



INSURANCE SERVICES OFFICE, INC.

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August 27, 2002

Mr. Dennis Kerns, County Administrator
King George County
10459 Courthouse Drive
King George, VA 22485

RE: Public Protection Classification Results
King George County, King George County, VA

Dear Mr. Kerns:

We wish to thank you and the other community officials for your cooperation during our recent Public Protection Classification (PPC) survey. ISO is the leading supplier of statistical, underwriting, and actuarial information for the property/casualty insurance industry. Most insurers use the PPC classifications for underwriting and calculating premiums for residential, commercial and industrial properties.

ISO has completed its analysis of the structure fire suppression delivery system provided in your community. We would like to report that the resulting classification is a Class 6/9. Congratulations on your commitment to serve the needs of your community's property owners and residents.

Enclosed is a summary of the ISO analysis of your fire suppression services. If you would like to know how your community's classification could improve, or if you would like to learn about the potential effect of proposed changes to your fire suppression delivery system, please call us at the phone number listed below.

The PPC program is not intended to analyze all aspects of a comprehensive structure fire suppression delivery system program. It is not for purposes of determining compliance with any state or local law, nor is it for making recommendations about loss prevention or life safety.

If you have any questions about your classification, please let us know.

Sincerely,

Public Protection Department

(856) 985-5600 Ext. 403

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Encl.

cc: Mr. Steven Basham, Emergency Services Coordinator
Mr. Scott Sweeney, Superintendent of Facilities

THE ISO PUBLIC PROTECTION CLASSIFICATION (PPC) PROGRAM

ISO's PPC program evaluates communities according to a uniform set of criteria defined in the Fire Suppression Rating Schedule (FSRS). This criteria incorporates nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association.

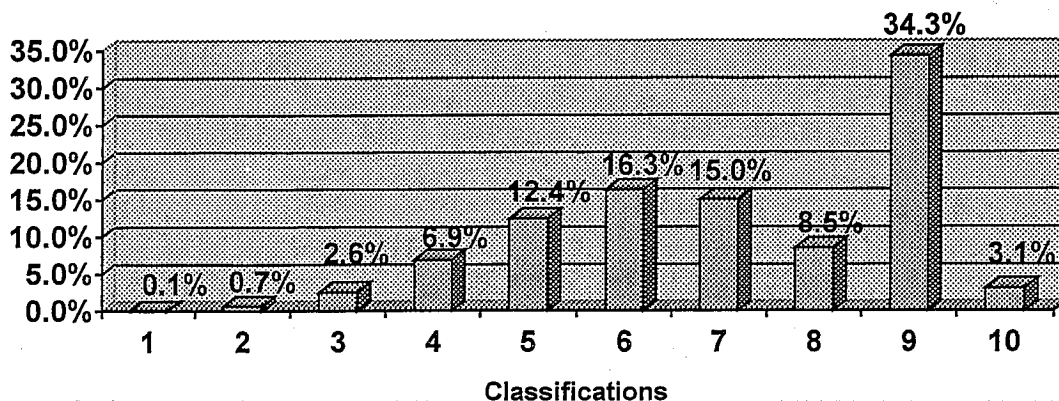
Using the FSRS, ISO objectively reviews the fire suppression capabilities of a community and assigns a Public Protection Classification – a number from 1 to 10. Class 1 represents exemplary fire protection, and Class 10 indicates that the area's fire suppression program does not meet minimum recognition criteria.

The FSRS allocates credit by evaluating the following three major features:

- Fire alarm and communication system. This review accounts for 10% of the total classification which centers upon a community's facilities and support for handling and dispatching fire alarms.
- Fire department. This review accounts for 50% of the total classification which focuses upon items such as engine companies, ladder or service companies, distribution of fire stations and fire companies, equipment carried on apparatus, pumping capacity, reserve apparatus, department manning, and training.
- Water supply system. This review accounts for 40% of the total classification highlighting the water supply a community uses for fire suppression, including hydrant size, type, and installation, as well as the inspection frequency and condition of fire hydrants.

When ISO develops a single classification for a community, all of the community's properties receive that classification. In many communities, ISO develops a split classification (for example, 5/9). Generally, the first class, (Class 5 in the example) applies to properties within a defined distance (5-road miles in most states) of a fire station and within 1000 feet of a fire hydrant. The second class (Class 9 in the example) applies to properties beyond 1000 feet of a hydrant but within the defined distance of a fire station. ISO generally assigns Class 10 to properties beyond the defined distance of a fire station.

Countrywide Public Protection Classification Summary



Grading Sheet For: King George Co, VA
King George County

Public Protection Class: 6 / 9

Surveyed: January, 2001

<u>Feature</u>	<u>Credit Assigned</u>	<u>Maximum Credit</u>
Receiving and Handling Fire Alarms	4.15%	10.00%
Fire Department	21.87%	50.00%
Water Supply	23.99%	40.00%
*Divergence	-3.25%	
Total Credit	<u>46.76%</u>	<u>100.00%</u>

The Public Protection Class is based on the total percentage credit as follows:

<u>Class</u>	<u>%</u>
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0 to 9.99

*Divergence is a reduction in credit to reflect a difference in the relative credits for Fire Department and Water Supply.

The above classification has been developed for use in property insurance premium calculations.

INSURANCE SERVICES OFFICE, INC.

CLASSIFICATION DETAILS

Graded Area: King George Co

County: King George

State: VA

Date Surveyed: January, 2001

Total Credit: 46.76 Class: 6 / 9 Pop.: 18000

RECEIVING AND HANDLING FIRE ALARMS

This section of the Fire Suppression Rating Schedule reviews the facilities provided for the general public to report fires, and for the operator on duty at the communication center to dispatch fire department companies to the fires.

	<u>Actual</u>	<u>Credit</u> <u>Maximum</u>
1. Credit for Telephone Service (Item 414)		
This item reviews the facilities provided for the public to report fires, including the listing of fire and business numbers in the telephone directory.	1.22	2.00
2. Credit for Operators (Item 422)		
This item reviews the number of operators on-duty at the communication center to handle fire calls.	1.68	3.00
3. Credit for Dispatch Circuits (Item 432)		
This item reviews the dispatch circuit facilities used to transmit alarms to fire department members.	1.25	5.00
4. Total Credit for Receiving and Handling Fire Alarms:	4.15	10.00
Relative Classification for Receiving and Handling Fire Alarms:	6	

CLASSIFICATION DETAILS

Graded Area: King George Co

County: King George

State: VA

Date Surveyed: January, 2001

Total Credit: 46.76 Class: 6 / 9 Pop.: 18000

FIRE DEPARTMENT

This section of the Fire Suppression Rating Schedule reviews the engine and ladder-service companies, equipment carried, response to fires, training and available fire fighters.

	<u>Actual</u>	<u>Credit</u> <u>Maximum</u>
1. Credit for Engine Companies (Item 513)		
This item reviews the number of engine companies and the hose equipment carried.	8.11	10.00
2. Credit for Reserve Pumpers (Item 523)		
This item reviews the number of reserve pumpers, their pump capacity and the hose equipment carried on each.	0.79	1.00
3. Credit for Pump Capacity (Item 532)		
This item reviews the total available pump capacity.	5.00	5.00
4. Credit for Ladder-Service Companies (Item 549)		
This item reviews the number of ladder and service companies and the equipment carried.	1.94	5.00
5. Credit for Reserve Ladder-Service Companies (Item 553)		
This item reviews the number of reserve ladder and service trucks, and the equipment carried.	0.16	1.00

CLASSIFICATION DETAILS

Graded Area: King George Co

County: King George

State: VA

Date Surveyed: January, 2001

Total Credit: 46.76 Class: 6 / 9 Pop.: 18000

FIRE DEPARTMENT

(continued)

	<u>Actual</u>	<u>Credit</u> <u>Maximum</u>
6. Credit for Distribution (Item 561)		
This item reviews the percent of the built-upon area of the city which has an adequately-equipped, responding first-due engine company within 1.5 miles and an adequately-equipped, responding ladder-service company within 2.5 miles.	0.99	4.00
7. Credit for Company Personnel (Item 571)		
This item reviews the average number of equivalent fire fighters and company officers on duty with existing companies.	3.71	15.00+
8. Credit for Training (Item 581)		
This item reviews the training facilities and their use.	1.17	9.00
9. Total Credit for Fire Department:	21.87	50.00+
Relative Classification for Fire Department:	6	

+ This indicates that credit for manning is open-ended, with no maximum credit for this item.

CLASSIFICATION DETAILS

Graded Area: King George Co

County: King George

State: VA

Date Surveyed: January, 2001

Total Credit: 46.76 Class: 6 / 9 Pop.: 18000

WATER SUPPLY

This section of the Fire Suppression Rating Schedule reviews the water supply system that is available for fire suppression in the city.

	<u>Actual</u>	<u>Credit</u> <u>Maximum</u>
1. Credit for the Water System (Item 616)		
This item reviews the supply works, the main capacity and hydrant distribution.	20.03	35.00
2. Credit for Hydrants (Item 621)		
This item reviews the type of hydrants, and method of installation.	1.86	2.00
3. Credit for Inspection and Condition of Hydrants (Item 631)		
This item reviews the frequency of inspections of hydrants and their condition	2.10	3.00
4. Total Credit for Water Supply:	23.99	40.00
Relative Classification for Water Supply:	5	

PUBLIC PROTECTION CLASSIFICATION

IMPROVEMENT STATEMENTS

FOR

King George Co

King George County, VA

Prepared by

INSURANCE SERVICES OFFICE, INC.

4B Eves Drive, Suite 200, Marlton, NJ 08053

800 444-4554 FAX 856 985-2511

The following statements are based upon the criteria contained in our Fire Suppression Rating Schedule and upon conditions in King George Co, VA during January, 2001. They indicate the performance needed to receive full credit for the specific item in the Schedule, and the quantity you have provided. Partial improvement will result in receiving a partial increase in the credit. These statements relate only to the fire insurance classification of your county. They are not for property loss prevention or life safety purposes and no life safety or property loss prevention recommendations are made.

RECEIVING AND HANDLING FIRE ALARMS

Credit For Telephone Service (Item 414).

Actual = 1.22%; Maximum = 2.00%

For maximum credit in the Schedule, there should be 2 incoming telephone lines reserved for receiving notification of fires (and other emergency calls). You have 1 line reserved.

For maximum credit in the Schedule, there should be 2 incoming lines reserved for notification of fires (and other emergency calls) plus 1 additional line for conducting other fire department business. Since only the emergency number is listed in the telephone directory, 1(one) line has been deducted from the number of creditable reserved emergency lines.

For maximum credit in the Schedule, there should be 2 incoming lines reserved for notification of fires (and other emergency calls) plus 1 additional lines for conducting other fire department business. Since the designated business line is to a location that is not attended during normal business hours, 1(one) line has been deducted from the number of creditable reserved fire lines.

For maximum credit in the Schedule, both the number to report a fire and the fire department business number should be listed under "Fire Department" in the white pages directory (or government section of the white pages). Your fire number is not listed and your business number is not listed under "Fire Department".

For maximum credit in the Schedule, both the number to report a fire and the fire department business number should be listed under the name of the county in the white pages directory (or government section of the white pages). Your fire number is listed but your business number is not listed under the name of the county.

For maximum credit in the Schedule, the individual telephone numbers of each fire station should not be listed in the telephone directory.

Credit For Operators (Item 422).

Actual = 1.68%; Maximum = 3.00%

For maximum credit in the Schedule, 4 operators are needed on duty at all times. You have an average of 2.23 operators on duty.

Credit For Dispatch Circuits (Item 432).

Actual = 1.25%; Maximum = 5.00%

For maximum credit in the Schedule, there should be two (2) alarm dispatch circuits to each fire station and/or firefighter in accordance with National Fire Protection Association Standard, 1221.

For maximum credit in the Schedule, the primary alarm dispatch circuit should be monitored for integrity in accordance with National Fire Protection Association Standard, 1221.

For maximum credit in the Schedule, the alarm dispatch circuits should have recording facilities at the communication center.

For maximum credit in the Schedule, both alarm dispatch circuits should have an emergency power supply in accordance with National Fire Protection Association Standard, 1221.

Total credit for Receiving and Handling Fire Alarms (Item 440)

Actual = 4.15%; Maximum = 10.00%

FIRE DEPARTMENT

Credit For Engine Companies (Item 513).

Actual = 8.11%; Maximum = 10.00%

For maximum credit in the Schedule, 3 engine companies are needed in your county. These are calculated as follows:

2 for the Basic Fire Flow of 2250 gpm.

1 additional for the method of operation.

1 additional for the size of the area served.

You have 3 engine companies in service. These are calculated as follows:

79 percent for Engine 11&T1 because of insufficient equipment. Additionally Engine 11&T1 is lacking: an adequate pump testing program.

83 percent for Engine 21&22 because of insufficient equipment. Additionally Engine 21&22 is lacking: an adequate pump testing program.

83 percent for Engine 31&32 because of insufficient equipment. Additionally Engine 31&32 is lacking: an adequate pump testing program.

For maximum credit in the Schedule, at least 2 engine companies should respond for all first alarms for fires in buildings. The credit for engine companies has been reduced by 1.5 percent due to the lack of adequate response to part of the county.

Credit For Reserve Pumpers (Item 523).

Actual = 0.79%; Maximum = 1.00%

For maximum credit in the Schedule, 1 fully-equipped reserve pumper is needed. You have 1 reserve pumper. This is calculated as follows:

74 percent for Engine E-12 because of insufficient equipment. Additionally Engine E-12 is lacking: an adequate pump testing program.

Credit For Ladder Service (Item 549).

Actual = 1.94%; Maximum = 5.00%

For maximum credit in the Schedule, 1 ladder company is needed in your county.
This is calculated as follows:

1 ladder company due to method of operation.

You have 1 ladder company
This is calculated as follows:

38 percent for Ladder S10&E because of insufficient equipment.

Credit For Reserve Ladder Service (Item 553).

Actual = 0.16%; Maximum = 1.00%

For maximum credit in the Schedule, 1 fully-equipped reserve ladder truck is needed.
You have 1 reserve ladder truck.
This is calculated as follows:

16 percent for Ladder A-3 because of insufficient equipment and insufficient ladder testing.

Credit For Distribution (Item 561).

Actual = 0.99%; Maximum = 4.00%

For maximum credit in the Schedule, all sections of the county with hydrant protection should be within 1½ miles of a fully-equipped engine company and 2½ miles of a fully-equipped ladder, service, engine-ladder or engine-service company. The distance to be measured along all-weather roads.

Credit For Company Personnel (Item 571).

Actual = 3.71%; Maximum = 15.00%

An increase in the on-duty company personnel by one person will increase the fire department credit by 0.63 and an increase in the average response by other fire department members by one person will increase the fire department credit by 0.21.

Credit For Training (Item 581).

Actual = 1.17%; Maximum = 9.00%

For maximum credit in the Schedule, the training program should be improved. You received 13 percent credit for the current training program and the use of facilities.

For maximum credit in the Schedule, pre-fire planning inspections of each commercial, industrial, institutional and other similar-type building should be made twice a year by company members. Records of the inspections should include complete and up-to-date notes and sketches.

For maximum credit in the Schedule, complete records should be kept of all training.

Total credit for Fire Department (Item 590)

Actual = 21.87%; Maximum = 50.00%

WATER SUPPLY

Credit For the Water Supply (Item 616).

Actual = 20.03%; Maximum = 35.00%

For maximum credit in the Schedule, the needed fire flows should be available at each location in the county. Needed fire flows of 2500 gpm and less should be available for 2 hours, 3000 and 3500 gpm for 3 hours and all others for 4 hours. See the attached table for an evaluation of fire flow tests made at representative locations in your county.

All AWWA standard hydrants within 1000 feet of a building, measured as hose can be laid by apparatus, are credited; 1000 gpm for hydrants within 300 feet; 670 gpm for 301 to 600 feet; and 250 gpm for 601 to 1000 feet. Credit is reduced when hydrants lack a pumper outlet, and is further reduced when they have only a single 2½-inch outlet.

Credit For Hydrants (Item 621).

Actual = 1.86%; Maximum = 2.00%

For maximum credit in the Schedule, all hydrants should have a 6-inch or larger branch connection.

Credit For Inspection and Condition of Hydrants (Item 631).

Actual = 2.10%; Maximum = 3.00%

For maximum credit in the Schedule, all hydrants should be inspected twice a year, the inspection should include operation and a test at domestic pressure. Records should be kept of the inspections. Hydrants should be conspicuous, well located for use by a pumper, and in good condition.

Total credit for Water Supply (Item 640)

Actual = 23.99%; Maximum = 40.00%

FIRE FLOW TESTS

King George Co, VA

Tests witnessed on January 1, 2001

Test No.	Needed Fire Flow† gpm	Limited By Supply Works, gpm	Limited by Distribution Mains (flow tests), gpm	Limited By Hydrant Spacing, gpm
2	2250		1100	
4	2000		1000	
5	2250		1000	
6	3500	1924	950	2920
8	3500	1924	1000	2250

†Needed fire flows exceeding 3500 gpm are not considered in determining the classification of the municipality

INSURANCE SERVICES OFFICE, INC.
HYDRANT FLOW DATA SUMMARY

City King George Co
County King George

State VA

Witnessed by Insurance Services Office, Inc.

Date January 1, 2001

TEST NO.	TYPE DIST.*	TEST LOCATION	SERVICE	FLOW - GPM $Q = (2.9)(C)(d^{0.85})^2$		PRESSURE PSI		FLOW-AT 20 PSI $Q_R - Q_F (h_R / h_F)^{0.54}$		REMARKS
				INDIVIDUAL HYDRANTS	TOTAL	STATIC	RESID.	NEEDED **	AVAIL.	
1	Comm	Rte 3 & Rte 205	Courthouse	930	930	55	50	1750	2700	
2	Comm	Rte 3 & Rectory Lane	Courthouse	860	860	54	33	2250	1100	
3	Comm	Rte 3, east of Madison Dr.	Courthouse	1160	1160	63	55	1250	2900	
4	Comm	Owens Dr. & Rte 301	Dahlgren	980	980	65	24	2000	1000	
5	Comm	Owens Dr. & Cromwell Place	Dahlgren	790	790	65	38	2250	1000	
5A	Res	Owens Dr. & Cromwell Place	Dahlgren	790	790	65	38	750	1000	
6	Comm	Commerce Dr. & Rte 301	Dahlgren	750	750	64	35	3500	950	(B) 2920 gpm (C)
7	Comm	Rte 301 & Dahlgren Rd.	Dahlgren	1110	1110	64	48	1750	1900	
8	Comm	Dahlgren Rd. & Potomac Dr.	Dahlgren	790	790	40	28	3500	1000	(A)(B) 2250 gpm (C)
9	Res	Cleydael Blvd., south of Aidan Way	Dahlgren	1030	1030	80	46	750	1400	(A)
			(A) Tested on 7/9/2002							
			(B) Limited by available hydrants.							
			(C) Available facilities limit flow to 1924 gpm plus consumption for the needed duration of 3 hours.							

THE ABOVE LISTED NEEDED FIRE FLOWS ARE FOR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE NOT INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE CONDITION. THE AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

*Comm = Commercial; Res = Residential.

** Needed is the rate of flow for a specific duration for a full credit condition. Needed Fire Flows greater than 3,500 gpm are not considered in determining the classification of the city when using the Fire Suppression Rating Schedule.