

STATE OF TENNESSEE



**DAVID H. LILLARD, JR.**  
STATE TREASURER

**TREASURY DEPARTMENT**

615.741.2956  
David.Lillard@tn.gov

STATE CAPITOL  
NASHVILLE, TENNESSEE 37243-0225

**Sender's telephone: 615.770.1754**  
**Sender's email: heather.iverson@tn.gov**

August 15, 2018

Fiscal Review Committee  
The Honorable Ken Yager, Chair  
The Honorable Mark White, Vice-Chair  
8<sup>th</sup> Floor, Rachel Jackson Building  
425 5<sup>th</sup> Avenue North  
Nashville, Tennessee 37243

To the Distinguished Members of the Fiscal Review Committee,

The Department of Treasury respectfully requests to amend its contract with Bryan, Pendleton, Swats & McAllister, LLC (the "Contractor") for the provision of actuarial services. The Department seeks to amend the contract because the Contractor has merged with another company, and the surviving entity is called Findley, Inc. The amendment would reflect this name change. No other aspect of the contract is changing.

Thank you for your consideration of this request. If you need additional information, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Heather Iverson".

Heather Iverson,  
Legal Services Director

Supplemental Documentation Required for  
Fiscal Review Committee

*Contact Name:	Heather Iverson	*Contact Phone:	615-770-1754		
*Presenter's name(s):	Jamie Wayman				
Edison Contract Number: <i>(if applicable)</i>	41407	RFS Number: <i>(if applicable)</i>			
*Original or Proposed Contract Begin Date:	July 1, 2014	*Current or Proposed End Date:	June 30, 2019		
Current Request Amendment Number: <i>(if applicable)</i>	One				
Proposed Amendment Effective Date: <i>(if applicable)</i>	October 15, 2018				
*Department Submitting:	Department of Treasury				
*Division:	Tennessee Consolidated Retirement System and Financial Empowerment				
*Date Submitted:	August 15, 2018				
*Submitted Within Sixty (60) days:	Yes				
<i>If not, explain:</i>					
*Contract Vendor Name:	Bryan, Pendleton, Swats & McAllister, LLC (changing its name to Findley, Inc.)				
*Current or Proposed Maximum Liability:	\$2,564,465				
*Estimated Total Spend for Commodities:	\$0				
<b>*Current or Proposed Contract Allocation by Fiscal Year: (as Shown on Most Current Fully Executed Contract Summary Sheet)</b>					
FY: 2015	FY: 2016	FY: 2017	FY:2018	FY2019	FY
\$448,405	\$462,260	\$656,130	\$493,500	\$504,170	\$
<b>*Current Total Expenditures by Fiscal Year of Contract: (attach backup documentation from Edison)</b>					
FY: 2015	FY: 2016	FY: 2017	FY:2018	FY2019	FY
\$233,035	\$492,158	\$449,083	\$503,847	\$109,070	\$
<b>IF</b> Contract Allocation has been greater than Contract Expenditures, please give the reasons and explain where surplus funds were spent:			The Department based its expenditure projections on both historical use of actuarial services, but actual use varies depending on the needs of the program. Payments are included in the fiscal year based on when the payment was made, even though the work was performed during a prior fiscal year.		
<b>IF</b> surplus funds have been carried forward, please give the reasons and provide the authority for the carry forward provision:			The contract value for actuarial services totals \$2,564,465 that was allocated to fiscal year based on estimated work. The total value of the contract is tracked to		

Supplemental Documentation Required for  
Fiscal Review Committee

		ensure the total value is not exceeded.	
<p><b>IF</b> Contract Expenditures exceeded Contract Allocation, please give the reasons and explain how funding was acquired to pay the overage:</p>		<p>The Department based its expenditure projections on both historical use of actuarial services, but actual use varies depending on the needs of the program. The total contract value has not been exceeded, though the work that was estimated to be completed in a certain fiscal year may have been paid in the next year.</p>	
*Contract Funding Source/Amount:			
State:		Federal:	
<i>Interdepartmental:</i>	\$2,564,465	<i>Other:</i>	
If “ <i>other</i> ” please define:			
If “ <i>interdepartmental</i> ” please define:		Employers contribute on a monthly basis for the cost of participation of their employees in TCRS. A portion of the contributions, as determined by the actuary, is for administrative expenses. The administrative expenses are for services such as actuarial services and are brought into TCRS funds from the employer’s TCRS account.	
Dates of All Previous Amendments or Revisions: <i>(if applicable)</i>		Brief Description of Actions in Previous Amendments or Revisions: <i>(if applicable)</i>	
Method of Original Award: <i>(if applicable)</i>		RFP	
<p>*What were the projected costs of the service for the entire term of the contract prior to contract award? How was this cost determined?</p>		<p>The projected costs were \$2.5 million. The Department based its expenditure projections on historical use of actuarial services by TCRS.</p>	
<p>*List number of other potential vendors who could provide this good or service; efforts to identify other competitive procurement alternatives; and the reason(s) a sole-source contract is in the best interest of the State.</p>		N/A	



## CONTRACT AMENDMENT COVER SHEET

<b>Agency Tracking #</b> 30901-23515	<b>Edison ID</b> 72425	<b>Contract #</b> 41407	<b>Amendment #</b> 1		
<b>Contractor Legal Entity Name</b> Bryan, Pendleton, Swats & McAllister, LLC			<b>Edison Vendor ID</b> 72425		
<b>Amendment Purpose &amp; Effect(s)</b> Name change					
<b>Amendment Changes Contract End Date:</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		<b>End Date:</b> June 30, 2019			
<b>TOTAL Contract Amount INCREASE or DECREASE per this Amendment</b> (zero if N/A):			<b>\$ 0</b>		
<b>Funding —</b>					
<b>FY</b>	<b>State</b>	<b>Federal</b>	<b>Interdepartmental</b>	<b>Other</b>	<b>TOTAL Contract Amount</b>
2015			\$448,405		\$448,405
2016			\$462,260		\$462,260
2017			\$656,130		\$656,130
2018			\$493,500		\$493,500
2019			\$504,170		\$504,170
<b>TOTAL:</b>			<b>\$2,564,465</b>		<b>\$2,564,465</b>
<b>American Recovery and Reinvestment Act (ARRA) Funding:</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
<b>Budget Officer Confirmation:</b> There is a balance in the appropriation from which obligations hereunder are required to be paid that is not already encumbered to pay other obligations.				<i>CPO USE</i>	
<b>Speed Chart</b> (optional)		<b>Account Code</b> (optional)			

**AMENDMENT ONE  
OF CONTRACT 41407**

This Amendment is made and entered by and between the State of Tennessee, Department of Treasury, hereinafter referred to as the "State" and Bryan, Pendleton, Swats & McAllister, LLC, hereinafter referred to as the "Contractor." For good and valuable consideration, the sufficiency of which is hereby acknowledged, it is mutually understood and agreed by and between said, undersigned contracting parties that the subject contract (the "Contract") is hereby amended as follows:

1. The following is added as Contract section E.14.:

E.14. Contractor Name. All references to "Bryan, Pendleton, Swats & McAllister, LLC" shall be deleted and replaced with "Findley, Inc."

2. Section D.2. of the Contract is amended by deleting all language following "The Contractor:" and replacing it with the following:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

All instructions, notices, consents, demands, or other communications shall be considered effective upon receipt or recipient confirmation as may be required.

3. Required Approvals. The State is not bound by this Amendment until it is signed by the Contract parties and approved by appropriate officials in accordance with applicable Tennessee laws and regulations (depending upon the specifics of this contract, said officials may include, but are not limited to, the Commissioner of Finance and Administration, the Commissioner of Human Resources, and the Comptroller of the Treasury).
4. Amendment Effective Date. The revisions set forth herein shall be effective October 15, 2018. All other terms and conditions of the Contract not expressly amended herein shall remain in full force and effect.

Signature page follows

**IN WITNESS WHEREOF,**

**BRYAN, PENDLETON, SWATS & MCALLISTER, LLC:**

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**SIGNATURE**

**DATE**

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**PRINTED NAME AND TITLE OF SIGNATORY (above)**

**STATE OF TENNESSEE, DEPARTMENT OF TREASURY:**

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**DAVID H. LILLARD, JR., STATE TREASURER**

**DATE**

# Amendment Request

This request form is not required for amendments to grant contracts. Route a completed request, as one file in PDF format, via e-mail attachment sent to: [AgSprs.Agsprs@tn.gov](mailto:AgSprs.Agsprs@tn.gov)

<b>APPROVED</b>	
Kevin C. Bartels for Michael F. Perry	Digitally signed by Kevin C. Bartels for Michael F. Perry DN: cn=Kevin C. Bartels for Michael F. Perry, o=CPO, ou, email=Kevin.C.Bartels@tn.gov, c=US Date: 2018.08.02 12:07:25 -05'00'
<b>CHIEF PROCUREMENT OFFICER</b>	<b>DATE</b>

Agency request tracking #	30901-23515	
1. Procuring Agency	Treasury Department	
2. Contractor	Bryan, Pendleton, Swats & McAllister, LLC	
3. Edison contract ID #	41407	
4. Proposed amendment #	1	
5. Contract's Original Effective Date	July 1, 2014	
6. Current end date	June 30, 2019	
7. Proposed end date	June 30, 2019	
8. Current Maximum Liability or Estimated Liability	\$ 2,564,465.00	
9. Proposed Maximum Liability or Estimated Liability	\$ 2,564,465.00	
10. Strategic Technology Solutions Pre-Approval Endorsement Request <i>- information technology service (N/A to THDA)</i>	<input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Attached	
11. eHealth Pre-Approval Endorsement Request <i>- health-related professional, pharmaceutical, laboratory, or imaging</i>	<input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Attached	
12. Human Resources Pre-Approval Endorsement Request <i>- state employee training service</i>	<input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Attached	
13. Explain why the proposed amendment is needed	The contractor is changing its name. The contractor merged with another company, and the surviving entity is called Findley, LLC. No other aspect of the contract, or the services provided thereunder, is changing.	
14. If the amendment involves a change in Scope, describe efforts to identify reasonable, competitive, procurement alternatives to amending the contract.	N/A	

Agency request tracking #	30901-23515
<p>Signature of Agency head or authorized designee, title of signatory, and date (the authorized designee may sign his or her own name if indicated on the Signature Certification and Authorization document)</p>  <p>David H. Lillard, Jr., State Treasurer</p> <p><i>David H. Lillard, Jr.</i> July 31, 2018</p>	

Approved for signature by ac 7/27/18

Bryan, Pendleton, Swats & McAllister, LLC  
 Unit 30901

Sum Merchandise Amt	Edison Contract ID	Vendor ID	Type	PO ID	Voucher ID	Invoice	Date	Fiscal Year
4425.000	00000000000000000000041407	0000072425	DFA	0000004956	00054603	1036827	12/16/2014	2015
11058.000	00000000000000000000041407	0000072425	DFA	0000004951	00054604	1037175	12/16/2014	2015
20650.000	00000000000000000000041407	0000072425	DFA	0000004767	00053495	1036502	10/14/2014	2015
21490.000	00000000000000000000041407	0000072425	DFA	0000005281	00055890	1040027	4/14/2015	2015
26800.000	00000000000000000000041407	0000072425	DFA	0000005280	00055891	1040025	4/14/2015	2015
32581.000	00000000000000000000041407	0000072425	DFA	0000005470	00056479	1040412	6/15/2015	2015
37051.000	00000000000000000000041407	0000072425	DFA	0000005071	00055082	1037674	1/27/2015	2015
39466.000	00000000000000000000041407	0000072425	DFA	0000005471	00056478	1040812	6/15/2015	2015
39514.000	00000000000000000000041407	0000072425	DFA	0000005208	00055641	1039435	3/17/2015	2015
233035.000								

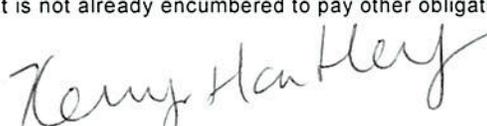
Sum Merchandise Amt	Edison Contract ID	Vendor ID	Type	PO ID	Voucher ID	Invoice	Date	Fiscal Year
14940.000	00000000000000000000041407	0000072425	DFA	0000005982	00058878	1042755	11/17/2015	2016
22500.000	00000000000000000000041407	0000072425	DFA	0000005617	00057127	1041673	7/24/2015	2016
25000.000	00000000000000000000041407	0000072425	DFA	0000005842	00058674	1042333	10/13/2015	2016
26280.000	00000000000000000000041407	0000072425	DFA	0000006079	00059594	1043125	12/21/2015	2016
28984.000	00000000000000000000041407	0000072425	DFA	0000006251	00060535	1043634	2/16/2016	2016
31106.000	00000000000000000000041407	0000072425	DFA	0000005613	00057121	1041672	7/24/2015	2016
33132.000	00000000000000000000041407	0000072425	DFA	0000006257	00060533	1044121	2/16/2016	2016
37904.000	00000000000000000000041407	0000072425	DFA	0000006359	00060944	1044379	3/21/2016	2016
50000.000	00000000000000000000041407	0000072425	DFA	0000005574	00057124	1041199	7/24/2015	2016
50912.000	00000000000000000000041407	0000072425	DFA	0000006475	00061344	1045296	5/19/2016	2016
51748.000	00000000000000000000041407	0000072425	DFA	0000006573	00061702	1045616	6/14/2016	2016
59652.000	00000000000000000000041407	0000072425	DFA	0000006398	00061112	1044912	4/14/2016	2016
60000.000	00000000000000000000041407	0000072425	DFA	0000005615	00057122	1041642	7/24/2015	2016
492158.000								

Sum Merchandise Amt	Edison Contract ID	Vendor ID	Type	PO ID	Voucher ID	Invoice	Date	Fiscal Year
20971.000	00000000000000000000041407	0000072425	DFA	0000006867	00063422	1047374	10/27/2016	2017
25321.000	00000000000000000000041407	0000072425	DFA	0000007654	00067934	1051535	7/17/2017	2017
33287.000	00000000000000000000041407	0000072425	DFA	0000007298	00065834	1049619	3/14/2017	2017
35024.000	00000000000000000000041407	0000072425	DFA	0000007653	00067933	1051533	7/17/2017	2017
39938.000	00000000000000000000041407	0000072425	DFA	0000007385	00066308	1050052	4/11/2017	2017



**CONTRACT**

(fee-for-service contract with an individual, business, non-profit, or governmental entity of another state)

<b>Begin Date</b> July 1, 2014	<b>End Date</b> June 30, 2019	<b>Agency Tracking #</b> 30901-23515	<b>Edison Record ID</b> 41407		
<b>Contractor Legal Entity Name</b> Bryan, Pendleton, Swats & McAllister, LLC			<b>Edison Vendor ID</b> 72425		
<b>Service Caption (one line only)</b> Actuarial services for the Tennessee Consolidated Retirement System and the Tennessee Baccalaureate Education System Trust					
<b>Subrecipient or Vendor</b> <input type="checkbox"/> Subrecipient <input checked="" type="checkbox"/> Vendor		<b>CFDA #</b>			
<b>Funding —</b>					
<b>FY</b>	<b>State</b>	<b>Federal</b>	<b>Interdepartmental</b>	<b>Other</b>	<b>TOTAL Contract Amount</b>
2015			\$448,405		\$448,405
2016			\$462,260		\$462,260
2017			\$656,130		\$656,130
2018			\$493,500		\$493,500
2019			\$504,170		\$504,170
<b>TOTAL:</b>			<b>\$2,564,465</b>		<b>\$2,564,465</b>
<b>American Recovery and Reinvestment Act (ARRA) Funding:</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
<b>Ownership/Control</b>					
<input type="checkbox"/> African American <input type="checkbox"/> Asian <input type="checkbox"/> Hispanic <input type="checkbox"/> Native American <input type="checkbox"/> Female <input type="checkbox"/> Person w/Disability <input type="checkbox"/> Small Business <input type="checkbox"/> Government <input checked="" type="checkbox"/> NOT Minority/Disadvantaged <input type="checkbox"/> Other:					
<b>Selection Method &amp; Process Summary (mark the correct response to confirm the associated summary)</b>					
<input checked="" type="checkbox"/> RFP		The procurement process was completed in accordance with the approved RFP document and associated regulations.			
<input type="checkbox"/> Competitive Negotiation		The predefined, competitive, impartial, negotiation process was completed in accordance with the associated, approved procedures and evaluation criteria.			
<input type="checkbox"/> Alternative Competitive Method		The predefined, competitive, impartial, procurement process was completed in accordance with the associated, approved procedures and evaluation criteria.			
<input type="checkbox"/> Non-Competitive Negotiation		The non-competitive contractor selection was completed as approved, and the procurement process included a negotiation of best possible terms & price.			
<input type="checkbox"/> Other		The contractor selection was directed by law, court order, settlement agreement, or resulted from the state making the same agreement with <u>all</u> interested parties or <u>all</u> parties in a predetermined "class."			
<b>Budget Officer Confirmation:</b> There is a balance in the appropriation from which obligations hereunder are required to be paid that is not already encumbered to pay other obligations.			OCR USE - FA		
					
<b>Speed Chart (optional)</b>		<b>Account Code (optional)</b>			

**CONTRACT  
BETWEEN THE STATE OF TENNESSEE,  
DEPARTMENT OF TREASURY  
AND  
BRYAN, PENDLETON, SWATS & MCALLISTER, LLC**

This Contract, by and between the State of Tennessee, Department of Treasury, hereinafter referred to as the "State", and Bryan, Pendleton, Swats & McAllister, LLC, hereinafter referred to as the "Contractor", is for the provision of actuarial services for the Tennessee Consolidated Retirement System and the Tennessee Baccalaureate Education System Trust, as further defined in the "SCOPE OF SERVICES."

The Contractor is a limited liability company.  
Contractor Place of Incorporation or Organization: State of Tennessee  
Contractor Edison Registration ID # 72425

**WITNESSETH:**

WHEREAS, the Tennessee Consolidated Retirement System, hereinafter referred to as "TCRS", was established by the General Assembly of the State of Tennessee by Public Acts of 1972, Chapter 814, codified in Tennessee Code Annotated, Title 8, Chapters 34-37; and

WHEREAS, TCRS was established for the purpose of consolidating seven (7) separate retirement systems maintained for state employees, employees of public institutions of higher education, public school teachers and employees of political subdivisions electing to participate in TCRS; and

WHEREAS, the State of Tennessee is responsible for the cost of pension benefits for state employees, and higher education employees while each participating political subdivision is responsible for the pension benefits of its employees and the local education agencies are responsible for the pension benefits of teachers; and

WHEREAS, funding of TCRS is provided through employee and employer contributions plus earnings from the invested contributions; and

WHEREAS, Tennessee Code Annotated, Title 8, Chapter 34, Part 5 requires the services of an actuary for determining the funding requirements necessary to meet the cost of retirement, disability, and death benefits provided by TCRS, and for establishing actuarial and economic assumptions to be used in the actuarial valuation process; and

WHEREAS, the Tennessee Baccalaureate Education System Trust, hereinafter referred to as "BEST", was established by the General Assembly of the State of Tennessee by Public Acts of 1996, Chapter 991, codified in Tennessee Code Annotated, Title 49, Chapter 7, Part 8, for the purpose of making higher education more affordable for the citizens of Tennessee; and

WHEREAS, BEST, until closed in November 2010, allowed any person to pay for college tuition and mandatory fees in advance on behalf of an eligible beneficiary. Tuition and mandatory fees are purchased in increments known as tuition units. One tuition unit represents a value of one percent (1%) of the weighted average undergraduate tuition at Tennessee's four-year public universities; and

WHEREAS, the purchase price of a tuition unit is one percent (1%) of today's weighted average undergraduate tuition at Tennessee's four-year public universities, plus an amount to cover administration and actuarial soundness; and

WHEREAS, Tennessee Code Annotated, Section 49-7-820 requires the services of an actuary for determining the funding requirements necessary to meet the cost of tuition and mandatory fees provided by BEST, and for establishing actuarial and economic assumptions to be used in the actuarial valuation process; and

WHEREAS, the Contractor is an actuary that desires to provide such actuarial services to the State, and the State desires to obtain such services from the Contractor, to meet the requirements of the State in administering BEST and TCRS.

NOW, THEREFORE, in consideration of the premises and the mutual promises herein contained, the parties have agreed and do hereby enter into this Contract according to the provisions set out herein:

**A. SCOPE OF SERVICES:**

A.1. The Contractor shall provide all service and deliverables as required, described, and detailed herein and shall meet all service and delivery timelines as specified by this Contract.

A.2. TCRS Annual Actuarial Valuations.

- a. In General. The Contractor shall perform annual actuarial valuations of TCRS beginning for the July 2014 fiscal year based on (1) the assets and liabilities for each coverage group as defined in Section A.2.c below, (2) the demographic data provided by TCRS, (3) the actuarial assumptions and tables adopted by TCRS as of the immediately preceding June 30, and (4) such other data and/or information necessary to perform the respective actuarial valuation in accordance with the then current standards of the Governmental Accounting Standards Board, hereinafter referred to as "GASB", and the laws and regulations governing TCRS.
- b. Purpose. The actuarial valuations shall be performed for the purpose of determining for each coverage group (1) the appropriate employer contribution rate based on the funding policies of TCRS, (2) the assets and actuarial liabilities of the respective coverage group, (3) the appropriate actuarial data to be included in the TCRS financial statements (as required by the then current pronouncements of GASB), (4) the appropriate actuarial data to be included in the respective employer's financial statements as required by the then current pronouncements of GASB, and (5) any adjustments necessary under the cost controls and unfunded liability controls of the Hybrid Retirement Plan for State Employees and Teachers established in Tennessee Code Annotated, Title 8, Chapter 36, Part 9, as may be amended from time to time. All calculations made pursuant to this Section shall be made in accordance with the then statutory provisions governing TCRS, which are codified in Tennessee Code Annotated, Title 8, Chapters 34-37. The actuarial valuation calculation in item (1) of this Section A.2.b above shall be based on various amortization periods and other factors as determined by the Director of TCRS.
- c. Coverage Groups. For purposes of this Contract, the following shall each be deemed a separate coverage group:
  - (1) State and Higher Education employees hired prior to July 1, 2014;
  - (2) State and Higher Education employees hired after June 30, 2014;
  - (3) K-12 public school teachers hired before July 1, 2014;
  - (4) K-12 public schools teachers hired after June 30, 2014;
  - (5) State judges and other officials hired before July 1, 2014;
  - (6) State judges and other officials hired after June 30, 2014;
  - (7) State public safety officers bridge benefit;
  - (8) Each political subdivision participating in TCRS. The Contractor acknowledges and understands that each political subdivision is valued separately and that each political subdivision may elect to participate in one of the following plans within TCRS and may,

under the terms of the respective plan, change from such plan to one of the following plans on a prospective basis:

- (i) TCRS Legacy Plan as defined and established in Tennessee Code Annotated, Title 8, Chapters 34 – 37;
- (ii) Local Government Alternate Defined Benefit Plan as defined and established in Tennessee Code Annotated, Section 8-35-255;
- (iii) Local Government Hybrid Plan as defined and established in Tennessee Code Annotated, Section 8-35-256; and
- (iv) Hybrid Retirement Plan for State Employees and Teachers as defined and established in Tennessee Code Annotated, Title 8, Chapter 36, Part 9; and

(9) Such other groups as may be established from time to time.

d. Contents of Actuarial Report. Each annual actuarial valuation report shall contain, at a minimum, the same information currently contained in the actuarial valuation report located at <http://treasury.tn.gov/tcrs/ActuarialInfo.html> and such other actuarial data as may then be required by GASB or the statutory provisions governing TCRS. In addition and as part of such actuarial valuation, the Contractor shall prepare and deliver to the State a report that identifies the potential contribution rates for various unfunded accrued liability amortization periods for each participating political subdivision under both the frozen liability method and the entry age normal method. The specific amortization period for each individual political subdivision that is ultimately used shall be determined by the State. The report shall also identify the potential contribution rate for each political subdivision employer should such employer elect to adopt all or any of the following benefit improvements, if such improvements are authorized under the applicable plan adopted by the political subdivision pursuant to Section A.2.c(8) above:

- (1) Salary Indexing;
- (2) Compound COLA;
- (3) Five percent (5%) Benefit Improvement; and
- (4) All other benefit improvements then available that have not been adopted by the respective political subdivision.

In performing each annual valuation required under this Section, the Contractor shall prepare detailed actuarial balance sheets for each of the political subdivision employers in TCRS. Said actuarial balance sheets shall be substantially in the same form as the sample balance sheet attached hereto as Contract Attachment 1 and shall be forwarded to the State in such electronic format as requested by the State.

e. Reports of Actuarial Valuation Results. Prior to each annual actuarial valuation of TCRS, the Contractor and the State shall mutually establish a schedule of all the demographic data needed by the Contractor to perform the actuarial valuation. By no later than thirty (30) calendar days after the State has submitted all such demographic data to the Contractor, the Contractor shall deliver to the State a detailed hard copy draft of the preliminary results of the actuarial valuation and the preliminary actuarial valuation executive summary. The executive summary shall include the key results of the valuation. Within fifteen (15) calendar days of the State's acceptance of the preliminary reports, the Contractor shall deliver to the State as many hard copies of the final detailed results of the valuation and as many hard copies of the final valuation executive summary as may be requested by the State; provided that the requested number shall not exceed forty (40) copies each. In addition, the Contractor shall deliver the final actuarial valuation report and the final actuarial valuation executive summary to the State in such electronic format as shall be specified by the State. Notwithstanding Section D.12 below to the contrary, the State may, at its sole discretion, lengthen one or more of the time periods specified above. Any such election by the State shall not relieve the

Contractor of its responsibility to provide the reports within the time periods specified above in any future year unless the State agrees to lengthen such period.

- f. Format for Employer Contribution Reporting. The Contractor shall report the appropriate employer contribution rate for each coverage group in such electronic format as requested by the State.
- A.3. Annual Cost Summary of Common Benefit Improvements. By no later than January 31 of each year during the term of this Contract, the Contractor shall prepare and deliver to the State a summary of the cost to implement the commonly requested benefit improvements described in Contract Attachment 2 of this Contract.
- A.4. GASB and Financial Reporting Information for Participating Employers in TCRS and for the TCRS Pension Plans.
- a. GASB Information. With each annual TCRS actuarial valuation, the Contractor shall calculate pension expense, net pension liability, and other actuarial data as required under the then most current, applicable GASB statements. These calculations shall be for each coverage group as defined in Section A.2.c above. In addition, the Contractor shall allocate the pension expense, net pension liability, and any other actuarial data for the cost sharing, multiple employer plans (specifically for both the state employees plan and K-12 teachers plan).
  - b. Financial Reporting Information. The Contractor shall provide the pension information that is required to be presented in the financial statements, the disclosures to be made in financial reports, and any supplementary information as required in then most current, applicable GASB Statements. Such information shall include, but shall not be limited to:
    - (1) Assumptions/inputs for determining total pension liability; and
    - (2) Ten-year schedules of changes in net pension liability, total pension liability, fiduciary net position, net pension liability, funded status, covered payroll, and net pension liability as a percentage of payroll.
- A.5. TCRS Actuarial Experience Study.
- a. In General. The Contractor shall perform an actuarial experience study of TCRS as of June 30, 2016 or as of a different time as determined by the State. Said study shall involve an actuarial investigation into the tables and assumptions (demographic and economic) used in the operation of TCRS. The experience study report shall contain, at a minimum, the information currently contained in the experience study report located at <http://treasury.tn.gov/tcrs/ActuarialInfo.html>. Taking into account the results of such investigation, the Contractor shall recommend for the TCRS Board of Trustees' approval such actuarial assumptions and tables as are deemed necessary. The experience study shall also include updated survivorship option factors, mortality tables, 25-year early retirement factors, Social Security Leveling factors, actuarial equivalent age 65 factors, annuity factors with and without cost of living adjustments, early retirement factors for the Hybrid Retirement Plan for State Employees and Teachers, 10-year converted refund factors, and any other factors necessary for the proper operation of TCRS. The factors and mortality tables in effect for TCRS as of commencement date of this Contract are contained in Contract Attachment 3 to this Contract.
  - b. Interim Actuarial Experience Study. At the State's request, an interim experience study may be conducted on certain demographic or economic assumptions. The cost to the State for completing any such study shall be based on the hourly rate detailed for "Other TCRS Actuarial Services" in Section C.3.b. below.

- c. Reports of Experience Study Results. Prior to each actuarial experience study of TCRS, the Contractor and the State shall mutually establish a schedule of all the demographic data needed by the Contractor to perform the study. By no later than five (5) months following the delivery of all such demographic data to the Contractor, the Contractor shall deliver to the State a detailed hard copy draft of the preliminary results of the experience study and the preliminary experience study executive summary. The executive summary shall include the key results of the study. Within fifteen (15) calendar days of the State's acceptance of the preliminary reports, the Contractor shall deliver to the State as many hard copies of the final actuarial experience study and as many hard copies of the final actuarial experience study executive summary as may be requested by the State; provided that the requested number shall not exceed forty (40) copies each. In addition, the Contractor shall further deliver the final experience study report and the final executive summary to the State in such electronic format as shall be specified by the State. Notwithstanding Section D.12 below to the contrary, the State may, at its sole discretion, lengthen one or more of the time periods specified above. Any such election by the State shall not relieve the Contractor of its responsibility to provide the reports within the time periods specified above in any future year unless the State agrees to lengthen such period.
- A.6. Calculation of Initial TCRS Employer Contribution Rate. The Contractor shall be responsible for calculating the initial employer contribution rate for political subdivisions considering participation in TCRS. As a part of each calculation, a separate calculation shall be performed for each such political subdivision based on all of the following plans: (1) TCRS Legacy Plan, (2) Local Government Alternate Defined Benefit Plan, (3) Local Government Hybrid Plan, and (4) the Hybrid Retirement Plan for State Employees and Teachers, which shall include for such Plan the cost controls and unfunded liability controls. The calculations shall include up to two (2) prior service options as may be selected by the individual political subdivision. The calculations shall be done in substantially the same form as the sample calculation attached hereto as Contract Attachment 4.
- A.7. Calculation of Subsequent TCRS Prior Service Options. The Contractor shall be responsible for the calculation of subsequent prior service options desired by political subdivisions participating in TCRS.
- A.8. Actuarial Audits of Actuarial Data Produced by the Contractor. At no additional cost to the State and at the State's request, the Contractor shall perform all necessary functions and provide all necessary data in cooperation with an independent actuarial audit of the actuarial valuation, the actuarial experience study, and other actuarial reports that are produced by the Contractor hereunder relative to TCRS.
- A.9. Financial and Compliance Audits. At no additional cost to the State, the Contractor shall perform all necessary functions and provide all necessary data in cooperation with an independent financial and compliance audit of the actuarial information for the TCRS financial statements and the financial statements of participating TCRS employers.
- A.10. Other TCRS Actuarial Services. At the State's request, the Contractor shall perform the following additional actuarial services as needed for the proper administration and operation of TCRS:
- a. Changes in benefit or funding provisions of the plan;
  - b. Reviews of proposed legislation that impacts TCRS. The Contractor acknowledges and agrees that said reviews are time sensitive and that the Contractor shall deliver its completed review to the State within five (5) business days of receipt the State's request for the review along with any necessary data for completing the review. Said time period may be shortened or lengthened by mutual agreement of the parties;
  - c. Reviews of the various administrative factors used by TCRS and proposing any changes, if needed, to such factors. The results of any such reviews and proposed changes shall be delivered to the State in such electronic format as shall be specified by the State; and

- d. Any other actuarial services that is necessary to provide for the proper operation and administration of TCRS.

A.11. Annual BEST Actuarial Valuation.

- a. In General. The Contractor shall perform an actuarial valuation of the BEST prepaid college tuition plan each year during the term of this Contract based on the assets and liabilities of the plan, the demographic data provided by the State, and the actuarial assumptions and tables adopted by BEST in effect on the valuation date. The actuarial valuation report shall contain, at a minimum, the information currently contained in the actuarial valuation report, which can be located at [www.tnbest.org](http://www.tnbest.org) or [www.tn.gov/treasury/best](http://www.tn.gov/treasury/best) by clicking on the "BEST Prepaid Financial Data" button. The valuation shall be performed as of September 30 each year or at such other time as the State shall direct. Such valuation shall include a matrix reflecting surpluses and deficits based on various investment earnings assumptions and tuition inflation assumptions as determined by the Director of BEST.
- b. Reports of Actuarial Valuation Results. Prior to each annual actuarial valuation of BEST, the Contractor and the State shall mutually establish a schedule of all the data needed by the Contractor to perform the actuarial valuation. By no later than sixty (60) calendar days after the State has submitted all such data to the Contractor, the Contractor shall deliver to the State a detailed hard copy draft of the preliminary results of the actuarial valuation and the preliminary actuarial valuation executive summary. The executive summary shall include the key results of the valuation. Within twenty-five (25) calendar days of the State's acceptance of the preliminary reports, the Contractor shall deliver to the State, as determined by the BEST director, up to twenty-five (25) hard copies of the final detailed results of the valuation and up to twenty-five (25) hard copies of the final valuation executive summary. In addition, the Contractor shall deliver the final actuarial valuation report and the final executive summary to the State in such electronic format as shall be specified by the State. Notwithstanding Section D.12 below to the contrary, the State may, at its sole discretion, lengthen one or more of the time periods specified above. Any such election by the State shall not relieve the Contractor of its responsibility to provide the reports within the time periods specified above in any future year unless the State agrees to lengthen such period.

A.12. BEST Experience Study.

- a. In General. At the State's request, the Contractor shall perform an experience study of BEST as of June 30, 2017. Said study shall involve an actuarial investigation into the tables and assumptions (demographic and economic) used in the operation of BEST. The experience study report shall contain information relative to each assumption utilized in the actuarial valuation described in Section A.11 above. Taking into account the results of such investigation, the Contractor shall recommend for the BEST Board of Directors' approval such actuarial assumptions and actuarial tables for use in all calculations in connection with BEST.
- b. Interim BEST Experience Study. At the State's request, an interim experience study may be conducted on certain demographic or economic assumptions. The cost to the State for completing any such study shall be based on the hourly rate detailed for "Other BEST Actuarial Services" in Section C.3.b. below.
- c. Reports of BEST Experience Study Results. The Contractor shall deliver to the State a detailed hard copy draft of the preliminary results of the experience study and the preliminary experience study executive summary within forty-five (45) days of receiving from the State the required information necessary to perform such investigation. The executive summary shall include the key results of the study. Within twenty-five (25) days after final approval of the experience study report by the State, the Contractor shall delivery to the State, as determined by the BEST director, up to twenty-five (25) hard copies of the final detailed results of the experience study report and up to twenty-five (25) hard copies of the final

experience study executive summary. In addition, the Contractor shall deliver the final experience study report and the final executive summary to the State in such electronic format as shall be specified by the State. Notwithstanding Section D.12 below to the contrary, the State may, at its sole discretion, lengthen one or more of the time periods specified above. Any such election by the State shall not relieve the Contractor of its responsibility to provide the reports within the time periods specified above in any future year unless the State agrees to lengthen such period.

- A.13. Other BEST Actuarial Services. At the State's request, the Contractor shall perform the following additional actuarial services as needed for the proper operation of BEST:
- a. Preparing an amortization schedule for any surpluses or deficits;
  - b. Analyzing and providing estimated cost/savings into any aspect of the BEST plan provisions or funding provisions of the plan;
  - c. Reviews of proposed legislation that impact BEST. The Contractor acknowledges and agrees that said reviews are time sensitive and that the Contractor will provide a quick turnaround of its reviews;
  - d. Any other actuarial services that is necessary to provide for the proper operation and administration of BEST; and
  - e. Other reviews as necessary to manage the BEST prepaid college savings plan.
- A.14. Meetings with State. During the term of this Contract and at no additional cost to the State, the Contractor shall be available to attend up to eight (8) meetings each year with appropriate State personnel, committees, boards and commissions at the State's facilities in Nashville to present or discuss the results of the actuarial valuations, experience studies, and such other matters in relation thereto. .
- A.15. Reliance on TCRS and BEST Directors. For instructions relative to the services to be provided hereunder relative to TCRS, the Contractor may rely upon instructions received from the Director of TCRS, or persons authorized by such Director to act for TCRS. For instructions relative to the services to be provided hereunder relative to BEST, the Contractor may rely upon instructions received from the Director of BEST or persons authorized by such Director to act for BEST.
- A.16. Statutes Incorporated by Reference. The Contractor shall comply with all applicable state and federal laws pertaining to TCRS and BEST as the same are applicable to its provision of the services hereunder, as may be amended from time to time, and all such laws are incorporated herein by reference.
- A.17. Assignment of Key Personnel. The Contractor agrees to assign the individuals named on pages 10 – 12 of the Contractor's Proposal as the key staff members to perform the services under this Contract. Except upon the State's prior written consent, which consent may be withheld in the State's sole discretion, the Contractor shall not remove or temporarily reassign any of the named individuals until such time as the Contractor has completed the services under this Contract. Should the State consent to such removal or reassignment, the State reserves the right to approve the candidates proposed by the Contractor as a replacement.

Notwithstanding the foregoing, the Contractor shall have the right to remove or reassign such personnel upon notice to the State if such removal or reassignment is required due to termination of employment, extended illness, or death. In such event, the State reserves the right to approve the candidates proposed by the Contractor as a replacement.

**B. CONTRACT PERIOD:**

This Contract shall be effective for the period beginning July 1, 2014, and ending on June 30, 2019. The Contractor hereby acknowledges and affirms that the State shall have no obligation for services rendered by the Contractor which were not performed within this specified contract period.

**C. PAYMENT TERMS AND CONDITIONS:**

C.1. Maximum Liability. In no event shall the maximum liability of the State under this Contract exceed two million five hundred sixty-four thousand four hundred sixty-five dollars (\$2,564,465). The payment rates in Section C.3 shall constitute the entire compensation due the Contractor for all service and Contractor obligations hereunder regardless of the difficulty, materials or equipment required. The payment rates include, but are not limited to, all applicable taxes, fees, overheads, and all other direct and indirect costs incurred or to be incurred by the Contractor.

The Contractor is not entitled to be paid the maximum liability for any period under the Contract or any extensions of the Contract for work not requested by the State. The maximum liability represents available funds for payment to the Contractor and does not guarantee payment of any such funds to the Contractor under this Contract unless the State requests work and the Contractor performs said work. In which case, the Contractor shall be paid in accordance with the payment rates detailed in Section C.3. The State is under no obligation to request work from the Contractor in any specific dollar amounts or to request any work at all from the Contractor during any period of this Contract.

C.2. Compensation Firm. The payment rates and the maximum liability of the State under this Contract are firm for the duration of the Contract and are not subject to escalation for any reason unless amended.

C.3. Payment Methodology. The Contractor shall be compensated based on the payment rates herein for units of service authorized by the State in a total amount not to exceed the Contract Maximum Liability established in Section C.1.

- a. The Contractor's compensation shall be contingent upon the satisfactory completion of units, milestones, or increments of service defined in Section A.
- b. The Contractor shall be compensated for said units, milestones, or increments of service based upon the following payment rates:

SERVICE DESCRIPTION	Amount (per compensable increment)				
	July 1, 2014 – June 30, 2015	July 1, 2015 – June 30, 2016	July 1, 2016 – June 30, 2017	July 1, 2017 – June 30, 2018	July 1, 2018 – June 30, 2019
TCRS Annual Actuarial Valuations as described in Section A.2	\$315,000	\$325,000	\$335,000	\$345,000	\$355,000
Annual Cost Summary of Common Benefit Improvements as described in Section A.3	\$6,000	\$6,200	\$6,400	\$6,600	\$6,800

TCRS Actuarial Experience Study as described in Sections A.5.a. and A.5.c.	N/A	N/A	\$180,000	N/A	N/A
Calculation of Initial TCRS Employer Contribution Rate as described in Section A.6 for up to 100 employees included in the study and for two prior service options	\$1,030 (per calculation)	\$1,060 (per calculation)	\$1,090 (per calculation)	\$1,120 (per calculation)	\$1,150 (per calculation)
Calculation of Initial TCRS Employer Contribution Rate as described in Section A.6 for each additional employee included in the study that exceeds 100 employees	\$0 (per additional employee)				
Calculation of Initial TCRS Employer Contribution Rate as described in Section A.6 for each additional prior service option included in the study that exceeds two prior service options	\$215 (per additional option)	\$220 (per additional option)	\$225 (per additional option)	\$230 (per additional option)	\$235 (per additional option)
Calculation of Subsequent TCRS Prior Service Options as described in Section A.7 for up to 100 employees included in the study	\$500 (per option calculation)	\$510 (per option calculation)	\$520 (per option calculation)	\$530 (per option calculation)	\$540 (per option calculation)
Calculation of Subsequent TCRS Prior Service Options as described in Section A.7 for each additional employee included in the study that exceeds 100	\$0 (per additional employee)				
Other TCRS Actuarial Services as described in Sections A.5.b and A.10	\$295 (per hour)	\$304 (per hour)	\$313 (per hour)	\$322 (per hour)	\$332 (per hour)
Annual BEST Actuarial Valuation as described in Section A.11	\$22,500	\$23,000	\$23,500	\$24,000	\$24,500

BEST Experience Study as described in Section A.12	N/A	N/A	N/A	\$3,500	\$0
Other BEST Actuarial Services as described in Sections A.12.b and A.13	\$245 (per hour)	\$252 (per hour)	\$260 (per hour)	\$268 (per hour)	\$276 (per hour)

- c. The Contractor shall not be compensated for travel time to the primary location of service provision.
- C.4. Travel Compensation. The Contractor shall not be compensated or reimbursed for travel, meals, or lodging.
- C.5. Invoice Requirements. The Contractor shall invoice the State only for completed increments of service and for the amount stipulated in Section C.3 above, and present said invoices no more often than monthly, with all necessary supporting documentation, to:

Tennessee Treasury Department  
Administrative Services Division  
14th Floor, Andrew Jackson State Office Building  
502 Deaderick Street  
Nashville, Tennessee 37243

- a. Each invoice shall clearly and accurately detail all of the following required information (calculations must be extended and totaled correctly).
- (1) Invoice Number (assigned by the Contractor)
  - (2) Invoice Date
  - (3) Contract Number (assigned by the State)
  - (4) Customer Account Name: Tennessee Treasury Department, Division of Retirement
  - (5) Customer Account Number (assigned by the Contractor to the above-referenced Customer)
  - (6) Contractor Name
  - (7) Contractor Tennessee Edison Registration ID Number Referenced in Preamble of this Contract
  - (8) Contractor Contact for Invoice Questions (name, phone, and/or fax)
  - (9) Contractor Remittance Address
  - (10) Description of Delivered Service
  - (11) Complete Itemization of Charges, which shall detail the following:
    - i. Service or Milestone Description (including name & title as applicable) of each service invoiced
    - ii. Number of Completed Units, Increments, Hours, or Days as applicable, of each service invoiced
    - iii. Applicable Payment Rate (as stipulated in Section C.3.) of each service invoiced
    - iv. Amount Due by Service
    - v. Total Amount Due for the invoice period
- b. The Contractor understands and agrees that an invoice under this Contract shall:
- (1) include only charges for service described in Contract Section A and in accordance with payment terms and conditions set forth in Contract Section C;

- (2) only be submitted for completed service and shall not include any charge for future work;
  - (3) not include sales tax or shipping charges; and
  - (4) initiate the timeframe for payment (and any discounts) only when the State is in receipt of the invoice, and the invoice meets the minimum requirements of this Section C.5.
- c. Notwithstanding the foregoing, the Contractor shall invoice the respective political subdivision for which an actuarial study is conducted pursuant to Sections A.6 and A.7 above. The political subdivision shall pay the cost of the study.
- C.6. Payment of Invoice. A payment by the State shall not prejudice the State's right to object to or question any payment, invoice, or matter in relation thereto. A payment by the State shall not be construed as acceptance of any part of the work or service provided or as approval of any amount invoiced.
- C.7. Invoice Reductions. The Contractor's invoice shall be subject to reduction for amounts included in any invoice or payment theretofore made which are determined by the State, on the basis of audits conducted in accordance with the terms of this Contract, not to constitute proper remuneration for compensable services.
- C.8. Deductions. The State reserves the right to deduct from amounts, which are or shall become due and payable to the Contractor under this or any contract between the Contractor and the State of Tennessee any amounts, which are or shall become due and payable to the State of Tennessee by the Contractor.
- C.9. Prerequisite Documentation. The Contractor shall not invoice the State under this Contract until the State has received the following documentation properly completed.
  - a. The Contractor shall complete, sign, and present to the State an "Authorization Agreement for Automatic Deposit (ACH Credits) Form" provided by the State. By doing so, the Contractor acknowledges and agrees that, once said form is received by the State, all payments to the Contractor, under this or any other contract the Contractor has with the State of Tennessee shall be made by Automated Clearing House (ACH).
  - b. The Contractor shall complete, sign, and present to the State a "Substitute W-9 Form" provided by the State. The taxpayer identification number detailed by said form must agree with the Contractor's Federal Employer Identification Number or Tennessee Edison Registration ID referenced in this Contract.
- D. **STANDARD TERMS AND CONDITIONS:**
  - D.1. Required Approvals. The State is not bound by this Contract until it is signed by the contract parties and approved by appropriate officials in accordance with applicable Tennessee laws and regulations (depending upon the specifics of this contract, said officials may include, but are not limited to, the Commissioner of Finance and Administration, the Commissioner of Human Resources, and the Comptroller of the Treasury).
  - D.2. Modification and Amendment. This Contract may be modified only by a written amendment signed by all parties hereto and approved by both the officials who approved the base contract and, depending upon the specifics of the contract as amended, any additional officials required by Tennessee laws and regulations (said officials may include, but are not limited to, the Commissioner of Finance and Administration, the Commissioner of Human Resources, and the Comptroller of the Treasury).
  - D.3. Termination for Convenience. The State may terminate this Contract without cause for any reason. Said termination shall not be deemed a breach of contract by the State. The State shall give the Contractor at least thirty (30) days written notice before the effective termination date.

The Contractor shall be entitled to compensation for satisfactory, authorized service completed as of the termination date, but in no event shall the State be liable to the Contractor for compensation for any service which has not been rendered. Upon such termination, the Contractor shall have no right to any actual general, special, incidental, consequential, or any other damages whatsoever of any description or amount.

- D.4. Termination for Cause. If the Contractor fails to properly perform its obligations under this Contract in a timely or proper manner, or if the Contractor violates any terms of this Contract, the State shall have the right to terminate the Contract and withhold payments in excess of fair compensation for completed services.
- a. The State will provide notification of termination for cause in writing. This notice will: (1) specify in reasonable detail the nature of the breach; (2) provide the Contractor with an opportunity to cure, which must be requested in writing no less than ten (10) calendar days from the date of the Termination Notice; and (3) shall specify the effective date of termination in the event the Contractor fails to correct the breach. The Contractor must present the State with a written request detailing the efforts it will take to resolve the problem and the time period for such resolution. This opportunity to "cure" shall not apply to circumstances in which the Contractor intentionally withholds its services or otherwise refuses to perform. The State will not consider a request to cure contract performance where there have been repeated problems with respect to identical or similar issues, or if a cure period would cause a delay that would impair the effectiveness of State operations. In circumstances where an opportunity to cure is not available, termination will be effective immediately.
  - b. Notwithstanding the foregoing, the Contractor shall not be relieved of liability to the State for damages sustained by virtue of any breach of this Contract by the Contractor.
- D.5. Subcontracting. The Contractor shall not assign this Contract or enter into a subcontract for any of the services performed under this Contract without obtaining the prior written approval of the State. If such subcontracts are approved by the State, each shall contain, at a minimum, sections of this Contract below pertaining to "Conflicts of Interest," "Nondiscrimination," and "Records" (as identified by the section headings). Notwithstanding any use of approved subcontractors, the Contractor shall be the prime contractor and shall be responsible for all work performed.
- D.6. Conflicts of Interest. The Contractor warrants that no part of the total Contract Amount shall be paid directly or indirectly to an employee or official of the State of Tennessee as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Contractor in connection with any work contemplated or performed relative to this Contract.
- The Contractor acknowledges, understands, and agrees that this Contract shall be null and void if the Contractor is, or within the past six months has been, an employee of the State of Tennessee or if the Contractor is an entity in which a controlling interest is held by an individual who is, or within the past six months has been, an employee of the State of Tennessee.
- D.7. Nondiscrimination. The Contractor hereby agrees, warrants, and assures that no person shall be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination in the performance of this Contract or in the employment practices of the Contractor on the grounds of handicap or disability, age, race, color, religion, sex, national origin, or any other classification protected by Federal, Tennessee State constitutional, or statutory law. The Contractor shall, upon request, show proof of such nondiscrimination and shall post in conspicuous places, available to all employees and applicants, notices of nondiscrimination.
- D.8. Prohibition of Illegal Immigrants. The requirements of *Tennessee Code Annotated*, Section 12-4-124, *et seq.*, addressing the use of illegal immigrants in the performance of any Contract to supply goods or services to the state of Tennessee, shall be a material provision of this Contract,

- a breach of which shall be grounds for monetary and other penalties, up to and including termination of this Contract.
- a. The Contractor hereby attests, certifies, warrants, and assures that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant in the performance of this Contract. The Contractor shall reaffirm this attestation, in writing, by submitting to the State a completed and signed copy of the document at Attachment 5, hereto, semi-annually during the period of this Contract. Such attestations shall be maintained by the Contractor and made available to state officials upon request.
  - b. Prior to the use of any subcontractor in the performance of this Contract, and semi-annually thereafter, during the period of this Contract, the Contractor shall obtain and retain a current, written attestation that the subcontractor shall not knowingly utilize the services of an illegal immigrant to perform work relative to this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant to perform work relative to this Contract. Attestations obtained from such subcontractors shall be maintained by the Contractor and made available to state officials upon request.
  - c. The Contractor shall maintain records for all personnel used in the performance of this Contract. Said records shall be subject to review and random inspection at any reasonable time upon reasonable notice by the State.
  - d. The Contractor understands and agrees that failure to comply with this section will be subject to the sanctions of *Tennessee Code Annotated*, Section 12-4-124, *et seq.* for acts or omissions occurring after its effective date. This law requires the Commissioner of Finance and Administration to prohibit a contractor from contracting with, or submitting an offer, proposal, or bid to contract with the State of Tennessee to supply goods or services for a period of one year after a contractor is discovered to have knowingly used the services of illegal immigrants during the performance of this Contract.
  - e. For purposes of this Contract, "illegal immigrant" shall be defined as any person who is not either a United States citizen, a Lawful Permanent Resident, or a person whose physical presence in the United States is authorized or allowed by the federal Department of Homeland Security and who, under federal immigration laws and/or regulations, is authorized to be employed in the U.S. or is otherwise authorized to provide services under the Contract.
- D.9. Records. The Contractor shall maintain documentation for all charges under this Contract. The books, records, and documents of the Contractor, insofar as they relate to work performed or money received under this Contract, shall be maintained for a period of three (3) full years from the date of the final payment and shall be subject to audit at any reasonable time and upon reasonable notice by the State, the Comptroller of the Treasury, or their duly appointed representatives. The financial statements shall be prepared in accordance with generally accepted accounting principles.
- D.10. Monitoring. The Contractor's activities conducted and records maintained pursuant to this Contract shall be subject to monitoring and evaluation by the State, the Comptroller of the Treasury, or their duly appointed representatives.
- D.11. Progress Reports. The Contractor shall submit brief, periodic, progress reports to the State as requested.
- D.12. Strict Performance. Failure by any party to this Contract to insist in any one or more cases upon the strict performance of any of the terms, covenants, conditions, or provisions of this Contract shall not be construed as a waiver or relinquishment of any such term, covenant, condition, or

provision. No term or condition of this Contract shall be held to be waived, modified, or deleted except by a written amendment signed by the parties hereto.

- D.13. Independent Contractor. The parties hereto, in the performance of this Contract, shall not act as employees, partners, joint venturers, or associates of one another. It is expressly acknowledged by the parties hereto that such parties are independent contracting entities and that nothing in this Contract shall be construed to create an employer/employee relationship or to allow either to exercise control or direction over the manner or method by which the other transacts its business affairs or provides its usual services. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purpose whatsoever.

The Contractor, being an independent contractor and not an employee of the State, agrees to carry adequate public liability and other appropriate forms of insurance, including adequate public liability and other appropriate forms of insurance on the Contractor's employees, and to pay all applicable taxes incident to this Contract.

- D.14. State Liability. The State shall have no liability except as specifically provided in this Contract.
- D.15. Force Majeure. The obligations of the parties to this Contract are subject to prevention by causes beyond the parties' control that could not be avoided by the exercise of due care including, but not limited to, natural disasters, riots, wars, epidemics, or any other similar cause.
- D.16. State and Federal Compliance. The Contractor shall comply with all applicable State and Federal laws and regulations in the performance of this Contract.
- D.17. Governing Law. This Contract shall be governed by and construed in accordance with the laws of the State of Tennessee. The Contractor agrees that it will be subject to the exclusive jurisdiction of the courts of the State of Tennessee in actions that may arise under this Contract. The Contractor acknowledges and agrees that any rights or claims against the State of Tennessee or its employees hereunder, and any remedies arising therefrom, shall be subject to and limited to those rights and remedies, if any, available under *Tennessee Code Annotated*, Sections 9-8-101 through 9-8-407.
- D.18. Completeness. This Contract is complete and contains the entire understanding between the parties relating to the subject matter contained herein, including all the terms and conditions of the parties' agreement. This Contract supersedes any and all prior understandings, representations, negotiations, and agreements between the parties relating hereto, whether written or oral.
- D.19. Severability. If any terms and conditions of this Contract are held to be invalid or unenforceable as a matter of law, the other terms and conditions hereof shall not be affected thereby and shall remain in full force and effect. To this end, the terms and conditions of this Contract are declared severable.
- D.20. Headings. Section headings of this Contract are for reference purposes only and shall not be construed as part of this Contract.

**E. SPECIAL TERMS AND CONDITIONS:**

- E.1. Conflicting Terms and Conditions. Should any of these special terms and conditions conflict with any other terms and conditions of this Contract, these special terms and conditions shall control.
- E.2. Communications and Contacts. All instructions, notices, consents, demands, or other communications required or contemplated by this Contract shall be in writing and shall be made by certified, first class mail, return receipt requested and postage prepaid, by overnight courier service with an asset tracking system, or by EMAIL or facsimile transmission with recipient confirmation. Any such communications, regardless of method of transmission, shall be addressed to the respective party at the appropriate mailing address, facsimile number, or EMAIL

address as set forth below or to that of such other party or address, as may be hereafter specified by written notice.

The State:

For Services Relative to TCRS:

Jill Bachus, Director  
Tennessee Consolidated Retirement System  
15<sup>th</sup> Floor, Andrew Jackson State Office Building  
502 Deaderick Street  
Nashville, Tennessee 37243-0201  
Email Address: [jill.bachus@tn.gov](mailto:jill.bachus@tn.gov)  
Telephone # (615) 741-7063  
FAX # (615) 401-6819

For Services Relative to BEST:

LaKesha Page, Director  
Tennessee Baccalaureate Education System Trust  
15<sup>th</sup> Floor, Andrew Jackson State Office Building  
502 Deaderick Street  
Nashville, Tennessee 37243  
Email Address: [lakesha.page@tn.gov](mailto:lakesha.page@tn.gov)  
Telephone # (615) 532-5888  
FAX # (615) 401-6816

The Contractor:

Justin C. Thacker, F.S.A., Principal  
Bryan, Pendleton, Swats & McAllister, LLC  
5301 Virginia Way, Suite 400  
Brentwood, Tennessee 37027  
Email Address: [Justin.Thacker@bpsm.com](mailto:Justin.Thacker@bpsm.com)  
Telephone # (615) 665-5387  
FAX # (615) 665-1650

All instructions, notices, consents, demands, or other communications shall be considered effectively given upon receipt or recipient confirmation as may be required.

- E.3. Subject to Funds Availability. The Contract is subject to the appropriation and availability of State and/or Federal funds. In the event that the funds are not appropriated or are otherwise unavailable, the State reserves the right to terminate the Contract upon written notice to the Contractor. Said termination shall not be deemed a breach of Contract by the State. Upon receipt of the written notice, the Contractor shall cease all work associated with the Contract. Should such an event occur, the Contractor shall be entitled to compensation for all satisfactory and authorized services completed as of the termination date. Upon such termination, the Contractor shall have no right to recover from the State any actual, general, special, incidental, consequential, or any other damages whatsoever of any description or amount.
- E.4. Tennessee Consolidated Retirement System. The Contractor acknowledges and understands that, subject to statutory exceptions contained in *Tennessee Code Annotated*, Section 8-36-801, *et. seq.*, the law governing the Tennessee Consolidated Retirement System (TCRS), provides that if a retired member of TCRS, or of any superseded system administered by TCRS, or of any local retirement fund established pursuant to *Tennessee Code Annotated*, Title 8, Chapter 35, Part 3 accepts state employment, the member's retirement allowance is suspended during the period of the employment. Accordingly and notwithstanding any provision of this Contract to the contrary, the Contractor agrees that if it is later determined that the true nature of the working

relationship between the Contractor and the State under this Contract is that of "employee/employer" and not that of an independent contractor, the Contractor, if a retired member of TCRS, may be required to repay to TCRS the amount of retirement benefits the Contractor received from TCRS during the period of this Contract.

- E.5 Tennessee Department of Revenue Registration. The Contractor shall be registered with the Department of Revenue for the collection of Tennessee sales and use tax. This registration requirement is a material requirement of this Contract.
- E.6. Confidentiality of Records. Strict standards of confidentiality of records and information shall be maintained in accordance with applicable state and federal law. All material and information, regardless of form, medium or method of communication, provided to the Contractor by the State or acquired by the Contractor on behalf of the State shall be regarded as confidential information in accordance with the provisions of applicable state and federal law, state and federal rules and regulations, departmental policy, and ethical standards. Such confidential information shall not be disclosed, and all necessary steps shall be taken by the Contractor to safeguard the confidentiality of such material or information in conformance with applicable state and federal law, state and federal rules and regulations, departmental policy, and ethical standards.

The Contractor's obligations under this section do not apply to information in the public domain; entering the public domain but not from a breach by the Contractor of this Contract; previously possessed by the Contractor without written obligations to the State to protect it; acquired by the Contractor without written restrictions against disclosure from a third party which, to the Contractor's knowledge, is free to disclose the information; independently developed by the Contractor without the use of the State's information; or, disclosed by the State to others without restrictions against disclosure; or is required by law or regulation to be disclosed, but (i) only to the extent and for the purpose of such required disclosure after providing the State with ten (10) business days' prior written notice of such disclosure by e-mail and by overnight mail to the State, unless disclosure is required soon, in which case the Contractor shall give such notice by telephone and e-mail as soon as reasonably possible and (ii) upon request of the State, shall reasonably cooperate with the State in order that the State may seek an appropriate protective order, including providing the State with copies of any related information needed by the State to seek such a protective order. Except as expressly permitted herein, nothing in this paragraph shall permit Contractor to disclose any information that is confidential under federal or state law or regulations, regardless of whether it has been disclosed or made available to the Contractor due to intentional or negligent actions or inactions of agents of the State or third parties.

It is expressly understood and agreed the obligations set forth in this section shall survive the termination of this Contract.

- E.7. State Ownership of Work Products. The State shall have ownership, right, title, and interest, including ownership of copyright, in all work products, created, designed, developed, derived, documented, installed, or delivered under this Contract subject to the next subsection and full and final payment for each "Work Product." The State shall have royalty-free and unlimited rights and license to use, disclose, reproduce, publish, distribute, modify, maintain, or create derivative works from, for any purpose whatsoever, all said Work Products.
- a. To the extent that the Contractor uses any of its pre-existing, proprietary or independently developed tools, materials or information ("Contractor Materials"), the Contractor shall retain all right, title and interest in and to such Contractor Materials, and the State shall acquire no right, title or interest in or to such Contractor Materials EXCEPT the Contractor grants to the State an unlimited, non-transferable license to use, copy and distribute internally, solely for the State's internal purposes, any Contractor Materials reasonably associated with any Work Product provided under the Contract.
  - b. The Contractor shall furnish such information and data as the State may request that is applicable, essential, fundamental, or intrinsic to any Work Product and Contractor

Materials reasonably associated with any Work Product, in accordance with this Contract and applicable state law.

- c. Nothing in this Contract shall prohibit the Contractor's use for its own purposes of the general knowledge, skills, experience, ideas, concepts, know-how, and techniques obtained and used during the course of providing the services requested under this Contract.
  - d. Nothing in the Contract shall prohibit the Contractor from developing for itself, or for others, materials which are similar to and/or competitive with those that are produced under this Contract.
- E.8. Incorporation of Additional Documents. Each of the following documents is included as a part of this Contract by reference. In the event of a discrepancy or ambiguity regarding the Contractor's duties, responsibilities, and performance under this Contract, these items shall govern in order of precedence below.
- a. this Contract document with any attachments or exhibits (excluding the items listed at subsections b. through e., below);
  - b. any clarifications of or addenda to the Contractor's proposal seeking this Contract;
  - c. the State solicitation, as may be amended, requesting proposals in competition for this Contract;
  - d. any technical specifications provided to proposers during the procurement process to award this Contract;
  - e. the Contractor's proposal seeking this Contract.
- E.9. Workpapers Subject to Review. The Contractor shall make all audit, accounting, or financial analysis workpapers, notes, and other documentation available for review by the Comptroller of the Treasury or his representatives, upon request, during normal working hours either while the analysis is in progress or subsequent to the completion of this Contract.
- E.10. Contractor Commitment to Diversity. The Contractor shall comply with and make reasonable business efforts to exceed the commitment to diversity represented by the Contractor's proposal responding to RFP 30901-23515 (Section B.15 of RFP Attachment 6.2) and resulting in this Contract.
- The Contractor shall assist the State in monitoring the Contractor's performance of this commitment by providing, as requested, a quarterly report of participation in the performance of this Contract by small business enterprises and businesses owned by minorities, women, and persons with a disability. Such reports shall be provided to the state of Tennessee Governor's Office of Diversity Business Enterprise in form and substance as required by said office.
- E.11. Copyrights and Patents. The Contractor agrees to indemnify and hold harmless the State of Tennessee as well as its officers, agents, and employees from and against any and all claims or suits which may be brought against the State for infringement of any laws regarding patents or copyrights which may arise from the Contractor's performance of this Contract. In any such action brought against the State, the Contractor shall satisfy and indemnify the State for the amount of any final judgment for infringement. The Contractor further agrees it shall be liable for the reasonable fees of attorneys for the State in the event such service is necessitated to enforce the terms of this Contract or otherwise enforce the obligations of the Contractor to the State. The State shall give the Contractor written notice of any such claim or suit and full right and opportunity to conduct the Contractor's own defense thereof.

E.12. Disclosure of Personal Identity Information. The Contractor shall report to the State any instances of unauthorized disclosure of confidential information that come to the attention of the Contractor. Any such report shall be made by the Contractor within twenty-four (24) hours after the instance has come to the attention of the Contractor. The Contractor, at the sole discretion of the State, shall provide no cost credit monitoring services for individuals that are deemed to be part of a potential disclosure. The Contractor shall bear the cost of notification to individuals having personal identity information involved in a potential disclosure event, including individual letters and/or public notice.

E.13. Insurance. The Contractor shall carry adequate liability and other appropriate forms of insurance.

- a. The Contractor shall maintain, at minimum, professional liability (Errors and Omissions) insurance, for liability arising out of, or in connection with, the performance of all required services under this Contract, with limits equal to the policy limits, which shall be no less than ten million dollars (\$10,000,000) per claim. If any of the insurance coverage required under this Contract are written on a claims-made basis, the insurance policy shall provide an extended reporting period of not less than three (3) years following the termination of this Contract or completion of all work performed by the Contractor specified in this Contract, whichever is later.
- b. At any time State may require the Contractor to provide a valid Certificate of Insurance detailing Coverage Description; Insurance Company & Policy Number; Policy Effective Date; Policy Expiration Date; Limit(s) of Liability; and Name and Address of Insured. Failure to provide required evidence of insurance coverage shall be a material breach of this Contract.
- c. Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve the Contractor for any liability, whether within, outside, or in excess of such coverage, and regardless of solvency or insolvency of the insurer that issues the coverage; nor shall it preclude the State from taking such other actions as are available to it under any other provision of this Contract or otherwise in law.

IN WITNESS WHEREOF,

BRYAN, PENDLETON, SWATS & MCALLISTER, LLC:



4/15/2014

CONTRACTOR SIGNATURE

DATE

Elizabeth Hammond, Managing Principal & CEO

PRINTED NAME AND TITLE OF CONTRACTOR SIGNATORY (above)

DEPARTMENT OF TREASURY:



April 17, 2014

DAVID H. LILLARD, JR., STATE TREASURER

DATE

Approved for signature by CM 4/16/14 18

**SAMPLE BALANCE SHEET**

**TENNESSEE CONSOLIDATED RETIREMENT SYSTEM  
BIENNIAL VALUATION AS OF JULY 1, 2011  
NO IMPROVEMENTS**

CITY OF

<b>Actuarial Balance Sheet</b>			
<b>Assets</b>		<b>Liabilities</b>	
<b>Present Assets at Actuarial Value:</b>		<b>Present Value of:</b>	
Employee Assets	\$15,305,260	<b>Basic Benefits Payable to:</b>	
Employer Assets	126,411,020	Retired Employees	\$55,494,153
		Active Employees	83,988,003
		Inactive Employees	6,895,428
<b>Present Value of Prospective Contributions Payable by:</b>		<b>Cost of Living Benefits Payable to:</b>	
Employees	391,196	Retired Employees	27,497,401
Employer Normal	25,139,195	Active Employees	18,238,113
Supplemental Liability	26,343,004	Inactive Employees	1,476,577
<b>Total</b>	<b>\$193,589,675</b>	<b>Total</b>	<b>\$193,589,675</b>

<b>Membership</b>				
<b>Active</b>		<b>Inactive</b>	<b>Retired</b>	
Number	1,061	Number	655	
Annual Salary	\$35,364,426	632	Annual Benefit	\$7,432,452

<b>Recommended Employer Contribution Rates</b>	
Normal	7.81 %
Supplemental Liability Amortization*	8.14
Cost of Administration	0.18
<b>Total</b>	<b>16.13 %</b>

\* Based on 15-Year Amortization of Supplemental Liability

**NOTE:** The present value of vested benefits is \$140,687,094. The present value of accrued benefits, whether or not vested, is \$142,962,176.

**Summary of TCRS Actuarial Study Results**  
*July 1, 2012 Effective Date*  
*Twenty Year Amortization*

	<u>Consolidated</u> <u>State</u>	<u>Contributory</u> <u>Teachers</u>	<u>Total State</u>	<u>Political</u> <u>Subdivisions</u>
<b><u>Increase Benefit Improvement from 5% to 10%</u></b>				
Additional Liability	\$691,330,000	\$1,118,060,000	\$1,809,390,000	\$417,640,000
Cost Increase	\$67,920,000	\$108,240,000	\$176,160,000	\$41,820,000
% of Payroll	2.80%	2.90%	2.86%	1.72%
<b><u>Increase Benefit Improvement from 5% to 6%</u></b>				
Additional Liability	\$138,270,000	\$223,610,000	\$361,880,000	\$83,530,000
Cost Increase	\$13,580,000	\$21,650,000	\$35,230,000	\$8,360,000
% of Payroll	0.56%	0.58%	0.57%	0.34%
<b><u>Eliminate Social Security Integration Level</u></b>				
Additional Liability	\$2,222,830,000	\$3,657,460,000	\$5,880,290,000	\$1,446,280,000
Cost Increase	\$218,460,000	\$354,120,000	\$572,580,000	\$144,900,000
% of Payroll	9.00%	9.48%	9.29%	5.97%
<b><u>Increase Base Formula by 0.1%</u></b>				
Additional Liability	\$956,430,000	\$1,550,740,000	\$2,507,170,000	\$604,520,000
Cost Increase	\$93,970,000	\$150,140,000	\$244,110,000	\$60,540,000
% of Payroll	3.87%	4.02%	3.96%	2.50%
<b><u>Increase Base Formula by 0.2%</u></b>				
Additional Liability	\$1,909,720,000	\$3,101,050,000	\$5,010,770,000	\$1,208,270,000
Cost Increase	\$187,650,000	\$300,230,000	\$487,880,000	\$121,020,000
% of Payroll	7.73%	8.04%	7.92%	4.99%
<b><u>Flat 2.0% Benefit Formula without 5% Improvement</u></b>				
Additional Liability	\$3,670,480,000	\$6,041,840,000	\$9,712,320,000	\$2,387,410,000
Cost Increase	\$360,760,000	\$584,990,000	\$945,750,000	\$239,230,000
% of Payroll	14.86%	15.66%	15.35%	9.86%
<b><u>Flat 2.0% Benefit Formula with 5% Improvement</u></b>				
Additional Liability	\$4,580,010,000	\$7,519,940,000	\$12,099,950,000	\$2,940,300,000
Cost Increase	\$450,130,000	\$728,110,000	\$1,178,240,000	\$294,610,000
% of Payroll*	18.54%	19.49%	19.12%	12.15%
<b><u>Change AFC from Five Years to Three Years</u></b>				
Additional Liability	\$571,120,000	\$965,790,000	\$1,536,910,000	\$381,630,000
Cost Increase	\$56,380,000	\$93,750,000	\$150,130,000	\$38,360,000
% of Payroll	2.32%	2.51%	2.44%	1.58%
<b><u>Increase COLA by 1%</u></b>				
Additional Liability	\$1,259,850,000	\$2,368,740,000	\$3,628,590,000	\$771,420,000
Cost Increase	\$123,920,000	\$229,440,000	\$353,360,000	\$77,350,000
% of Payroll	5.11%	6.14%	5.73%	3.19%
<b><u>Early Retirement after 25 Years of Service</u></b>				
Additional Liability	\$328,970,000	\$804,950,000	\$1,133,920,000	\$289,740,000
Cost Increase	\$63,670,000	\$110,200,000	\$173,870,000	\$44,620,000
% of Payroll	2.62%	2.95%	2.82%	1.84%
<b><u>1.59%/1.75% Formula Modification</u></b>				
Additional Liability	\$802,040,000	\$1,316,650,000	\$2,118,690,000	\$521,030,000
Cost Increase	\$78,820,000	\$127,470,000	\$206,290,000	\$52,200,000
% of Payroll	3.25%	3.41%	3.35%	2.15%

**CONTRACT ATTACHMENT 3**

**2011 TCRS OPTION FACTORS  
UNISEX & BLENDED FOR SERVICE OR DISABILITY RETIREMENT**

INTEREST: 7.50%  
COST-OF-LIVING: 2.50% (Geometric COLA)

AGES		OPTION 1	OPTION 2	OPTION 3	OPTION 4
MEMBER	BENEF.	100% SURV.	50% SURV.	100% SURV. WITH POPUP	50% SURV. WITH POPUP
60	41	0.7472	0.8553	0.7416	0.8516
60	42	0.7521	0.8585	0.7460	0.8545
60	43	0.7571	0.8618	0.7505	0.8575
60	44	0.7623	0.8651	0.7552	0.8606
60	45	0.7677	0.8686	0.7601	0.8637
60	46	0.7732	0.8721	0.7651	0.8669
60	47	0.7789	0.8757	0.7702	0.8702
60	48	0.7848	0.8794	0.7754	0.8735
60	49	0.7908	0.8832	0.7808	0.8769
60	50	0.7970	0.8870	0.7863	0.8803
60	51	0.8033	0.8909	0.7919	0.8838
60	52	0.8097	0.8949	0.7975	0.8874
60	53	0.8162	0.8988	0.8033	0.8909
60	54	0.8229	0.9028	0.8092	0.8945
60	55	0.8296	0.9068	0.8151	0.8982
60	56	0.8364	0.9109	0.8211	0.9018
60	57	0.8432	0.9149	0.8271	0.9054
60	58	0.8501	0.9190	0.8332	0.9090
60	59	0.8569	0.9230	0.8392	0.9126
60	60	0.8638	0.9269	0.8453	0.9162
60	61	0.8707	0.9309	0.8513	0.9197
60	62	0.8775	0.9347	0.8572	0.9231
60	63	0.8842	0.9385	0.8631	0.9265
60	64	0.8908	0.9423	0.8690	0.9299
60	65	0.8974	0.9459	0.8747	0.9332
60	66	0.9038	0.9494	0.8803	0.9364
60	67	0.9100	0.9529	0.8858	0.9395
60	68	0.9161	0.9562	0.8912	0.9425
60	69	0.9220	0.9594	0.8965	0.9454
60	70	0.9277	0.9625	0.9016	0.9482
60	71	0.9332	0.9654	0.9066	0.9510
60	72	0.9385	0.9683	0.9114	0.9536
60	73	0.9435	0.9709	0.9160	0.9562
60	74	0.9483	0.9735	0.9205	0.9586

**2011 TCRS SOCIAL SECURITY LEVELING FACTORS  
UNISEX & BLENDED FOR SERVICE OR DISABILITY RETIREMENT**

INTEREST: 7.50%  
COST-OF-LIVING: NONE

Age of Retirement	Factor
30	0.068391
31	0.073842
32	0.079745
33	0.086141
34	0.093073
35	0.100590
36	0.108747
37	0.117602
38	0.127219
39	0.137669
40	0.149031
41	0.161393
42	0.174853
43	0.189517
44	0.205507
45	0.222957
46	0.242016
47	0.262851
48	0.285651
49	0.310626
50	0.338012
51	0.368076
52	0.401119
53	0.437478
54	0.477539
55	0.521739
56	0.570579
57	0.624633
58	0.684559
59	0.751111
60	0.825161
61	0.907727

**2011 TCRS ACTUARIAL EQUIVALENCE FACTORS (RETIREMENT BEYOND  
AGE 65)  
UNISEX & BLENDED FOR SERVICE OR DISABILITY RETIREMENT**

INTEREST: 7.50%  
 COST-OF-LIVING: 2.50% (Geometric COLA)

Number of Months	Age					
	65	66	67	68	69	70
0	1.00000	1.10508	1.22307	1.35594	1.50610	1.67594
1	1.00876	1.11491	1.23414	1.36845	1.52025	-
2	1.01751	1.12475	1.24522	1.38097	1.53441	-
3	1.02627	1.13458	1.25629	1.39348	1.54856	-
4	1.03503	1.14441	1.26736	1.40599	1.56271	-
5	1.04378	1.15424	1.27843	1.41851	1.57687	-
6	1.05254	1.16408	1.28951	1.43102	1.59102	-
7	1.06130	1.17391	1.30058	1.44353	1.60517	-
8	1.07005	1.18374	1.31165	1.45605	1.61933	-
9	1.07881	1.19357	1.32272	1.46856	1.63348	-
10	1.08757	1.20341	1.33380	1.48107	1.64763	-
11	1.09632	1.21324	1.34487	1.49359	1.66179	-

**2011 TCRS ACTUARIAL EQUIVALENCE FACTORS (EARLY  
RETIREMENT)  
UNISEX & BLENDED FOR SERVICE OR DISABILITY RETIREMENT**

INTEREST: 7.50%  
COST-OF-LIVING: 2.50% (Geometric COLA)

(1) Percentage to be used for Group I "25-year retirement" prior to age 55  
and for Special Group II "20-year retirement" prior to age 55.

Age Year	Month	Class B Early Factor	25-Year/20-Year (1)
49	0	4168664	0.5805
	1	4139245	0.5846
	2	4109827	0.5888
	3	4080408	0.5931
	4	4050989	0.5974
	5	4021570	0.6018
	6	3992152	0.6062
	7	3962733	0.6107
	8	3933314	0.6153
	9	3903895	0.6199
	10	3874477	0.6246
11	3845058	0.6294	
50	0	3815639	0.6342
	1	3788479	0.6388
	2	3761318	0.6434
	3	3734158	0.6481
	4	3706998	0.6528
	5	3679837	0.6576
	6	3652677	0.6625
	7	3625517	0.6675
	8	3598356	0.6725
	9	3571196	0.6776
	10	3544036	0.6828
11	3516875	0.6881	
51	0	3489715	0.6935
	1	3464650	0.6985
	2	3439586	0.7036
	3	3414521	0.7087
	4	3389456	0.7140
	5	3364392	0.7193
	6	3339327	0.7247
	7	3314262	0.7302
	8	3289198	0.7357
	9	3264133	0.7414
	10	3239068	0.7471
11	3214004	0.7530	

**2011 TCRS ANNUITY FACTORS (WITH 2.50% GEOMETRIC COLA)  
UNISEX & BLENDED FOR SERVICE OR DISABILITY RETIREMENT**

INTEREST: 7.50%  
COST-OF-LIVING: 2.50% (Geometric COLA)

Age	Straight Life Annuity Factor	Age	Straight Life Annuity Factor	Age	Straight Life Annuity Factor
1	19.87757	41	16.95177	81	6.57032
2	19.83988	42	16.80658	82	6.23549
3	19.79768	43	16.65615	83	5.89831
4	19.75236	44	16.50028	84	5.55613
5	19.70385	45	16.33874	85	5.22363
6	19.65457	46	16.17149	86	4.90514
7	19.60248	47	15.99855	87	4.60124
8	19.54751	48	15.82001	88	4.31508
9	19.48949	49	15.63585	89	4.05063
10	19.42851	50	15.44624	90	3.80072
11	19.38047	51	15.25116	91	3.56716
12	19.33031	52	15.05078	92	3.35190
13	19.27801	53	14.84523	93	3.15771
14	19.22354	54	14.63451	94	2.98957
15	19.16690	55	14.41747	95	2.80692
16	19.10802	56	14.19421	96	2.63412
17	19.07501	57	13.96442	97	2.47232
18	19.03740	58	13.72813	98	2.32001
19	18.99520	59	13.48703	99	2.17619
20	18.94843	60	13.23866	100	2.03827
21	18.89711	61	12.98264	101	1.90531
22	18.84313	62	12.71865	102	1.77604
23	18.78531	63	12.44636	103	1.64868
24	18.72285	64	12.16536	104	1.52198
25	18.65534	65	11.87696	105	1.40052
26	18.58281	66	11.58079	106	1.28617
27	18.50548	67	11.27716	107	1.17976
28	18.42359	68	10.96538	108	1.07259
29	18.33728	69	10.64443	109	0.96945
30	18.24660	70	10.31734	110	0.85325
31	18.15145	71	9.98413	111	0.84067
32	18.05171	72	9.64523	112	0.80913
33	17.94722	73	9.30157	113	0.69032
34	17.83776	74	8.95339	114	0.60485
35	17.72313	75	8.60498	115	0.00000
36	17.60318	76	8.25750	116	0.00000
37	17.48254	77	7.91253	117	0.00000
38	17.35712	78	7.57206	118	0.00000
39	17.22690	79	7.23793	119	0.00000
40	17.09183	80	6.90417	120	0.00000

**2011 TCRS ANNUITY FACTORS (WITHOUT COLA)  
UNISEX & BLENDED FOR SERVICE OR DISABILITY RETIREMENT**

INTEREST: 7.50%  
COST-OF-LIVING: NONE

Age	Straight Life Annuity Factor	Age	Straight Life Annuity Factor	Age	Straight Life Annuity Factor
1	13.64368	41	12.56180	81	5.90078
2	13.63182	42	12.49569	82	5.63065
3	13.61723	43	12.42613	83	5.35486
4	13.60081	44	12.35290	84	5.07075
5	13.58248	45	12.27577	85	4.79158
6	13.56389	46	12.19465	86	4.52152
7	13.54362	47	12.10947	87	4.26134
8	13.52161	48	12.02023	88	4.01425
9	13.49768	49	11.92685	89	3.78436
10	13.47188	50	11.82937	90	3.56534
11	13.45531	51	11.72772	91	3.35916
12	13.43767	52	11.62194	92	3.16799
13	13.41894	53	11.51207	93	2.99484
14	13.39909	54	11.39803	94	2.84500
15	13.37812	55	11.27884	95	2.68010
16	13.35597	56	11.15447	96	2.52316
17	13.35251	57	11.02457	97	2.37544
18	13.34673	58	10.88906	98	2.23569
19	13.33861	59	10.74914	99	2.10310
20	13.32814	60	10.60277	100	1.97531
21	13.31534	61	10.44949	101	1.85150
22	13.30150	62	10.28887	102	1.73052
23	13.28583	63	10.12044	103	1.61068
24	13.26772	64	9.94368	104	1.49074
25	13.24687	65	9.75943	105	1.37517
26	13.22326	66	9.56722	106	1.26588
27	13.19704	67	9.36707	107	1.16382
28	13.16832	68	9.15821	108	1.06049
29	13.13719	69	8.93950	109	0.96058
30	13.10367	70	8.71325	110	0.84693
31	13.06765	71	8.47928	111	0.83494
32	13.02901	72	8.23772	112	0.80469
33	12.98763	73	7.98917	113	0.68824
34	12.94329	74	7.73363	114	0.60485
35	12.89581	75	7.47467	115	0.00000
36	12.84504	76	7.21322	116	0.00000
37	12.79434	77	6.95063	117	0.00000
38	12.74073	78	6.68870	118	0.00000
39	12.68417	79	6.42911	119	0.00000
40	12.62457	80	6.16664	120	0.00000

2011 TCRS 10-YEAR CONVERTED REFUND FACTOR (DOUBLE LUMP SUM FACTOR)  
(NO MORTALITY ASSUMED SINCE ANNUITY IS GUARANTEED)

INTEREST: 7.50%  
COST-OF-LIVING: 2.50% (Geometric COLA)

Factor  
94.592145



## City of ABC Retirement Plan Study

A Study of the Costs and Benefits Anticipated through Participation  
in the Tennessee Consolidated Retirement System

July 1, 2013

<b>Summary of Results</b>	<b>1</b>
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An actuarial valuation was performed as of July 1, 2013 to examine the cost of any benefits provided by the Tennessee Consolidated Retirement System (TCRS) as it would apply to the City of ABC if the group joined the TCRS on that date.

The TCRS offers three different plan design options for political subdivisions, referred to throughout this report as Plan 1, Plan 2, and Plan 3. Each of the three plans has a unique set of benefits and corresponding costs. The description of the benefits can be found in the Plan Provisions section of this report. The summary of the annual employer costs as a percentage of payroll for each of the three plans is shown in the table below. Further, within Plan 1 and Plan 2, each political subdivision can elect whether to include or exclude cost of living benefits in its retirement plan. If cost of living benefits are included, they must be "advance funded" in the same manner as other retirement benefits. Costs have been developed both "with" and "without" cost of living benefits for Plan 1 and Plan 2. Plan 3 is required to include cost of living benefits.

Each political subdivision joining the TCRS also has the option of whether or not to include employees' past service (service earned prior to the date of joining the TCRS) in the determination of benefits. If past service is included, the political subdivision may elect whether or not to limit the past service to a selected number of years. Further, the included years of past service may be fully purchased by the employer, or the employee can be made to be responsible for voluntarily purchasing the past service with the employer accepting its share of the liability for any years that the employee purchases. The prospective annual employer cost as a percentage of payroll for each of the past service scenarios currently considered by the entity is shown below.

	Plan 1		Plan 2		Plan 3
	Without COLA	With COLA	Without COLA	With COLA	With COLA
<b>Past Service Scenarios</b>					
1. All Past Service (Employer purchases all years)	12.38%	16.36%	7.59%	10.21%	5.84%
2. All Past Service (Employee purchases all years at 5%)	8.69%	12.68%	3.88%	6.50%	2.13%
3. 7 Years of Past Service (Employee purchases up to 7 years at 5%)	7.56%	11.03%	3.24%	5.49%	1.70%
4. No Past Service	5.06%	7.28%	2.22%	3.65%	1.19%

The above results assume that employees will contribute 5% of pay toward the future cost of their retirement benefit. Alternatively, the entity may elect to charge only 2.5% employee contributions or to require no employee contributions, in which case TCRS will increase the above results by 2.5% or 5%, respectively.

Funding Calculations

City of ABC Retirement Plan Study

**Plan 1 Without COLA**

	Past Service Scenarios*			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
(a) Present Value of Benefits	490,550	491,821	431,992	289,741
(b) Past Service Liability	244,183	237,034	167,075	0
(c) Present Value of Future Employee Contributions	146,996	146,996	147,039	147,949
(d) Present Value of Future Normal Costs (a) - (b) - (c)	99,371	107,791	117,878	141,792
(e) Present Value of Future Salaries	2,939,920	2,939,920	2,940,788	2,958,971
(f) Normal Cost Rate (d) / (e) x 1.0375	3.51%	3.80%	4.16%	4.97%
(g) Current Payroll	263,265	263,265	263,265	263,265
(h) Normal Cost (f) x (g)	9,241	10,004	10,952	13,084
(i) Employee Past Service Contribution	0	103,445	74,891	0
(j) Accrued Liability (b) - (i)	244,183	133,590	92,184	0
(k) Accrued Liability Contribution (j) x .09125 x 1.0375	23,117	12,647	8,727	0
(l) Accrued Liability Contribution Rate (k) / (g)	8.78%	4.80%	3.31%	0.00%
(m) Active Participant Count	4	4	4	4
(n) Administrative Expense (m) x \$60	240	240	240	240
(o) Administrative Expense Rate (n) / (g)	0.09%	0.09%	0.09%	0.09%
(p) Total Employer Contribution (h) + (k) + (n)	32,598	22,891	19,919	13,324
(q) Total Employer Contribution Rate (p) + (l) + (o)	12.38%	8.69%	7.56%	5.06%

\*Past Service Scenarios: Scenario 1 = All Past Service (Employer purchases all years)  
 Scenario 2 = All Past Service (Employee purchases all years at 5%)  
 Scenario 3 = 7 Years of Past Service (Employee purchases up to 7 years at 5%)  
 Scenario 4 = No Past Service

Funding Calculations

City of ABC Retirement Plan Study

**Plan 1 With COLA**

	Past Service Scenarios*			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
(a) Present Value of Benefits	602,300	603,724	529,440	352,970
(b) Past Service Liability	299,681	292,557	205,826	0
(c) Present Value of Future Employee Contributions	146,996	146,996	147,039	147,949
(d) Present Value of Future Normal Costs (a) - (b) - (c)	155,623	164,171	176,575	205,021
(e) Present Value of Future Salaries	2,939,920	2,939,920	2,940,788	2,958,971
(f) Normal Cost Rate (d) / (e) x 1.0375	5.49%	5.79%	6.23%	7.19%
(g) Current Payroll	263,265	263,265	263,265	263,265
(h) Normal Cost (f) x (g)	14,453	15,243	16,401	18,929
(i) Employee Past Service Contribution	0	103,445	74,891	0
(j) Accrued Liability (b) - (i)	299,681	189,113	130,935	0
(k) Accrued Liability Contribution (j) x .09125 x 1.0375	28,371	17,904	12,396	0
(l) Accrued Liability Contribution Rate (k) / (g)	10.78%	6.80%	4.71%	0.00%
(m) Active Participant Count	4	4	4	4
(n) Administrative Expense (m) x \$60	240	240	240	240
(o) Administrative Expense Rate (n) / (g)	0.09%	0.09%	0.09%	0.09%
(p) Total Employer Contribution (h) + (k) + (n)	43,064	33,387	29,037	19,169
(q) Total Employer Contribution Rate (p) + (l) + (o)	16.36%	12.68%	11.03%	7.28%

\*Past Service Scenarios: Scenario 1 = All Past Service (Employer purchases all years)  
 Scenario 2 = All Past Service (Employee purchases all years at 5%)  
 Scenario 3 = 7 Years of Past Service (Employee purchases up to 7 years at 5%)  
 Scenario 4 = No Past Service

Funding Calculations

City of ABC Retirement Plan Study

**Plan 2 Without COLA**

	Past Service Scenarios*			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
(a) Present Value of Benefits	366,606	367,402	323,343	223,312
(b) Past Service Liability	181,576	174,129	120,628	0
(c) Present Value of Future Employee Contributions	155,768	155,768	156,966	158,311
(d) Present Value of Future Normal Costs (a) - (b) - (c)	29,262	37,505	45,749	65,001
(e) Present Value of Future Salaries	3,115,366	3,115,366	3,139,314	3,166,226
(f) Normal Cost Rate (d) / (e) x 1.0375	0.97%	1.25%	1.51%	2.13%
(g) Current Payroll	263,265	263,265	263,265	263,265
(h) Normal Cost (f) x (g)	2,554	3,291	3,975	5,608
(i) Employee Past Service Contribution	0	103,445	74,891	0
(j) Accrued Liability (b) - (i)	181,576	70,685	45,737	0
(k) Accrued Liability Contribution (j) x .09125 x 1.0375	17,190	6,692	4,330	0
(l) Accrued Liability Contribution Rate (k) / (g)	6.53%	2.54%	1.64%	0.00%
(m) Active Participant Count	4	4	4	4
(n) Administrative Expense (m) x \$60	240	240	240	240
(o) Administrative Expense Rate (n) / (g)	0.09%	0.09%	0.09%	0.09%
(p) Total Employer Contribution (h) + (k) + (n)	19,984	10,223	8,545	5,848
(q) Total Employer Contribution Rate (p) + (l) + (o)	7.59%	3.88%	3.24%	2.22%

\*Past Service Scenarios: Scenario 1 = All Past Service (Employer purchases all years)  
 Scenario 2 = All Past Service (Employee purchases all years at 5%)  
 Scenario 3 = 7 Years of Past Service (Employee purchases up to 7 years at 5%)  
 Scenario 4 = No Past Service

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Funding Calculations

City of ABC Retirement Plan Study

**Plan 2 With COLA**

	Past Service Scenarios*			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
(a) Present Value of Benefits	442,218	443,014	388,881	266,810
(b) Past Service Liability	219,043	211,596	146,123	0
(c) Present Value of Future Employee Contributions	155,768	155,768	156,966	158,311
(d) Present Value of Future Normal Costs (a) - (b) - (c)	67,407	75,650	85,792	108,499
(e) Present Value of Future Salaries	3,115,366	3,115,366	3,139,314	3,166,226
(f) Normal Cost Rate (d) / (e) x 1.0375	2.24%	2.52%	2.84%	3.56%
(g) Current Payroll	263,265	263,265	263,265	263,265
(h) Normal Cost (f) x (g)	5,897	6,634	7,477	9,372
(i) Employee Past Service Contribution	0	103,445	74,891	0
(j) Accrued Liability (b) - (i)	219,043	108,152	71,232	0
(k) Accrued Liability Contribution (j) x .09125 x 1.0375	20,737	10,239	6,744	0
(l) Accrued Liability Contribution Rate (k) / (g)	7.88%	3.89%	2.56%	0.00%
(m) Active Participant Count	4	4	4	4
(n) Administrative Expense (m) x \$60	240	240	240	240
(o) Administrative Expense Rate (n) / (g)	0.09%	0.09%	0.09%	0.09%
(p) Total Employer Contribution (h) + (k) + (n)	26,874	17,113	14,461	9,612
(q) Total Employer Contribution Rate (p) + (l) + (o)	10.21%	6.50%	5.49%	3.65%

\*Past Service Scenarios: Scenario 1 = All Past Service (Employer purchases all years)  
 Scenario 2 = All Past Service (Employee purchases all years at 5%)  
 Scenario 3 = 7 Years of Past Service (Employee purchases up to 7 years at 5%)  
 Scenario 4 = No Past Service

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Funding Calculations

City of ABC Retirement Plan Study

**Plan 3 With COLA**

	Past Service Scenarios*			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
(a) Present Value of Benefits	316,035	316,831	278,179	191,859
(b) Past Service Liability	156,521	149,074	102,825	0
(c) Present Value of Future Employee Contributions	155,768	155,768	156,966	158,311
(d) Present Value of Future Normal Costs (a) - (b) - (c)	3,746	11,989	18,388	33,548
(e) Present Value of Future Salaries	3,115,366	3,115,366	3,139,314	3,166,226
(f) Normal Cost Rate (d) / (e) x 1.0375	0.12%	0.40%	0.61%	1.10%
(g) Current Payroll	263,265	263,265	263,265	263,265
(h) Normal Cost (f) x (g)	316	1,053	1,606	2,896
(i) Employee Past Service Contribution	0	103,445	74,891	0
(j) Accrued Liability (b) - (i)	156,521	45,630	27,934	0
(k) Accrued Liability Contribution (j) x .09125 x 1.0375	14,818	4,320	2,645	0
(l) Accrued Liability Contribution Rate (k) / (g)	5.63%	1.64%	1.00%	0.00%
(m) Active Participant Count	4	4	4	4
(n) Administrative Expense (m) x \$60	240	240	240	240
(o) Administrative Expense Rate (n) / (g)	0.09%	0.09%	0.09%	0.09%
(p) Total Employer Contribution (h) + (k) + (n)	15,374	5,613	4,491	3,136
(q) Total Employer Contribution Rate (p) + (l) + (o)	5.84%	2.13%	1.70%	1.19%

\*Past Service Scenarios: Scenario 1 = All Past Service (Employer purchases all years)  
 Scenario 2 = All Past Service (Employee purchases all years at 5%)  
 Scenario 3 = 7 Years of Past Service (Employee purchases up to 7 years at 5%)  
 Scenario 4 = No Past Service

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Participant Data

City of ABC Retirement Plan Study

**Distribution of Active Participants with Average Compensation**

Attained Age	Years of Service										Total	
	Under 1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	Over 39		
Under 25												
25 - 29												
30 - 34												
35 - 39			1								1	\$38,047
40 - 44		1									1	\$97,155
45 - 49												
50 - 54			1				1				2	\$57,565
55 - 59												
60 - 64												
65 - 69												
Over 69												
<b>Total</b>		1	2				1				4	\$62,583

## Outline of Plan Provisions

(Plan provisions for Plan 1, Plan 2, and Plan 3 are the same except where indicated)

### 1. Eligibility

All employees included on the census form were considered to be eligible.

### 2. Credited Service

Credited Service means the period of a member's continuous service on or after the valuation date since his last date of employment with the employer, and may also include service prior thereto. Retirement credit for part-time service is granted on a pro-rata basis in direct proportion to the schedule of a full-time employee.

### 3. Normal Retirement

#### (a) Condition

The normal retirement date is the first day of the month coincident with or next following the earlier of:

##### **Plan 1**

The 60th birthday of the employee, or the date the employee completes 30 years of credited service, but in no case before the employee has completed 5 years of credited service.

##### **Plan 2 and Plan 3**

The 65th birthday of the employee, or the date the employee's age and years of credited service sum to 90, but in no case before the employee has completed 5 years of credited service.

#### (b) Benefit

The normal retirement benefit, 1/12th of which is paid monthly for life, is determined as follows:

##### **Plan 1**

1-1/2% of average earnings plus 1/4% of average earnings in excess of the social security integration level, all multiplied by the number of years of creditable service.

In no event shall the benefit exceed 90% of average earnings, or be less than \$8.00 per month per year of credited service.

“Average earnings” is the average annual earnings of a member for the five consecutive years of credited service which produce the highest average.

“Social security integration level” is an amount which in 2013 is \$64,800 but which will be adjusted upward in the future to reflect changes in the average salary covered by social security.

The benefit actually payable will be 105% of the benefit calculated according to the formula described above.

**Plan 2**

1-4/10% of average earnings multiplied by the number of years of creditable service.

In no event shall the benefit exceed the lessor of 90% of average earnings or \$80,000 (indexed annually), or be less than \$8.00 per month per year of credited service.

“Average earnings” is the average annual earnings of a member for the five consecutive years of credited service which produce the highest average.

**Plan 3**

1% of average earnings multiplied by the number of years of creditable service.

In no event shall the benefit exceed the lessor of 90% of average earnings or \$80,000 (indexed annually), or be less than \$8.00 per month per year of credited service.

“Average earnings” is the average annual earnings of a member for the five consecutive years of credited service which produce the highest average.

**4. Early Retirement**

A vested member may terminate employment and received a reduced retirement benefit upon:

**Plan 1**

Attaining age 55, or completing 25 years of credited service.

**Plan 2 and Plan 3**

Attaining age 60, or the date the employee’s age and years of credited service sum to 80.

**5. Delayed Retirement**

(a) Condition

A member may postpone his retirement beyond his normal retirement date and continue to accrue retirement credit.

(b) Benefit

The benefit, commencing on the first day of the month following the member's actual date of retirement, is the benefit computed in the same manner as in 3(b) above for normal retirement, with the computation being made as of the member's actual retirement date.

**6. Disability Retirement**

(a) Condition

In the event a member becomes totally and permanently disabled after completion of 5 years of credited service, he may retire and receive a disability retirement benefit.

(b) Benefit

The disability retirement benefit, commencing on the first day of the month immediately following determination of disability and payable during the continuance of disability, is computed in the same manner as in 3(b) above for normal retirement, with the computation being made as of the member's date of termination of employment, except that the minimum period of credited service used shall be the lesser of 20 years or the total number of years the member would have completed at his normal retirement date, but not less than ten years of creditable service; however, the disability retirement benefit will be 90% of the benefit otherwise applicable. The disability retirement benefit changes to normal service benefit (including projected years of service) when the conditions for normal service retirement are met.

**7. Death Before Retirement**

(a) Condition

If the death of a member occurs before he is eligible for retirement, a death benefit will be paid to his designated beneficiary.

(b) Benefit

If the death of the member occurs after he has completed 10 years of credited service, the benefit is payable if a surviving spouse has been designated as beneficiary, and is equal to the amount that would have been payable at the member's normal retirement date if he had terminated employment on the date of his death and had elected a 100% joint and survivor optional retirement benefit, discounted for each month by which the member fell short of satisfying the requirements for normal retirement (using the respective plan's early retirement reduction factors).

**8. Termination of Employment With Vested Benefit**

If a member terminates his employment after completion of 5 years of credited service he may elect to leave his contribution (if any) in the plan until he meets the age eligibility requirements for benefits and makes application.

If such a former member becomes disabled before his benefits commence, he can elect to begin to receive the actuarial equivalent of his deferred vested benefit immediately. If such a former member with at least 10 years of credited service dies before his benefits commence, the death benefit described in item 7(b) above is payable, based on the amount of the former member's deferred vested benefit, discounted for election of the 50% joint and survivor option and for early receipt.

**9. Other Termination of Employment**

If employment is otherwise terminated before retirement, no benefits are provided under the plan, and the member will receive a refund of his contributions (if any) to the plan with interest.

**10. Optional Methods of Benefit Payment**

Subject to the applicable plan conditions, a member may select an optional method of benefit payment, in lieu of the prescribed straight life income, which is actuarially equivalent thereto. The purpose of the optional method is to provide a continued life income to a surviving beneficiary after the death of a member.

**11. Minimum Benefit of Refund of Member Contribution for Retired Members**

The total of the benefits paid from the plan to a member and his spouse or beneficiary will in no event be less than the member's contributions plus interest to his date of termination of employment.

**12. Benefit Increase After Retirement**

Each year the retirement benefits being paid are subject to an increase determined by applying a formula based on the increase in the Consumer Price Index. The maximum increase is 3% of the current benefit amount, provided the political subdivision elects to participate in the cost-of-living adjustments.

**13. Member Contribution**

Each general employee member contributes an amount equal to 5% of his compensation each year, unless the political subdivision authorizes a noncontributory retirement plan or requires employee contributions of 2.5% of compensation.

**14. Employer Contribution**

The Employer contributes actuarially determined amounts to finance the plan benefits not supported by member contributions.

**15. Investment of Funds**

The plan assets are invested in a trust fund with the trustees of the state retirement system. The investment earnings provide a source of funding toward the cost of the pension plan.

## Summary of Actuarial Assumptions

### Interest Rate

7.5% per annum

### Social Security Projection

3.5% per annum increase in Taxable Wage Base

### Valuation Method

Frozen Initial Liability

	AGE			
	20	35	50	60
<b>Mortality Rates (per 1,000 lives)</b>				
Generational mortality improvement projected after year 2008 under Projection Scale AA (Sample mortality rates are shown below as of year 2008)				
Male - Non-Annuitant	0.28	0.62	1.71	3.90
Male - Annuitant	---	---	4.00	9.87
Female - Non-Annuitant	0.15	0.38	1.34	3.15
Female - Annuitant	---	---	2.19	6.65
<b>Withdrawal Rates (per 1,000 lives)</b>				
First Year	262.41	206.70	169.85	204.07
Second Year	217.72	170.01	130.43	148.83
Ultimate Male	137.34	50.96	27.75	46.20
Ultimate Female	196.10	77.16	37.91	53.20
<b>Disablement Rates (per 1,000 lives)</b>				
Male	0.32	0.33	3.75	0.00
Female	0.32	0.33	3.75	0.00
<b>Mortality Rates for Disabled Lives (per 1,000 lives)</b>				
Male	33.23	19.55	32.64	40.73
Female	33.23	19.55	32.64	40.73
<b>Salary Scale (Sy+1/Sy)</b>	1.092	1.064	1.047	1.043

### Rate of Normal Retirement

Assume retirement according to a pattern based on experience

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship, including investment management or other services that could create, or appear to create, a conflict of interest that would impair the objectivity of our work.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Justin C. Thacker, F.S.A.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Timothy C. Lavender, F.S.A.

**ATTESTATION RE PERSONNEL USED IN CONTRACT PERFORMANCE**

SUBJECT CONTRACT NUMBER:	
CONTRACTOR LEGAL ENTITY NAME:	Bryan, Pendleton, Swats & McAllister, LLC
FEDERAL EMPLOYER IDENTIFICATION NUMBER: (or Social Security Number)	

The Contractor, identified above, does hereby attest, certify, warrant, and assure that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant in the performance of this Contract.

*Elizabeth Hammond*

CONTRACTOR SIGNATURE

NOTICE: This attestation MUST be signed by an individual empowered to contractually bind the Contractor. If said individual is not the chief executive or president, this document shall attach evidence showing the individual's authority to contractually bind the Contractor.

*Elizabeth Hammond, Managing Principal + CEO*

PRINTED NAME AND TITLE OF SIGNATORY

*4/15/2014*

DATE OF ATTESTATION