BREVARD COUNTY

Oakwood WTF Kingswood WTF

Docket No. 100330-WS

Application to Increase Rates and Charges For a "Class A" Utility In

Florida

Volume 5 Book 2 Set 2 of 17

Containing: Permits Monthly Operating Reports Sample Results Correspondence

Aqua Utilities Florida, Inc.

DOCUMENT NUMBER-DATE 07279 SEP-1 ≥ FPSC-COMMISSION CLERK



See Page 2 for Instructions. I. General Water System Information for the Mont Consecutive System Name: Oakwood Consecutive System Type: IF Number of Service Connections at End of Month: Consecutive System Owner: Contact Person: Contact Person's Mailing Address: Contact Person's Telephone Number: Contact Person's E-Mail Address:	May, 2008 Community [*] Non-Transient Non-Community 203 Aqua Utilities,FL William Trendel 140 Hope Street (407) 339-5424	PWS Identification Number: 3054100 [] Transient Non-Community Total Population Served at End of Month: 477 Contact Person's Title: Senior Facilities Operator Longwood State: FL Zip Code: 32750 Contact Person's Fax Number: (407) 339-7490
II." Daily Distribution System Disinfectant Residu Type of Disinfectant Residual Maintained in Distr		May, 2008 [7] Combined Chlorine (Chloramines) [7] Chlorine Dioxide
Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L 1 2.6 2 3 4 5 6 7 8 2.1 9 10 11 12 13 3.1 14 15 4.5 16	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	s; Lowest Residual Disinfectant Day of the Month in Distribution System, mg/L 17 18 19 20 3.2 21 22 2.4 23 24 25 26 27 1.6 28 29 2.2 30 31 Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation

III. Certification by Authorized Representative

28, 2003

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. 6/8/08 Signature and Date

DEP Form 900(4) Effective AL

William Trendel Printed or Typed Name C-6411 License Number or Title



. General Water System Information for th	he Month/Year of:	June, 2008		DUIC Hard Con	ion Number: 3054100	
Consecutive System Name: Oakwood				PwS Identifica	1011 NUHIOCI. 3034100	
Consecutive System Type:	マ Community C	Non-Transient Non-Community	T Transient Non-C			477
Number of Service Connections at End of	Month:	203		Total Population Served at End of M	onth:	477
Consecutive System Owner:	Aqua Utilities,Fl.					
Contact Person:	William Trendel			Contact Person's Title: Senior Facilit		
Contact Person's Mailing Address:	140 Hope Street		Longwood	State: FL	Zip Code: 32750	
Contact Person's Telephone Number:	(407) 339-5424			Contact Person's Fax Number	(407) 339-7490	
Contact Person's E-Mail Address:						

	Distribution System Disinfectant Residua Disinfectant Residual Maintained in Distri		June, 200 [7]	08 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of th Month 1 2 3 4 5 6 7 8 9 i0 11 12 13 14 15	Lowest Residual Disinfectant	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	7	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L 2.6 2.0 2.1 4.1	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

7/6/08 Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title



See Page 2 for Instructions.

E General Water System Information for th	e Month/Year of July, 2008				
Consecutive System Name: Oakwood	n an		PWS Identificat	ion Number: 3054100	
Consecutive System Type:	I♥ Community J♥ Non-Transient Non-Commu	anity Transient Non-Community	anan an		**************************************
Number of Service Connections at End of N	fonth: 203	Total P	opulation Served at End of M	onth:	477
Consecutive System Owner:	Aqua Utilities,Fl.		ana na sa		an an ann an ann an Anna an Ann
Contact Person:	William Trendel	Contac	Contact Person's Title: Senior Facilities Operator		
Contact Person's Mailing Address:	140 Hope Street	Longwood	State: FL	Zip Code: 32750	an alah ar alah
Contact Person's Telephone Number:	(407) 339-5424	Contac	t Person's Fax Number:	(407) 339-7490	
Contact Person's E-Mail Address:			anna a chuir an ta ta dhan a chuir ann ann an chuir ann ann ann ann ann an an an ann ann a	annan an ann ann ann ann ann an ann an a	nan - an an ann an ann ann an ann an Castal - C

II. Daily Type of D	Distribution System Disinfectant Residua bisinfectant Residual Maintained in Distri	Data for the Month Year of Dution System:	July, 200 ne [7]	8 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Condit Repair or Maintenance Work that Involv Taking Water System Components Out Operation	ves	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

14/08 Signature and Date

DEP Form 6 300(4) Effective Aug 3, 2003 William Trendel Printed or Typed Name

Page 1

C-6411 License Number or Title



See Page 2 for Instructions. I. General Water System Information for the Mont Consecutive System Name: Oakwood Consecutive System Type: Number of Service Connections at End of Month: Consecutive System Owner: Contact Person: Contact Person's Mailing Address: Contact Person's Telephone Number: Contact Person's E-Mail Address:	h/Year of: August, 2008 Community Image: Non-Transient Non-Community 203 Aqua Utilities,FI. William Trendel 140 Hope Street (407) 339-5424		Transient Non-Community Total Population Serv Contact Person's Title	e. Senior Facilities Operator State: FL Zip Code: 32750
II. Daily Distribution System Disinfectant Residua Type of Disinfectant Residual Maintained in Distri	al Data for the Month/Year of : At bution System: T Free Chlorine	igust, 20	08 Combined Chlorine (Chloramines)	Chlorine Dioxide
Lowest Residual Disinfectant Day of the Concentration at Remote Point Month in Distribution System, mg/L 1 $3, 2$ 2 3 4 5 $3, 0$ 6 7 8 $1, 2$ 9 10 11 12 13 $7, 4$ 14 15 $3, 3$ 16	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L 4/1 3.7	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation

III. Certification by Authorized Representative

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Signature and Date

DEP For 5.900(4) Effective Abyust 28, 2003 William Trendel Printed or Typed Name

Page 1

C-6411 License Number or Title



I. General Water System Information for t	he Month/Year of:	September, 2008	con man insist of a second-result of the second		
Consecutive System Name: Oakwood				PWS Identifica	tion Number: 3054100
Consecutive System Type:	F Community	Γ Non-Transient Non-Community	T Transient Non-Communit	У	
Number of Service Connections at End of	Month:	203	Tota	Population Served at End of M	1onth: 477
Consecutive System Owner:	Aqua Utilities,I	1.			
Contact Person:	William Trende		Cont	act Person's Title: Senior Facili	ties Operator
Contact Person's Mailing Address:	140 Hope Stree		Longwood	State: FL	Zip Code: 32750
Contact Person's Telephone Number:	(407) 339-5424		Cont	act Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:	F. D. M. K. K. M. MARNENKO, K. 1998.				

. Daily Distribution System Disinfectant Residual Data for the Month/Year of : Sept ype of Disinfectant Residual Maintained in Distribution System: Free Chlorine	ember, 2008 [7] Combined Chlorine (Chloram	ines) Γ Chlorine Dioxide
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III. Certification by Authorized Representative

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knowledge and belief.

10/6/08 1. Juli Signature and Date

555.900(4) DEP For \$1 28, 2003 Effective

William Trendel Printed or Typed Name

Pagel

C-6411 License Number or Title



See Page 2 for Instructions. I. General Water System Information for the Mont Consecutive System Name: Oakwood Consecutive System Type: I7 Number of Service Connections at End of Month: Consecutive System Owner: Contact Person: Contact Person's Mailing Address: Contact Person's Telephone Number: Contact Person's E-Mail Address:	Interpretation October, 2008 Community [1] Non-Transient Non-Community 203 Aqua Utilities,FI. William Trendel 140 Hope Street 407) 339-5424	Contact Per	PWS Identification Number: 3054100 ation Served at End of Month: 477 son's Title: Senior Facilities Operator State: FL Zip Code: 32750 son's Fax Number: (407) 339-7490
II. Daily Distribution System Disinfectant Residua Type of Disinfectant Residual Maintained in Distri	d Data for the Month/Year of : bution System: T Free Chlorine	Ctober, 2008	s)
Lowest Residual Disinfectant Day of the Concentration at Remote Point Month in Distribution System, mg/L 1 2 4.7 3 4 5 6 7 3.3 8 9 3.7 10 11 12 13 14 4.1 15 16 3.0	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	; Lowest Residual Disinfe Concentration at Remote Month in Distribution System, r 17 18 19 20 21 2.8 22 23 24 2.9 25 26 27 28 2.2 29 30 3.0 31	Point Taking Water System Components Out of

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

11/0/08 Signature and Date

DEP Form 15.900(4) Effective A 28, 2003 William Trendel Printed or Typed Name C-6411 License Number or Title 9



See Page 2 for Instructions.			
I. General Water System Information for t	he Month/Year of: November, 2008		
Consecutive System Name: Oakwood		PWS Identification Number: 30	54100
Consecutive System Type:	□ Community □ Non-Transient Non-Community	Transient Non-Community	
Number of Service Connections at End of	Month 203	Total Population Served at End of Month:	477
Consecutive System Owner:	Aqua Utilities.Fl.		
Contact Person:	William Trendel	Contact Person's Title: Senior Facilities Operator	
Contact Person's Mailing Address:	140 Hope Street	Longwood State: FL Zip Code:	32750
Contact Person's Telephone Number:	(407) 339-5424	Contact Person's Fax Number: (407) 339-	7490
Contact Person's E-Mail Address:			

Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/LRepair or Maintenance Work that Involves Taking Water System Components Out of OperationLowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/LRepair or Maintenance Work that Involves Taking Water System Components Out of Month10017182.10222.4210004222300006222324252.00073.024252.024252.00102.7282.4210000112.7282.4210000122.7282.42424000133.5repaired 4" water main29303030303030141515151616161616161616142.7282.42116		ily Distribution System Disinfectant Residua f Disinfectant Residual Maintained in Distri		□ Free Chlorine	ember, [7]	Combined Chlorine (Chloramines)	□ Chlorine Dioxide
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III. Certification by Authorized Representative

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2/1/08 Signature and Date

DEP Form (900(4) Effective Aa .8, 2003 William Trendel Printed or Typed Name C-6411 License Number or Title ~



See Page 2 for Instructions.

1. General Water System Information for	the Month/Year of. Dec. 2008				
Consecutive System Name: Oakwood			PWS Identifica	ation Number: 3054100	
Consecutive System Type:	F Community T Non-Transient Non-Community	[] Transient Non-Community			
Number of Service Connections at End of	f Month: 203	Total P	opulation Served at End of N	Aonth:	477
Consecutive System Owner:	Aqua Utilities.Fl.				
Contact Person:	William Trendel	Contae	t Person's Title: Senior Facili	ities Operator	
Contact Person's Mailing Address:	140 Hope Street	Longwood	State: FL	Zip Code: 32750	
Contact Person's Telephone Number	(407) 339-5424	Contac	t Person's Fax Number:	(407) 339-7490	
Contact Person's E-Mail Address:					

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ispe or the	surrectant Residual Mauntained in Distric	oution System:	T Free Chlorine	(v)	Combined Chlorine (Chloramines)	Chlorine Dioxide
	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L 1.0 1.0 1.3 1.2	Taking Water System	I Operating Conditions; we Work that Involves a Components Out of ation	Day of the Month 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L 2.1 1.4 1.8	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel Printed or Typed Name

C-6411 License Number or Title

DEP Form 62 775 900(4) Effective Au 1 2003

Page 1



See Page 2 for Instructions.							
1. General Water System Information for th	e Month/Year of.	January, 2009	PWS Identification Number: 3054100				
Consecutive System Name: Oakwood			T Transient Non-C				
Consecutive System Type:	<u> </u>	Non-Transient Non-Community		1onth: 477			
Number of Service Connections at End of M		203	and an an and a state of the second state of the second state of the second state of the second state of the se				
Consecutive System Owner:	Aqua Utilities,Fl.		nan manananan enteran an mananan menanan era ana era daga da	Contact Person's Title: Senior Facili	ties Operator		
Contact Person:	William Trendel	and a second	Longwood	State: FL	Zip Code: 32750		
Contact Person's Mailing Address:	140 Hope Street		LOURWOOD	Contact Person's Fax Number:	(407) 339-7490		
Contact Person's Telephone Number:	(407) 339-5424						
Contact Person's E-Mail Address:		and a second					

I. Daily I	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distri		uary, 2 로	009 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief.

218/09

Signature and Date

DEP 5 900(4) x 28, 2003 Effective

William Trendel Printed or Typed Name

Page

C-6411 License Number or Title



General Water System Information for the Month/Year of: Feb. 2009			D11/0 11			
Consecutive System Name: Oakwood				Pw5 Identifica	tion Number: 3054100	
Consecutive System Type:	7 Community	TI Non-Transient Non-Community	T Transient Non-Community	У		
Number of Service Connections at End of Month: 203		and a second	Total	Population Served at End of M	ionth:	477
Consecutive System Owner:	Aqua Utilities	,FI.				
Contact Person:	William Trene	tel	Conta	act Person's Title: Senior Facili		
Contact Person's Mailing Address:	140 Hope Stre	el	Longwood	State: FL	Zip Code: 3275	
Contact Person's Telephone Number:	(407) 339-542	24	Conta	act Person's Fax Number:	(407) 339-7490	
Contact Person's E-Mail Address:						

I. Daily I	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distri	Pala la the western Fear of	reb. 200 [ল]	Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

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3/6/09

Signature and Date

DEP 555 900(4) Effectiv aust 28, 2003 William Trendel Printed or Typed Name

Page

C-6411 License Number or Title



See Page 2 for Instructions.

E General Water System Information for th	e Month/Year of	March, 2009			
Consecutive System Name: Oakwood		PWS Identification Number: 3054100			
Consecutive System Type:	Community	TI Non-Transient Non-Community	T Transient Non-C		
Number of Service Connections at End of Month:		203		Total Population Served at End of	of Month: 477
Consecutive System Owner:	Aqua Utilities	s,F1.	and a second	Contractor Description Provide	aillitian Operator
Contact Person:	William Tren	del		Contact Person's Title: Senior Fa	Zip Code: 32750
Contact Person's Mailing Address:	Contact Person's Mailing Address: 140 Hope Street		Longwood	second and the second	(407) 339-7490
Contact Person's Telephone Number:	(407) 339-542	24		Contact Person's Fax Number:	(407) 227-7470
Contact Person's E-Mail Address:					na sense se s

L Daily I	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distril		arch, 20 [카]	09 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

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knowledge and belief. hak Signature and Date

William Trendel Printed or Typed Name

Pad

C-6411 License Number or Title 1-



See Page 2 for Instructions.	St. ash St. marsh	April, 2009			
General water system unormation for the storing real of.			nanisya geogramma in 1938 national many series i produce an	PWS Identification Number: 3054100	
Consecutive System Name: Oakwood Consecutive System Type:	[] Community	∏ Non-Transient Non-Community	Transient Non-Communi	the second s	Aonth 477
Number of Service Connections at End of Month: 203		203	Tota	Total Population Served at End of Month:	
Consecutive System Owner:	Aqua Utilities	;,FI.		tact Person's Title: Senior Facili	tiac Operator
Contact Person:	William Trend	del	and a contract strength and the strength of the	State: FL	Zip Code: 32750
Contact Person's Mailing Address:	140 Hope Stre	cel	Longwood	and the second	(407) 330-7490
Contact Person's Telephone Number:	(407) 339-542	24	Con	tact Person's Fax Number:	(407) 339*7490
Contact Person's E-Mail Address:					

II. Daily I	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distril		pril, 20 [고]	09 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

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knowledge and belief. 5/09 Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title

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I. General Consecuti Consecuti Consecuti Contact P Contact P Contact P	of Service Connections at End of Month: ive System Owner:	May, 2009 Community Non-Transient Non-Community 203 Aqua Utilities,FI. William Trendel 140 Hope Street (407) 339-5424		Fransient Non-C Longwood	Community Total Population Ser Contact Person's Titl	e: Senior Facilities Operato State: FL Zip C	477
II. Daily	Distribution System Disinfectant Residua Disinfectant Residual Maintained in Distri	al Data for the Month/Year of :	May, 200 [코]	9 Combined Chlo	orine (Chloramines)		ine Dioxide
Day of the Month 1 2 3 4 5 6 7 8 9 10 11 12	Lowest Residual Disinfectant	Emergency or Abnormal Operating Condition Repair or Maintenance Work that Involves Taking Water System Components Out of Operation		Lowest Re Concentration	esidual Disinfectant ion at Remote Point ation System, mg/L 3.7 3.7 3.7	Repair or Mainter Taking Water Sy	rmal Operating Conditions; nance Work that Involves stem Components Out of Operation
13 14 15 16	3.4		30 31				

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. 617/09 ans Signature and Date

32-555 900(4) DEP Effective August 28, 2003 William Trendel Printed or Typed Name

pà

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Consecutiv Consecutiv Number of Consecutiv Contact Pe Contact Pe Contact Pe	Service Connections at End of Month: e System Owner:	June, 2009 Community Image: Community 203 Aqua Utilities,FI. William Trendel 140 Hope Street (407) 339-5424			PWS Identification Number: 3054100 rved at End of Month: 477 tle: Senior Facilities Operator .State: FL Zip Code: 32750 x Number: (407) 339-7490
II. Daily I	histribution System Disinfectant Residua sinfectant Residual Maintained in Distri	I Data for the Month/Year of : bution System:	June, 200	09 Combined Chlorine (Chloramines)	T Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	5; Day of the Month 17	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1 2 3 4 5	3.6 3.3		18 19 20 21	3.0	
6 7 8 9	2.8		22 23 24 25 26	3.2	
10 11 12 13 14	4.5		27 28 29 30	3.5	
15 16	2.6				

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

in Querdel 7/7/09 Signature and Date

2-555.900(4) Effective August 28, 2003

William Trendel Printed or Typed Name C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Information for	the Month/Year of: July, 2009			
Consecutive System Name: Oakwood	an an ann an ann an ann an ann an ann an a		PWS Identifica	ation Number: 3054100
Consecutive System Type:	Community T Non-Transient Non-Community	Transient Non-Community		
Number of Service Connections at End of	Month: 203	Total I	Population Served at End of N	Month: 477
Consecutive System Owner:	Aqua Utilities,Fl.			
Contact Person:	William Trendel	Contac	ct Person's Title: Senior Facil	ities Operator
Contact Person's Mailing Address:	140 Hope Street	Longwood	State: FL	Zip Code: 32750
Contact Person's Telephone Number:	(407) 339-5424	Contac	ct Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:			an a	a un unan an anna anna anna anna ann ann

II. Daily I Type of D	Distribution System Disinfectant Residua isinfectant Residual Maintained in Distri		uly, 200	9 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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14	4.1 		31	1 • 5	
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. 8/6/09

Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title 15

DEP Form 62-555.900(4) Effective Au 3, 2003



See Page 2 for Instructions.

See Page 2 for instructions.			A contraction of the second state and the second state of the seco		
I. General Water System Information for th	e Month/Year of:	August, 2009		PWS Identificat	tion Number: 3054100
Consecutive System Name: Oakwood			T Transient Non-Commun		
Consecutive System Type:	and the second sec	Non-Transient Non-Community		Ionth: 477	
Number of Service Connections at End of M	Month:	203		al Population Served at End of M	
Consecutive System Owner:	Aqua Utilities,Fl.			tact Person's Title: Senior Facilit	ties Operator
Contact Person:	William Trendel			State: FL	Zip Code: 32750
Contact Person's Mailing Address:	140 Hope Street		Longwood	tact Person's Fax Number	(407) 339-7490
Contact Person's Telephone Number:	(407) 339-5424			Hact Person's Pax Humour	
Contact Person's E-Mail Address:					

I. Daily I	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distri		gust, 20	Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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15	ан ал алаанын ал алаан алаан ал алаан ал алаан ал алаан ал		31		
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. 9/6/09

Signature and Date

DEP Form 900(4) Effective Aug

William Trendel Printed or Typed Name

Page

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Information for th	e Month/Year of:	Sept. 2009			·	
Consecutive System Name: Oakwood			PWS Identification Number: 3054100			
		-Transient Non-Community	Transient Non-Community Total Population Served at End of Month:			
Consecutive System Owner:	Aqua Utilities,Fl.	ana ina any any ana amin'ny sora amin'ny sora amin'ny sora amin'ny sora amin'ny sora amin'ny sora amin'ny sora Ny faritr'o amin'ny soratra amin'ny soratra amin'ny soratra amin'ny soratra amin'ny soratra amin'ny soratra amin'		Contact Person's Title: Senior Facili	ties Operator	
Contact Person:	William Trendel	n - n canadanananan da ini - n a anadahamaningan ya dini inin anadanan 70000 mina nginakan	Longwood	State: FL	Zip Code: 32750	
Contact Person's Mailing Address: Contact Person's Telephone Number:	140 Hope Street (407) 339-5424	Nether (), and (), and (), and (), and (), and (), and () and		Contact Person's Fax Number:	(407) 339-7490	
Contact Person's E-Mail Address:						

II. Daily I	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distrib		Sept. 200	9 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalt of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. 10/4/09 Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title 17

DEP Form 5.900(4) Effective A 28, 2003 Page (



See Page 2 for Instructions.

I. General Water System Information for th	te Month/Year of: Oct.2009		
Consecutive System Name: Oakwood		PWS Identifie	cation Number: 3054100
Consecutive System Type:	Community T Non-Transient Non-Commun	ity Transient Non-Community	
Number of Service Connections at End of	Month: 203	Total Population Served at End of	Month: 477
Consecutive System Owner:	Aqua Utilities,FI.		
Contact Person:	William Trendel	Contact Person's Title: Senior Faci	lities Operator
Contact Person's Mailing Address:	140 Hope Street	Longwood State: FL	Zip Code: 32750
Contact Person's Telephone Number:	(407) 339-5424	Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:			

I. Daily I Type of D	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distrib		Oct.2001 [편]	Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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15 16	0.6		(100.02(100 ⁻⁰)		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Jundel 11/4/09 om! Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title 00



63	2 for Instructions.		and the construction construction of the second statement of the second s		. A set of the set of		
I. General	Water System Information for the Mont	h/Year of:	Nov. 09			DING 11	2 - X1 - 1 2064100
Consecuti	ve System Name: Oakwood				Notice a specific consistence of the construction of the specific construc	PWS Identifica	ation Number: 3054100
	i o o journe i jpt.	······································	Non-Transient Non-Community	<u> </u>	Transient Non-Community		
Number o	f Service Connections at End of Month:		203	e and all comments for	Total Population Set	rved at End of N	Aonth: 477
Consecuti	ve System Owner:	Aqua Utilities,Fl.		5 march			
Contact P	erson:	William Trendel			Contact Person's Tit	a a far a constant of the and the second of	second and a second secon
Contact P	crson's Mailing Address:	140 Hope Street			Longwood	State: FL	Zip Code: 32750
Contact P	erson's Telephone Number:	(407) 339-5424			Contact Person's Fat	« Number:	(407) 339-7490
Contact P	erson's E-Mail Address:						
	Distribution System Disinfectant Residua	d Data for the Month	Verrof	Nov. 09			
Type of D	Distribution System District and residual	ibution System:	Free Chlorine		Combined Chlorine (Chloramines)	a a analysis a community of the contraction	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Lowest Residual DisinfectantEmergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of		Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Repair o	y or Abnormal Operating Conditions; or Maintenance Work that Involves Water System Components Out of Operation
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II. Certification by Authorized Representative

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15 16

am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my inowledge and belief.

12/4/09 nn 6 lignature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title

Page 1



See Page 2 for Instructions.

1. General Water System Information for t	he Month/Year of:	December, 2009			
Consecutive System Name: Oakwood				PWS Identifica	tion Number: 3054100
Consecutive System Type:		Non-Transient Non-Community	Transient Non-Community		
Number of Service Connections at End of		203	Total I	Population Served at End of M	fonth: 477
Consecutive System Owner:	Aqua Utilities,Fl.				
Contact Person:	William Trendel		Conta	ct Person's Title: Senior Facili	
Contact Person's Mailing Address:	140 Hope Street		Longwood	State: FL	Zip Code: 32750
Contact Person's Telephone Number:	(407) 339-5424		Conta	ct Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:			/		

II. Daily I	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distri	Data for the Month/Year of :	Decen	mber, i	2009 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal O Repair or Maintenance V Taking Water System Co Operation	perating Conditions; Vork that Involves omponents Out of m	Day of the Month	- Lowest Residual Disinfectant Concentration at Remote Point, in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel Printed or Typed Name C-6411 License Number or Title

Signature and Date



p.7

4073397490

MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER **ORGINATING FROM A SUBPART H SYSTEM**

See Page 2 for Instructions.

e Month/Year of	January, 2010		The second se	And a set of the state of the s
			PWS Identifica	tion Number: 3054100
Community C N	on-Transient Non-Community	[] Transient Non-Community		a Male dana ananahana i i an a 🦷 a maggangang pananananan ya ana a ananananingga i i ng Panana at a nana
fonth: 20) 3 ·	Total	Population Served at End of M	(onth: 477
Aqua Utilitics, Fl.		and the second	** When more and a construction property in the symmetry and in some construction.	
William Trendel		Conta	et Person's Title: Senior Facili	ties Operator
140 Hope Street		Longwood	State: FL	7.in Code: 32750
(407) 339-5424		Conta	ct Person's Fax Number:	(407) 339-7490
			an or a second sec	
	Nonth: 20 Aqua Utilitics,FL William Trendel 140 Hope Street	Image: Community Image: Non-Transient Non-Community Month: 203 Aqua Utilities,Fl. William Trendel 140 Hope Street	Image: Second	PWS Identifica PWS Identifica Image: Community

	Distribution System Disinfectant Residua		anuary,		
ype of D	isinfectant Residual Maintained in Distri	bution System: Free Chlorine		Combined Chlorine (Chloramines)	Chlorine Dioxide
bay of the Mointh	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency of Abnormal Operating Condition Repair of Maintenance Work, that Involves Taking Water System Components Out of Operation	Si Day of Use	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Cenification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief. and the second sec

2/7/10 \mathcal{L} Signature and Date

William Trendel Printed or Typed Name

Page

C-6411 License Number or Title

DEP Form 62-555,900(4) Sife Jugust 28, 2003



p.6

See Page 2 for Instructions.	February, 2010	affallen i helfellen Ministerie Africanen en		
1. General Water System Information for the	e Month Year of February, 2010		PWS Identificat	tion Number: 3054100
Consecutive System Name: Oakwood	Community TI Non-Transient Non-Community	Transient Non-Conin	unity	
Consecutive System Type:		1	Total Population Served at End of M	Ionth: 477
Number of Service Connections at End of M	Addm.	3	. in the literature	
Consecutive System Owner:	Aqua Utilities,Fl.		Contact Person's Title: Senior Facilit	ties Operator
Contact Person:	William Trendel	Longwood	State: FL	Zip Cude: 32750
Contact Person's Mailing Address:	140 Hope Street		Contact Person's Fax Number;	(407) 339-7490
Contact Person's Telephone Number:	(407) 339-5424		Contact / crossing / ac resident	
Contact Person's E-Mail Address:			د می می باد. 1993 - مان می باد. 1993 - مان می باد. این از مارد در با با می میشنانی ورز در بوس با می می باد. این می می می می	

II. Daily D	Distribution System Disinfectant Residual	And the bloch the bloch the bloch	bruary,	Combined Chlorine (Chloramines)	Chlorine Dioxide
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Jun 09 10 12:24p

HL. Certification by Authorized Representative

I am ouly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. 3/7/10 iliam Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title 22

DEP 50m 62-555 900(4) * EM Sugust 28, 2003 Pa



See Page	I for lastructions.								
		and the particular and the statement of the	March, 2019						
	rt System Name. Onlewood						PWS identificat	non Number 3054100	
		Community [] ?	Non-Transient Non-Community	1	Transient Non-Ci	DETIND WALLEY			
	Service Connections at End of Month	- 12 G V V	10.3			Total Population S	erved at End of Me	unth	477
	ve System Owner	Aque Utilines, Fl							
Contact Pr		William Tradici				Contact Person's T	nic Senior Facility	es Operator	
	rion's Mailing Address	140 Hope Street			Longwood		State FL	Zip Code 31750	
	rson's Telephone Number	(407) 339-5424				Contact Person's F	an Number	(407) 339-7490	
Contact Pr	rson's E-Mail Address								
Call Manager		CI CONSTRUCTION + CONSTRUCTION		March. 2	110				
Type of D	sinfectan Residual Maintained in Distr	bation System	Free Chlonne		Combrace Chieve	ne (Chiaranatines)		Chlorine Decaide	
		Emiliana de A	bnormal Operating Conditions					And the second	des Constitutions
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1			ntenence Work that Involves	Day of		idual Disinfectant		Maintenance Wor	
Day of the	Concentration at Remote Point	I AKING WATCH	System Companents Out of	i de		n at Remote Point	Taking V	Vater System Comp	conents Out of
Maurt	in Distribution System, mg/L		Operation	Menth	in Distributi	on System, mg/L		Operation	
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	and the second second second second								

Lam duly authorized to sign this report on behalf of the consecutive system identified in Part Lon this report. Locatify that the information provided in this report is suit and accurate to the best of my knowledge and belief

4/4/10 Signanure and Dale

William Lecidel Primed or Typed Name

C-6411 Lidense Number in Fale

CEP Form 62 555 900 4 E Pendive August 28 2003

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Page 1

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Number of Service Linnectrons at End of Month Consecutive System Owner Contact Person Contact Person's Mailing Address Contact Person's Telephone Number	April, 2016 7] Community [7] Non-Transient Non-Community 263 Again E-(diffues,F) William Trendel (407) 330-5424	C Franssont Non-Co Congwood	ommunity Totat Population Ser Contact Person's Titl		477 ¢ 32759
Contact Person's Y-Mail Address	ribution System	April, 2010 [7] Combined Chlos	ine ((Tiloranimes)	Chlonn	
Type of Disinfectant Residual Muleitaned in Dist Lowest Residual Disinfectant Concentration at Remote Point Meetin in Distribution System. mg/L 1 59 2 3 4 5 6 18 7 7 8 13 9 10 11 12 13 2 7 14 14 15 12	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves	E. Lowest Res	idual Disinfectant an at Remote Point ion System, my/l 0.5 0.5 0.5	Repair or Maintenau Taking Water Syste	nal Operating Conditions: nee Work that Involves rm Components Out of erration

Lan duiy author zed to optithis report on behalf of the conjectative system donated in Part Lin this report. Leands that the information provided to this report is true and accurate to the best of my Resolution and Bellet (1997) (1

Livense Number of Title

Dona 1

	Fort Pierce, FL 34946 FDOH # E96080 S	55 St. Johns Par Suite 1300 anford, FL 3277 DOH # E8350	IAT rkway 1 9				P Receipt D	Phone (772) 465-8 Time:	tal Testing 19584 Fax (777 1 6 1 0	2) 467-1584 [403
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System	Name: OAKWOOD	./	102				nple Accept				21
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	ste/Time: 4/6/10 1403							e/Time:			
	f Supply: Community Water System	Noncom Swimmi		ater System	- contract	ntransient-l ttled Water	Noncommur	nity Water	System	Limited Us Other	se System
Reasor	n for Sampling: (check only one)	e Compliance	Rep	eat	Repla	cement	Main (Clearance	W	lell Survey	Other
Sample	Collection Date(s): 4/6/10	2		ÿ						TE OF AN	
Sample	TO BE COMPLETED BY COLLECTO SAMPLE POINT		Comple	District			alysis Meth	bd		MUG (Colilert	
Number	(Location or Specific Address)	Collection Time	Sample Type ¹	Disinfect Res'd mg/L	рН	Non Coliform	Total Coliform	E. Coli	Data Qual. ²	Lab S Nun	ample nber
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2	3235 CEDAR	1340	D	1.7	8.3		A			2136922	5002
commun	of disinfectant residuals for routine and repeat ity and nontransient noncommunity systems so uding 4,900. Do not include raw or plant sampl	erving population	ns up to	1.8		TNTC-Too	Present A - / Numerous to sence of gas	Count TA	-Turbid	Growth Analyst:	ML
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	A UTIK, FL. 40 HOPE St. 5NGWOOD, FL. 32	750	Page	relac	, E	Date Review	ry e Collection ir ved by DEP/ Reviewing O	DOH:	· · · · · ·	eat Samples Rec lacement Sample	
1 DEP Sar	mple Types: D=Distribution (Routine Compliance); C=Repe	at or Check; R=Ray	r; N=Entry to	Distribution; P=F			0	1	ned in Florida	Administrative Code	e Rule 62-160
Top Form - (DRIGINAL		Midd	the Form - LABORAT	TORY					Pink Form - 0	CLIENT



Florida Department of Environmental Protection

Central District 3319 Maguire Boulevard, Suite 232 Orlando, Florida 32803-3767 Charlie Crist Governor

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary

VIA EMAIL JMLIHVARCIK@AQUAAMERICA.COM

May 18, 2010

OCD-PW-SS-10-0347

Mr. Jack Lihvarcik Aqua Utilities Florida, Inc. 1100 Thomas Avenue Leesburg, FL 34748

> Brevard County – PW Oakwood Manor (Consecutive to Mims) PWS ID Number 3054100

Dear Mr. Lihvarcik:

This confirms a visit to the subject consecutive community public water system on May 12, 2010, by Chris Rossing to conduct a sanitary survey inspection. A copy of the sanitary survey inspection report is enclosed for your reference and records.

Deficiencies found during the sanitary survey and in Department records are listed in the enclosed report. These deficiencies shall be corrected in order to return to compliance with *Florida Administrative Code* (F.A.C.) Rules 62-550, 62-555, 62-560 and 62-602.

Please correct the indicated deficiencies, and notify the Department in writing that the deficiencies have been corrected, **no later than July 2, 2010**. (You may use the attached response form to indicate the corrective actions taken.)

If you have any questions, please contact Chris Rossing by e-mail at Chris.Rossing@dep.state.fl.us or by phone at (407)893-3318, extension 2294.

Sincerely,

BAuth

Reggie Phillips, Environmental Supervisor II Drinking Water Compliance and Enforcement

RFP/cr Enclosures

cc: Harry Householder, Operations Manager (HHOUSEHOLDER@AQUAAMERICA.COM) Patrick Farris, Environmental Compliance Specialist (<u>PAFARRIS@AQUAAMERICA.COM</u>) Chris Rossing, DEP Drinking Water Compliance and Enforcement

State of Florida Department of Environmental Protection Central District

SANITARY SURVEY REPORT **Consecutive Water Systems – No Retreatment**

System Name OAKWOOD MANOR (CONSECUTIVE TOSystem Location3200 Brockett Road, Mims, FL 32754Owner NameAqua Utilities Florida, Inc.Owner Address1100 Thomas Avenue, Leesburg, FL 3474Contact PersonPatrick FarrisThis Survey Date5/12/10Last Survey Date100 Thomas Avenue	Phone 407/880-0100 Phone 352/435-4028
PWS TYPE & CATEGORY/CLASS Consecutive/Community (6) Consecutive/Non-transient non-community Consecutive/Non-community PWS STATUS Approved system with approval number & date	PURCHASED WATER SOURCE PWS Name Mims Water Treatment/North Brevard PWS ID # 3050834 Source Design Capacity 2,400,000 gpd Treatment: Disinfection, ammoniation, sand filtration, Aqua-Mag, lime softening, fluoridation AUXILIARY POWER SOURCE
Accepted Unapproved system	Yes None Not Required Source Purchased
SERVICE AREA CHARACTERISTICS Subdivision Food Service: Yes No N/A	OPERATION & MAINTENANCE Certified Operator: ∑ Yes ∑ No ∑ Not required Operator(s) & Certification Class-Number: Bill Trendel C-6411 Operation & Maintenance Logbook ∑ Yes ∑ No
DISTRIBUTION SYSTEM Number of Service Connections 203 Population Served 477 Basis Operator	MORs submitted regularly? \square Yes \square No \square N/A Data missing from MORs? \square No \square Yes \square N/A
Flow Measuring DeviceMaster Meter (purchased)Chlorine ResidualFree = 0.2 Total = 1.1 Backflow Prevention Devices:YesNo	Comments
Bacteriological Monitoring <u>Monthly</u> Coliform Sampling Plan: Yes No N/A Lead and Copper Sampling <u>Currently triennial</u>	3 Years/CCR'sYesNo5 Years/BacteriologicalsYesNo12 Years/Lead & CopperYesNo10 Years/MOR'sYesNo
Comments	Asbestos Waiver/Results
CROSS CONNECTION CONTROL # BFPAs 1 # Tested _1 WWTP RPZ N/A Date Tested N/A Written Plan No Date N/A Cross-connections None observed Comments	WRITTEN PROGRAMS Operation & Maintenance Manual Yes No Preventive Maintenance Program Yes No Flushing Program Yes No Records Yes No Isolation Valve Exercise Yes No Records Yes No Emergency Response Plan Yes No

PWS	ID # _	3054100	
Date		5/12/10	

DEFICIENCIES:

1. Failure to keep Consumer Confidence Reports (CCRs) on file for 3 years.

Any system subject to this subpart must retain copies of its CCR for no less than 3 years. [Rule §141.155(2)(h), 40 CFR 141 Subpart O]

2. Failure to provide asbestos waiver/results.

A system without asbestos-containing components shall certify to the Department in writing, using Form 62-555.900(10), that it is asbestos free. Certification shall satisfy the requirements of subsections (1), (2), and (3) above, and shall be submitted each nine-year compliance cycle during the specified year the system is required to monitor. [Rule 62-550.511(4), F.A.C.]

- **3.** Failure to establish and implement a cross-connection control program. The written cross-connection program shall include:
 - i. Written legal authority.
 - ii. Written policy establishing where backflow prevention at water service connections is mandatory because of actual or potential cross-connections.
 - iii. Written policy regarding ownership, installation, testing, and maintenance of backflow preventers at service connections.
 - iv. Written procedures for assessing new or existing service connections to determine the need for backflow preventers at service connections.
 - v. Written procedures for keeping cross-connection control program records.
 - vi. Written procedures for educating customers about cross-connection control and backflow prevention.
 - vii. Written procedures for investigating and responding to, backflow incidents.

Community water systems, and all public water systems that have service areas also served by reclaimed water systems regulated under Part III of Chapter 62-610, F.A.C., shall establish and implement a routine cross-connection control program to detect and control cross-connections and prevent backflow of contaminants into the water system. This program shall include a written plan that is developed using recommended practices of the American Water Works Association set forth in *Recommended Practice for Backflow Prevention and Cross-Connection Control*, AWWA Manual M14, as incorporated into Rule 62-555.330, F.A.C. [Rule 62-555.360(2), F.A.C.]

Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant source is eliminated. [Rule 62-555.360(3), F.A.C.]

PWS ID 7	#3054100
Date	5/12/10

COMMENTS/REMINDERS:

- The consumer confidence report (CCR) must be delivered to consumers and the Department no later than July 1, annually, and certification of delivery of the CCR must be submitted to the Department no later than August 10, annually.
- For monitoring schedules and information about the Drinking Water Program, please visit the Central District's Drinking Water website at http://www.dep.state.fl.us/central/Home/DrinkingWater/default.htm.

I Date	5/18/10
II Date	5/18/10
	II Date

RESPONSE

Please provide any changes to the following:

	umber: <u>3054100</u> : <u>Oakwood Manor (Consecutive to Mims)</u>	Business Name:	
Mailing Ad	dress:	Owner(s) Name:	
		Mailing Address:	
Date:		Phone Number(s):	
		Fax #:	
		E-Mail Address:	
Drinking V 3319 Magu Orlando, F	partment of Environmental Protection Vater Compliance/Enforcement Program ire Boulevard, Suite 232 lorida 32803 Chris Rossing, Environmental Specialist II		
	to the Department's Sanitary Survey Repo ctions were done to correct the listed deficience		dated May 12, 2010, the
Deficiency <u>Item No.</u>	Corrective Action		<u>Date Done</u>

(Attach additional sheet if necessary)

I hereby certify to the correctness of the above information:

PWS Owner/Representative Signature: ______

Name of PWS Owner/Representative:

(Please Type or Print)



Aqua Utilities Florida, Inc. 1100 Thomas Avenue Leesburg, FL 34748

T: 352.787.0980 F: 352.787.6333 www.aquautilitiesflorida.com

June 18, 2010

Chris Rossing FDEP CD 3319 Maguire Boulevard, Suite 232 Orlando, FL 32803-3767

RE: Reply to Sanitary Survey Oakwood Manor PWS ID No. 3054100 Brevard County

Dear Mr. Rossing:

This letter is in response to your inspection of the facility referenced above on May 12, 2010.

- 1. Three years of Consumer Confidence Reports are maintained electronically and hardcopies at the Longwood field office. Copies of the past three years CCRs are attached for your review.
- 2. The asbestos results are attached for your review and will also be added to the records maintained electronically and in hardcopy at the Longwood field office.
- 3. Attached is a copy of Aqua Utilities Florida Cross Connection Control Policy.

If you have any questions, please contact me at (352) 435-4029 or by e-mail at <u>PAFarris@aquaamerica.com</u>. Thank you.

Sincerely,

attick

Patrick A. Farris Environmental Compliance Specialist Aqua Utilities Florida, Inc.

Enclosures: CCRs Asbestos Sampling Plan & 2003 Results CCCP

cc: Will Fontaine, via e-mail Harry Householder, via e-mail Michael Pickel, via e-mail

2007 Annual Drinking Water Quality Report Oakwood Manor PWS ID # FL3054100

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Oakwood Manor purchases its water through an interconnection with Brevard County Utilities, MIMS plant. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2004. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination due to two potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E) Radioactive contaminants, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1.800.426.4791).

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow. Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable. ND: means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample. Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample. PicoCurie per liter (pCi/L): measure of the radioactivity in water.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

2007 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2007 for Oakwood Manor PWS ID #FL3054100. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

* Except as noted, results in the Level Detected colu	imn are the highest average at any sampling point or the highest single detected level at a
sampling point, depending on sampling frequency.	

Radiological Conta			nty System				
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	10/02	N	1.4	NA	0	15	
Radium 226 + 228 or combined radium (pCi/L)	10/02	N	0.2	NA	0	5	Erosion of natural deposits
Inorganic Contamir	ants- Breva	ard County	System		l	4	
Asbestos (MFL)	10/02	N	0.8	NA	7	7	Decay of asbestos cement water mains; erosion of natural deposits
Arsenic (ppb)	06/05	N	1.2	NA	N/A	10	Erosion of natural deposits
Barium (ppm)	06/05	N	0.0026	NA	2	2	Erosion of natural deposits
Cyanide (ppb)	06/05	N	8.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	06/05	N	0.56	NA	4	4	Erosion of natural deposits
Lead (point of entry) (ppb)	06/05	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	06/05	N	0.013	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	08/07	N	0.28	NA	10	10	Runoff from fertilizer use; leaching from
Nitrite (as Nitrogen) (ppm)	08/07	N	0.04	NA	1	1	septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	06/05	N	0.2	NA	50	50	Erosion of natural deposits
Sodium (ppm)	06/05	N	32.0	NA	NA	160	Salt water intrusion, leaching from soil

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System

For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2007	N	3.5	1.6- 3.6	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Haloacetic Acids (ppb)	08/06	N	22.2	NA	NA	60	Byproduct of drinking
TTHMs [Total Trihalomethanes] (ppb)	08/06	N	23.3	NA	NA	80	water disinfection

Disinfectants- Oa	Disinfectants- Oakwood Manor System									
Contaminant and Unit of	Dates of Sampling	MCL Violation	Level	Range of						
Measurement	(mo./yr.)	Y/N	Detected	Results	MRDLG	MRDL	Likely Source of Contamination			
Chlorine (ppm)	2007	N	2.2	0.5- 3.7	4	4	Water additive used to control microbes			

Lead and Copper (Tap Water)- Oakwood Manor System										
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination			
Copper (ppm)	08/07	N	1	0	1.3	1.3	- Corrosion of household plumbing			
Lead (ppb)	08/07	N	0.0645	0	0	15				

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

2008 Annual Drinking Water Quality Report Oakwood Manor PWS ID # FL3054100

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

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- D) Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum
- production, and can also come from gas stations, urban stormwater runoff, and septic systems. E) Radioactive contaminants, which can be naturally occurring or result from oil and gas production and mining activities.

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PicoCurie per liter (pCi/L): measure of the radioactivity in water.

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Radiological Conta			ity system			· · · · · · · · · · · · · · · · · · ·	
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Combined radium (pCi/L)	07/08	N	0.6	NA	0	5	Erosion of natural deposits
Inorganic Contamir	nants- Breva	ard County	System				
Arsenic (ppb)	07/08	N	1.7	NA	N/A	10	Erosion of natural deposits
Cyanide (ppb)	07/08	N	9.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	07/08, 10/08	N	2.1	0.53 - 2.1	4	4	Erosion of natural deposits
Lead (point of entry) (ppb)	07/08	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	07/08	N	0.10	NA	10	10	Runoff from fertilizer use; leaching from
Nitrite (as Nitrogen) (ppm)	07/08	N	0.04	NA	1	1	septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	07/08	N	42.0	NA	NA	160	Salt water intrusion, leaching from soil

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System

For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2008	N	2.94	2.3 - 3.7	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Haloacetic Acids (ppb)	07/08	N	28,4	NA	NA	60	Byproduct of drinking
TTHMs [Total Trihalomethanes] (ppb)	07/08	N	59	NA	NA	80	water disinfection

Lead and Copper (Tap Water)- Oakwood Manor System										
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination			
Copper (ppm)	08/07	N	0.0645	0	1.3	1.3	Corrosion of household plumbing			
Lead (ppb)	08/07	N	1.2	0	0	15				

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

Aqua Utilities Florida P.O. Box 490310 Leesburg, FL 34749

2009 Annual Drinking Water Quality Report Oakwood Manor PWS ID # FL3054100

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Oakwood Manor purchases its water through an interconnection with Brevard County Utilities, MIMS plant. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2009. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination due to three potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum
- production, and can also come from gas stations, urban stormwater runoff, and septic systems. E) Radioactive contaminants, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by

public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of

containants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1.800.426.4791).

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND: means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (µg/I): one part by weight of analyte to 1 billion parts by weight of the water sample.

PicoCurie per liter (pCi/L): measure of the radioactivity in water.

2009 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except Aqua cultures montain formation for contaminants in your culturing water according to receiver and state laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2009 for Oakwood Waser DWS in HEL2054400. The Environmental Detection Account (EDA) requires monitoring of our 90 diction water contaminants. Then where indicated outerwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2009 for Oakwood Manor PWS ID #FL3054100. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those extensions listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for come contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some enterpiected has then are the only contaminants for a there explanately the enterpiected has then are frequently. Some of our data there are a set and the set of the enterpiected has a set above of the enterpiected has the enter and instead in the table below are the only contaminants between in your uninking water. The state allows us to monitor for some ants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though

containing the more than one year old.	at any sampling point of the	_
representative, are more than one year old.	are the highest average at any sampling point of and o	
reprocession in the Level Detected column	are the s	_

Except as noted, results ampling point, depending Radiological Contami	g on samplin	g frequency vard Coun	ity System				Likely Source of Contamination
adiological Contain	Dates of Sampling	MCL. Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	
Measurement Radium 226 + 228 or Combined radium	(mo./yr.) 07/08	N	0.6	NA	0	5	Erosion of natural deposits
(pCi/L)	1 Drovi	ard Count	v System		1	10	Erosion of natural deposits
(pCi/L) Inorganic Contamin	ants- Brev	N	1.7	NA	NA	10	Discharge from steel metal factories;
Arsenic (ppb)	07/08	N	9.0	NA	200	200	discharge from plastic and tertilizer
Cyanide (ppb)	07/08	N	0.0				Erosion of natural deposits; discharge
Fluoride (ppm)	6/09, 10/09	N	0.98	0.40 - 0.98	4	4.0	Water additive which promotes strong teeth when at optimum levels between
Lead (point of entry)	07/08	N	0.9	NA	NA	15	
(ppb)	07706						Erosion of natural deposits; discharge from refineries and factories; runoff from
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	landfills; runoff from cropland
Nitrate (as Nitrogen)	7/2009) N	0.24	NA	10	10	septic tanks, sewage; erosion of natural
(ppm) Nitrite (as Nitrogen) (ppm)	7/2009	9 N	0.012	NA	1	1	
Sodium (ppm)	07/08	N	42.0	NA	NA	16	Salt water intrusion, leaching from soil

Stage I Disinfectants and Disinfection By-Products - For Chlorine, the level detected is the highest annual average of the quarterly averages. Range of Results is the range of individual sample results. For Haloacetic Acids and TTHM, the level detected is the highest level

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination	
Oakwood Manor	(incompany)	1	L					
Chloramines (ppm)	2009	N	2.86	1.7 – 3.3	MRDLG =4	MRDL =4	Water additive used to control microbes	
Brevard County							1	
Total Haloacetic Acids (ppb)	8/2009	No	13.2	NA	NA	60	Byproduct of drinking water disinfection	
TTHMs [Total Trihalomethanes] (ppb)	8/2009	No	62	NA	NA	80		

Lead and Cop	oper (Tap W	ater)- Oakv	vood Manor	System			T	
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination	
Copper (ppm)	08/07	N	0.0645	0	1.3	1.3	Corrosion of household plumbing	
Lead (ppb)	08/07	N	1.2	0	0	15		

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.



ASBESTOS-FREE CERTIFICATION OR ASBESTOS SAMPLING PLAN FOR PWSs

See page 2 for instructions.

1. General Information			
Public Water System (PWS) Name: Oakwood		M Community	Non-Transient Non-Community
PWS Identification Number: 3054100	PWS Type	: Community	
PWS Owner: Aqua Utilities Florida, Inc.		C I T'I	. Field Coordinator
Contact Person: Will Fontaine		Contact Person's Titl	e: Field Cooluliator
Contact Person's Mailing Address: P.O. Box 2480			
City: Lady Lake	State: Fl	Zip Code: 3	32158-2480
Contact Person's Telephone Number: 352-266-2953		Contact Person's Fax	x Number: 352-787-6333.
Contact Person's E-Mail Address: wmfontaine@aquaar	merica.com		

H. Asbestos-Free Certification

I am duly authorized to sign this form on behalf of the PWS identified in Part I of this form. I certify that, to the best of my knowledge and belief, there are no asbestos-cement pipes or other asbestos containing components in said PWS. This certification is for the

scheduled monitoring year of

Printed or Typed Name

III. Asbestos Sampling Plan

Signature and Date

A. Scheduled Monitoring Year: 2011

B. Asbestos Sampling Location*: 3083 Dover Road

- * The asbestos sampling location shall be a tap served by asbestos-cement pipe. (This does not mean that the asbestos sampling location must be a consumer's tap. The asbestos sampling location may be any convenient place in a portion of the distribution system served by asbestos-cement pipe.)
- C. Reason Why Above Asbestos Sampling Location Was Chosen: Sampling location has the most exposure to the asbestos piping due to being the furthest location from the point of entry.

D. Conditions Under Which Asbestos Sample Will Be Taken*: During the summer months when the water is most aggressive (June, July August, or september of 2011.

* Asbestos samples shall be taken under conditions where asbestos contamination is most likely to occur. (Waters with low pH [less than approximately 7.5 or 8, unless the waters contain high calcium, alkalinity, and silicate levels], very high sulfate concentrations, and polyphosphates are particularly destructive to asbestos-cement pipe.)

ABORATORIES, INC.

HARBOR BRANCH ENVIRONMENTAL

August 27, 2003

To: Jim Smith Florida Water Services 401 Fisher Dr Deltona, FL 32725

Client:Florida Water ServicesWorkorder ID:1702DW Oakwood AsbestosReceived:8/18/03 10:15

[2114973]

Dear Jim Smith;

Analytical results presented in this report have been reviewed for compliance with the HARBOR BRANCH Environmental Laboratories Inc.'s (HBEL) Quality Systems Manual and have been determined to meet the standards referenced in the July 1999 National Environmental Laboratory Accreditation Program (NELAP) Quality Manual. The associated Quality Control parameters have been evaluated and meet all Method, Compliance and Standards criteria unless otherwise noted on a Quality Control Summary Page.

FDOH Safe Drinking Water Act, Clean Water Act and RCRA Certification #'s:

E96080, E83509, E82417, E85370, E84418

Analytical results herein reflect the values obtained from tests performed on samples as received by the laboratory unless otherwise indicated.

Should you have any questions, please contact HBEL at (772) 465-2400, Ext. 285 and reference the HBEL Workorder ID [Number].

Respectfully submitted,

Cindy Cromer ⁴ HBEL, Inc. Director

Note: This report is not to be copied, except in full, without the expressed written consent of the HARBOR BRANCH Environmental Laboratories, Inc.

Southeast Florida FDOH # E96080

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Central Florida FDOH # E83509



FDOH # E82417 Southwest Florida FDOH # E85370 West Central Florida FDOH # E84418

HARBOR BRANCH ENVIRONMENTAL LABORATORIES, INC. 1500 U.S. I North Fort Plance R. 34946 Thoma: (772) 455-2400, ext 285 Fax (772) 457-584

Method Narratives/FDEP Data Qualifiers

Received:	Florida Water \$ 1702DW Oakw 8/18/03 10:15	ood Asbestos	[2114973]	
MB=Method Blank LC	S=Laboratory Control Sam	le LUSU=Laboraiory Control Sample Dup	plicate MS=Matrix Spike MSD=Matrix Spike Duplicate DUP=Sample Duplicate	
HBEL Sample Number	Sample ID Analytic	Method Narratives (If) al Method	f Applicable)	-
HBEL Sample Number	Sample ID Paramet	Data Qualifiers (If App <u>Method</u> Qualifier Co	- 100 B B 10	
Method HBEL Ba	tch Analyte	Quality Control Sum Analytical Issue	-	

Southeast Florida FDOH # E96080

Central Florida FDOH # E83509 Northeast Florida FDOH # E82417 Southwest Florida FDOH # E85370

West Central Florida FDOH # E84418

Page 2 of 4

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HARBOR BRANCH ENVIRONMENTAL LABORATORIES, INC.

CERTIFICATE OF ANALYSIS

[2114973]

Client: Florida Water Services

Workorder ID: 1702DW Oakwood Asbestos

Parameter	Result	Units	Reporting Limit	Method	Laboratory Batch		Analyzed Date/Time	Analyst	Lab ID
Laboratory ['] ID: Sample ID:	2114973001 3083 Dover Grab			Sampled: 08/1 Matrix: Water		Receive	d: 08/18/0 n As Receive		
Asbestos	0.10 U	mt/L	0.10	EPA 100.2		and a feature of the second	08/19/03 10:1	0 EMS	E87804

¹Result Qualifiers: U = Not Detected ND = Not Detected

outheast Florida FDOH # E96080

Central Florida FDOH # E83509 Northeast Florida FDOH # E82417

> 2 ne 11

Southwest Florida FDOH # E85370

West Central Florida FDOH # E84418

Orintad. 2/77/02

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Page 3 of 4

34946 Fax (772) 467-584 rt Pherce FL 10. Ext. 285

ORIES, INC.

HARBOR BRANCH VIRONMENTAL

EN

INORGANIC ANALYSIS 62 - 550.310 (1) (PWS030)

Client	Florida Water Servi	ces	Workorder:	1702DW Oakw	ood Asbestos	
Sample Location:	3083 Dover Grab					
Sample Number:	2114973001					
Sampling Date:	8/18/03 9:20					
Preservative:	Nitric Acid, Sodium	Hydroxide, or Nor	ne			
Date Received:	8/18/03 10:15					2
ID Paramete	er MCL	Result	Method	MDL	Date	Lab ID

1094 Asbestos

[7]

0.10 U mf/L EPA 100.2

0.10 8/19/03 E87804

West Central Florida FDOH # E82417 Southwest Florida Southeast Florida Central Florida Northeast Florida FDOH # E84418 FDOH # E85370 FDOH # E96080 FDOH # E83509 -

HARBOR BRANCH ENVIRONMENTAL LABORATORIES, INC. 5600 US I North, Fort Pierce, FL 34946 Phone: (772) 465-2400, Ext 285 Fax: (772) 467-584 mpany: Horia Wator Sources	Chain-of-Custody and Agreement to Perform Services	CO ALL FD 5390 FH	SE BALL POINT PEN PRESS HARD MPLETELY FILL OUT NON GREYED AREAS PRINT LEGIBLY DOH # E82417 Inst Coast Hwy., Suite 1 dina Beach, FL 32034	FDOH # 8	307 Coolidge Avenue L 34946 Lehigh Acres, FL 33936 E63509 FDOH # E84418 Rd., Suite 1 2514 Osawaw Blvd.
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Detena zip:	Shipment:	Temperature	Custody Seals	pH Checked	LAB # 2114973
1000: 3507 5 11-2181 Fax:	Standard Laboratory	Checked Y N	Intact Y N	Y N	approx 1
ione: DN 2401 Fax.	Turn Around Time		PRESERVATIVE		Preservation Key
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ampled By: K.Block	Requires Laboratory Approval	5			
ABID	ILE DESCRIPTION	Asher			COMMENTS
	Daver	X			
00/ 6/18/03 GRC 6 Qui 1 3053					
	** Matrix: S=Solid SL=Sludge DW		GW=Ground Water SW	Surface Water V	W=Wastewater M=Marine
* Sample Type: G=Grab C=Composite O=Other		and the second	RELINQUISHE		
RELINQUISHED BY & Dender	RELINQUISHED BY			aber ber t	1
DATE/TIME ALGOS 10:15	DATE/TIME	m 1600		R HBEL CUST	ODY BY TH TH
DATE/TIME 2-1, 8/ 02 1015	DATE/TIME		DATE/TIME	8-19-03	010:41
Distribution: WHITE with REPORT; YELLOW for FILE; PINK to CLIE					PAGE of

43

PUBLIC DRINKING WATER ANALYSIS PUBLIC WATER SYSTEM INFORMATION	
System Name: Oakcare	1.D. #: 3054100
	Phone #:
Type check one: () Community () Nontransient Non	community () Noncommunity
SAMPLE INFORMATION (to be completed by same	bler)
Sample Date (MMDDYY) 08/18/03	Sample Time: 9:20
Sample Location (be specific): 3083 Dover Grab	
Sampler Name and Phone: RHenders	
Sampler's Signature:	Title: Opentil
Check Type(s): () Oistribution () Clearance () Thm Max Res Tim () Distrib entry point () Raw	 () Resample of Lab Invalidated Sample () Plant Tap () Composite of Multiple Sites Attach a format for each site
LABORATORY CERTIFICATION INFORMATION (00 00 0	ompleted by lab) - ATTACH HRS ANALYTE SHEET
Lab Name Harbor Branch Environmental Laboratory	HRS #: E96080 Expiration Date 06/30/04
Address: 5600 U. S. 1 North, Fort Pierce, FL 34946	Phone #: (772) 465-2400 Ext 285
Address. 5000 0. 5. Thorn, Fort Flerce, TE 54540	Phone #. (112) 403-2400 LAI 203
Subcontracted Lab HRS#: E87804	
	Group Analyzed: ASBESTOS
Subcontracted Lab HRS#: E87804	Broup Analyzed: ASBESTOS PLE NUMBER: 2114973001
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EMSLORLANDO

LMSL Analytical, Inc.

5125 Adanson Street Suite 900 Orlando, FL 32804 Phone 407-599-5887 Fax 407-599-9063

Client Harbor Branch Environmental Laboratories Address 5600 US 1 north Address Fort Pierce, FL 34946 Florida Department of Health Asbestos in Drinking Water Date August 27, 2003 Ref Number: 340301239 State Certification # E 87804 Effective July 1, 2003 through June 30, 2004

Project: Date and Time collected 8-18-03 9am and 9:20am Date and Time Received by Laboratory 8-19-03 9:46am

Effective Filter Area (EFA) : 1256 Filter Pore Size: 0.20 microns

Asbestos Analysis in Water by Transmission Electron Microscopy (TEM) Performed by Method EPA 600/R-94/134-(100.2)

Sample ID	Location	# of Asbestos Structures > 10 <i>um</i>	Types of Asbestos	# of Non Asbestos Structures	Analytical Sensitivity (MFL)	95% Confidence LImit (Lower-Upper)	Concentration of Asbestos (MFL)
2114973001	Oakwood	None	None	None	<0.1	<0.00 - <0.2	<0.1
		Detected	Detected	Detected			
4974001	Kingswood	None Detected	None Detected	None Detected	<0.1	<0.00 - <0.2	<0.1

If you have any questions, please don't hesitate to call Mark Antonelli at 407-599-5887.

Analyzed on 8-19-03 at 1:30pm to 2:05pm and 2:10pm to 2:45pm by Mark Antonelli.

The results meet all requirements of the NELAC Standards

EPA number is FL-01176

Filtered by Mark Antonelli on 8-19-03 at 10:10am.

Sonicated on 8-19-03 at 9:50am to 10:05am.

antonell.

aboratory Director

Comments:

Page 1 of 6

Sample collection and containers previded by client, acceptable battle blank level is defined as 2,01MFL > 10um. When level than 10ur (Dere are detected the collocation) is defined as 20,01MFL > 10um. When level than 10ur (Dere are detected the collocation)

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Utilities Florida

CROSS CONNECTION CONTROL POLICY

August 2007

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- SECTION 9 RESULTS OF NON-COMPLIANCE
- SECTION 10 FIRE SYSTEMS

References:

AWWA -- Manual of Cross Connection (M14) ASSE - American Society of Sanitary Engineers SBCC -- Southern Building Code (Standard Plumbing Code) FCCCHR of USC -- University of Southern California Foundation for Cross Connection Control and Hydraulic Research (Manual for Cross Connection Control)

FOREWORD

This Manual of Cross-Connection Control has been prepared by Aqua Utilities Florida, Inc. to establish an effective cross connection control program in Aqua Utilities Florida, Inc. water service areas in accordance with directives issued by the Florida Department of Environmental Protection and directives issued on the Federal level. Responsibilities for the control of cross connections are shared by the consumer, Aqua Utilities Florida, Inc. and the Florida Department of Environmental Protection, Aqua Utilities Florida, Inc. and the Florida Department of Environmental Protection, Aqua Utilities Florida, Inc. intends to supply the safest and best drinking water possible to its service areas through an ongoing quality program of potable water delivery. The basic procedure for insuring the proper functioning of the public water supply through a coordinated program to prevent pollution or contamination of potable water supplies by cross-connections is contained herein.

This manual supplements and extends present guidelines for Aqua Utilities Florida, Inc. potable water supply, treatment and distribution system by providing a means of detecting and eliminating unprotected cross-connections in the interest of public safety. Aqua Utilities Florida Inc. enjoys a positive relationship with its consumers. Community support is required for this program to be successful. <u>Aqua Utilities Florida, Inc.</u> encourages and promotes the education and commitment of its consumers in the area of cross-connection control. It is the intent of Aqua Utilities Florida, Inc. to implement the regulations and procedures as outlined herein.

Section 1 Introduction

A cross connection is defined as:

"any connection or structural arrangement between public or a consumer's potable water system and any non-potable source or system through which backflow can occur. Bypass arrangements, jumper connections, removeable sections, swivel or changeover devices, and other temporary or permanent devices through which, or because of which, backflow can occur are considered cross connections."

1.01 Purpose

The purpose of a cross-connection control program is to prevent waterborne diseases and contaminants from entering the potable water distribution system and thus the water we drink. More exactly, the program is intended to prevent delivered water (water that has passed beyond the public water system and into the private distribution system of consumers) from re-entering the public distribution system and being subsequently delivered to other consumers. The program aims to protect *Aqua Utilities Florida*, *Inc.* and its consumers from those water-using establishments which could possibly reduce the quality and safety of *Aqua Utilities Florida Inc's* water supply through backflow and / or cross connection.

1.02 Legal Authority

In Florida, the primary responsibility for safeguarding potable water quality on private property historically has been left to local health agencies and building inspection departments. The Safe Drinking Water Act created new authority through a requirement for all public water systems to have a cross-connection control program. Contained within the Rules of the Department of Environmental Protection, Chapter 62-555, Rule 62-55.360, Florida Administrative code, the State of Florida adopted the following policy:

"Community water systems shall establish a routine cross-connection control program to detect and prevent cross-connections that create or may create an imminent and substantial danger to public health. Such program shall be developed using accepted practices of the AWWA manual. M14, "Backflow Prevention and Cross-Connection Control." Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant souce is eliminated."

1.03 Causes of Backflow

Where cross-connections exist, protection against backflow is needed to reduce the possibility of contamination. The causes of backflow cannot usually be elimated completely since backflow is often initiated by accidents or unexpected circumstances. However, some causes of backflow can be partially controlled by good design and informed maintenance. Listed below are the major causes of backflow as outlined under the two types of backflow - Backsiphonage and Backpressure.

A. Backsiphonage

Backsiphonage is caused by reduced or negative pressure being created in the supply piping. A major cause of Backsiphonage is the interruption of the supply pressure. This will allow negative pressures to be created by water trying to flow to a lower point in the system. Another cause is undersized piping. If water is withdrawn from a pipe at a very high velocity, the pressure in the pipe is reduced and the pressure differntial created can cause water to flow into the pipe from a contaminated source. The potable water supply can thus become contaminated due to backsiphonage into the potable water supply creating the potential for serious health problems.

The principal causes of backsiphonage are:

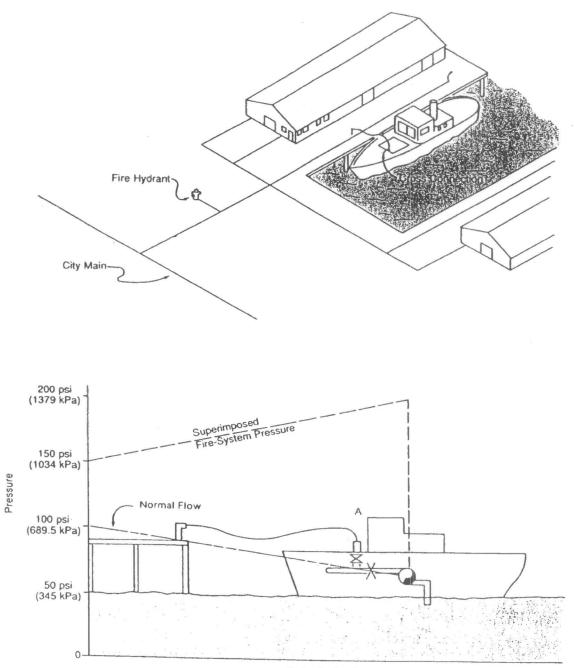
- 1. A line repair or break which occurs at a lower elevation than the service point;
- 2. Undersized piping;
- 3. Lowered pressure in a water main due to a high withdrawal rate such as firefighting, water main flushing, or water main breaks; and
- 4. Reduced supply main pressure on the suction side of a booster pump.

B. Backpressure

Backpressure may cause backflow to occur where a potable water system is connected to a non-potable supply operating under a higher pressure by means of pump, boiler, elevation difference, air or steam pressure and so forth.

The principal causes of backpressure are:

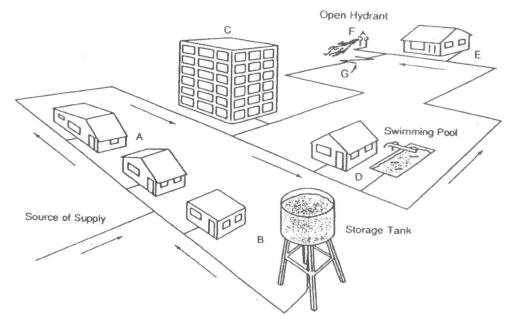
- 1. Booster pump systems designed without backflow prevention devices;
- 2. Potable water connections to boilers and and other pressure systems without backflow prevention devices;
- 3. Connections with a non-potable system which may, at times, have a higher pressure; and
- 4. Non-potable water stored in tanks or plumbing systems which, by virtue of their elevation, would create head sufficient to cause backflow if pressure were lowered in the public system.



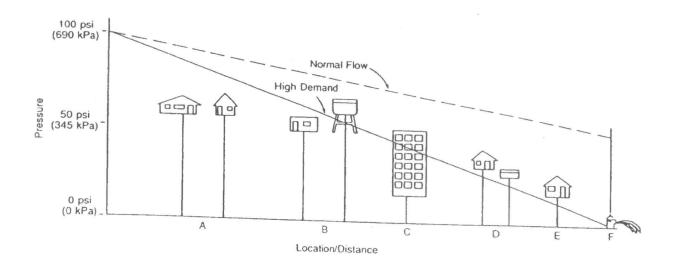
Hydraulic Gradient

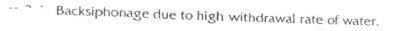
Backflow due to backpressure.

BACKSIPHONAGE DUE TO HIGH WITHDRAWAL RATE OF WATER



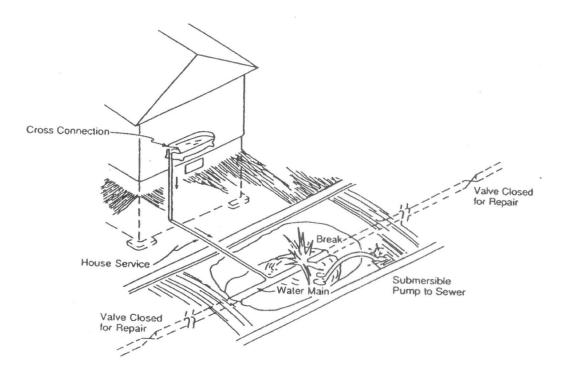
Hydraulic Gradient





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BACKFLOW DUE TO MAIN BREAK



Backflow due to main break.

Section 2 Objectives

The objectives of Aqua Utilities Florida, Inc. are as follows:

- 1. To protect *Aqua Utilities Florida, Inc.* potable water supply from the possibility of contamination or by containing, within its consumers' private water systems, backflow through uncontrolled cross-connections into the public water system.
- 2. To eliminate or control existing cross-connections, actual or potential, between the consumer's on premise potable water system(s) and non-potable water system(s) plumbing fixtures and industrial piping systems.
- 3. To provide a continuing inspection program of cross-connection control, which will systematically and effectively control all actual or potential cross-connections which exist presently or may exist in the future.
- 4. To maintain an on-going public information program to educate the community on crossconnection control and to encourage consumer cooperation and coordination toward a successful cross-connection control program.

Section 3 Responsibility

3.01 Water Purveyor

Under the Safe Drinking Water Act and the Rules of the Florida Department of Environmental Protection, Rule 62-555.360, FAC, relating to cross-connection, the water purveyor has the primary responsibility of maintaining a cross-connection control program to prevent water from unapproved sources, or any other substances, from entering the public potable water system. Failure to implement such a program may result in enforcement by the Florida Department Environmental Protection against *Aqua Utilities Florida, Inc.*

3.02 Consumer

The consumer's responsibility starts at the point of delivery from the public potable water system (i.e. just after the meter) and includes all of the consumer's water systems. The consumer, at his own expense, is required to install, operate, test and maintain approved backflow prevention devices, as directed by *Aqua Utilities Florida, Inc.* The consumer must maintain accurate records of tests and repairs made to backflow prevention devices and provide *Aqua Utilities Florida, Inc.* with copies of such records. In the event of accidental pollution or contamination of the public or consumer's potable water system due to backflow on or from the consumer's premises, the consumer shall promptly take steps to confine further spread of pollution or contamination within the consumer's premises and is required to immediately notify *Aqua Utilities Florida, Inc.* of the hazardous condition.

The consumer's system shall be open for inspection at all reasonable times to authorized representatives of *Aqua Utilities Florida, Inc.* to determine whether cross connections or other

structural or sanitary hazards, including violations of these regulations, exist. When such a conditions becomes knows, *Aqua Utilities Florida, Inc.* shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the condition(s) in conformance with state/provincial and city statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.

3.03 Backflow Prevention Device Installation

The installer's responsibility is to ensure proper installation of backflow prevention devices in accordance with the manufacturer's installation instructions and those furnished by *Aqua Utilities of Florida, Inc.* The installer is also responsible to conduct a test of the device when it is installed, and is required to furnish the following vital data to *Aqua Utilities Florida, Inc.* immediately after a reduced pressure principal backflow preventer (RP), double check valve assembly (DCVA) or pressure vacuum breaker (PVB) is installed:

- 1) service address where device is located
- 2) owner
- 3) description of device's location
- 4) date of installation
- 5) type of device
- 6) manufacturer
- 7) model number
- 8) serial number

Testing at the time of installation for all RP'S, DCVA'S, and PVB'S shall be performed by a certified backflow prevention device technician. Test results are to be provided immediately to *Aqua Utilities Florida, Inc.*

Section 4 Policy

Aqua Utilities Florida, Inc. has the continuing authority to inspect all <u>industrial</u>, <u>commercial</u> and <u>residential</u> users of potable water, where pollution, health or system hazards may exist or be created; where materials dangerous to health are handled in tanks, piping systems, or other vessels on the premises, or where the water system is unstable and cross- connections may occur. The following policies to cross-connections will apply:

1. Should the connection be between two (2) approved public water supplies, common gate or check valves may be used, provided this has the approval of both water suppliers and the Florida Department of Environmental Protection.

2. Should the connection be between an approved public potable water supply and a service or other water supply which has, or may have, any material in the water dangerous to health that is, or may be, handled under pressure, subject to negative pressures, protection shall be an approved air-gap separation (AG). The air-gap shall be located as close as practicable to the service cock or other connection to the approved supply. All piping between such connection and air-gap shall be entirely visible. If these conditions cannot be reasonably met, the public potable water supply shall be protected alternatively with an approved Reduced Pressure principle backflow prevention device (RP), provided the alternative is acceptable to *Aqua Utilities Florida, Inc.* and the Florida Department of Environmental Protection

Section 5 Inspections

5.01 Frequency

Due to changes in models or components of equipment, methods of manufacturing and additions of plants, buildings, etc., water use requirements undergo continual change. As a result, new cross-connections may be installed and existing protections may be by-passed, removed or made otherwise ineffective; therefore, an annual, biennial, or more frequent detailed inspection by *Aqua Utilities Florida, Inc.* of all water usage is required. In addition, all new building construction shall also be plan-checked and inspected during installation by *Aqua Utilities Florida, Inc.* to insure conformance with cross-connection control policy.

5.02 New Construction

All new construction plans and specifications for industrial or commercial facilities shall be submitted to *Aqua Utilities Florida, Inc.* for evaluation to determine the degree of possible cross-connection hazards. Backflow prevention and cross-connection control shall be accomplished by a combination of plans review and field inspections.

Aqua Utilities Florida, Inc. will inspect and require testing and approve or disapprove the completed backflow preventer installation. Field inspections during construction or immediately after will also serve to indentify hazards that were not apparent during plans review or were introduced during construction.

After final approval of the installation and satisfactory test results, in accordance with crossconnections rules and regulations, a report will be filed by the installer to *Aqua Utilities Florida*, *Inc.*. This report will include size, model, location, and all other pertinent details of the installation including satisfactory test results attested to by a certified tester.

All non-residential construction of any building to be served by Aqua Utilities Florida, Inc. water system shall be plan-checked and inspected by *Aqua Utilities Florida, Inc.* for compliance with cross-connection control rules and regulations prior to connection to Aqua Utilities Florida, Inc. potable water main.

For containment purposes, the following types of buildings shall have an approved backflow prevention device at the water service connection:

- 1) Medical or Research Buildings
- 2) Morgues, mortuaries and autopsy facilities
- 3) Chemical related industries
- Wastewater Plants
- 5) Metal plating facilities

5.03 Emergency procedures

If a consumer discovers a hazardous situation where contaminants are actually in the process or suspected of entering the distribution system of *Aqua Utilities Florida*, Inc. potable water supply, the consumer is authorized to take such immediate steps as necessary to correct the questionable existing hazardous condition. He is further responsible for immediately notifying *Aqua Utilities Florida*, *Inc.* of the need for flushing the contaminants out of the system.

Aqua Utilities Florida, Inc. is authorized to take immediate steps deemed necessary to correct a hazardous condition; which shall include the right to immediately discontinue potable water service to premises where a hazardous condition may be occurring. Such emergency steps, including discontinuance of potable water service, may be taken without advance notice to the consumer. The consumer shall be notified as soon as possible thereafter if potable water service has been discontinued; and the matter simutaneously brought to the attention of Aqua Utilities Florida, Inc.'s attorney and President.

Section 6 Definitions

St. 1.

<u>Air-gap separation</u> - The term air-gap separation shall mean a physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An approved air-gap separation shall be a distance of at least two (2) times the diameter of the supply pipe measured vertically above the top rim of the vessel - with a minimum distance of one (1) inch.

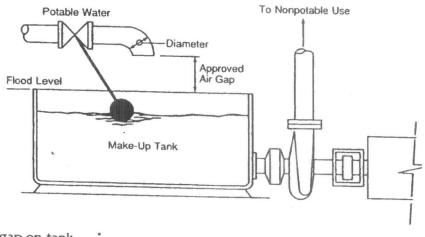
<u>Approved</u> - a) The term approved, as herein used in reference to a water supply, shall mean a potable water supply that has been approved by the Florida Department of Environmental Protection. b) The term approved, as herein used in reference to air-gap separation, a <u>double</u> <u>check valve assembly</u> or a reduced pressure principle backflow prevention device or method, shall mean as approved by *Aqua Utilities Florida, Inc.*

<u>Auxiliary Intake</u> - The term auxiliary intake shall mean any piping connection or other device whereby water may be secured from a source other than that normally used.

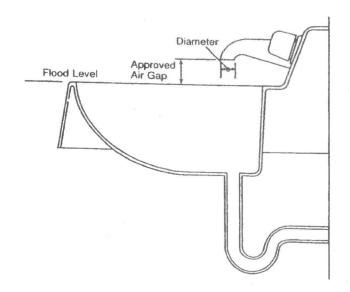
<u>Backflow</u> - The term backflow, shall mean the undesirable reversal of the flow of water or other liquids, mixtures, gases, or other substances into or towards the distribution piping of a potable supply of water from any source or sources.

<u>Backflow prevention device</u> - A backflow prevention device shall mean any efffective device, method or construction used to prevent backflow into a potable water system. The type of device used should be based on the degree of hazard, either existing or potential, and identified by the condition which it is designed to prevent.

DIAGRAM -- AIR GAP



Air gap on tank.



Air gap on lavatory.

<u>Backflow prevention device tester - (Certified)</u> - The term certifed backflow prevention device tester shall mean a person who has proven his / her competency to the satisfaction of *Aqua Utilities Florida, Inc.*. Each person who is certified to make competent tests or to repair, overhaul and make reports on backflow prevention devices shall be conversant with applicabale laws, rules and regulations, and shall have attended and successfully completed the TREEO (Training, Research, and Education for Environmental Occupations) Certification program for backflow prevention device testers, or other USCFHR or DEP approved program.

<u>Backpressure</u> - Backpressure shall mean any elevation of pressure in the downstream piping system (by pump, elevation of piping, or steam and/or air pressure) above the supply pressure at the point of cnsideration which would cause or tend to cause, a reversal of the normal flow through a backflow prevention device.

<u>Backsiphonage</u> - Backsiphonage shall mean a reversal of the normal direction of flow in the pipeline due to a negative pressure (vacuum) being created in the supply line with the backflow source subject to atmospheric pressure.

<u>Consumer</u> - Any member, person, firm or corporation using or receiving water from *Aqua* Utilities Florida Inc.'s potable water system.

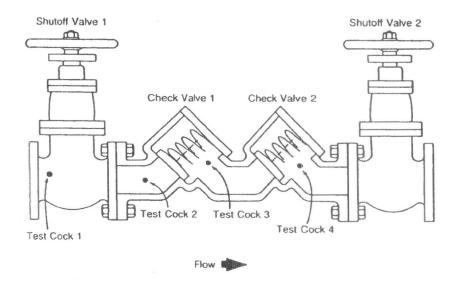
<u>Contamination</u> - The term contamination shall mean an impairment of the quality of the potable water supply by sewage, industrial fluids or any other foreign substance to a degree which creates an actual hazard to the public health through the potential spead of disease or toxic materials.

<u>Critical level</u> - The term critical level shall mean the marking on a vacuum breaker which determines a minimum elevation above the flood level rim of the fixture or receptacle served at which the device may be installed.

<u>Cross-Connection</u> - The term Cross-Connection shall mean any unprotected connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substances that is potable for human consumption. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which "backflow" can or may occur, are considered to be cross-connections.

<u>Double Check Valve Assembly</u> - The term double check valve assembly means an assembly of at least two (2) independently acting, approved, spring and weight loaded check valves with resilient discs for the intended purpose of preventing back pressure backflow in a water supply line. Assembly is usually furnished with test cocks for the field testing the tightness of the check valves. Some assemblies include a "vacuum breaker" to admit atmospheric air downstream of the assembly. The unit shall include tightly-closing ball-type or resilient seated valves located at each end of the device.

DIAGRAM -- DCVA



Double check valve assembly.

<u>Fire Sprinkler System</u> - A sprinkler system, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection and engineering standards. The installation includes one or more water supplies.

Flood Level Rim - The edge of the receptacle from which water overflows is the flood level rim.

<u>Hazard - (Degree of)</u> - The term, degree of hazard is a qualification of what potential and actual harm may result from cross-connections within a water -using facility. Establishing the degree of hazard is directly related to the type and toxicity of contaminants that could possibly cause a "pollution" (non-health) or a "contamination" (health) hazard.

<u>Hazard - (Health)</u> - The term health hazard shall mean an actual or potential threat of contamination or pollution of a physical or toxic nature to the public potable water system or the consumer's potable water system to such a degree or intensity that there would be a danger to health.

<u>Hazard - (Plumbing)</u> - The term plumbing hazard shall mean a plumbing type cross-connection in a consumer's potable water system that has not been properly protected by a vacuum breaker, air-gap separation or other device. Unprotected plumbing type cross-connections are considered to be a health hazard. They include, but are not limited to, cross-connection to toilets, sinks, lavatories, wash trays, domestic washing machines and lawn sprinkler systems. Plumbing type cross-connections can be located in many types of structures, including homes, apartment houses, hotels and commercial and industrial establishments. Such a connection, if permitted to exist, must be properly protected by an appropriate type of cross connection control assembley

<u>Hazard - (Pollution)</u> - The term pollution hazard shall mean an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system, but which would not constitute a health or system hazard, as defined. The maximum degree of intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance, or be aesthetically objectionable, or could cause minor damage to the system or its appurtenances.

<u>Hazard - (System</u>)- The term system hazard shall mean an actual or potential threat of severe danger to the physical properties of the public or the consumer's potable water system, or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

<u>Industrial Fluid</u> - The term industrial fluid shall mean any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration, such would constitute a health, system, pollution or plumbing hazard if introduced into an approved potable water supply. This may include, but not be limited to: polluted or contaminated used waters; all types of process waters and "used waters" originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters connected to an opening cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffins, caustic and acid solutions or other processes for fire fighting purposes.

<u>Industrial Piping System - Consumer's</u> - The term consumer's industrial piping system shall mean any system used by the consumer for transmission of or to store any fluid, solid or gaseous substance other than an approved water supply. Such a system would include all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances to produce, convey or store substances which are or may be polluted or contaminated.

<u>Inlet</u> - The open end of the water supply pipe through which the water is discharged into the plumbing fixture shall be the inlet.

<u>Laboratory - Approved Testing</u> - Reference to an approved testing laboratory shall mean the Foundation for Cross-Connection Control Research of the University of Southern California, or any other laboratory having the equivalent facilities for both the laboratory and field evaluation of the devices approved by the American Water Works Association or American Society of Sanitation Engineers.

<u>Plumbing System</u> - The term plumbing system includes the potable water supply and distribution pipes; plumbing fixtures and traps; oil waste and vent pipes; building drains and building sewers, including their respective connections, devices and appurtenances within the property line of the premises; and water-treating or water-using equipment.

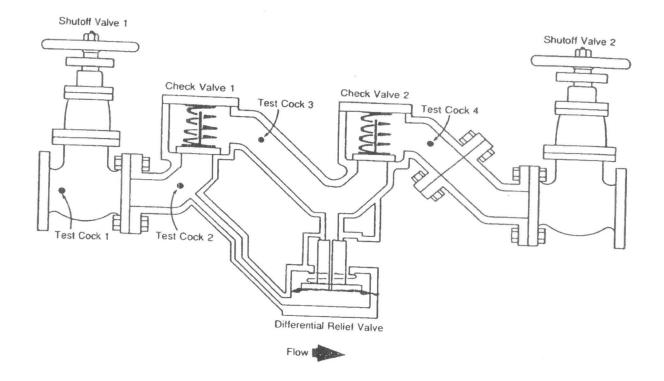
Point of delivery - see service connection

<u>Pollution</u> - Pollution shall mean an impairment of the quality of the water to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect the quality of the water for domestic use.

<u>Reduced Pressure Principle Backflow Prevention Device - RP</u> - The term approved reduced pressure principle backflow prevention device (RP) shall mean a device containing within its structure a minimum of two (2) independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount, so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressures. In case of leakage of either check valve, the differential relief valve by discharging to the atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The unit shall include tightly-closing ball type or resilient seated shutoff valves located at each end of the device and each device shall be fitted with properly located test cocks.

<u>Service Connection</u> - The term service connection shall mean the terminal end of the public potable water system, i.e., where the water purveyor loses justisdiction and sanitary control over the water at its point of delivery to the consumer's water system. If a meter is installed at the end

DIAGRAM -- RP



Reduced-pressure principle backflow-prevention assembly.

of the service connection, then the service connection shall mean the downstream end of the meter. There shall be no unprotected takeoffs from the service line ahead of any backflow prevention device located at the point of delivery to the consumer's water system.

Vacuum Breaker - Nonpressure- Atmospheric Type - A vacuum breaker - nonpressure type is a vacuum breaker which is designed for use where it will not be subject to static line pressure.

<u>Vacuum Breaker - Pressure Type</u> - a vacuum breaker - pressure type is a vacuum breaker designed to operate under conditions of static line pressure. The unit shall include tightlyclosing ball-type or resilient seated shutoff valves located at each end of the device.

<u>Water - Potable</u> The term potable water shall mean water from any source which has been investigated by the Florida Department of Environmental Protection and which has been approved for human consumption by the health authority having jurisdiction. Potable water is water of excellent quality intended for drinking, cooking and cleansing uses. This grade of water would conform to the water quality requirements of state and federal regulatory agencies.

<u>Water Purveryor</u> - The term water purveyor shall mean the utility owner or operator of the public potable water system supplying an approved water supply to the public.

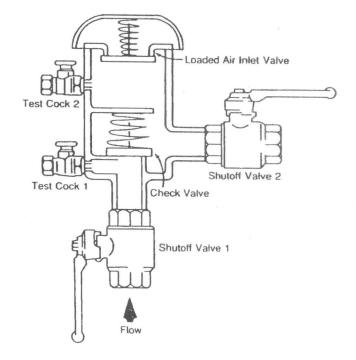
<u>Water Supply -(Approved)</u> - The term approved water supply shall mean Aqua Utilities Florida, Inc. potable water system or any public potable water supply which has been investigated and approved by the Florida Department of Environmental Protection. In determining what constitutes an approved water supply, the Department of Environmental Protection has reserved final judgement as to its safety and potability.

<u>Water Supply -(Auxiliary)</u> - The term auxiliary water supply shall mean any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source such as a well, spring, river, stream, etc.,or "used water" or "industrial fluids." They may be polluted or contaminated or objectionable and constitute an unacceptable water source over which the purveyor does not have control.

<u>Water Supply - (Unapproved)</u> - The term unapproved water supply shall mean a water supply which has not been approved for human consumption by the health agency having jurisdiction.

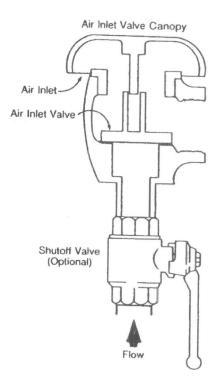
<u>Water System - (Consumer's)</u> - The term water system shall include any water system located on the consumer's premises, whether supplied by the public potable water system or an auxiliary water supply. The system or systems may be either a potable water system or an industrial piping system.

<u>Water System - (Public Potable)</u> - The term public potable water system shall mean any publicly or privately owned water system operated as a public utility to supply water for domestic purposes. This system will include all sources, facilities and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures,

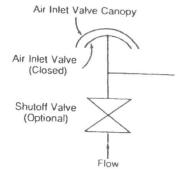


Pressure vacuum breaker assembly.

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Atmospheric vacuum breaker assembly.



Under normal flow conditions the AVB seals against the air inlet seat.

equipment, and appurtenances used to produce, convey, treat or store a potable water for public consumption or use.

<u>Water -(reclaimed)</u> - The term reclaimed water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. Reclaimed water is also known as reuse water. (permitted under Part III of Chapter 62-610, F.A.C.)

<u>Water - (Used)</u> - The term used water shall mean any water supplied by a water purveyor from a public potable water system to a consumer's water system after it has passed through the point of delivery and is not longer under the control of the water purveyor.

Section 7

Applicable Standards and Descriptions for Backflow Prevention Devices

7.01 Applicable Standards

The following specifications or requirements of approving agencies are recognized by Aqua Utilities Florida, Inc.. All backflow prevention devices and conditions of cross-connection control shall be in compliance with the standards set forth by one or more of the following agencies. Aqua Utilities of Florida reserves the right to state which standards apply if and when conflicts between standards arise.

AWWA - American Water Works Association (Manual M14)

ASSE - American Society of Sanitary Engineers

FCCCHR of USC - University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (Manual for Cross-Connection Control)

<u>SBCC</u> - Southern Building Code Congress (Standard Plumbing Code)

7.02 Abbreviations for Protective Devices

AG - Approved Air-Gap

AVB Approved Atmospheric Vacuum Breaker

BPW/IAV - Approved Backflow Preventer with Intermediate Atmospheric Vent

DCVA - Approved Double Check Valve Assembly

HBVB - Approved Hose Bibb Vacuum Breaker

PVB - Approved Pressure Vacuum Breaker

RP - Approved Reduced Pressure Principle Backflow Preventer

DCV - Approved Dual Check Valves

DCV / LF - Approved Double Check Valve Assembly with Laboratory Faucet

DCV/CBD - Approved Dual Check Valves for Carbonated Beverage

DDCV - Approved Double Detector Check Valve

TABLE 7.1

TYPE & APPLICATION	TYPICAL DESCRIPTION	APPLICABLE INSTALLATION	STANDARDS
DOUBLE CHECK VALVE ASSEMBLY for <u>low hazard</u> connections	Two independent check valves. Supplied with ball-type or resilient seated shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a low potential health hazard or nuisance. Continuous pressure	A.S.S.E. 1015 A.W.W.A. C506 FCCCHR of USC
DOUBLE DETECTOR CHECK VALVE ASSEMBLY for low hazard applications	Double check valve assembly with a water meter and double check in by-pass line.	Fire protection system supply main. Detects leaks and unauthorized use of water.	A.S.S.E. 1015 A.W.W.A. C506 FCCHR of USC
DUAL CHECK VALVE BACKFLOW PREVENTER for low hazard applications	Two independent check valves. Checks are removable for testing.	Cross Connection where there is a low potential health hazard and moderate flow requirements.	A.S.S.E 1024
BACKFLOW PREVENTER WITH INTERMEDIATE ATMOSPHERIC VENT	Two independent check valves with intermediate relief valve	Cross connections subject to backpressure or back- siphonage where there is moderate health hazard. Continous pressure	A.S.S.E. 1012
LABORATORY FAUCET & DOUBLE CHECK VALVE W/ INTERMEDIATE VACUUM BREAKER in small pipe sizes for moderate to low hazard	Two independent check valves with intermediate vacuum breaker and relief vent.	Cross connections subject to backpressure or back- siphonage where there is a moderate to low health hazard	A.S.S.E. 1035

CROSS CONNECTION MANUAL AQUA UTILITIES FLORIDA, INC.

TABLE 7.2

TYPE & APPLICATION	DESCRIPTION	TYPICAL INSTALLATION	APPLICABLE STANDARDS
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER For <u>high bazard</u> cross connections	Two independent check valves w/ intermediate relief valve. Supplied with ball-type shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a high potential health hazard from contamination. Continous pressure	A.S.S.E. 1013 A.W.W.A. C506 FCCCHR of USC
ATMOSPHERIC VACUUM BREAKERS for <u>moderate to</u> <u>high hazard</u> cross connections	Single float and disc w/ large atmospheric port	Cross connections not subject to backpressure or continuous pressure. Install at least 6" above rim. Backsiphonage protection only.	A.S.S.E. 1001 FCCCHR of USC
PRESSURE TYPE VACUUM BREAKERS for <u>moderate to</u> <u>high hazard</u> cross connections	Spring loaded singls float and disc with independent 1st check. Supplied with ball-type shut-off valves and ball	This value is designed for installation in a continous pressure potable water supply system 12" above the overflow level of the system being supplied. Backsiphonage protection only.	A.S.S.E. 1020 FCCCHR of USC
HOSE CONNECTION VACUUM BREAKERS For residential & industrial hose supply outlets.	Single check w/ atmospheric atmospheric vacuum breaker vent.	Install directly on hose bibbs, service sinks and wall hydrants. Not for continous pressure.	A.S.S.E 1011
AIR GAP For moderate to high hazard cross connection	Vertical separation of 2D of the supply pipe above vessel overflow rim.	All cross connections subject to backpressure or back-siphonage where there is a high potential health hazard rom contamination. Vertical separation must be one (1) inch	ANSI A112.1.2

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Description of Cross Connection	Assessment	Recommended
	of Hazard	Assembly at Fixture*
Aspirator (medical)	Health	AVB or PVB
Bedpan washers	Health	AVB or PVB
Autoclaves	Health	RPBA
Specimen tanks	Health	AVB or PVB
Sterilizers	Health	RPBA
Cuspidors	Health	AVB or PVB
Lab bench equipment	Health	AVB or PVB
Autopsy and mortuary equipment	Health	AVB or PVB
Sewage pump	Health	AG
Sewage ejectors	Health	AG
Fire-fighting system (toxic liquid foam		
concentrates)	Health	RPBA
Connection to sewer pipe	Health	AG
Connection to plating tanks	Health	RPBA
Irrigation systems with chemical additives		A 44 A/1 A
or agents	Health	RPBA
Connection to salt-water cooling system	Health	RPBA
Tank vats or other vessels containing toxic		
substances	Health	RPBA
Connection to industrial fluid systems	Health	RPBA
Dye vats or machines	Health	RPBA
Cooling towers with chemical additives	Health	RPBA
Trap primer	Health	AG
Steam generators	Nonhealth [†]	RPBA
Heating equipment		
Commercial	Nonhealth [†]	RPBA
Domestic	Nonhealth [†]	DCVA
Irrigation systems	Nonhealth†	DCVA, AVB, or PVB
Swimming pools Public		
Private	Nonhealth†	RPBA or AG
	Nonhealth [†]	PVB or AG
Vending machines	Nonhealth [†]	RPBA or PVB
Ornamental fountains	Nonhealth†	DCVA or AVB or PVB
Degreasing equipment	Nonhealth†	DCVA
Lab bench equipment Hose bibbs	Nonhealth [†]	AVB or PVB
	Nonhealth†	AVB
Trap primers Flexible shower heads	Nonhealth†	AG
Steam tables	Nonhealth†	AVB or PVB
	Nonhealth [†]	AVB
Washing equipment	Nonhealth [†]	AVB
Shampoo basins Kitchon comission	Nonhealth†	AVB
Kitchen equipment	Nonhealth†	AVB
Aspirators	Nonhealth [†]	AVB
Domestic space-heating boiler	Nonhealth†	RPBA

Guide to the Assessment of Hazard and Selection of Assemblies for Internal Protection

NOTE: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

*AVBs and PVBs may be used to isolate health hazards under certain conditions, that is, backsiphonage situations. Additional area or premises isolation may be required.

†Where a greater hazard exists (due to toxicity or other potential health impact) additional area protection with RPBAs is required.

State States

Description of Premises	Assessment of Hazard	Recommended Assembly on Water Service Pipe
Hospitals, mortuaries, clinics, laboratories	Health	RPBA
Plants using radioactive material	Health	RPBA
Petroleum processing or storage facilities	Health	RPBA
Premises where inspection is restricted	Health	RPBA
Sewage treatment plant Sewage lift stations	Health	RPBA
Commercial laundry	Health	RPBA
Plating or chemical plants	Health	RPBA
Docks and dockside facilities	Health	RPBA
Food and beverage processing plants	Health	RPBA
Pleasure-boat marina	Health	RPBA
Tall buildings (protection against excessive	Health	RPBA
head of water)	Nonhealth	DCVA
Steam plants Baclaimed mater cont	Nonhealth	RPBA
Reclaimed water systems	Health	RPBA

Guide to the Assessment of Hazard and Selection of Assemblies for Premises Isolation

Note: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

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7.03 Types and Descriptions of Hazard Definition Backflow Prevention Devices

The following definitions apply to hazard conditions existing at a site where backflow prevention devices may be required.

Degree of Hazard Definition

<u>Low</u> - A condition where polluting substances(s) may come in contact with potable water aesthetically affecting the taste, odor or appearance, but not hazardous to health (non-toxic), (e.g., pollution hazard)

<u>Moderate to High</u> - A condition where a polluting substance may come in contact with potable water creating a health hazard, causing sickness or death (toxic), (e.g., system hazard, plumbing hazard, health hazard).

<u>Backflow Prevention Devices</u> - Types, Descriptions, and Applicable Standards for Multiple Check Valve Assemblies. Table 7.1 and Table 7.2 lists the types and applications of backflow prevention devices, a brief description of each device, typical installation conditions, and applicable standards.

7.04 Typical Facilities Requiring Backflow Prevention Devices

1. Medical buildings, sanitariums, veterinarian facilities, morgues, mortuaries, autopsy facilities, nursing and convalescent homes and clinics shall have an RP or DCVA, depending upon degree of hazard, installed at the service connection. The hazards normally to be found in a facility of this type include cross connections between the consumer's water system and contaminated or sewer connected equipment such as bedpan washer, flush valve toilets and urinals, autoclaves, specimen tanks, sterilizers, pipe tube washer, cuspidors, aspirators, autopsy and mortuary equipment. Note: It has been found that in this type of facility little or no attention is given to the maintenance of air-gap separations or vacuum breakers. It is customary to bridge an air-gap separation by means of a hose section. It should also be noted that in multistory buildings, the supply line to the toilets, urinals, lavatories, laboratory sinks, etc..., on the lower floors may be taken off of the suction side of the house pump. As a result, sewage or other contaminated substances may be drawn into the house supply line.

2. All buildings, plants, or other structures having a source of unapproved water piped into such buildings, plants, or other structures with the potential of being interconnected to the public supply, shall have an RP installed at the main supply line serving their premises.

3. All buildings, plants, apartment houses, public and private buildings, or any other structures having unprotected cross-connections shall have an RP or DCVA, depending on

degree of hazard, installed at the service connection to any premises where multi-storied public building such as hotel, apartment house, office or loft building are operated or maintained if the buildings have unprotected cross connections, sewage pumping facilities, auxiliary water supplies, or other like sources of contamination which would create a potential hazard to the public water system.

4. All waterfront facilities and industries shall have an RP or DCVA, depending upon the degree of hazard, installed at their service connection to any premises where there are piers, docks, industries, or other waterfront facilities where water from a river, stream, irrigation, ditch or canal, lake, etc., is available to be used on the premises.

5. All manufacturers of chemicals which are toxic shall be required, at the discretion of the water purveyor to install an RP.

6. All sewage treatment plants shall have an RP installed on main potable water service lines serving such plants.

7. Dairies and cold storage plants shall have an RP or DCVA, depending upon the degree of hazard, installed on the service connection. This applies to any premises where a dairy, creamery, ice cream plant, cold storage or ice manufacturing plant is operated or maintained, provided such a plant has, on the premises, an auxiliary water supply, industrial fluid system, sewage handling facilities or other similar source of contamination which, if cross-connected to, would create a hazard to the public system. The hazards normally found in a plant of this type include cross-connections between the consumer's waste system and reservoirs, cooling towers and circulating systems which may be heavily contaminated with bird droppings, vermin, algae, bacterial slimes, or toxic water treatment compounds.

8. Schools and colleges shall have an RP or DCVA installed at the service connection where water is used to supply chemical, becteriological and biological laboratories; or where the water is used to supply separate irrigation systems; or where there are unprotected sewer cross connections. <u>Note:</u> This hazard is critical because little or no attention is given to the maintenance of vacuum breakers and frequently they are removed from the line; steam generating facilities and lines are frequently contaminated with boiler compounds such as pentachlorophenol, cyclohexlamine, etc. A very particular hazard is the possibility of steam getting back into the domestic system, causing either a system or health hazard.

9. In commercial car washing installations, potable make-up water lines to reclaim water pits shall have an AG separation. All potable water connections to fluids such as bug cleaner, tire cleaner, and wax and soap solution make-up tanks shall have an AG separation. If this is not possible due to the design of equipment, an RP shall be installed on the main water service connection.

10. All buildings or premises where security requirements or other prohibiting restrictions make it impossible or impractical to make a complete inside cross connection survey, the public water system shall be protected against backflow from the premises or building by an RP

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installed or the main service connection (s) serving the building or premises.

11. All industrial, commercial, or residential properties (including all multi-or single family residences) having an irrigation system which utilizes chemical siphoning or injection apparatus shall have an RP device installed at the service connection. <u>Note:</u> Any device, equipment or situation not covered by this cross-connection policy where water is connected or used which may constitute a potential health hazard will be handled at the discretion of *Aqua Utilities Florida, Inc.*

7.05 Typical Plumbing Arrangements Requiring Backflow Prevention Devices - note references to SBCC, Standard Plumbing Code (SPC)

1. Fixture inlets or valved outlets with hose attachments, which may constitute a crossconnection, shall be protected by the proper approved vacuum breaker (PVB, HBVB, etc.) installed at least six (6) inches above the highest point of usage and locatd on the discharge side of the last valve. Fixtures with integral vacuum breakers manufactured as a unit may be installed in accordance with their approved requirements. (SPC Sec. 1204.3.4)

2. Industrial fluid or processed water - potable water pipelines connected to industrial piping systems or to equipment containing industrial fluid, sewage, used or processed water, or any other potentially contaminated liquid shall be protected by installing an RP in the interconnecting lines or by and AG separation.

3. Air conditon cooling tower - potable water inlet shall have an AG separation of twice the inside diameter of the inlet line or a minimum of two (2) inches above the flood level rim.

4. Aspirators and ejectors - shall have a PVB, depending upon the degree of hazard, on the faucet from which these devices are attached or operated (SPC. sec, G104.6)

5. Automatic film processors - potable water lines connected directly to an automatic film processor shall be protected by an AG or a DCVA.

6. Bath tub with hose attachments - shall have a PVB at faucet.

7. Bedpan washer - shal have a PVB installed in accordance with the Standard Plumbing Code (SPC SEc. G104.6)

8. Boiler connection - potable water connection to boiler feed water system which contains conditioning chemicals shall either be made through an AG at make-up tank, or have an RP or DCVA, or BPW/IAV.

9. Booster pumps - shall be provided with a low pressure cut-off unless other acceptable provisions are made to prevent the creation of low or negative pressures in the piping system.

10. Colonic irrigators or douche attachments - shall have a PVB installed.

11. Dark rooms (photographic) - all threaded faucets shall be prected with a PVB or HBVB.

12. Dishwashing machine - shall be connected with a PVB on both hot and cold water supply lines in accordance with the SPC.

13. Dip tanks and vats - potable water inlet shall have an AG separation twice the inside diameter of the inlet or a minimum of two (2) inches above the flood level rim.

14. Garbage disposer - potable water supply lines connected directly to garbage disposer shall be equipped with a PVB or BPW/IAV.

15. Drinking fountains - shall have an AG separation.

16. Fire sprinkler systems - shall have an AG separation to the sewer.

17. Flushing floor drains - shall have a PVB installed .

18. Flush valve water closets, urinals, and bidets - shall have a vacuum breaker installed in accordance with the SPC.

19. Foot and sitz bath - shall have an AG separation or a PVB installed.

20. Hydro-therapy baths - shall have a PVB installed at water connection.

21. Janitors, mop or slop sink with threaded hose faucet shall be equipped with an AVB before faucet.

22. Lawn sprinkler systems - shall have a PBV or RP or DCVA installed depending on degree of hazard.

23. Pipette washer - shall have a PVB or AG separation installed on faucet..

24. Private wells shall not be interconnected or physically linked in any way, with or without a protective device, to the public potable water supply.

25. Potable water make-up line - to chill water loops, heating loops, purge units, condensers, converters, and condensate tanks should be equipped with BPW/IAV, DCVA, or RP depending on degree of hazard.

26. Serrated faucets - shall be equipped with a PVB at the faucet. If goose neck faucet is used "laboratory faucet type vacuum breaker" is acceptable

27. Shampoo basin hose rinse - shall have an AVB installed.

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28. Sinks and bathtop faucets - shall have an AG separation above flood level rim.

29. Sterilizers - shall have an AG separation or PVB installed.

30. Stills - shall have an AG separation.

31. Swimming pool fill line - shall have an AG separation above the flood level rim or a DCVA.

32. Wash-up sinks with threaded faucets - shall have a PVB or HBVB installed.

33. Wash down hose faucet - shall have a PVB or HBVB installed on faucet

34. Washing machine drain lines - shall have an AG separation to sewer.

35. Water supply inlets - in pits, tanks, trenches, tubs, vats, or any other place that could become flooded with contaminated liquids shall have an AG separation above the flood level rim.

36. Water operated presses, elevators, or other similar pressure producing equipment - shall have an RP installed.

37. X-Ray developing tank - shall have an AG separation or a PVB installed. <u>Note:</u> Any device, equipment, or situation not covered by this cross-connection policy, which may constitute a potential health hazard, will be examined for treatment by *Aqua Utilities Florida, Inc.*

Section 8 Testing of Back/low Preventers

8.01 General Requirements

As part of a complete cross-connection control program, it shall be the duty of the <u>non-single -family</u> <u>customer - user</u> at any premises where reduced pressure backflow prevention devices (RP), double check valve assemblies (DCVA), and pressure vacuum breakers (PVB) are installed to have a thorough inspection and operation test at the time of installation and at least once a year, or more often in those instances where inspections indicate a need. Proper field test procedures with calibrated gauge equipment must be used by certified personnel (reference Section 6 for definition and explanation of a Backflow Prevention Device Tester- Certified). The cost of inspection, testing, maintenance and repair of backflow prevention devices at non-single-family residences shall be borne by the non-single-family customer-user.

<u>The single-family-residence customer -user</u> shall be responsible for the cost of the initial installation, inspection, and testing of the backflow prevention device. The costs and scheduling of inspections and tests thereafter performed at single-family residences shall be the responsibility of the *customer*. Any maintenance or repair required as a result of the test shall be at the expense of the customer - user and shall be performed by the device manufacturer's representative or by a certified device tester (Reference Section 6)

Irrigation systems are required to have PVB to prevent backflow to the public water supply. All existing AVB installations shall be retrofitted with PVBs at the consumer's expense. Single- family water customers installing new irrigation systems will be required to purchase, install and test new PVBs at their own expense. Annual testing and inspection of PVBs for all single-family customers will be performed by Certified Tester.

All devices failing to meet the latest performance standards set forth by the AWWA, ASSE, or the FCCCHR at USC, shall be repaired and retested promptly. Devices which are found to have a history of not meeting these performance standards should be replaced with new devices at the customer's expense.

If such testing indicates wear or other malfunction, the devices shall be overhauled. Such an overhaul should consist of the replacement of all seats, diaphragms, gaskets, etc., which are subject to wear, and any other parts found to be worn or otherwise in questionable condition.

8.02 Parallel Installations

All backflow prevention devices with test cocks are required to be tested with a minimum frequency of once per year. Testing requires a water shutdown usually lasting five (5) to twenty (20) minutes. For facilities that require an uninterrupted supply of water, and when it is not possible to provide water service from two (2) separate meters, provisions shall be made for a "parallel installation" of backflow prevention devices.

During testing, one device is left on while the other is being tested. Usually the two devices are sized one device smaller than the service line, e.g., one 2 inch device or two 1-1/2 inch devices, one 8 inch device or two (2) six (6) inch devices.

Aqua Utilities Florida, Inc. will not accept an unprotected bypass around a backflow preventer when the device is in need of testing, repair or replacement.

8.03 Preparation

As a prelude to each of the field test procedures. It is essential that the certified tester follow some basic steps:

1. <u>Notify</u> - Appointment and introduction procedures shall be followed similar to that used for inspections. The owner of the assembly shall be notified that water service will be shut off during test procedure. Special arrangements may have to be made so that interruption of service will not create a hardship on the user.

2. <u>Identify</u> - Make sure that proper assembly is being tested by checking identification tag for make, model, and serial number. All information and test data shall be recorded on poper forms before leaving the location.

3. <u>Inspect</u> - Inspect the assembly for the required components for the field test procedure -i.e., upstream and downstream shut-off valves, properly placed testcocks, etc.

4. <u>Observe</u> - Carefully observe area around the assembly for tell-tale signs of leakage - i.e., moss or algae growth, plant life, or soil erosion. This should supply the tester with additonal information regarding the condition of the assembly before the test is performed. Example: Wet spot under relief valve port of RP assembly is an indication of relief valve activity, possibly from pressure fluctuations or fouling of the assembly. Proper testing will define the problem.

8.04 Records

Aqua Utilities Florida, Inc. will notify the customer - user when tests are required. The passing test results shall be returned to Aqua Utilities Florida, Inc. by the date indicated. A full report on the test of each device giving pertinent test data and indicating what, if any, repairs were made are to be delivered promptly to Aqua Utilities Florida, Inc.

Records are to include, but not be limited to:

1. Reports of inspections, recommendations, re-inspections, and corrective action taken.

2. Correspondence between *Aqua Utilities Florida, Inc.*, DEP, consumer, etc., concerning corrective action.

3. A master list of all backflow protection devices in use or proposed for use in the service area.

4. Vital data on each protective device.

5. Test and maintenance reports of each protective device.

Aqua Utilities Florida, Inc. shall maintain and keep all records of tests and results, locations of hazards and any other cross connection related information for each public water system for a minimum of ten (10) years. Records of tests of customers backflow devices will be maintained in an electronic database to be kept and accessible at the corporate office at 1100 Thomas Avenue, Leesburg, FL.

Section 9 Results of non-compliance

9.01 Discontinued Service

1. A consumer's health hazard surveillance report listing all cross-connections found during inspection will be sent to the owner or authorized agent of the owner of the building or premises, stating corrections should be made and setting a time for compliance. Unless otherwise noted in the report, the consumer shall have thirty (30) days to comply and perform any required corrections. Upon failure of the owner or authorized agent of the owner of the building or premises to have the defect (s) corrected by the specified time. *Aqua Utilities Florida, Inc.* shall cause the water service to the building or premises to be terminated and shall take such other precautionary measures deemed necessary to eliminate any danger of contamination of the public potable water supply and system.

2. Aqua Utilities Florida, Inc. shall cause discontinuance of water service if a reduced pressure backflow prevention device has been by-passed or failed to be tested or properly maintained as required by Aqua Utilities Florida, Inc. policy statements contained in this manual.

3. Aqua Utilities Florida, Inc. shall cause discontinuance of water service if an air-gap separation system is compromised or if, in the opinion of Aqua Utilities Florida, Inc., a hazardous condition cannot be immediately corrected.

4. Upon discontinuance of water service for non-compliance with the provisions of this manual, water service to such property shall not be restored until the system has been brought into full compliance, and a written order to reconnect has been issued by *Aqua Utilities Florida*, *Inc.*.

9.02 Violation Liability

1. Any person or customer found violating any of the provisions of this manual or any written order of *Aqua Utilities Florida, Inc.* pursuant thereto, shall pay all costs and expenses involved in the case, including attorney's fees.

2. Notice of such violation shall be given by delivery of same to the premises and a copy thereof mailed to the billing address as it appears on *Aqua Utilities Florida*, *Inc.* billing records.

3. Each day upon which a violation shall occur shall be deemed a separate and additional violation.

4. Any person or custome in violation of any provisions of this manual shall also be liable to *Aqua Utilities Florida, Inc.* for any expense, loss, or damage incurred by reason of such violation to include attorney's fees.

5. Aqua Utilities Florida, Inc. may bring suit in the appropriate court to enjoin, restrain or otherwise prevent the violations of any of the provisions of this manual.

Section 10 Fire Systems

10.01 General (refer to Section 7 for abbreviations.)

1. *Aqua Utilities Florida, Inc.* will install and maintain DCV and DDCVG for all unmetered fire systems which have a low or moderate degree of hazard.

2. A DCVA or RP, depending upon the degree of hazard, shall be installed by the consumer on all metered fire systems.

3. Devices will be installed above ground, when possible, to provide easier maintenance and meter accessibility

4. All devices installed by Aqua Utilities Florida, Inc. will be tested annually by Aqua Utilities Florida, Inc. and maintained at a frequency proportionate to their age.

5. The cost of testing and maintenance will be paid by consumer.

10.02 Classes of Systems and Recommended Protection

Fire systems shall be divided into the following six (6) classes for the purpose of review. These classes are as adopted in the AWWA, M14 Backflow Prevention and Cross-Connection Control Manual and as endorsed by the National Automatic Sprinkler and Fire Control Association.

<u>Class 1</u> - Direct connections from public water mains only: no pumps, tanks, or reservoirs; no physical connection from other water supplies; no anti-freeze or other additives of any kind; all sprinkler drains discharging to atmosphere, dry wells, or other safe outlets.

Recommended Protection for Class 1: Single check valve and alarm check valve.

<u>Class 2</u> - Same as Class 1, except that booster pumps may be installed in the connections from the street mains (booster pumps do not affect the potability of the system; it is necessary, however, to avoid drafting so much water that pressure in the water main is reduced below 20 psi).

Recommended for Class 2 - Same as Class 1

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<u>Class 3</u> - Direct connection from public water supply main plus one or more of the following; elevated storage tanks: fire pumps taking suction from above ground covered reservoirs or tanks (all Storage facilities are filled or connected to public water only; the water in the tanks to be maintained in a potable condition. Otherwise, Class 3 systems are the same as Class 1.)

Recommended Protection for Class 3: Systems will generally require minimum protection (approved DCVA) to prevent stagnant waters from backflowing into the public potable water system.

<u>Class 4</u>- Directly supplied from public mains similar to Classes 1 and 2, with an auxiliary water supply on or available to the premises, or an auxiliary supply may be located with 1,700 feet of the pumper connection (Note: The auxiliary supply would mean a pond, river, etc., dedicated to Fire Department use).

Recommended Protection for Class 4: Systems will normally require maximum protection at the service connection. The type (AG or RP) will generally depend on the quality of the auxiliary supply.

Class 5 - Directly supplied from public mains and interconnected with auxiliary supplies, such

as: pumps taking suction from reservoirs exposed to contamination or rivers and ponds; driven wells, mill or other industrial water systems, or where antifreeze or other additives are used.

Recommended Protection for Class 5: Same as Class 4

<u>Class 6</u> - Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suctions tanks.

Recommended Protection for Class 6: System protection would depend on the requirements of both industry and fire protection, and could only be determined by a survey of the premises.

A meter (compound, detector check) should not normally be permitted as part of a backflow prevention device. An exception may be made, however, if the meter and backflow prevention device are specifically designed for that purpose.

10.03 Low Pressure Cut-Offs

in the start of the

All fire pumps drawing suction from *Aqua Utilities Florida*, *Inc.* water mains shall be equipped with low pressure cut-off devices or other means to prevent the reduction of water main pressure below 20 psi.

10.04 Standard Operating Procedures

1. Current AWWA backflow prevention practices for fire lines do not regard stagnant water as a health problem for low head, closed pipe fire systems. Alarm checks on sprinkler system risers in conjunction with other check valves such as single detector check valves at the service connection are considered protection for these types of potential contaminatns.

2. Fire suppression systems supplied by six (6) inch or larger pipe and /or systems supplemented with on-site tanks or reservoirs or other water supplies shall be provided with either DCVA or other device types installed in accordance with the following criteria;

Installation: Mechanical backfow prevention devices need pressure loss to function properly. Before installing a device on a fire system, new or existing, this pressure loss should be factored into the system design to ascertain what effect it will have on system performance. Currecnt device standards for sizes 4" through 10" permit pressure loss up to 14 psi for RPs and 10 psi for DCVAs (and DDCVs). Specific pressure loss information is readily available from all device manufacturers.

Manufacturer's installation instructions must be followed to ensure proper operation and to protect the equipment's warrant. General installation guidelines are as follows:

a. The device should be installed in a horizontal position and have at least 12" between the bottom of the device and final grade or floor.

b. Lateral clearance around the device must be provided to facilitate testing,

maintenance and replacement

hy in the

c. Two (2) devices should be installed in parallel for any facility that must have uninterrupted flow during device testing or repair (e.g., medical buildings)

d. Though not recommended, devices maybe installed in pits that are well drained: NO PART OF A DEVICE SHOULD EVER BE UNDER WATER.

e. If a device is installed inside a building, a floor drain is helpful to elimate spillage caused by testing or flushing.

f. Since the relief valve on an RP will periodically drip or spit and may dump, the relief vent may be fitted with a drainline if spillage is objectionable or hazardous (e.g., electrical hazards). The end of the drain line must terminate 12" above ground or floor level and be clearly visible and accessible.

g. The device should be protected against freezing.

h. Shut-off valves should be of the OS type. And Y type strainers should not be used.

i. The assembled piping should be thoroughly flushed before installing the device.

j. The device should be adequately supported.

k. Fire suppression systems supplied by pipe less than 6" shall be adequately protected by the alarm check valve and a single check valve placed between the Fire Department connection and the main tap.

i. Water meters shall not be placed on fire protection lines.

<u>MANUAL OF CROSS CONNECTION CONTROL</u> <u>AQUA UTILITIES FLORIDA, INC.</u>



See Page 2 for Instructions.	
1. General Water System Information for the Month/Year of: May, 2008 Consecutive System Name: Kingswood	PWS Identification Number: 3054101
Consecutive System Type: Image: Community Image: Community Number of Service Connections at End of Month: 58	Transient Non-Community Total Population Served at End of Month. 136
Consecutive System Owner: Aqua Utilities,Fl. Contact Person: William Trendel	Contact Person's Title:Senior Facilities Operator City: Longwood State: FL 32750
Contact Person's Mailing Address: 140 Hope St. Contact Person's Telephone Number: 407-339-5424 Contact Person's E-Mail Address: 407-339-5424	City: Longwood State: FL 32750 Contact Person's Fax Number: (407) 339-7490
II. Daily Distribution System Disinfectant Residual Data for the Month/Year of : Type of Disinfectant Residual Maintained in Distribution System: []	May, 2008 [편] Combined Chlorine (Chloramines)
Lowest Residual Disinfectant Day of the Concentration at Remote Point Month in Distribution System, mg/L 1 3.6 2 3 4 5 6 7 8 3.0 9 10 11 12 13 2.8 Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Lowest Residual Disinfectant Day of the Mouth Mouth 17 18 19 20 4.0 21 22 2.4 23 24 25 26 27 3.2 28 29 2.0 Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation Dependent 20 4.0 21 22 2.4 23 24 25 26 27 3.2 28 29 2.0
$ \begin{array}{c} 14 \\ 15 \\ 16 \end{array} $ 3.4	30 31

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

6/8/08 Signature and Date

William Trendel Printed or Typed Name

Page

C-6411 License Number or Title

DEP Form 62-555.900(4) Effective 128, 2003



See Page 2 for Instructions.

I. General Water System Information for	he Month/Year of: June, 2008			
Consecutive System Name: Kingswoo	d		PWS Identifica	tion Number: 3054101
Consecutive System Type:	Community [] Non-Transient Non-Community	T Transient Non-Community		
Number of Service Connections at End of	Month: 58	Total Pe	opulation Served at End of N	136 tonth:
Consecutive System Owner:	Aqua Utilities,Fl.			
Contact Person:	William Trendel	Contact	Person's Title:Senior Facilit	ies Operator
Contact Person's Mailing Address:	140 Hope St.	City: Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424	Contact	Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:	nen denne ste mellen i de familier av de le service de le service entre entre entre entre entre entre entre en			

	Distribution System Disinfectant Residua isinfectant Residual Maintained in Distri		ine, 200	18 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

7/6/08 Signature and Date

DEP Form 62-555.900(4) Effective 1 28, 2003 William Trendel Printed or Typed Name

Page

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Information for t	he Month/Year of July, 2008				
Consecutive System Name: Kingswoo		PWS Identification Number: 3054101			
Consecutive System Type:	Community T Non-Transient Non-Community	Transient Non-Community		and a second	
Number of Service Connections at End of	Month: 58	Total Po	pulation Served at End of M	Ionth: 136	
Consecutive System Owner:	Aqua Utilities,Fl.			en e	
Contact Person:	William Trendel	Contact	Person's Title: Senior Facilit	ies Operator	
Contact Person's Mailing Address:	140 Hope St.	City: Longwood	State: FL	32750	
Contact Person's Telephone Number:	407-339-5424	Contact	Person's Fax Number:	(407) 339-7490	
Contact Person's E-Mail Address:			www.execution.com/access.com/access.com/access/access.com/acces		

	Distribution System Disinfectant Residual isinfectant Residual Maintained in Distril	Contraction of the second se	uly, 200 [코]	8 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

1 28, 2003

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

8/4/08 Signature and Date

Effective

William Trendel Printed or Typed Name

Page

C-6411 License Number or Title



See	Page	2	for	Instructions.
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I. General Water System Information for t	he Month/Year of:	August, 2008			and a second of the second
Consecutive System Name: Kingswoo	d	n na		PWS Identification	Number: 3054101
Consecutive System Type:	F Community	[] Non-Transient Non-Community	T Transient Non-Communi	ty	
Number of Service Connections at End of	Month:	58		l Population Served at End of Mont	h: 136
Consecutive System Owner:	Aqua Utilities,				
Contact Person:	William Trende			tact Person's Title: Senior Facilities (
Contact Person's Mailing Address:	140 Hope St.		City: Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424	* bit is produced a subface control feedback and a design of the desi	CON	tact Person's Fax Number:	(407) 339-7490
ontact Person's E-Mail Address:	nana na baaraanka amara na amara madaanka na ma	n a summer provers a market market water in the second second as a summer of the second second second second se		(A) Free M. O. A. AND. A second strain and strain an	

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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

08 Signature and Date

DEP For 555.900(4) Effective st 28, 2003 William Trendel

Printed or Typed Name

Pag(

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Information for th	: Month/Year of: September, 2008			
Consecutive System Name: Kingswood	na n			ion Number: 3054101
Consecutive System Type:	Community [] Non-Transient Non-Community	□ Transient Non-Comm	nunity	
Number of Service Connections at End of M	fonth: 58		Total Population Served at End of M	onth: 136
Consecutive System Owner:	Aqua Utilities,Fl.			
Contact Person:	William Trendel		Contact Person's Title:Senior Faciliti	es Operator
Contact Person's Mailing Address:	140 Hope St.	City: Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424		Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:	Management open i weren erent miner er anvensenenen fär mensen av det andere eren varenenenen som i som er er m Management open i væren erent og erent og erent ere			

	Disinfectant Residual Maintained in Distril		(で)	Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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III. Certification by Authorized Representative

1 am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief.

10/6/08 Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title

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See Page 2 for Instructions.

See Page 2 for Instructions.						
1. General Water System Information for the Mon	th/Year of: October, 2008				and a second	a and the second and a second se
Consecutive System Name: Kingswood					PWS Identifica	tion Number: 3054101
	Community C Non-Transient Non-Community	F 7	Fransient Non-Comm	unity		
Number of Service Connections at End of Month:	58		T	otal Population Serv	ved at End of N	10nth: 136
Consecutive System Owner:	Aqua Utilities,FI.					
Contact Person:	William Trendel		C	ontact Person's Title	e:Senior Facilit	ies Operator
Contact Person's Mailing Address:	140 Hope St.	(City: Longwood	1	State: FL	32750
Contact Person's Telephone Number:	407-339-5424		Ċ	Contact Person's Fax	Number:	(407) 339-7490
Contact Person's E-Mail Address:	e de l'anne anno anno anno anno anno anno anno					
I. Daily Distribution System Disinfectant Residua	al Data for the Month/Year of :	tober, 20	08	in the call of a second constant		and the second
ype of Disinfectant Residual Maintained in Distr	ibution System:		Combined Chlorine (C	(hloramines)		Chlorine Dioxide
	Emergency or Abnormal Operating Conditions;				Emergency	or Abnormal Operating Condition
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

ulia: 11/6/08 Signature and Date

- 11/0/

William Trendel Printed or Typed Name

C-6411 License Number or Title 89

DEP Form 62-555.900(4) Effectiv ust 28, 2003

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See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: November	er, 2008
Consecutive System Name: Kingswood	PWS Identification Number: 3054101
Consecutive System Type: [7] Community [7] Non-Transient Non-Co	ommunity T Transient Non-Community
Number of Service Connections at End of Month: 58	Total Population Served at End of Month: 136
Consecutive System Owner: Aqua Utilities,Fl.	
Contact Person: William Trendel	Contact Person's Title:Senior Facilities Operator
Contact Person's Mailing Address: 140 Hope St.	City: Longwood State: FL 32750
Contact Person's Telephone Number: 407-339-5424	Contact Person's Fax Number: (407) 339-7490
Contact Person's E-Mail Address:	

pe of Disinfectant Residual Maintained in Distribution System:	Free Chlorine	17	Combined Chlorine (Chloramines)	<u>Г</u> (Chlorine Dioxide
Lowest Residual Disinfectant Repair or Mai	onormal Operating Conditions; ntenance Work that Involves System Components Out of Operation	Day of the Month	Lowest Residual Disinfectar Concentration at Remote Poi in Distribution System, mg/l	nt Repair or Ma nt Taking Water	bnormal Operating Condition intenance Work that Involves System Components Out of Operation
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III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief.

12/7/08 Signature and Date

William Trendel Printed or Typed Name

Page 1

C-6411 License Number or Title



See Page 2 for Instructions.

1. Orneral Water System Information for the M	onth/Year of: Dec. 2008			
Consecutive System Name: Kingswood				1 Number: 3054101
Consecutive System Type: Number of Service Connections at End of Mont	fr Community fr h: 58	Transient Non-Cor		
Consecutive System Owner:	Aqua Útilities.Fl.		Total Population Served at End of Mon	th: 136
Contact Person: Contact Person's Mailing Address:	William Trendel 140 Hope St.		Contact Person's Title Senior Facilities	Operator
Contact Person's Telephone Number: Contact Person's E-Mail Address:	407-339-5424	City: Longwood	State: FL Contact Person's Fax Number:	32750 (407) 339-7490

Sype of Disinfectant Residual Maintained in Distr		{*]	Combined Chlorine (Chloramines)	Chlorine Dioxide
Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L 4 4 3 4 3 7 5 6 7 8 9 1.8 10 11 3.4 12 13 14 15	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L 3.6 3.1 2.5 2.6	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation

ner Commentantin Agency From Astron. - - Personal Astro-

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

1/7/09 Signature and

William Trendel Printed or Typed Name

-

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Information fo	r the Month/Year of	January, 2009			
Consecutive System Name: Kingswe	bod			PWS Identifica	tion Number: 3054101
Consecutive System Type:	Community	Non-Transient Non-Community	T Transient Non-Co	nmunity	
Number of Service Connections at End of	of Month:	58		Total Population Served at End of M	fonth: 136
Consecutive System Owner:	Aqua Utilities,Fl.			aan dhaan ay aa ahaa ahaa ahaa ahaa ahaa ahaa	
Contact Person:	William Trendel			Contact Person's Title:Senior Faciliti	ies Operator
Contact Person's Mailing Address:	140 Hope St.		City: Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424			Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:					anna a tharacharacharacharacharacharacharachara

 Daily Fype of D 	Distribution System Disinfectant Residua Disinfectant Residual Maintained in Distri	bution System: J Free Chlorine	nuary, 2 I⊽∣	Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	4.0		18		
3			19		
4			20	2.4	
5			21		
6	4.4		22	0.4	
7			23		
8	3.0		24		
9			25		
10			26		
11			27		
12			28	0.0	
13	5.8		29		
14			30	5.5	
15	2.6		31		
16			1		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

2/8/09 Signature and Date

William Trendel Printed or Typed Name

Pag

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Informat	tion for the Month/Year of:	Feb. 2009			
	ingswood	an a		PWS Identificat	tion Number: 3054101
Consecutive System Type:		Non-Transient Non-Community	T Transient Non-Cor	nmunity	
Number of Service Connections at	End of Month:	.58		Total Population Served at End of M	lonth: 136
Consecutive System Owner:	Aqua Utilities,FI.				
Contact Person:	William Trendel			Contact Person's Title Senior Faciliti	ies Operator
Contact Person's Mailing Address	140 Hope St.		City: Longwood	State: FL	32750
Contact Person's Telephone Numb	er: 407-339-5424		and a second	Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:			an a		

 Daily Type of E 	Distribution System Disinfectant Residua Disinfectant Residual Maintained in Distri	Data for the Month/Year of : Free Chlorine	Feb. 2009 e Image: Combined Chlorine (Chloramines) Image: Combined Chlorine (Chloramines)			
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	
1			17	3.7		
2			18			
3			19	3.8		
4	0.5		20			
5			21			
6	3.8		22			
7			23			
8			24	1.8		
9			25			
10			26	4. I		
11	2.1		27			
12			28			
13	2.0		29			
14			30			
15			31			
16	· · · · · · · · · · · · · · · · · · ·		[

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

3/6/09 Signature and Date

William Trendel Printed or Typed Name

Pag

C-6411 License Number or Title



See Page 2 for Instructions.

6. General Water System Information for th	ie Month/Year of: March, 2009			
Consecutive System Name: Kingswood	1	and a second	PWS Identification	on Number: 3054101
Consecutive System Type:	Community T Non-Transient Non-Community	T Transient Non-Com	imunity	
Number of Service Connections at End of I	Month: 58		Total Population Served at End of Mo	nth: 136
Consecutive System Owner:	Aqua Utilities,Fl.			
Contact Person:	William Trendel		Contact Person's Title:Senior Facilities	s Operator
Contact Person's Mailing Address:	140 Hope St.	City: Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424		Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:				

Type of D	isinfectant Residual Maintained in Distri	bution System: T Free Chlorine	121	Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18		
3	3.1		19	3.5	
4			20		
5	3.5		21		
6			22		
7			23		
8			24	3.9	
9			25		
10	0.8		26		
11			27		
12	3.7		28		
13			29		
14			30		
15			31	4.3	
16			[

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. 8/09 Signature and Date

DEP Fr 52-555,900(4) Effect just 28, 2003 William Trendel Printed or Typed Name

Pad

C-6411 License Number or Title



See Page 2 for Instructions.

1. General Water System Information for	the Month/Year of:	April, 2009			
Consecutive System Name: Kingswoo	bd			PWS Identifica	ation Number: 3054101
Consecutive System Type:	I♥ Community	[Non-Transient Non-Community	T Transient Non-Community		
Number of Service Connections at End of	Month:	58	Total Po	opulation Served at End of M	Month: 136
Consecutive System Owner:	Aqua Utilities	,FI.			
Contact Person:	William Trend	lel	Contact	t Person's Title Senior Facilit	ties Operator
Contact Person's Mailing Address:	140 Hope St.		City; Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424		the second se	Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:			and the second sec		(401) 537-1475

II. Daily Type of D	Distribution System Disinfectant Residua Disinfectant Residual Maintained in Distri	I Data for the Month/Year of : A bution System: T Free Chlorine	pril, 20 [र]	09 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	(2) International Contraction and Contracti		18		
3	4.3		19		10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -
4		an and a second second second with the second s	20		
6		annen sama aka sa mananan ana aka aka mananan ang aka mananan kananan kanananan aka sa manan kanan sa sa sa sa	21	3.4	
7	3.0	and the second s	22		алынын улаан улаан жала таан таан жалаар жала жалаасын каласын каласын каласын каласын каласын каласын каласын
8	and a set and the set of the set	(1) States and the state states are state with the state state and the state state are states and the state state state are states are states.	23	0.3	
9	2.5	n an	25		
10		n na	26		
11	THE PARTY OF THE P		27		
12		n y - Constitutions around i famone around anna around around around around around around around around around	28	0.7	analogi a ang ang ang ang ang ang ang ang ang a
13			29		
14	3.9		30	3.4	
15			31		nennennen antennen (* 55 maarte statte statte af 1995 al energiester al 1995 al energiester al 1995 al 1997 al
16	2.9	and the second			

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

5/09 Signature and Date

William Trendel Printed or Typed Name

Pad

C-6411 License Number or Title



See Page 2 for Instructions.

II IN IL INT A IL A

I. General Water System Information for the	Month/Year of: May, 2009			
Consecutive System Name: Kingswood Consecutive System Type: Number of Service Connections at End of Mc	Community	[] Transient Non-Co	PWS Identification Number	er: 3054101
Consecutive System Owner. Contact Person:	Aqua Utilities,FI.		Total Population Served at End of Month:	136
Contact Person's Mailing Address:	William Trendel 140 Hope St.	City: Longwood	Contact Person's Title:Senior Facilities Operato	
Contact Person's Telephone Number: Contact Person's E-Mail Address:	407-339-5424	serij i zongoood		32750 339-7490

ay of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Chlorine Dioxide Emergency or Abnormal Operating Condition. Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
2		10 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a	17		
3		A set of the set of	18		
5	3.6		20 21		
6 7			21	5.0	
8	4.1		23 24		
10			25		
11			26	2.1	
12	4.3		28	3.3	
14	4.5		29		
15	5.1		31		

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

durd 6/7/09 Man Signature and Date

DEP Form 62-555 900(4) Effective st 28, 2003 William Trendel Printed or Typed Name

Page

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Information for t	the Month/Year of: June, 2009			
Consecutive System Name: Kingswoo	d		PWS Identifica	ation Number: 3054101
Consecutive System Type:	F Community Non-Transient Non-Community	Transient Non-Community		
Number of Service Connections at End of	Month: 58	Total	Population Served at End of N	Aonth: 136
Consecutive System Owner:	Aqua Utilities,Fl.		and a second sec	
Contact Person:	William Trendel	Conta	ct Person's Title:Senior Facili	ties Operator
Contact Person's Mailing Address:	140 Hope St.	City: Longwood	State: FL	32750
ontact Person's Telephone Number:	407-339-5424	Conta	et Person's Fax Number:	(407) 339-7490
'ontact Person's E-Mail Address:				

ype of D	bisinfectant Residual Maintained in Distril	Dution System: Free Chlorine	V	Combined Chlorine (Chloramines)	Chlorine Dioxide
ay of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
2	0.8	²⁰⁰ സംഭ തന്ന് നിന്നും പ	17		
3			19	4.1	
5	5.1 million and a same	a na a nanagina a na anga a sa ang ang ang ang ang ang ang ang ang an	20		
6		and a second of a second s	22		
7		n an the same and a	23 24		
9	5.7		25	6.6	
10	4.1		26		
12		$(m,m) \in \mathbb{R}^{n} \setminus \{m,m\} \in R$	27 28		
15		 T. M. ² ¹ ¹ ¹ ¹ ¹ ¹ ¹ ¹ ¹ ¹	29		
15			30 31	11.0	
16	4.3				

III. Certification by Authorized Representative

1 am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. 1 certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

7/7/09 Signature and Date

William Trendel Printed or Typed Name

Page

C-6411 License Number or Title 97

DEP Fo 555 900(4) Effective st 28, 2003



See	Page	2	for	Instructions.	
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I. General Water System Informati	ion for the Month/Year of:	July, 2009			
Consecutive System Name: Ki	ngswood			PWS Identificat	tion Number: 3054101
Consecutive System Type:	Community	Non-Transient Non-Community	□ Transient Non-Co	mmunity	
Number of Service Connections at	End of Month:	58		Total Population Served at End of M	onth 136
Consecutive System Owner:	Aqua Utilities,	,FI.			and an
Contact Person:	William Trend	lel	ан амаал на настание и на амийн таган адааг сан адааг сан адааг сан басаг на байн на сан адаан нь сан адаар ун Т	Contact Person's Title:Senior Facilitie	es Operator
Contact Person's Mailing Address:	140 Hope St.		City: Longwood	State: FL	32750
Contact Person's Telephone Numb	er: 407-339-5424			Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:				an farmen e sur commencer requires commencer and	anna a shekara a shekara a shekara she

	Distribution System Disinfectant Residua isinfectant Residual Maintained in Distri		uly, 200 [구]	19 Combined Chlorine (Chloramines)	Chlorine Dioxide
i Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	4.7	
2	2.3		18		t die eine versie ween versie ween versie als als ander die eine versie versie versie versie versie versie vers
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4		and and while a second second state of the second contraction of the second second second second second second	20	and a second second second second second second second second second	en ante en
6	(b) with a shift of the set of the site (she and and see a set).	na lan salar s	21	3.3	
7	3.7	an anal 2018 (a canada) and an anna anna a faoi 10 anna 10 ann 10 anna an anna an anna an anna a anna a	23	53	
8			24	an a	na an ann an
9	7.0	10 An element of the second second second of the probability of the second s	25		
10			26		an a
11			27		
12		ana sa	28	0.7	
13		and and a second s	29		
14	5.0	ana amin'ny faritr'ora amin'ny faritr'ora amin'ny faritr'ora amin'ny faritr'ora dia mampiasa amin'ny faritr'ora	30	3.3	
16		n manana manana manana manana na sana sa	31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief. Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title 98



See Page 2 for Instructions.

I. General Water System Information for t	the Month/Year of:	August, 2009			
Consecutive System Name: Kingswoo	od			PWS Identifica	tion Number: 3054101
Consecutive System Type:	Community	√ Non-Transient Non-Community	□ Transient Non-Cor	nmunity	na n
Number of Service Connections at End of	Month:	58		Total Population Served at End of M	fonth: 136
Consecutive System Owner:	Aqua Utilitics,F	٦.			nan sanananan kunan kunan sanan sanan kunan kunan kunan kunan kunan kunan sanan sanan sanan sanan sana
Contact Person:	William Trende	1	and an and an an an and an	Contact Person's Title Senior Faciliti	ies Operator
Contact Person's Mailing Address:	140 Hope St.		City: Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424	an and a second s	an ann an ann an Annaichtean an an ann an ann an ann an ann an ann an a	Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:	an waarda oo ahaan ah		n an a management brancher and anne an anna an anna an anna an an an an an		nan yan mahari angan sena nanan kan dan sena na na pangangan sena nanan kan sena sena sena sena sena sena sena

	Distribution System Disinfectant Residua lisinfectant Residual Maintained in Distri		igust, 2 [코]	009 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
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6	1996 - Jane 1997 - 19		22		
7	4.4		23		
8			24		
9			25	0.2	
10			26		
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12		MARKAN MARKANY ANTAN'NY TANÀNA MANGKANY ANALANA ANALANA MANANA MANANA MANANA MANANA MANANA MANANA MANANA MANANA	28	2.8	
13	3.9	аналаст уласная онного соловилостико на коммен, омерономилостиков до разлост болостико. Ана Софинно на населени По посто	29		ο ματαλού του μεταλογιστικού του το του του του του του του του του
14			30		
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16		n of the second state with a state of the			

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

9/6/09 Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title 66



See Page 2 for Instructions.

I. General Water System Information for t	he Month/Year of:	Sept. 2009				
Consecutive System Name: Kingswoo	d			PWS Identifica	tion Number: 3054101	
Consecutive System Type:	Community	Non-Transient Non-Community	Transient Non-Co	nmunity	and the design of the second	
Number of Service Connections at End of	Month:	58	ny management of the second system of the	Total Population Served at End of M	fonth: 13	6
Consecutive System Owner:	Aqua Utilities	FI.		(1) A second matrix control matrix Constant, or a construction of the second matrix of the construction of the second second matrix of the second s second second seco		·
Contact Person:	William Trend	lel	nan o ban da santa ana mangalangi nanangangga kan da sa na na santa na santa na sanga sanah kana kan sakara ak	Contact Person's Title:Senior Faciliti	ies Operator	
Contact Person's Mailing Address:	140 Hope St.		City: Longwood	State: FL	32750	
Contact Person's Telephone Number:	407-339-5424		Construction and accompany of the second state of the second st	Contact Person's Fax Number:	(407) 339-7490	
Contact Person's E-Mail Address:				an harmanna a sa mar sa mar sa panan da ana marana a sa manana marana a	and the second	all analysis of the second second

	Distribution System Disinfectant Residua bisinfectant Residual Maintained in Distri		ept. 20(뎐	9 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
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7			23	and a second	
8			24	1.3	and an
9	4.7		25		
10			26		
11	6.4		27		
12			28		
13			29	2.1	
14	4.1		30		
16			31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

14/09 Signature and Date

William Trendel

Printed or Typed Name

C-6411 License Number or Title 100



See Page 2 for Instructions.

L General Water System Information for the	: Month/Year of:		Oct. 2009				
Consecutive System Name: Kingswood					PWS Identific	ation Number: 30541	01
Consecutive System Type:	[⊽] Community		Non-Transient Non-Community	T Transient Non-Co	nmunity		
Number of Service Connections at End of M	lonth:		58		Total Population Served at End of	Month:	136
Consecutive System Owner:	Aqua Utilities, I	а <u>.</u>					
Contact Person:	William Trende	1			Contact Person's Title:Senior Facil	ities Operator	
Contact Person's Mailing Address:	140 Hope St.			City: Longwood	State: FL	3	2750
Contact Person's Telephone Number:	407-339-5424				Contact Person's Fax Number:	(407) 339-749	0
Contact Person's E-Mail Address:							

	Distribution System Disinfectant Residua isinfectant Residual Maintained in Distri		Oct.200 [코]	9 Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	3.8		18		
3			19		
4			20	1.4	
5			21		
6	3.5		22	2.2	
7			23		
8	1.5		24		
9			25		
10			26		
11			27	3.6	
12			28		
13	3.1		29	4.1	
14			30		
15	1.5		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

11/4/09 Signature and Date

William Trendel Printed or Typed Name

C-6411 License Number or Title 101

DEP For \$2-555,900(4) Effecti ust 28, 2003

Pag



See Page 2 for Instructions.

L. General Water System Information for t	he Month/Year of:	Nov. 09			
Consecutive System Name: Kingswoo	d			PWS Identifica	ation Number: 3054101
Consecutive System Type:	Community	Non-Transient Non-Community	TI Transient Non-Comm	unity	
Number of Service Connections at End of	Month:	58		fotal Population Served at End of M	Nonth: 136
Consecutive System Owner:	Aqua Utilitics,	FI.			
Contact Person:	William Trende	el	(Contact Person's Title Senior Facilit	lies Operator
Contact Person's Mailing Address	140 Hope St.		City: Longwood	State: FL	32750
Contact Person's Telephone Number:	407-339-5424			Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address	a and a second and a second				

	Distribution System Disinfectant Residua isinfectant Residual Maintained in Distri		Nov. 09 F Combined Chlorine (Chloramines) Chlorine Dioxide			
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	
1			17	3.8		
2			18			
3	0.6		19	4.0		
4			20			
5	4.4		21			
6			22		a demonstrative and a second	
7		2 	23	5.0		
8		and an	24			
9		and the second	25	3.9		
10	0.4		26			
11			27			
12	2.0		28			
13			29			
14			30			
15			31			
16						

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

12/4/09 Signature and Date

William Trendel Printed or Typed Name

Page

C-6411 License Number or Title



See Page 2 for Instructions.

I. General Water System Infor	mation for the Month/Year of	December, 2009			anna an	
Consecutive System Name:	Kingswood	s		PWS Identificat	ion Number: 3054101	
Consecutive System Type:	Community	Non-Transient Non-Community	Transient Non-Co	nmunity		
Number of Service Connection	is at End of Month:	58	name na secono con a constante de la constante con secono de la constante de la constante de la constante de la	Total Population Served at End of Mo	onth	136
Consecutive System Owner:	Aqua Utilities	,Fl.		a yan kanan anana anana anana ana anana ana		
Contact Person:	William Trend	lcl		Contact Person's Title:Senior Facilitie	es Operator	annan ar 116 i ann an Alain a' gun a' 111 i annan Arainn an 119
Contact Person's Mailing Addr	ress: 140 Hope St.		City: Longwood	State: FL	32750	
Contact Person's Telephone Nu	umber: 407-339-5424		naara aan naarinnaa ah a	Contact Person's Fax Number	(407) 339-7490	and and the second s
Contact Person's E-Mail Addre	SS:				(,	

II. Daily I	Distribution System Disinfectant Residual		ember,		
I ype of D	isinfectant Residual Maintained in Distril	bution System: Free Chlorine		Combined Chlorine (Chloramines)	Chlorine Dioxide
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	2.9		17	3.2	
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6			- 22	3.9	
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10	2.3		26		
11			27		
12			28		
13			29	3.7	
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16				5.4	

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

1/7/10 Signature and Date

William Trendel Printed or Typed Name

C-6411 Lícense Number or Title 103



an entry of State have made	2 10 × 5 10	January, 2010				
escoutive System Name: Kingswood				PWS Identifie	ation Number: 3054101	
manoutive System Type:	E Community I Non-Tr	Insight Non-Community	Transient Non-Con	accurately		
umber of Service Connections at End of	Month: 58		· · ·	Total Population Served at End of	Month: 1	36
matculieve System Owner.	Aqua Utilitics,Fl.					
mitact Person:	William Trendel			Contact Person's Title Senior Facil	ities Operator	
sentent Person's Mailing Address:	140 Hope St.		City: Longwood	State: FL	32750	
nitact Peran's Telephone Number:	407-339-5424			Context Person's Fax Number:	(407) 339-7490	
outest Person's 5-Mail Address:						
		I.	muary, 2010			
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I am fully asthorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

2/7/10

Signature and Date

William Trendel Printed or Typed Name

P

C-6411 License Number or Title 104

May

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8:47AM

AQUAUT ILFLFAX

4073397490

p. 4



See Page	for Instructions.					
	e di presentes l'Astana si forme Men-	February, 2010				
Consecutiv	ve System Name Kingswood				PWS Identification Number	3054101
Consecutio	re System Type	Community [] Non-Transient Non-Community	1	Transient Non-Community		
Number of	Service Connections at End of Month	58		Total Population Sci	rved at End of Month	136
Consecuto	e System Owner	Aqua Utilities.H				
Contact Pe	nor	William Trendel		Contact Person's Tit	le Senier Facilities Operator	
Contact Pe	rson's Mailing Address	140 Hope St.		City Longwood	State: FI	32750
Contact Pe	rson's Telephone Number	407.339-5424		Contact Person's Fa	x Number (407) 3	139-7490
	rson's E-Mail Address					
	a - an	C.4		2010		
	supply a sequence accurate should		ruary,	Combined Chlorine (Chloramines)	Chiere	ne Diavide
Type of Di	sinfectant Residual Maintained in Distri	bution System: If the Chlorine	1~) 1~)	Combined Childrine (Childribhines)		
ł		Emergency or Abnonnal Operating Conditions;			Emergency or Abnor	mal Operating Conditions;
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Day of the	Concentration at Remote Point	•	the			peration
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12			28			
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16	2.7					
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1 8	cation for Anthonized Representative					

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief Signature and Date 3/7/10

William Trendel Printed or Typed Name C-6411 License Number av Litie

08P Form 62 555 900(4) (Text ve August v.H. 2020)

1



See Page 2 for Instructions. Consecutive System Name: Kingswood Consecutive System Type: Number of Service Connections at End of Month Consecutive System Owner Contact Person: Contact Person's Mailing Address: Contact Person's Telephone Number.	Action of the second se	a the second sec	PWS Identification Number 3054101 ved at End of Month. 136 le Senior Facilities Operator State: FL 32750 (Number (407) 339-7490
Contact Person's E-Mail Address: II Daily Distribution System Desutectant Residu Type of Disinfectant Residual Maintained in Distr		arch, 2010	Chlorine Dioxide
Lowest Residual Disinfectant Day of the Concentration at Remote Point Month in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Lowest Residual Disinfectant Day of the Mouth in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
$\begin{array}{c c} 1 \\ \hline 2 \\ \hline 3 \\ \hline 4 \end{array}$		17 18 05 19 20	
5 6 7 8		21 22 23 24 06	
9 09 10 11 07 12		25 26 26 27 28 2	
13 14 15 16 0.4		29 30 31 08	

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief

4/4/10 la Signature and Date

DEP Form 62-555 900(4) Effective August 28-2003 William Trendel Printed or Typed Name

Page 1

C-6411 License Number or Title 106

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See Page 2 for Instructions. I Get et. I. Water System Information for the Month Year of April, 2010 Consecutive System Name: Kingswood Consecutive System Type: Image: Community Number of Service Connections at End of Month 58 Consecutive System Owner Aqua Utilities,FL Contact Person William Trendel Contact Person's Mailing Address 140 Hope St. Contact Person's Telephone Number 407-339-5424 Contact Person's II-Mail Address 140 Hope St.	PWS Identification Number 3054101 Image: Transient Non-Community Total Population Served at End of Month 136 Contact Person's Title Senior Facilities Operator City: Longwood State: FL 32750 Contact Person's Fax Number (407) 339-7490	
	April, 2010 F Combined Chlorine (Chloramines) Chlorine Dioxide	
Lowest Residual Disinfectant Day of the MonthEmergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves 	s; Lowest Residual Disinfectant Day of the Month 17 18 19 20 09 21 22 11 23 24 25 26 27 0.5 28 29 30 31 Emergency or Abnormal Operating Condition Repair or Maintenance Work that Involve Taking Water System Components Out of Operation 0.9 21 22 11 23 24 25 26 27 0.5 28 29 30 31	es

III Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my

knowledge and belief 5/7/10 Signature and Date

William Trendel Printed or Typed Name C-6411 License Number or Title 107

DEP Form 62-555 900(4) Effective August 28, 2003

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Type o (cheo	f Supply: Community Water System ck only one) Private Well	Noncom Swimmi	munity Wa	iter System	No	ntransient-M ttled Water		nity Water	System	Limited Use Sys Other	stem
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2	2454 WILDWOOD	1315	Þ	1.7	8.0		A			2136923	JOZ
Average	of disinfectant residuals for routine and repeat s	amples. (Com	plete for					Absent C - (Growth A g	
and inclu	ity and nontransient noncommunity systems sending 4,900. Do not include raw or plant samples	ing population in the average	is up to 9.)	1.7			Numerous to ence of gas	o Count TA- or acid		Analyst: 12	(y -) merec in static late late (
Person p	ant Residual Analysis Method: erforming analysis is: certified operator (# <u>C - 4/6/7</u>) upervised by a certified operator (# ame and Mailing Address of Person/Firm to Rec)Em		a certified lab DEP or DOH	Da con guid	tained within ^l	this report in stions regard	neet all appli ding this rep	Jnless oth cable Met	irector or Designee envise noted, all test res hod, Laboratory and NEI be directed to the report	AC
10	AQUA UTIL. FL. HO HOPE St. ONGWOOD, FL. 32-		Page		直 [] D	Satisfactory Incomplete ate Reviewe EP/DOH Re	Collection Ir ed by DEP/ eviewing Of	DOH:	<u> </u>	eat Samples Required lacement Samples Requ	Jired
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Florida Department of Environmental Protection

Central District 3319 Maguire Boulevard, Suite 232 Orlando, Florida 32803-3767 Charlie Crist Governor

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary

VIA EMAIL JMLIHVARCIK@AQUAAMERICA.COM

May 18, 2010

OCD-PW-SS-10-0348

Mr. Jack Lihvarcik Aqua Utilities Florida, Inc. 1100 Thomas Avenue Leesburg, FL 34748

> Brevard County – PW Kingswood Manor (Consecutive to Mims) PWS ID Number 3054101

Dear Mr. Lihvarcik:

This confirms a visit to the subject consecutive community public water system on May 12, 2010, by Chris Rossing to conduct a sanitary survey inspection. A copy of the sanitary survey inspection report is enclosed for your reference and records.

Deficiencies found during the sanitary survey and in Department records are listed in the enclosed report. These deficiencies shall be corrected in order to return to compliance with *Florida Administrative Code* (F.A.C.) Rules 62-550, 62-555, 62-560 and 62-602.

Please correct the indicated deficiencies, and notify the Department in writing that the deficiencies have been corrected, **no later than July 2, 2010**. (You may use the attached response form to indicate the corrective actions taken.)

If you have any questions, please contact Chris Rossing by e-mail at Chris.Rossing@dep.state.fl.us or by phone at (407)893-3318, extension 2294.

Sincerely,

Reggie Phillips, Environmental Supervisor II Drinking Water Compliance and Enforcement

RFP/cr Enclosures

cc: Harry Householder, Operations Manager (HHOUSEHOLDER@AQUAAMERICA.COM) Patrick Farris, Environmental Compliance Specialist (<u>PAFARRIS@AQUAAMERICA.COM</u>) Chris Ross, DEP Drinking Water Compliance and Enforcement

State of Florida Department of Environmental Protection Central District

SANITARY SURVEY REPORT Consecutive Water Systems – No Retreatment

System Name KINGSWOOD MANOR (CONSECUTIVE T	O MIMS) County Brevard PWS ID # 3054101
System Location Turpentine Drive and Kingswood Drive, M	lims, FL 32754 Phone 407/880-0100
Owner Name Aqua Utilities Florida, Inc.	Phone 352/435-4028
Owner Address 1100 Inomas Avenue, Leesburg, FL 34/4	8
Contact Person Patrick Farris	Title Env. Compliance Spec. Phone 352/435-4029
Contact Person Patrick Farris 7 This Survey Date 5/12/10 Last Survey Date	5/17/07 Last C.I. Date 9/23/98
PWS TYPE & CATEGORY/CLASS Consecutive/Community (6) Consecutive/Non-transient non-community	PURCHASED WATER SOURCE PWS Name Mims Water Treatment/North Brevard PWS ID # 3050834
Consecutive/Non-community	Source Design Capacity <u>2,400,000 gpd</u> Treatment: <u>Disinfection/ammoniation/sand filtration</u>
PWS STATUS Approved system with approval number & date	Aqua-Mag/lime softening/fluoridation AUXILIARY POWER SOURCE
Accepted Unapproved system	Yes None Not Required Source Purchased
SERVICE AREA CHARACTERISTICS Subdivision	OPERATION & MAINTENANCE Certified Operator: Yes No Not required Operator(s) & Certification Class-Number: Bill Trendel C-6411
Food Service: Yes No N/A	Operation & Maintenance Logbook Yes No MORs submitted regularly? Yes No N/A
DISTRIBUTION SYSTEM	Data missing from MORs? \square No \square Yes \square N/A
Number of Service Connections60	
Population Served 140 Basis Operator	
Flow Measuring Device <u>Master Meter (purchased)</u>	Comments
Chlorine Residual Free = 0.01 Total = 1.0	
Backflow Prevention Devices: Yes No Bacteriological Monitoring <u>Monthly</u> Coliform Sampling Plan: Yes No N/A Lead and Copper Sampling <u>Tri-annually</u>	SYSTEM RECORDS3 Years/CCR'sYesNo5 Years/BacteriologicalsYesNo12 Years/Lead & CopperYesNo10 Years/MOR'sYesNo
Comments	Asbestos Waiver/Results
CROSS CONNECTION CONTROL # BFPAs 1 # Tested 5/11/10 WWTP RPZ N/A Date Tested N/A Written Plan No Date N/A Cross-connections None observed Comments	WRITTEN PROGRAMS Operation & Maintenance Manual Yes No Preventive Maintenance Program Yes No Flushing Program Yes No Records Yes No Isolation Valve Exercise Yes No Records Yes No Emergency Response Plan Yes No

PWS ID #	3054101	
Date	5/12/10	

DEFICIENCIES:

1. Failure to keep Consumer Confidence Reports (CCRs) on file for 3 years.

Any system subject to this subpart must retain copies of its CCR for no less than 3 years. [Rule §141.155(2)(h), 40 CFR 141 Subpart O]

2. Failure to provide asbestos waiver/results.

A system without asbestos-containing components shall certify to the Department in writing, using Form 62-555.900(10), that it is asbestos free. Certification shall satisfy the requirements of subsections (1), (2), and (3) above, and shall be submitted each nine-year compliance cycle during the specified year the system is required to monitor. [Rule 62-550.511(4), F.A.C.]

3. Failure to establish and implement a cross-connection control program. The written cross-connection program shall include:

- i. Written legal authority.
- ii. Written policy establishing where backflow prevention at water service connections is mandatory because of actual or potential cross-connections.
- iii. Written policy regarding ownership, installation, testing, and maintenance of backflow preventers at service connections.
- iv. Written procedures for assessing new or existing service connections to determine the need for backflow preventers at service connections.
- v. Written procedures for keeping cross-connection control program records.
- vi. Written procedures for educating customers about cross-connection control and backflow prevention.
- vii. Written procedures for investigating and responding to, backflow incidents.

Community water systems, and all public water systems that have service areas also served by reclaimed water systems regulated under Part III of Chapter 62-610, F.A.C., shall establish and implement a routine cross-connection control program to detect and control cross-connections and prevent backflow of contaminants into the water system. This program shall include a written plan that is developed using recommended practices of the American Water Works Association set forth in *Recommended Practice for Backflow Prevention and Cross-Connection Control*, AWWA Manual M14, as incorporated into Rule 62-555.330, F.A.C. [Rule 62-555.360(2), F.A.C.]

Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant source is eliminated. [Rule 62-555.360(3), F.A.C.]

PWS ID #	3054101	
Date	5/12/10	

COMMENTS/REMINDERS:

- The consumer confidence report (CCR) must be delivered to consumers and the Department no later than July 1, annually, and certification of delivery of the CCR must be submitted to the Department no later than August 10, annually.
- For monitoring schedules and information about the Drinking Water Program, please visit the Central District's Drinking Water website at http://www.dep.state.fl.us/central/Home/DrinkingWater/default.htm.

Inspector Title Env. Specialist II Date _ 5/18/10 Approved by Title ____Env. Supervisor II Date 5/18/10

Please provide any changes to the following:

RESPONSE

PWS ID Number: 305410	1	Business Name:				
PWS Name: Kingswood	Manor (Consec. to Mims)					
		Owner(s) Name:				
		Fax #:				
		E-Mail Address:				
Florida Department of E Drinking Water Complia 3319 Maguire Boulevard Orlando, Florida 32803	nnce/Enforcement Program					
Attention: Chris Rossing,	Environmental Specialist II					
	ment's Sanitary Survey Rep ne to correct the listed deficier	ort for the subject public water system neies:	dated May 12, 2010, the			
Deficiency <u>Item No</u> .	Corrective Acti	Corrective Action Done				
	-					
(Attach additional sheet if ne	cessary)					
I hereby certify to the corr	ectness of the above informati	ion:				
PWS Owner/Representativ	ve Signature:					
Name of PWS Owner/Ren	resentative:					
and or a we owner Rep		(Please Type or Print)				
		-				

113

AQUA

Aqua Utilities Florida, Inc. 1100 Thomas Avenue Leesburg, FL 34748 T: 352.787.0980 F: 352.787.6333 www.aquautilitiesflorida.com

June 18, 2010

Chris Rossing FDEP CD 3319 Maguire Boulevard, Suite 232 Orlando, FL 32803-3767

RE: Reply to Sanitary Survey Kingswood Manor PWS ID No. 3054101 Brevard County

Dear Mr. Rossing:

This letter is in response to your inspection of the facility referenced above on May 12, 2010.

- 1. Three years of Consumer Confidence Reports are maintained electronically and hardcopies at the Longwood field office. Copies of the past three years CCRs are attached for your review.
- 2. The asbestos waiver is attached for your review and will also be added to the records maintained electronically and in hardcopy at the Longwood field office.
- 3. Attached is a copy of Aqua Utilities Florida Cross Connection Control Policy.

If you have any questions, please contact me at (352) 435-4029 or by e-mail at <u>PAFarris@aquaamerica.com</u>. Thank you.

Sincerely,

assis auch

Patrick A. Farris Environmental Compliance Specialist Aqua Utilities Florida, Inc.

Enclosures: Asbestos Waiver CCCP

cc: Will Fontaine, via e-mail Harry Householder, via e-mail Michael Pickel, via e-mail Aqua Utilities Florida P.O. Box 490310 Leesburg, FL 34749

2007 Annual Drinking Water Quality Report Kingswood Manor PWS ID # FL3054101

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Kingswood Manor purchases its water through an interconnection with Brevard County Utilities. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2004. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination from two potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E) Radioactive contaminants, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1.800.426.4791).

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow. Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Million fibers per liter (MFL): measure of the presence of asbestos fibers that are longer than 10 micrometers.

NA: Not applicable

ND: means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (rng/l): one part by weight of analyte to 1 million parts by weight of the water sample. Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample. Picocurie per liter (pCi/L): measure of the radioactivity in water.

2007 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2007 for Kingswood Manor PWS ID # FL3054101. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

* Except as noted, results in the Level Detected column are the highest average at any sampling point or the highest single detected level at a sampling point, depending on sampling frequency.

Radiological Contam	inants- Breva	ard County	System - Res	ults in pCi/L				
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination	
Alpha emitters	10/02	N	1.4	NA	0	15		
Radium 226 + 228 or combined radium	10/02	N	0.2	NA	0	5	Erosion of natural deposits	
Inorganic Contamina	nts- Brevard	County Sys	tem					
Asbestos (MFL)	10/02	N	0.8	NA	7	7	Decay of asbestos cement water mains; erosion of natural deposits	
Arsenic (ppb)	06/05	N	1.2	NA	N/A	10	Erosion of natural deposits	
Barium (ppm)	06/05	N	0.0026	NA	2	2	Erosion of natural deposits	
Cyanide (ppb)	06/05	N	8.0	NA	200	200	Discharge from steel plastic and fertilize factories	
Fluoride (ppm)	06/05	N	0.56	NA	4	4	Erosion of natural deposits	
Lead (point of entry) (ppb)	06/05	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing	
Mercury (inorganic) (ppb)	06/05	N	0.013	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland	
Nitrate (as Nitrogen) (ppm)	08/07	N	0.28	NA	10	10	Runoff from fertilizer use; leaching from	
Nitrite (as Nitrogen) (ppm)	08/07	N	0.04	NA	1	1	septic tanks, sewage; erosion of natura deposits	
Selenium (ppb)	06/05	N	0.2	NA	50	50	Erosion of natural deposits	
Sodium (ppm)	06/05	N	32.0	NA	NA	160	Salt water intrusion, leaching from soil	

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System -- For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2007	Ν	3.5	1.6- 3.6	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Haloacetic Acids (ppb)	08/06	Ν	22.2	NA	NA	60	Duproduct of drinking
TTHMs [Total Trihalomethanes] (ppb)	08/06	Ν	23.3	NA	NA	80	- Byproduct of drinking water disinfection

Disinfectants- Kir	ngwood Ma	anor System	m				
Contaminant and Unit of Measurement	Year of Sampling	Violation Y/N	Level Detected	Range of Results	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2007	N	3.1	0.9-4.5	4	4	Water additive used to control microbes

Lead and Cop	per (Tap Wa	ater)- King	swood Man	or System			
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	Ν	0.0146	0	1.3	1.3	
Lead (ppb)	08/07	N	1	0	0	15	Corrosion of household plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

Aqua Utilities Florida P.O. Box 490310 Leesburg, FL 34749

2008 Annual Drinking Water Quality Report Kingswood Manor PWS ID # FL3054101

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Kingswood Manor purchases its water through an interconnection with Brevard County Utilities. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2008. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination from four potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
 D) Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum
- production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E) Radioactive contaminants, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Million fibers per liter (MFL): measure of the presence of asbestos fibers that are longer than 10 micrometers.

NA: Not applicable

ND: means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample. Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample. Picocurie per liter (pCi/L): measure of the radioactivity in water.

2008 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2008 for Kingswood Manor PWS ID # FL3054101. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Radiological Conta			ity system			Т		
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination	
Combined radium (pCi/L)	07/08	N	0.6	NA	0	5	Erosion of natural deposits	
Inorganic Contamir	nants- Breva	ard County	System					
Arsenic (ppb)	07/08	N	1.7	NA	N/A	10	Erosion of natural deposits	
Cyanide (ppb)	07/08	N	9.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories	
Fluoride (ppm)	07/08, 10/08	N	2.1	0.53 – 2.1	4	4	Erosion of natural deposits	
Lead (point of entry) (ppb)	07/08	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing	
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland	
Nitrate (as Nitrogen) (ppm)	07/08	N	0.10	NA	10	10	Runoff from fertilizer use; leaching from	
Nitrite (as Nitrogen) (ppm)	07/08	N	0.04	NA	1	1	septic tanks, sewage; erosion of natura deposits	
Sodium (ppm)	07/08	N	42.0	NA	NA	160	Salt water intrusion, leaching from soil	

* Except as noted, results in the Level Detected column are the highest average at any sampling point or the highest single detected level at a

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2008	N	2.94	2.3 - 3.7	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Haloacetic Acids (ppb)	07/08	N	28.4	NA	NA	60	Byproduct of drinking
TTHMs [Total Trihalomethanes] (ppb)	07/08	N	59	NA	NA	80	water disinfection

Lead and Cop	per (Tap Wa	ater)- King	swood Man	or System			
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	N	0.0146	0	1.3	1.3	Correction of household alumbias
Lead (ppb)	08/07	N	ND	0	0	15	Corrosion of household plumbing

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Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIVIAIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1.800.426.4791).

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- C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
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ND: means not detected and indicates that the substance was not found by laboratory analysis.

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Radiological Conta	minants- Br	evard Cou	ntv System				
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or combined radium (pCi/L)	07/08	N	0.6	NA	0	5	Erosion of natural deposits
Inorganic Contamir	ants- Breva	ard County	System				•
Arsenic (ppb)	07/08	N	1.7	NA	NA	10	Erosion of natural deposits
Cyanide (ppb)	07/08	N	9.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	6/09, 10/09	N	0.98	0.40 - 0.98	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Lead (point of entry) (ppb)	07/08	N	0.9	NA	NA	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	7/2009	N	0.24	NA	10	10	Runoff from fertilizer use; leaching from
Nitrite (as Nitrogen) (ppm)	7/2009	N	0.012	NA	1	1	septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	07/08	N	42.0	NA	NA	160	Salt water intrusion, leaching from soil

Stage I Disinfectants and Disinfection By-Products - *For Chlorine, the level detected is the highest annual average of the quarterly averages. For Haloacetic Acids and TTHM, the level detected is the highest level found. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Kingswood Manor		T					
Chloramines (ppm)	2009	Ν	3.6	2.6 - 5.0	MRDLG =4	MRDL =4	Water additive used to control microbes
Brevard County					A		
Total Haloacetic Acids (ppb)	8/2009	No	13.2	NA	NA	60	Byproduct of drinking
TTHMs [Total Trihalomethanes] (ppb)	8/2009	No	62	NA	NA	80	water disinfection

Lead and Cop Contaminant and Unit of Measurement	per (Tap Wa Dates of Sampling (mo./yr.)	Ater)- King AL Violation Y/N	90 th Percentile Result	or System No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	Ν	0.0146	0	1.3	1.3	
Lead (ppb)	08/07	N	ND	0	0	15	Corrosion of household plumbing

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ASBESTOS-FREE CERTIFICATION OR ASBESTOS SAMPLING PLAN FOR PWSs

See page 2 for instructions.

PWS Type: Community Non-Transient Non-Community Contact Person's Title: Field Coordinator Image: State: Fl image: State: Fl image: State:
Contact Person's Title: Field Coordinator State: Fl Zip Code: 32158-2480 Contact Person's Fax Number: 352-787-6333. nerica.com WS identified in Part I of this form. I certify that, to the best of my s or other asbestos containing components in said PWS. This certification i Printed or Typed Name
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where asbestos contamination is most likely to occur. (Waters with low pH is contain high calcium, alkalinity, and silicate levels], very high sulfate by destructive to asbestos-cement pipe.)
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Utilities Florida

CROSS CONNECTION CONTROL POLICY

August 2007

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- SECTION 2 OBJECTIVES
- SECTION 3 RESPONSIBILITIES
- SECTION 4 POLICIES
- SECTION 5 INSPECTIONS
- SECTION 6 DEFINITIONS
- SECTION 7 APPLICABLE STANDARDS AND DESCRIPTIONS
- SECTION 8 TESTING OF BACKFLOW DEVICES
- SECTION 9 RESULTS OF NON-COMPLIANCE

SECTION 10 FIRE SYSTEMS

References:

AWWA -- Manual of Cross Connection (M14) ASSE -- American Society of Sanitary Engineers SBCC -- Southern Building Code (Standard Plumbing Code) FCCCHR of USC -- University of Southern California Foundation for Cross Connection Control and Hydraulic Research (Manual for Cross Connection Control)

FOREWORD

This Manual of Cross-Connection Control has been prepared by Aqua Utilities Florida, Inc. to establish an effective cross connection control program in Aqua Utilities Florida, Inc. water service areas in accordance with directives issued by the Florida Department of Environmental Protection and directives issued on the Federal level. Responsibilities for the control of cross connections are shared by the consumer, Aqua Utilities Florida, Inc. and the Florida Department of Environmental Protection, Aqua Utilities Florida, Inc. and the Florida Department of Environmental Protection, Aqua Utilities Florida, Inc. intends to supply the safest and best drinking water possible to its service areas through an ongoing quality program of potable water delivery. The basic procedure for insuring the proper functioning of the public water supply through a coordinated program to prevent pollution or contamination of potable water supplies by cross-connections is contained herein.

This manual supplements and extends present guidelines for Aqua Utilities Florida, Inc. potable water supply, treatment and distribution system by providing a means of detecting and eliminating unprotected cross-connections in the interest of public safety. Aqua Utilities Florida Inc. enjoys a positive relationship with its consumers. Community support is required for this program to be successful. <u>Aqua Utilities Florida, Inc.</u> encourages and promotes the education and commitment of its consumers in the area of cross-connection control. It is the intent of Aqua Utilities Florida, Inc. to implement the regulations and procedures as outlined herein.

Section 1 Introduction

A cross connection is defined as:

"any connection or structural arrangement between public or a consumer's potable water system and any non-potable source or system through which backflow can occur. Bypass arrangements, jumper connections, removeable sections, swivel or changeover devices, and other temporary or permanent devices through which, or because of which, backflow can occur are considered cross connections."

1.01 Purpose

The purpose of a cross-connection control program is to prevent waterborne diseases and contaminants from entering the potable water distribution system and thus the water we drink. More exactly, the program is intended to prevent delivered water (water that has passed beyond the public water system and into the private distribution system of consumers) from re-entering the public distribution system and being subsequently delivered to other consumers. The program aims to protect *Aqua Utilities Florida, Inc.* and its consumers from those water-using establishments which could possibly reduce the quality and safety of *Aqua Utilities Florida Inc's* water supply through backflow and / or cross connection.

1.02 Legal Authority

In Florida, the primary responsibility for safeguarding potable water quality on private property historically has been left to local health agencies and building inspection departments. The Safe Drinking Water Act created new authority through a requirement for all public water systems to have a cross-connection control program. Contained within the Rules of the Department of Environmental Protection, Chapter 62-555, Rule 62-55.360, Florida Administrative code, the State of Florida adopted the following policy:

"Community water systems shall establish a routine cross-connection control program to detect and prevent cross-connections that create or may create an imminent and substantial danger to public health. Such program shall be developed using accepted practices of the AWWA manual. M14, "Backflow Prevention and Cross-Connection Control." Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant souce is eliminated."

1.03 Causes of Backflow

Where cross-connections exist, protection against backflow is needed to reduce the possibility of contamination. The causes of backflow cannot usually be elimated completely since backflow is often initiated by accidents or unexpected circumstances. However, some causes of backflow can be partially controlled by good design and informed maintenance. Listed below are the major causes of backflow as outlined under the two types of backflow - Backsiphonage and Backpressure.

A. Backsiphonage

Backsiphonage is caused by reduced or negative pressure being created in the supply piping. A major cause of Backsiphonage is the interruption of the supply pressure. This will allow negative pressures to be created by water trying to flow to a lower point in the system. Another cause is undersized piping. If water is withdrawn from a pipe at a very high velocity, the pressure in the pipe is reduced and the pressure differntial created can cause water to flow into the pipe from a contaminated source. The potable water supply can thus become contaminated due to backsiphonage into the potable water supply creating the potential for serious health problems.

The principal causes of backsiphonage are:

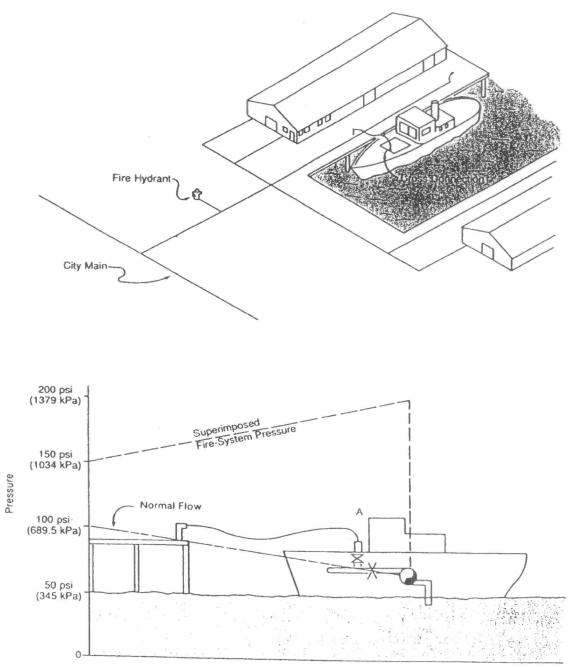
- 1. A line repair or break which occurs at a lower elevation than the service point;
- 2. Undersized piping;
- 3. Lowered pressure in a water main due to a high withdrawal rate such as firefighting, water main flushing, or water main breaks; and
- 4. Reduced supply main pressure on the suction side of a booster pump.

B. Backpressure

Backpressure may cause backflow to occur where a potable water system is connected to a non-potable supply operating under a higher pressure by means of pump, boiler, elevation difference, air or steam pressure and so forth.

The principal causes of backpressure are:

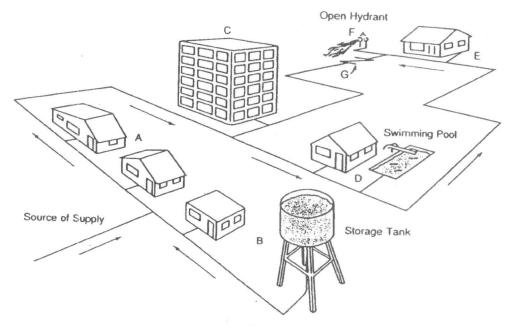
- 1. Booster pump systems designed without backflow prevention devices;
- 2. Potable water connections to boilers and and other pressure systems without backflow prevention devices;
- 3. Connections with a non-potable system which may, at times, have a higher pressure; and
- 4. Non-potable water stored in tanks or plumbing systems which, by virtue of their elevation, would create head sufficient to cause backflow if pressure were lowered in the public system.



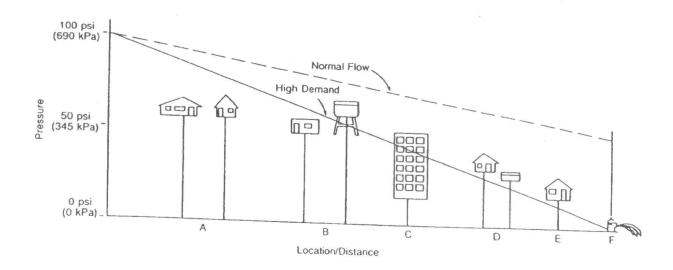
Hydraulic Gradient

Backflow due to backpressure.

BACKSIPHONAGE DUE TO HIGH WITHDRAWAL RATE OF WATER



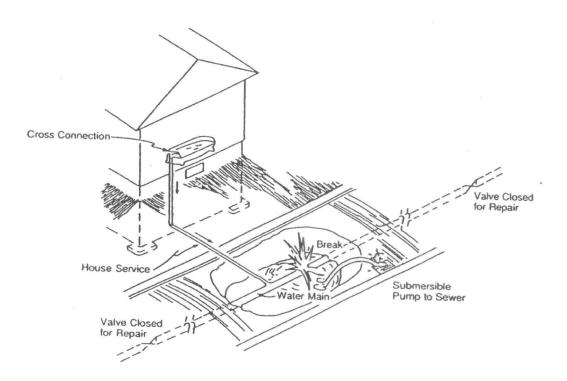
Hydraulic Gradient





128

BACKFLOW DUE TO MAIN BREAK



Backflow due to main break.

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Section 2 Objectives

The objectives of Aqua Utilities Florida, Inc. are as follows:

- 1. To protect *Aqua Utilities Florida, Inc.* potable water supply from the possibility of contamination or by containing, within its consumers' private water systems, backflow through uncontrolled cross-connections into the public water system.
- 2. To eliminate or control existing cross-connections, actual or potential, between the consumer's on premise potable water system(s) and non-potable water system(s) plumbing fixtures and industrial piping systems.
- 3. To provide a continuing inspection program of cross-connection control, which will systematically and effectively control all actual or potential cross-connections which exist presently or may exist in the future.
- 4. To maintain an on-going public information program to educate the community on crossconnection control and to encourage consumer cooperation and coordination toward a successful cross-connection control program.

Section 3 Responsibility

3.01 Water Purveyor

Under the Safe Drinking Water Act and the Rules of the Florida Department of Environmental Protection, Rule 62-555.360, FAC, relating to cross-connection, the water purveyor has the primary responsibility of maintaining a cross-connection control program to prevent water from unapproved sources, or any other substances, from entering the public potable water system. Failure to implement such a program may result in enforcement by the Florida Department Environmental Protection against *Aqua Utilities Florida, Inc.*

3.02 Consumer

The consumer's responsibility starts at the point of delivery from the public potable water system (i.e. just after the meter) and includes all of the consumer's water systems. The consumer, at his own expense, is required to install, operate, test and maintain approved backflow prevention devices, as directed by *Aqua Utilities Florida, Inc*. The consumer must maintain accurate records of tests and repairs made to backflow prevention devices and provide *Aqua Utilities Florida, Inc*. with copies of such records. In the event of accidental pollution or contamination of the public or consumer's potable water system due to backflow on or from the consumer's premises, the consumer shall promptly take steps to confine further spread of pollution or contamination within the consumer's premises and is required to immediately notify *Aqua Utilities Florida, Inc*. of the hazardous condition.

The consumer's system shall be open for inspection at all reasonable times to authorized representatives of *Aqua Utilities Florida, Inc.* to determine whether cross connections or other

structural or sanitary hazards, including violations of these regulations, exist. When such a conditions becomes knows, *Aqua Utilities Florida, Inc.* shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the condition(s) in conformance with state/provincial and city statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.

3.03 Backflow Prevention Device Installation

The installer's responsibility is to ensure proper installation of backflow prevention devices in accordance with the manufacturer's installation instructions and those furnished by *Aqua Utilities of Florida, Inc.* The installer is also responsible to conduct a test of the device when it is installed, and is required to furnish the following vital data to *Aqua Utilities Florida, Inc.* immediately after a reduced pressure principal backflow preventer (RP), double check valve assembly (DCVA) or pressure vacuum breaker (PVB) is installed:

- 1) service address where device is located
- 2) owner
- 3) description of device's location
- 4) date of installation
- 5) type of device
- 6) manufacturer
- 7) model number
- 8) serial number

Testing at the time of installation for all RP'S, DCVA'S, and PVB'S shall be performed by a certified backflow prevention device technician. Test results are to be provided immediately to *Aqua Utilities Florida, Inc.*

Section 4 Policy

Aqua Utilities Florida, Inc. has the continuing authority to inspect all <u>industrial, commercial</u> and <u>residential</u> users of potable water, where pollution, health or system hazards may exist or be created; where materials dangerous to health are handled in tanks, piping systems, or other vessels on the premises, or where the water system is unstable and cross- connections may occur. The following policies to cross-connections will apply:

1. Should the connection be between two (2) approved public water supplies, common gate or check valves may be used, provided this has the approval of both water suppliers and the Florida Department of Environmental Protection.

2. Should the connection be between an approved public potable water supply and a service or other water supply which has, or may have, any material in the water dangerous to health that is, or may be, handled under pressure, subject to negative pressures, protection shall be an approved air-gap separation (AG). The air-gap shall be located as close as practicable to the service cock or other connection to the approved supply. All piping between such connection and air-gap shall be entirely visible. If these conditions cannot be reasonably met, the public potable water supply shall be protected alternatively with an approved Reduced Pressure principle backflow prevention device (RP), provided the alternative is acceptable to *Aqua Utilities Florida, Inc.* and the Florida Department of Environmental Protection

Section 5 Inspections

5.01 Frequency

Due to changes in models or components of equipment, methods of manufacturing and additions of plants, buildings, etc., water use requirements undergo continual change. As a result, new cross-connections may be installed and existing protections may be by-passed, removed or made otherwise ineffective; therefore, an annual, biennial, or more frequent detailed inspection by *Aqua Utilities Florida, Inc.* of all water usage is required. In addition, all new building construction shall also be plan-checked and inspected during installation by *Aqua Utilities Florida, Inc.* to insure conformance with cross-connection control policy.

5.02 New Construction

All new construction plans and specifications for industrial or commercial facilities shall be submitted to *Aqua Utilities Florida, Inc.* for evaluation to determine the degree of possible cross-connection hazards. Backflow prevention and cross-connection control shall be accomplished by a combination of plans review and field inspections.

Aqua Utilities Florida, Inc. will inspect and require testing and approve or disapprove the completed backflow preventer installation. Field inspections during construction or immediately after will also serve to indentify hazards that were not apparent during plans review or were introduced during construction.

After final approval of the installation and satisfactory test results, in accordance with crossconnections rules and regulations, a report will be filed by the installer to *Aqua Utilities Florida*, *Inc.*. This report will include size, model, location, and all other pertinent details of the installation including satisfactory test results attested to by a certified tester.

All non-residential construction of any building to be served by Aqua Utilities Florida, Inc. water system shall be plan-checked and inspected by *Aqua Utilities Florida, Inc.* for compliance with cross-connection control rules and regulations prior to connection to Aqua Utilities Florida, Inc. potable water main.

For containment purposes, the following types of buildings shall have an approved backflow prevention device at the water service connection:

- 1) Medical or Research Buildings
- 2) Morgues, mortuaries and autopsy facilities
- 3) Chemical related industries
- 4) Wastewater Plants
- 5) Metal plating facilities

5.03 Emergency procedures

If a consumer discovers a hazardous situation where contaminants are actually in the process or suspected of entering the distribution system of *Aqua Utilities Florida*, Inc. potable water supply, the consumer is authorized to take such immediate steps as necessary to correct the questionable existing hazardous condition. He is further responsible for immediately notifying *Aqua Utilities Florida*, *Inc.* of the need for flushing the contaminants out of the system.

Aqua Utilities Florida, Inc. is authorized to take immediate steps deemed necessary to correct a hazardous condition; which shall include the right to immediately discontinue potable water service to premises where a hazardous condition may be occurring. Such emergency steps, including discontinuance of potable water service, may be taken without advance notice to the consumer. The consumer shall be notified as soon as possible thereafter if potable water service has been discontinued; and the matter simutaneously brought to the attention of Aqua Utilities Florida, Inc.'s attorney and President.

Section 6 Definitions

<u>Air-gap separation</u> - The term air-gap separation shall mean a physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An approved air-gap separation shall be a distance of at least two (2) times the diameter of the supply pipe measured vertically above the top rim of the vessel - with a minimum distance of one (1) inch.

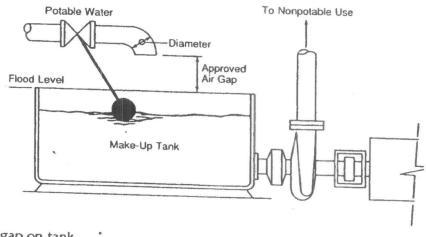
<u>Approved</u> - a) The term approved, as herein used in reference to a water supply, shall mean a potable water supply that has been approved by the Florida Department of Environmental Protection. b) The term approved, as herein used in reference to air-gap separation, a <u>double</u> <u>check valve assembly</u> or a reduced pressure principle backflow prevention device or method, shall mean as approved by *Aqua Utilities Florida, Inc.*

<u>Auxiliary Intake</u> - The term auxiliary intake shall mean any piping connection or other device whereby water may be secured from a source other than that normally used.

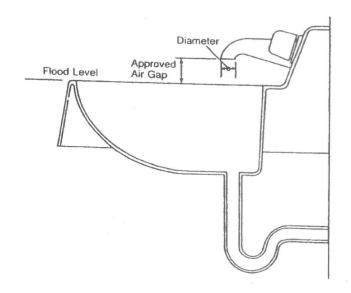
<u>Backflow</u> - The term backflow, shall mean the undesirable reversal of the flow of water or other liquids, mixtures, gases, or other substances into or towards the distribution piping of a potable supply of water from any source or sources.

<u>Backflow prevention device</u> - A backflow prevention device shall mean any efffective device, method or construction used to prevent backflow into a potable water system. The type of device used should be based on the degree of hazard, either existing or potential, and identified by the condition which it is designed to prevent.

DIAGRAM -- AIR GAP



Air gap on tank.



Air gap on lavatory.

<u>Backflow prevention device tester - (Certified)</u> - The term certifed backflow prevention device tester shall mean a person who has proven his / her competency to the satisfaction of *Aqua Utilities Florida, Inc.*. Each person who is certified to make competent tests or to repair, overhaul and make reports on backflow prevention devices shall be conversant with applicabale laws, rules and regulations, and shall have attended and successfully completed the TREEO (Training, Research, and Education for Environmental Occupations) Certification program for backflow prevention device testers, or other USCFHR or DEP approved program.

<u>Backpressure</u> - Backpressure shall mean any elevation of pressure in the downstream piping system (by pump, elevation of piping, or steam and/or air pressure) above the supply pressure at the point of cnsideration which would cause or tend to cause, a reversal of the normal flow through a backflow prevention device.

<u>Backsiphonage</u> - Backsiphonage shall mean a reversal of the normal direction of flow in the pipeline due to a negative pressure (vacuum) being created in the supply line with the backflow source subject to atmospheric pressure.

<u>Consumer</u> - Any member, person, firm or corporation using or receiving water from *Aqua* Utilities Florida Inc.'s potable water system.

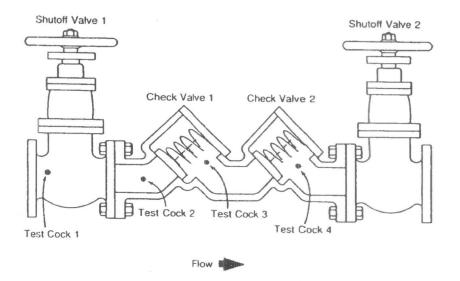
<u>Contamination</u> - The term contamination shall mean an impairment of the quality of the potable water supply by sewage, industrial fluids or any other foreign substance to a degree which creates an actual hazard to the public health through the potential spead of disease or toxic materials.

<u>Critical level</u> - The term critical level shall mean the marking on a vacuum breaker which determines a minimum elevation above the flood level rim of the fixture or receptacle served at which the device may be installed.

<u>Cross-Connection</u> - The term Cross-Connection shall mean any unprotected connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substances that is potable for human consumption. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which "backflow" can or may occur, are considered to be cross-connections.

Double Check Valve Assembly - The term double check valve assembly means an assembly of at least two (2) independently acting, approved, spring and weight loaded check valves with resilient discs for the intended purpose of preventing back pressure backflow in a water supply line. Assembly is usually furnished with test cocks for the field testing the tightness of the check valves. Some assemblies include a "vacuum breaker" to admit atmospheric air downstream of the assembly. The unit shall include tightly-closing ball-type or resilient seated valves located at each end of the device.

DIAGRAM -- DCVA



Double check valve assembly.

<u>Fire Sprinkler System</u> - A sprinkler system, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection and engineering standards. The installation includes one or more water supplies.

Flood Level Rim - The edge of the receptacle from which water overflows is the flood level rim.

<u>Hazard - (Degree of)</u> - The term, degree of hazard is a qualification of what potential and actual harm may result from cross-connections within a water -using facility. Establishing the degree of hazard is directly related to the type and toxicity of contaminants that could possibly cause a "pollution" (non-health) or a "contamination" (health) hazard.

<u>Hazard - (Health)</u> - The term health hazard shall mean an actual or potential threat of contamination or pollution of a physical or toxic nature to the public potable water system or the consumer's potable water system to such a degree or intensity that there would be a danger to health.

<u>Hazard - (Plumbing)</u> - The term plumbing hazard shall mean a plumbing type cross-connection in a consumer's potable water system that has not been properly protected by a vacuum breaker, air-gap separation or other device. Unprotected plumbing type cross-connections are considered to be a health hazard. They include, but are not limited to, cross-connection to toilets, sinks, lavatories, wash trays, domestic washing machines and lawn sprinkler systems. Plumbing type cross-connections can be located in many types of structures, including homes, apartment houses, hotels and commercial and industrial establishments. Such a connection, if permitted to exist, must be properly protected by an appropriate type of cross connection control assembley

<u>Hazard - (Pollution)</u> - The term pollution hazard shall mean an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system, but which would not constitute a health or system hazard, as defined. The maximum degree of intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance, or be aesthetically objectionable, or could cause minor damage to the system or its appurtenances.

<u>Hazard - (System</u>)- The term system hazard shall mean an actual or potential threat of severe danger to the physical properties of the public or the consumer's potable water system, or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

<u>Industrial Fluid</u> - The term industrial fluid shall mean any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration, such would constitute a health, system, pollution or plumbing hazard if introduced into an approved potable water supply. This may include, but not be limited to: polluted or contaminated used waters; all types of process waters and "used waters" originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters connected to an opening cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated

natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffins, caustic and acid solutions or other processes for fire fighting purposes.

<u>Industrial Piping System - Consumer's</u> - The term consumer's industrial piping system shall mean any system used by the consumer for transmission of or to store any fluid, solid or gaseous substance other than an approved water supply. Such a system would include all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances to produce, convey or store substances which are or may be polluted or contaminated.

<u>Inlet</u> - The open end of the water supply pipe through which the water is discharged into the plumbing fixture shall be the inlet.

Laboratory - Approved Testing - Reference to an approved testing laboratory shall mean the Foundation for Cross-Connection Control Research of the University of Southern California, or any other laboratory having the equivalent facilities for both the laboratory and field evaluation of the devices approved by the American Water Works Association or American Society of Sanitation Engineers.

<u>Plumbing System</u> - The term plumbing system includes the potable water supply and distribution pipes; plumbing fixtures and traps; oil waste and vent pipes; building drains and building sewers, including their respective connections, devices and appurtenances within the property line of the premises; and water-treating or water-using equipment.

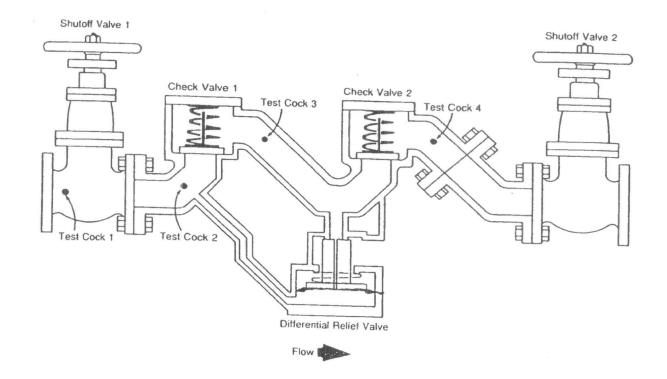
Point of delivery - see service connection

<u>Pollution</u> - Pollution shall mean an impairment of the quality of the water to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect the quality of the water for domestic use.

<u>Reduced Pressure Principle Backflow Prevention Device - RP</u> - The term approved reduced pressure principle backflow prevention device (RP) shall mean a device containing within its structure a minimum of two (2) independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount, so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressures. In case of leakage of either check valve, the differential relief valve by discharging to the atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The unit shall include tightly-closing ball type or resilient seated shutoff valves located at each end of the device and each device shall be fitted with properly located test cocks.

<u>Service Connection</u> - The term service connection shall mean the terminal end of the public potable water system, i.e., where the water purveyor loses justisdiction and sanitary control over the water at its point of delivery to the consumer's water system. If a meter is installed at the end

DIAGRAM -- RP



Reduced-pressure principle backflow-prevention assembly.

of the service connection, then the service connection shall mean the downstream end of the meter. There shall be no unprotected takeoffs from the service line ahead of any backflow prevention device located at the point of delivery to the consumer's water system.

Vacuum Breaker - Nonpressure- Atmospheric Type - A vacuum breaker - nonpressure type is a vacuum breaker which is designed for use where it will not be subject to static line pressure.

<u>Vacuum Breaker - Pressure Type</u> - a vacuum breaker - pressure type is a vacuum breaker designed to operate under conditions of static line pressure. The unit shall include tightlyclosing ball-type or resilient seated shutoff valves located at each end of the device.

<u>Water - Potable</u> The term potable water shall mean water from any source which has been investigated by the Florida Department of Environmental Protection and which has been approved for human consumption by the health authority having jurisdiction. Potable water is water of excellent quality intended for drinking, cooking and cleansing uses. This grade of water would conform to the water quality requirements of state and federal regulatory agencies.

<u>Water Purveryor</u> - The term water purveyor shall mean the utility owner or operator of the public potable water system supplying an approved water supply to the public.

<u>Water Supply -(Approved)</u> - The term approved water supply shall mean Aqua Utilities Florida, Inc. potable water system or any public potable water supply which has been investigated and approved by the Florida Department of Environmental Protection. In determining what constitutes an approved water supply, the Department of Environmental Protection has reserved final judgement as to its safety and potability.

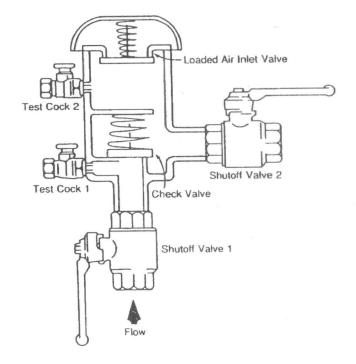
<u>Water Supply -(Auxiliary)</u> - The term auxiliary water supply shall mean any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source such as a well, spring, river, stream, etc.,or "used water" or "industrial fluids." They may be polluted or contaminated or objectionable and constitute an unacceptable water source over which the purveyor does not have control.

<u>Water Supply - (Unapproved)</u> - The term unapproved water supply shall mean a water supply which has not been approved for human consumption by the health agency having jurisdiction.

<u>Water System - (Consumer's)</u> - The term water system shall include any water system located on the consumer's premises, whether supplied by the public potable water system or an auxiliary water supply. The system or systems may be either a potable water system or an industrial piping system.

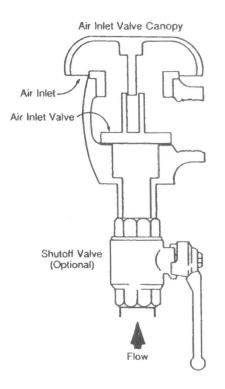
<u>Water System - (Public Potable)</u> - The term public potable water system shall mean any publicly or privately owned water system operated as a public utility to supply water for domestic purposes. This system will include all sources, facilities and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures,

DIAGRAM -- PVB

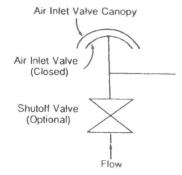


Pressure vacuum breaker assembly.

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Atmospheric vacuum breaker assembly.



Under normal flow conditions the AVB seals against the air inlet seat.

equipment, and appurtenances used to produce, convey, treat or store a potable water for public consumption or use.

<u>Water -(reclaimed)</u> - The term reclaimed water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. Reclaimed water is also known as reuse water. (permitted under Part III of Chapter 62-610, F.A.C.)

<u>Water - (Used)</u> - The term used water shall mean any water supplied by a water purveyor from a public potable water system to a consumer's water system after it has passed through the point of delivery and is not longer under the control of the water purveyor.

Section 7

Applicable Standards and Descriptions for Backflow Prevention Devices

7.01 Applicable Standards

The following specifications or requirements of approving agencies are recognized by Aqua Utilities Florida, Inc.. All backflow prevention devices and conditions of cross-connection control shall be in compliance with the standards set forth by one or more of the following agencies. Aqua Utilities of Florida reserves the right to state which standards apply if and when conflicts between standards arise.

<u>AWWA</u> - American Water Works Association (Manual M14)

ASSE - American Society of Sanitary Engineers

<u>FCCCHR of USC</u> - University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (Manual for Cross-Connection Control)

<u>SBCC</u> - Southern Building Code Congress (Standard Plumbing Code)

7.02 Abbreviations for Protective Devices

AG - Approved Air-Gap

AVB Approved Atmospheric Vacuum Breaker

BPW/IAV - Approved Backflow Preventer with Intermediate Atmospheric Vent

DCVA - Approved Double Check Valve Assembly

HBVB - Approved Hose Bibb Vacuum Breaker

PVB - Approved Pressure Vacuum Breaker

RP - Approved Reduced Pressure Principle Backflow Preventer

DCV - Approved Dual Check Valves

DCV / LF - Approved Double Check Valve Assembly with Laboratory Faucet

DCV/CBD - Approved Dual Check Valves for Carbonated Beverage

DDCV - Approved Double Detector Check Valve

TABLE 7.1

TYPE & APPLICATION	TYPICAL DESCRIPTION	APPLICABLE INSTALLATION	STANDARDS
DOUBLE CHECK VALVE ASSEMBLY for <u>low hazard</u> connections	Two independent check valves. Supplied with ball-type or resilient seated shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a low potential health hazard or nuisance. Continuous pressure	A.S.S.E. 1015 A.W.W.A. C506 FCCCHR of USC
DOUBLE DETECTOR CHECK VALVE ASSEMBLY for low hazard applications	Double check valve assembly with a water meter and double check in by-pass line.	Fire protection system supply main. Detects leaks and unauthorized use of water.	A.S.S.E. 1015 A.W.W.A. C506 FCCHR of USC
DUAL CHECK VALVE BACKFLOW PREVENTER for low hazard applications	Two independent check valves. Checks are removable for testing.	Cross Connection where there is a low potential health hazard and moderate flow requirements.	A.S.S.E 1024
BACKFLOW PREVENTER WITH INTERMEDIATE ATMOSPHERIC VENT	Two independent check valves with intermediate relief valve	Cross connections subject to backpressure or back- siphonage where there is moderate health hazard. Continous pressure	A.S.S.E. 1012
LABORATORY FAUCET & DOUBLE CHECK VALVE W/ INTERMEDIATE VACUUM BREAKER in small pipe sizes for moderate to low hazard	Two independent check valves with intermediate vacuum breaker and relief vent.	Cross connections subject to backpressure or back- siphonage where there is a moderate to low health hazard	A.S.S.E. 1035

CROSS CONNECTION MANUAL AQUA UTILITIES FLORIDA, INC.

TABLE 7.2

TYPE & APPLICATION	DESCRIPTION	TYPICAL INSTALLATION	APPLICABLE STANDARDS
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER For <u>high bazard</u> cross connections	Two independent check valves w/ intermediate relief valve. Supplied with ball-type shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a high potential health hazard from contamination. Continous pressure	A.S.S.E. 1013 A.W.W.A. C506 FCCCHR of USC
ATMOSPHERIC VACUUM BREAKERS for <u>moderate to</u> <u>high hazard</u> cross connections	Single float and disc w/ large atmospheric port	Cross connections not subject to backpressure or continuous pressure. Install at least 6" above rim. Backsiphonage protection only.	A.S.S.E. 1001 FCCCHR of USC
PRESSURE TYPE VACUUM BREAKERS for <u>moderate to</u> <u>high hazard</u> cross connections	Spring loaded singls float and disc with independent 1st check. Supplied with ball-type shut-off valves and ball	This value is designed for installation in a continous pressure potable water supply system 12" above the overflow level of the system being supplied. Backsiphonage protection only.	A.S.S.E. 1020 FCCCHR of USC
HOSE CONNECTION VACUUM BREAKERS For residential & industrial hose supply outlets.	Single check w/ atmospheric atmospheric vacuum breaker vent.	Install directly on hose bibbs, service sinks and wall hydrants. Not for continous pressure.	A.S.S.E 1011
AIR GAP For <u>moderate to</u> <u>high hazard</u> cross connection	Vertical separation of 2D of the supply pipe above vessel overflow rim.	All cross connections subject to backpressure or back-siphonage where there is a high potential health hazard rom contamination. Vertical separation must be one (1) inch	ANSI A112.1.2

CROSS CONTROL MANUAL AQUA UTILITIES FLORIDA, INC.

Description of C	Assessment	Recommended
Description of Cross Connection	of Hazard	Assembly at Fixture*
Aspirator (medical)	Health	AVB or PVB
Bedpan washers	Health	AVB or PVB
Autoclaves	Health	RPBA
Specimen tanks	Health	AVB or PVB
Sterilizers	Health	RPBA
Cuspidors	Health	AVB or PVB
Lab bench equipment	Health	AVB or PVB
Autopsy and mortuary equipment	Health	AVB or PVB
Sewage pump	Health	AG
Sewage ejectors	Health	AG
Fire-fighting system (toxic liquid foam	1160101	AG
concentrates)	Health	RPBA
Connection to sewer pipe	Health	AG
Connection to plating tanks	Health	RPBA
Irrigation systems with chemical additives	ileanti	RFDA
or agents	Health	RPBA
Connection to salt-water cooling system	Health	RPBA
Tank vats or other vessels containing toxic	ileann	RPDA
substances	Health	RPBA
Connection to industrial fluid systems	Health	RPBA
Dye vats or machines	Health	RPBA
Cooling towers with chemical additives	Health	RPBA
Trap primer	Health	AG
Steam generators	Nonhealth†	RPBA
Heating equipment		KI DA
Commercial	Nonhealtht	RPBA
Domestic	Nonhealth†	DCVA
Irrigation systems	Nonhealtht	DCVA, AVB, or PVB
Swimming pools		DOTA, AVD, OLIVD
Public	Nonhealtht	RPBA or AG
Private	Nonhealtht	PVB or AG
Vending machines	Nonhealtht	RPBA or PVB
Ornamental fountains	Nonhealtht	DCVA or AVB or PVB
Degreasing equipment	Nonhealtht	DCVA
Lab bench equipment	Nonhealtht	AVB or PVB
Hose bibbs	Nonhealtht	AVB
Trap primers	Nonhealtht	AG
Flexible shower heads	Nonhealth	AVB or PVB
Steam tables	Nonhealth [†]	AVB
Washing equipment	Nonhealth†	AVB
Shampoo basins	Nonhealth†	AVB
Kitchen equipment	Nonhealtht	AVB
Aspirators	Nonhealth†	AVB
Domestic space-heating boiler	Nonhealtht	RPBA

Guide to the Assessment of Hazard and Selection of Assemblies for Internal Protection

NOTE: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

*AVBs and PVBs may be used to isolate health hazards under certain conditions, that is, backsiphonage situations. Additional area or premises isolation may be required.

†Where a greater hazard exists (due to toxicity or other potential health impact) additional area protection with RPBAs is required.

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Description of Premises	Assessment of Hazard	Recommended Assembly on Water Service Pipe
Hospitals, mortuaries, clinics, laboratories	Health	RPBA
Plants using radioactive material	Health	RPBA
Petroleum processing or storage facilities	Health	RPBA
Premises where inspection is restricted	Health	RPBA
Sewage treatment plant	Health	RPBA
Sewage lift stations	Health	RPBA
Commercial laundry	Health	RPBA
Plating or chemical plants	Health	RPBA
Docks and dockside facilities	Health	RPBA
Food and beverage processing plants Pleasure-boat marina	Health	RPBA
	Health	RPBA
Tall buildings (protection against excessive head of water)		
Steam plants	Nonhealth	DCVA
Reclaimed water systems	Nonhealth	RPBA
avoidanted water systems	Health	RPBA

Note: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

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7.03 Types and Descriptions of Hazard Definition Backflow Prevention Devices

The following definitions apply to hazard conditions existing at a site where backflow prevention devices may be required.

Degree of Hazard Definition

Low - A condition where polluting substances(s) may come in contact with potable water aesthetically affecting the taste, odor or appearance, but not hazardous to health (non-toxic), (e.g., pollution hazard)

Moderate to High - A condition where a polluting substance may come in contact with potable water creating a health hazard, causing sickness or death (toxic), (e.g., system hazard, plumbing hazard, health hazard).

<u>Backflow Prevention Devices</u> - Types, Descriptions, and Applicable Standards for Multiple Check Valve Assemblies. Table 7.1 and Table 7.2 lists the types and applications of backflow prevention devices, a brief description of each device, typical installation conditions, and applicable standards.

7.04 Typical Facilities Requiring Backflow Prevention Devices

1. Medical buildings, sanitariums, veterinarian facilities, morgues, mortuaries, autopsy facilities, nursing and convalescent homes and clinics shall have an RP or DCVA, depending upon degree of hazard, installed at the service connection. The hazards normally to be found in a facility of this type include cross connections between the consumer's water system and contaminated or sewer connected equipment such as bedpan washer, flush valve toilets and urinals, autoclaves, specimen tanks, sterilizers, pipe tube washer, cuspidors, aspirators, autopsy and mortuary equipment. Note: It has been found that in this type of facility little or no attention is given to the maintenance of air-gap separations or vacuum breakers. It is customary to bridge an air-gap separation by means of a hose section. It should also be noted that in multi-story buildings, the supply line to the toilets, urinals, lavatories, laboratory sinks, etc..., on the lower floors may be taken off of the suction side of the house pump. As a result, sewage or other contaminated substances may be drawn into the house supply line.

2. All buildings, plants, or other structures having a source of unapproved water piped into such buildings, plants, or other structures with the potential of being interconnected to the public supply, shall have an RP installed at the main supply line serving their premises.

3. All buildings, plants, apartment houses, public and private buildings, or any other structures having unprotected cross-connections shall have an RP or DCVA, depending on

degree of hazard, installed at the service connection to any premises where multi-storied public building such as hotel, apartment house, office or loft building are operated or maintained if the buildings have unprotected cross connections, sewage pumping facilities, auxiliary water supplies, or other like sources of contamination which would create a potential hazard to the public water system.

4. All waterfront facilities and industries shall have an RP or DCVA, depending upon the degree of hazard, installed at their service connection to any premises where there are piers, docks, industries, or other waterfront facilities where water from a river, stream, irrigation, ditch or canal, lake, etc., is available to be used on the premises.

5. All manufacturers of chemicals which are toxic shall be required, at the discretion of the water purveyor to install an RP.

6. All sewage treatment plants shall have an RP installed on main potable water service lines serving such plants.

7. Dairies and cold storage plants shall have an RP or DCVA, depending upon the degree of hazard, installed on the service connection. This applies to any premises where a dairy, creamery, ice cream plant, cold storage or ice manufacturing plant is operated or maintained, provided such a plant has, on the premises, an auxiliary water supply, industrial fluid system, sewage handling facilities or other similar source of contamination which, if cross-connected to, would create a hazard to the public system. The hazards normally found in a plant of this type include cross-connections between the consumer's waste system and reservoirs, cooling towers and circulating systems which may be heavily contaminated with bird droppings, vermin, algae, bacterial slimes, or toxic water treatment compounds.

8. Schools and colleges shall have an RP or DCVA installed at the service connection where water is used to supply chemical, becteriological and biological laboratories; or where the water is used to supply separate irrigation systems; or where there are unprotected sewer cross connections. <u>Note:</u> This hazard is critical because little or no attention is given to the maintenance of vacuum breakers and frequently they are removed from the line; steam generating facilities and lines are frequently contaminated with boiler compounds such as pentachlorophenol, cyclohexlamine, etc. A very particular hazard is the possibility of steam getting back into the domestic system, causing either a system or health hazard.

9. In commercial car washing installations, potable make-up water lines to reclaim water pits shall have an AG separation. All potable water connections to fluids such as bug cleaner, tire cleaner, and wax and soap solution make-up tanks shall have an AG separation. If this is not possible due to the design of equipment, an RP shall be installed on the main water service connection.

10. All buildings or premises where security requirements or other prohibiting restrictions make it impossible or impractical to make a complete inside cross connection survey, the public water system shall be protected against backflow from the premises or building by an RP

installed or the main service connection (s) serving the building or premises.

11. All industrial, commercial, or residential properties (including all multi-or single family residences) having an irrigation system which utilizes chemical siphoning or injection apparatus shall have an RP device installed at the service connection. <u>Note:</u> Any device, equipment or situation not covered by this cross-connection policy where water is connected or used which may constitute a potential health hazard will be handled at the discretion of *Aqua Utilities Florida, Inc.*

7.05 Typical Plumbing Arrangements Requiring Backflow Prevention Devices - note references to SBCC, Standard Plumbing Code (SPC)

1. Fixture inlets or valved outlets with hose attachments, which may constitute a crossconnection, shall be protected by the proper approved vacuum breaker (PVB, HBVB, etc.) installed at least six (6) inches above the highest point of usage and locatd on the discharge side of the last valve. Fixtures with integral vacuum breakers manufactured as a unit may be installed in accordance with their approved requirements. (SPC Sec. 1204.3.4)

2. Industrial fluid or processed water - potable water pipelines connected to industrial piping systems or to equipment containing industrial fluid, sewage, used or processed water, or any other potentially contaminated liquid shall be protected by installing an RP in the interconnecting lines or by and AG separation.

3. Air conditon cooling tower - potable water inlet shall have an AG separation of twice the inside diameter of the inlet line or a minimum of two (2) inches above the flood level rim.

4. Aspirators and ejectors - shall have a PVB, depending upon the degree of hazard, on the faucet from which these devices are attached or operated (SPC. sec, G104.6)

5. Automatic film processors - potable water lines connected directly to an automatic film processor shall be protected by an AG or a DCVA.

6. Bath tub with hose attachments - shall have a PVB at faucet.

7. Bedpan washer - shal have a PVB installed in accordance with the Standard Plumbing Code (SPC SEc. G104.6)

8. Boiler connection - potable water connection to boiler feed water system which contains conditioning chemicals shall either be made through an AG at make-up tank, or have an RP or DCVA, or BPW/IAV.

9. Booster pumps - shall be provided with a low pressure cut-off unless other acceptable provisions are made to prevent the creation of low or negative pressures in the piping system.

10. Colonic irrigators or douche attachments - shall have a PVB installed.

11. Dark rooms (photographic) - all threaded faucets shall be pretcted with a PVB or HBVB.

12. Dishwashing machine - shall be connected with a PVB on both hot and cold water supply lines in accordance with the SPC.

13. Dip tanks and vats - potable water inlet shall have an AG separation twice the inside diameter of the inlet or a minimum of two (2) inches above the flood level rim.

14. Garbage disposer - potable water supply lines connected directly to garbage disposer shall be equipped with a PVB or BPW/IAV.

15. Drinking fountains - shall have an AG separation.

16. Fire sprinkler systems - shall have an AG separation to the sewer.

17. Flushing floor drains - shall have a PVB installed .

18. Flush valve water closets, urinals, and bidets - shall have a vacuum breaker installed in accordance with the SPC.

19. Foot and sitz bath - shall have an AG separation or a PVB installed.

20. Hydro-therapy baths - shall have a PVB installed at water connection.

21. Janitors, mop or slop sink with threaded hose faucet shall be equipped with an AVB before faucet.

22. Lawn sprinkler systems - shall have a PBV or RP or DCVA installed depending on degree of hazard.

23. Pipette washer - shall have a PVB or AG separation installed on faucet..

24. Private wells shall not be interconnected or physically linked in any way, with or without a protective device, to the public potable water supply.

25. Potable water make-up line - to chill water loops, heating loops, purge units, condensers, converters, and condensate tanks should be equipped with BPW/IAV, DCVA, or RP depending on degree of hazard.

26. Serrated faucets - shall be equipped with a PVB at the faucet. If goose neck faucet is used "laboratory faucet type vacuum breaker" is acceptable

27. Shampoo basin hose rinse - shall have an AVB installed.

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28. Sinks and bathtop faucets - shall have an AG separation above flood level rim.

29. Sterilizers - shall have an AG separation or PVB installed.

30. Stills - shall have an AG separation.

31. Swimming pool fill line - shall have an AG separation above the flood level rim or a DCVA.

32. Wash-up sinks with threaded faucets - shall have a PVB or HBVB installed.

33. Wash down hose faucet - shall have a PVB or HBVB installed on faucet

34. Washing machine drain lines - shall have an AG separation to sewer.

35. Water supply inlets - in pits, tanks, trenches, tubs, vats, or any other place that could become flooded with contaminated liquids shall have an AG separation above the flood level rim.

36. Water operated presses, elevators, or other similar pressure producing equipment - shall have an RP installed.

37. X-Ray developing tank - shall have an AG separation or a PVB installed. <u>Note:</u> Any device, equipment, or situation not covered by this cross-connection policy, which may constitute a potential health hazard, will be examined for treatment by *Aqua Utilities Florida, Inc.*

Section 8 Testing of Back/low Preventers

8.01 General Requirements

As part of a complete cross-connection control program, it shall be the duty of the <u>non-single -family</u> <u>customer - user</u> at any premises where reduced pressure backflow prevention devices (RP), double check valve assemblies (DCVA), and pressure vacuum breakers (PVB) are installed to have a thorough inspection and operation test at the time of installation and at least once a year, or more often in those instances where inspections indicate a need. Proper field test procedures with calibrated gauge equipment must be used by certified personnel (reference Section 6 for definition and explanation of a Backflow Prevention Device Tester- Certified). The cost of inspection, testing, maintenance and repair of backflow prevention devices at non-single-family residences shall be borne by the non-single-family customer-user.

<u>The single-family-residence customer -user</u> shall be responsible for the cost of the initial installation, inspection, and testing of the backflow prevention device. The costs and scheduling of inspections and tests thereafter performed at single-family residences shall be the responsibility of the *customer*. Any maintenance or repair required as a result of the test shall be at the expense of the customer - user and shall be performed by the device manufacturer's representative or by a certified device tester (Reference Section 6)

Irrigation systems are required to have PVB to prevent backflow to the public water supply. All existing AVB installations shall be retrofitted with PVBs at the consumer's expense. Single- family water customers installing new irrigation systems will be required to purchase, install and test new PVBs at their own expense. Annual testing and inspection of PVBs for all single-family customers will be performed by Certified Tester.

All devices failing to meet the latest performance standards set forth by the AWWA, ASSE, or the FCCCHR at USC, shall be repaired and retested promptly. Devices which are found to have a history of not meeting these performance standards should be replaced with new devices at the customer's expense.

If such testing indicates wear or other malfunction, the devices shall be overhauled. Such an overhaul should consist of the replacement of all seats, diaphragms, gaskets, etc., which are subject to wear, and any other parts found to be worn or otherwise in questionable condition.

8.02 Parallel Installations

All backflow prevention devices with test cocks are required to be tested with a minimum frequency of once per year. Testing requires a water shutdown usually lasting five (5) to twenty (20) minutes. For facilities that require an uninterrupted supply of water, and when it is not possible to provide water service from two (2) separate meters, provisions shall be made for a "parallel installation" of backflow prevention devices.

During testing, one device is left on while the other is being tested. Usually the two devices are sized one device smaller than the service line, e.g., one 2 inch device or two 1-1/2 inch devices, one 8 inch device or two (2) six (6) inch devices.

Aqua Utilities Florida, Inc. will not accept an unprotected bypass around a backflow preventer when the device is in need of testing, repair or replacement.

8.03 Preparation

As a prelude to each of the field test procedures. It is essential that the certified tester follow some basic steps:

1. <u>Notify</u> - Appointment and introduction procedures shall be followed similar to that used for inspections. The owner of the assembly shall be notified that water service will be shut off during test procedure. Special arrangements may have to be made so that interruption of service will not create a hardship on the user.

2. <u>Identify</u> - Make sure that proper assembly is being tested by checking identification tag for make, model, and serial number. All information and test data shall be recorded on poper forms before leaving the location.

3. <u>Inspect</u> - Inspect the assembly for the required components for the field test procedure -i.e., upstream and downstream shut-off valves, properly placed testcocks, etc.

4. <u>Observe</u> - Carefully observe area around the assembly for tell-tale signs of leakage - i.e., moss or algae growth, plant life, or soil erosion. This should supply the tester with additonal information regarding the condition of the assembly before the test is performed. Example: Wet spot under relief valve port of RP assembly is an indication of relief valve activity, possibly from pressure fluctuations or fouling of the assembly. Proper testing will define the problem.

8.04 Records

Aqua Utilities Florida, Inc. will notify the customer - user when tests are required. The passing test results shall be returned to Aqua Utilities Florida, Inc. by the date indicated. A full report on the test of each device giving pertinent test data and indicating what, if any, repairs were made are to be delivered promptly to Aqua Utilities Florida, Inc.

Records are to include, but not be limited to:

1. Reports of inspections, recommendations, re-inspections, and corrective action taken.

2. Correspondence between *Aqua Utilities Florida, Inc.*, DEP, consumer, etc., concerning corrective action.

3. A master list of all backflow protection devices in use or proposed for use in the service area.

4. Vital data on each protective device.

5. Test and maintenance reports of each protective device.

Aqua Utilities Florida, Inc. shall maintain and keep all records of tests and results, locations of hazards and any other cross connection related information for each public water system for a minimum of ten (10) years. Records of tests of customers backflow devices will be maintained in an electronic database to be kept and accessible at the corporate office at 1100 Thomas Avenue, Leesburg, FL.

Section 9 Results of non-compliance

9.01 Discontinued Service

1. A consumer's health hazard surveillance report listing all cross-connections found during inspection will be sent to the owner or authorized agent of the owner of the building or premises, stating corrections should be made and setting a time for compliance. Unless otherwise noted in the report, the consumer shall have thirty (30) days to comply and perform any required corrections. Upon failure of the owner or authorized agent of the owner of the building or premises to have the defect (s) corrected by the specified time. *Aqua Utilities Florida, Inc.* shall cause the water service to the building or premises to be terminated and shall take such other precautionary measures deemed necessary to eliminate any danger of contamination of the public potable water supply and system.

2. Aqua Utilities Florida, Inc. shall cause discontinuance of water service if a reduced pressure backflow prevention device has been by-passed or failed to be tested or properly maintained as required by Aqua Utilities Florida, Inc. policy statements contained in this manual.

3. Aqua Utilities Florida, Inc. shall cause discontinuance of water service if an air-gap separation system is compromised or if, in the opinion of Aqua Utilities Florida, Inc., a hazardous condition cannot be immediately corrected.

4. Upon discontinuance of water service for non-compliance with the provisions of this manual, water service to such property shall not be restored until the system has been brought into full compliance, and a written order to reconnect has been issued by *Aqua Utilities Florida*, *Inc.*.

9.02 Violation Liability

1. Any person or customer found violating any of the provisions of this manual or any written order of *Aqua Utilities Florida, Inc.* pursuant thereto, shall pay all costs and expenses involved in the case, including attorney's fees.

2. Notice of such violation shall be given by delivery of same to the premises and a copy thereof mailed to the billing address as it appears on *Aqua Utilities Florida*, *Inc.* billing records.

3. Each day upon which a violation shall occur shall be deemed a separate and additional violation.

4. Any person or custome in violation of any provisions of this manual shall also be liable to *Aqua Utilities Florida, Inc.* for any expense, loss, or damage incurred by reason of such violation to include attorney's fees.

5. Aqua Utilities Florida, Inc. may bring suit in the appropriate court to enjoin, restrain or otherwise prevent the violations of any of the provisions of this manual.

Section 10 Fire Systems

10.01 General (refer to Section 7 for abbreviations.)

1. *Aqua Utilities Florida, Inc.* will install and maintain DCV and DDCVG for all unmetered fire systems which have a low or moderate degree of hazard.

2. A DCVA or RP, depending upon the degree of hazard, shall be installed by the consumer on all metered fire systems.

3. Devices will be installed above ground, when possible, to provide easier maintenance and meter accessibility

4. All devices installed by *Aqua Utilities Florida, Inc.* will be tested annually by *Aqua Utilities Florida, Inc.* and maintained at a frequency proportionate to their age.

5. The cost of testing and maintenance will be paid by consumer.

10.02 Classes of Systems and Recommended Protection

Fire systems shall be divided into the following six (6) classes for the purpose of review. These classes are as adopted in the AWWA, M14 Backflow Prevention and Cross-Connection Control Manual and as endorsed by the National Automatic Sprinkler and Fire Control Association.

<u>Class 1</u> - Direct connections from public water mains only: no pumps, tanks, or reservoirs; no physical connection from other water supplies; no anti-freeze or other additives of any kind; all sprinkler drains discharging to atmosphere, dry wells, or other safe outlets.

Recommended Protection for Class 1: Single check valve and alarm check valve.

<u>Class 2</u> - Same as Class 1, except that booster pumps may be installed in the connections from the street mains (booster pumps do not affect the potability of the system; it is necessary, however, to avoid drafting so much water that pressure in the water main is reduced below 20 psi).

Recommended for Class 2 - Same as Class 1

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<u>Class 3</u> - Direct connection from public water supply main plus one or more of the following; elevated storage tanks: fire pumps taking suction from above ground covered reservoirs or tanks (all Storage facilities are filled or connected to public water only; the water in the tanks to be maintained in a potable condition. Otherwise, Class 3 systems are the same as Class 1.)

Recommended Protection for Class 3: Systems will generally require minimum protection (approved DCVA) to prevent stagnant waters from backflowing into the public potable water system.

<u>Class 4</u>- Directly supplied from public mains similar to Classes 1 and 2, with an auxiliary water supply on or available to the premises, or an auxiliary supply may be located with 1,700 feet of the pumper connection (Note: The auxiliary supply would mean a pond, river, etc., dedicated to Fire Department use).

Recommended Protection for Class 4: Systems will normally require maximum protection at the service connection. The type (AG or RP) will generally depend on the quality of the auxiliary supply.

Class 5 - Directly supplied from public mains and interconnected with auxiliary supplies, such

as: pumps taking suction from reservoirs exposed to contamination or rivers and ponds; driven wells, mill or other industrial water systems, or where antifreeze or other additives are used.

Recommended Protection for Class 5: Same as Class 4

<u>Class 6</u> - Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suctions tanks.

Recommended Protection for Class 6: System protection would depend on the requirements of both industry and fire protection, and could only be determined by a survey of the premises.

A meter (compound, detector check) should not normally be permitted as part of a backflow prevention device. An exception may be made, however, if the meter and backflow prevention device are specifically designed for that purpose.

10.03 Low Pressure Cut-Offs

All fire pumps drawing suction from *Aqua Utilities Florida*, *Inc.* water mains shall be equipped with low pressure cut-off devices or other means to prevent the reduction of water main pressure below 20 psi.

10.04 Standard Operating Procedures

1. Current AWWA backflow prevention practices for fire lines do not regard stagnant water as a health problem for low head, closed pipe fire systems. Alarm checks on sprinkler system risers in conjunction with other check valves such as single detector check valves at the service connection are considered protection for these types of potential contaminatns.

2. Fire suppression systems supplied by six (6) inch or larger pipe and /or systems supplemented with on-site tanks or reservoirs or other water supplies shall be provided with either DCVA or other device types installed in accordance with the following criteria;

Installation: Mechanical backfow prevention devices need pressure loss to function properly. Before installing a device on a fire system, new or existing, this pressure loss should be factored into the system design to ascertain what effect it will have on system performance. Currecnt device standards for sizes 4" through 10" permit pressure loss up to 14 psi for RPs and 10 psi for DCVAs (and DDCVs). Specific pressure loss information is readily available from all device manufacturers.

Manufacturer's installation instructions must be followed to ensure proper operation and to protect the equipment's warrant. General installation guidelines are as follows:

a. The device should be installed in a horizontal position and have at least 12" between the bottom of the device and final grade or floor.

b. Lateral clearance around the device must be provided to facilitate testing,

maintenance and replacement

c. Two (2) devices should be installed in parallel for any facility that must have uninterrupted flow during device testing or repair (e.g., medical buildings)

d. Though not recommended, devices maybe installed in pits that are well drained: NO PART OF A DEVICE SHOULD EVER BE UNDER WATER.

e. If a device is installed inside a building, a floor drain is helpful to elimate spillage caused by testing or flushing.

f. Since the relief valve on an RP will periodically drip or spit and may dump, the relief vent may be fitted with a drainline if spillage is objectionable or hazardous (e.g., electrical hazards). The end of the drain line must terminate 12" above ground or floor level and be clearly visible and accessible.

g. The device should be protected against freezing.

h. Shut-off valves should be of the OS type. And Y type strainers should not be used.

i. The assembled piping should be thoroughly flushed before installing the device.

j. The device should be adequately supported.

k. Fire suppression systems supplied by pipe less than 6" shall be adequately protected by the alarm check valve and a single check valve placed between the Fire Department connection and the main tap.

i. Water meters shall not be placed on fire protection lines.

<u>MANUAL OF CROSS CONNECTION CONTROL</u> <u>AQUA UTILITIES FLORIDA, INC.</u>