GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
One Towne Square
Suite 800
Southfield, MI 48076-3723
248.799.9000 phone
248.799.9020 fax
www.gabrielroeder.com

November 8, 2013

Mr. Robert Ortega
Local Board Training Consultant/Human Resources
Arizona Public Safety Personnel Retirement System
3010 E. Camelback Rd, Ste. 200
Phoenix, Arizona 85016

Re: Town of Oro Valley – Valuation Results Associated with Participation in the Arizona Elected Officials' Retirement Plan (EORP)

Dear Mr. Ortega:

This report contains the results of an actuarial valuation prepared as of December 1, 2013 for the Town of Oro Valley. The report includes determination of the actuarial accrued liabilities if the employer becomes a member of EORP.

The calculations were based on the following:

- Demographic data provided by Town of Oro Valley. The data was checked for reasonableness, but was not otherwise audited. This data is summarized on page 2.
- The benefit provisions for EORP under the new Tier of benefits. These are summarized on pages 4 through 9.
- The actuarial methods and assumptions that were used in the last annual actuarial valuation of EORP. These are summarized on page 3.

This report may be provided to other interested parties only in its entirety and only with the permission of PSPRS and the employer.

To the best of our knowledge, this report is complete and accurate and was prepared in accordance with generally recognized actuarial methods. Mark Buis and Francois Pieterse are independent of the Plan Sponsor and are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Mark Buis, FSA, MAAA

Francois Pieterse, ASA, MAAA

MB:mrb
Enclosures

TOWN OF ORO VALLEY VALUATION
IMPORTANT COMMENTS

1. The results in this report were based on information provided to the actuary by the employer and PSPRS. The actuary is unaware of any additional information that would impact these results.
2. This report should not be relied upon for any purpose other than the purpose described in the primary communication.
3. In the event that more than one plan change is being considered, it is very important to remember that the results of separate actuarial valuations cannot generally be added together to produce a correct estimate of the combined effect of all of the changes. The total can be considerably greater than the sum of the parts due to the interaction of various plan provisions with each other, and with the assumptions that must be used.
4. The calculations in this report are based upon assumptions regarding future events, which may or may not materialize. If you have reason to believe that conditions have changed since the calculations were made, that the information provided in this report is inaccurate or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the authors of the report prior to making such decision or relying on information in the report.
5. The reader(s) of this report should keep in mind that actuarial calculations are mathematical estimates based on current data and assumptions about future events (which may or may not materialize). Please note that actuarial calculations can and do vary from one valuation to the next, sometimes significantly if the group valued is very small (less than 30 lives). As a result, the cost impact of a benefit provision may fluctuate over time, as the demographics of the group changes.
6. 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 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; and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.
7. The results in this report do not show the employer contribution for the Post-Retirement Health Insurance Subsidy. On average the employer contribution requirement for this benefit is 2.20% of pay as of June 30, 2013. The actual cost will vary for each employer based on the demographics of the group.

TOWN OF ORO VALLEY VALUATION AS OF DECEMBER 1, 2013

Summary of Covered Population Data

	Date of Birth	Date of Entry	Credited Service	Accrued Liability
Council Member William Garner	08/14/64	06/04/08	5 yrs. 6 mos.	$10,575
Council Member Mary Snider	09/22/50	03/24/10	3 yrs. 8 mos.	7,970
Council Member Lou Waters	07/07/38	06/02/10	3 yrs. 6 mos.	6,473
Council Member Joseph Hornat	10/28/43	06/02/10	3 yrs. 6 mos.	7,592
Council Member Brendan Burns	12/27/78	06/07/12	1 yrs. 5 mos.	1,848
Council Member Michael Zinkin	09/17/45	06/07/12	1 yrs. 5 mos.	2,203
Mayor Satish Hiremath	07/14/63	06/02/10	3 yrs. 6 mos.	7,834
Total				$44,495

Valuation Results

In accordance with the provisions of the Plan, as amended effective January 1, 2012, the town's contribution would consist of the annual normal cost payment computed for the entire Plan, plus, in the first year, the amount required to fully finance the unfunded actuarial accrued liability for the town's active elected officials.

The normal cost for the Plan for Fiscal Year 2013/2014 has been computed to be the following:

	Level Percent of Active Elected Officials' Payroll
Normal Cost	**24.73%**
Elected Officials' Member Contribution	
Total Employee Rate	**13.00%**
Less portion not used to reduce employer's contribution	**6.00%**
Net employee rate	**7.00%**
Employer Normal Cost	**17.73%**

TOWN OF ORO VALLEY VALUATION
AS OF DECEMBER 1, 2013

The actuarial accrued liability associated with participation of the Town of Oro Valley elected officials in the Arizona Elected Officials' Retirement Plan was computed to be $44,495.

Any assets transferred to the Arizona Elected Officials' Retirement Plan would decrease the unfunded actuarial accrued liability by an equal amount.

TOWN OF ORO VALLEY VALUATION
BRIEF SUMMARY OF ACTUARIAL ASSUMPTIONS

Investment Return — 7.85% per annum, compounded annually, net of expenses, including a wage inflation component of 4.00%.

Payroll Growth — 4.00% per annum, compounded annually. Membership is assumed to remain constant.

Retirement Rates — Rates varying by age and sex. See table below for sample values.

Mortality for Actives/Retirees — RP 2000 Mortality Table projected to 2025 using projection scale AA. See table below for sample values.

Mortality for Disabled Cases — RP 2000 Mortality Table projected to 2025 using projection scale AA were used with a ten year set forward for males and females.

Disability & Separation — Graduated rates by age and service. See table below for sample values.

Salary Increases — Graduated rates by age. See table below.

Asset Valuation Method — Market Related Value that reflects seven-year averaging of investment gains and losses.

Sample Annual Rates per 100 Employees				
	Retiree Mortality			
Age	Male	Female	Disability	Pay Increase Next Year
20	N/A	N/A	0.01%	4.25%
30	N/A	N/A	0.01%	4.25%
40	0.09%	0.05%	0.02%	4.25%
50	0.14%	0.11%	0.03%	4.25%
60	0.45%	0.45%	0.04%	4.25%
70	1.52%	1.48%	N/A	N/A
80	5.01%	3.85%	N/A	N/A

Service	Separation
0	6.00%
5	6.00%
10	2.00%
15	2.00%

Age	Retirement
62	40%
65	15%
70	100%

TOWN OF ORO VALLEY VALUATION
SUMMARY OF PLAN PROVISIONS

Normal Retirement (no reduction for age). An elected official may retire upon meeting one of the following age and service requirements:

- Age 60 years with 25 or more years of credited service;
- Age 62 years with 10 or more years of credited service; and
- Age 65 years with 5 or more years of credited service.

The amount of a normal retirement pension is four percent of average yearly salary multiplied by years of credited service. The maximum is 80 percent of average yearly salary. Effective July 17, 1994, average yearly salary is the elected official's highest average salary during a three-consecutive year period within the final 10 years of service. For elected officials whose membership commenced before July 17, 1994, average yearly salary will generally be final salary at termination of service.

Effective August 6, 1999, a member may retire at any age with 20 or more years of credited service.

Early Retirement (reduction for age). An elected official who is at least 50 years and has 10 or more years of credited service may retire before meeting an age and service requirement for normal retirement. The amount of an early retirement pension is computed by determining the amount of accrued normal retirement pension and then reducing the amount determined by three-twelfths of one percent for each month early retirement precedes the member's normal retirement age.

Effective August 6, 1999, a member with at least five years of credited service may retire early at any age. For those members who retire under this August 6, 1999 provision, their benefits are calculated using a three-year average salary, and the reduction for early retirement is capped at 30%.

Vested Termination (deferred retirement). An elected official with five or more years of credited service retains entitlement to a deferred pension upon ceasing to be an elected official if the official's accumulated contributions are left on deposit in the Retirement Plan. The amount of pension is determined in the same manner as a normal or early pension, whichever is applicable.

Disability Retirement. An elected official who becomes incapacitated for the duties of office may be retired by the Board of Trustees. The amount of pension is 80 percent of three-year average salary if the elected official has at least 10 years of credited service, 40 percent of three-year average salary if the elected official has five but less than 10 years of credited service, and 20 percent of three-year average salary if the elected official has less than five years of credited service.

Survivor Pensions. Payable to the eligible beneficiary of a retired elected official or an active and inactive elected official. An eligible beneficiary is a surviving spouse who was married to the retired active or inactive elected official for at least two years; or, if there is no eligible spouse, a minor child. A surviving spouse's pension terminates upon death. A surviving child's pension terminates upon attainment of age 18 years, marriage, adoption or death, unless the child is a full time student under the age of 23 or was disabled prior to age 18. The amount of a surviving spouse's pension is 75% of the pension being paid the deceased retired elected official or the disability pension accrued by the deceased active elected official. The amount of a surviving child's pension is an equal share of the amount of a surviving spouse's pension.

Other Terminations. The elected official is paid a refund of accumulated member contributions, plus an additional amount if the member has at least five years of service credit. The amount is a percent of the member contribution amount, ranging from 25% to 100% (with at least 10 years of service credit).

Post-Retirement Adjustments. Contingent upon the excess investment earnings, effective July 1 of each year, eligible retired members or survivors may be entitled to a permanent benefit increase in their base benefit. To be eligible for the increase, the retired member or survivor must be either age 55 or older on July 1 of the current year and receiving benefits on or before July 31 of the previous year, or the retired member or survivor has been receiving benefits on or before July 31 of the previous two years. The maximum amount of the increase is 4% of the average normal benefit being received on the preceding June 30.

Prior to July 1, 2013 a COLA reserve is maintained and used to pay for the post-retirement adjustment. The investment return on the COLA reserve is the same as the return on the market value of assets (whether the return is positive or negative). Additional amounts are added to the COLA reserve in years when the investment return on the market value of assets exceeds 9.0%. Each year the present value of that year's post-retirement adjustment is subtracted from COLA reserve. A post-retirement adjustment is paid as long as there is a positive balance in the COLA reserve.

Post-Retirement Health Insurance Subsidy. Payable on behalf of retired members and survivors who elect coverage provided by the state or participating employer. The monthly amounts cannot exceed:

Member Only		With Dependents		
Not Medicare Eligible	Medicare Eligible	All Not Medicare Eligible	All Medicare Eligible	One With Medicare
$150	$100	$260	$170	$215

Retired members or survivors who have between five and eight years of credited service are eligible for a proportionate share of the full subsidy.

Employer Contributions. A designed portion of court docket fees. Municipal employers contribute the computed normal cost rate plus a payment to amortize their unfunded actuarial accrued liability (UAAL) over a period not to exceed 30 years (a lump sum payment for UAAL is required for municipal employers entering after September 15, 1989). Pursuant to 1989 legislation, state and county employers contribute the difference between the actuarially determined contribution requirement and designated docket fees.

Changes in Plan Provisions for Existing Members and New Hires effective January 1, 2012

Existing Members

- Member contribution rates are shown in the schedule below. Additional member contributions DO NOT reduce the employer contribution; this means there is a "maintenance of effort" provision.
    - FY 2010-2011 – 7.0%
    - FY 2011-2012 – 10.0%
    - FY 2012-2013 – 11.5%
    - FY 2013-2014 and after: 13.0%
- Employer will contribute to System when members retire and return to work.

New Hires on or after January 1, 2012 and prior to January 1, 2014

- Average salary is the elected official's highest average salary during a five-consecutive year period within the last 10 years of service
- Normal retirement: 65 years of age with 5 or more years of credited service or 62 years of age with 10 or more years of service.
- Multiplier of 3% of average monthly compensation multiplied by years of credited service; maximum benefit is 75% of average monthly compensation.
- No early retirement.
- Survivor benefit is equal to 50% of the member's benefit at time of death; may elect a higher survivor benefit but with actuarial reduction.
- Disability benefit:
    - 75% of average salary if member has 10 or more years of service
    - 37.5% of average salary if member has between 5 and 9 years of service
    - 18.75% of average salary if member has less than 5 years of service
- If ceases to hold office for any reason other than death or retirement, member can withdraw their accumulated contributions less any benefit payments already received or any amount the member owes the plan (no employer match of refund contributions) with interest at rate set by Board.

- Member contribution rates are shown in the schedule below. Additional member contributions DO NOT reduce the employer contribution; this means there is a "maintenance of effort" provision.

    - FY 2010-2011 – 7.0%
    - FY 2011-2012 – 10.0%
    - FY 2012-2013 – 11.5%
    - FY 2013-2014 and after: 13.0.

- Employer will contribute to System when members retire and return to work.

Existing Members and New Hires prior to January 1, 2014

- COLA provision – effective July 1, 2013
    - Effective May 31, 2011 no more excess investment earnings will be transferred to the current COLA reserve. Any remaining COLA reserve will be used to pay future COLA increases until the COLA reserve is depleted.
    - A COLA is only paid in a year when the return on the market value of assets exceeds 10.5% and the plan is at least 60% funded. 100% of the excess earnings is used to determine whether a COLA can be paid and the size of the COLA for that year.
    - No COLA reserve accumulates. The present value of that year's COLA for eligible retirees cannot exceed 100% of the earnings in excess of 10.5%. If the excess earnings is high enough to exceed the present value of that year's COLA, the excess stays in the fund.
    - To be eligible for an increase the retiree or the survivor must be:
        - In the case of a retired member who became a member of the plan before January 1, 2012, the retired member or survivor was receiving benefits on or before July 31 of the two previous years or
        - In the case of a retired member who became a member of the plan before January 1, 2012, the retired member or survivor was 55 or older on July 1 of the current year and was receiving benefits on or before July 31 of the previous year
        - In the case of a retired member who became a member of the plan on or after January 1, 2012, the retired member or survivor was at least 55 or older on July 1 and receiving benefits
    - The amount of the COLA to be paid is determined as follows:
        - Funded ratio is 60-64%, COLA is 2.0%
        - Funded ratio is 65-69%, COLA is 2.5%
        - Funded ratio is 70-74%, COLA is 3.0%
        - Funded ratio is 75-79%, COLA is 3.5%
        - Funded ratio is 80% or more, COLA is 4.0%

TOWN OF ORO VALLEY VALUATION
GLOSSARY OF TERMS

Actuarial Accrued Liability	The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability".
Accrued Service	The service credited under the plan which was rendered before the date of the actuarial valuation.
Actuarial Assumptions	Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method".
Actuarial Equivalent	A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.
Actuarial Present Value	The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
Amortization	Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
Experience Gain (Loss)	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.
Normal Cost	The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost". Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

TOWN OF ORO VALLEY VALUATION
GLOSSARY OF TERMS

Reserve Account An account used to indicate that funds have been set aside for a specific purpose and is not generally available for other uses.

Unfunded Actuarial Accrued Liability The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability".

Valuation Assets The value of current plan assets recognized for valuation purposes. Generally based on market value plus a portion of unrealized appreciation or depreciation.