly saving:      20,000 \$/month
- 5.4 Area of Residence:      Pen Broke Hall

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

- 6.1 Interviewee      Land scape
- Occupation:      Computer Tec
- 45 - Age: 25
- m - Sex: F      F M
- 6.2 Head of the Household
- Occupation:      \_\_\_\_\_
- 45 - Age: 25
- m - Sex: F      F M



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

SIZE OF SEPTIC TANK

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$800.00 \$/month

Drainage eg. septic tank / cess pool: \$100.00 \$/month

Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: \$6500.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5800.00 How long does it last: 6 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            2 persons  
5.2 Monthly income:            \_\_\_\_\_ \$/month  
5.3 Monthly saving:            \_\_\_\_\_ \$/month  
5.4 Area of Residence:        PEMBROKE HALL

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            RETIRED
- Age:                            \_\_\_\_\_
- Sex:                            F  M

**6.2 Head of the Household**

- Occupation:            RETIRED
- Age:                            82 yrs
- Sex:                            F  M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
    \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            3 persons
- 5.2 Monthly income:            \_\_\_\_\_ \$/month
- 5.3 Monthly saving:            \_\_\_\_\_ \$/month
- 5.4 Area of Residence:        Pembroke Hall

**7. Please feel free to write any opinion about sewage.**

*Trust that this connection will be affordable so that if all household can be connected will be able to do so.*

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            House wife
- Age:                            54
- Sex:                             F     M

**6.2 Head of the Household**

- Occupation:            As Above
- Age:                            \_\_\_\_\_
- Sex:                             F     M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 400 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 6,500 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 2,200 How long does it last: 3 months

Others: 2000 \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month
- (ii) Initial payment for connection      \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      3 persons  
5.2 Monthly income:             \$/month  
5.3 Monthly saving:             \$/month  
5.4 Area of Residence:      Pewabok Hill

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation:      Electrician.  
- Age:      43  
- Sex:      F  M  
6.2 Head of the Household  
- Occupation:      Same.  
- Age:      \_\_\_\_\_  
- Sex:      F  M

- Had issues with reconstruction of road.  
- asked about it

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

Current capacity

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$10,000.00 AVERAGE \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$50.00 How long does it last: 4 months

Others: \$/month





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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

CAPACITY.

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$/month

Drainage eg. septic tank cess pool: \$8,000.00 \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$9,100.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$5660.00 How long does it last: 3 months

Others: \$/month

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            6 persons  
5.2 Monthly income:            \_\_\_\_\_\$/month  
5.3 Monthly saving:            \_\_\_\_\_\$/month  
5.4 Area of Residence:        PENNBROOK HALL

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex:            F    M

6.2 Head of the Household

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex:            F    M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 5000 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 2000 How long does it last: 3 months  
Others: 8000 \$/month for



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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓ No

1.2 Is your water connection metered?

Yes ✓ No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes No ✓

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank ✓ Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓ No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied ✓ Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$3,000 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$9,000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$1,500 How long does it last: 3 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

(i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

5.1 Household size:            3 persons  
5.2 Monthly income:            \_\_\_\_\_ \$/month  
5.3 Monthly saving:            \_\_\_\_\_ \$/month  
5.4 Area of Residence:        Havendale

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            Retired Teacher  
- Age:                        70 +  
- Sex:                         F     M

**6.2 Head of the Household**

- Occupation:            \_\_\_\_\_  
- Age:                        \_\_\_\_\_  
- Sex:                         F     M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes   No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes   No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 1000.00 \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for \_\_\_\_\_

3.2 Monthly payment for other utilities services

JPS: 3000.00 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 6000.00 How long does it last: 3 months  
Others: 1000.00 Phone \$/month for \_\_\_\_\_





### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                       Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                       No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 9/3 000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

JPS: 9/19 000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 60 How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month
- (ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size: 2 \_\_\_\_\_ persons  
5.2 Monthly income: \_\_\_\_\_ \$/month  
5.3 Monthly saving: \_\_\_\_\_ \$/month  
5.4 Area of Residence: HAVANDALE

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

- 6.1 Interviewee**
- Occupation: Retired
  - Age: 78
  - Sex:            F    M
- 6.2 Head of the Household**
- Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex:            F    M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater  Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box for reason of dissatisfaction]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$3000. \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

[Empty box for other water source(s)]

[Empty box for others]

3.2 Monthly payment for other utilities services

JPS: \$/month

UNRELATED

Cooking gas: Size of cylinder: lbs Price: \$ How long does it last: months

Others: \$/month for

[Empty box for others]

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            3 persons  
5.2 Monthly income:            \$10,000 \$/month  
5.3 Monthly saving:            NIL \$/month  
5.4 Area of Residence:            UNKNOWN

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex:            F    M

**6.2 Head of the Household**

- Occupation:            CARPENTER
- Age:                            \_\_\_\_\_
- Sex:                            F    M ✓

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 4,650.07 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$5.00 How long does it last: months

Others: \$/month for Over 6 months.

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            2 persons  
5.2 Monthly income:            \$1400 \$/month  
5.3 Monthly saving:            - \$/month  
5.4 Area of Residence:            yes  
   Havenale

**7. Please feel free to write any opinion about sewage.**

*fair good.*

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            mechanic
- Age:            49
- Sex:            F  M

**6.2 Head of the Household**

- Occupation:            mechanic
- Age:            \_\_\_\_\_
- Sex:             F  M



**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓ No

1.2 Is your water connection metered?

Yes ✓ No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes No ✓

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank ✓ Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓ No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied ✓ Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for



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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓                      No 1

1.2 Is your water connection metered?

Yes ✓                      No

1.3 Use of other water supply sources: NO

Communal tap    Well    Rainwater                      Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network? NO

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied ✓                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month    for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder:    lbs    Price: \$                      How long does it last:    months

Others: \_\_\_\_\_ \$/month    for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            4 persons  
5.2 Monthly income:            \_\_\_\_\_ \$/month  
5.3 Monthly saving:            \_\_\_\_\_ \$/month  
5.4 Area of Residence:        Haverdale

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            RETIRED  
- Age:                            \_\_\_\_\_  
- Sex:                            F  M

**6.2 Head of the Household**

- Occupation:            RETIRED  
- Age:                            \_\_\_\_\_  
- Sex:                            F  M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine) (Septic pit)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction N/A

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month  
Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months  
Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
   \$1,200/month            \$1,400/month            \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            \_\_\_\_\_ persons  
5.2 Monthly income:            \_\_\_\_\_ \$/month  
5.3 Monthly saving:            \_\_\_\_\_ \$/month  
5.4 Area of Residence:        Haverdale

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex:            F    M

**6.2 Head of the Household**

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex:            F    M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied  Average   
Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$6,000 How long does it last: 3 months

Others: 3,000 \$/month for

Telephone





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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month    for

3.2 Monthly payment for other utilities services

JPS: 8000.00 \$/month

Cooking gas: Size of cylinder: 110 lbs Price: \$5000 - How long does it last: 9 months

Others: 5000.00 \$/month    for Phone / cable



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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources: N/A

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction N/A

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$500.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

N/A

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5000 How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
    \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      3 persons
- 5.2 Monthly income:      — \$/month
- 5.3 Monthly saving:      — \$/month
- 5.4 Area of Residence:      HARLOWDALE

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      RETIRED
- Age:      \_\_\_\_\_
- Sex:      (F) M

**6.2 Head of the Household**

- Occupation:      RETIRED
- Age:      75
- Sex:      (F) M

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

[Empty box]

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2500.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

N/A

[Empty box]

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 5000 How long does it last: 4 months

Others: N/A \$/month for

[Empty box]

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      5 persons  
5.2 Monthly income:      — \$/month  
5.3 Monthly saving:      — \$/month  
5.4 Area of Residence:      HAVENHOLE

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: \_\_\_\_\_
- Age: \_\_\_\_\_
- Sex:            F   M

**6.2 Head of the Household**

- Occupation:      Operations
- Age:                51
- Sex:                (F)   M

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Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes/ No

1.2 Is your water connection metered?

Yes/ No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No/

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes/ No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

N/A

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

N/A

N/A

3.2 Monthly payment for other utilities services

JPS: \$500.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$4,500 How long does it last: 5 months

Others: water \$/month for \$1,000





### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average Relatively unsatisfied Very unsatisfied N/A.

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others N/A.  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month  
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for N/A.

3.2 Monthly payment for other utilities services

JPS: 12000.00 \$/month  
Cooking gas: Size of cylinder: 100 lbs Price: \$ 3000.00 How long does it last: 4 months  
Others: Telephone \$ 20,000 \$/month for Telephone

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:      4 persons  
5.2 Monthly income:      250,000 \$/month  
5.3 Monthly saving:      200,000 \$/month  
5.4 Area of Residence:      Winnipeg

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:      Valuation Surveyor  
- Age:      50  
- Sex:      F  M

**6.2 Head of the Household**

- Occupation:      \_\_\_\_\_  
- Age:      As above.  
- Sex:      F M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: £ 2,000.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:            \$600/month            \$800/month            \$1,000/month  
    \$1,200/month            \$1,400/month            \$1,600/month

- (ii) Initial payment for connection    \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:            3 persons
- 5.2 Monthly income:            \_\_\_\_\_ \$/month
- 5.3 Monthly saving:            \_\_\_\_\_ \$/month
- 5.4 Area of Residence:        Meadowbrook

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation:            Retiree
- Age:                            \_\_\_\_\_
- Sex:                            F    M

**6.2 Head of the Household**

- Occupation:            \_\_\_\_\_
- Age:                            \_\_\_\_\_
- Sex:                            F    M

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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for North Kingston Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓                      No

1.2 Is your water connection metered?

Yes ✓                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes                              No ✓

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine) ✓

2.3 Does your house have indoor toilet(s)?

Yes ✓                              No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied    Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors    High sewage charge ✓

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month                      for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder:    lbs    Price: \$                      How long does it last:    months

Others: \_\_\_\_\_ \$/month                      for



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

? Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

? JPS: \_\_\_\_\_ \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
   \$1,200/month      \$1,400/month      \$1,600/month

(ii) Initial payment for connection      \$ \_\_\_\_\_ (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size: 1 persons  
5.2 Monthly income: Pensioner \$/month  
5.3 Monthly saving: — \$/month  
5.4 Area of Residence: Madumbok

**7. Please feel free to write any opinion about sewage.**

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: Rtd Civil Servant  
- Age: Senior citizen  
- Sex: F M
- 6.2 Head of the Household  
- Occupation: Rtd Civil Servant  
- Age: Senior citizen  
- Sex: F M



Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?  
Yes ✓ No

1.2 Is your water connection metered?  
Yes ✓ No

1.3 Use of other water supply sources:  
Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?  
Yes ✓ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?  
Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?  
Yes ✓ No

2.4 How do you evaluate the current sewage services at your home?  
Very satisfied Relatively satisfied ✓ Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction  
Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household  
Water bill including sewage: \$ 1.250 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services  
JPS: \$ 0.000 \$/month  
Cooking gas: Size of cylinder: 20 lbs Price: \$ 1.000 How long does it last: 1 1/2 months  
Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month ✓      \$300/month      \$400/month  
\$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons  
5.2 Monthly income: 20,000 \$/month  
5.3 Monthly saving: NIL \$/month  
5.4 Area of Residence: Block E-39 Hamilton Gardens

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: HOUSEWIFE
- Age: 63
- Sex: F  M

6.2 Head of the Household

- Occupation: PAVING CONTRACTOR
- Age: 67
- Sex: F  M

**7. Please feel free to write any opinion about sewage.**

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied  Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 3000 \$/month

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$ \_\_\_\_\_ How long does it last: 6 months

Others: 16L 5500 \$/month for

**4. Willingness to pay for sanitation services**

**[Portmore – Sewage conveyor facility development by the project]**

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size:      3 persons
- 5.2 Monthly income:      N/A \$/month
- 5.3 Monthly saving:      N/A \$/month
- 5.4 Area of Residence:      Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation:      Not Working
  - Age:      58
  - Sex:      F  M
- 6.2 Head of the Household
  - Occupation:      \_\_\_\_\_
  - Age:      \_\_\_\_\_
  - Sex:      F  M

**7. Please feel free to write any opinion about sewage.**

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,3646.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 6,567 SD \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1770. How long does it last: 1 1/2 months

Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2h persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Geriatric Care-Giver
  - Age: 54 y.o
  - Sex: F M
- 6.2 Head of the Household
  - Occupation: Geriatric Care-Giver
  - Age: 54
  - Sex: F M

**7. Please feel free to write any opinion about sewage.**

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2,150 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 2,330 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1770 How long does it last: 12 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 1 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Hamilton Garden

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: W. White
  - Age: 55
  - Sex: F / M
- 6.2 Head of the Household
  - Occupation: W. White
  - Age: 55
  - Sex: F / M

**7. Please feel free to write any opinion about sewage.**



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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes                      No

1.2 Is your water connection metered?

Yes                      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater                      Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes                      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank                      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes                      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied                      Relatively satisfied                      Average  
Relatively unsatisfied                      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability                      Sewage overflow                      Others  
Foul odors                      High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3000.00 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: Phone 5500.00 \$/month

for

3.2 Monthly payment for other utilities services

JPS: 7,000.00 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 65.00 How long does it last: 5 months

Others: Phone 5500.00 \$/month

for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month    \$200/month    \$300/month    \$400/month  
\$500/month    \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 3 persons  
5.2 Monthly income: \$40,000 \$/month  
5.3 Monthly saving: — \$/month  
5.4 Area of Residence: Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
- Occupation: N/A  
- Age: \_\_\_\_\_  
- Sex:  F  M  
6.2 Head of the Household  
- Occupation: Driver  
- Age: \_\_\_\_\_  
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap  Well  Rainwater  Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank  Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied  Relatively satisfied  Average   
Relatively unsatisfied  Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability  Sewage overflow  Others   
Foul odors  *Some Toilet*  High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

\$990

3.2 Monthly payment for other utilities services

JPS: *\$7,000* \$/month

Cooking gas: Size of cylinder: *15* lbs Price: \$*17* *100* How long does it last: \_\_\_\_\_ months

Others: \_\_\_\_\_ \$/month for

*4 weeks*

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month ✓      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 2 persons
- 5.2 Monthly income: 14000 \$/month
- 5.3 Monthly saving: 2000 \$/month
- 5.4 Area of Residence: Hamilton Road

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Self-employed
  - Age: ~~50~~ 59+
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: \_\_\_\_\_
  - Sex: F  M

**7. Please feel free to write any opinion about sewage.**

Very poor, bad management, need proper service.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Relatively unsatisfied Very satisfied Relatively satisfied Average Very unsatisfied

2.5 Reason of dissatisfaction

High sewage charge Low discharging capability Sewage overflow Others Foul odors

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$4,000 \$/month

Drainage eg. septic tank / cess pool: \$4,000 \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$6,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$6,000 How long does it last: 6 months

Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: \$180,000 \$/month
- 5.3 Monthly saving: \$30,000 \$/month
- 5.4 Area of Residence: Hamletan Gardens, Portmore

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Camoufler
- Age: 60
- Sex:  F  M

6.2 Head of the Household

- Occupation: as above
- Age: \_\_\_\_\_
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Too many bills are estimated.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied  Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2,500 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$3,500.00 \$/month  
Cooking gas: Size of cylinder: lbs Price: \$2,000 How long does it last: months  
Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: \_\_\_\_\_ \$/month
- 5.3 Monthly saving: \_\_\_\_\_ \$/month
- 5.4 Area of Residence: Hamilton Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Retired Soldier
  - Age: 62 yrs
  - Sex: F M
- 6.2 Head of the Household
  - Occupation: Retired Soldier
  - Age: 72 yrs
  - Sex: F M

**7. Please feel free to write any opinion about sewage.**



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Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2500 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 12,000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 2300 How long does it last: 3 weeks months

Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyer facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

\$100/month

\$200/month

\$300/month

\$400/month

\$500/month

\$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

5.1 Household size: 7 persons

5.2 Monthly income: \_\_\_\_\_ \$/month

5.3 Monthly saving: \_\_\_\_\_ \$/month

5.4 Area of Residence: Caymanas Gdns.

**6. Profile of interviewee and household leader**

6.1 Interviewee

- Occupation: Nurse
- Age: 36 yrs.
- Sex:  F  M

6.2 Head of the Household

- Occupation: Pensioner
- Age: \_\_\_\_\_
- Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Constant overflowing and foul odour is very bad, especially with babies. There is ageing on for years and it is about time now for it to stop.

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$1000 \$/month + on light

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$/month

Cooking gas: Size of cylinder: lbs Price: \$ How long does it last: months

Others: \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: Varies \$/month *between \$30,000 - \$40,000.*
- 5.3 Monthly saving: NIL \$/month *before deductions*
- 5.4 Area of Residence: Cayaman

**6. Profile of interviewee and household leader**

**6.1 Interviewee**

- Occupation: Pensioner
- Age: 58 *with disability not able to work*
- Sex: F (M) *(not able to speak properly, walk less use of hand)*

**6.2 Head of the Household**

- Occupation: Pensioner
- Age: 65
- Sex: (F) M

**7. Please feel free to write any opinion about sewage.**

*There are times when for the entire weeks there is no water in the pipe yet we still get high bills. I feel that the sewage and water charges should not be the same, as out of the four only two people may be at home in the days, sometimes one person washing down on 1 day weekly basis.*

### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes  No

1.2 Is your water connection metered?

Yes  No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes  No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes  No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied  Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors  High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,500 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: 5,000 \$/month

Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,800 How long does it last: 1 months

Others: \_\_\_\_\_ \$/month

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: \$120 \$/month
- 5.3 Monthly saving: - \$/month
- 5.4 Area of Residence: Portmore  
Capraand G

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Pensioner.
  - Age: \_\_\_\_\_
  - Sex: F M
- 6.2 Head of the Household
  - Occupation: R. Walker.
  - Age: 67
  - Sex: F M

**7. Please feel free to write any opinion about sewage.**

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes/ No

1.2 Is your water connection metered?

Yes/ No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes/ No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes/ No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$,000 \$/month  
Drainage eg. septic tank / cess pool: \$/month  
Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: \$,000 \$/month  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,800 How long does it last: 1 months  
Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges?

(Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month ✓

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 6 persons
- 5.2 Monthly income: 24,000 \$/month
- 5.3 Monthly saving: 8,200 \$/month
- 5.4 Area of Residence: Caymanas Gardens Site D

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: PACKER
  - Age: 30
  - Sex: F M ✓
- 6.2 Head of the Household
  - Occupation: Produce for the house
  - Age: 30
  - Sex: F M ✓

**7. Please feel free to write any opinion about sewage.**

Well i beleave the Drains need to be Clean At lease 2 times per month, then we wouldnt have that problem.



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**Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area**

Please circle the appropriate responses and answer all questions to the best of your ability.

**1. Present status of water supply**

1.1 Is your house connected to water supply system?

Yes ✓      No

1.2 Is your water connection metered?

Yes ✓      No

1.3 Use of other water supply sources:

Communal tap    Well    Rainwater    Bottled water    N/A

**2. Present status of wastewater treatment**

2.1 Is your house connected to sewer collection network?

Yes ✓      No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank      Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes ✓      No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied      Relatively satisfied ✓      Average  
Relatively unsatisfied      Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability      Sewage overflow      Others  
Foul odors      High sewage charge

**3. Water consumption and demand**

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 6,700.00      \$/month

Drainage eg. septic tank / cess pool:      \$/month

Others:      \$/month      for

3.2 Monthly payment for other utilities services

JPS: 6,500.00      \$/month

Cooking gas: Size of cylinder: 30 lbs    Price: \$ 2,200    How long does it last: 1 months

Others:      \$/month      for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month
- \$200/month
- \$300/month
- \$400/month
- \$500/month
- \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: — \$/month
- 5.3 Monthly saving: — \$/month
- 5.4 Area of Residence: Caymanas Garden, Gregory Park P.O. Portmore

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: \_\_\_\_\_
  - Age: 59
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: \_\_\_\_\_
  - Age: 65
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 2500 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month for

3.2 Monthly payment for other utilities services

JPS: 6000 \$/month

Cooking gas: Size of cylinder: 30 lbs Price: \$ 1908 How long does it last: 3 weeks months

Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 6 persons
- 5.2 Monthly income: 600 \$/month
- 5.3 Monthly saving: 00 \$/month
- 5.4 Area of Residence: Caymanas Bards

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Haggaly
  - Age: 50
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: ✓
  - Age: 60
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**

Preparatory Survey for Kingston Sewerage Development Project  
Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$57000 \$/month

Drainage eg. septic tank / cess pool: \$/month

Others: \$/month

for

3.2 Monthly payment for other utilities services

JPS: \$5000 \$/month

Cooking gas: Size of cylinder: 30lbs Price: \$ 1900 How long does it last: (1) months

Others: \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

\$100/month      \$200/month      \$300/month      \$400/month  
\$500/month      \$600/month      None

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: \$30,000 \$/month
- 5.3 Monthly saving: — \$/month
- 5.4 Area of Residence: Caymanas Garden Site D.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee Milton Spencer
  - Occupation: Sub-contractor
  - Age: 25
  - Sex: F  M
- 6.2 Head of the Household
  - Occupation: Sub-contractor
  - Age: 25
  - Sex: F  M

**7. Please feel free to write any opinion about sewage.**

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for Portmore Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others   
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \_\_\_\_\_ \$/month \$ 2,500   
Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month  
Others: \_\_\_\_\_ \$/month for

3.2 Monthly payment for other utilities services

JPS: \_\_\_\_\_ \$/month \$ 2,700  
Cooking gas: Size of cylinder: 25 lbs Price: \$ 1,800 How long does it last: 1 months  
Others: \_\_\_\_\_ \$/month for

**4. Willingness to pay for sanitation services**

[Portmore – Sewage conveyor facility development by the project]

Currently, your household is connected to a sewerage system and you pay sewage charges to NWC. Assuming that the service you receive is not to your satisfaction, but could become so, by the upgrading of the already existing system, how much would you agree to pay in addition to the current sewage charges? (Choose one or specify an amount in between)

- \$100/month      \$200/month      \$300/month      \$400/month
- \$500/month      \$600/month

Please note that these payments would be in addition to your current monthly household expenditures.

**5. Profile of your household**

- 5.1 Household size: 4 persons
- 5.2 Monthly income: 18,000 \$/month
- 5.3 Monthly saving: -NONE \$/month
- 5.4 Area of Residence: Portmore  
Caymanas Gardens

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
  - Occupation: Colour Tec.
  - Age: 24
  - Sex:  F  M
- 6.2 Head of the Household
  - Occupation: K christie
  - Age: 24
  - Sex:  F  M

**7. Please feel free to write any opinion about sewage.**



### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water



#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors N/A High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,500.00 \$/month

Drainage eg. septic tank / cess pool: -0- \$/month

Others: -0- \$/month

for

3.2 Monthly payment for other utilities services

JPS: 9,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ ?

How long does it last: 3 months

Others: - \$/month for



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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water N/A

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: 3,000 \$/month

Drainage eg. septic tank / cess pool: \_\_\_\_\_ \$/month

Others: \_\_\_\_\_ \$/month

for

3.2 Monthly payment for other utilities services

JPS: 10,000 \$/month

Cooking gas: Size of cylinder: 100 lbs Price: \$ 6,000 How long does it last: 5 months

Others: 3,500 \$/month for

Telephone

**4. Willingness to pay for sanitation services**

**[North Kingston Area – Street sewer development by the project]**

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:     \$600/month     \$800/month     \$1,000/month  
   \$1,200/month     \$1,400/month     \$1,600/month
- (ii) Initial payment for connection     \$ 2,500 (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size:     2 persons  
5.2 Monthly income:     Pensioner \$/month  
5.3 Monthly saving:     - \$/month  
5.4 Area of Residence:     Mona Heights

**7. Please feel free to write any opinion about sewage.**

It would be welcomed as opposed to the pit system.

**6. Profile of interviewee and household leader**

- 6.1 Interviewee
- Occupation: Retired.
  - Age: 78.
  - Sex: F  M
- 6.2 Head of the Household
- Occupation: Same
  - Age: \_\_\_\_\_
  - Sex: F M

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### Preparatory Survey for Kingston Sewerage Development Project Questionnaire for North Kingston Area

Please circle the appropriate responses and answer all questions to the best of your ability.

#### 1. Present status of water supply

1.1 Is your house connected to water supply system?

Yes No

1.2 Is your water connection metered?

Yes No

1.3 Use of other water supply sources:

Communal tap Well Rainwater Bottled water

#### 2. Present status of wastewater treatment

2.1 Is your house connected to sewer collection network?

Yes No

2.2 If "No" to Q2.1, what is the wastewater treatment at your house?

Septic tank Soakaway (pit latrine)

2.3 Does your house have indoor toilet(s)?

Yes No

2.4 How do you evaluate the current sewage services at your home?

Very satisfied ✓ Relatively satisfied Average  
Relatively unsatisfied Very unsatisfied

2.5 Reason of dissatisfaction

Low discharging capability Sewage overflow Others  
Foul odors High sewage charge

#### 3. Water consumption and demand

Other water source(s) if any

3.1 Monthly water charges of your household

Water bill including sewage: \$2500-\$5000 \$/month *FLUCTUATES FOR SOME UNUSUAL REASON*  
Drainage eg. septic tank / cess pool: NIL \$/month  
Others: NIL \$/month for

3.2 Monthly payment for other utilities services

JPS: \$7000 \$/month *INCREASING*

Cooking gas: Size of cylinder: \_\_\_\_\_ lbs Price: \$2600 How long does it last: 6 months

Others: CABLE \$2600 P.MTH \$/month for   
PHONE \$8000 P.MTH.

**4. Willingness to pay for sanitation services**

[North Kingston Area – Street sewer development by the project]

A street sewer network is developed in your area by NWC and your household becomes able to be connected to a centralized sewage system. With such a system, sewage is collected in a sanitary fashion from each household and transported to a safe place where the system has sufficient capacity to deal with increases in water due to rainfall etc. and does not overflow. Collected sewage is treated in a sanitary fashion until it reaches a level that is not problematic for the environment and then discharges into the natural environment properly.

Currently, your household is not connected to the system so you do not pay such charges to NWC. If you were to receive the satisfactory sewage service as explained above, you would have to make (i) new monthly sewage bill payment. Prior to that, you would have to make (ii) an initial payment for the individual connection work from the street sewer to your house.

How much would you agree to pay for these expenses? (Choose one or specify amount in between)

- (i) Monthly sewage charges:      \$600/month      \$800/month      \$1,000/month  
    \$1,200/month      \$1,400/month      \$1,600/month
- (ii) Initial payment for connection      \$ 50,000      (one-time payment)

Please note that these payments would be in addition to your current monthly household expenditures but your current expenses for sanitation services other than by NWC would be replaced by them.

**5. Profile of your household**

- 5.1 Household size: 2 ADULTS 1 CHILD persons  
 5.2 Monthly income: \$49,000 \$/month plus \$55,000  
 5.3 Monthly saving: NIL \$/month (RENT)  
 5.4 Area of Residence: KCN 6 [Mona Rd]

**7. Please feel free to write any opinion about sewage.**

I think that it is important to have a sewage system in place but more important for customers to be able to afford to access it. In today's economy several citizens in particular have difficulty paying other bills so are unable to make a large financial outlay ~~without~~ especially when there is no ~~psn~~ notification

**6. Profile of interviewee and household leader**

- 6.1 Interviewee  
 - Occupation: RETIRED  
 - Age: 67 YRS.  
 - Sex: (F) M
- 6.2 Head of the Household  
 - Occupation: RETIRED  
 - Age: 73 YRS.  
 - Sex: F (M)