

PUBLIC PROTECTION CLASS RATE REDUCTION STUDY

For
CITY of JACKSONVILLE



January 21, 2014

National Fire Services Office

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Preface

These recommendations are intended to give a governing authority insight into the process that the Insurance Services Office, Inc. (ISO) uses to grade a community. This grading process changes per each community's infrastructure needs, equipment used, water availability, station locations and staffing. The information collected can be used as a planning guide for your community's fire department. This document can also assist your fire department with the implementation process of lowering their fire departments ISO class rating. If these processes are achieved, virtually every area of a department will improve. These improvements enable the Insurance Services Office the opportunity to offer a reduced class rate after being graded by the Public Protection Class (PPC) program. As areas of service are improved levels of service will also improve. This can lead to a more cost effective fire department. Because budget and funding resources are lower than normal, it might be unrealistic to expect that all areas identified that need improvement could be impacted at once. Considering that an organization can only take so much change at one time, these changes could be spread over a matter of time that adheres with the budgeting needs of your community. Ultimately, it is up to the City Policy Makers to decide on the desirability, priority, and feasibility of achieving each recommendation. There are few communities in the United States that could afford the optimal level of fire protection. It can also be very difficult to measure what is optimal for any given community. The PPC survey can quantitatively measure the service provided by a modern fire department. Improvements with fire services can make significant reductions to the cost of insurance premiums.

These recommendations are based on the Insurance Services Offices, "PPC" requirements as of the date of the preparation of this report.

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JACKSONVILLE FIRE RESCUE OPERATIONAL ISO ASSESSMENT

A. Procedural Background

This report was conducted on behalf of the City of Jacksonville in an effort to provide the fire department with information which could be used to improve the city's Insurance Services Office (ISO) score. This document covers areas needing improvement before the Insurance Services Office (ISO) will reclassify many areas currently rated a class 8b.

The following events led to this review:

1. In 2012 the Insurance Services Office (ISO) re-graded the City of Jacksonville.
2. New methodologies of distribution were utilized by ISO which resulted in a poorer Public Protection Class (PPC) rating, retrograding from a straight class 3 to split class 3/8b.
3. Many residents were subsequently notified that their insurance premiums have been increased drastically.
4. In an effort to counter the effects of the ISO retrograde, the City of Jacksonville engaged the services of the National Fire Services Office (NFSO).
5. Currently, Jacksonville Fire Rescue Department (JFRD) has multiple ISO class ratings. Residents that were fortunate in retaining a class 3 are still enjoying preferred insurance rates, but residents that have been re-rated to class 8b will require an improved water delivery model. Residents that live in areas rated class 10 can only receive relief if new fire stations are located within 5 road miles of their residence.
6. The City desires to maintain the best ISO ratings possible within the financial restraints of the city.
7. Additional water delivery is needed (for residents who reside beyond 1,000 feet of a fire hydrant) in order for the areas rated class 8b to be re-rated to a preferred PPC rating.
8. Alternate Water Sources will need to be located and certified by a 50 Year Drought Study.
9. Re-activating Station 47 should be considered along with the addition of fire stations in other areas that are also rated class 10. In these primarily rural areas, smaller stations could be constructed and manned by reservist firefighters.
10. This document will outline the requirements and offer methodologies to improving the ISO rating.
11. If these improvements are followed, the changes can lead to increased fire department operational efficiencies and effectiveness.

B. The methodology used for review:

1. Information was gathered to effectively address apparatus equipment needs.
2. Information was gathered to develop a recommended distribution of equipment.
3. Information was gathered to develop water delivery methodology which could improve

rural water delivery.

4. Information was gathered to develop the “minimum” number of first response fire apparatus needed at structure fires.
5. Information was gathered to develop a staffing level matrix.
6. Information was gathered to identify the loose equipment needs per apparatus.
7. Information was gathered to develop an improved rural water delivery capability.

C. Background Information

The Jacksonville Fire rescue is a world class fire department which covers an expansive fire district. As the City and County consolidated in 1967, policy makers were forced to develop new strategies to improve countywide emergency services. Only four independent municipalities: [Jacksonville Beach](#), [Atlantic Beach](#), [Neptune Beach](#) and [Baldwin](#) held a footprint within Duval county that was not within the city limits of Jacksonville. Initially, fire and emergency services were primarily focused on serving the areas with the most population. But as the years passed Duval County’s population expanded and so did fire services. In 1971 the Insurance Services Office (ISO) became the benchmark for grading the capability of a fire department. Scores were given by ISO that would equate into a risk-verses-loss equation that would be used to establish property insurance premiums. Because of JFRD’s size and strength property owners were offered excellent premiums throughout the consolidated City, but as time passed, ISO was steadily making policy changes that would eventually affect many residents in a very negative way. Rules were developed by ISO that would place city residents is a three tier Public Protection Classification (PPC) status. For the past 40 years, homeowners who lived within 5 road miles of a Jacksonville fire station qualified for the best residential insurance rates. If someone lived beyond 5 miles of a fire station they were considered to be a higher risk and paid insurance premiums many times higher than those living within 5 road miles of a fire station. Today, ISO is using a three tier PPC grading rate for Jacksonville. Not only are residents graded today by whether or not they live within 5 road miles of a fire station, they are also graded on how close they live to a fire hydrant. Residents who reside within a 1,000 linear foot of a fire hydrant will receive lower insurance rates than residents who live beyond the 1,000 foot hydrant benchmark. These policy holders are doomed to pay much higher insurance rates: typically the policy cost is at least double. This retrograde has caused tremendous economic loss for many of the citizens of Jacksonville. This document will explore methodologies to help those who live in non-hydrant areas, and have been impacted negatively by the new ISO-PPC rate changes. There are many thousands who do not live within close proximity of a fire hydrant.

D. Overview of Review Findings

This report will be divided into three sections.

- The first section will explore issues that can be repaired without an ISO audit being required.
- The second section will explore expanding the deliverable footprint to reduce areas rated ISO class 8b.
- The third section will identify areas that can improve earnable ISO credit.

Section 1

During our review, a deficiency was found between actual hydrant counts and the number of hydrants identified by GIS mapping for the ISO audit, indicating that the data which was sent to ISO during the past inspection was flawed. The result of this flawed data is that thousands of residents were incorrectly identified as being beyond 1000 feet from a hydrant and were subsequently rated by ISO as a class 8b instead of a preferred class 3. Since NFSO revealed this issue with JFRD and the GIS department a plan has been developed to immediately update the GIS data. The updated GIS data information needs to be reported to ISO as soon as it's available so they can correct their base map.

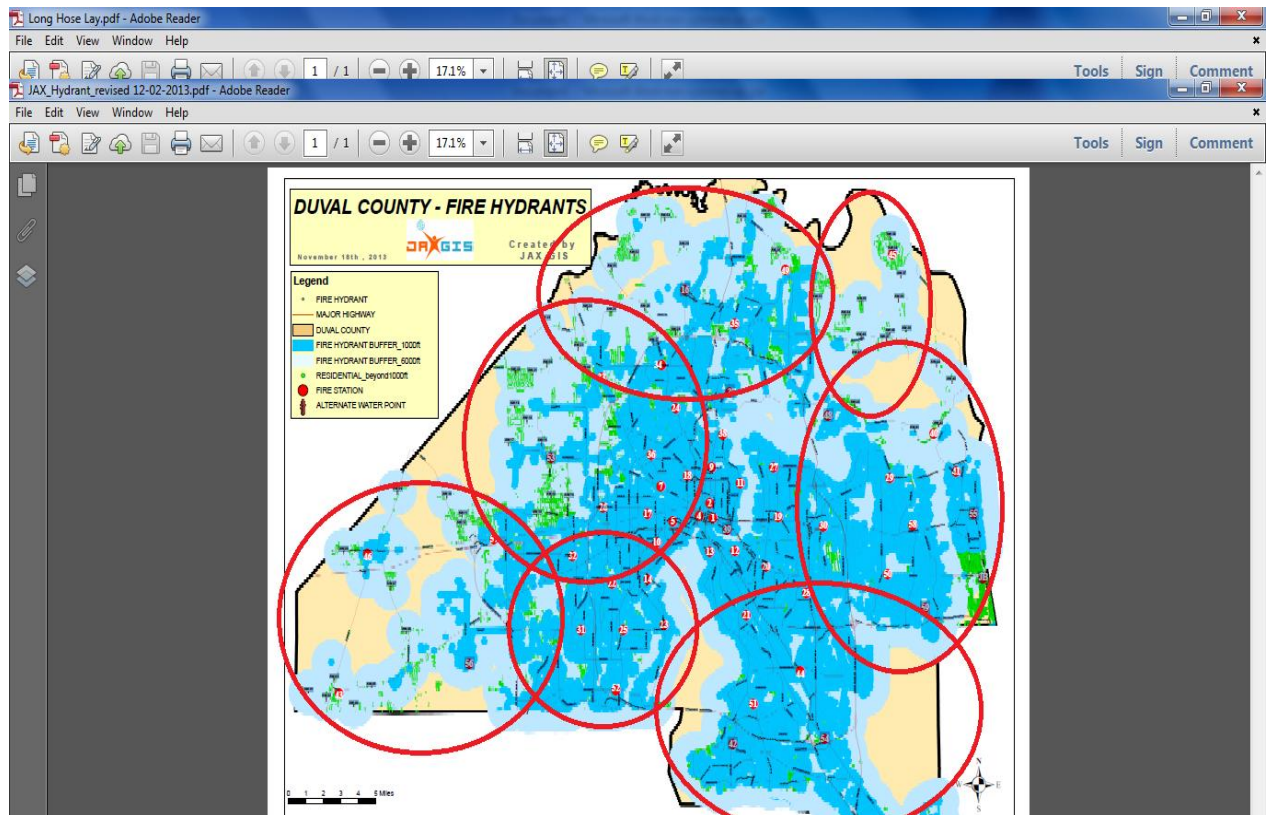
Section 2

ISO has determined that there are many residents in Jacksonville that reside within 5 road miles of a fire station but are more than 1,000 feet from a fire hydrant and have rated these homeowners as class 8b. There are very few ways to help these individuals; install new hydrants, water shuttle, dry hydrants, Turbo-Drafting using alternate water and long hose lay. Jacksonville will need to adopt at least one of these methodologies. One plan that uses the least amount of apparatus and personnel is the long hose lay. In North Montgomery County in Texas, NFSO used a single lay of 8,200 feet of 5 inch supply hose to push a water supply at a rate of over 800 gpm over a mile and a half. This long hose lay uses two (2) fire engines: one (1) for pumping water from a hydrant; and one (1) for receiving water at the fire site. This long hose lay strategy was certified by ISO and re-wrote the book on pushing big water over great distances.

In the past it was thought this task was impossible. From start to finish the hose lay was completed to full flow in less than 12 minutes. This newly certified process expanded the 1,000 foot hydrant limitation to cover up to 8,200 feet. In Rincon, Georgia NFSO used the same model expanding their hydrant limitation to 6,000 feet. This new process now offers thousands of residents preferred insurance rates across America. This program would be a very viable solution for Jacksonville. Implementation of this program would require the utilization of alternate water sources which would need to be certified by a 50 Year Drought Study along with adding TurboDrafts to fire engines in class 8b areas.

A GIS map has been developed which identifies areas receiving a class 8b rating. Apparatus (Hose Tenders) that carry 6,000 feet of 5 inch supply hose would cover over 85% of these properties. If Jacksonville adopted a strategy using this supply methodology thousands of residents would benefit and enjoy lower insurance premiums. A response map (next page) has been developed which identifies seven areas requiring Long Hose Lay apparatus.

Hose Lay Response Map



Section 3

There are many levels in which JFRD can improve its ISO rating. With a world class fire department like JFRD, the goal or benchmark should be set to earn an ISO PCC Class 1 rating. This rating can entice business growth, reduce industry insurance cost and prove to a perspective business or industry owner that Jacksonville is committed to providing the best emergency services possible. The information below is designed to help Jacksonville improve its ISO score.

1. All fire stations must have one fire engine (pumper) meeting the ISO 512(a) schedule. A Ladder truck can be used in some instances if it meets the ISO 512(a) schedule.
2. A normal size residential structure fire should receive a first response of two Fire Engines and one Service Truck.
3. Commercial structure fires should receive a first response of three Engines and a Ladder Truck.
4. All fire engines should carry 1,000 feet of supply hose, 200 feet of 2.5 inch attack hose and 400 feet of 1.5" or 1.75" attack hose; and a hydrant jump-line. The hose should meet the ISO 512(a) schedule. A copy of the equipment specification is listed on the next page.

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Equipment and Hose	Needed	Credit/Unit	Total Points
Booster tank	300 gal. or larger	1/10 gal.	30
Hose:			
15' soft-suction or 20' hard-suction hose	1	12	12
1½", 1¾", or 2" hose carried	400'	3/50	24
Master stream appliance (1,000 gpm)	1	100	100
Nozzles:			
2½" playpipe with shutoff and 1", 1½", and 1¾" tips	1	20	20
2½" combination spray with shutoff	1	30	30
1½" or 1¾" combination spray with shutoff	2	10	20
SCBA (30-minute minimum)	4	24	96
Extra cylinders (carried)	4	6	24
Salvage covers (minimum size of 12' x 14')	2	2	4
Electric handlights	2	2	4
Hose clamp	1	4	4
Hydrant hose gate (2½")	1	4	4
Gated wye (2½" x 1½" x 1½")	1	4	4
Radio:			
Mounted	1	32	32
Portable	1	16	16
Ladders:			
12' to 16' roof	1	10	10
24' extension or larger	1	16	16
Annual tests:			
Pumper (see Table 512B)	1	100	100
Hose (see Table 512C)	1	50	50
Total			600

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TABLE 542A EQUIPMENT FOR A SERVICE COMPANY

Equipment	Needed	Points Credit/Unit	Total Points
SCBA (30-minute minimum)	4	24	96
Extra cylinders (carried)	4	6	24
Salvage covers (minimum size of 12' x 14')	6	2	12
Electric generator (3,000 watt)	1	25	25
Portable floodlight (500 watt)	3	4	12
Smoke ejector (5,000 cfm)	1	20	20
Portable thermal cutting unit	1	20	20
Saw – power (chain or heavy-duty rotary type)	1	20	20
Electric handlights	4	2	8
Pike pole (plaster hook):			
3' or 4'	2	2	4
6' or longer	4	2	8
Radio:			
Mounted	1	32	32
Portable	1	16	16
Ladder:			
24' extension or longer	1	25	25
16' roof or longer	1	25	25
10' attic or longer	1	4	4
14' combination or longer	1	5	5
Total			356

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5. Some fire stations must have a Ladder Truck that meets the ISO 542(a) and (b) schedule. A copy of the equipment specification is attached in the appendix.

TABLE 542B ADDITIONAL EQUIPMENT FOR A LADDER COMPANY

Equipment	Needed	Points Credit/Unit	Total Points
Ladder:			
16' or longer roof	1	25	25
35' or longer extension	1	25	25
Elevated stream device*	1	100	100
Large spray nozzle (1,000 gpm)	1	16	16
Aerial ladder/elevating platform*	1	200	200
Annual tests (aerial/platform, see Table 542C)	1	50	50
Total			416

*Of sufficient height to reach the roof of any building, or 100 feet, whichever is less. The credit shall be prorated if existing equipment has insufficient reach.

6. JFRD suppression apparatus need conformity of equipment carried on Engines.
7. Some fire stations must have a Service Truck that meets the ISO 542(a) schedule.
8. JFRD suppression apparatus need conformity of equipment carried on Service Trucks.
9. JFRD suppression apparatus need conformity of equipment carried on Ladders.
10. Apparatus testing must be done at a frequency that adheres to NFPA and ISO standards.
 - Pump testing must be performed per NFPA 1911 at an interval not exceeding 365 days; each year.
 - Ladder functionality testing must be performed per NFPA 1911 at an interval not exceeding 365 days; each year.
 - Ladder “non-destructive” testing must be performed per NFPA 1911 at an interval not exceeding 5 years.
 - Hose testing must be performed per NFPA 1961 at an interval not exceeding 365 days; each year.

11. Fire hydrants should be: inspected, flushed, painted, and the area around it cleared at a frequency no greater than 365 days each year; per AWWA – M17 manual and NFPA 291.
12. Fire Hydrant should be properly marked (painted) on the bonnet and on the caps by the NFPA color for: flow volume availability and the static pressure rating.
13. To gain maximum credit a handheld radio is needed in every fire engine, ladder truck, and service truck.
14. To gain maximum credit Pre-Plan Inspections should be performed at 365 day intervals or less. The fire department should perform Pre-fire Planning on each commercial, industrial, institutional, and other similar structure once a year. The inspection records should include complete up-to-date sketches and notes; per NFPA 1620.
15. To gain maximum credit, Building and Fire Inspections should be completed using ICC Fire codes from 2009 or 2012.
16. New construction and remodeling of commercial buildings should be reviewed by the fire department. The paperwork from this process must be reviewed annually for quality control of the inspection process. Inspectors must be certified.
17. A fire department must commit to their residents to provide knowledge and skills needed to lead safer lives. Public Safety Educators (PSE) teach people of all ages how to make responsible choices regarding fire, health, and safety. Public Safety Educators should be certified and must have recurrent training annually. PSE's also work within the school system, at special events and through business and industry.
18. For maximum credit, facility training must be completed by all firefighters. Live fire should be completed at least twice annually by all firefighters.
19. All officers should be certified to a minimum of "Fire Officer-1".
20. Other Training issues ISO will grade:
 - a. Drill Tower, Training Facility, and Burn Building - 18 hours of facility training per firefighter each year.
 - b. Needs to be used at least twice per year per firefighter.
 - c. Company Training - at fire stations, streets, buildings, open areas, needs to occur at each fire station. Sixteen (16) hours are needed per firefighter each month. The fire department will be graded on the percentile of how many firefighters receive the same company training.
 - d. Officer Training - 12 hours due for each officer.
 - e. Existing Driver/Operator training - 12 hours per year
 - f. New Driver Training - Any new firefighter must receive at least 60 hours of documented driver training within the first year.
 - g. Hazardous Materials Training- at least 6 hours is needed per firefighter, per year.
 - h. Recruit training - new recruits must receive at least 240 hours within their first year. It is recommended that all firefighters earn a rating of "Firefighter-II."

21. Communications: ISO's rules have recently changed greatly for 911. We have provided the information on the issues which ISO will be looking at during the next inspection:

- Total Number of fire emergency lines provided to the Communication Center
- Do Business calls terminate at the PSAP?
- Do emergency calls progress to business lines?
- Is a recording device provided for incoming calls?
- If a recording device is provided, is immediate playback provided?
- Total number of emergency calls handled per yr.?
- In a typical 30 day period, how many hours are actually worked by persons able to perform telecommunicator duties, including office personnel normally available?
- A Call Detail Report (CDR) as reference in NFPA 1221 is requested in order to determine the credit for telecommunicators. The Call Receipt Portion and the Call Processing portion are independently evaluated, and credit for one does not rely on the other receiving credit.
- The Call Receipt portion of the Call Detail Report is based on all 911 calls received at the 911 Center. Please enter the data for a 12 month period. This portion of the CDR is measured from the first ring of the call until the call is answered.

Example

Month	Total Calls	Calls Answered ≤ 15 Secs	Calls Answered ≤ 40 Secs
Jan	3,781	3,766	3,779
Feb	3,661	3,650	3,659
Mar	4,442	4,417	4,438
Apr	3,893	3,877	3,892
May	4,123	4,115	4,123
Jun	4,635	4,617	4,632
Jul	4,314	4,299	4,311
Aug	3,807	3,801	3,807
Sep	3,784	3,770	3,781
Oct	3,591	3,580	3,590
Nov	3,225	3,204	3,223
Dec	3,354	3,346	3,354
Avg Call	3884.166667	3870.166667	3882.416667
Percentage		99.64%	99.95%

- The Call Processing portion of the Call Detail Report is based on all 911 calls processed for all fire responses including, but not limited to, Structure fires, Trash Fires, Grass Fires, Auto Fires, etc. EMS responses and calls for service not fire related should not be included. Please enter the data for a 12 month period. This portion of the CDR is measured from the first ring of the call until the call is dispatched.

Example

Month	Total Calls	Calls Processed ≤ 60 Secs	Calls Processed ≤ 106 Secs
Jan	276	227	49
Feb	263	223	40
Mar	288	240	48
Apr	214	179	35
May	308	267	41
Jun	297	242	55
Jul	267	230	37
Aug	266	235	31
Sep	230	201	29
Oct	256	225	31
Nov	259	215	44
Dec	287	261	26
Avg Process	267.5833333	228.75	38.83333333
Percentage		85.49%	14.51%

- Is the PSAP enhanced?
- Is the PSAP Phase-II compliant?
- If enhanced, does the PSAP have one of the following VOIP technologies: Static or Dynamic?
- Does the PSAP have and Utilize CAD? At what level: basic, MIS, interoperability?
- Does the PSAP have an Automatic Vehicle Location and Geographic Information System that is integrated with CAD and used for assigning and dispatching units on structure fires?
- Is the PSAP using emergency dispatch protocols for fire service?
- Number of telecommunicators trained to the APCO 33 standard or equivalent?

- Number of telecommunicators certified to a training standard?
 - Number of telecommunicators participating in a ConEd program in the past 12 months?
 - Number of telecommunicators participating in a Quality Assurance program in the past 12 months?
 - Is there monitoring at the Communications Center (PSAP) for: normal power; emergency power; and transmitter signal. If yes to any of the above, are they audible and/or visual?
 - Is there diagnostic software capable of testing each electronically monitored circuit?
 - The (PSAP) backup power needs to be on an Auto-Start Generator w/UPS. The unit must be run at load for 60 minutes each week.
22. A certification of all identified Alternate Water Sources will be necessary in order to affect ISO/PPC ratings of properties that have been rated class 8b because they are located beyond 1,000 feet of a pressurized hydrant.
23. In an effort to assist JFRD in budgeting for these improvements, NFSO has developed and offers the following quote. For NFSO to provide the 50 year drought study required to certify all Alternate Water Sources, assist with training on long hose lay, continue to review training, testing, inspections, collect the needed paperwork for the next ISO inspection and to represent Jacksonville during the next ISO inspection, NFSO offers its services for: **\$81,000.**

Who is ISO?

In the next section we will explore ISO's services.

E. Introduction to ISO

The Insurance Services Office, Inc. (ISO) has been collecting property and liability risk data since 1971. The Insurance Services Office's statistical, actuarial, and underwriting information provides a vital resource to insurers, government regulators, and other companies and organizations. Fire is the largest single cause of property loss in the United States. In the last decade, fires have caused direct losses of more than \$120 billion and countless billions more in related costs.

But that's not all. Every year, fires injure more than 20,000 people. And every year, more than 3,000 Americans die in building fires.

A community committed to saving lives and property needs trained firefighters, proper equipment, adequate communication and proper supplies of water. Insurance companies consider it good public policy and good business to promote and encourage the efforts of individual communities to improve their fire protection services. That's why, for almost a century, U.S. property insurance companies have funded key initiatives aimed at fire prevention and fire mitigation.

In order to award communities that have made improvements to fire services, the "Fire Suppression Rating Schedule" was developed. This program would gauge the level of commitment to public safety by rating the fire departments capabilities. The better a fire department would rate, the less risk an insurance company feels they are taking. By a community providing better fire services, an insurance company could equate that to less risk and give lower insurance premiums for homeowners and commercial businesses. In reverse, communities that neglect fire services put insurance carriers at a higher risk, equating to the necessity of charging higher premiums for homeowners and commercial businesses insurance.

The Fire Suppression Rating Schedule (FSRS) is the manual that the Insurance Services Office uses in reviewing the firefighting capabilities of individual communities. This schedule measures the major elements of a community's fire suppression system and develops a numerical grading called a Public Protection Classification (PPC®).



Screven County ISO survey in 2002

How the Audit works

1. **Fire alarms**

Ten percent of the overall grading is based on how well the fire department receives fire alarms and dispatches its firefighting resources. Our field representatives evaluate the communications center, looking at the number of operators at the center and the telephone service, including the number of telephone lines coming into the center. Field representatives also look at the dispatch circuits and how the center notifies firefighters about the location of the emergency.

2. **Engine companies**

Fifty percent of the overall grading is based on the number of engine companies and the amount of water a community needs to fight a fire. Insurance Services Office reviews the distribution of fire companies throughout the area and checks that the fire department tests pumps regularly and inventories each engine company's: nozzles, hoses, breathing apparatus, and other equipment.

Insurance Services Office also reviews the fire company records to determine:

- type and extent of training provided to fire company personnel
- number of people who participate in training
- firefighter response to emergencies
- maintenance and testing of the fire department's equipment

3. **Water supply**

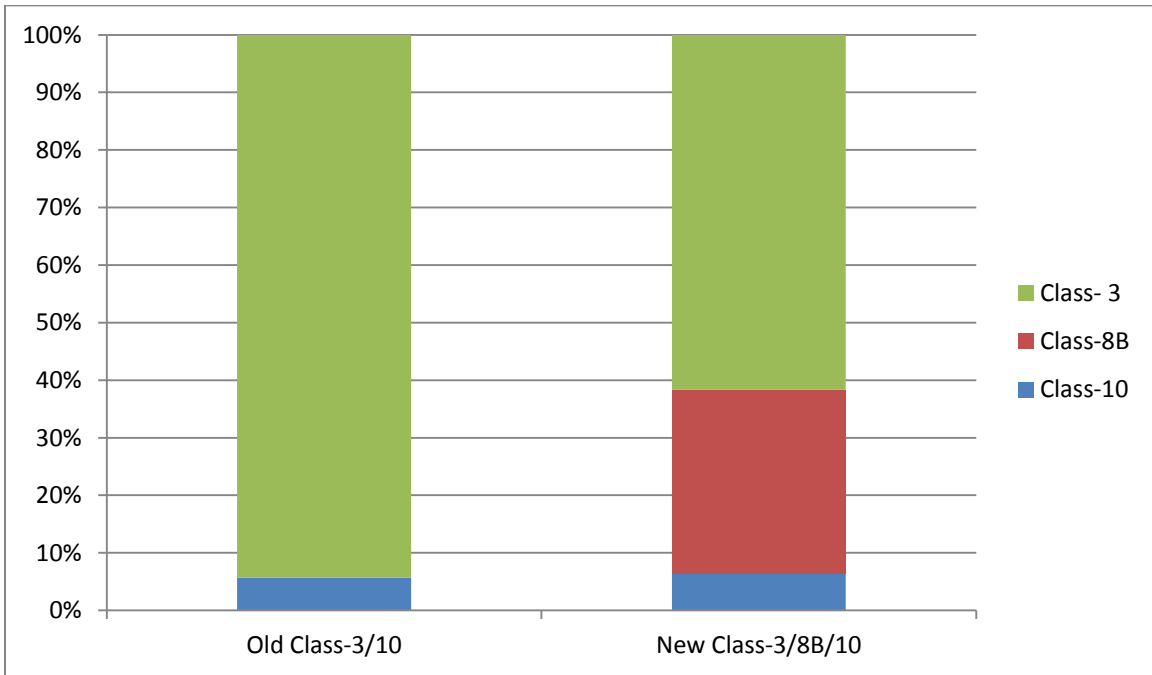
Forty percent of the grading is based on the community's water supply. This part of the survey focuses on whether the community has sufficient water supply for fire suppression beyond daily maximum consumption. Insurance Services Office surveys all components of the water supply system, including pumps, storage, and filtration. To determine the rate of flow the water mains provide, we observe fire-flow tests at representative locations in the community. Finally, we evaluate the distribution of fire hydrants. In some cases certified Alternate Water Sources are used for the survey.

Most insurance companies use the Insurance Services Office PPC ratings in establishing premiums for both commercial and residential property policies. A score is given by Insurance Services Office which reflects a community's commitment to fire protection. Scores are rated: "Class 1" as being the best and "Class 10" as being the worst; therefore a "Class 1" property receives the lowest cost insurance rates and a "Class 10" property receives the highest priced insurance rates. Currently classes 9 through 4 are reserved mainly for homeowner properties; and class 1 through 3 are reserved for industrial/commercial properties.

Appendix

Illustrations

Old ISO Rate Class 3/10 - 2012
New ISO Rate Class 3/8B/10 - 2013



People Receiving Preferred Insurance Prices

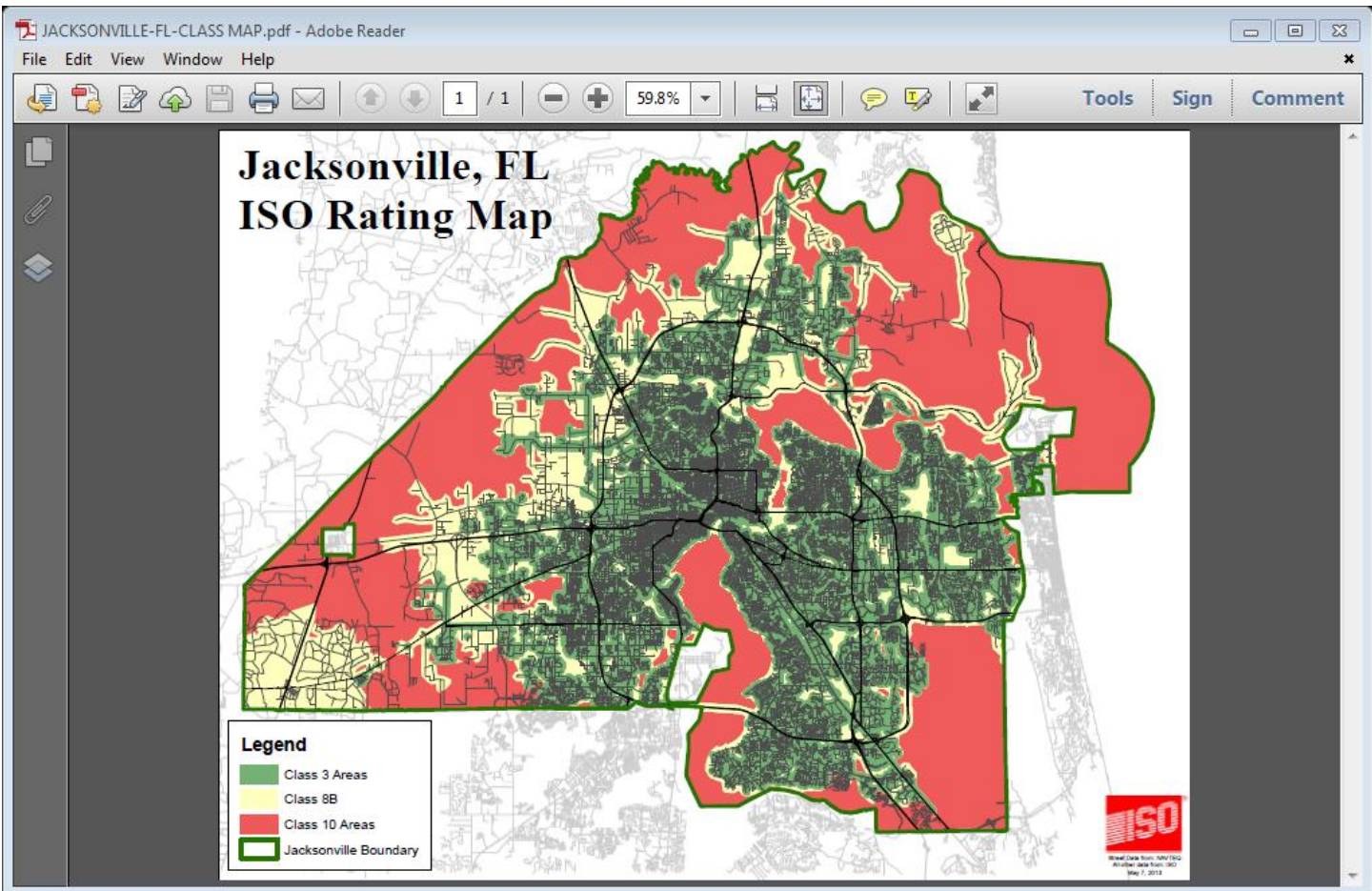
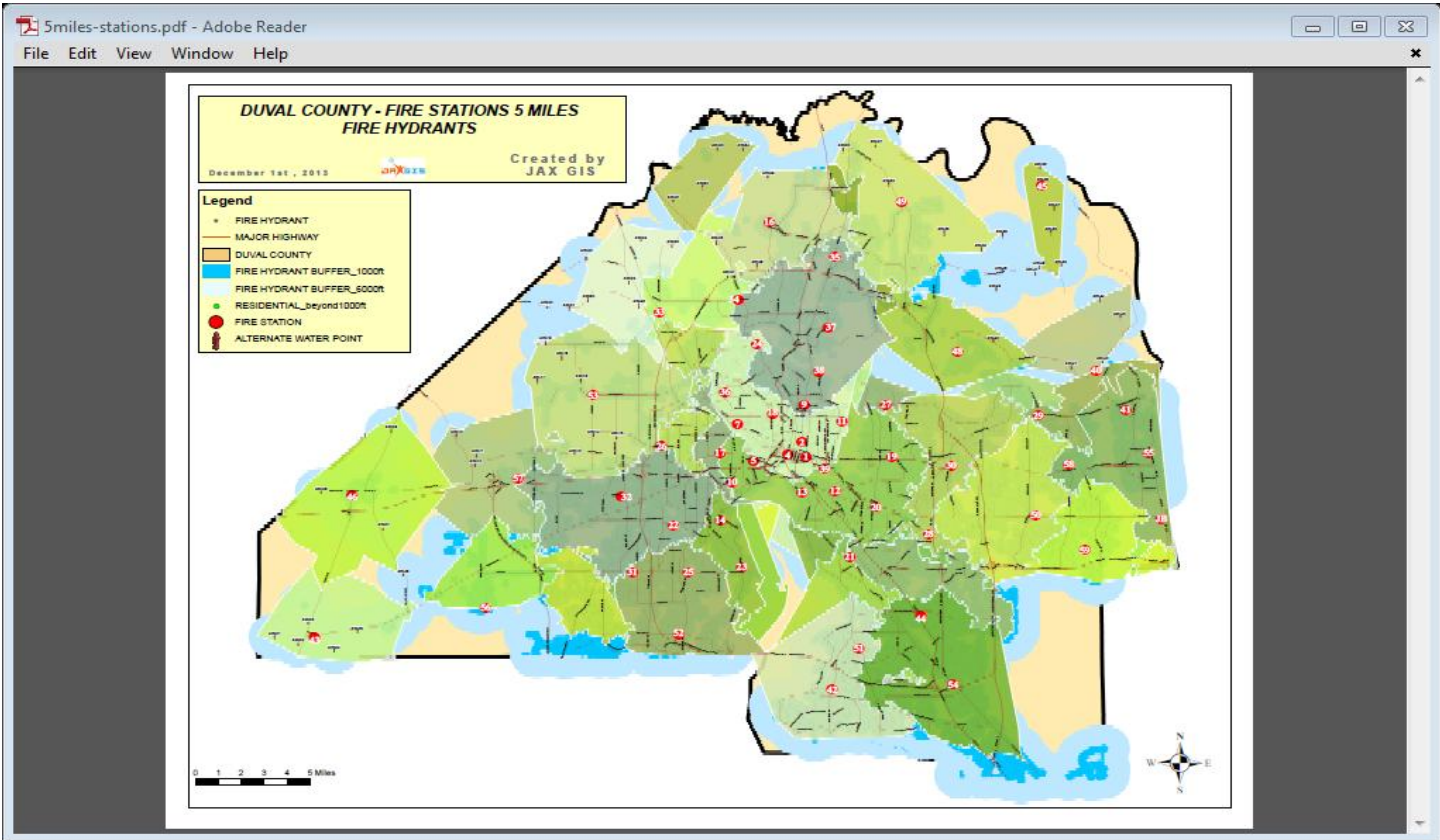


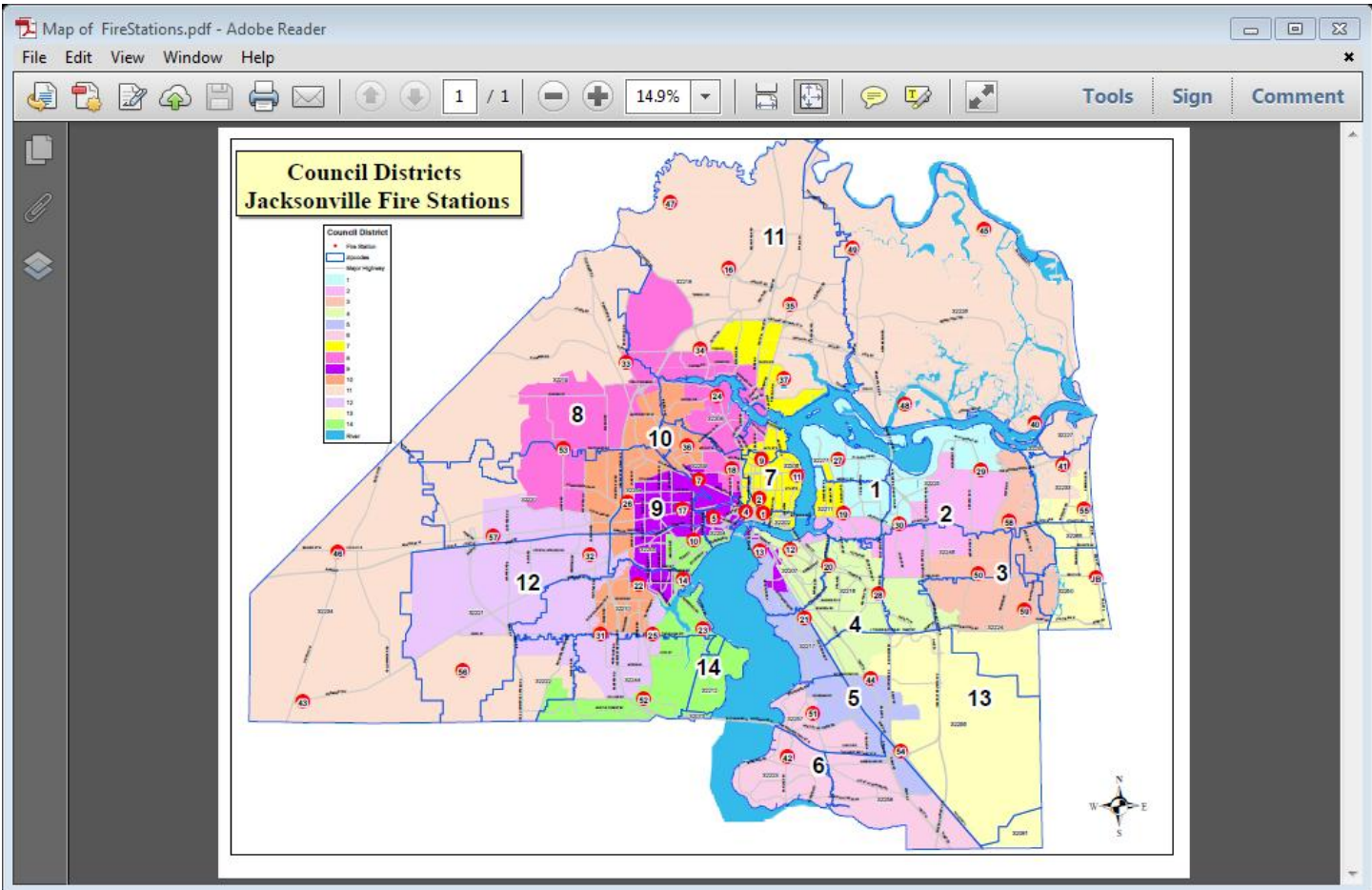
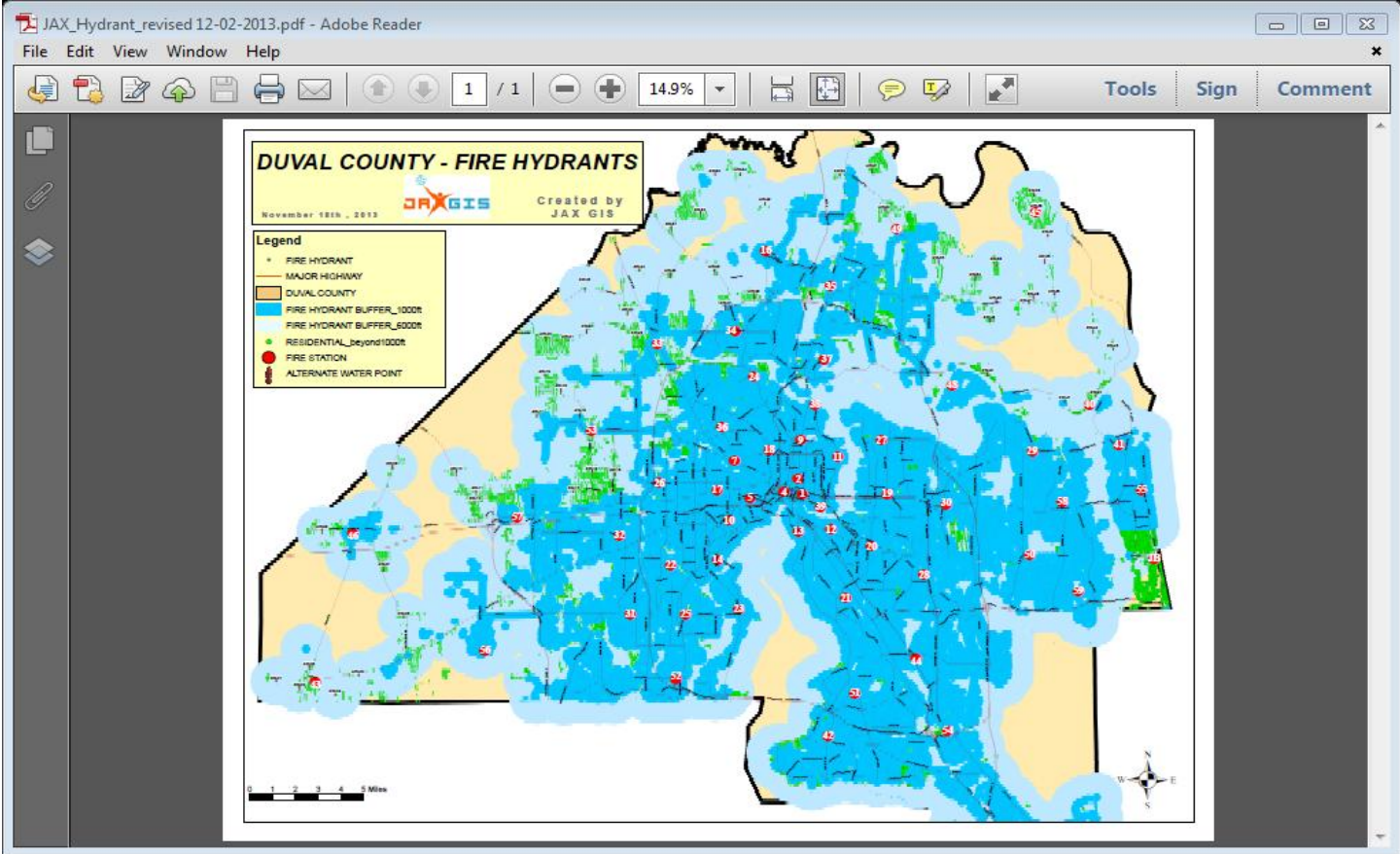
People Who Had Their Insurance Rates Increased

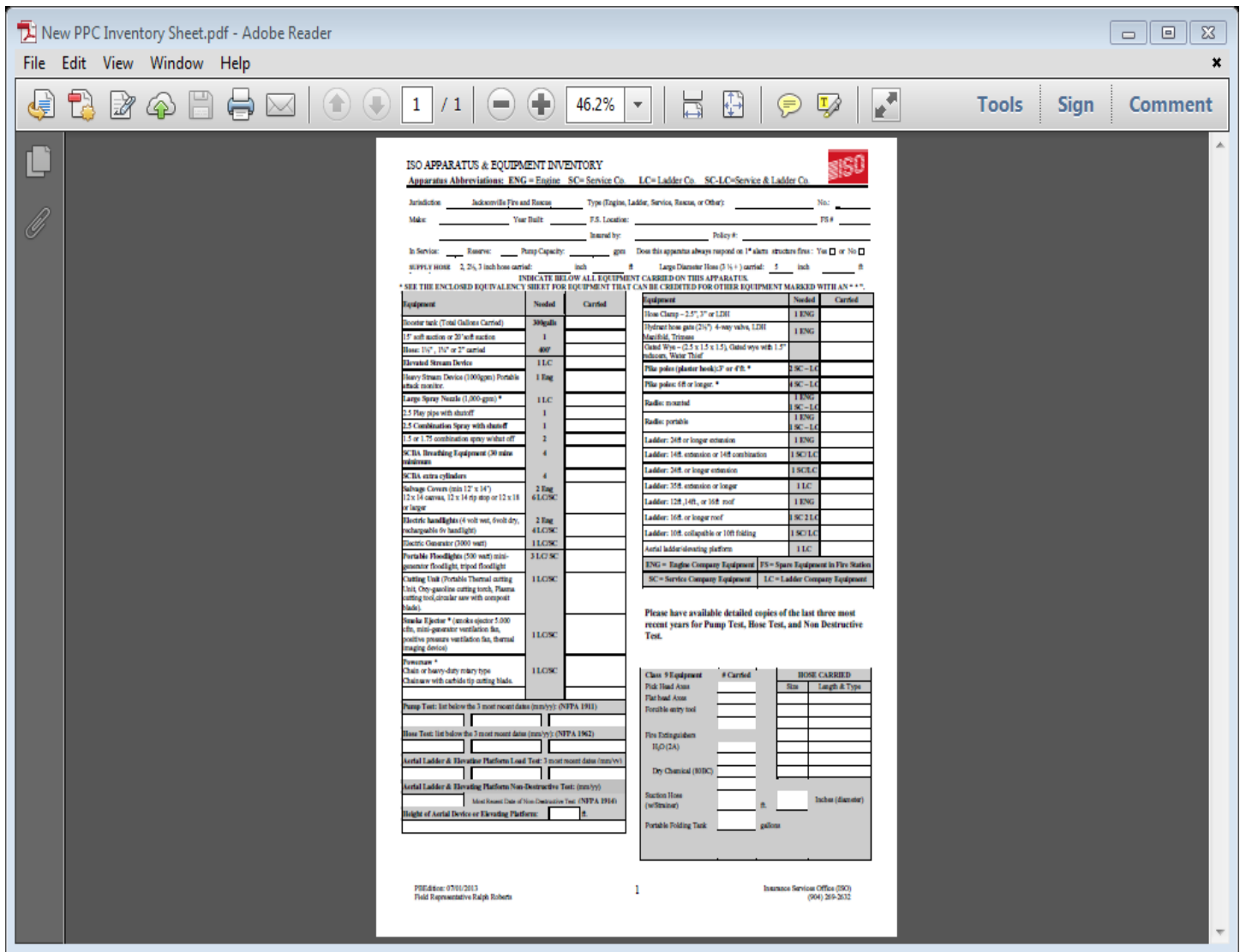


People Receiving No ISO Credit from “JFRD”









Sample of Communities who used NFSO services

1. **Albany , GA** Class-4/9 to Class-2/9
2. **Mitchell County, GA** Class-9/9 to Class-5/9 Provided Drought Study
3. **Coffee County, GA** Class-7/9 to Class-4/9 Provided Drought Study
4. **City of Waycross, GA** Class-4/9 to Class-3
5. **City of Hinesville, GA** Class-5/9 to Class-3/9
6. **Wrightsville, GA** Class-9/9 to Class-5/9 Provided Drought Study
7. **McIntosh County, GA** Class-9/9 to Class-5/9 Provided Drought Study
8. **City of Guyton, GA** Class-7/9 to Class-4/9 Provided Drought Study
9. **City of Rincon, GA** Class-6/9 to Class-4/9 Provided Drought Study
10. **City of Hardeeville, SC** Class-5/9 to Class-3
11. **Bluffton Township, SC** Class-5/9 to Class-2/9 Provided Drought Study
12. **Laurens County, GA** Class-7/9 to Class-5/9 Provided Drought Study
13. **Bulloch County, GA** Class-9/9 to Class-5/9 Provided Drought Study
14. **Screven County, GA** Class-9/9 to Class-4/9; HQ Class-3/9 Provided Drought Study
15. **City of Cobbtown, GA** Class-7/9 to Class-5/9
16. **City of Riedsville, GA** Class-7/9 to Class-4/9

17. **City of Glenville, GA** Class-7/9 to Class-5/9
18. **City of Collins, GA** Class-7/9 to Class-5/9
19. **City of Pembroke, GA** Class-7/9 to Class-4/9 Provided Drought Study
20. **Liberty County, GA** Class-9/9 to Class-5/9 Provided Drought Study
21. **Wayne County, GA** Class-9/9 to Class-5/9 Provided Drought Study
22. **City of Jesup, GA** Class-6/9 to Class-3
23. **Camden County, GA** Class-7/9 to Class-4/4 Water Shuttle Provided Drought Study
24. **Columbia County, FL** Class-9/9 to Class-5/9 Provided Drought Study
25. **City of Lake City, FL** Class-5/9 to Class-3/9
26. **Sumter County, GA** Class-9/9 to Class-5/9 Provided Drought Study
27. **Thomas County, GA** Class-6/9 to Class-4/9 Provided Drought Study
28. **Long County, GA** Class-9/9 to Class-5/9 Provided Drought Study
29. **City of Byron, GA** Class-7/9 to Class-4/9
30. **North Montgomery, Tx** Class-6/9 to Class-2/2 8,000' Hose Lay Provided Drought Study
31. **Porter, Tx** Class-5/9 to Class-3/3 4,000' Hose Lay Provided Drought Study
32. **South Montgomery County, Tx** Class-6/9 to Class-1
33. **City of Oak Ridge North, TX** Class-5 to Class-1
34. **Mountain View, CO** Class-6/9 to Class-3/9
35. **Belgrade, MT** Class5/9 to Class-3/5 Water Shuttle
36. **Lake Butler, FL** Class-7 to Class-4
37. **Cape Coral, FL** Class-4/9 to Class-3 TurboDraft Provided Drought Study
38. **Cook County, GA** Class-7/9 to Class-4/9 Provided Drought Study
39. **Lake Rabun, GA** Class-10 to Class-5/9 Used only a fire boat Provided Drought Study
40. **City of Tiger, GA** Class-7/9 to Class-4/9 Provided Drought Study
41. **Toombs County, GA** Class-9/9 to Class-5/9 Provided Drought Study
42. **Treutlen County, GA** Class-9/9 to Class-5/9 Provided Drought Study
43. **City of Cut-N-Shoot, TX** Class-7/9 to Class-4/9 Provided Drought Study
44. **Caney Creek, TX** Class-9/9 to Class-3/3 4,000' Hose Lay Provided Drought Study
45. **Lake Conroe, TX** Class-6/9 to Class-2/2 Provided Drought Study
46. **City of Teague, TX** Class-7/9 to Class-4/9
47. **New Waverly, Tx** Class-10 to Class-4/9
48. **City Raymore, MO** Class-5/9 to Class-2/5 Water Shuttle Provided Drought Study
49. **Deerfield, MI** Class-9/9 to Class-4/9 TurboDraft Provided Drought Study
50. **CAFR, MI** Class-9/9 to Class-4/9 TurboDraft Provided Drought Study
51. **Independence, MI** Class-5/9 to Class-3/3 Provided Drought Study
52. **Killington, VT** Class-7/9 to Class-3/9 Provided Drought Study
53. **Johnson County, KS** Class-7/9 to Class-3/9 Provided Drought Study
54. **Monroe, NY** Class-5/9 to Class-3/9
55. **Salisbury, NY** Class-9/9 to Class-3/9 Provided Drought Study
56. **City of Sylvania, GA** Class-3 to Class-2
57. **City of Eastbend, NC** Class-9 to Class-4 5,000' Hose Lay Provided Drought Study
58. **Morrisvale, WV** – Class-9/9 to Class-5/9 Water Shuttle Provided Drought Study
59. **City of Plains, GA** Class-7/9 to Class-5/9
60. **City of Meldrum, GA** Class-7/9 to Class-5/9 Provided Drought Study
61. **Falkville, GA** Class-9/9 to Class-4/9 Provided Drought Study



INSURANCE SERVICES OFFICE, INC.

4030 WEST BRAKER LANE, SUITE 350, AUSTIN, TEXAS 78759 512-440-9900

September 1, 2013

Vicky Ruby, City Manager
City of Oak Ridge North
27424 Robinson Rd.
Oak Ridge North, TX 77385

RE: City of Oak Ridge North, Montgomery County, TX

Dear Ms. Ruby,

We wish to thank you, Fire Chief Robert Hudson, Water Superintendent Mark Dutton and others for the cooperation given to our representative during our recent survey. We have completed our evaluation of the fire insurance classification for your city. Based upon information collected and verified during the field survey, it is our preliminary finding that Public Protection Class 1 is appropriate.

Included with this letter are the following draft documents: 1.) Classification Details, 2.) PPC Summary Report, 3.) Texas State Exceptions, 4.) Hydrant Flow Data Summary.

Our goal is to accurately reflect your community's fire suppression and control resources through the Public Protection Classification (PPC) system. As you may know, the PPC number developed by ISO is one of several elements considered in the calculation of individual property insurance premiums by numerous insurance companies. Please review the enclosed documents and if you determine that additional or modified information should be considered in the classification analysis please contact us by telephone at 1-800-444-4554, option 2, or by email at Austin@iso.com.

If ISO does not hear from you or a representative of your community by September 30, 2013, we will proceed to recommend to the Texas Department of Insurance/State Fire Marshal's Office that Public Protection Class 1 is appropriate. The State Fire Marshal will notify you as to the effective date in his correspondence. This will be mailed to you upon his approval.

The purpose of our visit was to gather information needed to determine a public protection classification which may be used to develop property insurance premium calculations. This survey was not conducted for property loss prevention or life safety purposes and no life safety or property loss prevention recommendations will be made.

If you have any questions concerning this process or the calculations, please contact us.

Very truly yours,
Public Protection Department
Insurance Services Office, Inc.
Community Mitigation Services

Encl. (4)
cc with encl: Mark Dutton, Water Superintendent
Robert Hudson, Fire Chief
Rick Erickson, Communications Director



Jacksonville

Fire Rescue

National Fire Services Office

ISO Reduction Plan

ISO rates are going up across America

ISO Rates

1. Class- 1 to 3 (Heavy Commercial)
2. Class- 4 to 6 (Preferred Residential)
3. Class- 8b (Non-Preferred Residential)
4. Class- 10 (Protection Unrecognized)

ISO Rates

2009

Old Rates

2013

New Rates



Class-3/10



Class-3/8B/10

Insurance agents across Florida are having to re-rate policy holders because they are over 5-road miles from a Station; or past 1,000' from a hydrant.

Many property insurance rates have tripled from \$800 to over \$3,000 because many are just 1 tenth over the 5 mile limit.

More Stations are needed!

Sub-Stations

House a Fire Engine and can reduce Class-10 to a Class-3/8B

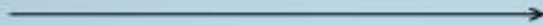
Cost: \$27,000

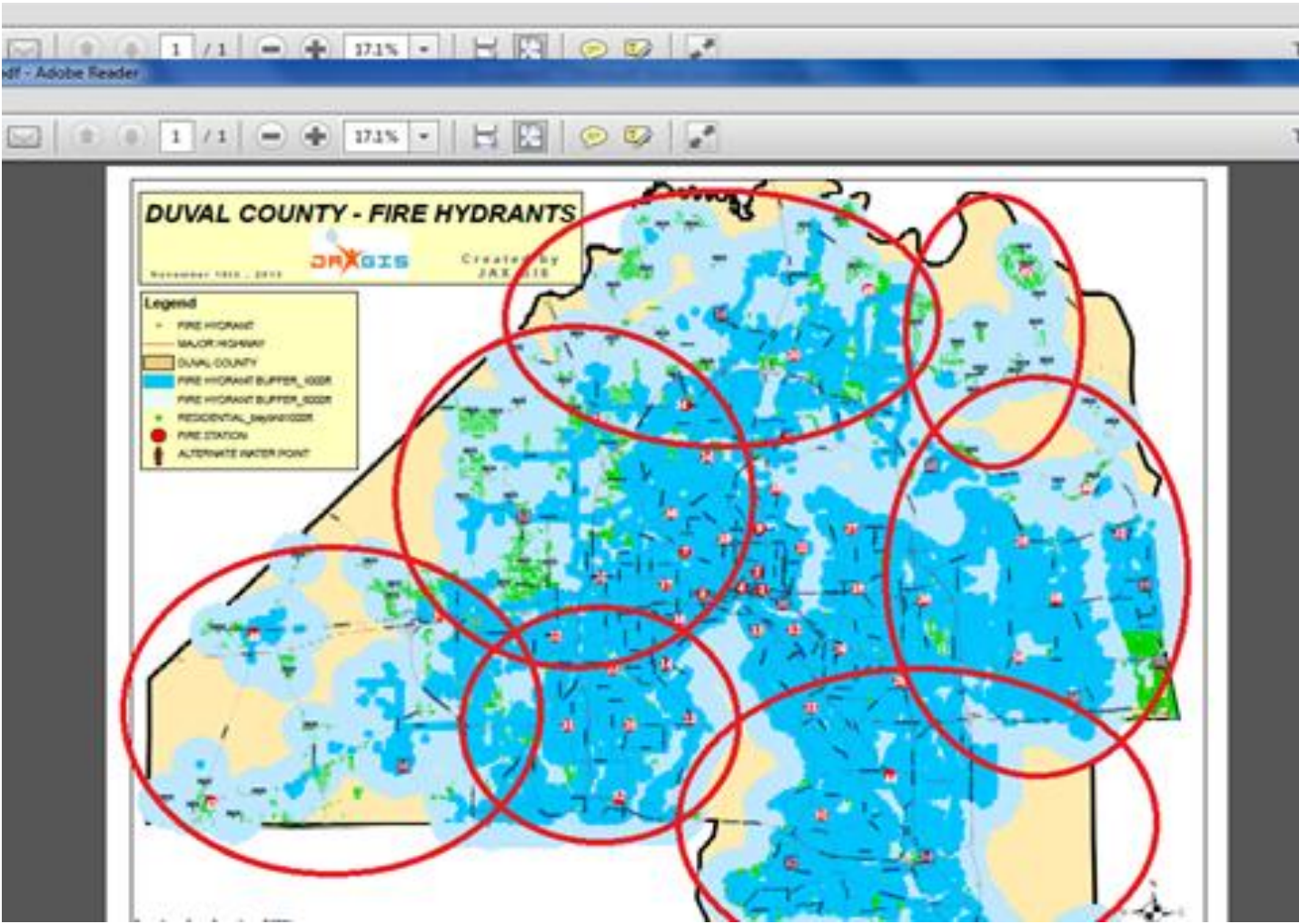


Fire Department lays a 5" portable main



6,000' Hose Lay will move water to the fire!





Tanker

Tanker

Tanker

Tanker

Tanker

*It takes 5-
Tankers to
equal 1 long
hose Lay*

Need at least five 3,000 gallon tankers per revolution to get the same credit as one 6,000' hose lay.

← → http://dining.savannahnow.com/effingham-now/2012-12-27/mile-long-fire-hose-defies-conventional-wisdom#.UtlCHsl07IU

UPDATE: Video of Rincon's ... X UPDATE: Video of Rincon's mil... UPDATE: Video of Rincon's mil...


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UPDATE: Video of Rincon's mile-long fire hose

Posted: December 27, 2012 - 12:00am | Updated: December 27, 2012 - 1:13pm

Back | Next



DeAnn Komanecy/Effingham Now Fire Chief Corey Rahn and Bronson Gillespie, with stacks of 6,000 feet of long fire hose. The hose will be used to fight fires a great distance from a water source.

-G.G. Rigsby/Effingham Now Some of the 6,000 feet of hose that Rincon's fire department can lay to reach buildings that are not near hydrants or ponds.

Image 4 of 5

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pond or river. It is one of a number of things the department has done in an effort to better protect people and try to get a lower ISO rating, which would lower property owners' insurance rates.

Firefighters with decades of experience didn't believe the 6,000-foot hose could be deployed quickly and deliver water with enough pressure to fight a fire, said Rincon Fire Chief Corey

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Publication Date: Sunday, February 23rd

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← → http://dining.savannahnow.com/effingham-now/2012-12-27/mile-long-fire-hose-defies-conventional-wisdom#.UtlCHsl07IU

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By G.G. Rigsby



DeAnn Komanecy/Effingham Now Rincon firefighter Walter Wright, Fire Chief Corey Rahn and firefighters Lou Reed and Bronson Gillespie, with stacks of the department's new mile-long fire hose. The hose will be used to fight fires a great distance from a water source.

LDH Hose Deployment of 6,000 Feet

Mathematical formulas and decades of experience said it couldn't be done.

But Rincon's fire department has a video on YouTube that's been viewed more than 14,000 times that proves they did it.

In 11 minutes in August, three firefighters laid a 5-inch fire hose more than a mile long that had a constant flow of 950 gallons per minute — enough to fight a raging fire.

It is the first department in Georgia to pass the Insurance Services Office (ISO) test for laying a 6,000 foot hose.

The feat means the department can fight fires more than a mile away from the nearest water source, such as a hydrant, pond or river. It is one of a number of things the department has done in an effort to better protect people and try to get a lower ISO rating, which would lower property owners' insurance rates.

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Firefighters with decades of experience didn't believe the 6,000-foot hose could be deployed quickly and deliver water with enough pressure to fight a fire, said Rincon Fire Chief Corey Rahn.

They were using mathematical formulas that have been used for decades to determine friction loss in a fire hose and calculate pressures and flow rates. Too low, and the water is insufficient for fire control. Too high, and handling the nozzle can be dangerous or the hose can burst.

"With old-school calculations, it does not work," Rahn said. But better hose and stronger pumps have proved the formulas are out of date.

"Put it out there on the ground, I've seen it," Rahn said. "It does work. Is it still the deep end? Maybe. Will it lower the ISO rating? Yes."

Rahn got the idea for the long hose lay from his ISO consultant, Skip Starling. Starling's company, National Fire Services Office, based in Screven County, first demonstrated the method about 12 years ago.

Starling said he figured it would work and wanted to test his theory.

He took all the hose from four departments in East Bend, N.C., ran a test and proved it would work.

Since then, it's been used all over the country by rural fire departments, but Rincon is the first place in Georgia to do it.

The method is faster, cheaper and has less liability than using tankers to shuttle water to distant locations, Starling said.

He said he was pleasantly surprised when Rahn expressed an interest in the long hose lay.

0:00 / 9:06 YouTube

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The method is faster, cheaper and has less liability than using tankers to shuttle water to distant locations, Starling said.

He said he was pleasantly surprised when Rahn expressed an interest in the long hose lay.

Cities don't usually worry about reaching long distances to fight fires, but Rahn wanted to better reach his district's outlying areas.

Rincon "should get an attaboy on this," Starling said. "Cities don't usually do this."

While the method is less expensive than using tankers, the hose isn't cheap. Rincon's 6,000 feet cost \$30,000.

And it's heavy. Without any water in it, it weighs a pound a foot. For 6,000 feet, that's 6,000 pounds, or three tons.

The cost of a used truck to carry the hose was \$87,000. When it's all done, Rahn estimates the department will spend a total of more than \$130,000 for the equipment needed to lay the 6,000-foot hose.

Collecting the hose after it's deployed is a difficult, time-consuming task. Rahn said 15 firefighters worked 4.5 hours in stifling heat to gather the hose.

But then they borrowed a "hose mule" from another department.

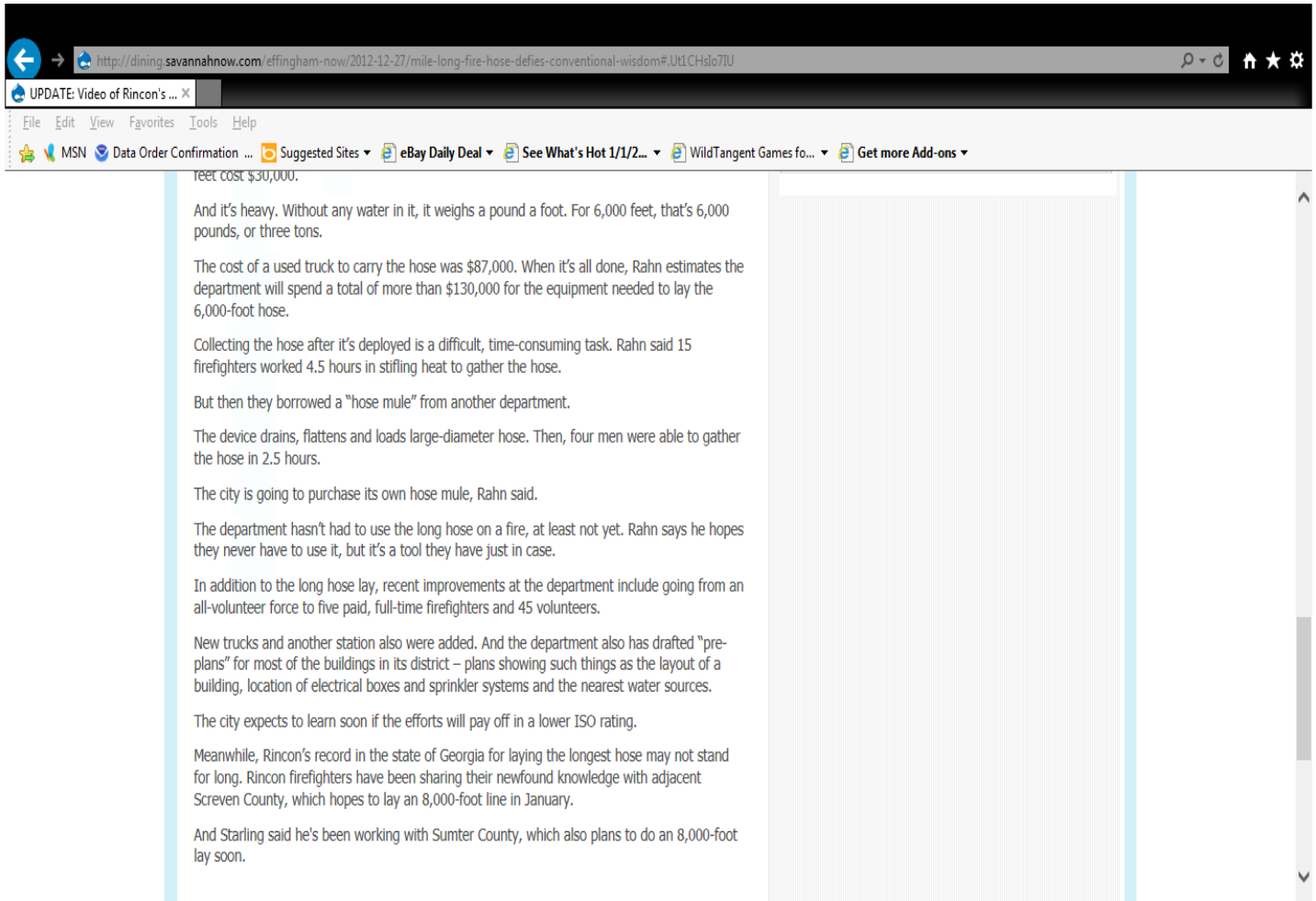
The device drains, flattens and loads large-diameter hose. Then, four men were able to gather the hose in 2.5 hours.

The city is going to purchase its own hose mule, Rahn said.

The department hasn't had to use the long hose on a fire, at least not yet. Rahn says he hopes they never have to use it, but it's a tool they have just in case.

In addition to the long hose lay, recent improvements at the department include going from an all-volunteer force to five paid, full-time firefighters and 45 volunteers.

AC Servicing	Lawyers
Auto Sales	Movers
Banking	Nightlife
Bars & Clubs	Physicians
Beauty Care	Restaurants
Coffee Houses	Real Estate
Dentists	Sporting Goods
Florists	Travel
Insurance	View All



I. Scope

This policy applies to Department Annual Testing Schedule. It was promulgated to establish a uniform policy for annual testing.

II. General Schedule Example

January	Driver/Operator Testing (VFIS road course and class room)
February/March	Hydrant Testing
April	Hose/Appliance Testing
May	Hydrant Flushing/Inspecting
June	Ladder Testing
July	Open

August	Open
September	Pump Testing
October	Radiology Refresher
November	Hydrant Flushing/Inspecting
December	Minimum Company Standards

Pre-plans will continue on a daily basis until ALL are completed, then they will be done on an as needed basis.

Note: Additional SOP's and SOG's may be necessary to assure ISO that the Department operates and responds in accordance with NFPA, AWWA, IBC, CABO, State and ISO standards.

Hydrant Flow Testing (only to be used for engineering standard)

I. Scope

This policy applies to Department Hydrant Testing. It was promulgated to establish a uniform policy for recording water flow.

II. General

All hydrants shall be tested in accordance with NFPA 291 *Recommended Practice of Fire Flow Testing and Marketing of Hydrants*, and AWWA (*American Water Works Association*). Fire flow tests are conducted on water distribution systems to determine the rate of flow and capacity of water available at mains at various locations for fire-fighting purposes. Additional benefit is derived from fire flow tests by the indication of possible deficiencies (such as tuberculation of piping or closed valves or both) which could be corrected to ensure adequate fire flows as needed.

III. Procedure

Tests should be made during a period of ordinary demand. The procedure consists of recording a-static

reading, discharging water, and measuring the rate of flow (pitot pressure) from the system at a given location. The observed pressure drops (residual) in the mains will be recorded.

IV. Layout of Test

1. After the location where the test is to be run has been determined, a group of test hydrants in the vicinity is selected. Once selected, due consideration should be given to potential interference with traffic flow patterns, damage to surroundings (e.g., roadways, sidewalks, landscapes, vehicles, and pedestrians), and potential flooding problems both local and remote from the test site. One hydrant, designated the residual hydrant, is chosen to be the hydrant where a static pressure will be read with the other hydrants in the group closed. This is also the hydrant where the residual pressure will be read with the other hydrants flowing. The hydrant flowing water will be where the pitot reading is taken. This hydrant is chosen so it will be located between the hydrant to be flowed and the large mains that constitute the immediate sources of water supply in the area.
2. The number of hydrants to be used in any test depends upon the strength of the distribution system in the vicinity of the test location. To obtain satisfactory test results of theoretical calculation of expected flows or rated capacities, sufficient discharge should be achieved to cause a drop in pressure at the residual hydrant of at least 25 percent, or to flow the total demand necessary for fire-fighting purposes. If the mains are small and the system weak, only use one of the 2.5" discharges. If, on the other hand, the mains are large and the system is strong, you may also consider using the 4.5" discharge.
3. A 50 or 60 psi (3.5 or 4.0 bar) gauge tapped into a hydrant cap should be used to test pitot pressure or take a residual reading. If a tapped gauge is not available, use a pitot tube to measure the hydrants and flow rate.

Hose/Appliance Testing/Purchasing

I. Scope

This policy applies to Department Hose/Appliance Testing/Purchasing. It was promulgated to establish a uniform policy for purchasing hose and recording water flow.

II. General

1. All new hose purchased shall be constructed and designed in accordance with NFPA 1961 *Standard on Fire Hose*.
2. Each new section of fire hose shall have an acceptance test conducted prior to placing hose into service. This acceptance test shall comply with NFPA 1962 *Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles*.
3. Annual service testing of all fire hose and appliances shall be in accordance with NFPA 1962.
4. All 1.5 inch, 2.5 inch and 3 inch hoses shall be tested at 300 psi for five (5) minutes.
5. All 5 inch and 6 inch shall be tested at 200 psi for five (5) minutes.
6. All appliances and nozzles will be tested at 250 psi for five (5) minutes.

Ground Ladder Testing/Purchase

I. Scope

This policy applies to Department Ground Ladder Testing/Purchasing. It was promulgated to establish a uniform policy for purchasing ladders and annual service testing.

II. General

1. All new ladders purchased shall be constructed and designed in accordance with NFPA 1931 *Standard on Design of and Design Verification Tests for Fire Department Ground Ladders*.
2. All ladders shall be inspected and tested as required by NFPA 1932 *Standard on Use, Maintenance and Service Testing on Fire Department Ground Ladders*.
3. Annual service testing of ground ladders shall be in accordance with NFPA 1932 *Standard on Use, Maintenance and Service Testing on Fire Department Ground Ladders*.

GROUND LADDER TESTING AND REPAIR RECORD

MFGR'S Model or Code # _____ MFGR'S Serial# _____ FD ID# _____

Date Purchased: _____ Date Placed in Service: _____ Unit/Location to which Assigned: _____

Type: Single Roof Extension Pole Folding Combination Pompier

Length: _____ Construction Materials: Wood Metal Fiberglass

Beam Type: Solid Truss Certified as Meeting NFPA Standard 1931: Yes No

Test Date: _____ Person (s) Performing: _____

Reason for Test: Annual Service Test Suspected Damage, Overload, Unusual Use
 Exposed to Heat Retest After Repair

Heat Sensor Label Check: Label Unchanged Label changed/Heat Exposure Indicated
 No label Present

Horizontal Bending Test Performed: Weight Used _____ Amount of Deformation _____
 Passed Failed

Roof Hook Test Performed: Weight Used _____ Amount of Deformation _____
 Passed Failed

Status of Ladder as Result of Test:
 In Service Out of Service for Further Testing
 Out of Service for Repair Destroyed Other

Repair Notes: (Date and Initial Entries) _____

Remarks: (Use Section Number) _____

SIGNATURE of Person Responsible for Test: _____

Aerial Devices Testing

I. Scope

This policy applies to Department Aerial Devices Testing. It was promulgated to establish a uniform policy for annual Aerial Device testing.

II. General

1. All Aerial Device Testing shall be in accordance with NFPA 1914 *Testing Fire Department Aerial Devices*, ASNT (*American Society for Non-Destructive Testing*), AWS (*American Welding Society*)
2. Annual service testing of Aerial Devices shall be performed by a qualified, independent testing firm.

Pump Service Testing

I. Scope

This policy applies to Department Pump Service Testing. It was promulgated to establish a uniform policy for annual Pump Service testing.

II. General

1. All Pump Service Testing shall be in accordance with NFPA 1911 *Standard for Service Tests of Fire Pump Systems on Fire Apparatus*.
2. Service tests shall be completed annually and whenever major repairs or modifications to the pump or any components of the apparatus that is used in pump operations have been made.

Apparatus #: _____ Manufacturer: _____
 Year Built: _____ Mfg. Model: _____ Serial #: _____
 Pump Make: _____ Pump Model: _____
 Engine to Pump Gear Ratio: _____ Transmission Gear Used: _____ Suction Hose Size: _____
 Speed Check Taken From: _____ Ratio to Engine: _____ Suction Hose Length: _____
 Test Site Location: _____ Atmospheric Pressure _____ Air Temp _____ Water Temp _____

Elevation of Test Site: _____

CAPACITY TEST

Layout _____ Tip Size _____

Transfer Valve Position _____

TIME	COUNTER	RPM	TACH.	APPAR. GAUGE	TEST GAUGE	PITOT	FLOW

No Load Engine Speed _____ RPM

Vacuum Drop in 5 Min. _____ in. Hg.

Pressure Control Device Test

150 PSI _____ PSI Rise

90 PSI _____ PSI Rise

250 PSI _____ PSI Rise

200 PSI TEST

Layout _____ Tip Size _____

Transfer Valve Position _____

TIME	COUNTER	RPM	TACH.	APPAR. GAUGE	TEST GAUGE	PITOT	FLOW

FINAL RESULTS

	Capacity	200 PSI	250 PSI
Duration (minutes)	20	10	10
Average Nozzle Press.			
Correction			
Corrected Pressure			
Gallons Per Minute			
Average Pump Press.	150	200	250
Engine RPM			

COMMENTS:

250 PSI TEST

Layout _____ Tip Size _____

Transfer Valve Position _____

TIME	COUNTER	RPM	TACH.	APPAR. GAUGE	TEST GAUGE	PITOT	FLOW

Witnessed by: _____

Date of test: _____

Life Safety Rope, Harnesses and Hardware Testing/Purchasing

I. Scope

This policy applies to Department Life Safety Rope, Harnesses and Hardware Testing/Purchasing. It was promulgated to establish a uniform policy for annual Life Safety Rope, Harnesses and Hardware testing.

II. General

1. All Life Safety Rope, Harnesses, and Hardware Testing shall be in accordance with NFPA 1983 *Standard on Fire Service Life Safety Rope and System Components*.
2. Service testing of Life Safety Rope, Harnesses, and Hardware shall be performed by an approved certification organization that meets at least the requirements specified in Section 2-2 of NFPA 1983.

