The July 28, 2020 meeting of the Investment Committee of the PRB will be held by teleconference call as authorized under Sections 551.125 and 551.127 of the Texas Government Code. THIS MEETING WILL BE CONDUCTED BY TELECONFERENCE IN ACCORDANCE WITH THE GOVERNOR’S AUTHORIZATION OF MARCH 16, 2020, CONCERNING SUSPENSION OF CERTAIN OPEN MEETING LAW REQUIREMENTS IN RESPONSE TO THE DECLARATION OF STATE DISASTER OF MARCH 13, 2020 CONCERNING THE COVID-19 (CORONAVIRUS) PANDEMIC. A quorum of members of the committee will participate in the meeting and will be audible to the public. Members of the public may provide public comment by registering first with the Office Manager by submitting an email to Lindsay.Seymour@prb.texas.gov identifying the name of the speaker and topic, no later than 8:00 am on July 28, 2020. The presiding officer will call roll of committee members, followed by calling roll of members of the public who have registered. The presiding officer will then ask if other attendees wish to provide comment, at which time each such attendees shall identify themselves by name and topic of the comment. Members of the public who have registered during roll call will be called by name at the appropriate time in the agenda. Attendees are requested to mute their connections when not addressing the committee members.

Access to the agenda materials of the meeting is provided at www.prb.texas.gov. A recording of the meeting will be available at www.prb.texas.gov.

The Committee may discuss or take action regarding any of the items on this agenda.

1. Meeting called to order
2. Roll call of Committee members
3. Roll call of members of the public
4. May 7, 2020 Joint Meeting of the Investment and Actuarial Committees minutes
5. Investment Practices and Performance Reports received as required by Government Code Section 802.109 (SB 322)

6. Date and location of next Investment Committee meeting – September 29, 2020

7. Invitation for public comment

8. Adjournment

NOTE: The Committee may go into closed session concerning any item on this agenda if authorized under the Texas Open Meetings Act, Government Code, Code Ch. 551. Persons with disabilities who plan to attend this meeting and who may need special assistance are requested to contact Mr. Wes Allen at (800) 213-9425/ (512) 463-1736 three to five (3-5) working days prior to the meeting date so that appropriate arrangements can be made.
1. Meeting called to order
2. Roll call of Committee members
3. Roll call of members of the public
4. May 7, 2020 Joint Meeting of the Investment and Actuarial Committees minutes
1. **Meeting called to order (0:02)**

   The Pension Review Board (PRB) Joint Meeting of the Investment and Actuarial Committees was called to order by Chair Keith Brainard on Thursday, May 7, 2020 at 9:02 am via teleconference.

2. **Roll call of Committee members (1:33)**

   Board Members Present:
   - Chair Keith Brainard
   - Chair Christopher Zook
   - Marcia Dush
   - Stephanie Leibe
   - Shari Shivers

   A quorum being present, the meeting was called to order by Chair Brainard.

3. **Roll call of members of the public (2:40)**

   Pre-registered members of the public present:
   - David Stacy
   - Kathleen McBride

4. **Chairmen’s remarks regarding the purpose of the meeting (3:37)**

   Chair Brainard noted that the meeting was the first meeting of the PRB’s Investment Committee and introduced the members of both committees.

   Chair Brainard recognized that it was a difficult time for public pension plans and their sponsors and noted that the current investment environment and economy were challenging, and both state and local governments were facing potential revenue declines that were likely to impact the ability of public employers to make their pension contributions. He emphasized that plans should continue to examine their actuarial assumptions and plan sponsors needed to be involved with their plans to ensure adequate funding.

   Chair Zook echoed Chair Brainard’s remarks and noted that many individuals covered by public pension plans worked in essential services and he thanked all frontline workers. He stated that there would be more challenges moving forward so it was critical to anticipate the worst while hoping for the best. He noted that if actuarial assumptions and payroll growth assumptions were not lowered, there would be future funding problems. He stated that he wanted to ensure everyone was focused on what long-term steps may be taken considering plans and their sponsoring entities would be experiencing lower revenue, returns, and payroll growth.
5. Key issues for Texas systems to consider regarding COVID-10 crisis and its potential impacts:
   (08:35)

   a. Market disruptions, including volatility, asset price declines, and possible effects on average returns for various asset classes (09:20)

Robert Munter provided a report on the potential Covid-19 market impacts. He noted fixed income securities of various qualities were impacted the most so far, noting that the first quarter of 2020 had record high returns which then led to the fastest declines into a bear market in history. He stated the extreme market volatility was giving pension plans an actual stress test.

Mr. Munter discussed unemployment claims, noting the United States overall experienced a spike in unemployment claims and that these disruptions to the economy would be severe and continue to have an impact. He added that given the market downturn, plans would ultimately need to exceed their rate of return by an excess of 110 basis points or more depending on how quickly they recover from a 10% drawdown.

Ms. Dush asked Mr. Munter to clarify whether the determined rate of return plans needed to adopt to get back on track considered the negative cash flow. Mr. Munter stated that the rate was determined by solely looking at investments and that plans with negative cash flow could have more of a difficult time recovering.

The Committee discussed whether recent events had fundamentally changed expected returns on major asset classes. Mr. Zook noted it was highly unlikely the economy would recover at a fast rate and also unlikely that Texas plans would be able to receive the returns they were used to receiving in the past.

b. Short and long-term actuarial impact, including cash flows and funding shortfalls (30:12)

Kenny Herbold presented the short- and long-term actuarial impacts the Covid-19 crisis had on plans. Mr. Herbold stated that in the short-term, plans would need to consider cash flow and liquidity issues; long-term, plans would need to be mindful of legislative requirements that triggered plans to make changes if certain conditions were not met.

He acknowledged that many Texas plans were small, conducted actuarial valuations every other year and might lack the budget to conduct regular intensive studies, in which case they could use the PRB’s data tables as indicators of whether they should reach out to their consultants.

Mr. Herbold introduced metrics that assessed the short-term health of a pension plan, such as non-investment cash flow and liquidity ratio. He noted that analyzing non-investment cash flow could help identify plans that might have liquidity concerns, which might indicate how easily those plans would be able to pay benefits. The liquidity ratio metric was nearly identical to non-investment cash flow, but also considered cash on hand, which would allow plans to pay benefits without selling assets. He noted that evaluating liquidity ratios allowed for comparison of all plans and it was a good metric to examine in conjunction with other factors and analyses to observe data trends.

Mr. Herbold discussed the lowest 25% of plans from each metric and explained if a plan fell on both lists, the plan was more likely to have potential liquidity issues.
Ms. Dush noted that when looking at the liquidity ratio, there was concern that the plans would need to sell assets at low values which would make it harder for them to achieve their rates of return. She noted that there were 14 plans that fell on both lists and stated they were plans that the PRB may need to contact. Ms. Kumar stated that PRB staff could reach out to systems on the list and that the PRB completed intensive reviews on some of the listed plans in the past. She noted that so far, no system had indicated they were unable to make benefit payments.

Mr. Herbold introduced metrics that staff used to evaluate long-term performance. He discussed two types of ratios that gave direct measures of the leverage of a plan’s unfunded accrued liability (UAAL) as it related to payroll: asset leverage ratio, which was market value of assets divided by payroll, and liability leverage ratio, which was accrued liability divided by payroll.

Ms. Dush commented that since many Texas plans were mature, both assets and liabilities were large compared to the covered payroll. She noted this made it very difficult to recover from market downturns or increased interest rates like what was recently experienced.

Mr. Herbold described the unfunded liability (UL) percent tread water cost rate, which was a contribution rate that resulted in the total UAAL growing at the payroll growth rate and showed the line between having an infinite and a finite amortization period. He also introduced the UL dollar tread water cost rate, which was the line between negative amortization and a decreasing UAAL. He noted that for some Texas plans, the recommended contribution rate generally fell between the UL percent and the UL dollar tread water cost rate.

Ms. Dush raised a concern about the UL dollar tread water cost with plans that currently had both negative amortization and fixed contribution rates. She noted that of Texas’ plans, 2/3rds of plans were not making a contribution that reduced their UAAL.

Mr. Herbold stated that the UL metrics were useful to calculate the expected changes in the UAAL. He noted that higher amortization periods had more volatility, and fixed rate plans were more susceptible to volatile amortization periods.

Chair Brainard commended staff for utilizing different ways to present data and stated that the data had predictive and comparative value. He stated that the PRB was available to provide technical assistance to plans, especially smaller plans who may not otherwise have access to the data.

Mr. Herbold stated that in addition to the previously described metrics, there were also statutory triggers that would impact plans, such as the requirement for a funding soundness restoration plan (FSRP) if a plan’s amortization period was above 40 years. He explained that a 10% drop in assets could put plans with amortization periods between 20 and 40 years at risk of being required to complete an FSRP. He stated there were approximately 18 fixed rate plans with an amortization period above 20 years which were very likely to become subject to the FSRP requirement soon.

Mr. Herbold also discussed the statutory requirements for Houston plans, including the contribution corridor. He noted their statute had a trigger for plan design changes, such as establishing a cash balance plan if their funded ratio fell below statutory thresholds.
Mr. Herbold noted that recent news articles that stated city councils were discussing potential furloughs for government employees would impact the contribution base for plans. He added that while amortization periods were generally calculated using asset smoothing, plan sponsors’ balance sheets were required to recognize losses immediately. This would make more plans at risk of having depletion dates, causing discount rates to decrease and total liability to increase. Mr. Herbold noted that while credit rating agencies made their own adjustments to reported liabilities, increased totally liability would still impact potential credit ratings.

The Committee discussed pension obligation bonds (POBs), noting that they saw little recent discussion of POBs but as the current situation leveled out, they might be considered due to low interest rates. They noted that the prudence of issuing POBs depended on a plan sponsor’s risk tolerance.

6. **Possible delays in reporting by pensions systems (01:26:04)**

Ms. Kumar stated that staff received questions from systems and stakeholders about potential delays in plan reports and extensions for reporting deadlines. She stated that unfortunately required reports had deadlines set in statute and the PRB did not have the authority to grant extensions. She encouraged systems that experienced disruptions to reach out to the PRB.

7. **Initiation for public comment (01:27:35)**

There were no public comments.

8. **Adjournment (01:28:28)**

Chair Brainard adjourned the meeting at 10:34 AM.

**PRB Staff In Attendance:**

<table>
<thead>
<tr>
<th>Anumeha Kumar</th>
<th>Kenny Herbold</th>
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<tbody>
<tr>
<td>Michelle Downie Kranes</td>
<td>Lindsay Seymour</td>
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<tr>
<td>Ashley Rendon</td>
<td>Mariah Miller</td>
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<tr>
<td>Benjamin Warden</td>
<td>Robert Munter</td>
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<tr>
<td>Bryan Burnham</td>
<td>Wesley Allen</td>
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<td>James King</td>
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__________________________________________

Chair Keith Brainard

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Chair Christopher Zook
5. Investment Practices and Performance Reports received as required by Government Code Section 802.109 (SB 322)
Preliminary Report on Investment Practices and Performance Evaluations Received

Investment Committee Meeting

July 28, 2020
Overview

Texas Government Code Section 802.109 requires public retirement systems with assets of at least $30 million to select an independent firm with substantial experience ... to evaluate the appropriateness, adequacy, and effectiveness of the retirement system's investment practices and performance and to make recommendations for improving the retirement system's investment policies, procedures, and practices. Each evaluation must include:

1) an analysis of any investment policy or strategic investment plan adopted by the retirement system and the retirement system's compliance with that policy or plan;
2) a detailed review of the retirement system's investment asset allocation;
3) a review of the appropriateness of investment fees and commissions paid by the retirement system;
4) a review of the retirement system's governance processes related to investment activities; and
5) a review of the retirement system's investment manager selection and monitoring process.
The first evaluation reports were due from systems by June 1, 2020.

Per PRB records, **62 plans** have assets of at least $30 million as of the fiscal year end immediately preceding the effective date, 6/10/2019. Adjusting for evaluations that include more than one plan (e.g. ERS, JRS II & LECOS), **55 evaluations** were expected.

- 2 evaluations from systems with less than $30 million
  - Guadalupe-Blanco River Authority (received)
  - Capital MTA Admin & Capital MTA Bargaining (expected)

- Of the evaluations received, 37 have been included in this analysis.
Overview

- **9 expected evaluations** have not been submitted:
  - Corpus Christi Regional Transportation Authority
  - Denton Firemen's Relief & Retirement Fund
  - Galveston Employees' Retirement Fund
  - Harris County Hospital District Pension Plan
  - Lower Colorado River Authority Retirement Plan
  - Midland Firemen's Relief & Retirement Fund
  - Nacogdoches County Hospital District Retirement Plan
  - Odessa Firemen's Relief & Retirement Fund
  - San Antonio Metropolitan Transit Retirement Plan

All 9 systems have been in contact with the PRB and have indicated that they are working towards completing this requirement.
802.109(c)(2) [a public retirement system may] select a firm regardless of whether the firm has an existing relationship with the retirement system

Number of Evaluations Performed By Firm and Relationship

- 37 evaluations included in analysis
- 17 different independent firms
- 30 evaluations conducted by existing investment consultant
- 7 evaluations conducted by independent 3rd party
802.109(a) [the independent firm should] evaluate ... the retirement system's investment practices and performance and make recommendations for improving the retirement system's investment policies, procedures, and practices

**Overview of Evaluations**

- Evaluations generally organized by 5 subsections of 802.109(a) outlined above
- 17 evaluations included recommendations
- All evaluations conducted by independent 3rd parties included 1 or more recommendations

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<tr>
<th>Evaluations with Recommendations</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>Independent 3rd Party</td>
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<tr>
<td>Investment Consultant</td>
<td>10</td>
<td>20</td>
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</table>
Overview of Recommendations

- No clear lines between categories but recommendations can generally be grouped by the 5 subsections of 802.109(a)

- A small subset of recommendations covered areas not specific to investment decision-making

- 75% of the recommendations can be further subdivided into groupings of at least 5 or more
Recommendations on Governance

• 15 covering various operational practices, including:
  • Reviewing the IPS and/or system performance at least annually
  • Issuing RFPs every 3-5 years

• 7 suggesting documentation improvements, such as:
  • Developing a written governance policy
  • Documenting existing governance practice or improving descriptions of existing policies and responsibilities

• 6 recommending increased transparency by making additional documents available to the public and/or improving the system’s website

• 5 proposing trustee training improvements
Recommendations on Manager Selection and Monitoring

- 6 concerning the investment manager hiring and firing process, for example:
  - Including the selection criteria in the IPS as well as documenting the rationale for all hiring and firing decisions; and
  - adding a conflict of interest policy when selecting investment managers

- 6 on benchmarking or performance measurement, examples include:
  - Including net- and gross-of-fee returns relative to benchmarks and peers
  - Adding specific, measurable criteria to the IPS for monitoring performance

- 5 to document various policies or procedures, such as:
  - Adding formal investment manager review process, criteria and procedures
  - Documenting policies on how performance is measured
  - And other system-specific language changes

- 9 others covering various topics, including changes to reporting requirements and plan-specific language edits
Recommendations on Investment Fees

- 7 IPS guideline improvement suggestions such as:
  - Add language to document various processes regarding the reconciliation and payment of fees or the level of detail recorded for direct and indirect compensation
  - Adhere to existing policies
- 8 reporting requirement enhancements including:
  - Management fees netted from returns
  - Profit share/carried interest associated with alternative investments
  - Reconciling actual payments with negotiated rates
- 5 fee reduction recommendations
  - Include (more) passive investment, where appropriate
  - Seek no fee or discounted fee arrangements
- 5 others covering
  - Benchmark fees against peer group or industry averages
  - Maintaining diligence
  - Consider an evaluation metric for securities brokerage vendors based on execution skill
Recommendations on Investment Policy

- 17 recommendations mentioned roles and responsibilities needed improved definitions in the IPS
- 5 recommendations to update language in the IPS
  - Define mandatory reporting expectations to the board
  - Add language to meet or exceed the fund’s actuarial assumed rate of return over the long term
  - Include a discussion of risk in the IPS
  - Update IPS target allocation to match current allocation in practice
  - Add language to better reflect alternative investment universe
- 5 other minor IPS improvements such as cleaning up how the IPS looks and simplifying language where possible
Recommendations on Asset Allocation

• 11 providing updates to the IPS asset allocation section such as:
  • Document existing practice or recommend potential changes for determining and evaluating the asset allocation
  • Include general language regarding diversification
  • Provide language changes to be more specific regarding rebalancing ranges and guidelines
  • Define the scope but be more flexible with the timing of asset allocation studies
  • Add language for informal annual reviews of capital markets to improve flexibility of investments

• 8 others concerning
  • Recommending specific changes to investments
  • Continue deep dive reviews of all asset classes annually
  • Update the asset allocation study
  • Review the strategic asset allocation annually
  • Avoid large changes in the strategic asset allocation too frequently
Recommendations on Other Topics

8 regarding liquidity or cashflow considerations
  • Regarding contribution levels and/or negative non-investment cash flow concerns
  • Suggesting enhanced liquidity reporting or management

Other recommendations
  • Complete an asset/liability study
  • Consider potential plan design changes
  • Develop capital market assumptions with the investment consultant and actuary working closely together
  • Perform an experience study
  • Utilize the expertise of investment consultants to ensure alternative assets are properly valued and managed
  • Generalize policy language to avoid being overly prescriptive
# Standards, Benchmarks and Resources

<table>
<thead>
<tr>
<th>Section</th>
<th>Resource</th>
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</table>
| Investment Policy Statement            | CFA Institute (CFAI)  
Government Finance Officers Association (GFOA)  
Industry Peers |
| Investment Asset Allocation            | National Association of State Retirement Administrators  
Association of Public Pension Fund Auditors  
GFOA  
Industry peers |
| Investment Fees                        | National Conference on Public Employee Retirement Systems  
Pew Trusts  
Greenwich Associates  
Center for Retirement Research Public Plan Data  
CEM Benchmarking (CEM)  
eVestment Alliance Universe  
Morningstar  
Independent Trade Cost Analysis (If applicable) |
| Governance                             | Texas Government Code requirements  
CEM  
Center for Fiduciary Studies  
Industry peers |
| Manager Selection and Monitoring       | CFAI Global Investment Performance Standards (GIPS®) standards  
GFOA |
Next Steps

• Report to Legislature – Section 802.109(i) directs the PRB to “compile and summarize the information received” in an Investment Performance Report

• September 29 Investment Committee Meeting – Complete analysis of Investment Practices and Performance Evaluations

• November 12 Board Meeting – Draft of the Investment Performance Report
The Board adopted informal guidance on October 17, 2019.

The informal guidance outlined 5 elements expected to be included in a thorough evaluation.

1) Identify and review existing investment policies, procedures, and practices.
2) Compare the existing policies and procedures to industry best practices.
3) Generally, assess whether the board, internal staff, and external consultants are adhering to the established policies.
4) Identify the strengths and weaknesses of the current policies, procedures, and practices and make recommendations for improvement.
5) Include a detailed description of the criteria considered and methodology used to perform the evaluation, including an explanation of any metrics used and associated calculations.
### Summary of Investment Practices and Performance Evaluation Recommendations

<table>
<thead>
<tr>
<th>Number of Recommendations</th>
<th>Governance Recommendations</th>
<th>Total</th>
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<tbody>
<tr>
<td><strong>OPERATIONAL PRACTICE</strong></td>
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<tr>
<td>6</td>
<td>Annual IPS and/or system review</td>
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<tr>
<td>2</td>
<td>Issue RFP at least once every 3-5 years for Investment Consultant</td>
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<td>1</td>
<td>Review RFP process and its potential impact on delays/missing investment opportunities</td>
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<td>1</td>
<td>Conduct more frequent AVs</td>
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<td>Increase board continuity</td>
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<td>1</td>
<td>Limit and stagger committee member terms</td>
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<tr>
<td>1</td>
<td>Fund counsel reviews all legal contracts</td>
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<tr>
<td>1</td>
<td>Review investing core beliefs anytime significant investment changes occur</td>
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<td>1</td>
<td>Create an implementation policy to assist in documentation of policies/procedures</td>
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<tr>
<td><strong>DOCUMENTATION</strong></td>
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<td>2</td>
<td>Develop a written governance policy</td>
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<td>2</td>
<td>Improve descriptions of existing policies and responsibilities</td>
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<td>1</td>
<td>Document existing governance practice</td>
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<td>1</td>
<td>Document purpose, function, membership, and possible actions of all committees</td>
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<td>1</td>
<td>Include ESG-related and internal management considerations in the IPS</td>
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<td><strong>TRANSPARENCY</strong></td>
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<td>3</td>
<td>Post additional documents to the website</td>
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<td>Maintain a focus on transparency</td>
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<td>Modernize website</td>
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<tr>
<td><strong>TRAINING</strong></td>
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<td>3</td>
<td>Ensure training stays up to date</td>
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<td>Develop materials specifically for new board members</td>
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<td>1</td>
<td>Document training requirements</td>
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<td><strong>OTHER</strong></td>
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<td>1</td>
<td>Improve plan adherence by adjusting policies exceeding best practice to align more with best practices</td>
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<td></td>
<td><strong>Total Governance Recommendations</strong></td>
<td><strong>34</strong></td>
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<tr>
<td>Number of Recommendations</td>
<td>Manager Selection and Monitoring Recommendations</td>
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<td></td>
<td><strong>INVESTMENT MANAGER HIRING AND FIRING PROCESS</strong></td>
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<td>5</td>
<td>Include the selection criteria in the IPS as well as document rationale for all hiring and firing decisions</td>
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<td>1</td>
<td>Add a conflict-of-interest policy when selecting investment managers</td>
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<td></td>
<td><strong>BENCHMARKING OR PERFORMANCE MEASURES</strong></td>
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<td>2</td>
<td>Include net- and gross-of-fee returns relative to benchmark and peers in each quarterly report</td>
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<td>Add specific measurable criteria for monitoring performance to the IPS</td>
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<td>Create a performance metric and reporting requirement for non-public securities</td>
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<td>Add a process for comparing total portfolio and investment managers’ risk adjusted returns to peers and benchmark</td>
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<td></td>
<td><strong>ADD POLICIES OR PROCEDURES</strong></td>
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<td>2</td>
<td>Add formal investment manager review process, criteria, and procedures</td>
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<td>Document existing policy on how performance is measured</td>
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<td>Add a watch list policy</td>
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<td>1</td>
<td>Add a policy documenting proxy voting rationale</td>
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<td></td>
<td><strong>OTHER</strong></td>
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<tr>
<td>1</td>
<td>IPS should specify that performance reporting include net of investment management fee</td>
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<td>1</td>
<td>Investment performance reports should be quarterly with monthly flash reports</td>
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<td>Separate reporting requirement by asset class instead of consultant or investment manager</td>
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<td>Add policy language defining a reporting or valuation process for less liquid or illiquid securities</td>
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<td>Revisit the watch list for alternative</td>
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<td>1</td>
<td>Clarify policy language regarding reporting for investment managers</td>
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<td>1</td>
<td>Review Private Equity performance benchmarking to IPS policy</td>
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<td>1</td>
<td>Standardize investment monitoring processes across all asset classes</td>
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<tr>
<td>1</td>
<td>Generalize watch list language to avoid being overly prescriptive</td>
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**Total Manager Selection and Monitoring Recommendations**: 26
<table>
<thead>
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<th>Number of Recommendations</th>
<th>Investment Fee Recommendations</th>
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<tr>
<td><strong>IPS GUIDELINES</strong></td>
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<td>Add language to document various processes regarding the reconciliation and payment of fees or the level of detail recorded for direct and indirect compensation</td>
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<td>Adhere to existing policies</td>
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<td>Management fees netted from returns</td>
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<td>Profit share/carried interest from alternative investments</td>
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<td>Expenses related to cash (if any)</td>
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<td>Expenses related to real estate</td>
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<td>Reconciling actual payments with negotiated rates</td>
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<tr>
<td>1</td>
<td>Disaggregating research and securities brokerage costs</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Tracking the difference between negotiated rates and “headline rates” charged to smaller investors as fee savings</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Trade cost analysis summarizing explicit and implicit trading expenses</td>
<td></td>
</tr>
<tr>
<td><strong>FEE REDUCTIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Include (more) passive investment, where appropriate</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Seek no fee or discounted fee arrangements</td>
<td></td>
</tr>
<tr>
<td><strong>OTHER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Benchmark fees against peer group or industry averages</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>“Remaining diligent” comments</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Consider an evaluation metric for securities brokerage vendors based on execution skill</td>
<td></td>
</tr>
<tr>
<td><strong>Total Investment Fee Recommendations</strong></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Number of Recommendations</td>
<td>General IPS Recommendations</td>
<td>Total</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32</td>
</tr>
<tr>
<td></td>
<td><strong>ROLES AND RESPONSIBILITIES</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Define who conducts fee review and reporting</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Define Investment Consultant responsibilities</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Define Actuary responsibilities</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define Broker/Dealer</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define CIO role</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define custodian responsibilities</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define Fiduciary Duty</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define Fund Administrator responsibilities</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define Legal’s responsibilities</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define reporting requirements for Investment Managers</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define who selects Investment Managers</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define who sets benchmarks</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>IPS LANGUAGE</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define mandatory reporting expectations to the board</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Language to meet or exceed the Fund’s actuarial assumed rate of return over the long term</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>Include a discussion of risk in the IPS</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Update IPS target allocation to match current allocation in practice</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Add language to better reflect alternative investment universe</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>OTHER</strong></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Cleanup IPS recommendations</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Continue simplifying the IPS</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>Finalize the update to Investment Beliefs and Fee Policy</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Improve the IPS with more explicit and measurable details</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total General IPS Recommendations</strong></td>
<td>27</td>
</tr>
<tr>
<td>Number of Recommendations</td>
<td>Asset Allocation Recommendations</td>
<td>Total</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>7</td>
<td>Document existing practice or recommend potential changes for determining and evaluating the asset allocation</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Include general language regarding diversification</td>
<td>11</td>
</tr>
<tr>
<td>1</td>
<td>Provides specific language changes to be more specific regarding rebalancing ranges and guidelines</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Define a more precise definition but more flexible with the timing of asset allocation studies</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Add language for informal annual reviews of capital markets to improve flexibility of investments</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Recommending specific changes to investments</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Continue deep dive reviews of all asset classes annually</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>Update the asset allocation study</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Review the strategic asset allocation annually</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Avoid large changes in the strategic asset allocation too frequently</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Asset Allocation Recommendations</strong></td>
<td><strong>19</strong></td>
</tr>
<tr>
<td>Number of Recommendations</td>
<td>Other Topics</td>
<td>Total</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>LIQUIDITY OR CASHFLOW CONCERNS</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Contribution levels and/or negative non-investment cash flow concerns</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Make enhancements to liquidity reporting or management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OTHER TOPICS</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Complete an asset/liability study</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Consider potential plan design changes</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Develop capital market assumptions with the investment consultant and actuary working closely</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Perform an experience study</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Utilize the expertise of investment consultants to ensure alternative assets are properly valued and managed</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Generalize policy language to avoid being overly prescriptive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Other Topics</td>
<td>18</td>
</tr>
</tbody>
</table>
Sample Evaluation Categories
1. A detailed review of the retirement system’s investment asset allocation, including;

(A) the process for determining target allocations;

(B) the expected risk and expected rate of return, categorized by asset class;

(C) the appropriateness of selection and valuation methodologies of alternative and illiquid assets; and

(D) future cash flow and liquidity needs
Evaluation of Investment Policies, Procedures and Practices

April 2020
Section 2. Asset Allocation Review

2(A). Process for Determining Target Allocations

**Activities Completed:**
Review of the asset allocation guidelines in the IPS, and the most recent asset allocation and asset liability studies that were completed.

**Standard of Comparison:**
To ensure the Plan is following prevailing practices as it relates to the asset allocation process, NEPC used a two-step evaluation process. The first step involved comparing SAFPPF policies and practices to the prevailing practice of NEPC’s clients. In the second step, several peer institutions (Texas Public Pension Plans) were compared to SAFPPF’s asset allocation policies.

**Findings:**
SAFPPF has developed a clear process that allows for routine setting, monitoring, and review of
both the asset allocation of the portfolio and the assets and liabilities of the SAFPPF. This process is consistent with prevailing practice among peer public pension funds. More specifically, the IPS states that “formal asset allocation studies should be conducted at least every five years to determine the long-term targets.” As stated previously in Section 1, Enhanced Recommendations, of this Report, NEPC would define this type of study done as an asset-liability study instead of an asset allocation study. The forward-looking projections for the asset liability study are prepared by the Actuary, with input provided by the General Investment Consultant on capital market expected returns, volatilities and correlations. Both the Actuary and Consultant report their projections to SAFPPF Staff and Board. The strategic allocations can be found in the Executive Summary and General Investment Policies and Guidelines sections of the IPS.

Enhancement Recommendations:
As noted in our findings, SAFPPF has developed a detailed asset allocation and asset liability review process. The approach is robust and sufficiently detailed to maximize effectiveness. We recommend, as noted in Section 1, adding language for an informal review of capital market outlook on an annual basis to improve flexibility for SAFPPF to respond on the margins to rapidly changing market environments. This annual review may find cause for the Fund to consider minor changes to its asset mix more frequently than every five years. Frequent asset allocation changes, however, are not meant to be a tactical tool. Significant changes to the strategic asset allocation should not be made without careful consideration and are not expected to occur every year.

2(B). Expected Risk & Return Summary

Activities Completed:
NEPC reviewed the following documents.
• NEPC Asset Allocation Team process for developing expected risk and return forecasts
• SAFPPF Investment Policy Statement
• NEPC’s 2020 Capital Markets Outlook and Asset Allocation Assumptions
• 2020 ALM Study Actuarial Valuation Report
• 2019 Actuarial Valuation Report

Standard of Comparison:
We compared the process by which SAFPPF sets and regularly assesses expected risk and return information with NEPC’s experience with how similar public pension plans approach this process.

Findings:
As with most other public pension funds, SAFPPF relies on its General Consultant to provide capital market forecasts for expected returns, volatilities and correlations among the asset classes. Specialty Consultants also express their own view on market outlook in their strategic plans reported to the Board.

NEPC’s capital market assumptions provided to SAFPPF are developed by NEPC’s asset allocation team which consists of senior investment professionals as well as licensed actuaries. These assumptions are forward-looking and fundamentally based forecasts developed with proprietary valuation models to generate both an intermediate and long-term outlook. The long-term outlook
represents a foundation on which to build a strategic allocation to meet long-term objectives. The intermediate outlook represents a planning horizon over which more dynamic asset allocation decisions can be developed.

Asset class forecasts are based on a combination of forward-looking analysis and historical data. Forecasts are produced for 22 traditional asset classes and 25 alternative strategies with both pre-tax and post-tax assumptions. Historical information dating back to 1926, which includes monthly index returns, cash rates, inflation rates, bond yields, and valuation metrics are utilized to both frame the current economic environment and serve as the foundation for the volatility and correlation assumptions for all asset classes. Volatility assumptions are based primarily on the long-term history of the asset class with some adjustments for the current environment, while correlation assumptions are based on a mix of both long-term history and current trend.

Expected return forecasts are based on current market prices and forward-looking estimates. The forward-looking estimates rely on a fundamental building blocks approach that broadly includes intermediate and long-term assumptions for economic growth, supply/demand dynamics, inflation, valuation changes, currency markets, forward-looking global yield curves, and credit spreads. The building blocks are specific to each major asset class and represent the primary drivers of future returns. For example, the equity forecast model is based upon assumptions for real earnings growth with adjustments incorporated for profit margin changes, inflation, dividend yield, and current valuations trending to long-term averages. Fixed income return forecasts are based upon changes in real interest rates and forward yield curves, with credit sectors including an assumption for changes in credit spreads and credit defaults. Alternative investment strategies are similarly built from the bottom up with a building blocks approach based upon public market beta exposures while also incorporating an appropriate risk premium for illiquidity.

The asset class assumptions are formally prepared annually but may be revised during the year should significant shifts occur within the capital markets. The review process is overseen by the Asset Allocation Committee, which includes the asset allocation team and various members of the consulting practice groups. The responsibilities of the Asset Allocation Committee include highlighting current market risks. While the formal process is earmarked for an annual cycle, NEPC regularly assesses markets and opportunities. Should return and risk expectations change, or an event take place, either domestically or abroad, that will have an impact on our clients’ portfolios, NEPC makes clients aware as soon as possible and recommends actions accordingly.

In setting its asset allocation the SAFPPF Board considers the risk, reward and volatility of securities markets in setting the risk tolerance for the Fund. The Board also reviews the long-term characteristics of various asset classes, focusing on balancing risk with expected return. On the basis of the Board’s time horizon and risk tolerance, the following asset allocation guidelines in Illustration 2.1 have been established.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Policy Target</th>
<th>Minimum Allocation</th>
<th>Maximum Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Cap Equities</td>
<td>15%</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Small/Mid Cap Equities</td>
<td>3%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Int’l Equities</td>
<td>12%</td>
<td>9%</td>
<td>15%</td>
</tr>
</tbody>
</table>
Int'l Small Cap Equities  |  3% |  0% |  5%  
Emerging Market Equities |  6% |  3% |  9%  
Private Equity           |  7% |  0% | 10%  
**Total Equity**         | 46% |     |     
Core Bonds               |  5% |  0% | 10%  
High Yield               |  5% |  0% | 10%  
Bank Loans               |  5% |  0% | 10%  
Global Fixed Income      |  0% |  0% |  5%  
Emerging Market Debt     |  7% |  0% | 10%  
Unconstrained Fixed Income |  3% |  0% |  6%  
Private Debt             |  7% |  0% | 10%  
**Total Fixed Income**   | 32% |     |     
Real Estate              |  9% |  5% | 12%  
Private Real Assets      |  3% |  0% |  6%  
**Total Real Assets**    | 12% |     |     
Hedge Funds              | 10% |  5% | 15%  
**Total Multi-Asset**    |10% |     |     

SAFPPF 2020 capital market assumptions and expected rates of return and risk are presented for the 10-year and 30-year periods in Illustration 2.2 below. Risk is expressed as the expected standard deviation of the asset class and the total asset mix. Risk, as shown in the table is calculated using the correlation of assets and variance-covariance matrix based on the 2020 NEPC capital market expectations.

**Illustration 2.2**

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Policy Target</th>
<th>10-year Expected Rate of Return</th>
<th>Expected Risk (Standard Deviation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Cap Equities</td>
<td>15%</td>
<td>5.00%</td>
<td>16.50%</td>
</tr>
<tr>
<td>Small/Mid Cap Equities</td>
<td>3%</td>
<td>5.50%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Int'l Equities</td>
<td>12%</td>
<td>6.00%</td>
<td>20.50%</td>
</tr>
<tr>
<td>Int'l Small Cap Equities</td>
<td>3%</td>
<td>6.40%</td>
<td>22.00%</td>
</tr>
<tr>
<td>Emerging Market Equities</td>
<td>6%</td>
<td>9.00%</td>
<td>28.00%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>7%</td>
<td>9.40%</td>
<td>24.58%</td>
</tr>
<tr>
<td><strong>Total Equity</strong></td>
<td>46%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Bonds</td>
<td>5%</td>
<td>2.50%</td>
<td>6.01%</td>
</tr>
<tr>
<td>High Yield</td>
<td>5%</td>
<td>4.10%</td>
<td>12.50%</td>
</tr>
<tr>
<td>Bank Loans</td>
<td>5%</td>
<td>4.80%</td>
<td>9.00%</td>
</tr>
<tr>
<td>Emerging Market Debt</td>
<td>7%</td>
<td>4.82%</td>
<td>12.40%</td>
</tr>
<tr>
<td>Unconstrained Fixed Income</td>
<td>3%</td>
<td>4.82%</td>
<td>3.92%</td>
</tr>
<tr>
<td>Private Debt</td>
<td>7%</td>
<td>6.70%</td>
<td>11.54%</td>
</tr>
<tr>
<td><strong>Total Fixed Income</strong></td>
<td>32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Estate</td>
<td>9%</td>
<td>5.74%</td>
<td>14.30%</td>
</tr>
</tbody>
</table>
The mix of assets in the above table is expected to achieve the plan’s actuarial rate of return which is currently 7.25% over the next 30 years. It is important to note that capital market expectations are subject to change from year to year based on prevailing market conditions and the myriad of inputs considered when setting forward-looking capital market expectations.

2(C). Appropriateness of Selection and Valuation Methodologies of Alternative/Illiquid Assets

Activities Completed:
NEPC reviewed the following documents.
- Investment Policy Statement
- Asset Allocation study
- Alternative Asset strategic plans
- SAFPPF private market LP agreements
- Quarterly and annual private market LP statements for audit review

Standard of Comparison:
Alternative investments are defined in the Texas Government Code Sec. 815.3015 as “an investment in a private equity fund, private real estate fund, hedge fund, infrastructure fund, or another asset as defined by rule of the Board of Trustees.” Thus, to gain an understanding of how illiquid assets are selected, measured, and evaluated, the above listed documents were reviewed.

Findings:
Having reviewed SAFPPF’s most recent IPS, asset allocation study, and strategic plans for alternative asset classes, we find that the methodology for concluding that alternative investments were appropriate was sound given the Plan’s size and expertise of staff and specialty consultants.

The selection of alternative asset managers is a coordinated effort between investment Staff, asset class Consultants and the Investment Committee. As stated in the IPS, the Investment Committee has delegated authority for individual investment selection(s) to the investment managers. The IPS also outlines the asset classes that SAFPPF can invest in, including the benchmarks for each asset class and the role that each asset class plays in the Plan’s portfolio. This makes it clear to the reader how to measure the performance of the asset classes according to the benchmarks and according to the role that the asset classes play in the portfolio. Investment Practices and Guidelines for the asset classes also include information regarding the eligible types of investments and other attributes that should be considered when considering investments in alternative asset classes.
In relation to valuation, SAFPPF relies on the financial statements prepared and provided by third-party administrators and the auditors for each respective alternative investment. At least annually, each investment will have a fully audited valuation report.

Enhancement Recommendations:
The IPS does not specify a process around the valuation or confirmation of alternative assets valuations. NEPC recommends that language be added to the IPS that codifies the above process for valuing alternative assets.

2(D). Consideration and Incorporation of Future Cash Flow and Liquidity Needs

Actions Completed:
To assess the consideration and incorporation of future cash flow and liquidity, NEPC reviewed the most recent version of the IPS; the 2019 actuarial valuation report conducted by the System’s Actuary, Segal Consulting; the 2020 asset-liability study conducted by SAFPPF General Consultant, NEPC; the most recent version of the funding policy; and the 2019 strategic plans for Private Equity, Private Debt and Real Assets.

Standard of Comparison:
SAFPPF’s asset allocation is a function of a mosaic of inputs, including but not limited to, actuarial evaluations, return objectives, risk tolerance, and liquidity needs. NEPC reviewed the investment policies of SAFPPF’s Texas public pension fund peers and consulted with our internal Asset Allocation team who has the perspective of seeing what all our public fund clients are doing to address these issues and have actuarial backgrounds to speak to the processes and methodologies being used.

Findings:
The main focal point of the peer group policies with regards to liquidity was on structuring the investment portfolio, or asset allocation, to meet the Fund’s needs. With regards to specific investments, the liquidity of the asset, vehicle, or fund was very often cited as a consideration in the selection of investments. Given the information available, it is difficult to make a fair comparison amongst Plans. While Policies around liquidity may be compared to peers and industry prevailing practice, it (liquidity) is mainly rooted within the funding needs of the individual Plan.

The Asset-Liability Study (ALM) done in March 2020, used scenario analysis to highlight the impact of shifting economic and market regimes on the Plan and its target asset allocation. These scenarios included expansionary, overextension, recessionary, stagflation, and goldilocks environments. Stochastic analysis was also applied to project the potential range of outcomes across funded status and amortization periods holding current assumptions in place (i.e. current target asset allocation, current contribution rates, 2020 capital market assumptions, etc.).

Key findings from the Asset-Liability Study (ALM) done in March 2020:
The fund had a projected funded status of 87.2%, as of January 1, 2020 and is projected to maintain this funded ratio over the next 10 years, despite potential investment return headwinds and level contribution rates creating an uneven path as both assets and liabilities are projected to grow at an average rate of 4.1% over the next 10 years (see Illustration 2.3).
Illustration 2.3

*Assumes NEPC’s 10-year return assumption for the Current Target allocation of 6.2% per annum.

- 6.2% return on assets + (-2.1% net cash flow) = 4.1% net asset growth
- 9.0% accrual/interest cost + (-4.9% benefit payments) = 4.1% net liability growth

Full funding is projected in 2034 (Illustration 2.4), as projected by the amortization period metric (i.e. all projected results such as investment returns, retirements, benefits, etc. are realized).

Illustration 2.4

*Assumes NEPC’s 30-year return assumption for the Current Target allocation of 7.25% per annum

Net cash flow is expected to decline over the next 10-year period as benefit payment growth is projected to outpace contribution growth. Net cash flow can be considered the minimum required return to maintain current asset levels. The more negative net cash flow becomes, the more reliant the Plan becomes on investment returns, rather than contributions, to maintain funding levels. As a percent of assets, SAFPPF is expected to experience net cash flow of approximately -2.0%, per annum, over the next 10 years (Illustration 2.5). Negative cash flow, and the degree of it (i.e. 2%) is not uncommon for mature pension plans.
Over 30 years, net cash flow is expected to maintain a similar range and rate (Illustration 2.6).

The 2019 Strategic Plans for the private equity, private debt and real assets programs were also reviewed. These strategic plans provide a market outlook, snapshot of the current program, as well as projections on cash flows and commitments going forward. With regards to future commitments (typically reviewed annually), analysis is done on the historical commitment pace of the respective program, the unfunded commitments by vintage year, the reported valuations by vintage year, as well as the life-cycle of the funds in the program to identify the projected cash flows of the program. The historical projections are then combined with the future projections utilizing the manager’s best estimate of cash flows to provide a basis of relating the projected value of the private equity program to the fund. As the investment pace is developed, consideration is also given to investment opportunities that are expected to be in the market during the period under review.

While the pacing plan provides a solid foundation for planning future commitments to private markets, like any model, it is limited by its inability to precisely forecast the future or any independent variable perfectly. However, the modeling exercise helps mitigate the risk of facing an unforeseen liquidity challenge due to a significant market displacement and helps to continuously...
recalibrate the program and maintain a reasonable path towards implementing a long-term asset allocation. All three programs (private equity, private debt, real assets) were projected to be net cash flow positive in the years ahead. A sample of this analysis for private equity can be found below (Illustration 2.7).

**Illustration 2.7**

Staff also has a weekly process in place where they formally go over current cash levels, as well as any upcoming contributions or distributions to ensure the necessary liquidity is in place.

NEPC did not review or locate information relating to the hedge fund or real estate programs liquidity, or a formal liquidity study for the entire SAFPPF. That said, we believe the plan has ample liquidity to meet the current funding requirements of the Fund.

**Enhancement Recommendations:**

As stated previously in Section 1, as SAFPPF continues to build out its alternative asset programs, NEPC recommends that the Plan add language to the Risk Tolerance section of the IPS that periodically (every three years) requires a comprehensive report on liquidity risk.
2. A review of the appropriateness of investment fees and commissions paid by the retirement system
Guadalupe-Blanco River Authority
Defined Benefit Pension Plan Investment
Practices and Performance Evaluation
• Appropriateness of Investment Fees

GBRA does utilize the services of the investment consultant to negotiate and monitor fees. This is standard industry practice.
APPENDIX I

Questionnaire
Investment Fees & Commissions

1 Do the system’s policies describe the management and monitoring of direct and indirect compensation paid to investment managers and other service providers?

Guadalupe-Blanco River Authority does maintain a Funding Policy that addresses the sources of funding for costs associated with the management and oversight of the defined benefit plan, as seen below, but neither the Funding Policy nor the Investment Policy address the monitoring of direct and/or indirect compensation paid to investment managers or other service providers.

**PLAN COSTS/FEES FUNDING SOURCES**

Paid via annual operating budget:
- Administrative & Trustee Services
- Investment Consulting
- Legal Counsel

Paid via defined benefit plan:
- Investment Management

**RECOMMENDATION:**

*Specific language pertaining to the management and monitoring of fees should be incorporated into the IPS.*

2 What direct and indirect investment fees and commissions are paid by the system?

Per the funding policy, expected costs and fees are as follows:
- Administrative and Trustee/Custody
- Investment Consulting
- Legal Counsel
- Investment Management

3 Who is responsible for monitoring and reporting fees to the board?

Per the IPS, the Retirement and Benefit Committee of the Guadalupe-Blanco River Authority is responsible for the overall governance of the plan and serves as the plan’s governing body. The committee has the authority to hire and oversee external professionals to assist in the management of the plan.
4 Is monitoring and reporting of fees clearly defined in the investment policy?

The investment policy does not currently address the monitoring and reporting of fees.

RECOMMENDATION:

Include language in the IPS pertaining to monitoring and reporting of fees; the investment management fees, in particular.

5 Are all forms of manager compensation included in reported fees?

Investment manager compensation is stated in the investment manager contracts.

6 How do these fees compare to peer group and industry averages for similar services?

<table>
<thead>
<tr>
<th>INVESTMENT</th>
<th>PEER UNIVERSE</th>
<th>INVESTMENT VEHICLE</th>
<th>MGMT FEE/ EXP. RATIO</th>
<th>MEDIAN PEER UNIVERSE MGMT FEE/EXP. RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wells Fargo Adv Growth Fund</td>
<td>U.S. Large Cap Growth Equity</td>
<td>Mutual Fund</td>
<td>0.75%</td>
<td>0.75%</td>
</tr>
<tr>
<td>Eastern Shore Small Cap Core</td>
<td>U.S. Small Cap Core Equity</td>
<td>Commingled Fund</td>
<td>0.90%</td>
<td>0.57%</td>
</tr>
<tr>
<td>Diamond Hill Large Cap Value</td>
<td>U.S. Large Cap Value Equity</td>
<td>Mutual Fund</td>
<td>0.58%</td>
<td>0.72%</td>
</tr>
<tr>
<td>Sustainable Insight Capital</td>
<td>U.S. Large Cap Value Equity</td>
<td>Separate Account</td>
<td>0.65%</td>
<td>0.62%</td>
</tr>
<tr>
<td>Oppenheimer International Growth</td>
<td>EAFE Large Cap Growth Equity</td>
<td>Mutual Fund</td>
<td>0.89%</td>
<td>0.92%</td>
</tr>
<tr>
<td>LMCG Emerging Markets Equity</td>
<td>All Emerging Market Equity</td>
<td>Commingled Fund</td>
<td>0.85%</td>
<td>0.90%</td>
</tr>
<tr>
<td>Brandywine Global Opportunistic Fixed Income</td>
<td>Global Government Fixed Income</td>
<td>Commingled Fund</td>
<td>0.45%</td>
<td>0.45%</td>
</tr>
<tr>
<td>Johnson Core Bond</td>
<td>U.S. Intermediate Duration Fixed Income</td>
<td>Mutual Fund</td>
<td>0.24%</td>
<td>0.48%</td>
</tr>
<tr>
<td>Aberdeen Emerging Markets Debt</td>
<td>Global Emerging Market Fixed Income (Hard Currency)</td>
<td>Mutual Fund</td>
<td>0.90%</td>
<td>0.74%</td>
</tr>
<tr>
<td>Courage Credit Opportunities III</td>
<td>-</td>
<td>Private Debt</td>
<td>1.75% / 20%</td>
<td></td>
</tr>
<tr>
<td>Ironwood Multi-Strategy</td>
<td>-</td>
<td>Commingled Fund</td>
<td>120%</td>
<td></td>
</tr>
<tr>
<td>BTG Pactual Global Timberland Resources</td>
<td>-</td>
<td>Private Equity</td>
<td>1.00%</td>
<td></td>
</tr>
<tr>
<td>TerraCap Partners III</td>
<td>-</td>
<td>Private Real Estate</td>
<td>15% / 20%</td>
<td></td>
</tr>
<tr>
<td>TerraCap Partners IV</td>
<td>-</td>
<td>Private Real Estate</td>
<td>15% / 20%</td>
<td></td>
</tr>
</tbody>
</table>

Source: eVestment, CBIZ
7 How are the fee benchmarks determined?

Investment manager fees were benchmarked against median fees in appropriate asset class/strategy and investment vehicle universes provided in the eVestment database, an institutional investment data provider recognized in the institutional investment industry.

8 Does the system have appropriate policies and procedures in place to account for and control investment expenses and other asset management fees?

GBRA does maintain a funding policy that addresses the sources of funding for costs associated with the management and oversight of the defined benefit plan but neither the funding policy nor the investment policy address the monitoring of direct and/or indirect compensation paid to investment managers and/or policies pertaining to review and control of investment expenses.

9 What other fees are incurred by the system that are not directly related to the management of the portfolio?

In addition to utilizing the services of an institutional investment consultant, GBRA is also serviced by an actuary and a custody bank.

10 How often are the fees reviewed for reasonableness?

Currently there are no standard timeframes or protocol in place for GBRA’s review of the reasonableness of fees. GBRA currently relies on the expertise of their investment consultant to review, negotiate, and monitor investment expenses and asset management fees.

RECOMMENDATION:

*Services provided by an actuary, investment consultant, and custody bank should be reviewed every 3–5 years while investment manager fees should be reviewed every 1–2 years.*

11 Is an attorney reviewing any investment fee arrangements for alternative investments?

GBRA relies on its institutional investment consultant to review, negotiate, and monitor fee arrangements for alternative investments on their behalf.
Section 802.109 – Subsection (a) 3
Irving Fire Fighters’ Relief and Retirement Fund
Investment Practices and Performance Evaluation

Section 802.109 – Subsection (a) 3

<table>
<thead>
<tr>
<th>Law</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sec. 802.109, Subsection (a) 3</td>
<td>“a review of the appropriateness of investment fees and commissions paid by the retirement system”</td>
</tr>
</tbody>
</table>

Criteria or Topic | Irving Fire Status |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy Language</strong></td>
<td>According to the IPS,</td>
</tr>
<tr>
<td></td>
<td>“The Board, with the advice of the Consultant, intends to monitor and control investment costs at every level of the Fund. Accordingly, where appropriate and practical:</td>
</tr>
<tr>
<td></td>
<td>1) Professional fees will be negotiated,</td>
</tr>
<tr>
<td></td>
<td>2) passive portfolios will be considered to minimize management fees and portfolio turnover; and</td>
</tr>
<tr>
<td></td>
<td>3) investment managers will be instructed to minimize brokerage and execution costs while seeking best execution”.</td>
</tr>
<tr>
<td></td>
<td>(Section 2: Investment Objectives, Subsection 2.4 Investment Costs).</td>
</tr>
</tbody>
</table>
Irving Fire Fighters’ Relief and Retirement Fund
Investment Practices and Performance Evaluation

Section 802.109 – Subsection (a) 3 (continued)

<table>
<thead>
<tr>
<th>Criteria or Topic</th>
<th>Irving Fire Status</th>
</tr>
</thead>
</table>
| **Internal process for paying manager fees** | • Most fees are deducted from manager account or NAV.  
• When investment management fee invoices are received, the Pension Administrator emails the fee to the Board Chairman and cc's the Consultant and Custodian.  
• Once approved by the Board Chairman, the Pension Administrator authorizes the custodian to pay the fee.  
• If requested, the Consultant will perform an independent calculation (quarter ending market value x fee schedule x ¼) as a sanity check.  
• The overall process is not documented in any written formal policy. |
| **Investment Manager Fees** | • The Consultant monitors investment manager fees and appropriateness relative to similar investment strategies.  
• An investment manager fee analysis is included in every quarterly report. It shows each manager’s effective annual fee in both basis points and dollars.  
• When hired in June 2019, the Consultant and the Board made a conscious effort to reduce investment management fees going forward.  
• In October 2019, the Consultant prepared a portfolio Transition Plan with recommendations to eliminate many high fee strategies and increase the use of low cost passive index funds.  
• The Board approved the Transition Plan.  
• The Consultant predicts the total Fund level investment fees (inclusive of investment management fees, custodian fees and consultant fees) for Irving Fire will decrease from 0.98% effective fee to 0.61% effective fee once the transition is complete.  
• A summary of the analysis is shown in exhibit #3 on the following page. |
Exhibit #3 - Example of Expected Fee Savings

Excerpt from 10/2019 Transition Plan

Fee Comparison – High Level

<table>
<thead>
<tr>
<th></th>
<th>Old Fee Summary</th>
<th>Prospective Fee Summary</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>asset management</td>
<td>$1,579,094</td>
<td>$1,048,717</td>
<td>$530,376</td>
</tr>
<tr>
<td>investment advice/custody</td>
<td>$384,325</td>
<td>-</td>
<td>$219,605</td>
</tr>
<tr>
<td>investment advice</td>
<td>-</td>
<td>$120,000</td>
<td></td>
</tr>
<tr>
<td>custody</td>
<td>-</td>
<td>$44,721</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>$1,963,419</td>
<td>$1,213,438</td>
<td>$749,981</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Old Fee Summary</th>
<th>Prospective Fee Summary</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>asset management</td>
<td>0.79%</td>
<td>0.53%</td>
<td>0.27%</td>
</tr>
<tr>
<td>investment advice/custody</td>
<td>0.19%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>investment advice</td>
<td>0%</td>
<td>0.06%</td>
<td>0.11%</td>
</tr>
<tr>
<td>custody</td>
<td>0%</td>
<td>0.02%</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>0.98%</td>
<td>0.61%</td>
<td>0.38%</td>
</tr>
</tbody>
</table>

- Fee savings will be experienced at all levels of the investment framework (asset management, investment advice and custody).
Subsection 802.109 – Subsection (a) 3 (continued)

<table>
<thead>
<tr>
<th>Criteria or Topic</th>
<th>Irving Fire Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Annual Fees</td>
<td>• Based on our analysis (see Exhibit #4), we estimate Irving Fire paid a blended average fee of approximately 0.78% of Fund assets in calendar year 2019 to investment managers. This is above the industry average of 0.60% (according to recent NCPERS survey conducted):</td>
</tr>
<tr>
<td></td>
<td>• The biggest source of fees was in private real estate, hedge funds and international equity.</td>
</tr>
<tr>
<td></td>
<td>• The calculations were based on the following:</td>
</tr>
<tr>
<td></td>
<td>• For public markets managers the calculations are based on market values at the end of the fiscal year, multiplied by the basis points fee schedule. Strategies that were held for less than the full year were prorated based on the portion of the year held in the Irving Fire Fund.</td>
</tr>
<tr>
<td></td>
<td>• For private markets managers the calculation is based on the commitment amount multiplied by the base fund management fee for the investment period. The calculation adjusts for funds that charge on invested (rather than committed) capital, as is common for funds later in their lifecycle.</td>
</tr>
<tr>
<td></td>
<td>− The calculation does not take into consideration performance fees.</td>
</tr>
<tr>
<td></td>
<td>− The calculation does not take into consideration the underlying fee each fund of funds pays to the underlying managers.</td>
</tr>
<tr>
<td></td>
<td>• Total estimated fees paid for calendar year 2019 are detailed in Exhibit #4 (Consultant calculation).</td>
</tr>
</tbody>
</table>

1 The 2018 NCPERS Public Retirement Systems Study includes responses from 167 state and local government pension funds with more than 18.7 million active and retired members and total assets of $2.6 trillion. Roughly half the survey participants were Police/Fire pension plans.
### Exhibit #4 – Estimated Investment Management Fees Paid in 2019

<table>
<thead>
<tr>
<th>% of Fund</th>
<th>Year-end Market Value ($mm)</th>
<th>Estimated Annual Fee ($)</th>
<th>Estimated Effective Fee (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Equity</td>
<td>31</td>
<td>60.9</td>
<td>293,011</td>
</tr>
<tr>
<td>International Equity</td>
<td>31</td>
<td>60.5</td>
<td>407,721</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>12</td>
<td>24.1</td>
<td>111,706</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>6</td>
<td>11.7</td>
<td>304,571</td>
</tr>
<tr>
<td>Private Equity(^2)</td>
<td>3</td>
<td>6.2</td>
<td>52,513</td>
</tr>
<tr>
<td>Real Estate(^2)</td>
<td>14</td>
<td>26.9</td>
<td>331,112</td>
</tr>
<tr>
<td>Timber(^2)</td>
<td>2</td>
<td>3.3</td>
<td>31,107</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>100</strong></td>
<td><strong>195.7</strong></td>
<td><strong>1,531,742</strong></td>
</tr>
</tbody>
</table>

1. Approximately \$2.1 mm (\$1 million) was held in cash at the end of the year.
2. For private markets managers the calculation is based on the commitment amount multiplied by the base fund management fee (of the fund of funds manager) for the investment period. The calculation adjusts for funds that charge on invested capital (rather than committed), as is common for funds later in their lifecycle. The calculation does not take into consideration performance fees. The calculation does not take into consideration the underlying fee each fund of funds pays to the underlying managers.
## Subsection 802.109 – Subsection (a) 3 (continued)

<table>
<thead>
<tr>
<th>Criteria or Topic</th>
<th>Irving Fire Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication to the Board</strong></td>
<td>• The Consultant shares its fee analysis with the Board and Staff.</td>
</tr>
</tbody>
</table>
| **Brokerage Fees and Commissions** | • The public market managers pay explicit commission costs and implicit opportunity costs inherent in bid-ask spread differentials (equity and fixed income strategies, respectively).  
  • These cost are shared by all investors in a commingled trust or specific to Irving Fire in the investments that are structured as separately managed accounts.  
  • Commission costs were provided by each applicable investment manager.  
  • 2019’s brokerage fees and commissions are detailed on the following page in Exhibit #5.                                                                 |
| **Legal Review**                    | • According to the Pension Administrator, all legal contracts are completed by the Fund Chairman or Fund Attorney “if necessary”.                                                                                  |
### Exhibit #5 – Brokerage and Commissions Paid in 2019

<table>
<thead>
<tr>
<th>Accounts</th>
<th>Number of Shares Traded</th>
<th>Total Brokerage and Commissions ($)</th>
<th>Brokerage and Commissions Per Share ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Manager A</td>
<td>31,325</td>
<td>973</td>
<td>0.031</td>
</tr>
<tr>
<td>Equity Manager B</td>
<td>14,160</td>
<td>241</td>
<td>0.017</td>
</tr>
<tr>
<td>Equity Manager C</td>
<td>22,352</td>
<td>650</td>
<td>0.029</td>
</tr>
<tr>
<td>Equity Manager D</td>
<td>6,268</td>
<td>226</td>
<td>0.036</td>
</tr>
<tr>
<td>Equity Manager E</td>
<td>154,059</td>
<td>1,926</td>
<td>0.013</td>
</tr>
<tr>
<td>Equity Manager F</td>
<td>89,340</td>
<td>1,831</td>
<td>0.020</td>
</tr>
<tr>
<td>Equity Manager G</td>
<td>126,231</td>
<td>1,231</td>
<td>0.010</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>443,735 shares</strong></td>
<td><strong>$7,077 commissions</strong></td>
<td><strong>$0.016 per share</strong></td>
</tr>
</tbody>
</table>

1 All data reflects trade activity after the Fund transitioned from Morgan Stanley to Frost Bank in late October 2019. While at Morgan Stanley, commissions were bundled into the total advisory/custody relationship fee. To get an estimate of potential total calendar year trade volumes and commissions we recommend multiplying the total numbers by 6 months to annualize.
### Consultant Analysis

- Irving Fire’s increased use of passive index funds will help reduce overall costs for the Fund.
- The private markets related fees are expensive but not surprising, nor outside the norm for fund of funds.
- The use of fund of funds adds a double layer of cost to Irving Fire.
- The commissions paid appear reasonable and in-line with industry norms.
- It is unusual for Trustees to be involved in legal review/completion of paperwork required on new investments (other than signature execution after formal legal review).

### Recommendations

- We recommend Irving Fire continues to increase its passive exposure in efficient market classes.
- We recommend that Staff, the Board, and the Consultant all remain diligent in monitoring fees.
- We recommend Irving Fire staff document its internal process for fee reconciliation and payment in a formal policy document.
- We recommend Fund counsel reviews all legal contracts when the Fund hires a new vendor or investment strategy.
3. A review of the retirement system’s investment manager selection and monitoring process
Fort Worth Employees’ Retirement Fund

Evaluation of Investment Practices
Pursuant to Texas Government Code 802.109

June 2020
Section 5: A review of the retirement fund's investment manager selection and monitoring process.
June 2020

DOCUMENTS REVIEWED:
- Investment Policy Statement
- Due Diligence Questionnaires
- Due Diligence Reports from Investment Staff and Investment Consultant
- Site Visit Meeting Notes
- Investment Staff and Investment Consultant Presentations to the IC and Board
- Investment Consultant Monthly Performance Summary and Quarterly Performance Report
- Investment Manager Watch List Report

PRIMER ON INVESTMENT MANAGER SELECTION

Generally, the process for selecting an investment manager can take the following forms:

- Single manager selection/recommendation.
- “Premier List” or “Bench” Process
- Short-list candidate search.
- Long-list candidate search/request for information.
- Formal request for proposal.

Each of these processes can be appropriate depending on the asset class, size of investment staff, and/or decision making timeline. In every case, the depth of due diligence completed on the manager or managers under consideration should be the same, whether performed by staff, the investment consultant, or both. Decision makers need to evaluate the credibility of every firm, team, process, and performance track record in order to gain the appropriate level of conviction to support a “buy” recommendation. This conviction is gained through document reviews, interviews, and onsite due diligence. Documentation describing the rationale and extent of due diligence should be easily produced to provide a paper trail and justification for any recommendation. Each investment manager selection process is addressed in greater detail below. For simplicity’s sake, it is assumed that all manager hiring decisions are consistent with asset allocation guidelines and broad portfolio construction considerations.

Single Manager Selection/Recommendation

Single manager recommendations are most appropriate when time plays a critical role in the decision making process. There are two scenarios where this is most likely to be true. The first, and more common scenario, is during the selection of managers with finite fund-raising windows. The second, less common scenario, is when a plan is looking to implement an opportunistic investment made possible by a short-term market dislocation.

The first scenario is most likely to occur with investment managers in private markets. Examples include private equity, direct real estate, private credit, and some hedge funds. In general, the firms that manage these strategies announce the launch of a strategy, a target level of funds they hope to raise, and a date which the fund will no longer accept fund commitments. Because of the limited window of time clients have to commit to a new fund, pacing studies and general education are done prior to identifying a specific fund. When the right opportunity appears to present itself (asset-class, sponsor, time-line, etc.), deep due-diligence is conducted on that opportunity. If that due diligence confirms the attractiveness of the opportunity, the single manager is presented to decision makers.
For more opportunistic/tactical investments (exploiting relative valuation differences or regional opportunities, for instance), an existing manager taking on a new mandate or a pre-approved manager may be recommended to invest assets for the limited duration of the opportunity.

“Premier List” or “Bench” Process

This approach is largely dependent on the asset owner and can take a variety of forms. Typically, the asset owner will have a preapproved list of candidates, each of which has undergone the full due diligence process by the Investment Staff and/or Investment Consultant(s).

Short-List Candidate Search

Short-list searches are most appropriate in less complicated asset classes (core/core plus fixed income or large cap equity for example), where a single manager will be hired, the opportunity set is relatively static, or when staff lacks the time, expertise, or both to conduct due diligence and relies heavily on the investment consultant to carry out the investment due diligence function. Not all of these characteristics are necessarily present in each instance.

Typical of these searches, the investment consultant maintains a list of managers in each sub-asset class it rates as “buy” or “positive.” Based on specific client circumstances (vehicle preference, minimum investment size, plan type, etc.) the investment consultant presents a sub-set of this “buy” list for the client to consider. Any manager on this buy list should have gone through rigorous and ongoing vetting by the investment consultant prior to being presented to the client. The client selects an option from the list sometimes with, sometimes without, input from the investment consultant.

Long-list Candidate Search/Request for Information (RFI)

Long-list searches are most appropriate in relatively more complicated asset classes (emerging market debt or international small cap equity for example), where more than one manager will be hired, the opportunity set is dynamic, and staff is dedicated to investment due diligence and monitoring as their primary function. Not all of these characteristics are necessarily present in each instance.

Long-list searches generally start with a set of pre-identified characteristics that candidate managers should possess in order to be considered. Some of these characteristics are required, while others may be preferred. Third-party and internal data-basis are screened on these characteristics to generate the first draft of the “long-list.” Normally, the list is refined based on the industry knowledge of staff and the consultant. During this process managers are added and removed from the list based on this qualitative review of the initial screen. The final long-list of candidates is then sent an RFI. Completed RFIs are reviewed, and sometimes scored, by staff and/or the investment consultant in order to determine a short-list for additional interviews and eventually onsite due diligence. The top candidate(s) from this process are recommended to the board for hire.
Formal Request for Proposal (RFP)

A formal RFP process is similar in many ways to the long-list candidate search/RFI. Whereas the long-list search begins with screening a broad, unconstrained, universe of potential candidates, the RFPs starting universe is constrained to those managers that respond to the RFP. Like the long-list search, the list managers that respond to an RFP is narrowed using both required minimum qualifications (MQs) and some set of pre-determined preferred qualifications (PQs). Those managers that meet all MQs and most or all PQs move forward in the due diligence process. This can, but does not always, include a formal scoring of RFP responses by staff and/or the investment consultant. The top responses undergo additional due diligence, including interviews and onsite due diligence. Like the long-list search, the top-candidate(s) are recommended to the board for hire.

RFP search processes are typically utilized when they are mandated by law or by a plan’s governing documents. Because of this, RFPs are utilized across various asset classes, staff sizes, mandate sizes, and decision making timelines. In most cases, asset owners that utilize the full RFP process have full investment staffs dedicated to investment manager sourcing and monitoring.

FWERF - INVESTMENT MANAGER SELECTION

It is important to note that the manager selection process is often influenced by the asset class under consideration and thus, it is often appropriate to utilize multiple processes to source and select managers. FWERF’s selection process is no exception and can be broadly categorized into four main groups:

- Public equity, fixed income, and other liquid markets
- Absolute return strategies, including hedge funds
- Real estate strategies
- Private equity strategies

Public Equity, Fixed Income, and Other Liquid Markets

The FWERF process for selecting investment managers in public equity, fixed income, and other markets closely resembles a “Long List Candidate Search” although has remained flexible in its approach over time. Through a combination of meetings and diligence performed by Investment Staff, plus diligence and databases available through the Investment Consultant, FWERF is able to compile a list of viable candidates for discussion. Typically, the Investment Staff and Investment Consultant will have multiple conference calls to discuss the long list of candidates before narrowing. Once a smaller list has been created, the Investment Consultant creates search documents, which details all relevant details for the candidates, including but not limited to:

- Firm and product information
- Trailing, calendar, and rolling performance
- Trailing, calendar, and rolling absolute and relative risk
- Modern portfolio theory statistics
- In-depth profiles detailing management style, personnel, and asset flows
Generally this search document is then discussed with the Investment Committee and/or Board, with the goal to identify a smaller subset of managers for further due diligence. Depending on the asset class and the opportunity set, three to five potential candidates are notified of the FWERF’s desire for an onsite visit.

The onsite visits include both Investment Staff and Investment Consultant, with the goal to obtain more hands-on working knowledge of each candidate’s operations, management style, and overall cohesiveness as a team and firm. Typical onsite visits last anywhere from three hours to a full day and cover topics including, but not limited to:

- Senior management and strategic plans
- Portfolio management and research
- Analyst duties and coverage
- Trading and operations
- Compliance
- IT/disaster recovery

Through discussions between Investment Staff and Investment Consultant, candidate(s) are then invited to present to the Investment Committee. Investment Committee members are given a brief introduction of the candidate(s) by the Investment Staff and Investment Consultant, and are often given a set of questions/topics prior to the presentation by the candidate(s).

The selection of an investment manager will be voted on by the Investment Committee, which serves as the final step before taking the recommendation to the full Board for approval.

**Absolute Return Strategies, Including Hedge Funds**

As part of RVK’s independent review, we contacted the FWERF’s specialty hedge fund consultant, Albourne America, LLC. Albourne is a global alternatives consultant, primarily focusing on hedge funds, but with meaningful exposure to illiquid alternatives, as well. Albourne serves as a non-discretionary consultant with the FWERF, overseeing approximately $277 million of hedge fund assets based on December 31, 2019 market values.

Albourne is integral in the manager selection process for the FWERF and has provided the following information as part of this review:

*Albourne’s due diligence is based on our independent rating scheme. Factors are evaluated by the relevant IDD or ODD Analyst, including manager’s personnel and organization, investment philosophy, investment style(s) and products, research capabilities, financial condition, assets under management, type of clients, client service, back office capabilities, management fees and carried interest. The manager due diligence process can be summarized as follows:*

- **Scan universe for new opportunities daily via news, announcements, and word of mouth**
- **Ascertain trends and best practices**
- **Enter opportunities into Albourne database**
- **Assign responsibilities**
- **Screen strategy**
Fort Worth Employees' Retirement Fund: Evaluation of Investment Practices

June 2020

- Review Albourne legacy information
- Initiate contact with managers
- Review materials
- Screen against peers
- Have initial call or meeting & log notes
- Begin report draft
- Examine key issues & strengths
- Conduct onsite meeting
- Hold additional calls to answer questions
- Complete report
- Present to Committee(s)
- Refine report as needed
- Publish in database
- Update database for:
  - Monthly/quarterly data
  - News, periodicals
  - Newsletters & memos
  - Quarterly summary
- Update report as needed

Albourne’s overall approach is to perform ODD on a broad range of funds, and make ODD reports available to clients online at any time. We do not keep a narrow “positive list” of funds; rather our philosophy is to have an open door policy whereby we will review any fund on request subject to our resources and availability.

Overall, we believe Albourne provides top-tier investment manager selection support to the FWERF. Hedge funds and other absolute return strategies are complex and require a unique set of skills and professionals; Albourne has invested in both human and technological capital, allowing it to assist the FWERF in its mission to find attractive investment opportunities in a heterogeneous asset class.

**Real Estate Strategies**

As part of RVK’s independent review, we contacted the FWERF’s specialty real estate consultant, Alignium, LLC. Alignium is Chicago based boutique alternatives consultant, primarily focusing on real estate and real assets consulting with approximately $11 billion of client capital under advisement. Alignium serves as a non-discretionary consultant with the FWERF, overseeing approximately $205 million of core and non-core real estate assets based on December 31, 2019 market values.

Alignium is integral in the manager selection process for the FWERF and has provided the following information as part of this review:

*Alignium does not maintain a list of pre-approved managers. As part of our selection process, we draw upon our proprietary network and database of approximately 300 different managers we meet with on an annual basis, across all real estate strategies. Except in very rare instances, we do not perform formal RFP/RFI processes on behalf of our clients.*
On at least a weekly basis, our team discusses all manager meetings that have taken place during the prior week and the highlights of the firm, their strategy, macro outlook, and perceived pros and cons are tracked within our internal CRM system and manager database. During this meeting, a preliminary determination is made whether to pursue further diligence based on attractiveness of the investment opportunity and whether it is appropriate for any of our clients. If an opportunity is deemed appropriate, it becomes a “Stage 1” opportunity. During this stage of diligence, Alignium professionals may review fund documentation (LPA, PPM, etc.) as well as other proprietary materials including, but not limited to a due diligence questionnaire and historical performance information. Any investments which Alignium deems potentially attractive for recommendation to clients and are compatible with current client portfolios become “Stage 2” opportunities and are subject to further scrutiny. In this stage of diligence, Alignium will perform an exhaustive due diligence review, covering various quantitative and qualitative aspects of each potential investment opportunity. Our diligence/vetting process typically covers:

- Corporate Governance Items
- Track Record Review
- Legal Reviews
- Site Visits
- Reference/Background Checks
- Property-Level Diligence

From start to finish, our due diligence process typically takes between three (3) and six (6) months (but can take upwards to two (2) years in certain circumstances), in order to focus on all elements necessary to make a well supported investment recommendation and to negotiate the most favorable terms for the benefit of our clients.

If there is client interest in an opportunity and the investment opportunity proceeds through the firm’s vetting process, it is brought to our internal Investment Committee for a vote. At this point, a recommendation is vetted and scrutinized. The opportunity is voted on and either approved, or declined. If approved, the recommendation is made to the client. It is important to note that an investment opportunity for one client may not be suitable for other clients. Alignium serves in a non-discretionary capacity and as a result, individual client commitments are contingent on formal client approval.

The manager selection process is custom to the FWERF and includes a variety of different inputs from both Specialty Consultant and Investment Staff. The total real estate portfolio is split fairly evenly between open-end core real estate funds and closed-end private funds; the vast majority of Alignium and Investment Staff’s time dedicated to the asset class is focused on private funds, as those require consistent underwriting and commitments to keep up with overall target allocations.

Private Equity Strategies

The FWERF private equity program utilizes Hamilton Lane as its discretionary investment consultant and has done so for over 10 years. While the FWERF Investment Staff plays a role in the direction of the PE program, its influence is more present in overall pacing and a final legal review as opposed to direct manager selection. RVK works closely with Hamilton Lane on a regular basis, but also interfaced with their service team specific to this report. Hamilton Lane also provided RVK with a detailed process document outlining its manager selection process, excerpts of which can be found on the following page:
Hamilton Lane’s due diligence process is multi-tiered and places significant emphasis on those elements of risk and financial analysis that distinguish the private markets from the more conventional asset classes. The same thorough and time-tested process is utilized for every opportunity regardless of prior investments with the general partner. Our due diligence approach ensures that every important area of analysis is thoroughly reviewed, and it also provides the flexibility to discover new and/or unique areas of potential concern and opportunity. Our due diligence process typically lasts three months from initial screening to final investment recommendation but can be completed in less time depending on our familiarity with the general partner. The process includes the following steps:

Once a screened investment has been approved, preliminary diligence is conducted to delve into details surrounding the fund’s most important attributes. A meeting is held with the fund manager in Hamilton Lane’s offices, allowing members of our investment team to ask questions regarding the group’s investment philosophy, process and view of the market opportunity. Meeting notes are presented to the Investment Committee to decide whether to continue to the next step in the process.

Full Diligence

A detailed questionnaire, customized for the type of fund under diligence, is issued to the manager for completion and will form the basis of the full due diligence report. We also utilize information gathered from in-office general partner visits, site visits, and reference calls. During the full diligence phase, we focus on the following:

Track Record Analysis

Assessing investment acumen requires both a quantitative and a qualitative approach. Our quantitative process includes thorough analysis of the general partner’s track record, utilizing our proprietary models to identify drivers of success in the past and potential for replicating that performance in the future. We revalue unrealized portfolio companies to ensure that the track record is a true representation of the value of the portfolio. We analyze the track record along multiple dimensions -- deal size, lead investment professional, industry, geography, etc., to determine whether there are any trends or anomalies that are driving returns. We also run a value creation analysis to determine how much of the value generated for each company has come through debt reduction, multiple expansion or EBITDA increase.
Team/Organization

From the compensation, development and retention of the general partner's personnel to the back office resources and compliance procedures, it is important to understand how well organized a firm is and that the proper processes and procedures have been implemented to ensure that our clients' capital is safeguarded. The goal is to find a team that can select attractive investments, provide support to enhance those investments during the holding period, and build and manage a well-run organization suited to a long-term asset class. Finding good managers is not sufficient. Our objective is to find the best managers globally.

Site Visits

We will conduct a day-long site visit at the manager's office to go through, in detail, the group's track record, portfolio companies and investment strategy/philosophy. Further, this allows us to meet and evaluate the entire team. During meetings at our offices and on-site visits, we seek to meet as many members of the team as possible, as their individual abilities and collective cohesion are often crucial drivers of success. Understanding how staff is developed and compensation distributed across the organization, how the future direction of the firm is considered, and the positioning of the firm in the current market are all crucial to forming a judgment as to the caliber of the organization.

Reference Calls

Reference calls go beyond calling from the list provided by the general partner to our large professional network of contacts. We speak with people who have worked directly with the general partner on deals as well as people who have invested in and/or alongside of them and/or competed directly against them on deals. We connect with a diverse set of references to understand how the general partner operates in various capacities. For example, a limited partner may have had a very different experience than the CEO of a portfolio company, and former employees can provide insights not available elsewhere. Assimilating these disparate perspectives gives us a view of the character and quality of the individuals who make up the general partner group.

Decision Making

Rather than having one individual responsible for the direction of the fund, the Investment Committee is at the center of our investment decision-making process. Without exception, every investment opportunity that is received is presented to the Investment Committee. As an investment moves through the diligence process, it is brought back to the corresponding committee after each point of contact with the general partner in order to provide updates on the analysis and to gain approval to move forward. Over the course of due diligence, all issues are discussed prior to the final decision. For final approval of an investment, the designated Investment Committee requires a majority. Investments are deemed approved unless more than two Investment Committee member vote against it. These steps prevent any one individual from having undue influence on an opportunity throughout the process. All work during preliminary and full diligence phases is geared toward evaluating the viability of an investment using both a qualitative and quantitative approach. The resulting final report will be reviewed by the Investment Committee and a final decision will be made.
Hamilton Lane provides a thoughtful and thorough manager selection process with multiple checks and balances present throughout. In our opinion, Hamilton Lane exhibits notable strength in Operational Due Diligence, which requires a different skillset and personnel from traditional manager selection, especially in public markets. Operational due diligence is often overlooked, but provides the FWERF an additional risk mitigation tool in an asset class with numerous risks otherwise hard to quantify. A summary of Hamilton Lane’s operational due diligence can be found below:

**Operational Due Diligence**

In addition, we perform a full operational diligence review each time an investment manager raises a new fund that our Investment Committee approves for full diligence. Hamilton Lane’s operational due diligence efforts are led by our dedicated Operational Due Diligence (“ODD”) team, with oversight by our Head of Compliance, Risk and Strategic Integrations, Fred Shaw. The ODD Team is a part of our 16-member Compliance & Risk Management group, reflected in the diagram below:

Our dedicated ODD Team is independent of our investment due diligence team with a separate reporting line to our CEO. Our ODD process entails issuing a questionnaire to each manager, which focuses on the manager’s policies, procedures, and controls within the following key operational areas:
In addition, we request that manager’s provide their valuation policy, compliance manual, code of ethics, recent correspondence from regulators, internal and third-party independent exams of internal controls, auditor management letters, litigation questionnaires, recent financial statements, and other applicable policies and procedures. In order to assess the operational and reputational risk of each opportunity, background checks are also conducted on key executives by a third-party service provider we have engaged. A member of the team reviews the responses to the questionnaire and the documentation noted above and prepares a findings memo to discuss with the ODD deal lead assigned to the opportunity. Importantly, the ODD Team has independent authority to veto investment opportunities. Finally, the findings memo is discussed with the manager along with a review of the manager’s key operational areas.

Provided below is an overview of the operational due diligence workflow.
FWERF - INVESTMENT MANAGER MONITORING

The FWERF IPS details reporting requirements for the General Consultant, Specialized Consultant, and Investment Managers:

**General Consultant Reporting**

The Fund’s General Consultant will provide quarterly reports to the Trustees which, at a minimum, will review the following information about each Manager and the Total Fund:

- Overview of the most recent quarter and year-to-date investment indicators;
- Total Fund asset allocation;
- Attribution of investment return (income, capital appreciation or loss);
- Performance results by individual manager and Total Fund compared to appropriate benchmarks.

**Specialized Consultant Reporting**

The Fund’s Specialized Consultant(s) will provide at least semi-annual reports to the Trustees, which at a minimum, will review the following information about each Manager and the Total Program:

- Overview of the most recent quarter and year-to-date investment indicators;
- Performance results by individual manager and Total Program compared to appropriate benchmarks.

**Investment Manager Reporting**

Each Manager will provide the Investment Staff and the Advisory Consultant with a quarterly report of their activity no later than thirty (30) days after the end of a quarter. Each report will contain the following information:

- Beginning asset value at cost and market.
- Ending asset value at cost and market. New contributions should be separately identified. Asset listings should include appropriate information on each equity security position to include name, number of shares, dividend yield, cost, market, current gain or loss and industry or sector. Debt security information should include name, position size, cost, market, coupon, maturity, rating, yield, current gain or loss.
- Securities sold and purchased during the quarter.
- Quarterly, year-to-date, and since-inception performance results.
- Written discussion of most recent quarterly results and near-term investment strategy.
- Brokerage fees for the quarter and year-to-date by brokerage firm utilized, including average cents-per-share and total commission dollars expended.
- The name and responsibility of key personnel, if any, who have been hired or terminated from the organization. The Manager is to provide verbal and written notice to Investment Staff within ten days from the date a key person is hired or terminated.

The reporting requirements are clear and concise, with additional details provided for alternative asset classes in Appendixes B, C, and D. During RVK’s review of reporting provided by each entity, we note
that each report is thorough and at a minimum contains all items required by the IPS.

The FWERF IPS also details a manager "Watch List" process and report, which applies to all managers in the various asset classes in high growth, growth, diversification, capital preservation, and inflation. The watch list criteria is split between quantitative and qualitative factors:

**Quantitative Factors:**

*Test 1*  If the Manager’s rolling, five-year return (net of fees) falls below the rolling, five-year benchmark return for three (3) consecutive quarters.

*Test 2*  If the Manager’s rolling, five-year return (net of fees) for three (3) consecutive quarters ranks in the bottom third of the Advisory Consultant’s peer group universe.

**Qualitative Factors:**

- Violation of investment guidelines
- Deviation from stated investment style and/or shifts in the firm’s philosophy or process
- Turnover of one or more key personnel
- Change in firm ownership or structure
- Significant loss of clients and/or assets under management
- Significant and persistent lack of responsiveness to client requests
- Litigation
- Failure to disclose significant information, including potential conflicts of interest
- Chronic violations of the Fund’s Investment Policy
- Any other issue or situation of which the Investment Staff, the Advisory Consultant and/or Committee/Trustees become aware that is deemed material.

It is important to note that the FWERF Watch List does not necessarily require any additional action beyond reporting, but does increase the scrutiny placed on the manager(s) in question. A certain amount of discretion is warranted surrounding manager terminations and the current language and practice balances the need for additional monitoring without forced action. Managers may be added to the Watch List at the discretion of the Investment Committee or Board, but typically requires input from both Investment Consultant and Investment Staff. Additional criteria are detailed relating to removing a manager from the Watch List; however, these criteria are long-term in nature to avoid continuous additions and removals. The Investment Committee and Board receive a copy of the Watch List report for public asset classes on a quarterly basis.

Beyond what is detailed in the IPS, a critical piece of manager monitoring is ongoing due diligence performed by both the Investment Consultant(s) and Investment Staff. This process includes conference calls, site visits, in-house meetings, and presentations to the Investment Committee and/or Board. The Investment Staff has detailed due diligence reports on current managers, which are completed biannually and presented to the Investment Committee. These reports serve as the base for the FWERF’s ongoing monitoring program, which is supplemented by materials provided by the Investment Consultant(s). This process allows for multiple opinions and analyses, leading to a more thorough and complete view of the manager and its mandate. RVK also reviewed the manager monitoring practices and policies put in place at each Investment Consultant retained by the FWERF and found each consultant to have a thorough and
systematic approach.

The Investment Staff has intimate knowledge of managers currently in the portfolio, but also has adequate outside resources to conduct additional due diligence and monitoring as needed. The combination of Investment Consultants and longstanding relationships with managers allow the Investment Staff the tools and resources needed to stay apprised of material changes to any manager in the portfolio.

**RVK RECOMMENDATIONS**

- **Consider the addition of details surrounding a formal review process for managers.**
  
  - The current practice has been in place and functioning well for many years, but could be documented either in the IPS or a new “implementation policy” as previously recommended.

- **Consider the separation of reporting requirements by asset class, rather than by consultant.**
  
  - Different asset classes require different forms of reporting and level of detail. The current language indirectly implies that asset classes will line up directly with General and Specialized Consultants, which may not always be the case.

- **Revisit Watch List language for alternative asset classes.**
  
  - Many alternatives – namely anything with a capital call structure – should have a different form of performance measurement, which would also require unique language for inclusion or removal from the Watch List.
6. Date and location of next Investment Committee meeting
   – September 29, 2020
7. Invitation for public comment
8. Adjournment