

111 NORTH CANAL STREET SUITE 950 CHICAGO, IL 60606-7270 TEL: (312) 930-0070 (800) 444-4554 FAX: (312) 930-0017

October 11, 2011

Bryan K. Barnett, Mayor City of Rochester Hills 1000 Rochester Hills Dr. Rochester Hills, MI 48309

RE: Rochester Hills, Oakland County, MI Public Protection Classification: 4 Effective Date: December 1, 2011

### Dear Mayor Barnett:

We wish to thank you, Fire Chief Crowell and Water Official Leafdale for your cooperation during our recent Public Protection Classification (PPC) survey. ISO has completed its analysis of the structural fire suppression delivery system provided in your community. The resulting classification is indicated above.

Enclosed is a summary of the ISO analysis of your fire suppression services. If you would like to know more about your community's PPC classification, 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.

ISO's Public Protection Classification Program (PPC) plays an important role in the underwriting process at insurance companies. In fact, most U.S. insurers – including the largest ones – use PPC information as part of their decision- making when deciding what business to write, coverage's to offer or prices to charge for personal or commercial property insurance.

Each insurance company independently determines the premiums it charges its policyholders. The way an insurer uses ISO's information on public fire protection may depend on several things – the company's fire-loss experience, ratemaking methodology, underwriting guidelines, and its marketing strategy.

PPC is important to communities and fire departments as well. Communities whose PPC improves may get lower insurance prices. PPC also provides fire departments with a valuable benchmark, and is used by many departments as a valuable tool when planning, budgeting and justifying fire protection improvements.

ISO appreciates the high level of cooperation extended by local officials during the entire PPC survey process. The community protection baseline information gathered by ISO is an essential foundation upon which determination of the relative level of fire protection is made using the Fire Suppression Rating Schedule.

The classification is a direct result of the information gathered, and is dependent on the resource levels devoted to fire protection in existence at the time of survey. Material changes in those resources that occur after the survey is completed may affect the classification. Although ISO maintains a pro-active process to keep baseline information as current as possible, in the event of changes please call us at (800) 930-1677 to expedite the update activity.

ISO is the leading supplier of data and analytics for the property/casualty insurance industry. Most insurers use PPC classifications for underwriting and calculating premiums for residential, commercial and industrial properties. The PPC program is not intended to analyze all aspects of a comprehensive structural fire suppression delivery system program. It is not for purposes of determining compliance with any state or local law, nor is it for making loss prevention or life safety recommendations.

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

Sincerely,

Very truly yours,

Public Protection Classification Dept.

Public Protection Classification Dept. (800) 930-1677 Ext. 6209

Encl.

cc: Ronald D. Crowell, Fire Chief Bud Leafdale, Water Supt.

## **CLASSIFICATION DETAILS**

Graded Area: Rochester Hills

County: Oakland

Date Surveyed: May, 2011

Total credit: 67.72

Class: 04

State: Michigan Pop.: 68,840

## 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.

1. Credit for Telephone Service (Item 414)	<u>Credit</u> <u>Actual</u>	Maximum
This item reviews the facilities provided for the public to report fires, including the listing of fire and business numbers in the telephone directory.	2.00	2.00
<ul><li>2. Credit for Operators (Item 422)</li><li>This item reviews the number of operators on-duty</li></ul>		
at the communication center to handle fire calls.	3.00	3.00
3. Credit for Dispatch Circuits (Item 432)  This item reviews the dispatch in its facilities and the dispatch in its faci		
This item reviews the dispatch circuit facilities used to transmit alarms to fire department members.	3.40	5.00
4. Total Credit for Receiving and Handling Fire Alarms:	8.40	10.00
Relative Classification for Receiving and Handling Fire Alarms:	2	- ,

## **CLASSIFICATION DETAILS**

Graded Area: Rochester Hills

County: Oakland

Date Surveyed: May, 2011

Total credit: 67.72

Class: 04

State: Michigan Pop.: 68,840

## 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.

	Credi Actual	<u>it</u> <u>Maximum</u>
1. Credit for Engine Companies (Item 513)		
This item reviews the number of engine companies and the hose equipment carried.	8.76	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.	0.76	. 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.	4.45	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.	0.74	1.00

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Grading Sheet For:

Rochester Hills, Michigan

Oakland County

Public Protection Class:

04

Surveyed: May, 2011

<u>Feature</u>		Credit <u>Assigned</u>	Maximum <u>Credit</u>
Receiving and Handling Fire Ala Fire Department Water Supply *Divergence	rms	8.40% 28.63% 38.48% -7.79%	10.00% 50.00% 40.00%
Tota	l Credit	67.72%	100.00%

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

Class	<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

<sup>\*</sup>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.

## CLASSIFICATION DETAILS

Graded Area: Rochester Hills

County: Oakland

Date Surveyed: May, 2011

Total credit: 67.72

Class: 04

State: Michigan Pop.: 68,840

## FIRE DEPARTMENT (continued)

·	Cre	edit
	Actual	Maximum
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.	2.34	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.	2.92	15.00+
8. Credit for Training (Item 581)		
This item reviews the training facilities and their use.	3.66	9.00
9. Total Credit for Fire Department:	28.63	50.00+

Relative Classification for Fire Department:

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

## **CLASSIFICATION DETAILS**

Graded Area: Rochester Hills

County: Oakland

Date Surveyed: May, 2011 Total credit: 67.72

Class: 04

State: Michigan Pop.: 68,840

## 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>Cre</u> <u>Actual</u>	dit Maximum
1. Credit for the Water System (Item 616)		
This item reviews the supply works, the main capacity and hydrant distribution.	34.45	35.00
2. Credit for Hydrants (Item 621)		
This item reviews the type of hydrants, and method of installation.	2.00	2.00
3. Credit for Inspection and Condition of Hydrants (Item 631)		
This item reviews the frequency of inspections of hydrants and their condition.	2.03	3.00
4. Total Credit for Water Supply:	38.48	40.00
Relative Classification for Water Supply:	1	

# HYDRANT FLOW DATA SUMMARY

City	Rochester Hills	Hills										
County	Oakland		State	Michigan	Witn	lessed by:	Witnessed by: Insurance Services Office Inc	wices Office	T <sub>n</sub>		j	N. T
				T. Tronglan	11.1		тош апсс ос	Arces Ottro	, шс.		Date:	May 26, 2011
					FLOW - GPN	PM		PRESSURE	URE	FLOW -AT 20 PSI	T 20 PSI	
TECT					Q=(29.83(C(d	2(d <sup>2</sup> )p <sup>0.5</sup> ))		PSI	Ħ			
NO 1	DIST *	TEST LOCATION	SERVICE	anı	TVDCIALICAL		TOTAL	STATIC	RESID.	NEEDED	AVAIL.	REMARKS***
1 .				KAH	HYDRANTS.					*		
	Comm	Brompton Rd. & Tottenham Ct.	Rochester Hills, Main	1050	1050	0	2100	62	52	3500	4600	
24	Comm	Culbertson Ave., 1st hyd. S. of Auburn Rd.	Rochester Hills, Main	1270	1270	0	2540	83	70	1750	0000	
20	Res	Culbertson Ave., 1st hyd. S. of Aubum Rd.	Rochester Hills, Main	1270	1270	٥	2540	8	70	1000	0000	
	Comm	E. South Blvd., 4th hyd. E. of John R Rd.	Rochester Hills, Main	1320	1320		2640	8	73	3000	6300	
4	Comm	W. Auburn Rd., 1st hyd. E. of Wilmington Blvd.	Rochester Hills, Main	1130	1130	0	2260	67	55	3500	4700	
	Comm	2911 Research Dr., N/W corner hyd.	Rochester Hills, Main	1910	0		1910	90	61	2500	3100	
310	Commo	Ausun Ave., 3rd hyd. W. of Crooks Rd.	Rochester Hills, Main	1880	0	0	1880	66	55	3000	4100	
75	Commit	N. Rochester Rd. & Tienken Rd., N/W corner hyd.	Rochester Hills, Main	2170	0	0	2170	83	71	9000	5300	
٥١٥	Commi	N. Kochester Kd. & Tienken, N/W corner hyd.	Rochester Hills, Main	2170	0	0	2170	83	71	3000	5300	
× 100	Commi	Adams Kd., 2nd nyd. N. of South Blyd.	Rochester Hills, Main	1210	1210	0	2420	74	60	4500	5000	
0 6	Commit	Adams Kd., 2nd nyd. N. of South Blvd.	Rochester Hills, Main	1210	1210	0	2420	74	69	3000	5000	
10	Commit	E. Hamin Ko. & Gerald Ave., S/E corner hyd.	Rochester Hills, Main	1910	0	0	1910	74	60	2500	4000	
105	Communication	1101 W. University Dr., N/E corner hyd.	Rochester Hills, Main	2100	0	0	2100	73	63	4500	5200	
113	Commit	1101 W. Omversity Dr., N/E corner hyd.	Rochester Hills, Main	2100	0	0	2100	73	63	2500	5200	
1115	Rec	Oakrock I one & Dock Jole Dr. N.	Rochester Hills, Main	2150	. 0	0	2150	57	50	3500	5300	
	3.55	Composition of Experiment 1/1: 14:	rochester ritis, Main	0517	0	0	2150	57	50	1000	5300	

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.

<sup>\*</sup>Comm = Commercial; Res = Residential.

<sup>\*\*</sup>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

<sup>\*\*\* (</sup>A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.

# HYDRANT FLOW DATA SUMMARY

County Oakland	
State Michigan Witnessed by:	
Insurance Services Office, Inc.	

TEST	TYPE	TEST LOCATION	SERVICE		FLOW - GPM $Q=(29.83(C(d^2)p^{0.5}))$ The properties of the contract of the c	<b>GPM</b> C(d <sup>2</sup> )p <sup>0-5</sup> ))	TOTAL	PRESSURE		FLOW -AT 20 PSI	T 20 PSI	
NO.		Porting Or 144V - CD - 1	SEX VICE	H 5	HYDRANTS		TOTAL	STATIC	RESID.	**	AVAIL.	REMARKS***
14	Nes	Barrington Ct., 1st N. of Spring Creek Dr.	Rochester Hills,	1600	0	0	1600	65	45	1000	2500	
. 13	Res	Peach Tree Ln., 1st S. of Cherry Tree Ln. Rochester Hills District A	Rochester Hills District 4	1540	>	>	5	}				
14a	Comm	Clear Creek Dr., 1st hvd. S/E of Transmility Ct	Pochester Uille Mei-	2150			1540	177	34	750	1800	
146		Clear Creek Dr. 1st hvd S/F of Transmilin, Ct	Pochector Wills Mai	2150	,   c	c	2150	76	60	5000	4200	
15		Pickadilly Dr. 1st hyd W of I incolnating Cr.	Poshortal Fills, Main	05120	c	c	2150	76	60	1000	4200	
16	_	S/S Waterview Dr. 2nd had W 261 1 nd	Rochestel Link, Main	0017	С	0	2100	78	68	750	5400	
17a	_1	Hampton Circle NIGHT at World Line	Kochester Hills, Main	2190	0	0	2190	83	73	3000	5900	
17h	Comm	Hampton Circle NAVI at Voltable Di.	Rochester Hills, Main	0881	0	0	1880	60	54	4000	5200	
18	丄	The state of the s	Rochester Hills, Main	1880	0	0	1880	60	54	3000	5200	
10		2880 D - 3 C	Rochester Hills, Main	2100	0	0	2100	74	60	3000	4400	
3)	COMME	2007 Done of, o/E corner nyd.	Kochester Hills, Main	1830	980	0	2810	87	65	2250	\$100	
21/2		1220 Watton Blvd., N/W corner hyd.	Rochester Hills, Main	1980	0	0	1980	67	57	3000	4,600	
17	Comm	S/S Star Batt Dr., 2nd hyd. E. of Crooks Rd.	Rochester Hills, Main	. 1070	1070		2140	22	27		1000	
22a	Comm	511 E. Auburn Rd., S/W corner hyd.	Rochester Hills, Main	2030			0000	3 8	12	2300	4000	
22b	Comm	511 E. Aubum Rd., S/W corner hyd	Rochester Hille Main	2020			2030	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	2	5500	4400	
23a		N/S Adams Marketplace, 2nd hvd. N. of Adams Rd	Rochester Hills Main	1270	300		2030	78	2	2000	4400	
23b	_	N/S Adams Marketplace, 2nd hvd N of Adams Rd.	Pochester Uille Main	1370	13/0	1010	4760	80	45	6000	6400	
MOAV SHILL		THE ADAMS I ICOMO	TWOTICSTELL TITUS, INTERIOR	0/¢T	13/0	1010	4760	80	45	2500	6400	
ADR STAT												

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## HYDRANT FLOW DATA SUMMARY

City

Oakland

County State Michigan Witnessed by:

Insurance Services Office, Inc.

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5	0000	ļ.	3 8	22.00		1130	1120	Rochester Hille Main	Alsdorf Ave. & Cone Ave.	Res	32b
3 2	+	1	3 8	2260	0	1130	1130	Rochester Hills, Main	Alsdorf Ave. & Cone Ave.	Comm	32a
5   6	+	4	68	1910	0	0	1910	Rochester Hills, Main	2913 Crooks Rd., S/W corner hyd.	Comm	316
5	+	1	68	1910	0	Ó	1910	Rochester Hills, Main	2913 Crooks Rd., S/W corner hyd.	Comm	S.L.
ă	$\dashv$	68 1	101	2150	0	0	2150	Rochester Hills, Main	South Blvd., 1st hyd. W. of Walnut Brook Dr.	NGS	315
8	$\dashv$	68 1	101	2150	0	0	2150	Kochester Hills, Main	South Blvd., Ist hyd. w. of walnut Brook Dr.	Day	301
0	1000 3900	67 1	87	2020	o	OTOT	OTOT	Nochester Tills, Main	Court Blad latherd W. CW.:	Comm	302
0	3500 4900	3	ළ	0817		1040	1010	Pochectar Uilla Main	Green Ridge Rd & Concord Rd	Res	29
ľ	+	1	02	1700		1000	1000	Rochester Hille Main	2655 Product Dr., S/W corner hvd.	Comm	28
	╀	1	3 8	1020	0	0	1930	Rochester Hills, Main	744 S. Rochester Rd., S/W corner hyd.	Comin	27ь
5	+		65	1930	0	0	1930	Rochester Hills, Main	/44 S. Kochester Rd., S/W corner hyd.	Commu	2/2
ŏ	1000 2900	45 1	65	1850	0	0	1850	Rochester Hills, Main	210 W. Hallin Ku., IVE corner nyd.	200	370
ŏ —	3000 2900	45 3	S	1850	c	c	OCOT	Trocurosco Intra, Iviani	270 W Uamlin Dd N/F	Dag	790
0	ŀ	-		2000			1050	Rochester Hills Main	270 W. Hamlin Rd., N/E corner hvd	Comm	26a
5  3	+	1	67	2180	Э	1090	1090	Rochester Hills, Main	3rd hyd. N/W of 223 E. Auburn Rd.	Comm	230
ă    	$\dashv$	58 4	67	2180	0	1090	1090	Rochester Hills, Main	Sid Liyu. IN W OI 223 E. Auburn Kd.	Commit	120
eq	2000 Adea	65 2	75	5260	2320	980	980	Rochester Hills, Main	and had NIMI - food in A 1 in a	Comm	25.0
eq —	6500 Adeq	5	ò	0020	07.07	700	200	Dell' Trill 35	Industrial Dr. 1st had II of Old Adams In	Comm	24h
-	+	-	7,5	50.50	2220	000	080	Rochester Hills Main	Industrial Dr., 1st hyd. E. of Old Adams Rd.	Comm	24a
ENDIAL STATES						HYDRAUTS	Ħ.			DIST.*	Š
_	NEEDED AVAIL	RESID. NE	STATIC	TOTAL		INDIVIDUAL	Ä	SERVICE	IEST LOCATION	TILL	1001
		I	PSI		(C(d*)p"-))	$Q=(29.83(C(d^2)p^{u-2}))$				40.A.L	TRAT
PSI	FLOW -AT 20 PSI		PRESSURE		GPM	FLOW - GPM					

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.

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# HYDRANT FLOW DATA SUMMARY

County.	Conner	City
Canaliu	Oaldand	Rochester Hills
State		
Michigan		
Witnessed by:	ı	
Insurance Services Office, Inc.		

Date

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	AA	43	42b	42a	. 41		4	ŝ	39	38	37b		37a			36	35b	35a	1	2	33b	338	3	Š	TEST	
Comm	Comm	Comm	Comm	Comm	Res		Commu	Comm	Comm	Comm	Res		Comm	•	Commit	Comm	Comm	Comm	Солиц	Commi	Comm	Comm		DIST.*	TVPE	. 2,
bagiey Dr. & Connuna Dr.	Parland & Finance Orcent brief.	Piner Dr. & Village Green Blvd	S. Livernois Rd., N/W at Willow Grove In	S. Livernois Rd., N/W at Willow Grove Ln.	Oak Pointe Dr., 1st hyd. S. of Oak Pointe Ct. Rochester Hills, District 8		Avon Industrial Dr., 2nd hyd. E. of Star Ct.	A T I I I I I I I I I I I I I I I I I I	3600 Crooks Rd N/E corner had	S. Adams Rd., 1st hyd. N. of Butler Rd.	Chaffer Dr., 1st hyd. N/E of Royal Doulton Blvd. Rochester Hills, District 8		Chaffer Dr., 1st hyd. N/E of Royal Doulton Bivd. Rochester Hills, District 8		Dicwsiel Nu., 18t hyd. M. of Shenandoan Dr.	Brounter Dd 1st had M - SCI - SCI	W. Avon Rd. 2nd hvd W of I archwood Dr	W. Avon Rd., 2nd hyd. W. of Larchwood Dr.	E. Avon Ka., 1st hyd. W. of Dequindre Rd.	The Literature and Live. W. of Greenspring Ln.	W Hamlin Pd 2nd had till of Committee	W. Hamlin Rd., 2nd hyd. W. of Greenspring Ln.		IEST FOCATION	TREET I OCLUTOR	
Rochester Hills, Main	Nochester Hills, Main	Dochasta I'll Mai	Rochester Hills Main	Rochester Hills, Main	Rochester Hills, District 8		Rochester Hills, Main	KUCHESIEI HILIS, Main	Dochosto IIII Af:	Rochester Hills Main	Rochester Hills, District 8		Rochester Hills, District 8		Kochester Hills, Main	rochester thus, ivialli	Pochester Uille Mai	Rochester Hills Main	Rochester Hills, Main	Rochester Hills, Main	Dool Trill 36:	Rochester Hills Main		SERVICE		
990	1240	1210	1100	1190	920		1030	TIOO	1110	1110	1110		1110		1190	1280	1000	1300	1400	1190	7.1.7U	1100		H		
990	1240	1170	1100	1100	920		1030	1100	TITO	1110	1110		1110		1190	1280	1200	1000	1400	1190	OKTT	1100	HYDRANTS	INDIVIDUAL	Q=(29.83(C(d <sup>2</sup> )p)	FLOW - GPM
0	0	ļ	0.0		o	ļ	О	0	c		<u> </u>		0		0	c	C		0	0	c				C(d <sup>2</sup> )p <sup>0-3</sup> ))	GPM
1980	2480	2380	2000	2200	1840	2000	0906	2200	0777	2000	2220		2220		2380	2560	7300	2000	0080	2380	2380	200		TOTAL		
60	85	/&	10	70	73	ò	775	74	58		۸ ۸		58		82	91	1,4	2 2	12	68	6%			STATIC	PSI	PRESSURE
48	74	66	00	1	<u>}</u>	36	3	ස	47	+	47		47	ļ	99	79	./9	74	2	58	58			RESID.	<u> </u>	SURE
3500	2500	3500	0000		1000	0000	3000	3000	3500	1000	1000		5000	1000	3000	3000	7000	2300	3500	3500	5000		* *	NEEDED		FLOW -AT 20 PSI
3800	6500	5600	2600	2400	3	0000	2200	5200	4300	4000	300	1000	4300	1,000	4900	6700	6700	0000	0000	5600	5600		-	AVAIL.		T 20 PSI
												(m)-(2)00 8pm)	(D)_(3006 mm)											REMARKS***		

CONDITION. OR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE *NOT* INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE

THE AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

Suppression Rating Schedule.
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# HYDRANT FLOW DATA SUMMARY

		County Oakland
	State Michigan Witnessed by:	
	Insurance Services Office Inc	
Date	7	

City

Rochester Hills

					FLOW - GPM O=(29.83/C/d <sup>2</sup> )	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		PRESSURE	SURE	FLOW -AT 20 PSI	T 20 PSI	
LEST	RAXI	TEST LOCATION	SERVICE			70		163	ا			
NO.	DIST.*		Course to Copy	1 2	TAUUTATUUL		TOTAL	STATIC	RESID.	NEEDED	AVAIL.	REMARKS***
45a	Comm	2675 John R Rd., N/W corner had	Dochastar Little Mr.:		HYDRANIS					*		
45b	Comm	2675 John R Rd N/W/ corner hvd	Booker Till 16:	0911	1160	0	2320	78	62	4000	4700	
46a	Comm	S. Livernois Bd. 1st had N. Settonia.	Nochester Tills, Main	1160	1160	0	2320	78	හ	3000	4700	
465	Comm	S Time and a start of the start	Rochester Hills, Main	920	920	_	1840	78	68	6000	4800	
47	Commit	5: Envertions Nu., 18t flyd. IV. of Horizon Ct.	Rochester Hills, Main	920	920		1840	78	83	3000	1000	
	Commit	S. Kochester Rd., 1st hyd. S. of Drexelgate Pkwy.	Rochester Hills, Main	1100	1100	7	2200	3 6	3 8	2000	4000	
48a	Comm	225 W. Avon Rd., S/W corner hvd.	Rochester Hills Main	1020	1000		2200	12	62	3500	5400	
48b	Comin	225 W. Avon Rd., S/W corner had	Rochester Uille Main	1000	1000		2060	59	49	5000	4300	
49	Comin	W/S S.Rochester Rd. 1st hvd N of South Blud	Pochostor IT:11- 16:	000	1030		2060	59	49	2000	4300	
50a	Comm	Hvd. htwn 3175 & 3277 C Bochester Bd	Dock Trill 36:	1230	1230		2460	80	8	3000	5900	
50b	Comm	Hvd htwn 3175 & 3277 C Dockson Rd	rocaesiei ruus, Main	1700	1160	0	2320	68	58	0000	5400	
51a	Comm	Old Perch Rd & Ancal Da	rocuester ratis, Islain	1100	1160	0	2320	68	58	3500	5400	
51h	Rec	Old Derch Dd. 8- A1 D.	Rochester Hills, Main	890	890	0	1780	45	35	3500	2900	
532	Comm	Illeter Bd & Gardan D1.	Rochester Hills, Main	890	890	0	1780	45	35	1000	2000	
407	D	THE STATE CASHEDAT DT.	Rochester Hills, Main	750	750	0	1500	48	35	3320	2300	
076	Kes	Ulster Rd. & Castlebar Dr.	Rochester Hills, Main	750	750	7	1500	5 2		0.077	2300	
53	Comm	Honeycrisp, 1st hyd. S. of Hawkeye	Rochester Hills Main	1050	1	-	000	\$	35	1000	2300	
. 54	Comm	Brewster Rd. & Colorado Ave.	Rochester Hille Main	1340		-	0012	70	52	2250	3600	
THE ABO	)VE LISTED N	THE ABOVE LISTED NEEDED FIRE FLOWS ARE FOR DECEMBER OF THE PROPERTY PROPERTY PROPERTY.	TIPLING PARTY STATES		1240		2480	78	67	3000	6100	
	The state of the s	じじしじ ドレン Strain Axx コンス でないできなうび フ	ひてび とうごつか カカカス・オイス・クレー・フェー・ニ									

CONDITION. FOR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE NOT INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE

THE AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

<sup>\*</sup>Comm = Commercial; Res = Residential.

<sup>\*\*</sup>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

<sup>\*\*\* (</sup>A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.

# HYDRANT FLOW DATA SUMMARY

County Oakland	Oakland		State	Michigan	Michigan Witnessed by:	•	Insurance Services Office, Inc.	vices Office	, Inc.	Date.		
					FLOW - GPM Q=(29.83(C(d <sup>2</sup> )p <sup>0.5</sup> ))	<b>GPM</b> ⊃(d²)p <sup>0.5</sup> ))		PRESSURE	SURE	FLOW-,	FLOW-AT 20 PSI	
TEST NO.	TYPE DIST.*	TEST LOCATION	SERVICE	II	INDIVIDUAL HYDRANTS		TOTAL	STATIC	RESID.	NEEDED **	AVAIL.	REMARKS***
55	Comm	Sunset, 2nd hyd. S/W of Meadowbrook Rd.	Rochester Hills, Main	1010	1010	0	2020	65	47	3500	3300	
	•		Rochester Hills, Auburn									
56	Comm	Oakland University Student Apts., N/W corner East bldg.	Hills	1600	0	0	1600	72	36	3500	2000	
						-						

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.

Suppression Rating Schedule. \*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

<sup>\*\*\* (</sup>A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.

## 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). These criteria incorporate nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association.

Utilizing 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. Assuming all other factors are equal, the price of property insurance in a community with a good PPC is lower than in a community with a poor PPC.

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

- <u>Fire Alarm and Communication System</u> This review accounts for 10% of the total classification which centers upon a community's facilities and support for handling and dispatching fire alarms.
- <u>Fire Department</u> This review accounts for 50% of the total classification which focuses upon items such as engine companies, distribution of fire stations and fire companies, department manning, and training.
- <u>Water Supply System</u> This review accounts for 40% of the total classification highlighting the water supply a community uses for fire suppression.

## **Split Classifications**

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 5 road miles 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 5 road miles of a fire station. ISO generally assigns Class 10 to properties beyond 5 road miles of a fire station. In a class 5/10 community, Class 5 applies to properties within 5 road miles of a fire station. Class 10 applies to properties beyond 5 road miles of a fire station station.

The above rules apply to properties with a needed fire flow of 3500 gpm or less. Properties with larger needed fire flows are individually evaluated, and may vary from the town classification.

## **Countrywide Public Protection Classification Summary**

