

The logo for nyhart features a dark grey vertical bar on the left and a dark grey horizontal bar extending to the right. A thin red vertical line is positioned to the right of the grey bars. The word "nyhart" is written in white lowercase letters on the horizontal bar.

nyhart

***Town of Cumberland, RI
Police Retirement Plan***

*July 1, 2016
Actuarial Valuation Report*

Actuarial Certification	3
Executive Summary	5
Summary Results	5
Changes Since Prior Valuation and Key Notes	6
Assets and Liabilities	7
Present Value of Future Benefits	7
Funding Liabilities	8
Asset Information	9
Reconciliation of Gain/Loss	11
Reconciliation of Unfunded Actuarial Accrued Liability (UAAL)	12
Contribution Requirements	13
Development of Actuarial Recommended Contribution	13
Current Funding Policy	14
Demographic Information	14
Participant Reconciliation	16
Plan Provisions	18
Actuarial Assumptions	21
Other Measurements	23
Schedule of Amortizations	24

At the request of the plan sponsor, this report summarizes the Town of Cumberland, RI Police Retirement Plan as of July 1, 2016. The purpose of this report is to communicate the following results of the valuation:

- Funded Status; and
- Determine Actuarial Recommended Contribution.

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census and asset information has been provided to us by the employer. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

The actuarial assumptions and methods were chosen by the Board. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions.

Nyhart



David D. Harris, ASA, EA, MAAA



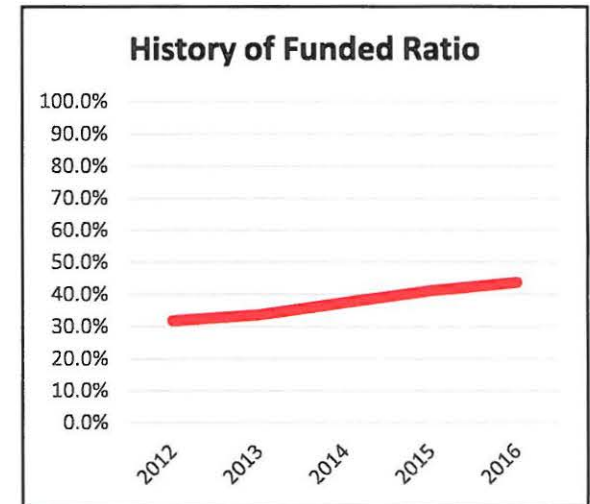
Sally Ray, ASA

November 16, 2016
Date

Summary Results

The actuarial valuation's primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The accrued liability is based on an entry age level percentage of pay.

	July 1, 2015	July 1, 2016	July 1, 2017
Funded Status Measures			
Accrued Liability	\$32,119,567	\$33,475,557	
Actuarial Value of Assets	13,217,038	14,594,768	
Unfunded Actuarial Accrued Liability (UAAL)	\$18,902,529	\$18,880,789	
Funded Percentage (AVA)	41.1%	43.6%	
Funded Percentage (MVA)	41.3%	41.8%	
Cost Measures			
Recommended Contribution for Next Year	\$2,110,186	\$2,138,355	\$2,212,058
As a percentage of payroll	71.8%	77.7%	77.7%
Asset Performance			
Market Value of Assets (MVA)	\$13,274,528	\$13,988,898	
Actuarial Value of Assets (AVA)	\$13,217,038	\$14,594,768	
Actuarial Value/Market Value	99.6%	104.3%	
Market Value Rate of Return	4.6%	1.4%	
Actuarial Value Rate of Return	9.2%	6.5%	
Participant Information			
Active Participants	44	42	
Terminated Vested Participants	0	1	
Retirees, Beneficiaries, and Disabled Participants	70	69	
Total	114	112	
Expected Payroll	\$2,938,631	\$2,750,648	\$2,846,921



Changes since Prior Valuation and Key Notes

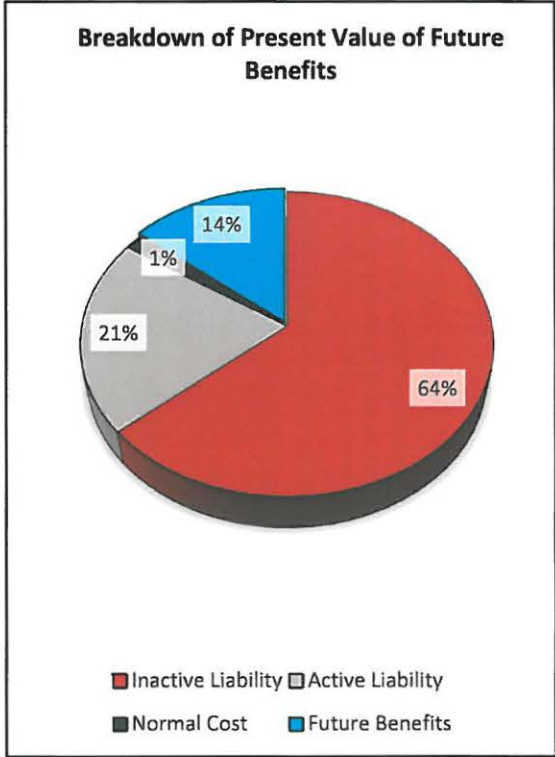
There have been no changes to the plan provisions since the last valuation.

To better reflect anticipated experience, the mortality improvement assumption has been updated from the Social Security improvement assumptions from the 2014 Trustees' report to the Social Security improvement assumptions from the 2015 Trustees' report. The base mortality table is unchanged. This change results in a small decrease in the actuarial accrued liability and a small decrease in the actuarial recommended funding contribution.

Present Value of Future Benefits

The Present Value of Future Benefits represents the future benefits payable to the existing participants.

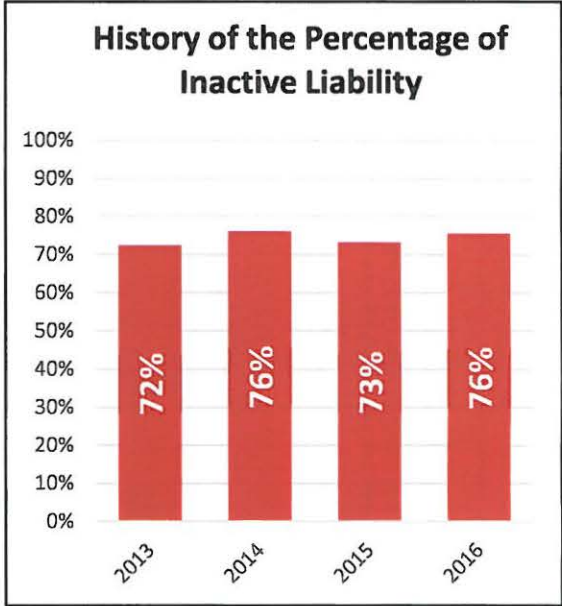
	July 1, 2016
Present Value of Future Benefits	
Active participants	
Retirement	\$13,040,930
Disability	1,218,026
Death	97,071
Termination	0
Refund of contributions	0
Total active	\$14,356,027
Inactive participants	
Retired participants	\$22,246,411
Beneficiaries	930,169
Disabled participants	2,099,208
Terminated vested participants	11,950
Total inactive	\$25,287,738
Total	\$39,643,765
Present value of future payrolls	\$27,049,166



Accrued Liability

The Funding Liability measures the present value of benefits earned as of the valuation date, using a specified set of actuarial assumptions.

	July 1, 2016
Funding Liabilities	
Active participants	
Retirement	\$7,714,650
Disability	425,333
Death	47,836
Termination	0
Refund of contributions	0
Total Active	\$8,187,819
Inactive participants	
Retired participants	\$22,246,411
Beneficiaries	930,169
Disabled participants	2,099,208
Terminated vested participants	11,950
Total Inactive	\$25,287,738
Total	\$33,475,557
 Normal Cost	 \$651,363



Asset Information

The amount of assets backing the pension promise is the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly offsets the ultimate cost.

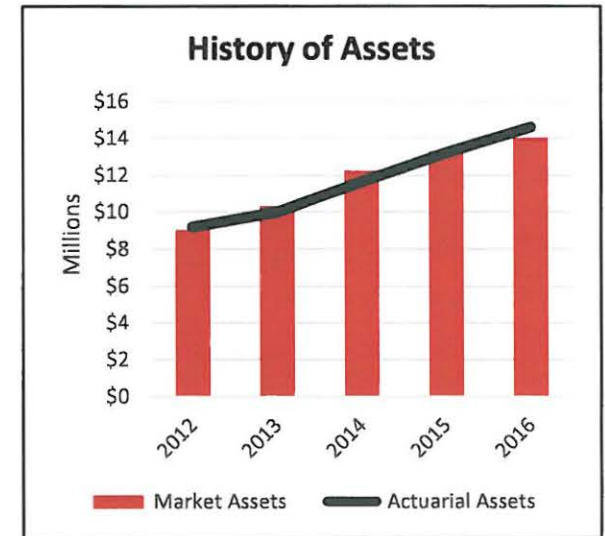
July 1, 2016

Market Value Reconciliation

Market value of assets, beginning of prior year	\$13,274,528
Contributions	
Employer contributions	2,112,000
Employee contributions	232,349
Total	\$2,344,349
Investment income	205,192
Benefit payments	(1,823,825)
Administrative expenses	(11,346)
Market value of asset, beginning of current year	\$13,988,898
Return on Market Value	1.43%
Market value of assets available for pension benefits	\$13,988,898

Actuarial Value of Assets

Value at beginning of current year	\$14,594,768
------------------------------------	--------------



Asset Information (continued) – 20% Phase in

Plan Assets are used to develop funded percentages and contribution requirements.

	July 1, 2016
Investment Gain or (Loss)	
1. Prior year's market value of assets	\$13,274,528
2. Employer contributions for the prior plan year	2,112,000
3. Employee contributions for the prior plan year	232,349
4. Benefit payments during the prior plan year	(1,823,825)
5. Expected earnings at 7.5% to the end of the plan year on	
(a) Market value of assets	\$995,590
(b) Contributions	86,324
(c) Benefit payments	(67,157)
(d) Total expected earnings, (a) + (b) + (c)	\$1,014,757
6. Expected market value of assets, (1) + (2) + (3) + (4) + (5d)	\$14,809,809
7. Actual market value of assets	\$13,988,898
8. Investment Gain or (Loss), (7) – (6)	(\$820,911)
Actuarial Value of Assets	
9. Market value of assets	\$13,988,898
10. Deferred Investment gains or (losses)	
(a) Current year: 80% x (\$820,911)	(\$656,729)
(b) First prior year: 60% x (\$367,669)	(220,601)
(c) Second prior year: 40% x \$525,716	210,286
(d) Third prior year: 20% x \$305,870	61,174
(e) Total	(\$605,870)
11. Final actuarial value of assets, (9 – (10e))	\$14,594,768
12. Return on actuarial value of assets	6.5%

Reconciliation of Gain/Loss

	July 1, 2016
Liability (gain)/loss	
Actuarial liability, beginning of prior year	\$32,119,567
Normal cost	702,698
Benefit payments	(1,823,825)
Change in Assumptions	(14,984)
Expected Interest	2,394,513
Expected actuarial liability, beginning of current year	\$33,377,969
Actual actuarial liability	\$33,475,557
Liability (gain)/loss	\$97,588
Asset (gain)/loss	
Actuarial value of assets, beginning of prior year	\$13,217,038
Employer Contributions	2,112,000
Employee Contributions	232,349
Benefit payments	(1,823,825)
Expected Investment return	1,010,445
Expected actuarial value of assets, beginning of current year	\$14,748,007
Actual actuarial value of assets, beginning of current year	\$14,594,768
Asset (gain)/loss	\$153,239
Total (gain)/loss	\$250,827

Assets and Liabilities

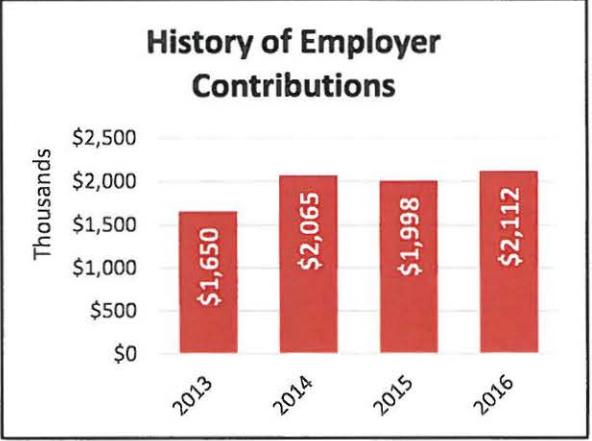
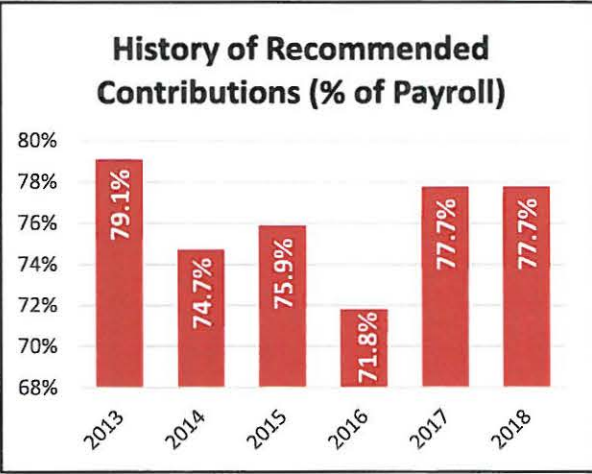
Reconciliation of Unfunded Actuarial Accrued Liability (UAAL)

	July 1, 2016
1. UAAL beginning of prior year	\$18,902,529
2. Normal Cost	702,698
3. Expenses	0
4. Employer Contributions	(2,112,000)
5. Employee Contributions	(232,349)
6. Interest	1,384,068
7. Expected UAAL, beginning of current year	\$18,644,946
8. Changes due to:	
(a) Amendments	\$0
(b) Assumptions	
(1) Mortality Update	(14,984)
(c) Funding Methods	0
(d) (Gain)/Loss	250,827
(e) Total	\$235,843
9. UAAL beginning of current year	\$18,880,789

Development of Actuarial Recommended Contribution

The actuarial recommended contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws.

Funded Position	
1. Entry age accrued liability	\$33,475,557
2. Actuarial value of assets	<u>14,594,768</u>
3. Unfunded actuarial accrued liability (UAAL)	\$18,880,789
Employer Contributions	
1. Normal Cost	
(a) Total normal cost	\$651,363
(b) Expected participant contributions	<u>209,476</u>
(c) Net normal cost	\$441,887
2. Amortization of UAAL	1,547,280
3. Interest	<u>149,188</u>
4. Calculated contribution at valuation date	\$2,138,355
5. Valuation payroll	\$2,750,648
6. Calculated contribution as a percentage of payroll	77.7%
7. Projected payroll	\$2,846,921
8. Actuarial recommended funding contribution (6) x (7)	\$2,212,058



Demographic Information

The foundation of a reliable actuarial report is the participant information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

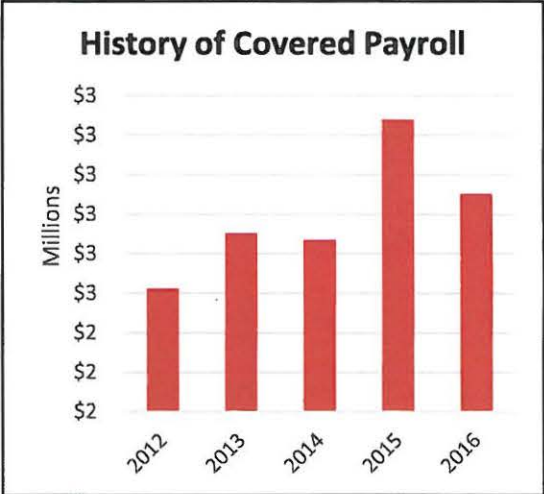
July 1, 2016

Participant Counts

Active Participants	42
Retired Participants	54
Beneficiaries	9
Disabled Participants	6
Terminated Vested Participants	1
Total Participants	112

Active Participant Demographics

Average Age	38.2
Average Service	9.8
Average Compensation	\$65,492
Covered Payroll	\$2,750,648
Total Payroll	\$2,750,648



Demographic Information (continued)

July 1, 2016

Retiree Statistics

Average Age	60.4
Average Monthly Benefit	\$2,440

Beneficiary Statistics

Average Age	73.9
Average Monthly Benefit	\$954

Disabled Participants Statistics

Average Age	60.6
Average Monthly Benefit	\$2,416

Terminated Participants Statistics

Average Age	32.4
Average Employee Contribution Balance Owed	\$11,950

Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	Totals
Prior Year	44	0	6	54	10	114
Active						
To Retired	(3)	0	0	3	0	0
To Terminated Vested	(1)	1	0	0	0	0
Retired						
To Death	0	0	0	(3)	0	(3)
Survivor						
To Death	0	0	0	0	(1)	(1)
Additions	2	0	0	0	0	2
Departures	0	0	0	0	0	0
Current Year	42	1	6	54	9	112

Active Participant Schedule

Active participant information grouped based on age and service.

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1										1
25 to 29		1	1								2
30 to 34	1	5	7	1							14
35 to 39		1	4	3							8
40 to 44				1	5						6
45 to 49		2	2		3	1					8
50 to 54					2	1					3
55 to 59											0
60 to 64											0
65 to 69											0
70 & up											0
Total	2	9	14	5	10	2	0	0	0	0	42

Plan Effective Date:

The plan was originally effective July 1, 1958. It was amended and restated October 20, 2004.

Eligibility for Participation:

All full-time Police Officers are eligible to participate in this Plan.

Normal Retirement Benefit:

Police (hired on or before July 1, 2013)

Eligibility: Completion of 20 years of service regardless of age

Benefit: For credited service prior to 7/1/2013, 2.75% of average annual earnings for the first 20 years plus 1.00% for the next 5 years. For credited service after 7/1/2013, 2.50% of average annual earnings for the first 20 years plus 1.00% for the next 10 years. The maximum retirement benefit is 60% of average annual earnings.

Police (hired after July 1, 2013)

Eligibility: Attainment of age 55 and completion of 25 years of service

Benefit: 2.00% of average annual earnings for each year of credited service up to 30 total years

Average Annual Earnings:

Police (hired on or before July 1, 2013)

Average of final 36 months of base salary, overtime pay, holiday pay, shift differential pay, longevity pay, and accreditation pay

Police (hired after July 1, 2013)

Average over working career of base salary, holiday pay, and longevity pay

Credited Service:

Full years and completed months from date of participation.

Pre-Retirement Death Benefit:

If an inactive officer dies after 15 years of service and while married, the spouse will receive a monthly pension equal to the amount which would be payable if the Officer had retired with a 67.5% Joint & Survivor Annuity.

For those with less than 15 years of service, the beneficiary will receive a refund of the member's contributions with 5% interest.

Post-Retirement Death Benefit:

A spouse's pension equal to 67.5% of the participant's pension is payable until the earlier of the spouse's death or remarriage, or to surviving dependent children under age 18.

Disability Retirement Benefit:

Duty Related 66.67% of Average Compensation

Non Duty Related Completed 12 - 18 years of service. Accrued benefit is subject to reduction as follow: At 12 years - 60%, increase by 5% for each year up to 17 years, 100% at 18 years.

Vesting:

Police (hired on or before July 1, 2013) 100% on completing 15 years of service

Police (hired after July 1, 2013) 100% on completing 25 years of service

Employee Contributions:

Police (hired on or before July 1, 2013) 8% of annual earnings effective 7/1/2013. No interest is accrued.

Police (hired after July 1, 2013) 11% of annual earnings effective 7/1/2013. No interest is accrued.

Normal form of payment

The normal form of payment for a married participant is a monthly benefit payable for the participant's lifetime with 67.5% of such benefit continuing to a surviving spouse. The normal form of payment for an unmarried participant is a monthly benefit payable for the participant's lifetime with no further payments after the participant's death.

Cost of Living Increases:

3.00% non-compounded from age 57 for retirement on or after July 1, 1992
No COLA for retirement before July 1, 1992

Actuarial Equivalence

Actuarial Equivalence will be computed using 7.0% interest and the mortality table is the UP-1984 Table.

Plan Provisions Not Included

We are not aware of any plan provisions not included in the report.

Adjustments Made for Subsequent Events

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results of this report.

Except where otherwise indicated, the following assumptions were selected by the plan sponsor with the concurrence of the actuary. Prescribed assumptions are based on the requirements of the relevant law, the Internal Revenue Code, and applicable regulation. The actuary was not able to evaluate the prescribed assumptions for reasonableness for the purpose of the measurement.

Valuation Date: July 1, 2016

Participant and Asset Information as of: July 1, 2016

Retirement Rates (FE):

Police hired on or before 7/1/2013	70% retirement at the completion of 20 years of service 10% retirement at the completion of 21 - 24 years of service 70% retirement at the completion of 25 years of service 10% retirement at the completion of 26 - 29 years of service 100% retirement at the completion of 30 years of service
Police hired after 7/1/2013	100% retirement at the completion of 25 years of service and attainment of age 55

Mortality (FE):

Healthy	RP-2014 Blue Collar Mortality with 2015 Social Security Generational Improvement Scale from 2006
Disabled	1985 Pension Disability Table. All Disability is assumed to be duty-related.

Withdrawal (FE): None.

Salary Projection Scale (FE):

Age	Increase
<25	6.0%
25-29	6.0%
30-34	5.5%
35-39	5.0%
40-44	4.0%
45-49	3.0%
50-54	2.0%
55-59	1.0%
60+	1.0%

Interest Rate (CO): 7.5%

Expense and/or Contingency Loading (FE): None

Marital Status and Ages (FE):	100% of Participants assumed to be married with wives assumed to be 4 years younger than husbands.
Funding method	Liabilities and contributions in the report are based on application of an Entry Age Normal cost method. In determining the Actuarially Recommended Contribution, the excess of the entry age actuarial accrued liability over the actuarial value of plan assets is amortized over a closed 20-year period.
Asset Valuation Method:	Market value of assets with a five year phase in of gains and losses.
Amortization Method:	Closed 20-year level percent of pay amortization of Unfunded Actuarial Accrued Liability; for this purpose, pay is assumed to grow at 3.50% annually
Other Procedures:	Benefits projected to assumed retirement age for active participants have been limited so as not to exceed maximum benefits imposed by Code Section 415(b) and/or maximum compensation limits of Code Section 401(a)(17).
Changes Since Prior Report:	The table for generational mortality improvement has been updated from a scale based upon assumptions disclosed in the 2014 Social Security Administration's Trustees' Report to a scale based upon assumptions disclosed in the 2015 Social Security Administration's Trustees' Report.

FE indicates an assumption representing an estimate of future experience

MD indicates an assumption representing observations of estimates inherent in market data

CO indicates an assumption representing a combination of an estimate of future experience and observations of market data

The actuarial report also shows the necessary items required for plan reporting and any state requirements.

- ✓ Schedule of amortizations

Schedule of Amortizations

<u>Date Established</u>	<u>Remaining Period (Years)</u>	<u>Outstanding Balance</u>	<u>Annual Payment</u>
07/01/2012	16	\$19,257,236	\$1,575,325
07/01/2013	17	(3,457)	(271)
07/01/2014	18	(130,507)	(9,817)
07/01/2015	19	(398,768)	(28,897)
07/01/2016	20	156,285	10,940
		<u>\$18,880,789</u>	<u>\$1,547,280</u>

November 16, 2016

Mr. Brian Silvia
Finance Director
Town of Cumberland, RI
45 Broad Street
Cumberland, RI 02864

Re: Town of Cumberland, RI Police Retirement Plan
Certification of Plan's Funding Status

Dear Brian:

As you are aware, recent Rhode Island legislation (specifically, 2011-H6319) discusses the requirement for actuarial certification of the funded status for locally administered plans, such as the Town of Cumberland, RI Police Retirement Plan. **The plan's actuary must certify whether or not the plan is in "critical status."**

Per Section 45-65-4(3) of the above legislation:

"Critical status" means that, as determined by its actuary, as of the beginning of the plan year, a plan's funded percentage for such plan year is less than sixty percent (60%).

As of July 1, 2016, the most recent actuarial valuation, the funded status was 43.6%. Therefore, the plan is considered to be in "critical status" as of July 1, 2016.

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

Nyhart



David D. Harris, ASA, EA, MAAA