CALSTRS

Investment Committee

Item Number 4b – Open Session

Subject: Sustainable Investment & Stewardship Strategies Policy – Risk Budget – Second Reading

Presenter(s): Chairperson

Item Type: Consent Action

Date & Time: September 1, 2021 – 0 minutes

Attachment(s): Attachment 1 – July 2021 Sustainable Investment & Stewardship Strategies Policy Agenda Item

Attachment 2 – Updated Board Investment Consultant Opinion Letter – Meketa

PowerPoint(s): None

PURPOSE

This item is covered by the CalSTRS Sustainable Investment & Stewardship Strategies Program and Portfolio Policy (Teachers' Retirement Board Policy Manual, Section 1000, Pg. C-1).

HISTORY OF THE ITEM

CalSTRS periodically reviews its policies and updates them as appropriate given evolving market practices and opportunities. The last revision to the SISS policy took place in March 2021 to authorize the creation of a SISS Private Portfolio. A complete summary of policy revisions over the years can be found on page C-14 of the CalSTRS SISS Investment Policy (Attachment 1). At the July 2021 Investment Committee meeting, staff presented a first reading of the proposed SISS Policy revisions.

PURPOSE

The purpose of this item is to recommend a SISS Investment Policy update for the Investment Committee's considerations:

> **Active Risk Budget –** incorporate an active risk budget between 50 to 250 bps relative to the Custom MSCI ACWI IMI index for the SISS Public Portfolio.

RECOMMENDATION

The Board raised no comments or concerns to staff regarding the adoption of the risk budget during the first reading. Staff recommends approving the SISS Investment Policy update as of October 1, 2021. The Board consultant, Meketa Investment Group, concurs with staff's recommendation that the Investment Committee approve the proposed revisions to the SISS Investment Policy.

CALSTRS

Investment Committee

Item Number 13b – Open Session

Subject: Sustainable Investment & Stewardship Strategies Policy – Risk Budget – First Reading

Presenter(s): Kirsty Jenkinson, Philip Larrieu

Item Type: Information

Date & Time: July 8, 2021 – 15 minutes

Attachment(s): Attachment 1 – Sustainable Investment & Stewardship Strategies Program & Portfolio Policy – Redline
Attachment 2 - Sustainable Investment & Stewardship Strategies Program & Portfolio Policy – Clean Version
Attachment 3 – Investment Policy and Management Plan – Redline
Attachment 4 – Investment Policy and Management Plan - Clean Version
Attachment 5 – Board Investment Consultant Opinion Letter – Meketa

PowerPoint(s): None

POLICY

The item is covered under the Sustainable Investment & Stewardship Strategies Program and Portfolio Policy (Teachers' Retirement Board Policy Manual, Section 1000, C-1), which governs the management of the Sustainable Investments and Stewardship Strategies (SISS) assets and strategies to ensure a diversified portfolio that meets CalSTRS objectives within applicable risk parameters.

CalSTRS periodically reviews its policies and updates them as appropriate, given evolving market practices and opportunities for continuous improvements. The last revision to the Sustainable Investment & Stewardship Strategies Program and Portfolio Policy took place in March 2021 to authorize a Sustainable Investment & Stewardship Strategies Private Portfolio in addition to the Sustainable Investment & Stewardship Strategies Public Portfolio. A complete summary of policy revisions over the years can be found on page C-14 of the CalSTRS Sustainable Investment & Stewardship Strategies Investment Policy.

PURPOSE

Policy Theme: Risk Budget. The purpose of this item is to recommend an update to the Sustainable Investment & Stewardship Strategies Program and Portfolio Policy to incorporate the use of an active risk budget for the SISS Public Portfolio. Additionally, after consulting with the General Consultant and Fiduciary Counsel, staff is presenting several minor language updates to the broader SISS Portfolio Policy that are unrelated to the adoption of a risk budget to better align with CalSTRS policy norms.

HISTORY OF THE ITEM

The concept of a risk budget was first introduced to the board by Global Equity staff at the January 2019 Investment Committee. Over the following 15-month period, staff provided the Board with multiple education items that examined active risk and risk budgeting at both the asset class and the broader fund level.

In January 2019, Global Equity staff and the Board discussed utilizing a risk budget and key terms were introduced and defined. During the March 2019 meeting, the Investment Committee discussed the concept of utilizing an adopted risk budget range as a governance tool. In July 2019, the Investment Committee considered a project timeline to adopt and implement asset class specific risk budgets across CalSTRS investments. During the November 2019 Investment Committee, staff addressed questions raised by the Board in previous education sessions.

In line with the initial project timeline, the Investment Committee considered and adopted an active risk budget for Global Equity in March 2020. At that time, the Board's intent was to implement risk budgets for other public asset classes and eventually the rest of the investment branch.

DISCUSSION

Active Risk and Active Return – A Brief Reminder

In order for a public equity portfolio to generate returns higher than its corresponding benchmark, the weights of the equity holdings within the portfolio have to differ from those in its benchmark. Active return is the difference between the portfolio and benchmark returns. Active returns are uncertain and vary over time.

Active risk is also commonly referred to as tracking error, it measures how closely portfolio returns track benchmark returns over time. Specifically, active risk measures the variation of active returns compared to the average return.

A 'passive' portfolio seeks to match its benchmark, or index, return. Passive portfolios typically have zero active risk versus their respective benchmarks. This means that the portfolio return matches the benchmark return for every time period. In order to match the benchmark's return, passive portfolio holdings typically match the holdings of the benchmark.

As such, the only way a portfolio can deliver returns different than its benchmark is to have holdings that differ from the benchmark. The portfolio's difference versus the benchmark can be in the number of holdings and/or the weights of the index constituents. Higher active risk

strategies have larger differences in security holdings and/or weights versus their respective benchmarks. The goal of active risk strategies is to outperform its respective benchmark over a full market cycle (typically 5-7 years).

Current SISS Public Portfolio and Active Risk – Three Components to the Portfolio

The SISS Public Portfolio currently invests in three broad strategies that encompass a wide range of active risk: risk-controlled low-carbon strategies, sustainability-focused strategies and activist strategies.

A large portion of the SISS Public Portfolio is invested in a low carbon index and BlackRock Low-Carbon Transition Readiness (LCTR) ETFs. The active risk for the Low-Carbon Index is low since it aims to reduce carbon emissions while closely matching its respective benchmark. Originally a CalSTRS Board Special Mandate, the Low-Carbon Index was formally moved to the SISS Public Portfolio at the September 2020 board meeting. The portfolio minimizes carbon exposure by reweighting the portfolio's position in companies based on their exposure to carbon emissions and fossil fuel reserves.

The BlackRock LCTR strategy is an enhanced passive strategy designed to deliver long-term competitive financial returns relative to traditional benchmarks. Enhanced passive strategies differ from pure passive strategies in that they modestly overweight or underweight the securities within an index as a way to add long-term value in a risk-controlled manner. The LCTR strategy's goal is to exceed its performance benchmarks by minimizing potential risks and maximizing opportunities associated with the transition to a low-carbon economy while maintaining a similar risk profile to the standard performance benchmark. The LCTR strategy is geographic and sector neutral versus its respective performance benchmark. The Russell 1000 strategy has a forecasted tracking error of 75 basis points and the MSCI All Country World Ex. U.S. strategy has a forecasted tracking error of 100 basis points.

The SISS Public Portfolio also invests in sustainability-focused and activist investment strategies, both of which have relatively higher active risk. Unlike the low-carbon strategies which seek to match the benchmark, these higher active risk strategies seek to outperform their benchmarks, so that in aggregate, the SISS Public Portfolio can achieve a return superior to its portfolio benchmark.

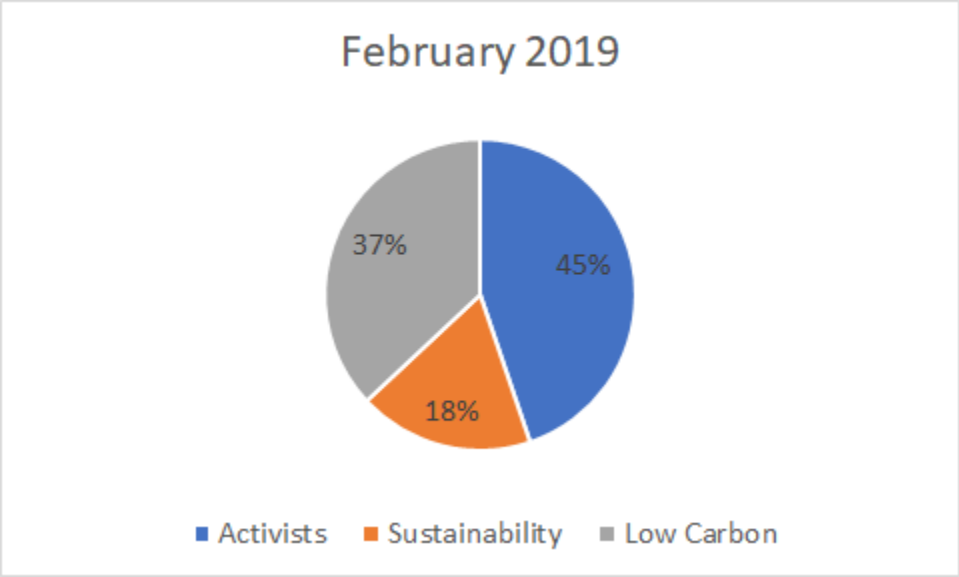
Sustainability-focused strategies seek to generate competitive returns and outperform broad market indexes by capitalizing on managers' ability to integrate environmental, social, and governance (ESG) considerations into corporate strategy and company valuations. These strategies can result in underweighting sectors or companies that are exposed to ESG risks or overweighting sectors and companies that provide solutions to ESG-related challenges. These overweights and underweights result in higher active risk relative to traditional public equity managers.

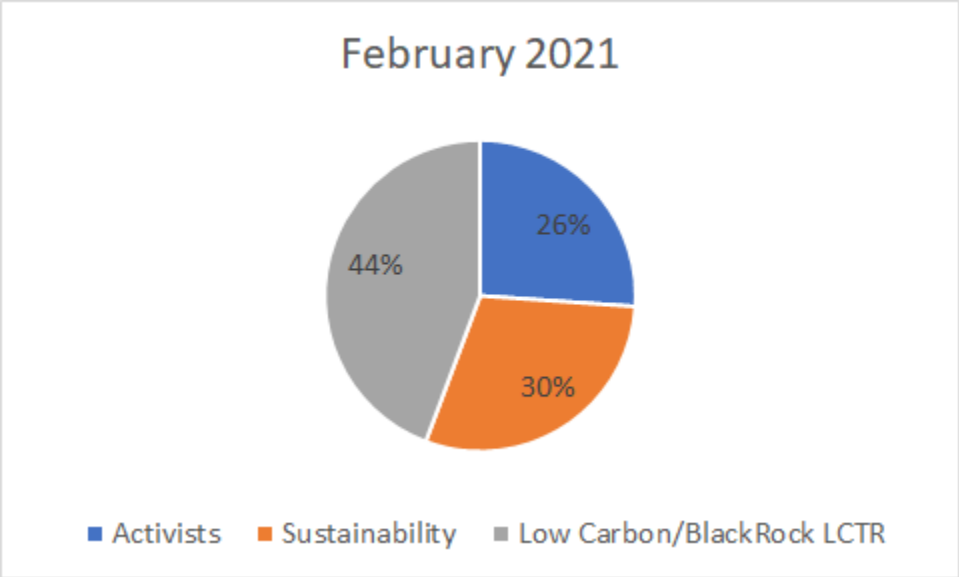
Activist strategies are concentrated limited partnerships in which managers acquire large individual public equity positions in order to engage company boards and management teams – particularly on governance matters – to promote policies and practices that create long-term

value. The activist portfolios are subject to greater volatility and therefore higher active risk relative to the sustainability-focused managers given their concentrated nature and limited diversification.

SISS Public Portfolio Composition – Historical Context

As the following charts show, the SISS Public Portfolio has been significantly restructured over the past two years, and this transition continues today. The SISS Public Portfolio exposure to high-tracking error activist strategies has declined by 19%, while exposure to lower tracking error strategies such as sustainability-themed managers and the low-carbon index has increased.





These changes have resulted in forecasted tracking error for the aggregate SISS Public Portfolio, declining from over 250 basis points (bps) in February 2019 to 174 bps in February 2021.

[2] Forecasted active risk based on current SISS portfolio versus MSCI ACWI IMI and market conditions over time.

Staff has forecasted additional reductions to the activist strategies and reallocations among sustainability strategies to reduce active risk further. With planned portfolio restructuring and optimization in the upcoming months, staff is estimating forecasted tracking error to be approximately 157 bps at the start of FY21-22, when the risk budget cap would be implemented, and approximately 132 bps at the start of the 2022 calendar year.

SISS Risk Budget Process

SISS staff has worked closely with the CalSTRS Investment Strategy and Risk team to model the SISS Public Portfolio's forecasted risk, based on the portfolio's longer-term goals. To model the forecasted risk, staff provided the Risk team with historical portfolio return information and expected portfolio changes and target strategy weightings through the end of 2021. The Risk team used this information to model hypothetical portfolio changes and market movement scenarios to determine an appropriate limit for the SISS Public Portfolio's risk budget. This approach follows the steps taken with the Global Equity and Fixed Income teams.

SISS staff is confident in the Risk team's modeling and stress testing of various outcomes and process.

SISS Public Portfolio Risk Budget Recommendation

Staff is proposing to set a risk budget range of 50 to 250 bps relative to the Custom MSCI ACWI IMI index for the SISS Public Portfolio. Staff believes this is an appropriate level given current portfolio components and planned allocation changes.

The SISS Public Portfolio's risk range is wider than Global Equity or Fixed Income as each portfolio has unique characteristics. Specific factors influencing the risk range of the SISS Public Portfolio include:

Limited historical data:

The SISS Public Portfolio has existed since 2005. However, the vast majority of that time, the portfolio only consisted of higher active risk Activist strategies. Furthermore, the most recent three years of performance history do not offer a helpful proxy for future performance as this has been a period of significant portfolio transition. Modeling the SISS Public Portfolio's tracking error to determine an appropriate risk budget was largely based on projected tracking error ranges of a target portfolio instead of historical performance.

No 'pure' passive option:

The SISS Public Portfolio's lowest tracking error strategy is the low-carbon index; however, the portfolio's low-carbon objective causes the strategy to exhibit greater tracking error relative to its performance benchmark versus a typical cap-weighted passive index solution. As such, the SISS Public Portfolio does not include a pure passive index strategy.

Liquidity constraints:

The activist manager strategies are the highest contributors of active risk in the SISS Public Portfolio and are structured as limited partnerships with liquidity constraints. This risk profile – largely a result of their highly concentrated nature, combined with liquidity constraints, results in temporary over allocations to activist managers, which disproportionally contributes to higher active risk within the SISS Public Portfolio.

SISS Private Portfolio interaction:

The total SISS portfolio (Private and Public) is capped at 5% of total assets. Accordingly, as staff starts to invest in private assets (in line with the Board's approval of the SISS Private Portfolio in March), capital will be reallocated from the SISS Public Portfolio to the SISS Private Portfolio. Furthermore, the private investment funding is likely to come from the more liquid and lower tracking error investments of the SISS Public Portfolio. These allocation shifts are likely to impact the SISS Public Portfolio risk profile as exposure to SISS public strategies is reduced and potentially more concentrated in investments with higher tracking errors.

SISS Public Portfolio and Policy Impacts

Establishing an active risk budget for the SISS Public Portfolio will provide a governance framework to allow staff to manage risk while optimizing the portfolio's return profile prudently. The proposed SISS Portfolio Policy update – reflecting the risk budget – will not result in any substantive changes to the oversight or management of the SISS Public Portfolio, and it will not require a change to the existing SISS Policy benchmark. Furthermore, for incentive purposes, the SISS Public Portfolio will maintain its current excess return target of 45bps recommended by Meketa and approved by the Investment Committee in July 2020.

Key elements that will remain the *same* under the use of an operational active risk budget include the SISS Portfolio program's three primary goals: (1) generate alpha and provide additive returns to the CalSTRS Total Fund; (2) partner with asset managers to help drive improved sustainable business practices across the market as a whole; (3) identify strategies that integrate

sustainability/environmental, social and governance (ESG) considerations as a value driver in improving investment performance and mitigating risk across the portfolio.

Changes that could occur with the adoption of an active risk budget include: (1) altering the allocations between the three existing SISS Public Portfolio strategies; (2) investing in new managers and strategies to diversify the portfolio; and (3) investing in strategies that further position the portfolio for the low-carbon transition.

Since the SISS Public Portfolio remains in transition, staff believes the portfolio's risk limit may be lowered in the future as the portfolio reaches optimal target allocations. Over the next few years, SISS and the Risk team will conduct annual reviews of the risk ranges with the Board Consultant and notify the Investment Committee if it is determined that amendments are necessary.

IPMP Revisions

By approving the Sustainable Investment & Stewardship Strategies Program and Policy revision, the SISS section in the Investment Policy and Management Plan (IPMP) will also need to be updated to be consistent with the board's approval (Attachment 3). The proposed edits to the IPMP include language acknowledging that the SISS Public Portfolio would be managed under an active risk budget and language outlining how a breach of the risk budget would be addressed.

Authority to adjust allocations in case of a breach will be delegated to the Chief Investment Officer, who will determine the best course of action based on the nature of the breach. A breach of the risk budget range in and of itself does not necessitate immediate action to bring the tracking error back into the proposed range. Financial markets are mean-reverting, and there may be instances that staff deems it advantageous to benefit from market anomalies and allocate resources to mispriced assets.

Additional SISS Portfolio Policy revisions

As staff developed the SISS Private Portfolio section of the SISS Portfolio Policy (for the January and March 2021 Investment Committee meetings), Fiduciary Counsel and the General Consultant identified edits to strengthen the SISS Public Portfolio section of the SISS Portfolio Policy. In conversations with Fiduciary Counsel and the General Consultant, it was decided to not present these revisions for approval until staff presented changes to the SISS Public Portfolio section of the SISS Portfolio Policy through this risk budget item.

Staff believes that the suggested edits proposed by Fiduciary Counsel and the General Consultant are clarifying in nature and serve to improve the policy language.

RECOMMENDATION

Staff recommends approving the policy revisions to establish a risk budget range of 50 to 250 bps for the Sustainable Investment & Stewardship Strategies Public Portfolio. Staff also recommends approving the additional clarifying SISS Policy revisions suggested by Fiduciary Counsel and the General Consultant and detailed in Attachment 1.

CALSTRS

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM

SUSTAINABLE INVESTMENT & STEWARDSHIP STRATEGIES PROGRAM AND PORTFOLIO POLICY

INVESTMENT BRANCH

~~March 2021~~JULY 2021

C. Sustainable Investment & Stewardship Strategies Program and Portfolio Policy[1]

Stewardship Program Policy

EXECUTIVE SUMMARY

The California State Teachers' Retirement System (CalSTRS) is committed to holding and managing equity investments and to exercising the shareholder rights appurtenant to those investments, all for the benefit of its participants and beneficiaries. It is the fiduciary responsibility of the Teachers' Retirement Board (TRB) to discharge its duty in the exclusive interest of the participants and beneficiaries and for the primary purpose of providing benefits to participants and their beneficiaries. The TRB should defray the reasonable expenses of administering the Fund; the investment policy of the Fund should reflect and reinforce this purpose. The TRB views its stewardship role as that of a catalyst for enhanced management accountability, disclosure and performance at the companies it invests in. The objective of the TRB's stewardship effort is to enhance long-term shareholder returns.

CalSTRS is a long-term investor; its long-term strategy is demonstrated through its multiple long-term holdings, including its passively managed portfolios in its three largest asset categories: Domestic Equities, Fixed Income, and non-U.S. Equities. CalSTRS' involvement in stewardship activities is to maximize the longer-term value of the securities, consistent with its role as a significant capital allocator.

CalSTRS recognizes that the lending of securities, especially equity common shares is an important practice in the investment world, improving market liquidity, reducing the risk of failed trades, and adds significant incremental return to investors. As a long-term investor, CalSTRS believes that its beneficiaries' interests are more appropriately served when votes are cast by market participants who have an economic interest in the underlying company. CalSTRS will seek to coordinate the lending process with all the parties, including the investment lending officers and the custodial relationships in its effort to ensure that under-voting or voting abuse is not suffered by the fund. It is understood that this effort will result in the recall of loaned shares and the restriction of lending certain

[1] Unless otherwise indicated all further references to Sustainable Investment & Stewardship Strategies (SISS) are to the Corporate Governance program established pursuant to Education Code, Section 22354. That section requires the Board retain investment managers who are experienced and knowledgeable in corporate management issues to monitor corporations whose shares are owned by the System plan and to advise the Board on the voting of the shares owned by the plan and on all other matters pertaining to corporate governance.

shares; all of which will diminish the income received from CalSTRS' securities lending efforts; however as fiduciaries with a long-term investment horizon, CalSTRS is committed to exercising its proxy authority over portfolio investments.

Statutory Authority: Education Code Section 22354 requires the Board to retain investment managers who are experienced and knowledgeable in corporate management issues to monitor corporations whose shares are owned by the System plan and to advise the Board on the voting of the shares owned by the plan and on all other matters pertaining to corporate governance. While CalSTRS is not subject to the Employee Retirement Income Security Act (ERISA), applicable provisions of both the California Constitution and the Education Code make clear that CalSTRS' commitment to corporate governance is a diligent exercise of its fiduciary responsibility. As observed by the U.S. Department of Labor:

> *"In general, the fiduciary act of managing plan assets which are shares of corporate stock would include the voting of proxies appurtenant to those shares of stock. ... Moreover, because voting such proxies involves plan asset management, section 403(a) requires that plan trustees have the exclusive authority and responsibility for voting these proxies…"*

Thus, CalSTRS' legal authority for corporate governance springs from its fiduciary concerns as a prudent investor and the statutory obligation imposed on it by the Legislature.

The following represent the approved policies to be used in the exercise of CalSTRS' shareholder rights and the implementation of its Stewardship Program. The policies are designed to set boundaries for the management of proxies, stewardship activities, and other corporate actions. As with all other plan assets, the Sustainable Investment and Stewardship Strategies (Corporate Governance) Program and Portfolio Policy (SISS Policy) cannot be altered without explicit direction from the TRB.

PROGRAM OBJECTIVE

The Program shall be a catalyst in transforming the financial markets to focus on long-term value creation that fully integrates sustainability considerations and uses CalSTRS' influence as a significant global investor to promote sustainable business practices and public policies.

PROGRAM STRUCTURE

The Program shall consist of the following components:

a. Voting of Proxies: CalSTRS will make a best effort to vote all domestic and non-U.S. proxies; exceptions may be made based on the legal requirements or local conventions of certain markets and where practical difficulties make an informed and meaningful decision impossible. Voting of proxies shall be in conformance with all approved documents such as the California State Teachers' Retirement System Corporate Governance Principles, which can be found on the CalSTRS website.

b. Strategic Relations Management: CalSTRS will mitigate reputationalrisks, including those related to environmental, social, and governance issues, by managing relationships within the Investment Branch and with external stakeholders to promote the sustainability of the portfolio.

c. Portfolio Company Engagement: CalSTRS will engage with portfolio companies to promote long-term value creation through sustainable business practices. CalSTRS will, time and circumstances permitting, partner with other institutional investors in an effort to maximize its corporate engagement efforts. In addition, CalSTRS will continue its active participation in organizations and forums designed to have an impact on environmental, social, and governance practices.

d. Regulatory and Legislative Advocacy: CalSTRS will, upon the completion of sound analysis, advocate for the institution or repeal of laws and regulations to improve public policies and the financial and legal marketplace, relative to the stated Investment Management Plan and the exclusive benefit of the plan beneficiaries and participants.

RISK MANAGEMENT

The Stewardship Program for the California State Teachers' Retirement System (CalSTRS) will be managed in a prudent manner for the sole benefit of the CalSTRS participants and beneficiaries, in accordance with the Teachers' Retirement Law and other applicable State statutes.

For domestic equities, the Program will comply with the rules of the Securities and Exchange Commission (SEC), equity exchanges, and other regulatory agencies. For non-U.S. equities, the Program will comply with the appropriate regulatory body in the respective country.

Delegation of Authority

The Chief Investment Officer (CIO) or designee has the authority to manage the Stewardship Program and may use other investment personnel to implement these policies.

MONITORING AND REPORTING

Updates on the following Stewardship activities will be prepared and presented to the Board, in order to facilitate visibility of compliance monitoring and reporting according to this document:

i. Annual Sustainable Investment and Stewardship Strategies (SISS) Business Plan – prepared by staff

ii. Annual Stewardship Plan: In the organization, prioritization and execution of the Stewardship Plan, including its engagement activities, staff shall consider the market value of the investment, CalSTRS' ownership percentage, priorities

identified in the annual SISS business plan, the resources required, and the direct cost involved in seeking a desired result.

Furthermore, staff will consider issues, for inclusion in the Annual Stewardship Plan, based on the following:

- The relevance to the long-term performance of the CalSTRS portfolio,
- CalSTRS capacity to influence meaningful change based on the tools available to staff as shareholders and,
- CalSTRS ability to deliver measurable outcomes.

iii. Actions staff take as a liaison between the TRB and organizations dedicated to advancing good environmental, social and governance practices aligned with long-term value creation;

iv. Developments in the environmental, social and governance area that may affect the value of securities held by CalSTRS;

v. Participation by CalSTRS in securities litigation, consistent with the policy, in the event that a subject company's underperformance is related to matters that are or may become the subject of such litigation. Criteria for entering into litigation related to securities fraud and/or to accomplish the purposes of the policy, so long as these actions are consistent with the Investment Management Plan. Reports related to securities litigation will be presented to the Board on an as needed basis.

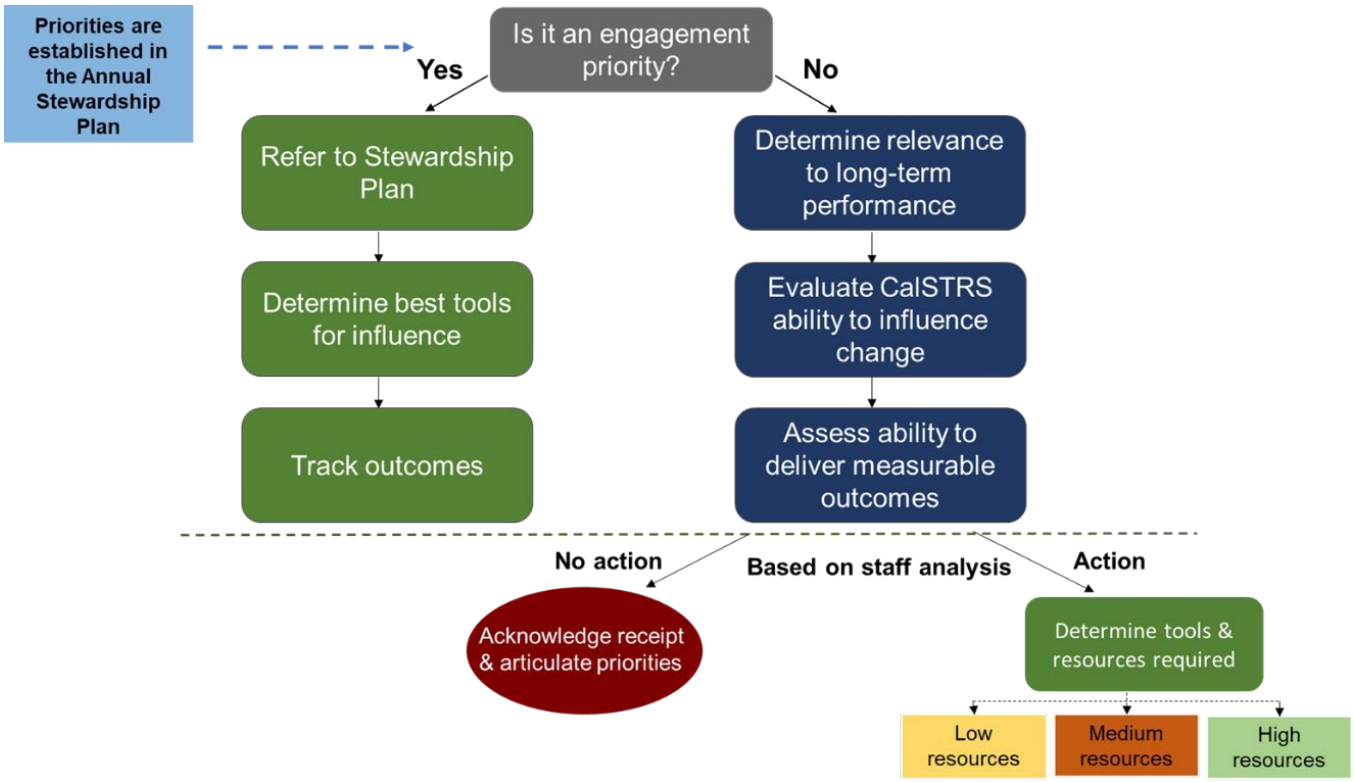
vi. Ad Hoc/Inbound Engagement Requests: Staff will consider additional requests to engage and address specific issues that are not articulated in the Annual Stewardship Plan using the flow chart in Exhibit 1. Reports related to ad hoc and inbound engagement requests will be presented to the Board on an as needed basis.

BOARD REVIEW

As with all other plan assets, these policies cannot be altered without explicit direction from the Board.

The Investment Committee of the Board may review this policy periodically, as deemed appropriate and in keeping with its fiduciary duties.

EXHIBIT 1: Stewardship Program Policy – Ad Hoc/Inbound Engagement Requests Flowchart



Sustainable Investment and Stewardship Strategies (SISS) Portfolio Policy

EXECUTIVE SUMMARY

In accordance with the CalSTRS Investment Policy and Management Plan, IPMP, the California State Teachers' Retirement System Board has established an allocation for asset classes. Within this allocation, the Chief Investment Officer (CIO), or designee, has authority to authorize investment within the Sustainable Investment and Stewardship Strategies Portfolio (SISS Portfolio). The SISS Portfolio has two components: the SISS Public Portfolio and the SISS Private Portfolio. In aggregate, the assets under management (AUM) in the SISS Public and Private Portfolios shall not exceed five percent of the CalSTRS Total Fund market value. The SISS Portfolio shall have a blended performance benchmark comprised of the weightings of the SISS Public Portfolio and the SISS Private Portfolio multiplied by their respective benchmarks. CalSTRS' SISS Portfolio is to be invested, administered, and managed in a prudent manner for the sole benefit of its participants and beneficiaries, in accordance with the California Constitution, the Teachers' Retirement Law, and other applicable statutes. ~~No investment instrument or activity prohibited by the IPMP shall be authorized for the SISS Portfolio~~The SISS Portfolio will remain within compliance of all CalSTRS policies.

This document is intended to summarize the fundamental objectives and considerations used in the investment, administration, and management of the SISS Portfolio. This policy is designed to set boundaries that will ensure prudence and care in the management of the SISS assets while allowing sufficient flexibility in the management process to capture investment opportunities.

CalSTRS believes that material environmental, social, and governance, ESG, issues can affect the performance of its investments. As a result, the CalSTRS ~~ESG~~ Investment Policy for Mitigating Environmental, Social and Governance Risks has been developed as a tool that both internal and external investment managers are expected to use to assess the impact of ESG risk when making an investment on behalf of CalSTRS. Detailed procedures and guidelines for each of the portfolios are maintained separately.

~~As with all other plan assets, these policies cannot be altered without explicit direction from the Board.~~

RISK MANAGEMENT

In aggregate, the assets under management (AUM) in the SISS Public and Private Portfolios shall not exceed five percent of the CalSTRS Total Fund Market Value.

Delegation of Authority

The CIO or designee has the authority to manage the Sustainable Investment &

Stewardship Strategies Portfolio and may use other investment personnel to implement these policies and the processes described in the procedures.

The CIO or designee has the authority to approve commitments to strategies within the boundaries established by CalSTRS investment policies.

Within the boundaries and ranges established by this policy, staff is responsible for the selection, allocation, and oversight of externally and internally managed portfolios. Comprehensive procedures, manager guidelines, objectives, benchmark selection, forecast ~~tracking error~~active risk, portfolio composition, including eligible securities, constraints, and trading activities are to be monitored across all SISS Portfolios.

MONITORING AND REPORTING

The following reports will be prepared and presented to the Board, unless otherwise stated, in order to facilitate visibility of compliance monitoring and reporting according to this document:

i. **Semi-Annual Manager Report** – prepared by staff;

ii. **Performance Report** – prepared by master custodian/consultant (semi-annually);

iii. **Business Plan** – prepared by staff (annually);

iv. **Co-Investments** – A report on any acquisition or disposition will be presented to the Investment Committee as soon as practical after the transaction is completed.

BOARD REVIEW

The Board or the Investment Committee will review this policy periodically, as deemed appropriate and in keeping with its fiduciary standards.

SISS Public Portfolio

PROGRAM OBJECTIVES

The SISS Public Portfolio shall be invested to improve the diversification of the total investment portfolio and to enhance its risk-adjusted total return. The SISS Public Portfolio shall be invested to provide enhanced investment returns with the ancillary benefits of improving the overall market through active engagement and integration of ESG factors.

PERFORMANCE OBJECTIVES

The CalSTRS SISS Public Portfolio includes public equity strategies (including vehicles which primarily invest in public equities), which, in aggregate, are to be structured to

achieve a long-term total return in excess of the ~~policy benchmark~~SISS Public Portfolio Benchmark. Separate and distinct performance objectives and benchmarks shall be established for each equity mandate in order to determine whether each portfolio is representative of the market style adopted, and whether performance objectives have been met.

PROGRAM BENCHMARK

The SISS Public Portfolio benchmark is the Custom MSCI All Country World Investable Market Index (MSCI ACWI IMI).

PROGRAM STRUCTURE

The public equity portion of the SISS portfolio includes a range of strategies, including actively managed portfolios, partnerships which primarily invest in public securities, and passively managed index portfolios. All these strategies intentionally integrate material environmental, social, and governance considerations into portfolio construction and may be managed by external investment managers or implemented internally by the Global Equity staff. The decision to utilize internal staff will be based on a variety of factors including, but not limited to, cost effectiveness/control, market transparency/liquidity, market efficiency, active risk, and infrastructure/resource requirements.

Asset Allocation

Under the direction of the CIO, staff has discretion, within the range approved by the Board, to implement tactical allocations in the SISS Public portfolio.

Utilizing both active and passive strategies, the SISS Public portfolio shall be managed within an annualized forecast active risk limit of 50 to 250 basis points as measured by the CalSTRS risk management system. If there is an anticipated change in the CalSTRS risk management system or a material change in the methodology used to calculate active risk, staff will notify the Investment Committee.

Public Co-Investments

Public co-investments are limited to the publicly traded stocks domiciled in markets in which the SISS Public Portfolio is currently invested.

A co-investment may take the form of equity, convertible preferred equity, and warrants or a comparable instrument which provides an equity type of ownership and return investment restrictions included in the IPMP are hereby incorporated by reference.

i. Co-investments shall be made side by side with CalSTRS external investment managers.

ii. Due diligence process shall be thorough, consistent, and appropriate as defined in the SISS investment portfolio procedures.

iii. Maximum amount of any single investment shall not exceed $100 million at the time of the investment.

iv. Co-investments will be disposed of in coordination with the CalSTRS external investment manager who recommended the co-investment.

Special Situations Investments

The ~~Sustainable Investment and Stewardship Strategies~~SISS unit may initiate or hold investments in individual global equity securities for the following reasons:

i. Facilitate operational or legal segregation: in order to take advantage of certain legal rights, such as appraisal rights and/or legal proceedings, individual securities may be transferred to and held in a segregated account.

ii. Facilitate trading and compliance of regulatory requirements when, acting as part of a group, there may be certain regulatory filings and/or trading restrictions determined by the group's holdings and/or changes in the amounts held by the group. In order to manage the filing process and prevent restricting CalSTRS internally and externally managed portfolios, SISS may make investments in an individual security to manage its holding level and facilitate trading among internal and external portfolios.

iii. Funding of the accounts will be done at the determination of the Chief Investment Officer, or designee, and trading will be done by the Global Equity unit.

~~**Capital Calls**~~

~~i. Capital calls will be made in accordance with the terms stated in the executed partnerships or agreements, of the Sustainable Investment and Stewardship Strategies Public Portfolio.~~

~~ii. The delegation as it relates to capital calls shall be completed following proper notification from the investment manager as described in the partnership agreement. Management of the investment will be guided by the external investment managers.~~

SISS Private Portfolio

PROGRAM OBJECTIVES

The SISS Private Portfolio serves as a source of long-term capital appreciation for the CalSTRS Total Fund (Fund). The goal of the SISS Private Portfolio is to opportunistically improve the risk and return characteristics of the Fund. The investment scope of the SISS Private Portfolio is broad. The SISS Private Portfolio exists to leverage CalSTRS'

investment partners to source and invest in opportunities that demonstrate positive contributions to a more sustainable global economy, across private market asset classes. The portfolio does not seek to replicate investments that already exist in other parts of the CalSTRS portfolio. Instead, it creates a systematic platform to expand investment opportunities in private equity, infrastructure and real estate that are additive to the total fund.

PERFORMANCE OBJECTIVES

Over the long-term, the SISS Private Portfolio seeks to produce a positive return greater than the blended weighting of the respective private asset class benchmarks while demonstrating positive contributions towards a more sustainable global economy that benefit plan participants. Separate and distinct performance objectives and benchmarks shall be established for each investment in order to determine whether performance objectives have been met.

PROGRAM BENCHMARKS

The overall SISS Private Portfolio shall have a blended performance benchmark comprised of the weightings for each of the underlying strategies multiplied by their respective benchmarks, as detailed below:

Private Equity	Private Equity Program Benchmark
Real Estate	Real Estate Program Benchmark
Inflation Sensitive	Infrastructure Program Benchmark
Innovative Strategies	Innovative Strategies Benchmark *(as determined by the underlying individual strategy)*

PROGRAM STRUCTURE

The SISS Private Portfolio may invest in any set of private assets that are intended to improve the risk and return characteristics of the Fund and demonstrate positive contributions to a more sustainable global economy that benefit plan participants. The SISS Private Portfolio will consist of two sub-components which are subject to appropriate due diligence as defined in the SISS Private Portfolio investment procedures and which, as appropriate, reference the Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies investment procedures:

- Those that leverage existing CalSTRS partnerships across Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies to scale investments that will be additive to the total fund;

- Those that allow CalSTRS to develop new investment partnerships that are additive to the total fund and would otherwise have been allowed under CalSTRS Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies policies.

Permissible Investment Types

In compliance with CalSTRS' existing investment policies, including the Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies policies, the SISS Private Portfolio may invest in private assets using: (1) Limited Partnerships (and other limited liability vehicles); (2) Commingled Funds; (3) Discretionary Accounts; (4) Separately Managed Accounts; (5) Co-investments; (6) Secondary Market Transactions; (7) Direct Investments; (8) Joint Ventures; (9) Debt instruments; and (10) Standard investment management agreements.

Within the limits established by CalSTRS investment policies, staff is responsible for the selection, allocation, and oversight of the investments, strategies and external managers. If prudent, CalSTRS may elect to manage a strategy internally. Any internally managed strategy must be approved by the CIO and General Consultant. Delegation limits for assets are established within CalSTRS existing policies, including Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies and are reflected in the Investment Policy and Management Plan.

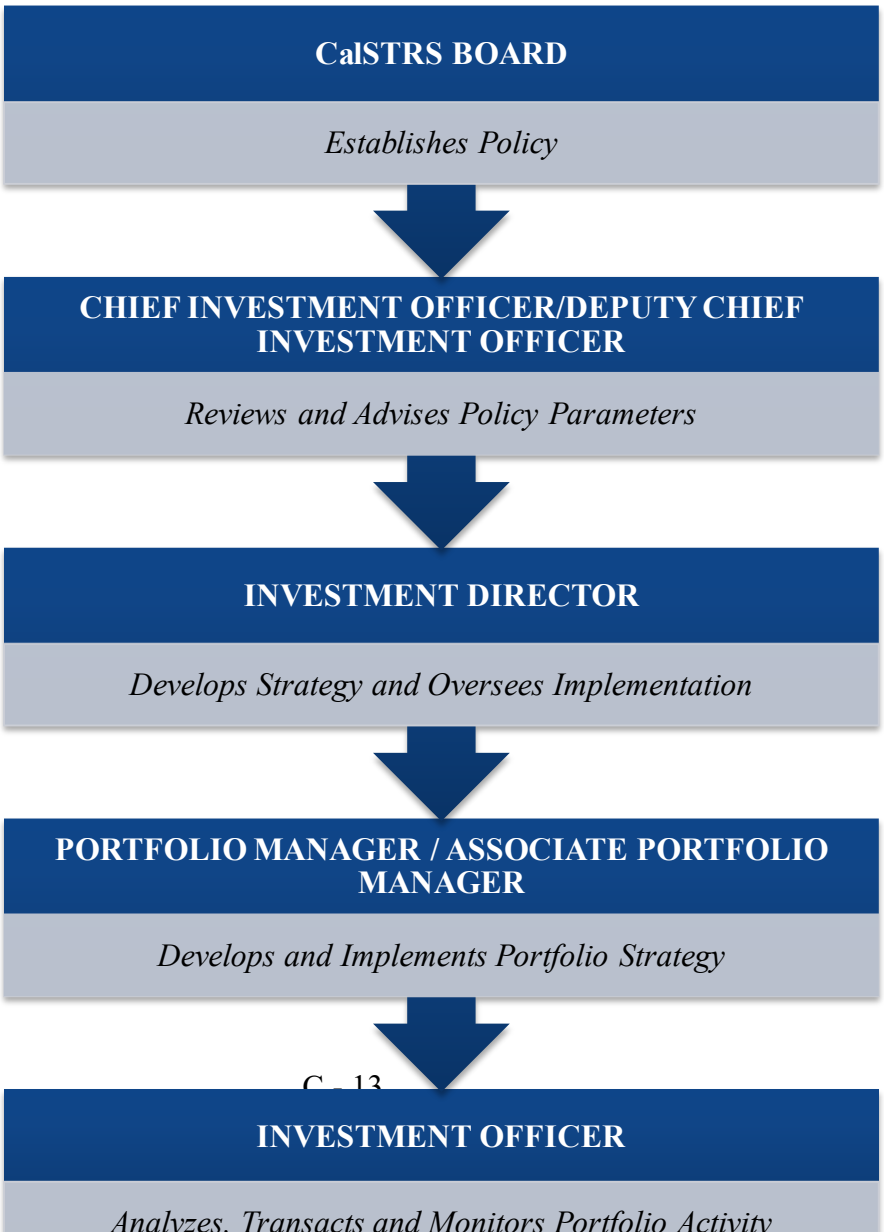
All SISS Private Portfolio investments require a positive written recommendation by CalSTRS' staff and/or a Program Advisor, an Independent Fiduciary, or Co-investment Advisor. All SISS Private Portfolio investments will comply with delegation authority limits outlined in CalSTRS existing Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies policies.

Diversification

Diversification within the SISS Private Portfolio is critical to control risk and maximize returns for the total fund. To provide diversification, the size of each investment shall, in aggregate, be limited to the lessor of half-a-percent (0.5%) of the CalSTRS Total Fund market value, calculated using the total commitments as of the investment decision date or existing limits and restrictions detailed in each asset class policy. This investment size limitation shall be applied to the aggregate amount of capital across multiple asset classes, as necessary, while remaining within compliance of the most restrictive investment limitation, as necessary.

The SISS Private Portfolio shall be diversified across Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies opportunities.

EXHIBIT 2: Policy Implementation Flowchart



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CALSTRS

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM

SUSTAINABLE INVESTMENT & STEWARDSHIP STRATEGIES PROGRAM AND PORTFOLIO POLICY

INVESTMENT BRANCH
JULY 2021

C. Sustainable Investment & Stewardship Strategies Program and Portfolio Policy[1]

Stewardship Program Policy

EXECUTIVE SUMMARY

The California State Teachers' Retirement System (CalSTRS) is committed to holding and managing equity investments and to exercising the shareholder rights appurtenant to those investments, all for the benefit of its participants and beneficiaries. It is the fiduciary responsibility of the Teachers' Retirement Board (TRB) to discharge its duty in the exclusive interest of the participants and beneficiaries and for the primary purpose of providing benefits to participants and their beneficiaries. The TRB should defray the reasonable expenses of administering the Fund; the investment policy of the Fund should reflect and reinforce this purpose. The TRB views its stewardship role as that of a catalyst for enhanced management accountability, disclosure and performance at the companies it invests in. The objective of the TRB's stewardship effort is to enhance long-term shareholder returns.

CalSTRS is a long-term investor; its long-term strategy is demonstrated through its multiple long-term holdings, including its passively managed portfolios in its three largest asset categories: Domestic Equities, Fixed Income, and non-U.S. Equities. CalSTRS' involvement in stewardship activities is to maximize the longer-term value of the securities, consistent with its role as a significant capital allocator.

CalSTRS recognizes that the lending of securities, especially equity common shares is an important practice in the investment world, improving market liquidity, reducing the risk of failed trades, and adds significant incremental return to investors. As a long-term investor, CalSTRS believes that its beneficiaries' interests are more appropriately served when votes are cast by market participants who have an economic interest in the underlying company. CalSTRS will seek to coordinate the lending process with all the parties, including the investment lending officers and the custodial relationships in its effort to ensure that under-voting or voting abuse is not suffered by the fund. It is understood that this effort will result in the recall of loaned shares and the restriction of lending certain

[1] Unless otherwise indicated all further references to Sustainable Investment & Stewardship Strategies (SISS) are to the Corporate Governance program established pursuant to Education Code, Section 22354. That section requires the Board retain investment managers who are experienced and knowledgeable in corporate management issues to monitor corporations whose shares are owned by the System plan and to advise the Board on the voting of the shares owned by the plan and on all other matters pertaining to corporate governance.

shares; all of which will diminish the income received from CalSTRS' securities lending efforts; however as fiduciaries with a long-term investment horizon, CalSTRS is committed to exercising its proxy authority over portfolio investments.

Statutory Authority: Education Code Section 22354 requires the Board to retain investment managers who are experienced and knowledgeable in corporate management issues to monitor corporations whose shares are owned by the System plan and to advise the Board on the voting of the shares owned by the plan and on all other matters pertaining to corporate governance. While CalSTRS is not subject to the Employee Retirement Income Security Act (ERISA), applicable provisions of both the California Constitution and the Education Code make clear that CalSTRS' commitment to corporate governance is a diligent exercise of its fiduciary responsibility. As observed by the U.S. Department of Labor:

> *"In general, the fiduciary act of managing plan assets which are shares of corporate stock would include the voting of proxies appurtenant to those shares of stock. ... Moreover, because voting such proxies involves plan asset management, section 403(a) requires that plan trustees have the exclusive authority and responsibility for voting these proxies…"*

Thus, CalSTRS' legal authority for corporate governance springs from its fiduciary concerns as a prudent investor and the statutory obligation imposed on it by the Legislature.

The following represent the approved policies to be used in the exercise of CalSTRS' shareholder rights and the implementation of its Stewardship Program. The policies are designed to set boundaries for the management of proxies, stewardship activities, and other corporate actions. As with all other plan assets, the Sustainable Investment and Stewardship Strategies (Corporate Governance) Program and Portfolio Policy (SISS Policy) cannot be altered without explicit direction from the TRB.

PROGRAM OBJECTIVE

The Program shall be a catalyst in transforming the financial markets to focus on long-term value creation that fully integrates sustainability considerations and uses CalSTRS' influence as a significant global investor to promote sustainable business practices and public policies.

PROGRAM STRUCTURE

The Program shall consist of the following components:

a. Voting of Proxies: CalSTRS will make a best effort to vote all domestic and non-U.S. proxies; exceptions may be made based on the legal requirements or local conventions of certain markets and where practical difficulties make an informed and meaningful decision impossible. Voting of proxies shall be in conformance with all approved documents such as the California State Teachers' Retirement System Corporate Governance Principles, which can be found on the CalSTRS website.

b. Strategic Relations Management: CalSTRS will mitigate reputationalrisks, including those related to environmental, social, and governance issues, by managing relationships within the Investment Branch and with external stakeholders to promote the sustainability of the portfolio.

c. Portfolio Company Engagement: CalSTRS will engage with portfolio companies to promote long-term value creation through sustainable business practices. CalSTRS will, time and circumstances permitting, partner with other institutional investors in an effort to maximize its corporate engagement efforts. In addition, CalSTRS will continue its active participation in organizations and forums designed to have an impact on environmental, social, and governance practices.

d. Regulatory and Legislative Advocacy: CalSTRS will, upon the completion of sound analysis, advocate for the institution or repeal of laws and regulations to improve public policies and the financial and legal marketplace, relative to the stated Investment Management Plan and the exclusive benefit of the plan beneficiaries and participants.

RISK MANAGEMENT

The Stewardship Program for the California State Teachers' Retirement System (CalSTRS) will be managed in a prudent manner for the sole benefit of the CalSTRS participants and beneficiaries, in accordance with the Teachers' Retirement Law and other applicable State statutes.

For domestic equities, the Program will comply with the rules of the Securities and Exchange Commission (SEC), equity exchanges, and other regulatory agencies. For non-U.S. equities, the Program will comply with the appropriate regulatory body in the respective country.

Delegation of Authority

The Chief Investment Officer (CIO) or designee has the authority to manage the Stewardship Program and may use other investment personnel to implement these policies.

MONITORING AND REPORTING

Updates on the following Stewardship activities will be prepared and presented to the Board, in order to facilitate visibility of compliance monitoring and reporting according to this document:

i. Annual Sustainable Investment and Stewardship Strategies (SISS) Business Plan – prepared by staff

ii. Annual Stewardship Plan: In the organization, prioritization and execution of the Stewardship Plan, including its engagement activities, staff shall consider the market value of the investment, CalSTRS' ownership percentage, priorities

identified in the annual SISS business plan, the resources required, and the direct cost involved in seeking a desired result.

Furthermore, staff will consider issues, for inclusion in the Annual Stewardship Plan, based on the following:

- The relevance to the long-term performance of the CalSTRS portfolio,
- CalSTRS capacity to influence meaningful change based on the tools available to staff as shareholders and,
- CalSTRS ability to deliver measurable outcomes.

iii. Actions staff take as a liaison between the TRB and organizations dedicated to advancing good environmental, social and governance practices aligned with long-term value creation;

iv. Developments in the environmental, social and governance area that may affect the value of securities held by CalSTRS;

v. Participation by CalSTRS in securities litigation, consistent with the policy, in the event that a subject company's underperformance is related to matters that are or may become the subject of such litigation. Criteria for entering into litigation related to securities fraud and/or to accomplish the purposes of the policy, so long as these actions are consistent with the Investment Management Plan. Reports related to securities litigation will be presented to the Board on an as needed basis.

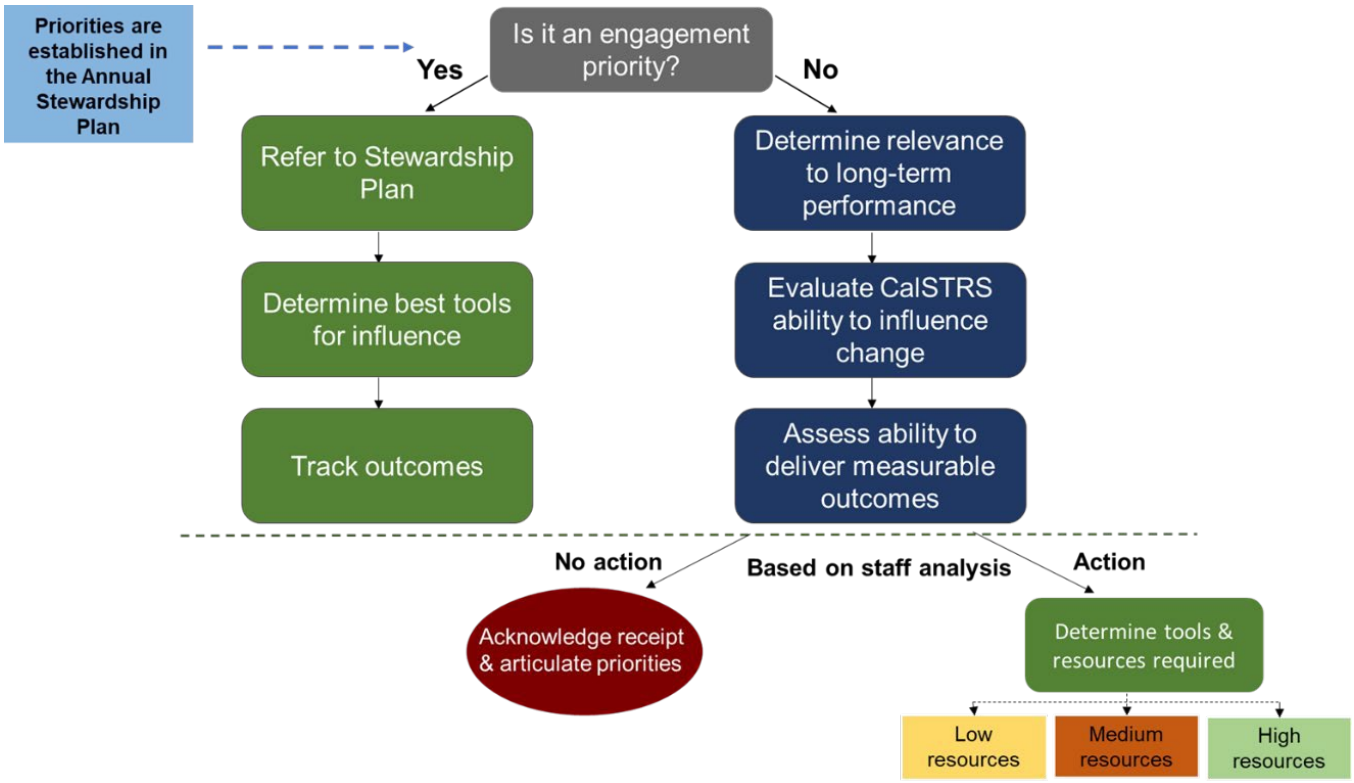
vi. Ad Hoc/Inbound Engagement Requests: Staff will consider additional requests to engage and address specific issues that are not articulated in the Annual Stewardship Plan using the flow chart in Exhibit 1. Reports related to ad hoc and inbound engagement requests will be presented to the Board on an as needed basis.

BOARD REVIEW

As with all other plan assets, these policies cannot be altered without explicit direction from the Board.

The Investment Committee of the Board may review this policy periodically, as deemed appropriate and in keeping with its fiduciary duties.

EXHIBIT 1: Stewardship Program Policy – Ad Hoc/Inbound Engagement Requests Flowchart



Sustainable Investment and Stewardship Strategies (SISS) Portfolio Policy

EXECUTIVE SUMMARY

In accordance with the CalSTRS Investment Policy and Management Plan, IPMP, the California State Teachers' Retirement System Board has established an allocation for asset classes. Within this allocation, the Chief Investment Officer (CIO), or designee, has authority to authorize investment within the Sustainable Investment and Stewardship Strategies Portfolio (SISS Portfolio). The SISS Portfolio has two components: the SISS Public Portfolio and the SISS Private Portfolio. In aggregate, the assets under management (AUM) in the SISS Public and Private Portfolios shall not exceed five percent of the CalSTRS Total Fund market value. The SISS Portfolio shall have a blended performance benchmark comprised of the weightings of the SISS Public Portfolio and the SISS Private Portfolio multiplied by their respective benchmarks. CalSTRS' SISS Portfolio is to be invested, administered, and managed in a prudent manner for the sole benefit of its participants and beneficiaries, in accordance with the California Constitution, the Teachers' Retirement Law, and other applicable statutes. The SISS Portfolio will remain within compliance of all CalSTRS policies.

This document is intended to summarize the fundamental objectives and considerations used in the investment, administration, and management of the SISS Portfolio. This policy is designed to set boundaries that will ensure prudence and care in the management of the SISS assets while allowing sufficient flexibility in the management process to capture investment opportunities.

CalSTRS believes that material environmental, social, and governance, ESG, issues can affect the performance of its investments. As a result, the CalSTRS Investment Policy for Mitigating Environmental, Social and Governance Risks has been developed as a tool that both internal and external investment managers are expected to use to assess the impact of ESG risk when making an investment on behalf of CalSTRS. Detailed procedures and guidelines for each of the portfolios are maintained separately.

RISK MANAGEMENT

In aggregate, the assets under management (AUM) in the SISS Public and Private Portfolios shall not exceed five percent of the CalSTRS Total Fund Market Value.

Delegation of Authority

The CIO or designee has the authority to manage the Sustainable Investment & Stewardship Strategies Portfolio and may use other investment personnel to implement these policies and the processes described in the procedures.

The CIO or designee has the authority to approve commitments to strategies within the boundaries established by CalSTRS investment policies.

Within the boundaries and ranges established by this policy, staff is responsible for the selection, allocation, and oversight of externally and internally managed portfolios. Comprehensive procedures, manager guidelines, objectives, benchmark selection, forecast

active risk, portfolio composition, including eligible securities, constraints, and trading activities are to be monitored across all SISS Portfolios.

MONITORING AND REPORTING

The following reports will be prepared and presented to the Board, unless otherwise stated, in order to facilitate visibility of compliance monitoring and reporting according to this document:

i. **Semi-Annual Manager Report** – prepared by staff;

ii. **Performance Report** – prepared by master custodian/consultant (semi-annually);

iii. **Business Plan** – prepared by staff (annually);

iv. **Co-Investments** – A report on any acquisition or disposition will be presented to the Investment Committee as soon as practical after the transaction is completed.

BOARD REVIEW

The Board or the Investment Committee will review this policy periodically, as deemed appropriate and in keeping with its fiduciary standards.

SISS Public Portfolio

PROGRAM OBJECTIVES

The SISS Public Portfolio shall be invested to improve the diversification of the total investment portfolio and to enhance its risk-adjusted total return. The SISS Public Portfolio shall be invested to provide enhanced investment returns with the ancillary benefits of improving the overall market through active engagement and integration of ESG factors.

PERFORMANCE OBJECTIVES

The CalSTRS SISS Public Portfolio includes public equity strategies (including vehicles which primarily invest in public equities), which, in aggregate, are to be structured to achieve a long-term total return in excess of the SISS Public Portfolio Benchmark. Separate and distinct performance objectives and benchmarks shall be established for each equity mandate in order to determine whether each portfolio is representative of the market style adopted, and whether performance objectives have been met.

PROGRAM BENCHMARK

The SISS Public Portfolio benchmark is the Custom MSCI All Country World Investable Market Index (MSCI ACWI IMI).

PROGRAM STRUCTURE

The public equity portion of the SISS portfolio includes a range of strategies, including actively managed portfolios, partnerships which primarily invest in public securities, and

passively managed index portfolios. All these strategies intentionally integrate material environmental, social, and governance considerations into portfolio construction and may be managed by external investment managers or implemented internally by the Global Equity staff. The decision to utilize internal staff will be based on a variety of factors including, but not limited to, cost effectiveness/control, market transparency/liquidity, market efficiency, active risk, and infrastructure/resource requirements.

Asset Allocation

Under the direction of the CIO, staff has discretion, within the range approved by the Board, to implement tactical allocations in the SISS Public portfolio.

Utilizing both active and passive strategies, the SISS Public portfolio shall be managed within an annualized forecast active risk limit of 50 to 250 basis points as measured by the CalSTRS risk management system. If there is an anticipated change in the CalSTRS risk management system or a material change in the methodology used to calculate active risk, staff will notify the Investment Committee.

Public Co-Investments

Public co-investments are limited to the publicly traded stocks domiciled in markets in which the SISS Public Portfolio is currently invested.

A co-investment may take the form of equity, convertible preferred equity, and warrants or a comparable instrument which provides an equity type of ownership and return investment restrictions included in the IPMP are hereby incorporated by reference.

i. Co-investments shall be made side by side with CalSTRS external investment managers.

ii. Due diligence process shall be thorough, consistent, and appropriate as defined in the SISS investment portfolio procedures.

iii. Maximum amount of any single investment shall not exceed $100 million at the time of the investment.

iv. Co-investments will be disposed of in coordination with the CalSTRS external investment manager who recommended the co-investment.

Special Situations Investments

The SISS unit may initiate or hold investments in individual global equity securities for the following reasons:

i. Facilitate operational or legal segregation: in order to take advantage of certain legal rights, such as appraisal rights and/or legal proceedings, individual securities may be transferred to and held in a segregated account.

ii. Facilitate trading and compliance of regulatory requirements when, acting as part of a group, there may be certain regulatory filings and/or trading restrictions determined by the group's holdings and/or changes in the amounts held by the group. In order to manage the filing process and prevent restricting CalSTRS internally and externally managed portfolios, SISS may make investments in an individual security to manage its holding level

and facilitate trading among internal and external portfolios.

iii. Funding of the accounts will be done at the determination of the Chief Investment Officer, or designee, and trading will be done by the Global Equity unit.

SISS Private Portfolio

PROGRAM OBJECTIVES

The SISS Private Portfolio serves as a source of long-term capital appreciation for the CalSTRS Total Fund (Fund). The goal of the SISS Private Portfolio is to opportunistically improve the risk and return characteristics of the Fund. The investment scope of the SISS Private Portfolio is broad. The SISS Private Portfolio exists to leverage CalSTRS' investment partners to source and invest in opportunities that demonstrate positive contributions to a more sustainable global economy, across private market asset classes. The portfolio does not seek to replicate investments that already exist in other parts of the CalSTRS portfolio. Instead, it creates a systematic platform to expand investment opportunities in private equity, infrastructure and real estate that are additive to the total fund.

PERFORMANCE OBJECTIVES

Over the long-term, the SISS Private Portfolio seeks to produce a positive return greater than the blended weighting of the respective private asset class benchmarks while demonstrating positive contributions towards a more sustainable global economy that benefit plan participants. Separate and distinct performance objectives and benchmarks shall be established for each investment in order to determine whether performance objectives have been met.

PROGRAM BENCHMARKS

The overall SISS Private Portfolio shall have a blended performance benchmark comprised of the weightings for each of the underlying strategies multiplied by their respective benchmarks, as detailed below:

Private Equity	Private Equity Program Benchmark
Real Estate	Real Estate Program Benchmark
Inflation Sensitive	Infrastructure Program Benchmark
Innovative Strategies	Innovative Strategies Benchmark *(as determined by the underlying individual strategy)*

PROGRAM STRUCTURE

The SISS Private Portfolio may invest in any set of private assets that are intended to improve the risk and return characteristics of the Fund and demonstrate positive contributions to a more sustainable global economy that benefit plan participants. The SISS Private Portfolio will consist of two sub-components which are subject to appropriate due diligence as defined in the SISS Private Portfolio investment procedures and which, as appropriate, reference the

Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies investment procedures:

- Those that leverage existing CalSTRS partnerships across Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies to scale investments that will be additive to the total fund;
- Those that allow CalSTRS to develop new investment partnerships that are additive to the total fund and would otherwise have been allowed under CalSTRS Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies policies.

Permissible Investment Types

In compliance with CalSTRS' existing investment policies, including the Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies policies, the SISS Private Portfolio may invest in private assets using: (1) Limited Partnerships (and other limited liability vehicles); (2) Commingled Funds; (3) Discretionary Accounts; (4) Separately Managed Accounts; (5) Co-investments; (6) Secondary Market Transactions; (7) Direct Investments; (8) Joint Ventures; (9) Debt instruments; and (10) Standard investment management agreements.

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Diversification

Diversification within the SISS Private Portfolio is critical to control risk and maximize returns for the total fund. To provide diversification, the size of each investment shall, in aggregate, be limited to the lessor of half-a-percent (0.5%) of the CalSTRS Total Fund market value, calculated using the total commitments as of the investment decision date or existing limits and restrictions detailed in each asset class policy. This investment size limitation shall be applied to the aggregate amount of capital across multiple asset classes, as necessary, while remaining within compliance of the most restrictive investment limitation, as necessary.

The SISS Private Portfolio shall be diversified across Private Equity, Inflation Sensitive, Real Estate and Innovative Strategies opportunities.

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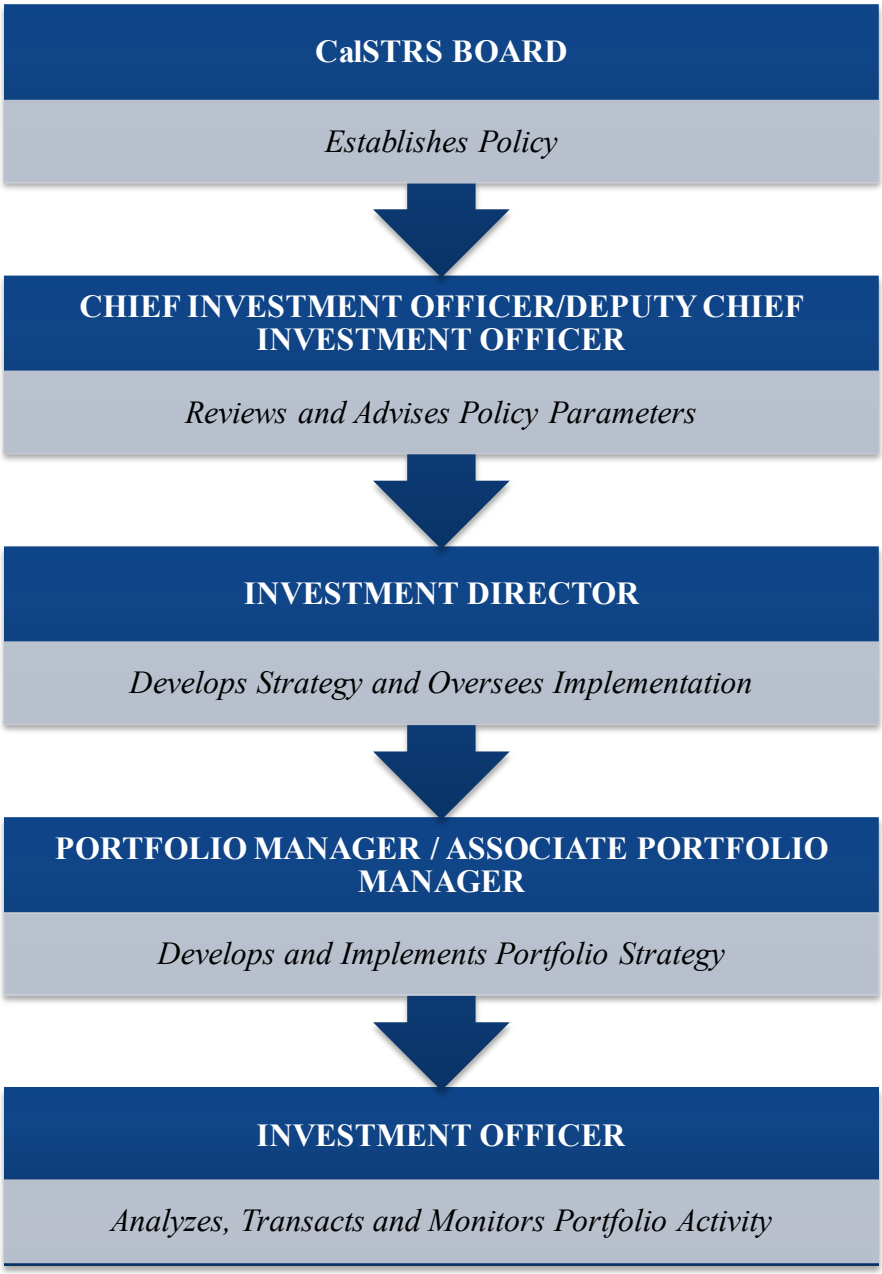

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CALSTRS

CALIFORNIA STATE
TEACHERS'
RETIREMENT SYSTEM

INVESTMENT POLICY AND MANAGEMENT PLAN

INVESTMENT BRANCH

~~JULY 2020~~JULY 2021

A. Investment Policy and Management Plan

EXECUTIVE SUMMARY

The California State Teachers' Retirement Board believes that to manage growth of assets in a prudent manner, it is necessary to establish Investment Beliefs and a clear investment policy and a planning statement under which the Investment Branch will operate. The Board has sole and exclusive fiduciary responsibility to administer the investment assets in a manner that will assure the prompt delivery of benefits and related services to the plan participants and their beneficiaries. As a public pension fund, the California State Teachers' Retirement System is not subject to ERISA, which governs corporate pension plans. The CalSTRS investment decision-making criteria are based on the "prudent expert" standard, for which the ERISA prudence standards serve as a basis. Additionally, the California Constitution, Article 16, Section 17, subsection (d) and Education Code Section 22250 (c) require diversification of risk across asset classes and minimization of employer costs.

The Investment Committee has established the core tenets in the form of an Investment Beliefs Statement, which precedes this Investment Policy. The Beliefs provide a broad guide and framework for the Investment Policy and Management Plan (IPMP) and all various Investment Policies. The Investment Policy and Management Plan has been developed within the context of the significant events that have occurred during CalSTRS history. The CalSTRS IPMP is updated to reflect the changes that have occurred in the investment policy and strategy as a result of implementing approved programs. In addition, the IPMP is updated to ensure that the factors that have impacted initial decisions are still relevant in the current environment.

This document addresses general objectives governing the policies of the investment function and the specific performance objectives. The general objectives are meant to provide a framework for the operation of the investment function. CalSTRS' performance objectives can be divided into objectives, one for the overall investment function and one for the objectives for the various asset classes and initiatives.

The asset allocation decision governs the allocation of CalSTRS assets between public, private and cash. Strategic allocation of CalSTRS assets is the most important factor in the determination of the realized total rate of return. The Board, Investments staff, and the general consultants worked together to create a variety of optimal asset allocation alternatives. The Board has adopted the desired targets and set tight ranges around those targets to control risk and ensure the proper allocation of the portfolio.

Strategic asset allocation targets are established within a variety of sub-asset categories to achieve the identified performance objectives. In conjunction with the overall asset allocation targets, sub-asset class level tactical ranges provide flexibility to adapt to changing market conditions.

Investment related issues addressed included:

1. The Funds' overall investment objectives, risk tolerance, and performance standards
2. The relative amount of active and passive management within each asset class
3. The relative amount of internal and external management
4. The appropriate direct and indirect costs of each asset category
5. The appropriate reporting standards and time horizons

Additionally, CalSTRS is committed to holding and managing securities investments in both the public and private markets and exercising the corporate governance rights that are a necessary part of that ownership. CalSTRS views these rights as plan assets and discharges its fiduciary duty solely in the interest of the plan participants and their beneficiaries.

STANDARD OF CARE

Under California Constitution, Article 16, Section 17, and the California Education Code, Part 13 Teachers Retirement Law, Chapter 4, Section 22250, the Board has the sole and exclusive fiduciary responsibility over the assets of the retirement system. The Board shall also have sole and exclusive responsibility to administer the system in a manner that will assure prompt delivery of benefits and related services to the members and their beneficiaries. The assets of the retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries, and defraying reasonable expenses of administering the system.

The members of the Board of the retirement system shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of, providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. The Board's duty to its participants and their beneficiaries shall take precedence over any other duty.

The members of the CalSTRS Board shall discharge their duties with respect to the system with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

GENERAL INVESTMENT OBJECTIVES

The main goal for The California State Teachers' Retirement System is to "maintain a financially sound retirement system". Within this context and in conjunction with the State Constitution and Education Code, the following general investment objectives are designed in consideration of the Investment Beliefs, to establish a framework for the operation of the investment portfolio.

1. **Provide for Present and Future Benefit Payments –** The CalSTRS Investment Program shall: provide liquidity to pay benefits to its participants and their beneficiaries in the amounts and at the times called for through the investment of contributions and other fund assets, strive to meet the assumptions built into the actuarial model and strive to maintain a fully funded pension system.
2. **Diversify the Assets –** Seek to diversify the assets to achieve the desired rate of return at a prudent level of risk. The asset structure must provide for diversification of risk between asset classes in order to manage the risk/return relationship through strategic asset allocation.
3. **The Reduction of CalSTRS' Funding Costs –** Within prudent levels of risk, the reduction of CalSTRS' funding costs shall be a consideration in the organization and structure of the investment portfolio.

4. **Maintain the Trust of the Participants and Public –** Manage the investment program in such a manner that will enhance the member and public's confidence in the CalSTRS Investment Program.

5. **Establish Policy and Objective Review Process** – A formal review of the CalSTRS Investment Policy and Management Plan will be conducted annually, with an updated financial projection developed every two years.

6. **Create Reasonable Pension Investments Relative to Other Pension Funds –** The selection of investment vehicles and policies will be judged against other private and public pension funds. Investment performance, asset management costs, staffing and overall expenses will be compared to other public and corporate pension plans, with special emphasis on comparisons with other large public funds.

7. **Minimize Costs –** Management fees, trading costs, and other expenses will be aggressively monitored and controlled.

8. **Compliance with State and Federal Laws –** The investment program must operate in compliance with all applicable State and Federal laws and regulations concerning the investment of pension assets.

INVESTMENT PERFORMANCE OBJECTIVES

The general investment objectives designed a framework for the operation of the investment function. The performance objectives can be divided into three components: (1) performance objectives for the overall Investment Portfolio, (2) performance objectives for each asset class, and (3) performance objectives for the individual investment managers within each asset class. CalSTRS incorporates all three levels of analysis in its monitoring of the investment portfolio performance.

In 2001, a survey of the Board members confirmed the Board's primary objective is to meet the actuarial assumptions and to strive to maintain a fully funded pension plan. Further, the Board reaffirmed its focus on a long-term investment horizon of ten years. As a long-term pension plan, the Board emphasizes that the primary time horizon for measuring investment performance will be over a three, five, and ten-year period rather than quarter to quarter or year to year.

There are five performance objectives identified for the overall Investment Portfolio:

1. Relative to the Actuarial Rate of Return
2. Relative to CalSTRS' Liabilities
3. Relative to Inflation
4. Relative to Strategic Asset Allocation Targets (Policy Benchmark Index)
5. Relative to the CalSTRS Reference Portfolio

The actuarial rate of return is an estimate of the long-term rate of growth of CalSTRS assets. Based upon various internal and consultant estimates, the actuarial rate of return is currently set at 7.0 percent, which represents an indicative multi-decade expected average return. When adopting the actuarial rate of return, the Board recognizes that it is highly likely the investment portfolio will produce higher returns in some years and realize lower returns in other years (and that such scenarios can unfold for multiple years).

The liability-related performance objective recognizes that liabilities must be paid in full and in a timely manner. The liabilities are future claims of the CalSTRS participants. The actuarial rate of return is used to discount the future value of the CalSTRS liabilities to calculate the funded ratio.

The inflation related objective compares the investment performance against the rate of inflation as measured by the Consumer Price Index plus 4.25 percent. The Consumer Price Index is used in the calculation of the estimated salary increases for the members (teachers). The inflation measure provides a link to CalSTRS' liabilities.

A comparative benchmark reflects CalSTRS' unique asset allocation policy. This performance objective is a composite of the target weighting for each asset category multiplied by the performance benchmark's return for that category. This performance number is compared to the actual asset allocation and actual total rate of return. This comparison identifies the contribution or detriment to performance caused by manager performance, market timing, and tactical asset allocation decisions.

PERFORMANCE BENCHMARKS

To facilitate the periodic reporting to the Investment Committee and to provide a relative measure to gauge success, custom performance benchmarks are approved by the Investment Committee. The approved custom performance benchmarks for each asset class are shown below:

Public Equity	Weighted blend[1&2] of the Russell 3000 Custom Index + MSCI All Country World Index (ACWI) ex-U.S Custom Investable Market Index (IMI), MSCI World ex-U.S. Custom Min Vol (USD) index, Custom MSCI ACWI IMI and MSCI World Custom Low Carbon Target Net Index
Fixed Income	(95%) Bloomberg Barclays U.S. Aggregate Custom Index[1] + (5%) Bloomberg Barclays U.S. High Yield 2% Issuer Capped Custom Index[1]
Inflation Sensitive	Weighted blend of the Bloomberg Barclays U.S. Treasury Inflation Linked-Bond Index (Series L), NCREIF Timberland Fund Index, Bloomberg Commodity Index, Alerian MLP Daily index, CPI+3% (quarter lagged) and CPI+4% (quarter lagged)[2]
Real Estate	NCREIF ODCE Value Weighted index Net of fees (quarter lagged)
Private Equity	Weighted blend of the CalSTRS Custom Private Equity Traditional and Non-Traditional Indices, comprised of the customized Buyout, Debt-Related and Venture Capital segments of the State Street Global Exchange Private Equity Index (quarter lagged)[2], further detailed in the Private Equity Policy.
Cash / Liquidity	90-day Treasury Bill Index

Risk Mitigating Strategies	Weighted blend of: Bloomberg Barclays U.S. Treasury 20+year Total Return Index, SG Trend Index, HFRI Macro: Discretionary Thematic Index, and Eurekahedge Multi-Factor Risk Premia Index. Once the asset class is fully implemented, target weights of each underlying strategy will be applied to the custom benchmark, as described in the RMS policy.[2]

[1] Custom public indices are updated quarterly in accordance with the CalSTRS restricted securities list, Committee on Responsible Investments mandates and Divestment Policy.

[2] As new strategies are added, the future benchmark shall be a dynamic blend comprised of the weightings of each of the underlying strategies within the portfolio, multiplied by their respective benchmarks. The Investment Policy and Management Plan will be updated accordingly through a schedule set forth by the Board.

Blended indices are weighted based upon CalSTRS target allocations to each respective index. Each investment manager, in all asset classes, has an individualized benchmark designed to measure its performance relative to the objective identified in each manager's respective investment guidelines.

TOTAL FUND BENCHMARK

To measure the performance of the Total Fund, CalSTRS utilizes two benchmarks as described below. One primarily for members and the public and one customized for internal performance attribution and risk management.

Policy Benchmark Index – This measure is used for performance attribution and risk measurement. It is developed by taking each of the respective asset classes' custom benchmarks weighted by the policy target asset allocation at the end of the specific time period. Since almost all of the asset class benchmarks are customized for CalSTRS exclusions and special mandates, they are not publicly available. Additionally, because the Total Fund utilizes long term illiquid securities, benchmark comparisons become difficult over shorter time periods. Many of the illiquid asset classes are not investible options for the members and public.

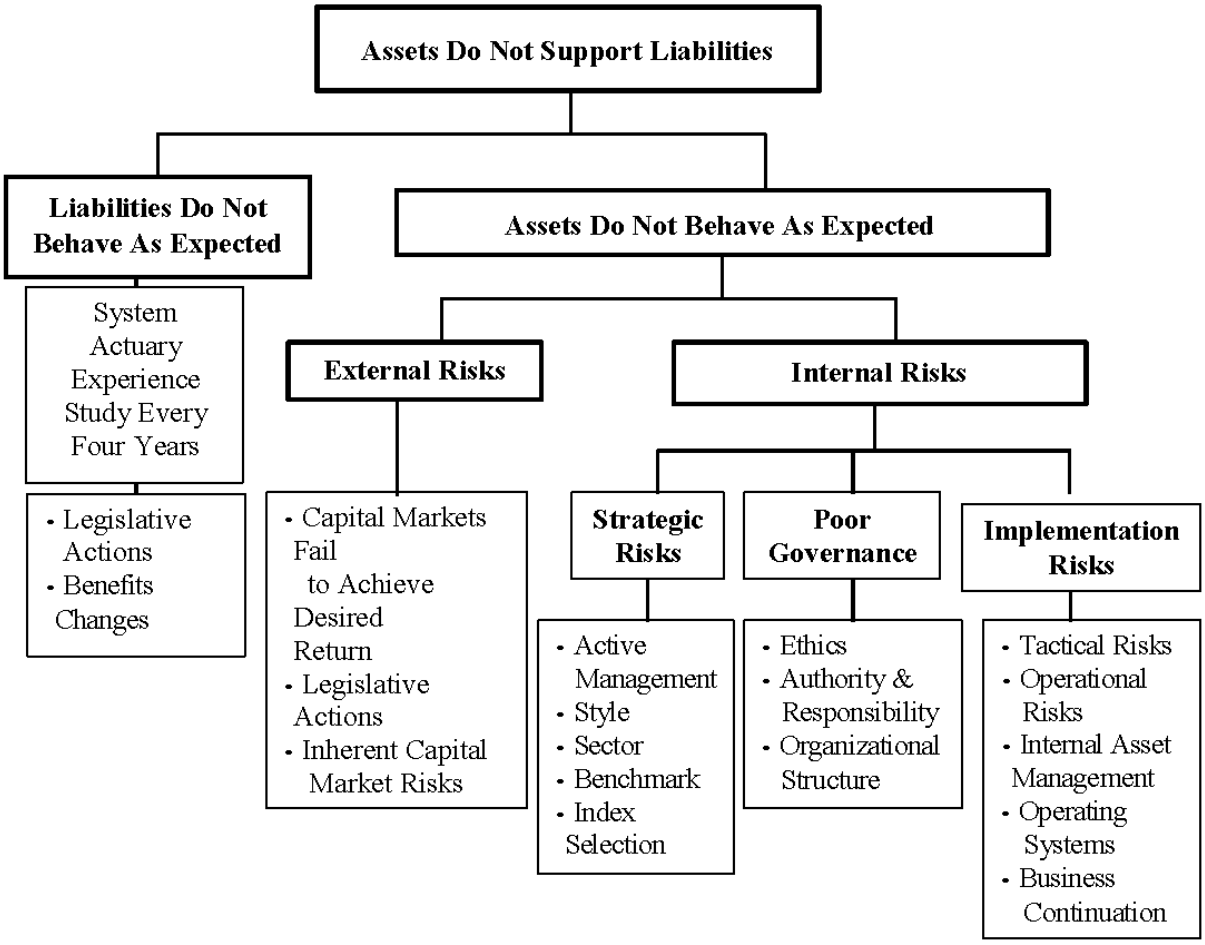
Reference Portfolio – The reference portfolio is the Morningstar Moderate Target Risk index which is designed to help measure Target date mutual funds with a long investment horizon and risk level very similar to that of the CalSTRS total fund. This measure is designed to allow members and the public compare the CalSTRS total fund Investment performance to a similar risk level portfolio they could utilize within the personal retirement accounts. This measure will be used in external publications to provide comparison that is publicly available and clearly defined. The Reference Portfolio is also the most appropriate performance measurement tool to measure the performance success of the over long time periods.

RISK CONSTRAINTS

The CalSTRS Investment Portfolio will be invested to maximize return at a prudent level of risk in accordance with the CalSTRS Investment Policy and Management Plan, the California Constitution and the California Education Code.

RISK STANDARDS

With a few enhancements, CalSTRS has utilized the risk matrix *Statements of Key Investment Risk and Common Practices to Address Those Risks*, *June 2000*, which is endorsed by the NCTR[1], GFOA[2], and APPFA[3]. These standards promulgate the CalSTRS risk framework which is listed below:



[1] National Council on Teacher Retirement;
[2] Government Finance Officers Association
[3] Association of Public Pension Fund Auditors

External Risk – External risks are embedded and inherent within the capital markets. This policy defines CalSTRS strategy and process to capture or, in turn, mitigate these risks.

Governance Risk – Governance risk is mitigated within the Board's governance policy and the individual asset class policies. Roles and assignments are clearly stated in each policy.

Strategic Investment Risks & Implementation Risks – These particular risks have increased significantly over time, as a result, the Investment Committee has revised the strategies to tactically manage the risks of the portfolio. CalSTRS has adopted six key risk measures to help identify potential deviations in global risk levels.

Global Economic Growth Risk	Interest Rate Risk	Inflation Risk	Liquidity – Fluid Market Risk	Leverage Financing Risk	Global Investment Governance Risk

These risks overlay the total portfolio and touch almost each asset class in one way or another. Management of these risks requires comprehensive strategies across the portfolio.

This policy is designed to mitigate the strategic investment risks and implementation risks of the investment activity. A critical element to mitigate these risks is the asset allocation and sub-asset structure of each asset class. The Board has adopted target allocations and tight ranges to control and limit the strategic and tactical risks in the portfolio. To control the active manager style, sector, index and benchmark risks, the Board has delineated guidelines and structure through the asset allocation plan and the asset class policies and guidelines.

Environmental, Social and Governance Risks, ESG – CalSTRS Investment Portfolio operates in a unique and complex social-economic milieu, and the Board expects its staff and investment managers to select investments after a careful investigation and deliberation of the risks versus the potential return. To assist staff and investment managers, the Board has promulgated a Policy that delineates principles and risks to be considered in all investment decisions. This ESG Policy is included as Attachment A to this policy.

RISK BUDGET

The CalSTRS Asset Allocation Plan is developed within the concept of a risk budget. In CalSTRS' view, the public markets of U.S. equity, U.S. fixed income and, to a lesser extent, non-U.S. equity, are fairly efficient markets. Information is disseminated quickly and new information is quickly absorbed into the market prices of a given security. As a result, CalSTRS utilizes a more passive management style. The less efficient the investment the greater exposure to active management and hence the larger exposure to style, sector and management risk.

In the less liquid and inefficient asset classes of high yield fixed income, private equity, infrastructure and real estate, CalSTRS utilizes a complex active management style to capture the greater opportunity set offered by the larger risks.

TOTAL FUND RISK

Liquidity Risk

No more than 35 percent of the total fund shall be invested in instruments that are not regularly publicly traded on a daily basis.

Maximum Investment

No more than 3 percent of the total fund shall be invested or exposed to any one security or corporation, with the exception of the United States Treasury or Agency Obligations. No more than 15 percent of any asset class maybe invested in any one security, with the exception of United States Treasury or Agency Obligations.

Trading Limits

Attachment B defines transaction limits for the internally managed public portfolios and approval limits of outgoing cash transactions for all private asset portfolios. Any transaction or cash approval limits defined within an asset class policy are superseded by the limits that are defined in Attachment B.

ASSET ALLOCATION

The Asset Allocation Process

The key goal of the asset allocation process is to develop an asset allocation policy that maximizes the likelihood that an investment portfolio's assets will, over the planning horizon, fund plan benefits.

Steps Involved in Setting Asset Allocation Policy

Overview and Planning Steps

1. Review the current investment policy and asset allocation history.
2. Review financial condition of the Defined Benefit plan
   A. Assets versus projected liabilities (balance sheet)
   B. Long-term funding plan and current status
   C. Projected contributions versus projected benefits

Investment Related Steps

3. Review rationale for investment asset classes in light of plan financial requirements
4. Develop expectations for asset class investment performance (returns, risks, correlations)
5. Identify CalSTRS specific constraints that might limit investment strategies (e.g., liquidity, divestment)
6. Create model portfolios, incorporating objectives, assumptions, and constraints
7. Perform additional sensitivity analyses to quantify impact of specific issues
   A. Adjustments to required rate of return
   B. Shift in financial condition of the plan due to funding
8. Isolate investor-specific model portfolio to represent an investor's asset allocation policy

CalSTRS will conduct an asset/liability study on a four year cycle in conjunction with the review of the liability assumptions or more frequently if there is a significant change in the liabilities or assets. During the asset allocation study, a comprehensive review of the financial condition of the plan becomes imperative. A key component of reviewing the plan's financial condition is studying the actuarial requirements of the plan. These include the future liabilities and expected cash flow of contributions less benefit payments. For example, as a mature defined benefit plan, CalSTRS will have a negative cash flow as more participants retire. These requirements represent CalSTRS' long-term liabilities and, when combined with the CalSTRS Investment Portfolio, constitute the pension plan's balance sheet.

Understanding what factors (such as changes in interest rates, benefit structures, and plan demographics) influence these liabilities is important. Changes in these and other underlying factors may, in fact, alter a plan's liability structure. Such shifts could, in turn, impact the plan's financial condition. CalSTRS' factors were studied and considered as part of this asset allocation review.

Selecting Asset Classes for Portfolio Investment

As discussed earlier, there are three components required to model investment returns: (1) asset class expected returns, (2) asset class risks, and (3) correlations among asset classes. Investment consultants develop these components, which are then used to develop efficient frontiers quantitatively.

Total Return and Risk Estimates*

Assumed inflation level: 2.75% per year Adopted in May 2019

Strategic Class	Asset Class	Expected Geometric Return	Volatility
Economic Growth	Public Equity	7.5%	17.6%
	Private Equity	9.0%	24.0%
Real Assets	Real Estate	6.3%	14.9%
	Inflation Sensitive	6.0%	12.3%
Diversifying	Fixed Income	4.0%	6.2%
	Risk Mitigating Strategies (RMS)	4.5%	10.0%
	Cash / Liquidity	2.4%	1.0%

Correlation Among the Asset Classes: **Adopted in May 2019**

Strategic Class		Economic Growth		Real Assets		Diversifying		
	Asset Class	Public Equity	Private Equity	Real Estate	Inflation Sensitive	Fixed Income	Risk Mitigating Strategies (RMS)	Cash / Liquidity
Economic Growth	Public Equity	1	0.70	0.37	0.55	0.13	-0.18	0
	Private Equity		1	0.49	0.54	0.05	-0.12	0
Real Assets	Real Estate			1	0.62	0.13	0.07	0.20
	Inflation Sensitive				1	0.36	0.11	0.10
Diversifying	Fixed Income					1	0.58	0.25
	Risk Mitigating Strategies (RMS)						1	0
	Cash / Liquidity							1

**These return and volatility estimates are only for asset allocation modeling purposes.*

These returns and volatility estimates reflect several basic relationships:

1. Investors or lenders of capital require an incremental real return premium as a reward for making capital available
2. Equity-oriented investments should, over long periods, produce return premiums that are higher than their fixed income counterparts
3. The return assumptions for the publicly traded asset classes do not account for added value opportunities within each asset class

Review of Asset Allocation Policy

Over the last 30 years, CalSTRS' asset allocation policy has shifted modestly.

CalSTRS Asset Allocation Policy Trends (in %)

Strategic Class	Asset Class/Strategy	Long-Term*	2019	2015	2013	2008	1999	1993	1986
Economic Growth	Public Equity	42%	51%	55%	51%	60%	63%	51%	55%
	Private Equity	13%	9%	13%	13%	9%	5%	7%	5%
Real Assets	Real Estate	15%	13%	13%	13%	11%	5%	10%	10%
	Inflation Sensitive	6%	3%	1%	6%	0%	0%	0%	0%
Diversifying	Innovative Strategies	0%	0%	0%	0%	0%	0%	0%	0%
	Risk Mitigating Strategies	10%	9%	0%	0%	0%	0%	0%	0%
	Global TAA	0%	0%	0%	0%	0%	0%	1%	0%
	Fixed Income	12%	13%	17%	16%	20%	26%	30%	30%
	Cash / Liquidity	2%	2%	1%	1%	0%	1%	1%	0%
	Total Equity**	70%	73%	81%	77%	80%	73%	68%	70%
	Other Assets	30%	27%	19%	23%	20%	27%	32%	30%
	Total Asset Allocation	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

** The long-term target was established in November 2019.*

*** Total Equity includes Public Equity, Real Estate and Private Equity.*

CalSTRS' investment policy has remained consistent from an equity/stable asset allocation viewpoint. In 1986, CalSTRS had a strategic allocation of 70 percent equities and 30 percent stable assets. In 1997, CalSTRS' board adopted and reaffirmed a policy of 73 percent equity and 27 percent stable assets. During the 2006 Asset Liability Study, the Investment Committee approved a shift to a long-term plan of 80 percent equity and 20 percent stable assets to optimize the likelihood of success in meeting the investment goals listed at the beginning of the policy. In 2009, the Investment Committee added a new asset group, Inflation Sensitive, to help improve the overall diversification and reduce volatility. In 2015, the Committee added Risk Mitigating Strategies to reduce the risk of decline in significant negative investment periods. The 2019 Asset Liability study continued the shift toward a more diversified portfolio.

STRATEGIC ASSET ALLOCATION

CalSTRS' asset allocation strategy utilizes a design for today's needs, while anticipating the future capacity and growth of the investment portfolio. A strategic asset allocation target for each asset class was first established in 2001, and has been revised with each subsequent asset allocation study based upon a comprehensive asset allocation analysis completed by the Investment Committee's independent external Investment Consultant. In conjunction with the strategic target, a range for each asset category has been established to provide flexibility designed to reduce rebalancing costs and to allow flexibility to adapt to changing market conditions.

To control the risk and return relationship, each asset category should be rebalanced to the strategic target. Rebalancing latitude is important and can significantly affect the performance of the portfolio. Blind adherence to narrow ranges increases transaction costs without a documented increase in performance. A rebalancing range that is too wide may cause undesired changes in the asset allocation. The ranges are based upon the allowed variation in the overall risk profile of the entire portfolio.

CalSTRS Long-term Policy Target and Ranges, Adopted November 2019

Strategic Class	Asset Class/Strategy	Long-Term Target	Range
Economic Growth	Public Equity	42%	+/- 6%
	Private Equity	13%	+/- 3%
Real Assets	Real Estate	15%	+/- 3%
	Inflation Sensitive	6%	+/- 3%
Diversifying	Innovative Strategies	0%	+/- 2.5%
	Risk Mitigating Strategies	10%	+/- 3%
	Fixed Income	12%	+/- 3%
	Cash / Liquidity	2%	+/- 3%
Total Asset Allocation		**100%**	

Please note that the allocated, but not funded, portion of Private Equity and Real Estate will be invested in accordance with the Strategic Asset Allocation Plan.

With the creation of the Inflation Sensitive asset class in 2010, and the Risk Mitigating Strategies asset class in 2015, CalSTRS built up these portfolios as attractive investment opportunities and time permitted. To integrate the new asset allocations, CalSTRS has adopted the following implementation plan commencing in 2020. Every six months the asset mix will be revisited and the policy benchmark/allocation may be shifted to the next step if warranted and approved by the Investment Committee.

Revised CalSTRS Long-term Policy Targets and Implementation Plan

Strategic Class	Asset Class/Strategy	Current Target	Effective date 7/1/20 Step 1	Step 2	Step 3	Long-Term Target
Economic Growth	Public Equity	51%	49%	47%	45%	42%
	Private Equity	9%	10%	11%	12%	13%
Real Assets	Real Estate	13%	14%	14%	14%	15%
	Inflation Sensitive	3%	3%	4%	5%	6%
Diversifying	Innovative Strategies	0%	0%	0%	0%	0%
	Risk Mitigating Strategies	9%	9%	10%	10%	10%
	Fixed Income	13%	13%	12%	12%	12%
	Cash / Liquidity	2%	2%	2%	2%	2%
	Total Asset Allocation	**100%**	**100%**	**100%**	**100%**	**100%**

Rebalancing Procedure: The asset mix may deviate from the target as shown above. Deviations greater than described may require rebalancing within the range. The range around the allocation targets is intended to keep the actual allocation close to the target while minimizing the transaction costs that result from rebalancing.

1. The Board delegates to the chief investment officer authority to rebalance the asset allocation across asset classes/strategies when market values of assets fall outside policy ranges and to shift allocations within the ranges. Rebalancing and shifts will be accomplished first to meet adequate cash flow demands and second through reallocation of assets across asset classes. The timing of the rebalancing and shifts will be based on market opportunities and the consideration of transaction costs, and therefore need not occur immediately. The global financial markets and fund conditions are dynamic, not static. The optimum shift in assets will depend on market volatility and costs. The above policy ranges are long-term and may deviate in the short-term as a result of funding schedules, interim market movements and market impact costs of implementation.
2. Idle cash, in excess of the cash flow needs, will be allocated to asset classes and investment managers based on target allocations.
3. The Board authorizes the chief investment officer to shift assets in a timely, prudent and cost-efficient manner within the policy ranges and in order to maintain the policy ranges established by the Board. The Board further authorizes the chief investment officer to utilize futures, forward contracts, and options for a temporary period, in order to maintain target range exposure in asset classes and to reduce transaction costs that would otherwise be incurred by the buying and selling of actual securities. Rebalancing can occur to bring asset classes within their target ranges or when there is transition between investment managers. The CIO will promptly report any re-balancing to the Board at the next Investment Committee meeting.

4. Rebalance Within Asset Classes: the Board authorizes the chief investment officer to rebalance within each asset class by first using normal cash flows and second through the reallocation of assets within asset classes. This reallocation will be based on individual policies and guidelines for each asset class.

5. Because of appraisal valuation and the illiquid market nature of Partnership Investments, exceeding the maximum policy range allocation in those asset classes will trigger a conscious review by the chief investment officer, the specialty and general consultants, and the Investment Committee rather than an automatic rebalancing.

INVESTMENT STRUCTURE

Investment structure guides and directs present and future investment decisions in a prudent manner. The structure is also used by CalSTRS to mitigate the strategic investment risk within the portfolio. Investment related issues addressed include:

1. The relative amount of active and passive management
2. The relative amount of internal and external management
3. The appropriate direct and indirect costs of each asset category
4. The appropriate reporting standards and time horizons

ASSET ALLOCATION STRUCTURE

1. Based on academic studies, a vast majority of the total return is attributable to the asset allocation decision. Consequently, each asset category shall remain within the tactical range approved in the strategic asset allocation adopted by the Board.

2. Control of the cash flow is critical to the success of long-term investment strategies. Estimated cash flows shall be provided to the Investment Committee in conjunction with the annual actuarial valuations.

3. No less than quarterly, the chief investment officer will complete a report identifying the salient aspects of the investments, including a section on compliance with approved asset allocation targets.

SUSTAINABLE INVESTMENT & STEWARDSHIP STRATEGIES *

1. CalSTRS has developed robust policies and standards for fair and open governance of corporations. As long-term owners and lenders to corporations around the world, it is CalSTRS' duty to protect those assets through the pursuit of good governance and operational accountability.

2. To align the investment implementation with the strategic asset allocation, the Public Portfolio shall be managed under an active risk budget framework, as defined in the Sustainable Investment & Stewardship Strategies Public Portfolio Policy.

~~1.~~3. The Board delegates to the chief investment officer authority to adjust allocations within the Sustainable Investment & Stewardship Strategies Public Portfolio when forecasted

active risk falls outside of the Sustainable Investment & Stewardship Strategies Portfolio Policy defined range. Given the varied contributions to forecasted active risk, a plan will be developed within one month to determine the best course of action should adjustments be necessary to return to policy compliance. The plan will be tailored to address the cause of the breach, which could include but is not limited to portfolio holdings, extreme market volatility, or a combination. Adjustments will be made in a timely manner while considering prudence, the market environment, liquidity, transaction costs, and the nature of the breach.

~~2~~4. More detailed information about the program can be found in the CalSTRS Sustainable Investment & Stewardship Strategies Policy*.

*References to Sustainable Investment & Stewardship Strategies (SISS) are to the Corporate Governance program established pursuant to Education Code, Section 22354.

GLOBAL EQUITY STRUCTURE

1. The Global Equity Portfolio shall be invested across U.S., non-U.S. developed, and emerging markets.

2. To align the investment implementation with the strategic asset allocation, the Portfolio shall be managed under an active risk budget framework, as defined in the CalSTRS Global Equity Investment Policy, utilizing both active and passive management strategies.

3. The Board delegates to the chief investment officer authority to adjust allocations within the Global Equity portfolio when forecast active risk falls outside of the Global Equity Investment Policy defined range. Given the varied contributions to forecast active risk, a plan will be developed within one month to determine the best course of action should adjustments be necessary to return to policy compliance. The plan will be tailored to address the cause of the breach, which could include but is not limited to portfolio holdings, extreme market volatility, or a combination. Adjustments will be made in a timely manner while considering prudence, the market environment, transaction costs, and the nature of the breach.

4. More detailed information and standards about the asset class can be found in the CalSTRS Global Equity Investment Policy.

FIXED INCOME STRUCTURE

1. The Fixed Income Portfolio shall be comprised of investment grade and non-investment grade securities, U.S. dollar based and non-U.S. dollar based securities. The portfolio will target 80 percent using an enhanced indexing strategy, while 20 percent will be externally actively managed using a broader universal fixed income and high-yield securities opportunity set. The internally managed portfolio will emphasize tracking the risk characteristics of the performance benchmark.

2. Short term fixed income/liquidity and cash securities, including the cash portion of equity portfolios, shall be managed internally with emphasis on safety and liquidity. The portfolio shall be comprised of investment grade securities; and other appropriate securities as

approved in the policies and procedures.

3. More detailed information and standards for the asset class can be found in the CalSTRS Fixed Income Investment Policy.

CURRENCY MANAGEMENT STRUCTURE

1. The Currency Management Program overlays CalSTRS total exposure to foreign currencies from the U.S. equity and the Real Estate portfolios. The program structure is approximately 80 percent internally managed, with a primary focus on defensive hedging in periods of a strong dollar, with opportunity for cross hedging to add value. External active currency overlay managers will be used for approximately 20 percent of the overall currency exposure. These managers may actively shift currency exposure to add value to the portfolio.

2. More detailed information about the program and structure can be found in the CalSTRS Currency Management Program Policy.

PRIVATE EQUITY STRUCTURE

1. The Private Equity Portfolio can include limited partnerships, (and other limited liability vehicles), direct investments in general partnerships, co-investments, and secondary interests in the following market segments: Buyouts, Venture Capital, Debt Related, Core Private Equity, and Private Equity Special Mandates. The primary objective for the Private Equity Portfolio is to provide enhanced investment returns over those available in the public market.
2. Private Equity has substantial fees and costs; consequently, emphasis will be placed on negotiating, monitoring, and controlling the direct and indirect costs of each limited partnership investment.
3. More detailed information and standards for the asset class can be found in the CalSTRS Private Equity Investment Policy.

REAL ESTATE STRUCTURE

1. The Real Estate Portfolio will be comprised of direct real estate investments, joint venture/value added investments, and commingled funds (opportunistic funds) with adopted targets of 60 percent to core, 20 percent value added and 20 percent to higher-risk tactical investments. Leverage maybe applied within the constraints set forth in the CalSTRS Real Estate Investment Policy.
2. To more closely align the interests of the plan sponsor and real estate manager, emphasis will be placed on negotiating, monitoring, and controlling the cash flow (both income and expense) associated with each property.
3. More detailed information and standards for the asset class can be found in the CalSTRS Real Estate Investment Policy.

INFLATION SENSITIVE STRUCTURE

1. This asset class consists of several asset types that, when combined, should produce a relatively stable return stream, with a return level between equities and fixed income, and an overall higher correlation to inflation than equity or fixed income. The initial portfolio was comprised of global inflation linked bonds/securities and infrastructure investments. Additional investment areas and strategies have been added upon the Investment Committee's approval.

2. Infrastructure investments are governed by the CalSTRS Infrastructure Investment Policy, initially adopted in July 2008.

3. More detailed information and standards for the asset class can be found in the CalSTRS Inflation Sensitive Investment Policy.

INNOVATIVE STRATEGIES

1. These strategies will invest in a diversified portfolio of assets that generally fall outside of the traditional asset classes currently used by the Board. The purpose is to provide the Board with the opportunity to invest in a wide spectrum of investment opportunities that

   will be required to demonstrate success before committing larger dollar amounts to a specified strategy.

2. Discretionary separate account relationships may be entered into, subject to pre-approved investment guidelines. The Chief Investment Officer must approve any deviations from the approved guidelines. For this reason, investments shall be structured to facilitate alignment of interests between management and CalSTRS, management accountability, investment monitoring, and liquidity.

3. More detailed information and standards for these strategies can be found in the CalSTRS Innovation Portfolio Investment Policy.

RISK MITIGATING STRATEGIES (RMS) STRUCTURE

1. The purpose of RMS is to help diversify CalSTRS portfolio large exposure to global economic growth within the overall investment portfolio. This class will contain assets and investment strategies with structural aspects that provide improved diversification and potential protection in negative equity markets.

2. The investments exhibit a low to negative correlation to the Global Equity asset class. It is expected that during economic recessions and periods of negative global equity market returns, this asset class will provide diversification and produce a positive or less negative relative return. Correspondingly, it is understood that in periods of strong economic growth and / or strong global equity returns, this asset class will exhibit a very low return to slightly negative return.

3. This class will consist of four core strategies; long-term U.S. Government Bonds, Trend Following, Global Marco, and Systematic Risk Premia. Because this class is a collection

of diverse investments in total, it will not have a single benchmark, but rather an aggregate benchmark consisting of the individual benchmarks assigned to each core strategy. At the inception of the RMS class, the blended benchmark will be based on a dynamic weighting of each of the strategies. When all of the individual strategies achieve their target weights, the blended benchmark will utilize the target weights of each strategy.

4. More detailed information and standards for these strategies can be found in the CalSTRS RMS Policy.

ADDITIONAL INVESTMENT PROGRAMS & POLICIES

CalSTRS also maintains programs and policy statements for the following additional investment programs:

1. California Investments
2. Securities Lending
3. Divestment Policy
4. Special Mandates
5. Pension2® Investment Policy
6. Responsible Contractor Policy

Additional information and standards for each can be found in their respective investment policies statements.

VALUATION OF INVESTMENTS

1. CalSTRS Investment portfolio assets are to be priced, invested, administered and managed in a prudent manner for the sole benefit of its participants and beneficiaries, in accordance with the California Constitution, the Teacher's Retirement Law, and other applicable statutes.

2. CalSTRS seeks to value the assets of the Total Fund consistent with best practices and in alignment to policies set forth by CalSTRS Board of Trustees. The Investment branch shall establish processes by which pricing vendors are selected, prioritized and reviewed for such valuations and ensure these processes are followed through regular oversight.

3. CalSTRS considers a number of significant measures such as data accuracy, reliability, integration, and comprehensive coverage, when determining a pricing source hierarchy. Pricing vendors are selected, prioritized and reviewed for the most appropriate and accurate valuations.

4. CalSTRS performs reviews of the pricing source hierarchy, methodology, and tolerances for the purpose of evaluating reasonability of security valuation and to mitigate risk of mis-priced investments relating to the Fund's assets. The pricing source hierarchy is implemented by the master custodian and the oversight is under the purview of the Director of Investment Operations.

REPORTING

On at least a semi-annual basis, the investment office and the chief investment officer will prepare a comprehensive set of reports on the Investment program to include the asset allocation, movement of assets, cash flow, and the market value and changes to each asset class. Semi-annually, the general consultant and CIO will preview and present the investment performance of the CalSTRS Investment Portfolio.

Link to INVESTMENT TERMS GLOSSARY at CalSTRS.com

Approved July 2002
Revised Capital Market Assumptions December 2002
Revised Asset Allocation Plan November 2003
Revised November 2003
Revised December 2003
Revised December 2005
Revised Capital Market Assumptions February 2006
Revised June and July 2006
Revised for new asset allocation targets September 2006
Revised for new asset allocation targets September 2007
Revised for new Asset Allocation targets and ESG Policy July 2008
Revised to add 21st Risk Factor for Human health to the ESG Policy, Attachment A September 2008
Expand Asset Class ranges November 2008
Revised asset allocation targets March 2009
Revised for new asset allocation targets August 2009
Revised for asset allocation targets July 2010
Revised for new asset allocation targets and to change the name of the Absolute Return Asset Class to Inflation Sensitive, July 2011
Revised to create the Overlay Asset Class, April 2012
Revised for new asset allocation ranges, Absolute Return Asset Class and benchmark adjustments, September 2013
Revised for Global Equity, Inflation Sensitive, Real Estate and Private Equity policy November 2014
Revised for the new 2015 asset allocation mix and inclusion of the new Risk Mitigating Strategies Asset Class which will replace the Absolute Return Asset Class, April 2016
Revised for new asset allocation targets, Valuation Statement and to reflect the new Innovative Strategies, July 2016
Revised to update equity benchmark and asset allocation ranges effective January 1, 2017, November 2016
Revised for new asset allocation targets effective June 30, 2017, June 2017
Revised for housekeeping and to match the Asset Class Policy changes approved in FY 16-17, July 2017
Revised for new interim asset allocation targets effective January 1, 2018, November 2017
Revised to reference Investment Beliefs and update asset allocation process, September 20, 2018
Revised for benchmark update and new asset allocation targets effective April 1, 2019, March 28, 2019
Revised for housekeeping, benchmark updates, addition of attachment B, strategic class structure added to tables and inclusion of Investment Glossary link, July 11, 2019
Revised for new asset allocation targets and update to inflation rate assumption, January 29, 2020
Revised Global Equity structure changes from active/passive to an overall risk budget March 4, 2020
Revised for housekeeping and new asset allocation targets effective July 1, 2020, July 15, 2020
Revised for adoption of Sustainable Investment & Stewardship Strategies Risk Budget July 8, 2021

Attachment A: Investment Policy for Mitigating Environmental, Social, and Governance Risks (ESG)

POLICY

The fiduciary responsibility of the Board, as described in detail within the overall Investment Policy and Management Plan, is to discharge its responsibility in a manner that is in the sole and exclusive interest of the participants and beneficiaries and will assure the prompt delivery of benefits and related services.

CalSTRS invests a multi-billion dollar fund in a unique and complex social-economic milieu and recognizes it can neither operate nor invest in a vacuum. As a significant investor with a very long-term investment horizon, the success of CalSTRS is linked to global economic growth and prosperity. The System's investments impact other facets of the global economy and actions and activities that detract from the likelihood and potential of global growth are not in the long-term interests of the Fund.

Consistent with its fiduciary responsibilities to CalSTRS members, the Board has an obligation to ensure that the corporations and entities in which CalSTRS invests strive for long-term sustainability in their operations. Managers of our investments who do not strive for sustainability jeopardize achieving the long-term expected rate of return we expect. Therefore, CalSTRS incorporates ESG considerations into its analysis of the riskiness of its investment decisions and its ownership policies and practices, to the extent that ESG factors are material to the long-term success of an investment.

Since CalSTRS is a long-term investor and may hold an investment in a corporation or entity for many decades, short-term gains at the expense of long-term gains are not in the best interest of the Fund. Sustainable returns over long periods are in the economic interest of the Fund. Conversely, unsustainable practices that hurt long-term profits are risks to the System.

Since CalSTRS must invest huge sums of moneys for long periods of time to pay for future benefits promised to California Teachers, our decision to invest in corporations and other entities predominately reflects a judgment that the ownership will produce a sustainable rate of return which will make it an attractive investment and help CalSTRS meet its long-term obligations. It is important to note that CalSTRS ownership of a security in a company does not signify that CalSTRS approves of all of the company's practices or its products or that CalSTRS believes a particular company is an attractive investment since the security may be owned due to its membership in a particular index. CalSTRS utilizes "index" investing due to its low cost and efficient structure. These "index" investments are broadly diversified and composed of thousands of individual companies.

Since 1978, CalSTRS has used a written policy, the Statement of Investment Responsibility, SIR, to navigate the complex landscape of ESG issues. The long history of this document is testimony to the national leadership of CalSTRS among pension funds in addressing ESG matters through a written policy. The SIR will continue to guide CalSTRS proxy voting; however his ESG Policy is CalSTRS' preeminent policy on ESG matters and will guide active investment decisions and passive index strategy engagements.

PROCEDURES

To help manage the risk of investing a global portfolio in a complex governance environment, CalSTRS has developed a series of procedures to follow when faced with any major environmental, social or governance issue as identified by the ESG risk factors.

When faced with a decision or other activity that potentially violates CalSTRS ESG Policy; the Investment Staff, CIO and Investment Committee will undertake the following actions:

A. The CIO will assess the potential ESG policy violation both as an ESG risk and as an impact to the System. The extent of the responsibility of the System to devote resources to address these issues will be determined by: 1) the size of the investment, and 2) the gravity of the violation of CalSTRS ESG Policies.

B. At the CIO's direction, the Investment Staff will directly engage corporate management or other appropriate parties to seek information and understanding concerning the ESG policy violation and its ramifications on the System.

C. The CIO and investment staff will provide a report to the Investment Committee of the findings associated with an ESG policy violation engagement and recommend any further action of engagement or need to commit further System resources. The Investment Committee can marshal further resources given the gravity of the situation.

To assist CalSTRS Staff and external investment managers in their investment analysis and decision-making, CalSTRS has developed a list of ESG risk factors that should be considered as part of the financial analysis of any active investment decision. For passive index strategies, CalSTRS uses the ESG risk factors to guide engagement activities. This ESG list is not exhaustive and does not attempt to identify all forms of risk that are appropriate to consider in a given investment transaction or engagement; however, they do provide a framework of other factors that might be overlooked. These risk factors should be reviewed for any CalSTRS investment or engagement in any asset class.

CalSTRS expects all investment managers, both internal and external to assess the risk of each of the following factors when making an active investment. The manager needs to balance the rate of return with all the risks including consideration of the specific investments exposure to each factor in each country in which that investment or company operates.

CALSTRS ESG RISK FACTORS
Monetary Transparency The investment's long-term profitability by whether or not a country or company has free and open monetary and financial data, and its observance of applicable laws.
Data Dissemination The investment's long-term profitability by whether or not a country is a member of the IMF (or similar organization) and satisfies the conditions for access, integrity, and quality for most data categories.
Accounting The investment's long-term profitability by whether or not the accounting standards are formulated in accordance with International Accounting Standards or the U.S. Generally Accepted Accounting Principles.
Payment System: Central Bank The investment's long-term profitability by whether the activities of a country's central bank encompass implementing and ensuring compliance with principles and standards which are established to promote safe, sound, and efficient payment and settlement.
Securities Regulation The investment's long-term profitability by exposure to operations in countries that have not complied with IOSCO objectives, which provide investor protection against manipulation and fraudulent practices.
Auditing The investment's long-term profitability by whether or not the country uses International Standards on Auditing in setting national standards.
Fiscal Transparency The investment's long-term profitability by its exposure or business operations in countries that do not have some level of fiscal transparency such as publication of financial statistics, sound standards for budgeting, accounting, and reporting.
Corporate Governance The investment's long-term profitability by whether or not the government recognizes and supports good corporate governance practices and whether it generally adheres to OECD principles.
Banking Supervision The investment's long-term profitability from its exposure to countries that have not endorsed/complied with the Basel Core Principles. An endorsement includes an agreement to review supervisory arrangements against the principles and bring legislation in line with the principles where necessary.

Payment System: Principles The investment's long-term profitability by whether a country complies with the 10 Core Principles for Systemically Important Payment Systems, which includes operational reliability, efficiency, real time settlement, final settlement in central bank money; and whether rules and procedures are clear and permit participants to understand the financial risks resulting from participation in the system.
Insolvency Framework The investment's long-term profitability from its business operations and activities in specific countries with regard to bankruptcy reform or insolvency legislation.
Money Laundering The investment's long-term profitability from exposure and whether or not a country has implemented an anti-money laundering regime in line with international standards; consideration should be given to compliance with the 40 recommendations in the Financial Action Task Force, FATF, on Money Laundering; and whether it is a member of FATF.
Insurance Supervision The investment's long-term profitability from whether or not a country has a regulatory framework in line with International Association of Insurance Supervisors, IAIS, Principles.
Respect for Human Rights The investment's long-term profitability from its business operations and activities in countries that lack or have a weak judicial System. Assess the risk to an investment's long-term profitability from its business operations and activities in a country that engages in or facilitates the following: arbitrary or unlawful deprivation of life, disappearance, torture and other cruel, inhuman, or degrading treatment or punishment, arbitrary arrest, detention, or exile, arbitrary interference with privacy, family, home, or correspondence, use of excessive force and violations of humanitarian law in internal conflicts. Consideration should be given to governmental attitude regarding international and non-governmental investigation of alleged violations of human rights.
Respect for Civil Liberties The investment's long-term profitability from operations, activities, and business practices in countries or regions that do not allow freedom of speech and press, freedom of peaceful assembly and association, freedom of religion, freedom of movement within the country, allowance for foreign travel, emigration, and repatriation.
Respect for Cultural and Ethnic Identities The investment's long-term profitability from operations, activities and business practices that do not adequately respect cultural values and ethnic identities.

Respect for Property Rights The investment's long-term profitability from operations, activities and business practices that dispossesses or degrades peoples' lands, territories or resources, or does not adequately respect established property rights.
Respect for Political Rights The investment's long-term profitability from business practices and activities in countries that do not allow their citizens the right to advocate for change to their government.
Discrimination Based on Race, Sex, Disability, Language, or Social Status The investment's long-term profitability from business practices and activities on discrimination, such as discrimination against women, children, and persons with disabilities, national/racial/ethnic minorities, or indigenous people.
Worker Rights The investment's long-term profitability from management and practices globally in the area of worker's rights; specifically the right of association, the right to organize and bargain collectively, prohibition of forced or bonded labor, status of child labor practices and minimum age for employment, acceptable work conditions, or human trafficking.
Environmental The investment's long-term profitability from activities and exposure to environmental matters such as; depleting or reducing air quality, water quality, land protection and usage, without regard for remediation.
Climate Change The investment's long-term profitability from inadequate attention to the impacts of climate change, including attention to relevant climate policy considerations and emerging climate risk mitigating technologies.
Resource Efficiency The investment's long-term profitability from inadequately managing resource usage in a resource-constrained environment amid growing resource demand.
War/Conflicts/Acts of Terrorism The investment's long-term profitability from business exposure to a country or region that has an internal or external conflict, war, acts of terrorism or involvement in acts of terrorism, and whether the country is a party to international conventions and protocols.
Human Health The investment's long-term profitability from business exposure to an industry or company that makes a product which is highly detrimental to human health so that it draws significant product liability lawsuits, government regulation, United Nations sanctions and focus, and avoidance by other institutional investors.

Attachment B: Investment Policy for Approval of Internally Managed Public Portfolio Trading, and Externally Managed Private Portfolio Transactions

Public Asset Approval Policy

Approval limits for transactions within internally managed portfolios trading public assets will use the respective trading parameters by investment type**.** The following limits apply with respect to non-cumulative daily trade limits. Non-cumulative refers to individual limits that cannot be combined with the limits of other Investment Staff.

Global Equity	
Investment Officer I	**Up to 1% per internally managed portfolio**
Investment Officer II	**Up to 2% per internally managed portfolio**
Investment Officer III	**Up to 2.5% per internally managed portfolio**
Associate Portfolio Manager	**Up to 3% per internally managed portfolio**
Portfolio Manager	**Up to 4% per internally managed portfolio**
Director of Global Equity	**Up to 5% of Total Global Equity portfolio**
Deputy Chief Investment Officer	**Up to 10% of Total Global Equity portfolio**
Chief Investment Officer	**Up to 10% of Total Global Equity portfolio**

For derivatives and transition management portfolios, the above risk-based trading parameters are non-cumulative and are applied to the market value of the U.S. or Non-U.S. segments of the Global Equity portfolio.

Fixed Income	
Investment Officer I	**Up to 2% of internally managed portfolio**
Investment Officer II	**Up to 4% of internally managed portfolio**
Investment Officer III	**Up to 6% of internally managed portfolio**
Associate Portfolio Manager	**Up to 8% of internally managed portfolio**
Portfolio Manager	**Up to 10% of internally managed portfolio**
Director of Fixed Income	**Up to 5% of Total Fixed Income portfolio**
Deputy Chief Investment Officer	**Up to 10% of Total Fixed Income portfolio**
Chief Investment Officer	**Up to 10% of Total Fixed Income portfolio**

Short-term Assets: No daily limits with respect to the approval of trade activity within the liquidity portfolio shall be established.

For derivative instruments, overlay and transition management portfolios, tighter trading parameters may be applied.

Currency Management

Investment Officer I	**Up to 1% of the core (notional) program**
Investment Officer II	**Up to 2% of the core (notional) program**
Investment Officer III	**Up to 3% of the core (notional) program**
Associate Portfolio Manager	**Up to 4% of the core (notional) program**
Portfolio Manager	**Up to 5% of the core (notional) program**
Director of Fixed Income	**Up to 5% of the total non-USD holdings**
Deputy Chief Investment Officer	**Up to 10% of the total non-USD holdings**
Chief Investment Officer	**Up to 10% of the total non-USD holdings**

Note: Notional amount parameters are intended to take into account the position range referenced in the Currency Management Program Policy.

Securities Lending

Given that the trade activity for this program is governed by the investment and securities lending markets, no daily limits with respect to the approval of trade activity within CalSTRS' internally managed Cash Collateral portfolio shall be established.

Home Loan Program

Investment Officer I	**$5 million**
Investment Officer II	**$10 million**
Investment Officer III	**$20 million**
Associate Portfolio Manager	**$30 million**
Portfolio Manager	**$35 million**
Director of Fixed Income	**$50 million**
Deputy Chief Investment Officer	**$100 million**
Chief Investment Officer	**$100 million**

Credit Enhancement Program

Investment Officer I	**$50 million**
Investment Officer II	**$75 million**
Investment Officer III	**$100 million**
Associate Portfolio Manager	**$200 million**
Portfolio Manager	**$300 million**
Director of Private Equity	**$400 million**
Deputy Chief Investment Officer	**$600 million**
Chief Investment Officer	**$600 million**

Private Asset Approval Policy

Private investment portfolios will use a single approval structure to approve the outgoing cash transactions of previously approved investment commitments and does not include the authorization of new investments, which are approved through the existing delegation of authority.

The receipt of cash to private investment portfolios does not require approval limits.

The following non-cumulative daily approval limits apply with respect to outgoing cash transactions for private asset investment portfolio activity by approval date.

Investment Officer I	**$15 million**
Investment Officer II	**$50 million**
Investment Officer III	**$100 million**
Associate Portfolio Manager	**$150 million**
Portfolio Manager	**$250 million**
Director of Applicable Asset Class	**$750 million**
Deputy Chief Investment Officer	**$1.5 billion**
Chief Investment Officer	**$1.5 billion**

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
INVESTMENT RESOLUTION

WHEREAS, the Electorate of the State of California in November 1992 amended Section 17 of Article XVI of the State Constitution by approval of Proposition 162; and

WHEREAS, the Teachers' Retirement Board embraces the concepts of the revised Section 17 of Article XVI of the State Constitution, which states that the Retirement System shall have sole and exclusive fiduciary responsibility over the assets of the public pension or retirement system; and

WHEREAS, the Teachers' Retirement Board has approved the Investment Plan which provides for wider diversification of the System's investment assets; and

WHEREAS, the Teachers' Retirement Board on the advice of its consulting actuary and the pension fund consultant has adopted the objective of achieving a long-term annualized investment return of 3.50% in excess of the rate of inflation; and

WHEREAS, in the exercise of its fiduciary responsibilities the Board has considered and approved various classes of investments for the Teachers' Retirement Fund; therefore, it is

RESOLVED, that the following investment classes are authorized if deemed prudent at the time of purchase:

Fixed-Income Securities

Fixed Income investments as authorized by the Investment Management Plan and Fixed Income Policies and Guidelines and as authorized by the Investment Committee.

Equity Securities

Equity investments as authorized by the Investment Management Plan and Global Equity Policies and Guidelines and as authorized by the Investment Committee.

Real Estate

Real Property investments as authorized by the Investment Management Plan and Real Estate Policies and Procedures and as authorized by the Investment Committee.

Private Equity

Limited partnership investments in equity of fixed income securities as defined in the Private Equity Policies and Procedures and as authorized by the Investment Committee.

Inflation Sensitive

Inflation linked fixed income securities and Infrastructure investments as defined by the Infrastructure Policy and Procedures, and as authorized by the Investment Committee.

Risk Mitigating Strategies

Investments as authorized by the Investment Policy and Management Plan and the Risk Mitigating Strategies Policies, Procedures, and Guidelines.

Other Investments

Purchase of other types of investments may be made only with advance approval of the Investment Committee of the Teachers' Retirement Board.

Advance approval of the Investment Committee or its designates may be obtained by authorization for individual securities, or for a particular class of investments, or for specified investment managers of the Teachers' Retirement Fund.

RESOLVED further that all investments shall be made with the standards of care, skill, prudence and diligence prescribed in the revised Section 17 of Article XVI of the State Constitution. These tests will involve, importantly, full consideration of proper diversification of investments, adequacy of reliable information for analysis of investments, and suitability for the requirements of the Teachers' Retirement Fund. The Board endorses the principle that prudency of individual investments shall be judged in the context of the total Retirement Fund portfolio;

RESOLVED further, that cash reserves of the System are to be managed for the safety and convenience of the Teachers' Retirement Fund, in investments which are considered to be prudent money market instruments by internal investment managers;

RESOLVED further, that the services of at least one external independent organization (performance evaluator) will be retained to assess the investment results of portfolio managers and to compare such results with those of similarly situated institutions and such other standards of measurement as the Investment Committee deems appropriate;

RESOLVED further, that investments now held which no longer qualify for purchase under this Resolution may be retained if qualified under the Resolutions existing at their respective dates of acquisition;

RESOLVED further, that this Investment Resolution rescinds and replaces all previously adopted Investment Resolutions.

Adopted by the Teachers' Retirement Board on October 19, 1984
Revised to include foreign issuers within the S&P 500 Stock Index on April 19, 1985
Revised to reflect legislation prohibiting investment within South Africa on December 19, 1986
Revised to reflect passage of Proposition 162 and implementation of Global Tactical Asset

Allocation Program on September 9, 1993
Revised to remove reference to South Africa investment restriction on May 11, 1994
Revised to broaden Fixed Income and Equity reference on July 10, 2008
Revised to include the Fixed Asset class, August 13, 2009
Revised to change the name of the "Fixed Asset" class to Inflation Sensitive, July 7, 2011
Revised to incorporate the Risk Mitigating Asset Class, April 2016

CALSTRS

CALIFORNIA STATE
TEACHERS'
RETIREMENT SYSTEM

INVESTMENT POLICY AND MANAGEMENT PLAN

INVESTMENT BRANCH

JULY 2021

A. Investment Policy and Management Plan

EXECUTIVE SUMMARY

The California State Teachers' Retirement Board believes that to manage growth of assets in a prudent manner, it is necessary to establish Investment Beliefs and a clear investment policy and a planning statement under which the Investment Branch will operate. The Board has sole and exclusive fiduciary responsibility to administer the investment assets in a manner that will assure the prompt delivery of benefits and related services to the plan participants and their beneficiaries. As a public pension fund, the California State Teachers' Retirement System is not subject to ERISA, which governs corporate pension plans. The CalSTRS investment decision-making criteria are based on the "prudent expert" standard, for which the ERISA prudence standards serve as a basis. Additionally, the California Constitution, Article 16, Section 17, subsection (d) and Education Code Section 22250 (c) require diversification of risk across asset classes and minimization of employer costs.

The Investment Committee has established the core tenets in the form of an Investment Beliefs Statement, which precedes this Investment Policy. The Beliefs provide a broad guide and framework for the Investment Policy and Management Plan (IPMP) and all various Investment Policies. The Investment Policy and Management Plan has been developed within the context of the significant events that have occurred during CalSTRS history. The CalSTRS IPMP is updated to reflect the changes that have occurred in the investment policy and strategy as a result of implementing approved programs. In addition, the IPMP is updated to ensure that the factors that have impacted initial decisions are still relevant in the current environment.

This document addresses general objectives governing the policies of the investment function and the specific performance objectives. The general objectives are meant to provide a framework for the operation of the investment function. CalSTRS' performance objectives can be divided into objectives, one for the overall investment function and one for the objectives for the various asset classes and initiatives.

The asset allocation decision governs the allocation of CalSTRS assets between public, private and cash. Strategic allocation of CalSTRS assets is the most important factor in the determination of the realized total rate of return. The Board, Investments staff, and the general consultants worked together to create a variety of optimal asset allocation alternatives. The Board has adopted the desired targets and set tight ranges around those targets to control risk and ensure the proper allocation of the portfolio.

Strategic asset allocation targets are established within a variety of sub-asset categories to achieve the identified performance objectives. In conjunction with the overall asset allocation targets, sub-asset class level tactical ranges provide flexibility to adapt to changing market conditions.

Investment related issues addressed included:

1. The Funds' overall investment objectives, risk tolerance, and performance standards
2. The relative amount of active and passive management within each asset class
3. The relative amount of internal and external management
4. The appropriate direct and indirect costs of each asset category
5. The appropriate reporting standards and time horizons

Additionally, CalSTRS is committed to holding and managing securities investments in both the public and private markets and exercising the corporate governance rights that are a necessary part of that ownership. CalSTRS views these rights as plan assets and discharges its fiduciary duty solely in the interest of the plan participants and their beneficiaries.

STANDARD OF CARE

Under California Constitution, Article 16, Section 17, and the California Education Code, Part 13 Teachers Retirement Law, Chapter 4, Section 22250, the Board has the sole and exclusive fiduciary responsibility over the assets of the retirement system. The Board shall also have sole and exclusive responsibility to administer the system in a manner that will assure prompt delivery of benefits and related services to the members and their beneficiaries. The assets of the retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries, and defraying reasonable expenses of administering the system.

The members of the Board of the retirement system shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of, providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. The Board's duty to its participants and their beneficiaries shall take precedence over any other duty.

The members of the CalSTRS Board shall discharge their duties with respect to the system with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

GENERAL INVESTMENT OBJECTIVES

The main goal for The California State Teachers' Retirement System is to "maintain a financially sound retirement system". Within this context and in conjunction with the State Constitution and Education Code, the following general investment objectives are designed in consideration of the Investment Beliefs, to establish a framework for the operation of the investment portfolio.

1. **Provide for Present and Future Benefit Payments –** The CalSTRS Investment Program shall: provide liquidity to pay benefits to its participants and their beneficiaries in the amounts and at the times called for through the investment of contributions and other fund assets, strive to meet the assumptions built into the actuarial model and strive to maintain a fully funded pension system.
2. **Diversify the Assets –** Seek to diversify the assets to achieve the desired rate of return at a prudent level of risk. The asset structure must provide for diversification of risk between asset classes in order to manage the risk/return relationship through strategic asset allocation.
3. **The Reduction of CalSTRS' Funding Costs –** Within prudent levels of risk, the reduction of CalSTRS' funding costs shall be a consideration in the organization and structure of the investment portfolio.

4. **Maintain the Trust of the Participants and Public –** Manage the investment program in such a manner that will enhance the member and public's confidence in the CalSTRS Investment Program.

5. **Establish Policy and Objective Review Process** – A formal review of the CalSTRS Investment Policy and Management Plan will be conducted annually, with an updated financial projection developed every two years.

6. **Create Reasonable Pension Investments Relative to Other Pension Funds –** The selection of investment vehicles and policies will be judged against other private and public pension funds. Investment performance, asset management costs, staffing and overall expenses will be compared to other public and corporate pension plans, with special emphasis on comparisons with other large public funds.

7. **Minimize Costs –** Management fees, trading costs, and other expenses will be aggressively monitored and controlled.

8. **Compliance with State and Federal Laws –** The investment program must operate in compliance with all applicable State and Federal laws and regulations concerning the investment of pension assets.

INVESTMENT PERFORMANCE OBJECTIVES

The general investment objectives designed a framework for the operation of the investment function. The performance objectives can be divided into three components: (1) performance objectives for the overall Investment Portfolio, (2) performance objectives for each asset class, and (3) performance objectives for the individual investment managers within each asset class. CalSTRS incorporates all three levels of analysis in its monitoring of the investment portfolio performance.

In 2001, a survey of the Board members confirmed the Board's primary objective is to meet the actuarial assumptions and to strive to maintain a fully funded pension plan. Further, the Board reaffirmed its focus on a long-term investment horizon of ten years. As a long-term pension plan, the Board emphasizes that the primary time horizon for measuring investment performance will be over a three, five, and ten-year period rather than quarter to quarter or year to year.

There are five performance objectives identified for the overall Investment Portfolio:

1. Relative to the Actuarial Rate of Return
2. Relative to CalSTRS' Liabilities
3. Relative to Inflation
4. Relative to Strategic Asset Allocation Targets (Policy Benchmark Index)
5. Relative to the CalSTRS Reference Portfolio

The actuarial rate of return is an estimate of the long-term rate of growth of CalSTRS assets. Based upon various internal and consultant estimates, the actuarial rate of return is currently set at 7.0 percent, which represents an indicative multi-decade expected average return. When adopting the actuarial rate of return, the Board recognizes that it is highly likely the investment portfolio will produce higher returns in some years and realize lower returns in other years (and that such scenarios can unfold for multiple years).

The liability-related performance objective recognizes that liabilities must be paid in full and in a timely manner. The liabilities are future claims of the CalSTRS participants. The actuarial rate of return is used to discount the future value of the CalSTRS liabilities to calculate the funded ratio.

The inflation related objective compares the investment performance against the rate of inflation as measured by the Consumer Price Index plus 4.25 percent. The Consumer Price Index is used in the calculation of the estimated salary increases for the members (teachers). The inflation measure provides a link to CalSTRS' liabilities.

A comparative benchmark reflects CalSTRS' unique asset allocation policy. This performance objective is a composite of the target weighting for each asset category multiplied by the performance benchmark's return for that category. This performance number is compared to the actual asset allocation and actual total rate of return. This comparison identifies the contribution or detriment to performance caused by manager performance, market timing, and tactical asset allocation decisions.

PERFORMANCE BENCHMARKS

To facilitate the periodic reporting to the Investment Committee and to provide a relative measure to gauge success, custom performance benchmarks are approved by the Investment Committee. The approved custom performance benchmarks for each asset class are shown below:

Public Equity	Weighted blend[1&2] of the Russell 3000 Custom Index + MSCI All Country World Index (ACWI) ex-U.S Custom Investable Market Index (IMI), MSCI World ex-U.S. Custom Min Vol (USD) index, Custom MSCI ACWI IMI and MSCI World Custom Low Carbon Target Net Index
Fixed Income	(95%) Bloomberg Barclays U.S. Aggregate Custom Index[1] + (5%) Bloomberg Barclays U.S. High Yield 2% Issuer Capped Custom Index[1]
Inflation Sensitive	Weighted blend of the Bloomberg Barclays U.S. Treasury Inflation Linked-Bond Index (Series L), NCREIF Timberland Fund Index, Bloomberg Commodity Index, Alerian MLP Daily index, CPI+3% (quarter lagged) and CPI+4% (quarter lagged)[2]
Real Estate	NCREIF ODCE Value Weighted index Net of fees (quarter lagged)
Private Equity	Weighted blend of the CalSTRS Custom Private Equity Traditional and Non-Traditional Indices, comprised of the customized Buyout, Debt-Related and Venture Capital segments of the State Street Global Exchange Private Equity Index (quarter lagged)[2], further detailed in the Private Equity Policy.
Cash / Liquidity	90-day Treasury Bill Index

Risk Mitigating Strategies	Weighted blend of: Bloomberg Barclays U.S. Treasury 20+year Total Return Index, SG Trend Index, HFRI Macro: Discretionary Thematic Index, and Eurekahedge Multi-Factor Risk Premia Index. Once the asset class is fully implemented, target weights of each underlying strategy will be applied to the custom benchmark, as described in the RMS policy.[2]

[1] Custom public indices are updated quarterly in accordance with the CalSTRS restricted securities list, Committee on Responsible Investments mandates and Divestment Policy.

[2] As new strategies are added, the future benchmark shall be a dynamic blend comprised of the weightings of each of the underlying strategies within the portfolio, multiplied by their respective benchmarks. The Investment Policy and Management Plan will be updated accordingly through a schedule set forth by the Board.

Blended indices are weighted based upon CalSTRS target allocations to each respective index. Each investment manager, in all asset classes, has an individualized benchmark designed to measure its performance relative to the objective identified in each manager's respective investment guidelines.

TOTAL FUND BENCHMARK

To measure the performance of the Total Fund, CalSTRS utilizes two benchmarks as described below. One primarily for members and the public and one customized for internal performance attribution and risk management.

Policy Benchmark Index – This measure is used for performance attribution and risk measurement. It is developed by taking each of the respective asset classes' custom benchmarks weighted by the policy target asset allocation at the end of the specific time period. Since almost all of the asset class benchmarks are customized for CalSTRS exclusions and special mandates, they are not publicly available. Additionally, because the Total Fund utilizes long term illiquid securities, benchmark comparisons become difficult over shorter time periods. Many of the illiquid asset classes are not investible options for the members and public.

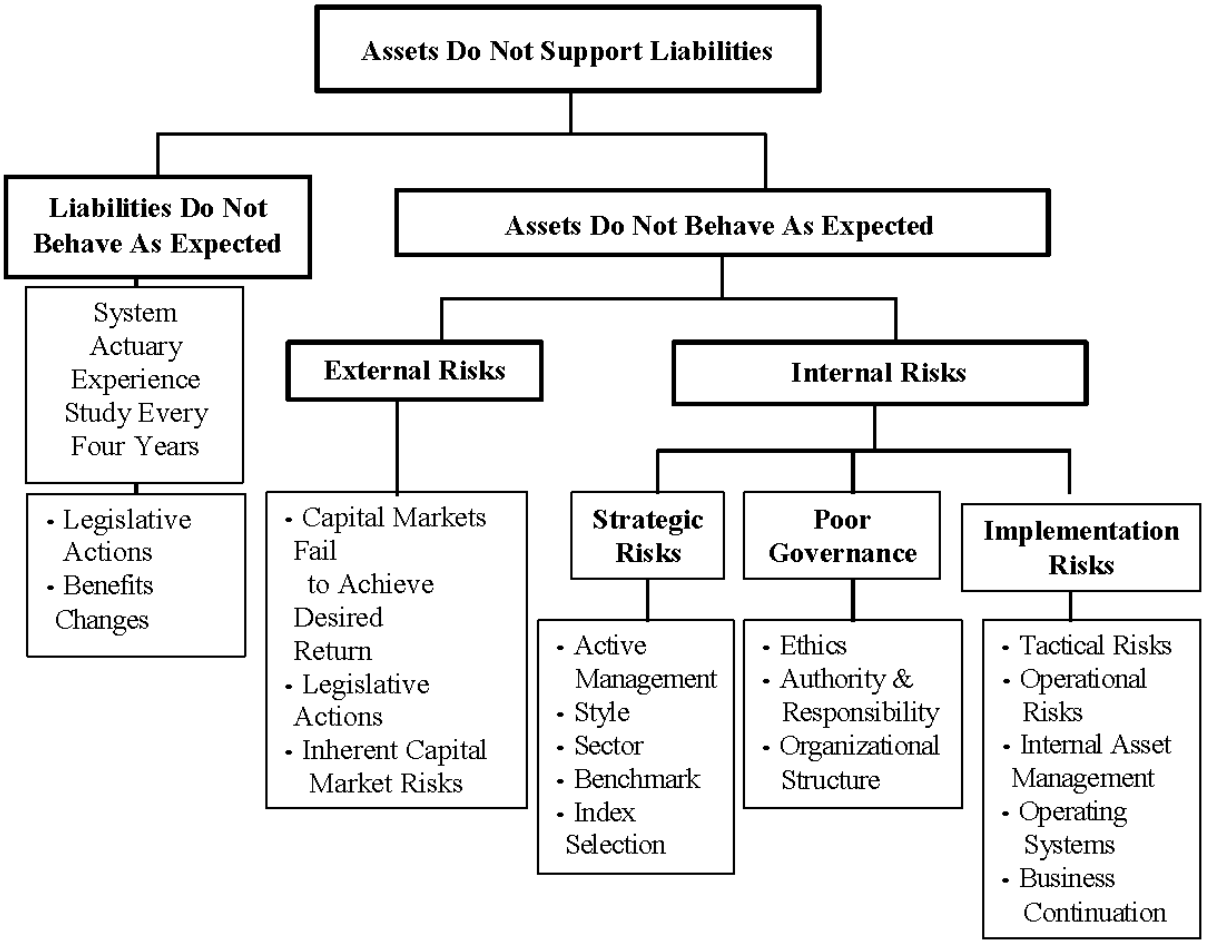
Reference Portfolio – The reference portfolio is the Morningstar Moderate Target Risk index which is designed to help measure Target date mutual funds with a long investment horizon and risk level very similar to that of the CalSTRS total fund. This measure is designed to allow members and the public compare the CalSTRS total fund Investment performance to a similar risk level portfolio they could utilize within the personal retirement accounts. This measure will be used in external publications to provide comparison that is publicly available and clearly defined. The Reference Portfolio is also the most appropriate performance measurement tool to measure the performance success of the over long time periods.

RISK CONSTRAINTS

The CalSTRS Investment Portfolio will be invested to maximize return at a prudent level of risk in accordance with the CalSTRS Investment Policy and Management Plan, the California Constitution and the California Education Code.

RISK STANDARDS

With a few enhancements, CalSTRS has utilized the risk matrix *Statements of Key Investment Risk and Common Practices to Address Those Risks*, *June 2000*, which is endorsed by the NCTR[1], GFOA[2], and APPFA[3]. These standards promulgate the CalSTRS risk framework which is listed below:



[1] National Council on Teacher Retirement;
[2] Government Finance Officers Association
[3] Association of Public Pension Fund Auditors

External Risk – External risks are embedded and inherent within the capital markets. This policy defines CalSTRS strategy and process to capture or, in turn, mitigate these risks.

Governance Risk – Governance risk is mitigated within the Board's governance policy and the individual asset class policies. Roles and assignments are clearly stated in each policy.

Strategic Investment Risks & Implementation Risks – These particular risks have increased significantly over time, as a result, the Investment Committee has revised the strategies to tactically manage the risks of the portfolio. CalSTRS has adopted six key risk measures to help identify potential deviations in global risk levels.

Global Economic Growth Risk	Interest Rate Risk	Inflation Risk	Liquidity – Fluid Market Risk	Leverage Financing Risk	Global Investment Governance Risk

These risks overlay the total portfolio and touch almost each asset class in one way or another. Management of these risks requires comprehensive strategies across the portfolio.

This policy is designed to mitigate the strategic investment risks and implementation risks of the investment activity. A critical element to mitigate these risks is the asset allocation and sub-asset structure of each asset class. The Board has adopted target allocations and tight ranges to control and limit the strategic and tactical risks in the portfolio. To control the active manager style, sector, index and benchmark risks, the Board has delineated guidelines and structure through the asset allocation plan and the asset class policies and guidelines.

Environmental, Social and Governance Risks, ESG – CalSTRS Investment Portfolio operates in a unique and complex social-economic milieu, and the Board expects its staff and investment managers to select investments after a careful investigation and deliberation of the risks versus the potential return. To assist staff and investment managers, the Board has promulgated a Policy that delineates principles and risks to be considered in all investment decisions. This ESG Policy is included as Attachment A to this policy.

RISK BUDGET

The CalSTRS Asset Allocation Plan is developed within the concept of a risk budget. In CalSTRS' view, the public markets of U.S. equity, U.S. fixed income and, to a lesser extent, non-U.S. equity, are fairly efficient markets. Information is disseminated quickly and new information is quickly absorbed into the market prices of a given security. As a result, CalSTRS utilizes a more passive management style. The less efficient the investment the greater exposure to active management and hence the larger exposure to style, sector and management risk.

In the less liquid and inefficient asset classes of high yield fixed income, private equity, infrastructure and real estate, CalSTRS utilizes a complex active management style to capture the greater opportunity set offered by the larger risks.

TOTAL FUND RISK

Liquidity Risk

No more than 35 percent of the total fund shall be invested in instruments that are not regularly publicly traded on a daily basis.

Maximum Investment

No more than 3 percent of the total fund shall be invested or exposed to any one security or corporation, with the exception of the United States Treasury or Agency Obligations. No more than 15 percent of any asset class maybe invested in any one security, with the exception of United States Treasury or Agency Obligations.

Trading Limits

Attachment B defines transaction limits for the internally managed public portfolios and approval limits of outgoing cash transactions for all private asset portfolios. Any transaction or cash approval limits defined within an asset class policy are superseded by the limits that are defined in Attachment B.

ASSET ALLOCATION

The Asset Allocation Process

The key goal of the asset allocation process is to develop an asset allocation policy that maximizes the likelihood that an investment portfolio's assets will, over the planning horizon, fund plan benefits.

Steps Involved in Setting Asset Allocation Policy

Overview and Planning Steps

1. Review the current investment policy and asset allocation history.
2. Review financial condition of the Defined Benefit plan
   A. Assets versus projected liabilities (balance sheet)
   B. Long-term funding plan and current status
   C. Projected contributions versus projected benefits

Investment Related Steps

3. Review rationale for investment asset classes in light of plan financial requirements
4. Develop expectations for asset class investment performance (returns, risks, correlations)
5. Identify CalSTRS specific constraints that might limit investment strategies (e.g., liquidity, divestment)
6. Create model portfolios, incorporating objectives, assumptions, and constraints
7. Perform additional sensitivity analyses to quantify impact of specific issues
   A. Adjustments to required rate of return
   B. Shift in financial condition of the plan due to funding
8. Isolate investor-specific model portfolio to represent an investor's asset allocation policy

CalSTRS will conduct an asset/liability study on a four year cycle in conjunction with the review of the liability assumptions or more frequently if there is a significant change in the liabilities or assets. During the asset allocation study, a comprehensive review of the financial condition of the plan becomes imperative. A key component of reviewing the plan's financial condition is studying the actuarial requirements of the plan. These include the future liabilities and expected cash flow of contributions less benefit payments. For example, as a mature defined benefit plan, CalSTRS will have a negative cash flow as more participants retire. These requirements represent CalSTRS' long-term liabilities and, when combined with the CalSTRS Investment Portfolio, constitute the pension plan's balance sheet.

Understanding what factors (such as changes in interest rates, benefit structures, and plan demographics) influence these liabilities is important. Changes in these and other underlying factors may, in fact, alter a plan's liability structure. Such shifts could, in turn, impact the plan's financial condition. CalSTRS' factors were studied and considered as part of this asset allocation review.

Selecting Asset Classes for Portfolio Investment

As discussed earlier, there are three components required to model investment returns: (1) asset class expected returns, (2) asset class risks, and (3) correlations among asset classes. Investment consultants develop these components, which are then used to develop efficient frontiers quantitatively.

Total Return and Risk Estimates*

Assumed inflation level: 2.75% per year Adopted in May 2019

Strategic Class	Asset Class	Expected Geometric Return	Volatility
Economic Growth	Public Equity	7.5%	17.6%
	Private Equity	9.0%	24.0%
Real Assets	Real Estate	6.3%	14.9%
	Inflation Sensitive	6.0%	12.3%
Diversifying	Fixed Income	4.0%	6.2%
	Risk Mitigating Strategies (RMS)	4.5%	10.0%
	Cash / Liquidity	2.4%	1.0%

Correlation Among the Asset Classes: **Adopted in May 2019**

Strategic Class		Economic Growth		Real Assets		Diversifying		
	Asset Class	Public Equity	Private Equity	Real Estate	Inflation Sensitive	Fixed Income	Risk Mitigating Strategies (RMS)	Cash / Liquidity
Economic Growth	Public Equity	1	0.70	0.37	0.55	0.13	-0.18	0
	Private Equity		1	0.49	0.54	0.05	-0.12	0
Real Assets	Real Estate			1	0.62	0.13	0.07	0.20
	Inflation Sensitive				1	0.36	0.11	0.10
Diversifying	Fixed Income					1	0.58	0.25
	Risk Mitigating Strategies (RMS)						1	0
	Cash / Liquidity							1

**These return and volatility estimates are only for asset allocation modeling purposes.*

These returns and volatility estimates reflect several basic relationships:

1. Investors or lenders of capital require an incremental real return premium as a reward for making capital available
2. Equity-oriented investments should, over long periods, produce return premiums that are higher than their fixed income counterparts
3. The return assumptions for the publicly traded asset classes do not account for added value opportunities within each asset class

Review of Asset Allocation Policy

Over the last 30 years, CalSTRS' asset allocation policy has shifted modestly.

CalSTRS Asset Allocation Policy Trends (in %)

Strategic Class	Asset Class/Strategy	Long-Term*	2019	2015	2013	2008	1999	1993	1986
Economic Growth	Public Equity	42%	51%	55%	51%	60%	63%	51%	55%
	Private Equity	13%	9%	13%	13%	9%	5%	7%	5%
Real Assets	Real Estate	15%	13%	13%	13%	11%	5%	10%	10%
	Inflation Sensitive	6%	3%	1%	6%	0%	0%	0%	0%
Diversifying	Innovative Strategies	0%	0%	0%	0%	0%	0%	0%	0%
	Risk Mitigating Strategies	10%	9%	0%	0%	0%	0%	0%	0%
	Global TAA	0%	0%	0%	0%	0%	0%	1%	0%
	Fixed Income	12%	13%	17%	16%	20%	26%	30%	30%
	Cash / Liquidity	2%	2%	1%	1%	0%	1%	1%	0%
	Total Equity**	70%	73%	81%	77%	80%	73%	68%	70%
	Other Assets	30%	27%	19%	23%	20%	27%	32%	30%
	Total Asset Allocation	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

** The long-term target was established in November 2019.*

*** Total Equity includes Public Equity, Real Estate and Private Equity.*

CalSTRS' investment policy has remained consistent from an equity/stable asset allocation viewpoint. In 1986, CalSTRS had a strategic allocation of 70 percent equities and 30 percent stable assets. In 1997, CalSTRS' board adopted and reaffirmed a policy of 73 percent equity and 27 percent stable assets. During the 2006 Asset Liability Study, the Investment Committee approved a shift to a long-term plan of 80 percent equity and 20 percent stable assets to optimize the likelihood of success in meeting the investment goals listed at the beginning of the policy. In 2009, the Investment Committee added a new asset group, Inflation Sensitive, to help improve the overall diversification and reduce volatility. In 2015, the Committee added Risk Mitigating Strategies to reduce the risk of decline in significant negative investment periods. The 2019 Asset Liability study continued the shift toward a more diversified portfolio.

STRATEGIC ASSET ALLOCATION

CalSTRS' asset allocation strategy utilizes a design for today's needs, while anticipating the future capacity and growth of the investment portfolio. A strategic asset allocation target for each asset class was first established in 2001, and has been revised with each subsequent asset allocation study based upon a comprehensive asset allocation analysis completed by the Investment Committee's independent external Investment Consultant. In conjunction with the strategic target, a range for each asset category has been established to provide flexibility designed to reduce rebalancing costs and to allow flexibility to adapt to changing market conditions.

To control the risk and return relationship, each asset category should be rebalanced to the strategic target. Rebalancing latitude is important and can significantly affect the performance of the portfolio. Blind adherence to narrow ranges increases transaction costs without a documented increase in performance. A rebalancing range that is too wide may cause undesired changes in the asset allocation. The ranges are based upon the allowed variation in the overall risk profile of the entire portfolio.

CalSTRS Long-term Policy Target and Ranges, Adopted November 2019

Strategic Class	Asset Class/Strategy	Long-Term Target	Range
Economic Growth	Public Equity	42%	+/- 6%
	Private Equity	13%	+/- 3%
Real Assets	Real Estate	15%	+/- 3%
	Inflation Sensitive	6%	+/- 3%
Diversifying	Innovative Strategies	0%	+/- 2.5%
	Risk Mitigating Strategies	10%	+/- 3%
	Fixed Income	12%	+/- 3%
	Cash / Liquidity	2%	+/- 3%
Total Asset Allocation		**100%**	

Please note that the allocated, but not funded, portion of Private Equity and Real Estate will be invested in accordance with the Strategic Asset Allocation Plan.

With the creation of the Inflation Sensitive asset class in 2010, and the Risk Mitigating Strategies asset class in 2015, CalSTRS built up these portfolios as attractive investment opportunities and time permitted. To integrate the new asset allocations, CalSTRS has adopted the following implementation plan commencing in 2020. Every six months the asset mix will be revisited and the policy benchmark/allocation may be shifted to the next step if warranted and approved by the Investment Committee.

Revised CalSTRS Long-term Policy Targets and Implementation Plan

Strategic Class	Asset Class/Strategy	Current Target	Effective date 7/1/20 Step 1	Step 2	Step 3	Long-Term Target
Economic Growth	Public Equity	51%	49%	47%	45%	42%
	Private Equity	9%	10%	11%	12%	13%
Real Assets	Real Estate	13%	14%	14%	14%	15%
	Inflation Sensitive	3%	3%	4%	5%	6%
Diversifying	Innovative Strategies	0%	0%	0%	0%	0%
	Risk Mitigating Strategies	9%	9%	10%	10%	10%
	Fixed Income	13%	13%	12%	12%	12%
	Cash / Liquidity	2%	2%	2%	2%	2%
	Total Asset Allocation	**100%**	**100%**	**100%**	**100%**	**100%**

Rebalancing Procedure: The asset mix may deviate from the target as shown above. Deviations greater than described may require rebalancing within the range. The range around the allocation targets is intended to keep the actual allocation close to the target while minimizing the transaction costs that result from rebalancing.

1. The Board delegates to the chief investment officer authority to rebalance the asset allocation across asset classes/strategies when market values of assets fall outside policy ranges and to shift allocations within the ranges. Rebalancing and shifts will be accomplished first to meet adequate cash flow demands and second through reallocation of assets across asset classes. The timing of the rebalancing and shifts will be based on market opportunities and the consideration of transaction costs, and therefore need not occur immediately. The global financial markets and fund conditions are dynamic, not static. The optimum shift in assets will depend on market volatility and costs. The above policy ranges are long-term and may deviate in the short-term as a result of funding schedules, interim market movements and market impact costs of implementation.
2. Idle cash, in excess of the cash flow needs, will be allocated to asset classes and investment managers based on target allocations.
3. The Board authorizes the chief investment officer to shift assets in a timely, prudent and cost-efficient manner within the policy ranges and in order to maintain the policy ranges established by the Board. The Board further authorizes the chief investment officer to utilize futures, forward contracts, and options for a temporary period, in order to maintain target range exposure in asset classes and to reduce transaction costs that would otherwise be incurred by the buying and selling of actual securities. Rebalancing can occur to bring asset classes within their target ranges or when there is transition between investment managers. The CIO will promptly report any re-balancing to the Board at the next Investment Committee meeting.

4. Rebalance Within Asset Classes: the Board authorizes the chief investment officer to rebalance within each asset class by first using normal cash flows and second through the reallocation of assets within asset classes. This reallocation will be based on individual policies and guidelines for each asset class.

5. Because of appraisal valuation and the illiquid market nature of Partnership Investments, exceeding the maximum policy range allocation in those asset classes will trigger a conscious review by the chief investment officer, the specialty and general consultants, and the Investment Committee rather than an automatic rebalancing.

INVESTMENT STRUCTURE

Investment structure guides and directs present and future investment decisions in a prudent manner. The structure is also used by CalSTRS to mitigate the strategic investment risk within the portfolio. Investment related issues addressed include:

1. The relative amount of active and passive management
2. The relative amount of internal and external management
3. The appropriate direct and indirect costs of each asset category
4. The appropriate reporting standards and time horizons

ASSET ALLOCATION STRUCTURE

1. Based on academic studies, a vast majority of the total return is attributable to the asset allocation decision. Consequently, each asset category shall remain within the tactical range approved in the strategic asset allocation adopted by the Board.

2. Control of the cash flow is critical to the success of long-term investment strategies. Estimated cash flows shall be provided to the Investment Committee in conjunction with the annual actuarial valuations.

3. No less than quarterly, the chief investment officer will complete a report identifying the salient aspects of the investments, including a section on compliance with approved asset allocation targets.

SUSTAINABLE INVESTMENT & STEWARDSHIP STRATEGIES *

1. CalSTRS has developed robust policies and standards for fair and open governance of corporations. As long-term owners and lenders to corporations around the world, it is CalSTRS' duty to protect those assets through the pursuit of good governance and operational accountability.

2. To align the investment implementation with the strategic asset allocation, the Public Portfolio shall be managed under an active risk budget framework, as defined in the Sustainable Investment & Stewardship Strategies Public Portfolio Policy.

3. The Board delegates to the chief investment officer authority to adjust allocations within the Sustainable Investment & Stewardship Strategies Public Portfolio when forecasted

active risk falls outside of the Sustainable Investment & Stewardship Strategies Portfolio Policy defined range. Given the varied contributions to forecasted active risk, a plan will be developed within one month to determine the best course of action should adjustments be necessary to return to policy compliance. The plan will be tailored to address the cause of the breach, which could include but is not limited to portfolio holdings, extreme market volatility, or a combination. Adjustments will be made in a timely manner while considering prudence, the market environment, liquidity, transaction costs, and the nature of the breach.

4. More detailed information about the program can be found in the CalSTRS Sustainable Investment & Stewardship Strategies Policy*.

*References to Sustainable Investment & Stewardship Strategies (SISS) are to the Corporate Governance program established pursuant to Education Code, Section 22354.

GLOBAL EQUITY STRUCTURE

1. The Global Equity Portfolio shall be invested across U.S., non-U.S. developed, and emerging markets.

2. To align the investment implementation with the strategic asset allocation, the Portfolio shall be managed under an active risk budget framework, as defined in the CalSTRS Global Equity Investment Policy, utilizing both active and passive management strategies.

3. The Board delegates to the chief investment officer authority to adjust allocations within the Global Equity portfolio when forecast active risk falls outside of the Global Equity Investment Policy defined range. Given the varied contributions to forecast active risk, a plan will be developed within one month to determine the best course of action should adjustments be necessary to return to policy compliance. The plan will be tailored to address the cause of the breach, which could include but is not limited to portfolio holdings, extreme market volatility, or a combination. Adjustments will be made in a timely manner while considering prudence, the market environment, transaction costs, and the nature of the breach.

4. More detailed information and standards about the asset class can be found in the CalSTRS Global Equity Investment Policy.

FIXED INCOME STRUCTURE

1. The Fixed Income Portfolio shall be comprised of investment grade and non-investment grade securities, U.S. dollar based and non-U.S. dollar based securities. The portfolio will target 80 percent using an enhanced indexing strategy, while 20 percent will be externally actively managed using a broader universal fixed income and high-yield securities opportunity set. The internally managed portfolio will emphasize tracking the risk characteristics of the performance benchmark.

2. Short term fixed income/liquidity and cash securities, including the cash portion of equity portfolios, shall be managed internally with emphasis on safety and liquidity. The portfolio shall be comprised of investment grade securities; and other appropriate securities as

approved in the policies and procedures.

3. More detailed information and standards for the asset class can be found in the CalSTRS Fixed Income Investment Policy.

CURRENCY MANAGEMENT STRUCTURE

1. The Currency Management Program overlays CalSTRS total exposure to foreign currencies from the U.S. equity and the Real Estate portfolios. The program structure is approximately 80 percent internally managed, with a primary focus on defensive hedging in periods of a strong dollar, with opportunity for cross hedging to add value. External active currency overlay managers will be used for approximately 20 percent of the overall currency exposure. These managers may actively shift currency exposure to add value to the portfolio.

2. More detailed information about the program and structure can be found in the CalSTRS Currency Management Program Policy.

PRIVATE EQUITY STRUCTURE

1. The Private Equity Portfolio can include limited partnerships, (and other limited liability vehicles), direct investments in general partnerships, co-investments, and secondary interests in the following market segments: Buyouts, Venture Capital, Debt Related, Core Private Equity, and Private Equity Special Mandates. The primary objective for the Private Equity Portfolio is to provide enhanced investment returns over those available in the public market.
2. Private Equity has substantial fees and costs; consequently, emphasis will be placed on negotiating, monitoring, and controlling the direct and indirect costs of each limited partnership investment.
3. More detailed information and standards for the asset class can be found in the CalSTRS Private Equity Investment Policy.

REAL ESTATE STRUCTURE

1. The Real Estate Portfolio will be comprised of direct real estate investments, joint venture/value added investments, and commingled funds (opportunistic funds) with adopted targets of 60 percent to core, 20 percent value added and 20 percent to higher-risk tactical investments. Leverage maybe applied within the constraints set forth in the CalSTRS Real Estate Investment Policy.
2. To more closely align the interests of the plan sponsor and real estate manager, emphasis will be placed on negotiating, monitoring, and controlling the cash flow (both income and expense) associated with each property.
3. More detailed information and standards for the asset class can be found in the CalSTRS Real Estate Investment Policy.

INFLATION SENSITIVE STRUCTURE

1. This asset class consists of several asset types that, when combined, should produce a relatively stable return stream, with a return level between equities and fixed income, and an overall higher correlation to inflation than equity or fixed income. The initial portfolio was comprised of global inflation linked bonds/securities and infrastructure investments. Additional investment areas and strategies have been added upon the Investment Committee's approval.

2. Infrastructure investments are governed by the CalSTRS Infrastructure Investment Policy, initially adopted in July 2008.

3. More detailed information and standards for the asset class can be found in the CalSTRS Inflation Sensitive Investment Policy.

INNOVATIVE STRATEGIES

1. These strategies will invest in a diversified portfolio of assets that generally fall outside of the traditional asset classes currently used by the Board. The purpose is to provide the Board with the opportunity to invest in a wide spectrum of investment opportunities that

   will be required to demonstrate success before committing larger dollar amounts to a specified strategy.

2. Discretionary separate account relationships may be entered into, subject to pre-approved investment guidelines. The Chief Investment Officer must approve any deviations from the approved guidelines. For this reason, investments shall be structured to facilitate alignment of interests between management and CalSTRS, management accountability, investment monitoring, and liquidity.

3. More detailed information and standards for these strategies can be found in the CalSTRS Innovation Portfolio Investment Policy.

RISK MITIGATING STRATEGIES (RMS) STRUCTURE

1. The purpose of RMS is to help diversify CalSTRS portfolio large exposure to global economic growth within the overall investment portfolio. This class will contain assets and investment strategies with structural aspects that provide improved diversification and potential protection in negative equity markets.

2. The investments exhibit a low to negative correlation to the Global Equity asset class. It is expected that during economic recessions and periods of negative global equity market returns, this asset class will provide diversification and produce a positive or less negative relative return. Correspondingly, it is understood that in periods of strong economic growth and / or strong global equity returns, this asset class will exhibit a very low return to slightly negative return.

3. This class will consist of four core strategies; long-term U.S. Government Bonds, Trend Following, Global Marco, and Systematic Risk Premia. Because this class is a collection

of diverse investments in total, it will not have a single benchmark, but rather an aggregate benchmark consisting of the individual benchmarks assigned to each core strategy. At the inception of the RMS class, the blended benchmark will be based on a dynamic weighting of each of the strategies. When all of the individual strategies achieve their target weights, the blended benchmark will utilize the target weights of each strategy.

4. More detailed information and standards for these strategies can be found in the CalSTRS RMS Policy.

ADDITIONAL INVESTMENT PROGRAMS & POLICIES

CalSTRS also maintains programs and policy statements for the following additional investment programs:

1. California Investments
2. Securities Lending
3. Divestment Policy
4. Special Mandates
5. Pension2® Investment Policy
6. Responsible Contractor Policy

Additional information and standards for each can be found in their respective investment policies statements.

VALUATION OF INVESTMENTS

1. CalSTRS Investment portfolio assets are to be priced, invested, administered and managed in a prudent manner for the sole benefit of its participants and beneficiaries, in accordance with the California Constitution, the Teacher's Retirement Law, and other applicable statutes.

2. CalSTRS seeks to value the assets of the Total Fund consistent with best practices and in alignment to policies set forth by CalSTRS Board of Trustees. The Investment branch shall establish processes by which pricing vendors are selected, prioritized and reviewed for such valuations and ensure these processes are followed through regular oversight.

3. CalSTRS considers a number of significant measures such as data accuracy, reliability, integration, and comprehensive coverage, when determining a pricing source hierarchy. Pricing vendors are selected, prioritized and reviewed for the most appropriate and accurate valuations.

4. CalSTRS performs reviews of the pricing source hierarchy, methodology, and tolerances for the purpose of evaluating reasonability of security valuation and to mitigate risk of mis-priced investments relating to the Fund's assets. The pricing source hierarchy is implemented by the master custodian and the oversight is under the purview of the Director of Investment Operations.

REPORTING

On at least a semi-annual basis, the investment office and the chief investment officer will prepare a comprehensive set of reports on the Investment program to include the asset allocation, movement of assets, cash flow, and the market value and changes to each asset class. Semi-annually, the general consultant and CIO will preview and present the investment performance of the CalSTRS Investment Portfolio.

Link to INVESTMENT TERMS GLOSSARY at CalSTRS.com

Approved July 2002
Revised Capital Market Assumptions December 2002
Revised Asset Allocation Plan November 2003
Revised November 2003
Revised December 2003
Revised December 2005
Revised Capital Market Assumptions February 2006
Revised June and July 2006
Revised for new asset allocation targets September 2006
Revised for new asset allocation targets September 2007
Revised for new Asset Allocation targets and ESG Policy July 2008
Revised to add 21st Risk Factor for Human health to the ESG Policy, Attachment A September 2008
Expand Asset Class ranges November 2008
Revised asset allocation targets March 2009
Revised for new asset allocation targets August 2009
Revised for asset allocation targets July 2010
Revised for new asset allocation targets and to change the name of the Absolute Return Asset Class to Inflation Sensitive, July 2011
Revised to create the Overlay Asset Class, April 2012
Revised for new asset allocation ranges, Absolute Return Asset Class and benchmark adjustments, September 2013
Revised for Global Equity, Inflation Sensitive, Real Estate and Private Equity policy November 2014
Revised for the new 2015 asset allocation mix and inclusion of the new Risk Mitigating Strategies Asset Class which will replace the Absolute Return Asset Class, April 2016
Revised for new asset allocation targets, Valuation Statement and to reflect the new Innovative Strategies, July 2016
Revised to update equity benchmark and asset allocation ranges effective January 1, 2017, November 2016
Revised for new asset allocation targets effective June 30, 2017, June 2017
Revised for housekeeping and to match the Asset Class Policy changes approved in FY 16-17, July 2017
Revised for new interim asset allocation targets effective January 1, 2018, November 2017
Revised to reference Investment Beliefs and update asset allocation process, September 20, 2018
Revised for benchmark update and new asset allocation targets effective April 1, 2019, March 28, 2019
Revised for housekeeping, benchmark updates, addition of attachment B, strategic class structure added to tables and inclusion of Investment Glossary link, July 11, 2019
Revised for new asset allocation targets and update to inflation rate assumption, January 29, 2020
Revised Global Equity structure changes from active/passive to an overall risk budget March 4, 2020
Revised for housekeeping and new asset allocation targets effective July 1, 2020, July 15, 2020
Revised to adopt Sustainable Investment & Stewardship Strategies Risk Budget July 8, 2021

Attachment A: Investment Policy for Mitigating Environmental, Social, and Governance Risks (ESG)

POLICY

The fiduciary responsibility of the Board, as described in detail within the overall Investment Policy and Management Plan, is to discharge its responsibility in a manner that is in the sole and exclusive interest of the participants and beneficiaries and will assure the prompt delivery of benefits and related services.

CalSTRS invests a multi-billion dollar fund in a unique and complex social-economic milieu and recognizes it can neither operate nor invest in a vacuum. As a significant investor with a very long-term investment horizon, the success of CalSTRS is linked to global economic growth and prosperity. The System's investments impact other facets of the global economy and actions and activities that detract from the likelihood and potential of global growth are not in the long-term interests of the Fund.

Consistent with its fiduciary responsibilities to CalSTRS members, the Board has an obligation to ensure that the corporations and entities in which CalSTRS invests strive for long-term sustainability in their operations. Managers of our investments who do not strive for sustainability jeopardize achieving the long-term expected rate of return we expect. Therefore, CalSTRS incorporates ESG considerations into its analysis of the riskiness of its investment decisions and its ownership policies and practices, to the extent that ESG factors are material to the long-term success of an investment.

Since CalSTRS is a long-term investor and may hold an investment in a corporation or entity for many decades, short-term gains at the expense of long-term gains are not in the best interest of the Fund. Sustainable returns over long periods are in the economic interest of the Fund. Conversely, unsustainable practices that hurt long-term profits are risks to the System.

Since CalSTRS must invest huge sums of moneys for long periods of time to pay for future benefits promised to California Teachers, our decision to invest in corporations and other entities predominately reflects a judgment that the ownership will produce a sustainable rate of return which will make it an attractive investment and help CalSTRS meet its long-term obligations. It is important to note that CalSTRS ownership of a security in a company does not signify that CalSTRS approves of all of the company's practices or its products or that CalSTRS believes a particular company is an attractive investment since the security may be owned due to its membership in a particular index. CalSTRS utilizes "index" investing due to its low cost and efficient structure. These "index" investments are broadly diversified and composed of thousands of individual companies.

Since 1978, CalSTRS has used a written policy, the Statement of Investment Responsibility, SIR, to navigate the complex landscape of ESG issues. The long history of this document is testimony to the national leadership of CalSTRS among pension funds in addressing ESG matters through a written policy. The SIR will continue to guide CalSTRS proxy voting; however his ESG Policy is CalSTRS' preeminent policy on ESG matters and will guide active investment decisions and passive index strategy engagements.

PROCEDURES

To help manage the risk of investing a global portfolio in a complex governance environment, CalSTRS has developed a series of procedures to follow when faced with any major environmental, social or governance issue as identified by the ESG risk factors.

When faced with a decision or other activity that potentially violates CalSTRS ESG Policy; the Investment Staff, CIO and Investment Committee will undertake the following actions:

A. The CIO will assess the potential ESG policy violation both as an ESG risk and as an impact to the System. The extent of the responsibility of the System to devote resources to address these issues will be determined by: 1) the size of the investment, and 2) the gravity of the violation of CalSTRS ESG Policies.

B. At the CIO's direction, the Investment Staff will directly engage corporate management or other appropriate parties to seek information and understanding concerning the ESG policy violation and its ramifications on the System.

C. The CIO and investment staff will provide a report to the Investment Committee of the findings associated with an ESG policy violation engagement and recommend any further action of engagement or need to commit further System resources. The Investment Committee can marshal further resources given the gravity of the situation.

To assist CalSTRS Staff and external investment managers in their investment analysis and decision-making, CalSTRS has developed a list of ESG risk factors that should be considered as part of the financial analysis of any active investment decision. For passive index strategies, CalSTRS uses the ESG risk factors to guide engagement activities. This ESG list is not exhaustive and does not attempt to identify all forms of risk that are appropriate to consider in a given investment transaction or engagement; however, they do provide a framework of other factors that might be overlooked. These risk factors should be reviewed for any CalSTRS investment or engagement in any asset class.

CalSTRS expects all investment managers, both internal and external to assess the risk of each of the following factors when making an active investment. The manager needs to balance the rate of return with all the risks including consideration of the specific investments exposure to each factor in each country in which that investment or company operates.

CALSTRS ESG RISK FACTORS
Monetary Transparency The investment's long-term profitability by whether or not a country or company has free and open monetary and financial data, and its observance of applicable laws.
Data Dissemination The investment's long-term profitability by whether or not a country is a member of the IMF (or similar organization) and satisfies the conditions for access, integrity, and quality for most data categories.
Accounting The investment's long-term profitability by whether or not the accounting standards are formulated in accordance with International Accounting Standards or the U.S. Generally Accepted Accounting Principles.
Payment System: Central Bank The investment's long-term profitability by whether the activities of a country's central bank encompass implementing and ensuring compliance with principles and standards which are established to promote safe, sound, and efficient payment and settlement.
Securities Regulation The investment's long-term profitability by exposure to operations in countries that have not complied with IOSCO objectives, which provide investor protection against manipulation and fraudulent practices.
Auditing The investment's long-term profitability by whether or not the country uses International Standards on Auditing in setting national standards.
Fiscal Transparency The investment's long-term profitability by its exposure or business operations in countries that do not have some level of fiscal transparency such as publication of financial statistics, sound standards for budgeting, accounting, and reporting.
Corporate Governance The investment's long-term profitability by whether or not the government recognizes and supports good corporate governance practices and whether it generally adheres to OECD principles.
Banking Supervision The investment's long-term profitability from its exposure to countries that have not endorsed/complied with the Basel Core Principles. An endorsement includes an agreement to review supervisory arrangements against the principles and bring legislation in line with the principles where necessary.

Payment System: Principles The investment's long-term profitability by whether a country complies with the 10 Core Principles for Systemically Important Payment Systems, which includes operational reliability, efficiency, real time settlement, final settlement in central bank money; and whether rules and procedures are clear and permit participants to understand the financial risks resulting from participation in the system.
Insolvency Framework The investment's long-term profitability from its business operations and activities in specific countries with regard to bankruptcy reform or insolvency legislation.
Money Laundering The investment's long-term profitability from exposure and whether or not a country has implemented an anti-money laundering regime in line with international standards; consideration should be given to compliance with the 40 recommendations in the Financial Action Task Force, FATF, on Money Laundering; and whether it is a member of FATF.
Insurance Supervision The investment's long-term profitability from whether or not a country has a regulatory framework in line with International Association of Insurance Supervisors, IAIS, Principles.
Respect for Human Rights The investment's long-term profitability from its business operations and activities in countries that lack or have a weak judicial System. Assess the risk to an investment's long-term profitability from its business operations and activities in a country that engages in or facilitates the following: arbitrary or unlawful deprivation of life, disappearance, torture and other cruel, inhuman, or degrading treatment or punishment, arbitrary arrest, detention, or exile, arbitrary interference with privacy, family, home, or correspondence, use of excessive force and violations of humanitarian law in internal conflicts. Consideration should be given to governmental attitude regarding international and non-governmental investigation of alleged violations of human rights.
Respect for Civil Liberties The investment's long-term profitability from operations, activities, and business practices in countries or regions that do not allow freedom of speech and press, freedom of peaceful assembly and association, freedom of religion, freedom of movement within the country, allowance for foreign travel, emigration, and repatriation.
Respect for Cultural and Ethnic Identities The investment's long-term profitability from operations, activities and business practices that do not adequately respect cultural values and ethnic identities.

Respect for Property Rights The investment's long-term profitability from operations, activities and business practices that dispossesses or degrades peoples' lands, territories or resources, or does not adequately respect established property rights.
Respect for Political Rights The investment's long-term profitability from business practices and activities in countries that do not allow their citizens the right to advocate for change to their government.
Discrimination Based on Race, Sex, Disability, Language, or Social Status The investment's long-term profitability from business practices and activities on discrimination, such as discrimination against women, children, and persons with disabilities, national/racial/ethnic minorities, or indigenous people.
Worker Rights The investment's long-term profitability from management and practices globally in the area of worker's rights; specifically the right of association, the right to organize and bargain collectively, prohibition of forced or bonded labor, status of child labor practices and minimum age for employment, acceptable work conditions, or human trafficking.
Environmental The investment's long-term profitability from activities and exposure to environmental matters such as; depleting or reducing air quality, water quality, land protection and usage, without regard for remediation.
Climate Change The investment's long-term profitability from inadequate attention to the impacts of climate change, including attention to relevant climate policy considerations and emerging climate risk mitigating technologies.
Resource Efficiency The investment's long-term profitability from inadequately managing resource usage in a resource-constrained environment amid growing resource demand.
War/Conflicts/Acts of Terrorism The investment's long-term profitability from business exposure to a country or region that has an internal or external conflict, war, acts of terrorism or involvement in acts of terrorism, and whether the country is a party to international conventions and protocols.
Human Health The investment's long-term profitability from business exposure to an industry or company that makes a product which is highly detrimental to human health so that it draws significant product liability lawsuits, government regulation, United Nations sanctions and focus, and avoidance by other institutional investors.

Attachment B: Investment Policy for Approval of Internally Managed Public Portfolio Trading, and Externally Managed Private Portfolio Transactions

Public Asset Approval Policy

Approval limits for transactions within internally managed portfolios trading public assets will use the respective trading parameters by investment type**.** The following limits apply with respect to non-cumulative daily trade limits. Non-cumulative refers to individual limits that cannot be combined with the limits of other Investment Staff.

Global Equity	
Investment Officer I	**Up to 1% per internally managed portfolio**
Investment Officer II	**Up to 2% per internally managed portfolio**
Investment Officer III	**Up to 2.5% per internally managed portfolio**
Associate Portfolio Manager	**Up to 3% per internally managed portfolio**
Portfolio Manager	**Up to 4% per internally managed portfolio**
Director of Global Equity	**Up to 5% of Total Global Equity portfolio**
Deputy Chief Investment Officer	**Up to 10% of Total Global Equity portfolio**
Chief Investment Officer	**Up to 10% of Total Global Equity portfolio**

For derivatives and transition management portfolios, the above risk-based trading parameters are non-cumulative and are applied to the market value of the U.S. or Non-U.S. segments of the Global Equity portfolio.

Fixed Income	
Investment Officer I	**Up to 2% of internally managed portfolio**
Investment Officer II	**Up to 4% of internally managed portfolio**
Investment Officer III	**Up to 6% of internally managed portfolio**
Associate Portfolio Manager	**Up to 8% of internally managed portfolio**
Portfolio Manager	**Up to 10% of internally managed portfolio**
Director of Fixed Income	**Up to 5% of Total Fixed Income portfolio**
Deputy Chief Investment Officer	**Up to 10% of Total Fixed Income portfolio**
Chief Investment Officer	**Up to 10% of Total Fixed Income portfolio**

Short-term Assets: No daily limits with respect to the approval of trade activity within the liquidity portfolio shall be established.

For derivative instruments, overlay and transition management portfolios, tighter trading parameters may be applied.

Currency Management

Investment Officer I	**Up to 1% of the core (notional) program**
Investment Officer II	**Up to 2% of the core (notional) program**
Investment Officer III	**Up to 3% of the core (notional) program**
Associate Portfolio Manager	**Up to 4% of the core (notional) program**
Portfolio Manager	**Up to 5% of the core (notional) program**
Director of Fixed Income	**Up to 5% of the total non-USD holdings**
Deputy Chief Investment Officer	**Up to 10% of the total non-USD holdings**
Chief Investment Officer	**Up to 10% of the total non-USD holdings**

Note: Notional amount parameters are intended to take into account the position range referenced in the Currency Management Program Policy.

Securities Lending

Given that the trade activity for this program is governed by the investment and securities lending markets, no daily limits with respect to the approval of trade activity within CalSTRS' internally managed Cash Collateral portfolio shall be established.

Home Loan Program

Investment Officer I	**$5 million**
Investment Officer II	**$10 million**
Investment Officer III	**$20 million**
Associate Portfolio Manager	**$30 million**
Portfolio Manager	**$35 million**
Director of Fixed Income	**$50 million**
Deputy Chief Investment Officer	**$100 million**
Chief Investment Officer	**$100 million**

Credit Enhancement Program

Investment Officer I	**$50 million**
Investment Officer II	**$75 million**
Investment Officer III	**$100 million**
Associate Portfolio Manager	**$200 million**
Portfolio Manager	**$300 million**
Director of Private Equity	**$400 million**
Deputy Chief Investment Officer	**$600 million**
Chief Investment Officer	**$600 million**

Private Asset Approval Policy

Private investment portfolios will use a single approval structure to approve the outgoing cash transactions of previously approved investment commitments and does not include the authorization of new investments, which are approved through the existing delegation of authority.

The receipt of cash to private investment portfolios does not require approval limits.

The following non-cumulative daily approval limits apply with respect to outgoing cash transactions for private asset investment portfolio activity by approval date.

Investment Officer I	**$15 million**
Investment Officer II	**$50 million**
Investment Officer III	**$100 million**
Associate Portfolio Manager	**$150 million**
Portfolio Manager	**$250 million**
Director of Applicable Asset Class	**$750 million**
Deputy Chief Investment Officer	**$1.5 billion**
Chief Investment Officer	**$1.5 billion**

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
INVESTMENT RESOLUTION

WHEREAS, the Electorate of the State of California in November 1992 amended Section 17 of Article XVI of the State Constitution by approval of Proposition 162; and

WHEREAS, the Teachers' Retirement Board embraces the concepts of the revised Section 17 of Article XVI of the State Constitution, which states that the Retirement System shall have sole and exclusive fiduciary responsibility over the assets of the public pension or retirement system; and

WHEREAS, the Teachers' Retirement Board has approved the Investment Plan which provides for wider diversification of the System's investment assets; and

WHEREAS, the Teachers' Retirement Board on the advice of its consulting actuary and the pension fund consultant has adopted the objective of achieving a long-term annualized investment return of 3.50% in excess of the rate of inflation; and

WHEREAS, in the exercise of its fiduciary responsibilities the Board has considered and approved various classes of investments for the Teachers' Retirement Fund; therefore, it is

RESOLVED, that the following investment classes are authorized if deemed prudent at the time of purchase:

Fixed-Income Securities

Fixed Income investments as authorized by the Investment Management Plan and Fixed Income Policies and Guidelines and as authorized by the Investment Committee.

Equity Securities

Equity investments as authorized by the Investment Management Plan and Global Equity Policies and Guidelines and as authorized by the Investment Committee.

Real Estate

Real Property investments as authorized by the Investment Management Plan and Real Estate Policies and Procedures and as authorized by the Investment Committee.

Private Equity

Limited partnership investments in equity of fixed income securities as defined in the Private Equity Policies and Procedures and as authorized by the Investment Committee.

Inflation Sensitive

Inflation linked fixed income securities and Infrastructure investments as defined by the Infrastructure Policy and Procedures, and as authorized by the Investment Committee.

Risk Mitigating Strategies

Investments as authorized by the Investment Policy and Management Plan and the Risk Mitigating Strategies Policies, Procedures, and Guidelines.

Other Investments

Purchase of other types of investments may be made only with advance approval of the Investment Committee of the Teachers' Retirement Board.

Advance approval of the Investment Committee or its designates may be obtained by authorization for individual securities, or for a particular class of investments, or for specified investment managers of the Teachers' Retirement Fund.

RESOLVED further that all investments shall be made with the standards of care, skill, prudence and diligence prescribed in the revised Section 17 of Article XVI of the State Constitution. These tests will involve, importantly, full consideration of proper diversification of investments, adequacy of reliable information for analysis of investments, and suitability for the requirements of the Teachers' Retirement Fund. The Board endorses the principle that prudency of individual investments shall be judged in the context of the total Retirement Fund portfolio;

RESOLVED further, that cash reserves of the System are to be managed for the safety and convenience of the Teachers' Retirement Fund, in investments which are considered to be prudent money market instruments by internal investment managers;

RESOLVED further, that the services of at least one external independent organization (performance evaluator) will be retained to assess the investment results of portfolio managers and to compare such results with those of similarly situated institutions and such other standards of measurement as the Investment Committee deems appropriate;

RESOLVED further, that investments now held which no longer qualify for purchase under this Resolution may be retained if qualified under the Resolutions existing at their respective dates of acquisition;

RESOLVED further, that this Investment Resolution rescinds and replaces all previously adopted Investment Resolutions.

Adopted by the Teachers' Retirement Board on October 19, 1984
Revised to include foreign issuers within the S&P 500 Stock Index on April 19, 1985
Revised to reflect legislation prohibiting investment within South Africa on December 19, 1986
Revised to reflect passage of Proposition 162 and implementation of Global Tactical Asset

Allocation Program on September 9, 1993
Revised to remove reference to South Africa investment restriction on May 11, 1994
Revised to broaden Fixed Income and Equity reference on July 10, 2008
Revised to include the Fixed Asset class, August 13, 2009
Revised to change the name of the "Fixed Asset" class to Inflation Sensitive, July 7, 2011
Revised to incorporate the Risk Mitigating Asset Class, April 2016

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MEMORANDUM

TO: Investment Committee, CalSTRS
FROM: Stephen McCourt, Allan Emkin, Mika Malone, Eric White, Meketa Investment Group
CC: Christopher Ailman
DATE: July 8, 2021
RE: Sustainable Investment & Stewardship Strategies ("SISS") Policy Revisions

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CalSTRS initiated the Risk Budget framework in early 2020. To date, the concept of a risk budget has been applied to the Global Equity asset class. In March 2021, Meketa Investment Group ("Meketa") was asked by CalSTRS Investment Staff ("Staff") to review revisions to the SISS Program and Portfolio Policy ("Policy"). The modifications extend the risk budgeting framework to the SISS public portfolio, as a tool to manage and monitor risk going forward. *Meketa independently reviewed and assessed the proposed policy changes, and concurs with each of the changes recommended in the revised Policy presented to the Investment Committee.*

The SISS public portfolio currently contains three types of strategies:

- Risk-controlled low-carbon strategies – These strategies resemble Enhanced indexed strategies, and generally incorporate limited amounts of active risk.
- Sustainability-focused active strategies – These strategies, focused on sustainable investment themes, generally incorporate an amount of active risks commensurate with an active global equity strategy.
- Activist Strategies – These strategies, which invest in more concentrated portfolios, generally have a high level of active risk, as they focus investment in a limited number of companies in an effort to effect corporate change and enhance return.

It is noteworthy that the SISS public portfolio does not include any pure indexing strategies (in marked contrast to Global Equity) as, by policy, the portfolio's intent is to be "active" with respect to sustainability. Consequently, as noted below, the Risk Budget for the SISS public portfolio is significantly higher than that for Global Equity.

After consultation with Meketa, and analysis of historical active risk, as well as expectations for future investment strategy, Staff is recommending a Risk Budget of 50 - 250 basis points. This Risk Budget is slightly more than four times that of Global Equity. This elevated level of risk allowance is reflective of the portfolio's intended purpose of being active. In addition to risk being controlled by the Risk Budget, at the total portfolio level risk is controlled by its maximum allocation of 5% (inclusive of both private and public SISS investments).

Staff has made necessary edits to the Investment Policy and Management Plan to allow for the SISS public portfolio to be managed utilizing a risk budget.

The benchmark for the SISS public portfolio, which is the Custom MSCI ACWI IMI index, will remain unchanged.

Compensation Policy Implications

Neither the benchmark nor the scale maximum (45 basis points) for the SISS public portfolio change with these proposed Policy changes. However, we do note that the Investment Committee will be reviewing benchmarking and incentive compensation outperformance targets over the next year. We recommend clarifying that the appropriate performance measures for compensation calculations is the highest level SISS public composite, which includes transition accounts (TC00A123). Given that 7/1/21 will be the second year with the current scale maximum in place, if approved, the incentive calculation would now be 1/3 current scale maximum over the new higher level Custom MSCI ACWI benchmark as noted above, 1/3 current scale maximum over the Custom MSCI ACWI benchmark in place for the 2020-2021 Fiscal year, and 1/3 prior scale maximum over prior benchmark that broke US and non-US exposure out separately.

Given the adoption of risk budgeting across multiple asset classes, Meketa suggests the Board review incentive compensation target outperformance, to harmonize these targets with the active risk budgets set across asset classes. This can be done as part of the broader benchmark review process.

If you have questions, please feel free to contact us at (760) 795-3450.

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MEMORANDUM

TO: Investment Committee, CalSTRS
FROM: Stephen McCourt, Allan Emkin, Mika Malone, Eric White, Meketa Investment Group
CC: Christopher Ailman
DATE: September 2, 2021
RE: Sustainable Investment & Stewardship Strategies ("SISS") Policy Revisions

CalSTRS initiated the Risk Budget framework in early 2020. To date, the concept of a risk budget has been applied to the Global Equity asset class. In March 2021, Meketa Investment Group ("Meketa") was asked by CalSTRS Investment Staff ("Staff") to review revisions to the SISS Program and Portfolio Policy ("Policy"). The modifications extend the risk budgeting framework to the SISS public portfolio, as a tool to manage and monitor risk going forward. *Meketa independently reviewed and assessed the proposed policy changes, and concurs with each of the changes recommended in the revised Policy presented to the Investment Committee.*

The SISS public portfolio currently contains three types of strategies:

- Risk-controlled low-carbon strategies – These strategies resemble Enhanced indexed strategies, and generally incorporate limited amounts of active risk.
- Sustainability-focused active strategies – These strategies, focused on sustainable investment themes, generally incorporate an amount of active risks commensurate with an active global equity strategy.
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It is noteworthy that the SISS public portfolio does not include any pure indexing strategies (in marked contrast to Global Equity) as, by policy, the portfolio's intent is to be "active" with respect to sustainability. Consequently, as noted below, the Risk Budget for the SISS public portfolio is significantly higher than that for Global Equity.

After consultation with Meketa, and analysis of historical active risk, as well as expectations for future investment strategy, Staff is recommending a Risk Budget of 50 - 250 basis points. This Risk Budget is slightly more than four times that of Global Equity. This elevated level of risk allowance is reflective of the portfolio's intended purpose of being active. In addition to risk being controlled by the Risk Budget, at the total portfolio level risk is controlled by its maximum allocation of 5% (inclusive of both private and public SISS investments).

Staff has made necessary edits to the Investment Policy and Management Plan to allow for the SISS public portfolio to be managed utilizing a risk budget.

The benchmark for the SISS public portfolio, which is the Custom MSCI ACWI IMI index, will remain unchanged.

Compensation Policy Implications

Neither the benchmark nor the scale maximum (45 basis points) for the SISS public portfolio change with these proposed Policy changes. However, we do note that the Investment Committee will be reviewing benchmarking and incentive compensation outperformance targets over the next year. We recommend clarifying that the appropriate performance measures for compensation calculations is the highest level SISS public composite, which includes transition accounts (TC00A123). Given that 7/1/21 will be the second year with the current scale maximum in place, if approved (effective 10/1/21), the incentive calculation for the full fiscal year of 2021-2022 be 1/4 the current scale maximum over the new higher level Custom MSCI ACWI benchmark as noted above, 5/12 the current scale maximum over the Custom MSCI ACWI benchmark in place for the 2020-2021 fiscal year, and 1/3 the prior scale maximum over prior benchmark that broke US and non-US exposure out separately.

Given the adoption of risk budgeting across multiple asset classes, Meketa suggests the Board review incentive compensation target outperformance, to harmonize these targets with the active risk budgets set across asset classes. This can be done as part of the broader benchmark review process.

If you have questions, please feel free to contact us at (760) 795-3450.

SPM/MM/AE/jls