County Employees Retirement System
Investment Committee – Special Meeting
April 22, 2022 at 3:00 PM ET
Live Video Conference/Facebook Live

AGENDA

1.	**Call to Order**	**Dr. Merl Hackbart**
2.	**Opening Statement**	**Legal Services**
3.	**Roll Call**	**Sherry Rankin**
4.	**Public Comment**	**Sherry Rankin**
5.	**Approval of Minutes* -- February 16, 2022**	**Dr. Merl Hackbart**
6.	**Pooling Language – Investment Policy Statement***	**Steven Herbert**
7.	**Adjourn**	**Dr. Merl Hackbart**

Committee Action May Be Taken

MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM
INVESTMENT COMMITTEE MEETING
FEBRUARY 16, 2022, 2:00 P.M., E.T.
VIA LIVE VIDEO TELECONFERENCE

At the February 16, 2022 County Employees Retirement System' (CERS) Investment Committee Meeting, the following Committee members were present: Dr. Merl Hackbart (Chair), George Cheatham, II, Jerry Powell, William O'Mara and Dr. Martin Milkman. Staff members present were David Eager, Steven Herbert, Victoria Hale, Rebecca Adkins, Ashley Gabbard, Erin Surratt, Steve Willer, Anthony Chiu, Joseph Gilbert, Jared Crawford, Ann Case, Natalie Young, Kristen Coffey, Sherry Rankin and Carol Johnson. Also in attendance were CERS' CEO Ed Owens and Kentucky Retirement Systems' CEO John Chilton and CERS Trustee Betty Pendergrass.

Dr. Hackbart called the meeting to order and Ms. Hale read the opening statement.

Dr. Hackbart introduced agenda item *Roll Call* and Ms. Johnson called roll.

Dr. Hackbart introduced agenda item *Public Comment*. Ms. Johnson stated that no public comments were submitted.

Dr. Hackbart introduced agenda item *Approval of Minutes November 8, 2021*. Mr. O'Mara moved and was seconded by Mr. Cheatham to approve the minutes as presented. The motion passed unanimously.

Dr. Hackbart introduced agenda item *Management Fee Presentation*. Dr. Hackbart stated that Ms. Case and Ms. Young would give the management fee presentation and their observations. Ms. Case introduced herself and informed the Committee that she is the Assistant Director of Accounting, Investment Operations Branch with Kentucky Public Pensions Authority (KPPA). Ms. Case stated that management asked her to give a brief presentation on the reporting and review process of the management fees. Ms. Case stated that she would start by giving a history of how KPPA arrived at where it is today and then she would turn the presentation over to Ms. Young, KPPA's Branch Manager. Ms. Case further stated that Ms. Young would outline KPPA's current processes. Ms. Case stated that during the last eight to ten years the discussion of fees has been a very hot and controversial topic. Ms. Case stated that there has been a lot of discussion around how the fees should be reported and defined and that there is no real uniform guidance. Ms. Case stated that this has left a lot of the decisions on how to report the fees in the hands of the reporting agents, which here is KPPA, and that all of the reporting agents have different opinions on the matter. Ms. Case stated that she was not going to debate that topic, but that she just wanted to give the Committee a history and let them know why different retirement systems are reporting fees in different ways. Ms. Case stated that in 2015 most of the managers she tracked for the systems did not report management and performance fees and the fees were netted and were not reported as a single line item. Ms. Case further stated that the fees were not billed through an invoice and most were not reported on the quarterly reports; however, this was not an uncommon practice. Ms. Case stated for the most part the only managers that billed KPPA via an invoice for their fees, and were captured and reported, were primarily public equity and fixed income managers. Ms. Case stated that prior to 2015 fees were captured, but it was primarily only the managers that were being invoiced as well as a few managers that voluntarily reported fees. Ms. Case stated that around 2015 the decision was made to request that all managers begin reporting management and performance fees. Ms. Case stated that as a result of this reporting change that the overall investment expenses almost doubled, which created a lot of attention surrounding the fees at that time. Ms. Case stated that for the next three years KPPA took time to ensure that the fees were being captured and reported correctly, because this was a new process not only to KPPA but to the custodial bank and KPPA's account team. Ms. Case stated that we were constantly being questioned about our fees and why they were so much higher than other retirement systems. Ms. Case stated that while this was easily explained it was not visible on our financial statements. Ms. Case stated that in looking at the financial statements all of the fees were reported in a single line and were classified as investment expenses. Ms. Case stated that what used to be just management fees was now both management and performance fees combined. Ms. Case stated that in 2017 the legislature passed Senate Bill 2 (SB2), which required KPPA, Kentucky Teacher's Retirement System, Kentucky Judicial Retirement Plan and the Kentucky Legislators Retirement Plan to include profit sharing, carried interest and partnership expenses in their reporting of investment fees. Ms. Case stated that in 2018 KPPA made the decision to report performance fees as a separate line item. Ms. Case stated that the following year KPPA separated out the overall investment expenses, which included the performance fees. Ms. Case stated that the hope was that this would allow KPPA to continue to be transparent with our fees, but also to have a better comparison when one compares KPPA to other retirement systems which are only reporting management fees. Ms. Case stated that while there is still no real guidance on how fees should be reported she does see a trend towards more plans reporting all of their fees in some manner. Ms. Case stated that some plans report them on the face of their financial statements, like KPPA does, and some report them as supplemental information to the financial statements. Ms. Case then turned the presentation over to Ms. Young to give some insight on KPPA's review process and what is reported to everyone. Ms. Young introduced herself as the Investment Operations Branch Manager at Kentucky Public Pensions Authority and explained that she is responsible for management and performance fees on a couple of different levels. Ms. Young stated that the management fees are paid in one of two ways. They are either invoiced to KPPA or they are netted by the manager against income for those fees that are invoiced. Ms. Young stated that the Investment Director reviews the invoice to ensure that the fees conform with the manager agreement and that once the Investment Director approves an invoice for payment it is sent to Investment Operations and Investment Operations processes the payment in the BNY Mellon system. Ms. Young further stated that the fees that are netted are reported to KPPA by the manager on their monthly or quarterly statements and then BNY Mellon records the fees in their system. Ms. Young stated that Investment Operations monitors the reporting of the management fees ensuring what the manager reported is the same as what BNY Mellon reported. Ms. Young stated that the manager fees that are netted are also reviewed by staff. While staff do not recalculate the fees, they do review them to ensure that they are at or below the manager's fee schedule and any errors or discrepancies that are found are discussed with the Office of Investments. Ms. Young stated that KPPA would then contact the manager to discuss the discrepancy. Ms. Young stated that, in addition to reviewing the fees, Investment Operations also reports the fees each quarter to the Investment Committees and posts the fees on the KPPA website. Ms. Young reviewed the current reporting process with the Committee members and stated that this report may look familiar because it is part of the standard reports that are given out to the Investment Committees each quarter. Ms. Young stated that the report captures all of the fees that are reported by each asset class and are separated out between manager, performance and miscellaneous fees. Ms. Young then reviewed the presentation slide titled Current Reporting Process Cont'd and stated that it showed an example of what is reported on the KPPA website. Ms. Young stated that this report showed the manager and performance fees by asset class and it also showed the market value, which allows one to see what the total fees were compared to the market value. Ms. Young stated that this report is required by SB2. Ms. Young thanked the Committee for allowing her to present to them and stated that if there were any further questions that the Committee members may reach out to KPPA staff who would be happy to answer them. Dr. Hackbart asked if anyone had any questions for Ms. Case or Ms. Young. Mr. Cheatham asked if the report on page 18 in Board Books was the report that is published on the KPPA website. Ms. Case replied yes. Mr. Cheatham stated that he thought KPPA was supposed to be reporting the fee as a percentage as well. Ms. Case stated that it is on the bottom of the report at the total level and the document referred to is just a small portion of the report to give the Investment Committee an example of what is on the KPPA website. On the KPPA website is the full report and at the very bottom the total assets under management and the fees and the basis points that are associated with them are found. Mr. Cheatham stated that it is not listed line by line percentage per manager. Ms. Case stated no, but that she could certainly add that additional information if the Committee wanted. Mr. Eager asked if the Committee would like to see that. Dr. Hackbart replied yes that it would certainly be more meaningful, otherwise, the Investment Committee is just looking at numbers. Ms. Case stated that she would get that information added to the report. Dr. Hackbart asked Ms. Case about the earlier observations regarding the higher fees as a result of combining management and performance fees together and asked if that was the correct interpretation. Ms. Case replied that prior to 2018 on the financial statements KPPA had one line item and listed those fees as investment expenses, which included management, performance and any miscellaneous fees. Ms. Case further stated that when staff added in the performance fees, which is what some retirement systems do not have, it made our fees look much higher. Ms. Case stated that is why KPPA separated out the fees beginning in 2018 to show that KPPA is more in line with other retirement systems. Dr. Hackbart asked if there are standards that KPPA could comply with and follow for comparison of management fees with peer groups for analysis. Ms. Case stated that there has been a lot of discussion regarding that topic and currently ILPA is probably the primary standard, but it is not a requirement. Ms. Case stated that several of the managers do report to KPPA with the ILPA format. ILPA has a very detailed report that is provided, but right now there are no requirements forcing managers to use that format. Ms. Case believed that in the near future there will be more guidance and standards to be followed. Dr. Milkman asked why there wasn't as performance fee listed on the report that she had been referencing. Ms. Case apologized stating that this is just a sample of the full report, but if the Investment Committee members look at the KPPA website they would see the performance fees. Ms. Case stated that what was being shown was public equity and fixed income, which do not have performance fees associated with them. Ms. Case stated that performance fees are primarily associated with limited partnerships, which are shown on the KPPA website. Ms. Case apologized and stated that she should have added the full report in the presentation. Mr. Cheatham suggested that staff put a zero in the performance fee column for transparency purposes. Mr. Eager suggested that staff add not applicable (N/A) in the performance fee column if there are no performance fees associated with it. This item was provided for informational purposes only.

Dr. Hackbart introduced agenda item *Pooling Language – Investment Policy Statement*. Mr. Herbert stated that the major changes to the CERS Investment Policy Statement that were to be voted on could be found on pages 23 and 24 of Board Books. Mr. Herbert stated that the changes codified the pooling language in this document. Mr. Herbert stated that during the trustee education session on investments he outlined how the custody bank, BNY Mellon, currently and historically had been using the pooling process to account for all of the investments. It basically is an investment pool of all of the strategies and then it is a unitized process within the ownership for each of the plans and the funds. This mainly comes from BNY Mellon's language and the process it uses, which the Board adopted. Dr. Hackbart stated that this is a draft edition of the CERS Investment Policy Statement and that there have been some editorial comments that the Committee might want to add. Dr. Hackbart stated that it would be beneficial and useful to the Committee members to have a training session detailing the pooling and utilization process. Dr. Hackbart further stated that it seems like a topic and process that is not well known. By providing a better understanding of the process it would help the Committee members feel more comfortable that it is accurate and also to tie back into the accounting system in how those records are kept. Dr. Hackbart asked Mr. Herbert if he would conduct this training session. Mr. Herbert stated yes he would do that. Mr. Herbert stated that while this is common among pension plans of this sort and size it is not a well-traveled topic. Dr. Hackbart stated that if anyone else had any additional editorial comments or questions to submit them to CEO Ed Owens within the next several weeks and a training session would be scheduled regarding this topic. Dr. Hackbart asked if there were any additional questions regarding the Investment Policy Statement. Mr. Cheatham stated that he understands the Committee is trying to get CERS' Investment Policy Statement in line with how operations are, but Mr. Cheatham thought everyone needs to understand exactly what House Bill 484 and the CERS partners and beneficiaries expect from a transparency standpoint with regard to the ownership of trust assets. Particularly given what appears to be included in this present legislative session with the KPPA housecleaning bill and the three year timeline with regard to getting the separation of CERS completed in a timely manner and the costs allocated to that. Mr. Cheatham stated that he thought it was kind of like having a merger in reverse, but at the same time he believed from conversations he had with the partners and beneficiaries of CERS that the main purpose of House Bill 484 was to ensure transparency and accountability with regard to the ownership of these assets. Dr. Hackbart stated that at the present time the ownership is specified as KRS and asked Mr. Herbert if that was correct. Mr. Herbert stated no, not exactly. Mr. Herbert stated in this situation there are two Boards of Trustees overseeing a pool of assets and those assets are owned by the individual plans. Dr. Hackbart stated that he understands that they are owned by the individual plans, but he was referring to the titling of the ownership. Mr. Herbert stated the titling falls under U.S. trust law. Mr. Herbert stated that in terms of pension law the two Boards sit over top of this process and control the assets. With the Board made up of the owners' representatives owners control of the process. Mr. Herbert restated that the ownership of the trust is at the unit level send representation to sit on the Boards that they control; therefore, to say that the ownership is in one certain place is not exactly accurate. The ownership is at both Board levels (CERS and KRS) in the current structure. Dr. Hackbart asked in terms of the legal documents how are the documents named and asked Mr. Herbert to include this topic in the training session as well. Mr. Herbert stated that it was titled KRS trust. Mr. Cheatham stated that the other part of that discussion has to deal with future investments and how the Committee wants to maintain ownership or unwind previous investments. Dr. Hackbart stated that he wants to ensure that everyone has an in depth understanding of the process and how CERS got to where it is now so everyone has confidence in the process as the Board looks at other potential options. Mr. Herbert stated that he would be happy to conduct the training session. Dr. Hackbart stated that the

Investment Policy Statement was a draft and that the Committee would not take a vote on it at this point in time because there are some editorial suggestions. If anyone had other detailed suggestions before the next meeting they were to forward them to CEO Owens or Dr. Hackbart and they would take those into consideration for the final draft.

Dr. Hackbart introduced agenda item *Administrative Investment Policy Statements*. Dr. Hackbart stated that the Committee members initially decided in early 2021 that it might be better to start the approval process of the Administrative Investment Policy Statements at the KPPA level and then KRS and CERS could review and approve the policies. In the meantime, based upon a number of suggestions, the decision was made to reverse that process. What is being presented are the final approved Administrative Investment Policy Statements for the Committee to vote on. The policies would then be forwarded to KPPA for consideration and compliance. Dr. Hackbart asked Mr. Herbert if that was a reasonable summary. Mr. Herbert stated yes, except for the last part. Since these policies fall under the CERS Board of Trustees purview, the CERS Board of Trustees would have to adopt these as its Administrative Investment Policy Statements and the polices would not have to go back to KPPA for approval. Mr. Steven Herbert stated that these are basically what was posted prior to HB 484 with the changes in the name to the CERS Board of Trustees as well as the changes to the legal statute references. Mr. Herbert stated that this needs to be done and needs to be adopted so the Board has these policies in place. There may be some changes to these in the future, but as there are so many polices it was recommended that any changes could be done on a policy per policy basis. After these are adopted by the Board, which is required, there could be a more in depth discussion of each policy individually. For instance, in the real estate policy a few examples of what the Committee might want to look at in the near future were added. The

Committee might want to have some of the expected return numbers reviewed by Investment staff and the Investment consultant to make sure those are in line or if those need to be changed. This was just one example, there are several things in the policy that the Committee might want to address. Mr. Herbert suggested reviewing these policies individually to see if any changes are necessary. Dr. Hackbart stated that this would be an item for approval by this Committee and asked if someone would move to approve these Administrative Investment Policy Statements. Mr. Cheatham moved to adopt these policy statements as presented and Dr. Milkman seconded the motion. The motion passed unanimously.

Dr. Hackbart introduced agenda item *Redemption of Putnam Dynamic Asset Allocation*. Mr. Herbert stated that this is a mandate with Putnam and it is in the real return portfolio. There was a memorandum from Mr. Chiu to the Investment Committee Chairs asking for a liquidation or termination of this mandate and it detailed the reasoning behind that decision. Mr. Chiu had received written approval from both of the Investment Committee Chairs and staff is proceeding with the termination process. There is a thirty day notice process, but there is flexibility around the redemption piece and staff are working through how best to do that. Mr. Herbert then introduced Mr. Chiu to go through some of the details regarding the decision to terminate the Putnam mandate. Mr. Chiu stated that the Putnam investment was made in 2020 and replaced a couple of global technical asset allocation investments, which were previously used to provide some liquid exposure to inflation and/or infrastructure assets. Putnam had some higher fees but they also had some more exposure to those areas. This strategy was mainly a sixty/forty equity fixed income allocation with weights a few percentage points around those benchmarks. It had a very high correlation with the S&P 500, over .95, which is also what has been experienced during our time having it. Mr. Chiu stated that it was decided to replace Putnam with some real tangible asset exposure, such as asset leasing, infrastructure or some other strategies that are more defensive and less correlated to the rest of our portfolio. Mr. Herbert stated that with these assets staff is conducting a search within the real return space and staff has contacted Wilshire regarding this. Mr. Herbert stated that staff has received a couple of calls from direct managers that are already working with Wilshire so this would be along the lines of diversifying out away from public equity and public bond markets, which is already in the portfolio. Mr. Herbert stated that he would update the Committee on how the search progresses. Dr. Hackbart asked Mr. Herbert about the redemption process and how that would be carried out. Mr. Herbert stated that the initial recommendation was to liquidate these assets to cash. KPPA staff were debating whether to use a transition manager or to let Putnam do that, but no decision has been made. If a transition manager is used everything would be transferred over to that transition manager's account and they would liquidate. The reason to do that would be for better transaction costs, but KPPA staff are not convinced that would be the case. This item was provided for informational purposes only.

Dr. Hackbart introduced agenda item *Investment Compliance Update – KPPA Website.* Mr. Herbert stated that this is the first compliance report since he has been here and it is a very short one. Mr. Herbert stated that he began here without a compliance function in Investments and he was building one. Mr. Crawford is KPPA's compliance officer. Mr. Herbert stated that he first began by reviewing the statutes, then policy and finally the processes. He presented the KPPA Statutory Compliance Checklist which is basically what staff is required to provide for public dissemination onto the KPPA website. The boxes would be checked once the website is reviewed and this report executed. Mr. Herbert stated that Mr. Crawford created the checklist. There are two identical statutes for KRS and CERS, which are KRS 61.645 and 78.782. Mr. Herbert then introduced Mr. Crawford. Mr. Crawford stated that he is just at the beginning and he has started the process of talking with Communication about how to move forward in revamping the KPPA website because there are a lot of items that are vague or difficult to find. As of today, he said that he checked every box. There was some language in the KPPA Statutory Compliance Checklist for Website Postings that he would like to refer to the Legal Department. It was regarding the third bullet point that refers to "as applicable" and refers to the ILPA, which is an organization that is for people that invest in private equity. When talking about fees this is something that he would like to explore moving forward, but he did not understand what "as applicable" means. Mr. Crawford asked if Ms. Hale was ready to comment on that. Ms. Hale stated that "as applicable" means for those asset classes that KPPA actually has, which are covered by the ILPA standards, KPPA will report the fees for those asset classes and for those managers in the manner recommended by ILPA. For those that are not private equity KPPA is not going to report them in that manner and statutorily it is not required to do so. That is what the "as applicable" means. It is not for every asset class that KPPA has, but KPPA does have some. For those managers, as Ms. Case indicated, these fees are reported and tracked accordingly. Mr. Crawford stated that the checklist can be found on the KPPA website and everyone is welcome to look at it. Mr. Crawford stated that this is a starting point and it is posted so that people see that KPPA is being transparent and is doing its best to make sure that this happens. Mr. Herbert stated that staff are going to double check with ILPA regarding the third check box to make sure that KPPA is following those standards correctly. Regarding the last check box about reporting each manager on the performance report. KPPA does not have a report that shows each manager, but it will. What had been posted on the website, as of the day before, is a quarterly report and the law actually says, after July 1, 2021, that KPPA has to post on its website a quarterly report for each of the plans separated out by HB 484. Mr. Herbert stated that he posted a September quarterly report that is not perfect, but it gives the top line returns, the asset allocation returns as well as a benchmark. The one thing missing is each manager. KPPA does not have a current report that has each manager listed nor does Wilshire, but KPPA staff are working on that. Staff have to separate out each manager per plan and that has never been done. BNY Mellon does not currently do that either. The December report is not ready from Wilshire or KPPA staff. All of the data that KPPA gets from the ninety to one hundred mandates is still being sorted through in order to split this out per plan. Mr. Herbert stated he was excited at where KPPA is headed, but he is in no way happy with what KPPA has so far. Dr. Hackbart asked Mr. Herbert when he believes that KPPA will be in a position to draw routine quarterly reports. Mr. Herbert stated that it will be at some point this year. Dr. Hackbart stated that KPPA is moving in that direction, but is not there yet. This item was provided for informational purposes only.

There being no further business, Dr. Hackbart asked if there was a motion to adjourn the meeting. Dr. Milkman moved and was seconded by Mr. O'Mara to adjourn the meeting at 2:55 p.m. The next meeting of the County Employees Retirement System Investment Committee is scheduled for 2:00 p.m. on May 25, 2022. Copies of all documents presented are incorporated as part of the minutes of the County Employees Retirement System Investment Committee meeting held February 16, 2022.

CERTIFICATION

I do certify that I was present at this meeting and I have recorded above the action of the Committee on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in connection with this meeting.

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Recording Secretary

I, as Chair of the County Employees Retirement System Investment Committee of the Board of Trustees of the County Employees Retirement System, do certify that the Minutes of the meeting held on November 8, 2021 were approved by the County Employees Retirement System Investment Committee on February 16, 2022.

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Committee Chair

I have reviewed the Minutes of the County Employees Retirement System Investment Committee Meeting on February 16, 2022 for form, content, and legality.

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Office of Legal Services

County Employees Retirement Systems

Investment Policy Statement

Adopted ~~November~~DATE ~~10,~~ 202~~1~~2

This Investment Policy Statement (IPS) is issued by the CERS Board of Trustees (CERS Board or CERS Trustees) of the County Employees Retirement System (CERS) in connection with investing in the pension and insurance trust funds (Funds) of CERS.

I. Introduction

A. Purpose

The purpose of this IPS is to define the framework for investing the assets of CERS. This IPS is intended to provide general principles for establishing the goals of CERS, the allocation of assets, employment of outside asset management, and monitoring the results of the respective Funds.

The pension plans administered by the County Employees Retirement System (CERS) are Qualified Pension Plans under Section 401(a) of the Internal Revenue Code. Additionally, Kentucky Revised Statutes 61.701 establishes health insurance benefits to recipients of CERS. Kentucky Revised Statutes 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The CERS Board shall administer the insurance fund in the same manner as the pension funds.

B. Philosophy

The CERS Trustees recognize their fiduciary duty not only to invest CERS funds in formal compliance with the Prudent Person Rule, but also to manage those assets in continued recognition of the basic long-term nature of CERS. The CERS Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in the law and this document, that the assets of CERS shall be proactively managed—that is, investment decisions regarding the particular asset classes, strategies, and securities to be purchased or sold shall be the result of a long-term investment strategy. Being a long-term investor means that CERS Trustees are willing to accept a certain amount of risk in pursuit of potentially higher reward and that the Trustees can afford to be patient for a longer period of time.

The CERS Trustees recognize that asset allocation is the primary driver of long-term investment performance, and will therefore review asset allocation and asset-liability studies on a regular basis as outlined in Section III of this document. The Asset Allocation Guidelines represents a strategic decision, with the primary aim that CERS meet their performance objectives in the long-term, but understanding that this may not necessarily occur every year.

The CERS Trustees recognize that there is generally an inverse relationship between market efficiency and the ability for active management to produce excess returns. Therefore, investments in efficient markets will be made using index or index-like investments with the goal of replicating, or exceeding, index returns with low management fees and low tracking errors. Active management will be pursued in less efficient markets accepting higher tracking error and paying higher management fees with the expectation of producing excess returns over the long term. This allows the KPPA Office of Investments staff (KPPA Investment Staff) and consultant(s) to focus their efforts on identifying, selecting, and monitoring managers, as well as the overall management of fees paid, in the areas of the market most likely to produce excess returns.

The CERS Trustees recognize that, commensurate with their overall objective of maximizing long-term return given the appropriate level of risk, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their fiduciary Responsibilities and the concept of Modern Portfolio Theory, the CERS Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the CERS Trustees rely upon appropriate professional advice from staff and service providers.

The CERS Trustees recognize the importance of responsible investing. Accordingly, the Trustees acknowledge that integrating Environment, Social, and Governance (ESG) policy principles that engages the issue from a risk, opportunity and fiduciary duty perspective will enhance investment results. The overriding consideration for the Trustees will continue to be investing to maximize the long-term returns for plan beneficiaries.

II. Responsibilities

The CERS Trustees and other fiduciaries shall discharge their duties with respect to CERS: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations, and other instruments governing CERS.

Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of CERS income or assets. Every fiduciary shall provide adequate security and a reasonable rate of return to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).

A. CERS Board of Trustees

The CERS Investment Committee is created by Kentucky Revised Statutes 78.790(1)(b) and the CERS Board as set forth in the CERS Board's Statement of Bylaws and Committee Organization (Section 2.2(e)). The Chair authorizes and directs the appointment of a CERS Investment Committee with full power to act for the CERS Board in the acquisition, sale and management of the securities and funds of CERS in accordance with the provisions of any applicable statutes, and policies of the CERS Board. The CERS Investment Committee has the power to act on behalf of the CERS Board on all investment related matters, including the acquisition, sale, safeguarding, monitoring and management of the assets, securities and funds of CERS. The CERS Board shall require a vote of six (6) Trustees to ratify the actions of the CERS Investment Committee at the CERS Board meeting following the CERS Investment Committee meeting where such action was taken.

B. CERS Investment Committee

The CERS Board of Trustees shall establish an investment committee as required by KRS 78.790(b). The CERS Investment Committee shall consist of five members of the CERS Board and shall be specifically composed as follows: The three (3) members with investment experience appointed by the Governor under KRS 78.782(1)(b); one (1) elected member to be appointed by the CERS Board Chair; and one (1) member appointed by the Governor under KRS 78.782(1)(b) with retirement experience, to be appointed by the CERS Board Chair. The CERS Investment Committee has the authority to implement the investment policies adopted by the CERS Board and to act on behalf of the CERS Board on all investment related matters.

The CERS Investment Committee has the following oversight responsibilities:

1. Assure compliance with this IPS and all applicable laws and regulations.
2. Approve the selection and termination of service providers. If the need arises to terminate a manager between CERS Board meetings, the KPPA Executive Director, Office of Investments, (CIO) will have discretion to do so after receiving approval from either the CERS Board Chair or the CERS Investment Committee Chair, with concurrence by the CERS CEO. The CERS Investment Committee and the CERS Board must be notified of the manager termination at the next scheduled CERS Investment Committee and CERS Board meetings.
3. Meet no less than quarterly to evaluate whether this IPS, the investment activities and management controls and processes continue to be consistent in meeting CERS goals. Mandate actions necessary to maintain the overall effectiveness of the investment program.
4. Review assessment of investment program management processes and procedures, and this IPS relative to meeting stated goals.

C. KPPA Investment Staff

The CIO, is responsible for the administration of investment assets of CERS consistent with the policies, guidelines and limits established by the federal and state laws, the CERS Board, and the CERS Investment Committee.

The CIO receives direction from and reports to the KPPA Executive Director. The CIO shall provide information to the CERS Investment Committee on all investment matters, including but not limited to the following:

i. Maintaining the diversification and risk exposure of the Funds consistent with policies and guidelines.
ii. Assessing and reporting on the performance and risk exposure of the overall investment program relative to goals, objectives, policies and guidelines.
iii. Monitoring and assessing service providers to assure that they meet expectations and conform to policies and guidelines.
iv. Recommending changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals; and acting as liaison on all investment related matters.
v. Identifying issues for consideration by the CERS Investment Committee and preparing recommendations or reports regarding such matters.
vi. Preparing a memo for the CERS Investment Committee for each proposed investment which shall cover the pertinent details of the investment, which should include, but not be limited to: the amount of the investment, type of investment, purpose, opportunity/goal,

risks, volatility assumptions, liquidity, structure, fees, background of investment firm with reasons for selection, list of other firms considered, which CERS funds will invest, and the specific reasons, if any, why a CERS plan may be excluded from the investment.

vii. Engaging in a monthly meeting with the CERS Investment Committee Chair and the CERS CEO to discuss market trends and all things relevant to the CERS plans positioning.

The CIO or designee is authorized to execute trades on fixed income and equity securities (including exchange-traded funds (ETFs) and to execute proxies for the CERS Board consistent with this IPS.

To carry out this IPS and any investment related decisions of the CERS Board, the CERS Chief Executive Officer (CEO), and the CIO or designee are authorized to execute agreements and other necessary or proper documents pertaining to investment managers, consultants, investment related transactions, or other investment functions. All investment decisions of the CEO and/or the CIO not addressed in this IPS will be ratified by the Investment Committee and the Board of CERS.

D. Investment Managers

In instances where the CERS Investment Committee, in consultation with the CIO, has determined it is desirable to employ the services of an external Investment Manager, the following shall be applicable:

i. Investment Managers shall be qualified and agree to serve as a fiduciary to CERS and should be of institutional quality as deemed by KPPA Investment Staff in collaboration with the investment consultant(s).
ii. Notwithstanding the CIO responsibilities when selecting a new investment, when the KPPA Investment Staff seeks a new external Investment Manager, the Investment Committee shall interview the top three candidates identified and considered by KPPA Investment Staff and the Investment Committee will participate in the selection of the Manager.
iii. Investment Managers shall manage assets in accordance with this IPS and any additional guidelines established by contract, as may be modified in writing from time to time.
iv. Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.
v. The assets managed by any one active or passive investment manager shall not exceed 15% of the overall assets in the pension and insurance funds.
vi. All investment management services will be contracted according to the CERS Investment Procurement Policy established by the CERS Board.

E. Custody Bank

KPPA shall hire custodians and other agents who will be fiduciaries to CERS and who will assume responsibility for the safekeeping and accounting of all assets held on behalf of CERS and other duties as agreed to by contract.

A process shall implement portfolio accounting system that includes plan accounting and unitization methods. An investment related service provider(s) may be selected to execute the process in accordance with the Boards' selection process. The following is a brief description of our plan accounting processing:

Within the plan accounting structure there are two primary types of accounts Plan Accounts and Pool Accounts. Plan Accounts are the owners of the investment pool. An account is established for each plan and these accounts hold Units of Participation that represent the plan's/fund's invested value of the investment pool. Pool Accounts are accounts that hold the assets of the investment pool where all investment related activity and earnings occur. These accounts are the investment strategies of the pool. Units of Participation are bought and sold as each plan/fund contributes or withdraws cash or assets from the investment pool. The investment pool earnings are then allocated to plans utilizing a cost distribution method that allows for fluctuating prices experienced in capital markets. This involves earnings allocated to the plan accounts with an increase or decrease in cost on the Unit of Participation Holdings of the Plan Accounts. Correspondingly, the price of the Unit of Participation Holdings is updated to reflect change in market value in the investment pool. Earnings are allocated based on the daily weighted average of Master Trust Units held by each plan/fund account during the monthly earnings period. This method is commonly used when plans make multiple contributions or withdrawals from the investment pool throughout the month as it eliminates allocation distortion due to large end of month cash flows.

An institutional accounting system shall support a method for determining the amount of monthly earnings are allocated to each plan account.

F. Investment Consultants

Qualified independent investment consultants may be retained by the CERS Investment Committee for asset allocation studies, asset allocation recommendations, performance reviews, manager searches, and other investment related consulting functions and duties as set forth by contract.

G. Selection

Qualified investment managers, investment consultants, and other investment related service providers shall be selected by the CERS Investment Committee in accordance with the IPS. The selection shall be based upon the demonstrated ability of the professional(s) to provide the required expertise or assistance described in the Request For Proposals (RFP) or Request For Information (RFI),if utilized. In order to create an efficient and effective process, the CERS Investment Committee or CIO may, in their sole discretion, utilize an RFI), an RFP), third party proprietary software or database, review of existing service provider capabilities, or any combination of these or other methods to select a service provider.

III. Asset Allocation Guidelines

In establishing asset allocation guidelines, the CERS Board recognizes that each CERS plan has its own capacity to tolerate investment volatility, or risk. Therefore, each CERS plan has been studied and asset allocation guidelines have been established on a plan by plan basis. The CERS Board will ensure the asset allocation guidelines of each plan are reviewed annually. The CERS Board will provide the CERS Investment Committee with the results of any asset liability valuation study and guidance for determining the needs of any particular CERS plan.

This asset allocation is the result of an update to the Investment Policy enacted on January 1,

2021. The changes to the asset allocation were arrived upon after the Asset Allocation study of November 2020 and an Efficient Frontier analysis conducted in November 2021. The CERS Board has established the following Asset Allocation Guidelines, effective November 10, 2021.

Asset Class	**Target**	Minimum	Maximum
Equity			
Public Equity	**50%**	35%	65%
Private Equity	**10%**	7%	13%
Fixed Income			
Core Fixed Income	**10%**	8%	12%
Specialty Credit*	**10%**	7%	13%
Cash	**0%**	0%	3%
Inflation Protected			
Real Estate	**7%**	5%	9%
Real Return	**13%**	9%	17%

*includes High Yield Fixed Income

The intent of the CERS Board in allocating funds to the investment managers is for the investment managers to fully invest the funds. However, the CERS Board is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed five percent (5%) of the manager's allocation for any given quarter, unless such cash holdings are an integral part of a fixed income manager's investment strategy.

The individual CERS plan level asset allocations will be reviewed monthly by KPPA Investment Staff relative to its target asset class allocation taking into account any tactical asset allocation shift directed by the CERS Investment Committee.

Regarding individual investment manager initial allocations, KPPA Investment Staff will get approval at the CERS Investment Committee meeting for a specific dollar amount intended to be committed to a closed-end fund such as private equity or real estate funds and will get approval for a percent of the appropriate asset class target for open-end managers. For those open-end funds where assets can be added or subtracted, the CIO will have discretion to reduce or increase an investment manager's allocation between 50% and 150% of the approved target. The target will not be raised prior to the one-year anniversary of the amount approved by the CERS Investment Committee, and must be reported to the CERS Investment Committee at the next scheduled meeting. If the need arises to terminate a manager between CERS Board meetings, the CIO will have discretion to do so after receiving approval from either the CERS Board Chair or the CERS Investment Committee Chair with concurrence by the CERS CEO. The CERS Investment Committee and the CERS Board must be notified of the manager termination at the next scheduled CERS Investment Committee and Board meetings.

Short-term market shifts may cause the asset mix to drift from the allocation targets. Should the target percentage fall out of the indicated range for a particular asset class, KPPA Investment Staff shall direct rebalancing transactions to reallocate assets from the over-allocated asset class to the under-allocated asset class. Within the allowable ranges, KPPA Investment Staff should use regular cash flows to rebalance toward targets to avoid incurring additional trading costs to correct minor deviations from asset allocation targets. Except when there is a perceived extraordinary downside risk in a particular asset class, movement outside the normal ranges should be avoided.

Investments in private assets are generally less liquid than investments in public markets securities and are typically implemented via periodic commitments to funds with limited partnership structures. As a result, actual allocations to these asset classes may deviate from their strategic targets for extended periods. Actual vs. target deviations for these asset classes shall not be considered in violation of the Asset Allocation Guidelines. However, when identified by the KPPA Investment Staff the deviation must be reported to the CERS Investment Committee Chair within ten (10) business days and at the next Quarterly CERS Investment Committee meeting and each Investment Committee meeting thereafter until the allocation is in compliance with the target. Under/overweights to these asset classes shall be invested in public markets securities with the most similar risk/return characteristics as a short-term proxy for the private asset classes.

In keeping with its responsibility as a CERS Board and wherever consistent with its fiduciary responsibility, the CERS Board encourages the investment of the fund's assets in investments, funds, and securities of corporations which provide a positive contribution to the economy of the Commonwealth of Kentucky. However, where any security is not a prohibited investment under the governing laws and policies, discretion will be granted to the appointed investment managers in the selection of such securities and timing of transactions consistent with the following guidelines and restrictions.

A. Equity

Public Equity

Investments may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETFs or any other type of security contained in a manager's benchmark. Each individual equity account shall have a comprehensive set of investment guidelines prepared by the CIO, which contains a listing of permissible investments, portfolio restrictions, and standards of performance for the account.

The KPPA Investment Staff internally manages approximately fifteen (15%) percent of US equity index funds that are intended, consistent with the governing Plan documents, to gain exposure to a broad asset sector to replicate the characteristics of the asset class, to minimize administrative expenses and to help achieve overall portfolio objectives. The KPPA Investment Staff may passively manage up to twenty (20%) percent of the overall portfolio dedicated to these efficient markets. Beyond this level the CIO shall seek the approval of the Investment Committee by explaining how further passive management would help achieve the overall portfolio objectives. These objectives can be achieved through several management techniques, including, but not limited to, portfolio optimization, non-reinvestment of index dividends, and other management techniques intended to help achieve the investment objectives of CERS.

Private Equity Investments

Subject to specific approval of the CERS Investment Committee, investments may be made for the purpose of creating a diversified portfolio of alternative investments. Private equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of risk with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments. Examples of such investments include, but are not limited to: private investments into venture capital; leveraged buyouts; special situations; distressed debt; private debt; timberland, oil and gas partnerships; infrastructure; commodities; and private placements. While it is expected that the majority of these assets will be invested within the United States, a portion has been allocated to non-US investments. These non-U.S. investments are not restricted by geography.

The private equity market is highly sophisticated and specialized with respect to variety and types of investment structures. There exists major competition for deal flow on the part of both investor and general partners. To a great extent, market forces drive the bargaining of economic terms. Most investment vehicles are structured as commingled vehicles and often blind pool investment partnerships. The most common offering forms are equity private placements where the governing laws of the partnership impose a passive role of the limited partner investor. These contractual arrangements are long-term in nature and provide the general partner or sponsors a reasonable time horizon to wisely invest capital, add value through intensive operational management, then realize the proceeds of such an investment. Moreover, terms of the partnership are proposed by the general partner and are critical to the economic incentives and ultimate net performance of the partnership.

Investment Strategy and Plan Guidelines

To strengthen the diversification of the investments, several guidelines will be utilized in KPPA Investment Staff's formulation and recommended annual investment strategy and plan for private equity investments. These guidelines encompass annual commitment levels to the asset class, types of investment vehicles that can be utilized, controlling financing stage risks, industry, manager and geography concentration/diversification limits, acceptable contract negotiations, appropriate sizes for investments, and the preferred alignment of interests.

<u>Investment Vehicles</u>: CERS plans will gain exposure to private equity investments by hiring external investment managers either directly or through participation in secondary private equity markets. Typically, CERS plans will subscribe as a Limited Partner (LP) to limited partnership vehicles sponsored by such specialty external investment managers. CERS will also at times structure separately managed accounts with specific investment objectives to be implemented by external investment managers. CERS plans may also gain private equity exposure by utilizing the following vehicles: limited liability companies and co-investments alongside CERS existing or potential limited partnerships.

<u>Investment Timing Risks</u>: KPPA Investment Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. Moreover, the portfolio must gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. KPPA Investment Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and therefore positively impacting the current and long-term net return of the portfolio. Should KPPA Investment Staff anticipate the need of entering a secondary partnership such agreement would need the approval of CERS Investment Committee and ratification by the CERS Board. In addition, mindful of vintage year diversification, CERS should seek to identify attractive commitments annually, further ensuring the portfolio invests across business cycles.

<u>General Partner Diversification</u>: KPPA Investment Staff will seek to work with a variety of general

partners due to their specialized expertise in particular segments of the private equity market and source of their deal flow. No more than fifteen (15) percent of CERS Pension or Insurance total allocation to private equity investments may be committed to any one partnership.

Total Exposure to Private Equity*:* Given the illiquid nature of the asset and the complexity of each private equity transaction, it is important that the CIO actively manage the maximum amount of CERS Plan assets allocated to this asset class. The asset allocation authorizes a maximum of thirteen (13%) percent of total CERS Plan assets to this asset class. Should circumstances arise and the allocation go beyond the maximum allocation, the CIO will inform the Investment Committee Chair as soon as possible and report to the Investment Committee Chair and the CEO at the next monthly strategic planning meeting and all subsequent quarterly CERS Investment Committee meetings until the allocation is back in compliance.

B. Fixed Income

Core Fixed Income

The core fixed income accounts may include, but are not limited to the following fixed income securities: U.S. Government and Agency bonds; investment grade U.S. corporate credit; investment grade non-U.S. corporate credit; municipal bonds; Non-U.S. sovereign debt; mortgages including residential mortgage backed securities; commercial mortgage backed securities; and whole loans, asset-backed securities, and asset class relevant ETFs.

The high yield fixed income accounts may include, but are not limited to, the following fixed income securities: non-investment grade U.S. corporate credit including both bonds and bank loans; non-investment grade non-U.S. corporate credit including bonds and bank loans; municipal bonds; non-U.S. sovereign debt; mortgages including residential mortgage backed securities, commercial mortgage backed securities, and whole loans, asset-backed securities; and emerging market debt (EMD) including both sovereign EMD and corporate EMD and asset class relevant ETFs.

Each individual core fixed income account shall have a comprehensive set of investment guidelines prepared by the CIO which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Specialty Credit

Each individual Specialty Credit account shall have a comprehensive set of investment guidelines prepared by the CIO which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash Equivalent Securities

Selection of particular short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the investment and only secondarily by the available yield. The following short-term investment vehicles are considered acceptable: Publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages, municipal bonds, and collective short-term investment funds (STIFs), money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper) and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days. Repurchase agreements shall be deemed to have a maturity equal to the period remaining until the date on which the repurchase of the underlying securities is scheduled to occur. Variable rate securities shall be deemed to have a maturity equal to the time left until the next interest rate reset occurs, but in no case will any security have a stated final maturity of more than three years.

CERS fixed income managers that utilize cash equivalent securities as an integral part of their investment strategy are exempt from the permissible investments contained in the preceding paragraph. Permissible short-term investments for fixed income managers shall be included in the investment manager's investment guidelines.

C. Inflation Protected

Real Estate

Investments are made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. Allowable real estate investments include open-end and closed-end commingled real estate funds, joint venture investments, public and private real estate investment trusts (REITs), public real estate operating companies, and real estate related debt. CERS has determined that the primary role of the real estate asset class is to provide for the following:

- Attractive risk adjusted returns through active management and ability to access managers with the expertise and capabilities to exploit market inefficiencies in the asset class. The illiquid nature of real estate investments combined with the complexity of investments makes it difficult for casual investors to effectively access the asset class effectively. It is our belief that through active management and by investing in top tier managers with interests aligned through co-investment and incentive-based compensation, CERS can maximize their risk adjusted returns. This active management approach will be pursued.

- Diversification benefits through low correlations with other asset classes, primarily the U.S. equity markets.

- Provide a hedge against unanticipated inflation, which real estate has historically provided due to lease structures and the increases in material and labor costs during inflationary periods.

- Permit CERS to invest in unique opportunities that arise due to dislocations in markets that occur from time to time.

Real Return

The purpose of the Real Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans. Real Return strategies are not necessarily a separate asset class but may include real assets, such as infrastructure, real estate, commodities, and natural resources among others, as well as financial assets that have a positive correlation to inflation. This can include real bonds such as Treasury Inflation-Protected Securities (TIPs) (and other inflation linkers) or real stocks such as REITs, Master Limited Partnerships (MLPs), and oil & gas stocks. Additionally, Real Return managers may attempt to add value by tactically allocating to various asset classes according to how each asset class performs across an economic cycle and the manager's perception of where we are in the cycle. The goal is to invest in inflation sensitive assets during inflationary periods, and avoid those assets in deflationary periods, thus providing a positive real return across the cycle.

The real return opportunity set may include numerous vehicles to access a wide variety of investment styles and strategies. These investment vehicles may include mutual funds, ETFs, separately managed accounts as well as hedge funds (open-end limited partnerships) and private equity (close-end limited partnerships). The list of strategies that CERS' Real Return Portfolio may use includes, but is not limited to, the following:

- Global Tactical Asset Allocation (GTAA)/Global Macro: GTAA or macro strategies are those that make directional bets on major markets or asset classes instead of individual securities. GTAA and macro strategies typically invest in all major assets classes including equity markets, credit and debt instruments, currencies/interest rates, and commodities. These strategies tend to focus on economic factors that would suggest an opportune time to invest in a given asset class, and will change their allocations actively over time. These strategies may use inflation as the economic factor to gain exposure to and will target a real rate of return over time.

- Inflation Linked Securities are securities that directly tie coupon payments or principal increases to an inflation index, such as Consumer Price Index (CPI). These strategies could include not only US TIPS, but also global sovereign inflation linked bonds, corporate or infrastructure inflation linked bonds, and possibly short duration floating rate bonds.

- Inflation Sensitive Equities include publicly traded equity and equity related securities in companies which have a high sensitivity to inflation in their profit margins via the nature of their operating assets, such as energy companies, basic materials and miners, natural resource stocks, and listed infrastructure. This category can also include, but are not limited to, REITs, MLPs as well as ETFs and index products on REITS, MLPs, and natural resource stocks.

- Commodities: Commodities are the raw materials that are physical inputs into the production process. Managers that invest in liquid commodity strategies using exchange traded futures can span from simple indexing (matching a long-only commodities index), to enhanced indexing or active long (selecting positions that vary from the index but within fairly tight ranges), as well as unconstrained long-short managers.

- Private Property: For the purposes of this IPS, private property refers to the ownership of an idiosyncratic, physical asset that is predominately fixed and/or permanent or at least substantially long-lived. This includes real estate, such as land and any improvements to or on the land, as well as timberland and farmland. Timberland investing involves the institutional ownership of forest for the purpose of growing and harvesting the timber. The timber may be used for furniture, housing lumber, flooring, pulp for paper, woodchips, and charcoal, among other things. Farmland investing entails ownership of land used primarily, if not exclusively, for agricultural production both for crops, including row crops and permanent crops, as well as livestock. Private property can also include infrastructure investing, which refers to financing the manufacture or development of the underlying fundamental assets and basic core infrastructure that are necessary for an economy whereby such assets are largely fixed and long-lived. These tend to be high cost, capital-intensive investments that are vital to a society's prosperity and facilitate the transfer, distribution, or production of basic goods and services.

- Natural Resources: Natural resources can include investing in the financing, development, extraction, and production of minerals, basic materials, petroleum products, and water as well as renewable resources such as agricultural commodities and solar energy. As opposed to property, the returns generated in these investment strategies come more from the actual production of the resource itself. Further, these are depleting and/or consumable assets that are also portable and fungible and which in the aggregate comprise a majority of the inputs into most measurements of inflation.

- Private Assets: Private assets can include tangible or intangible assets that are not easily sold in the regular course of a business' operations for cash, and which are held for their role in contributing directly to the business' ability to generate profit. As the useful life of the asset tends to extend across many years and the assets tend to be capital intensive as well, they have some similarity to private infrastructure. Further, given that the assets contribute directly to the production process as well as often retaining intrinsic value, there is a fundamental link to inflation somewhat similar to natural resources.

- Other (Opportunistic Inflation Hedge): Other/opportunistic strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time. Liquid strategies such as inflation swaps, diversified inflation hedging mutual funds, or nominal bonds backed by inflation sensitive assets may be included in this allocation, while other illiquid strategies that may provide the same real profile can include private equity in inflation sensitive companies, hard asset-backed private credit, and structured inflation-linked products among others.

Portfolio Guidelines

No more than 50% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.

No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.

The relative allocations to the liquid and illiquid portfolios will be determined according to each individual System's liquidity needs, funding status, and allocation targets on an investment by investment basis.

D. Co-Investment Policy

The CIO has discretion to make direct co-investments in companies alongside of current general partners. Any co-investment opportunity must also be part of the main account or fund into which CERS has already invested before it can be considered. For purposes of this IPS, a direct co-investment is defined as a direct investment in a portfolio company alongside an existing CERS' partnership deemed in good standing.

The maximum investment in any co-investment vehicle shall not exceed 50 percent of the total capital committed by all partners at the time of the final closing. The maximum investment in any single direct co-investment shall not exceed 20 percent of the original partnership commitment. Total investment in direct co-investments shall not exceed 20 percent of the asset class portfolio on a cost basis at the time of investment.

IV. Monitoring

Performance Measurement

CERS overall fund performance is measured relative to CERS Pension or Insurance Total Fund Benchmark. The benchmark is calculated by means of a weighted average methodology. This method is consistent with the CFA Institute Global Investment Performance Standards (GIPS®), a set of standardized, industry-wide ethical principles that guide investment managers and asset owners on how to fairly calculate and present their investment results, with the goal of promoting performance transparency and comparability. It is the product of the various component weights (i.e., asset classes' percentages) by their respective performance (returns). Due to market fluctuations and acceptable divergence, the asset classes' weights (percentages) are often not equivalent to the benchmark's weights. Therefore, the performance may indicate that the Funds have outperformed (underperformed) relative to their respective benchmarks, even when the preponderance of lesser weighted categories have underperformed (outperformed) their indices.

CERS measures its asset classes, sub-asset classes, sectors, strategies, portfolios, and instruments (investment) performance with indices that are recognized and published). These indices are determined to be appropriate measures of investments and composites of investments with identical or similar investments profiles, characteristics, and strategies. The benchmarks and indexes are intended to be objective, investable, replicable, representative and measurable of the investment mandate and, developed from publicly available information that is acceptable to CERS and the investment manager/advisor as the neutral position consistent with the underlying investor status. The CERS investment consultant and KPPA Investment staff recommend the benchmarks and indexes. These measures shall be subject to the review and approval of the CERS Investment Committee with ratification by the CERS Board when asset allocation studies are performed, or when a change to existing benchmarks is recommended by KPPA Investment Staff and the CERS investment consultant. The current asset class benchmarks, effective as of November 10, 2021 with the adoption of the asset allocation, are as follows:

Asset Class	Benchmark
Equity	
Public Equity	MSCI ACWI
Private Equity	Russell 3000 + 300 bps (lagged)
Fixed Income	
Core Fixed Income	Bloomberg Barclays US Aggregate
Specialty Credit	50% Bloomberg Barclays US High Yield/ 50% S&P LSTA
Cash	Citi Grp 3-mos Treasury Bill
Inflation Protected	
Real Estate	NCREIF ODCE
Real Return	US CPI + 3%
Absolute Return	HFRI Diversified Fund of Fund Composite

The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of CERS. They are to be computed and expressed on a time-weighted total return basis:

Total Public Asset Class Allocations

Short-term

- For periods less than five years or a full market cycle, the Asset Class Allocation should exceed the returns of the appropriate Index.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, the Asset Class Allocation should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

Individual Public Security Portfolios: Individual portfolios shall be assigned a market goal or benchmark that is representative of the style or market capitalization of the assignment. Individual accounts should be monitored using the following Standards:

Short-term

- For periods less than five years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term

- For periods greater than five years or a full market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets:

Private Equity

The Private Equity portfolio should also seek to achieve both short-term and intermediate/long term Net Internal Rate of Returns (IRR) that provide yields in excess of core equity investments. The KPPA Investment Staff shall quarterly complete a comparison of performance between equity portfolio performance and Private Equity portfolio returns. The KPPA Investment Staff will report to the Investment Committee the following:

Short-term

- Alternative investments should earn a Net Internal Rate of Return (IRR) that place the investment above the median Net IRR of other similar funds, of the same vintage year, as reported by industry benchmarks.

Intermediate & Long-term

- The private equity portfolio should earn a return that meets or exceeds CERS Private Equity Index. Individual private equity investments should earn a Net IRR above the median Net IRR of other similar funds, of the same vintage year, as reported by industry benchmarks.

Inflation Protected

Real Estate

Private Real Estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short-term performance discrepancies versus public benchmarks, CERS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:

Relative Return: The Real Estate portfolio is expected to generate returns, net of all fees and expenses, in excess of the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index (NCREIF ODCE) lagged 1 calendar quarter.

Absolute Return: The long-term real return objective (returns adjusted for inflation) for CERS' Real Estate portfolio is five percent (5%) over the Barclays Capital U.S. 7-10 Year Treasury Bond Index, net of investment management fees. This return shall be calculated on a time-weighted basis using industry standard reporting methodologies.

Real Return

The total Real Return investments shall seek to:

1. Short-term benchmark: For periods less than five (5) years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks) annually over a complete market cycle, net of all investment management fees.
2. Strategic objective: For periods greater than five (5) years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (CPI + 300 basis points) as well.
3. Achieve a positive risk/reward trade-off when compared to similar style Real Return Investment Managers.

Performance Review

On a timely basis, but not less than quarterly, the CERS Investment Committee will review the performance of the portfolio for determination of compliance with this IPS. This will include a quarterly performance peer review analysis comparing CERS with other public pension plans. On an annual basis, a comprehensive review of each asset class and underlying portfolios shall be conducted by the KPPA Investment staff and presented to the CERS Investment Committee. The review shall consist of an organizational, performance and compliance assessment.

The Compliance Officer shall perform tests at least monthly to assure compliance with the restrictions imposed by this IPS. These tests shall be performed at the asset class and total fund level. Quarterly, the Compliance Officer shall prepare a report to the CERS Investment Committee detailing the restrictions tested, exceptions, the cause of the exception and the subsequent resolution. The CERS Investment Committee shall report the findings to the CERS Board at the next regularly scheduled meeting. Internal Audit will schedule periodic reviews/audits of this function to ensure compliance with this IPS.

The following restrictions shall be tested at least monthly:

1. The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of CERS' assets.

2. The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.

3. Investment in frontier markets (those countries not included in the MSCI EM Index) shall not exceed 5% of CERS' international equity assets.

4. The duration of the core fixed income portfolios combined shall not vary from that of CERS' Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration, or dollar duration except when the CERS Investment Committee has determined a target duration to be used for an interim basis.

5. The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of CERS' fixed income assets, with the exception of U.S. Government issued, guaranteed or agency obligations (or securities collateralized by same), and derivative securities used for exposure, cost efficiency, or risk management purposes in compliance with Section VII of this policy.

6. 50% of the core fixed income assets must have stated liquidity that is trade date plus three days or better.

The CIO shall develop a comprehensive set of investment guidelines for each externally managed account. These guidelines should ensure, at the total fund and asset class level, that the restrictions set forth above are preserved.

Under the CIO's direction, KPPA Investment Staff shall perform site visits with all current CERS investment managers over 3-year rolling market cycles, with at least 1/3 of all current managers occurring on a yearly basis.

V Additional Items

Derivatives Permitted Use:

CERS permits external managers and KPPA Investment Staff to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:

Exposure:

Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with minimum portfolio disruption. An example is a cash equitization program.

Cost Efficiency:

Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.

Risk Management:

Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.

Derivatives Restricted Use:

Settlement:

Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall CERS plans agree to take physical delivery on a futures contract.

Position Limits:

Futures and options positions entered into by CERS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.

Over-the-Counter (OTC):

Investments in securities not traded on public exchanges that are deemed OTC in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager’s guideline section of the manager’s contract. All counterparties must have a short-term credit rating of at least BBB (Standard and Poor’s or Fitch) or Baa2 (Moody’s).

All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of CERS under the transactions. All ISDA Master Agreements entered into by or on behalf of CERS by the KPPA Investment Staff and external manager pursuant to an Agency Agreement shall provide that netting applies (netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The KPPA Investment Staff and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.

Derivatives Applications Not Permitted:

Speculation:

Except for investments in Real Return investments, derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to CERS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by the CERS IPS or applicable to the CERS portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the CERS IPS or applicable regulatory requirements.

Leverage:

Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment.

The above is not intended to limit CERS from borrowing to cover short-term cash flow needs nor prohibit CERS from loaning securities in accordance with a securities lending agreement.

The CERS Board recognizes that the voting of proxies is an important responsibility in assuring the overall performance over a longtime horizon. The CERS Board has delegated the responsibility of voting all proxies to an outside Proxy Voting service provider or contracted external investment manager. The CERS Board expects that the proxy voting service will execute all proxies in a timely fashion, and in accordance with the voting policy which has been formally adopted.

The CERS Board has adopted the ISS U.S. Proxy Voting Guidelines as the CERS approved Proxy Voting Policy for all internally voted items. This policy is updated at least annually by ISS is and hereby incorporated by this reference. The policy can be found publicly using the following link:

ISS U.S. Proxy Voting Guidelines.com

Additional CERS Investment Administrative Policies

A. Investment Procurement Policy as amended and the as amended are hereby incorporated by reference.
B. ~~KPPA~~ CERS Investment Brokerage Policy as amended is hereby incorporated by

reference.

C. ~~KPPA~~ CERS Transactions Procedures Policy as amended is hereby incorporated by reference.
D. ~~KPPA~~ CERS Securities Litigation Policy and Procedures as amended is hereby incorporated by reference.
E. ~~KPPA~~ CERS Investment Securities Lending Guidelines as amended is hereby incorporated by reference.
F. ~~KPPA~~ CERS Securities Trading Policy for Trustees and Employees as amended is hereby incorporated by reference.
G. ~~KPPA~~ CERS Manager and Placement Agent Statement of Disclosure Policy as amended is hereby incorporated by reference.
H. ~~KPPA~~ CERS Real Estate Policy as amended and hereby incorporated by reference.
I. CERS Conflict of Interest and Confidentiality Policy as amended and hereby incorporated by reference.
J. ~~KPPA~~ CERS Proxy Voting Policy as amended and hereby incorporated by reference.

Signatories

As Adopted by the CERS Investment Committee

Date:____________________________

Signature:____________________________

Dr. Merl Hackbart

Chair, CERS Investment Committee

As Adopted by the CERS Board of Trustees

Date:____________________________

Signature:____________________________

Ms. Betty Pendergrass

Chair, CERS Board of Trustees