OPERATING PROCEDURES

For The

INVESTMENT POLICY STATEMENT

For Treasury Pool

For

The Regents of the University of Colorado

Effective: July 1, 1997 Revised: September 1, 2018

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Current Assets: \$1.9 billion Pooled market value estimate for FY19

Planning Time Horizon: Segment 1: 0 - 1 Year (Daily liquidity)

Segment 1.5 Enhanced Cash 0-1 year

Segment 2: 1 - 5 Years

Segment 3: Greater than 5 years

Risk Tolerance: Low risk tolerance, with emphasis on preservation

of principal.

Income Needs: Income for distribution will be provided from

earnings and realized gains. It is anticipated that

liquidity will be sufficient to support this

distribution. If necessary, assets may be sold to

provide cash.

Asset Allocation, by Segment:		Lower	Strategic	Upper
	Management	<u>Limit</u>	Allocation	<u>Limit</u>
Segment 1	I/E			
Segment 1.5	E			
Segment 2	E			
Fixed Income, Short-Term			100%	
Segment 3:				
Domestic Large Capitalization Equities	: E	18.9%	20.8%	22.7%
Domestic Small Capitalization Equities	: E	7.9%	8.9%	9.9%
International Equities:	E	11.2%	12.6%	14.0%
Global Equities:	E	11.5%	12.9%	14.3%
Fixed Income:	E	29.9%	31.1%	32.3%
Endowment Like:	E	12.5%	13.7%	14.9%

Performance Evaluation Benchmark: Each segment has a benchmark of a market index for performance measurement. The total Pool is expected to produce a total return exceeding that of an index based upon the strategic asset allocation of the Pool and various broad asset classes. Specifically, the policy index will be a weighted index comprised of:

<u>Segment</u>	<u>Benchmark</u>
1	30-Day T-Bills
1.5	Callan's Curated Prime Institutional Money Market P
	Peer Group and ICE Bank of America Merrill Lynch
	3 Month Treasury Bill Index (G0O1)
2	Bloomberg Barclays US Government/Credit 1-3Year
	Bond Index

3	20.8% S&P 500 8.9% Blended S&P 400 Mid / 600 Small-Cap. 12.6% MSCI ACWI ex-US Index 12.9% MSCI All Country World Index 31.1% Bloomberg Barclays US Aggregate Bond Index 13.7% Endowment Like
Expected Total Return: Based on current capital market projections	5.30% Nominal; 3.75% Real, based on expected inflation of 1.5%.

The purpose of the Operating Procedures for the Treasury Pool Investment Policy Statement (IPS) is to assist the Treasurer in effectively investing the assets of the Treasury Pool (the Pool) and monitoring investment results, by communicating the investment objectives to the Regents, the Investment Advisory Committee, the Consultant, and external investment managers. The Pool's investment program is defined in the various sections of the IPS by:

- Stating in a written document the University's objectives and guidelines for the investment of Pool assets, including explicit consideration of liquidity needs and risk tolerance.
- Setting forth an investment structure for managing all Pool assets. This structure includes various asset classes, investment management styles, asset allocation and acceptable ranges that, in total, are expected to produce an intended level of overall diversification and total investment return over the long-term.
- Providing guidelines for each investment portfolio that control the level of overall risk and liquidity assumed in that portfolio, so that all Pool assets are managed in accordance with stated objectives.
- Establishing formal criteria to monitor, evaluate and compare the performance results achieved by the money managers on a regular basis.
- Encouraging effective communications between the Treasurer's department, the Regents, the Investment Advisory Committee, the investment consultant, and the money managers.
- Complying with all fiduciary, prudence and due diligence requirements that experienced investment professionals would utilize, with the Prudent Investor Rule, and with all other applicable laws, rules and regulations from various local, state and federal entities that may impact Pool assets.

These Operating Procedures have been formulated after consideration by the Treasurer and the Investment Advisory Committee of the financial implications of a wide range of policies, and represents a prudent investment process deemed appropriate for the University.

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ROLE OF THE POOLED TREASURY EXTERNAL INVESTMENTS

Operating Procedures

The role of the Treasury Pool is:

- 1. To maintain sufficient liquidity for day-to-day operations of the University;
- 2. To maintain sufficient liquidity for withdrawals, e.g., for capital projects;
- 3. To generate distributable earnings;
- 4. To maximize distributable earnings for the University by matching investment horizon to projected timing of spending.
- 5. To maintain the nominal value of assets over the investment horizon; and
- 6. To control costs of administering the Pool and managing the assets.

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The Treasury Pool (Pool) provides the necessary liquidity and earnings that are one of the few sources of University unrestricted funds. The Treasurer has the responsibility for preserving and protecting the financial resources of the University and effectively investing these resources. Growth of the Pool over the past several years and the pattern of disbursements suggest that some of the assets are amenable to a longer-term time horizon and an attendant increase in both returns and risk. Further, funds collected and managed by the University of Colorado Treasurer are within the control and direction of the Board of Regents, and are to be managed pursuant to Sections 23-20-109 and 111, C.R.S. (2014), and the rules adopted by the Regents pursuant to Section 23-20-112, C.R.S. (2014), Laws of the Regents, (2009), Section 13.B.3, and Regent Policy 13A (2009). The Regents are specifically authorized to hold certain kinds of investments, Sections 23-20-118 and 119, C.R.S. (2014), and to control and invest moneys from donations and from University lands, Sections 23-20-120, and 121, C.R.S. (2014). Per the Opinion provided by the Office of the Attorney General of the State of Colorado, these funds are not subject to the provisions of Colo. Const. Art. X, Section 12 or Sections 24-36-103 and 24-22-107, C.R.S. (2014). These factors led the Treasurer, the staff, and the Investment Advisory Committee to undertake the development of the Regent's Investment Policy Statement and these Operating Procedures.

The role of the Investment Advisory Committee is two-fold. First, the Committee will provide continuing impartial investment expertise to further improve the University's investment decision-making process. Second, the Committee will review the performance of the investment managers and other service providers and assist in decision-making on selection of, and changes to, the external managers to achieve the goals and objectives of the investment strategy.

The first step in the process is a review of the cash flows and liquidity needs of the Pool. This review results in the division of the Pool into four segments based on the investment time horizon. The four segments are: Daily Working Capital, Enhanced Cash, Contingency, and Non-Recurring Segment. The Daily Working Capital Segment represents day-to-day operating funds. Enhanced Cash is the seasonal cash fluctuating due to tuition receipts and timing of receipts from contracts and grants and required University disbursements for monthly payroll and debt service. The Contingency Segment serves as a buffer for the Daily Working Capital Segment in the case of extreme cash requirements. The Contingency Segment will be invested to earn a premium over the investments appropriate for the Daily Working Capital Segment.

First, Pool assets are allocated to Segments 1, and 1.5 to satisfy the University's liquidity needs; Segment 2 is a reserve to these liquidity needs and the remaining assets are available for the Non-Recurring Segment. Second, the asset allocation of the Non-Recurring Segment is designed to achieve meaningful returns without taking on inappropriate levels of risk.

This procedure has been adopted to facilitate flows among the Segments as conditions change, and to require a formal, annual review of the portion of the Pool that belongs in each Segment.

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This section describes the factors that influence the ability to meet the investment objectives, specifically the time horizon, liquidity constraints, risk tolerance, and income distribution needs. All of these factors are incorporated in the asset allocation which is described in this section. The asset allocation is the primary determinant of investment results, accounting for more than 85 percent of variations in performance.

Time Horizon

The Treasury Pool contains assets with varying time horizons from overnight to beyond five years. The Pool has been subdivided into four segments by time horizon in order to adopt appropriate investment policies for each segment.

- 1. Daily Working Capital Segment This Segment includes the day-to-day operating funds. Investments with maturities of one year or less and high credit quality are appropriate in this Segment.
- 1.5 Enhanced Cash This Segment includes assets that will flow in mid-August and January largely from tuition payments. The outflows will support payroll outflows and debt service in the requested outflows included in Appendix VII. We are expecting the external manager of these funds to invest these funds in assets that are low risk but can enhance the return over daily liquid investments and met the requested disbursements to the University.
- 2. Contingency Segment (Near Cash) This segment includes assets that would be available if the amounts specified as Daily Working Capital and Enhanced Cash Segments prove to be insufficient. This Segment will be invested in limited maturity securities, from 1 to 5 years, enabling this Segment to provide an enhanced return relative to Segment 1 and 1.5, with only a small risk to principal. This segment may also contain a portion of intra-year portfolio growth from operations.
- 3. Non-Recurring Segment This Segment includes the part of the Pool that is not expected to be spent within the near term. It exhibits characteristics of a longer-term investment horizon, and thus can be invested for higher return than the other segments because it is more capable of absorbing the short-term volatility that comes with higher return policies.

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Liquidity Analysis

Each year, a review of the cash flows of the Pool is undertaken to determine the portion of the Pool to be allocated to each segment. The following analysis is based on the estimated portfolio value in Fiscal Year 2018 of \$1.8 billion. Annual reviews are part of the budgeting process. Following completion of the review process, the segments are rebalanced as necessary.

- 1- Cash Segment Daily Working Capital To determine the amount of working capital required in the Pool, we analyzed the monthly cash inflows and outflows for the last three fiscal years. Based on this analysis, the recommended working capital balance is \$144 million or 8% (on average). This will range from around 2% to 12%.
- 1.5 Enhanced Cash We estimate this Segment will reach a maximum of \$325M and a minimum of \$0 during the first part of August when we expect these funds to be fully withdrawn. These funds will be at their peaks in September and early February based on traditional cash flows. This Segment will represent between 0 and 18% of the portfolio, with an average of about 12% as it is used to provide for the draw schedule in Appendix VII.
- <u>2- Contingency Segment</u> The Contingency Segment is set to at least 6 percent of the total Treasury Pool in order to buffer Segment 3 investments from unscheduled sales should the amount in Segment 1 prove to be inadequate to satisfy liquidity needs in changing economic situations.
- <u>3- Non-Recurring Segment</u> The assets remaining in the Pool that are not needed in Segments 1, 1.5, and 2 that may be invested in the Non-Recurring Segment.

Risk Tolerances

The overall risk tolerance of the Treasury Pool is low, thus requiring a conservative policy. Segments 1, 1.5 and 2 are to be invested for a minimal risk of loss of principal. A higher risk policy that will produce higher returns is only appropriate for Segment 3. The asset allocation adopted for Segment 3, when combined with Segments 1 and 2, has an expected, nominal return of approximately 5.5 percent, with a range of possible outcomes over a one-year time horizon of –10.3 percent to 23.8 percent at the 95th and 5th percentiles, respectively (Per Callan FY19 Asset Allocation Review, March 2018). A loss of 10 percent or greater would be expected to occur only once in twenty years. The term downside risk will be used to refer to the return that is expected to be exceeded 95 percent of the time (or, conversely, there is only a 5 percent probability of achieving a lower return).

Asset Allocation – Segments 1, 1.5 and 2

Assets of the Daily Working Capital and Contingency Segments (Segments 1, 1.5 and 2, respectively) are to be invested solely in fixed income securities.

Asset Allocation – Segment 3

The asset allocation of the Non-Recurring Segment (Segment 3) is examined separately. The Pool's risk and liquidity postures are, in large part, a function of asset class mix. Based on the core performance characteristics of various asset classes, focusing on both the risks and rewards, the following asset classes were deemed appropriate for the Non-Recurring Segment:

- Domestic Large Capitalization Equities
- Domestic Mid- and Small-Capitalization Equities
- International Equities
- Global Equities
- Alternatives
- Domestic Fixed Income
- Cash Equivalents

Based on the Non-Recurring Segment's time horizon, risk tolerances, performance expectations and asset class preferences, an efficient or optimal portfolio was identified. The strategic asset allocation of Segment 3 is as follows:

Strategic Asset Allocation	Lower	Strategic	Upper
	<u>Limit</u>	Allocation	<u>Limit</u>
Domestic Large Capitalization Equities	18.9%	20.8%	22.7%
Domestic Small Capitalization Equities:	7.9%	8.9%	9.9%
International Equities:	11.2%	12.6%	14.0%
Global Equities	11.5%	12.9%	14.3%
Fixed Income:	29.9%	31.1%	32.3%
Endowment Like:	12.5%	13.7 %	14.9%

Rebalancing the Strategic Allocation

The Strategic Allocation, shown in the middle column, is the target. Some variability around the target is expected and acceptable. Extreme deviation from the target is undesirable because it alters the risk and return expectations for the Pool. Therefore, an upper and a lower limit are established for each asset class. The percentage allocation to each asset class may vary as much as plus or minus 1.9 percent for the larger asset classes before rebalancing to the target is required.

When necessary and/or available, cash inflows/outflows will be deployed in a manner consistent with the strategic asset allocation of the Non-Recurring Segment. If the University Treasurer judges cash flows to be insufficient to bring the Pool within the strategic allocation ranges, the Treasurer, in consultation with the Investment Advisory Committee, shall decide whether to make transactions to bring the allocation back to the target Strategic Allocation.

Combined Asset Allocation

Based on the assumptions provided in the **Liquidity Analysis** section above, the following aggregate asset allocation will result from combining the asset allocations over the four segments.

Asset Allocation:	Strategic <u>Allocation</u>
Domestic Large Capitalization Equities:	22%
Domestic Small/Mid Capitalization Equities:	7%
Global Equities:	19%
Endowment Like:	5%
Fixed Income: Short -Term	6%
Broad Market	23%
Enhanced Cash	10 %
Cash Equivalents:	8%*

Diversification

Each Segment of the Pool and each portfolio within each Segment will be diversified with respect to economic sector, industry, and specific issuer, with the exception of securities issued by the United States government, its Agencies, and US government-sponsored corporations. Such diversification is intended to reduce risk. Diversification guidelines for each asset class are provided in the section "Security and Portfolio Guidelines".

Distribution of Income and the Reserve

The investment policy explicitly recognizes the fact that the distribution decision and investment decisions are related, yet separate. The Treasurer will conduct an annual review of the investment policy to determine that it is consistent with the distribution target set in the budgeting process, recognizing the potential for short-term fluctuations in investment returns. An account of undistributed investment returns will be established and maintained to smooth out short-term fluctuations in investment value and earnings. When returns exceed the distribution target, the excess will be assigned to the account until the account reaches a desired level. When the desired level has been reached, then additional earnings may be used to augment the distribution. Conversely, when returns fall short of the distribution target, the account will be used to meet the shortfall. If the account is fully depleted and the distribution target has not yet been met, the account can operate in a deficit. Providing for a deficit in the account recognizes the need to maintain distributable earnings in the short term, and the expectation that the shortfall is a temporary situation consistent with the normal volatility of the financial markets.

^{*-} Varies depending on available cash and may be as low as 2% prior to rebalancing.

The following guidelines apply to both staff and external money managers. Any mutual funds or other commingled funds utilized should be reviewed to determine that their governing instruments are substantially consistent with the following guidelines. Each mutual fund complies with its respective prospectus. Separate accounts follow the guidelines contained herein. All assets are to be managed pursuant to Sections 23-20-109 and 111, C.R.S. (2014) and the rules adopted by the Regents of the University of Colorado pursuant to Section 23-20-112, C.R.S. (2014).

General

- All guidelines are considered at the time of purchase. In general, securities
 contained in the benchmark are acceptable investments. The sale of a security is
 not automatically required due to a subsequent change in circumstance.
- The following securities and transactions are not authorized unless the manager has received prior written approval from the Treasurer of the University of Colorado:
 - Letter stock and other unregistered securities, except those exempt from registration by the SEC due to short maturities; commodities or commodity contracts; and short sales or margin transactions. With the University Treasurer's approval, Rule 144A securities are permitted

Securities lending, pledging or hypothecating securities.

Self-investment by manager

Short sale not permitted

- Derivative securities are permissible investments when the derivative security has
 no more risk than the underlying security provided that the underlying security
 would be a permissible security.
- Holdings of individual securities shall be large enough for easy liquidation.
- Each portfolio will be diversified with regard to specific issuer, industry, and economic sector, in order to reduce risk.
- Assets will be invested in a manner consistent with the Regents' Resolution on Institutional Neutrality.
- Securities may be sold at a loss, if such an action is deemed to be consistent with

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- Leverage not permitted. Borrowing prohibited except for short-term settlement mismatches
- Convertible securities not permitted

SECURITY AND PORTFOLIO GUIDELINES

Operating Procedures

Fixed Income

Eligible Securities

The Treasury Pool may be invested in the following:

- U.S. Treasury and Agency issues (including Strips);
- Bank Certificates of Deposit (subject to prior approval of the CU Treasurer's Office),
 Bankers' Acceptances, Local Government investment pools, repurchase agreements, and commercial paper;
- Asset-backed and commercial mortgage-backed securities;
- Corporate bonds;
- Securities that are dollar denominated that are issued by foreign government agencies, local governments, sovereigns, and corporations that have no operations in the United States;
- Money market funds and other mutual funds;
- Mortgage-backed securities, including collateralized mortgage obligations (CMOs), TBA securities issued by a Federal Agency and mortgage dollar rolls;
- Municipal securities;
- Guaranteed Investment Contracts (GICs);
- and Rule 144(a) securities and securities exempt from SEC registration under sections 3(a)2 and 3(a)4 of the US Securities Act of 1933. Securities exempt from SEC registration must be rated investment grade.

Maturity

Securities held in Segment 1 (Daily Working Capital) and Segment 1.5 (Enhanced Cash) shall have maturities of less than 1 year;

Securities in Segment 2 (Contingency) shall have effective maturities of up to 5 years. Securities held in Segment 3 (Non-Recurring Segment) shall have no specific maturity restriction.

The following guidelines may be used to establish effective maturity:

- 1) The reset date for floating rate instruments will be used in place of the final maturity date;
- 2) For securities with a put date, the put date may be used as the proxy for final maturity;
- 3) Asset-Backed and Mortgage-Backed securities will use average life in place of final maturity;

Duration

The duration of Segment 1 and 1.5 shall be less than 1.0 year. The duration of Segment 2 shall be within 0.5 years of the duration of the Barclays Capital 1-3 Year. The duration of Segment 3 shall be within 20 percent of the duration of the Bloomberg Barclays US Aggregate Bond Index, approximately 4.0 to 6.0 years.

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Quality

The fixed income portfolio will be a high quality portfolio. At the time of purchase, all fixed income securities held in the portfolio shall have a minimum rating of Baa3 or equivalent. No more than 20 percent of the market value of the fixed income portfolio shall be rated Baa1 or below. Standard and Poor's, Fitch, or Moody's ratings are acceptable. If the issue is rated by all three rating agencies, the middle rating will apply. If the security is rated by one rating agency, that rating will apply.

Diversification

The exposure of the portfolio to any one issuer, other than securities of the U.S. government or agencies, or government-sponsored corporations, shall not exceed 10 percent of the market value of the fixed income portfolio.

Futures and Options

Fixed income managers may, with prior written approval of the Treasurer, engage in futures and options transactions subject to the following limitations:

- 1. No long or short futures and/or options position may be established unless the portfolio has adequate cash reserves or securities to fund purchase or delivery of securities under the contract. The use of such instruments to lever the portfolio is strictly prohibited.
- 2. The aggregate exposure to futures and options is limited to 25 percent. A futures position is to be valued at the face amount multiplied by the number of contracts adjusted for the most likely deliverable security. An options position is to be valued on a "delta-weighted" basis.

Derivatives

Derivative securities that derive their returns from factors other than interest rates are not permitted in the fixed income portfolio. Examples of such prohibited derivatives are structured notes tied to currencies or commodity prices.

Other Securities

Investments in the following securities are prohibited: inverse floaters, interest only securities, reverse repurchase agreements, and other securities that could impart leverage to the portfolio or have highly unpredictable cash flows. External managers who have a track record of using the above securities successfully, and only on a selective basis, may be considered for Segment 3.

Domestic Equities:

- Equity holdings in any one company should not exceed 5 percent of the market value of the Pool's equity portfolio.
- The portfolio shall be diversified by economic sector with not more than 25 percent of the market value of the portfolio invested in any one economic sector, as defined by Standard & Poor's.
- Managers are expected to remain essentially fully invested in equity securities, unless the manager has requested and received permission to hold significant cash.
- Managers are expected to invest primarily (at least 80 percent) in companies domiciled in the United States.
- The domestic equity portfolio should have a broad market orientation, including both large and small companies.
- The manager shall emphasize quality in security selection and shall avoid risk of large loss through diversification.
- Convertible securities will be considered as equities.
- Investments in the equity securities of any company with a record of less than three years continuous operation, including the operation of any predecessor, are prohibited without prior written approval.
- Investments for the purpose of exercising control of management are prohibited.
- Equity managers shall not, without prior written approval of the Treasurer, engage in futures and options transactions, and then only subject to the following limitations:
 - No long or short futures and/or options position may be established unless the
 portfolio has adequate cash reserves or securities to fund purchase or delivery of
 securities under the contract. The use of such instruments to lever the portfolio is
 strictly prohibited.
 - 2. The aggregate exposure to futures and options is limited to 25 percent. A futures position is to be valued at the face amount multiplied by the number of contracts adjusted for the most likely deliverable security.

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International Equities

- Equity holdings in any one company shall not exceed 5 percent of the International Equity portfolio.
- No more than 25 percent of the portfolio shall be invested in one industry category.
- Substantially all investments for this allocation should be in the equity of companies domiciled in countries within the Morgan Stanley Capital International All Country World Index ex USA (MSCI-ACWI ex-US). The portfolio's allocation to non-MSCI World countries shall be no more than 5% above the MSCI-ACWI ex-US Index's weight to non-MSCI World countries. Allocations among countries are expected to be diversified.
- The manager may enter into foreign exchange contracts on currency provided that
 use of such contracts is limited to hedging currency exposure existing within the
 manager's portfolio. There shall be no direct foreign currency speculation or any
 related investment activity.

Global Equities

- Equity holdings in any one company shall not exceed 5 percent of the Global Equity portfolio.
- No more than 25 percent of the portfolio shall be invested in one industry category.
- Substantially all investments for this allocation should be in the equity of
 companies domiciled in countries within the Morgan Stanley Capital International
 All Country World Index (MSCI ACWI). The portfolio's allocation to non-MSCI
 World countries shall be no more than 5% above the MSCI-ACWI Index's weight
 to non-MSCI World countries. Allocations among countries are expected to be
 diversified.
- The manager may enter into foreign exchange contracts on currency provided that
 use of such contracts is limited to hedging currency exposure existing within the
 manager's portfolio. There shall be no direct foreign currency speculation or any
 related investment activity.

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Cash and Cash Equivalents

- Cash equivalent reserves shall consist of cash instruments having a quality rating of A-2 and P-2 or higher by S&P and Moody. The allocation to securities rated A-2 or P-2 shall be limited to 10 percent of the portfolio.
- Any idle cash not invested by the investment manager shall be invested daily by the Custodian or the Treasury staff through a procedure acceptable to the Treasurer.
- The Treasurer may engage in repurchase agreements for securities that have quality ratings equivalent to, or higher than, A-2 and P-2.
- In the use of mutual funds, careful attention should be paid to the fund's policy for investing cash and cash equivalents, with the objective of selecting funds whose policies are consistent with the spirit of the guidelines.
- Federally insured cash deposits managed by a third party are an acceptable cash investment instrument.
- Due to the recent reform affecting money market funds (MMF), effective October 14, 2016, Treasury has established a preference for Government MMFs as its principle investment vehicle with Prime MMFs and other vehicles as supplemental investment vehicles.

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To achieve the investment objectives of the Pool, both the staff and external investment managers may be employed to invest the assets. External managers will be considered for those assignments where they will complement the efforts of the staff and contribute additional expertise, and when the additional expense of external management is justified. Both separate accounts and commingled investment vehicles may be considered. Where appropriate, the Treasurer, with the assistance of the Investment Advisory Committee and, if needed, a consultant, will select qualified money managers to manage Pool assets. External managers must meet the following minimum criteria:

- 1. Be a bank, insurance company, independent investment counselor, or investment adviser as defined by the Registered Investment Advisers Act of 1940.
- 2. Clearly articulate the investment strategy that will be followed, provide historical performance associated with the strategy, and document that the strategy is consistent with the IPS guidelines.
- 3. Provide historical quarterly performance numbers calculated on a timeweighted basis, based on a composite of all fully discretionary accounts of similar investment style, and reported net and gross of fees.
- 4. Provide detailed information on the history of the firm, key personnel, key clients, fee schedule, and support personnel.
- 5. Selected firms shall have no outstanding legal judgments or past judgments which may reflect negatively upon the firm's ability to perform.
- 6. Demonstrate the absence of conflict of interest.
- 7. Offer a competitive fee structure.

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Duties and Responsibilities of the Money Managers

The duties and responsibilities of each money manager retained for the Treasury Pool include the following:

- 1. Manage the assets under its care, custody and/or control in accordance with the IPS objectives and guidelines set forth herein, and also expressed in separate written agreements when deviation is deemed prudent and desirable by the Treasurer and the Investment Advisory Committee.
- 2. Exercise investment discretion within the IPS objectives and guidelines set forth herein.
- Provide timely monthly reports of the holdings and transactions, and the total 3. return achieved. Provide timely quarterly reports that provide additional detail on the investment strategy and outlook, and performance attribution for the prior quarter. Quarterly reports from separate-account managers must state whether the portfolio is in compliance with the guidelines, and note the steps being taken to correct any failures to comply. Compliance requirements of particular interest include duration, quality ratings, and the use of derivatives.
- 4. Promptly inform the Treasurer in writing regarding all significant and/or material matters and changes within the investment management firm pertaining to the investment of Pool assets, including, but not limited to:
 - Investment strategy a.
 - Portfolio structure
 - Tactical approaches
 - d. Ownership
 - Organizational structure
 - Financial condition f.
 - Professional staff g.
 - Recommendations for guideline changes h.
 - All material, legal, SEC, and other regulatory agency proceedings i. affecting the firm.
- 5. Promptly vote all proxies and related actions in a manner consistent with the long-term interests and objectives of the Pool set forth herein. Each manager shall keep detailed records of said voting of proxies and related actions and will comply with all regulatory obligations related thereto.

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- 6. Utilize the same care, skill, prudence and due diligence under the circumstances then prevailing that experienced, investment professionals acting in a like capacity and fully familiar with such matters would use in like activities for like investment programs with like aims in accordance and compliance with the Prudent Investor Rule and all other applicable laws, rules and regulations from local, state, federal and international political entities as it pertains to fiduciary duties and responsibilities.
- 7. Adopt a brokerage policy that ensures that all transactions for the Treasury Pool are "subject to the best price and execution".

Monitoring of Money Managers

Quarterly performance will be evaluated to test progress toward the attainment of longer-term targets. It is understood that there are likely to be short-term periods during which performance deviates from market indices. During such times, greater emphasis shall be placed on *peer* performance comparisons with managers employing similar styles.

On a quarterly basis, the Treasurer will review:

- Manager's adherence to the security and portfolio guidelines and the duties and responsibilities of money managers, as prescribed above;
- Material changes in the manager's organization, investment philosophy and/or personnel; and,
- Comparisons of the manager's results to appropriate indices and peer groups, specifically:

Asset Category	Index	Peer Group Universe
Domestic Large Capitalization Equity	S & P 500 Index	Large Cap Style Group
Alternative Investments	LTIP Custom Benchmark	Endowment/Foundation: Mid-Sized Database
Domestic Small Capitalization Equities	S&P 600 Small and 400 Mid Cap Index	Mid and Small Cap Equity Style Group
International Equity	MSCI-ACWI ex-US Index	International Equity Style Group
Global Equity	MSCI ACWI	Global Equity Style Group
Domestic Fixed Income		
Segment 1	30 Day T-Bills	Active Cash Style Group
Segment 1.5	ICE Bank of America Merrill Lynch U.S. 3 Month Treasury Bill Index (G0O1) and the Callan Curated Prime Institutional Money Market Peer Group	Active Cash
Segment 2	Bloomberg Barclay's 1-3 Year Govt./Credit Index,	Defensive F/I Style Group
Segment 3	Bloomberg Barclay's Aggregate Index	Core Fixed Income Style Group

The risk associated with each manager's portfolio, as measured by the variability of quarterly returns (standard deviation), must not exceed that of the benchmark index and the peer group without a corresponding increase in performance above the benchmark and peer group.

The Treasurer and the Investment Advisory Committee are aware that the ongoing review and analysis of money managers is just as important as the due diligence implemented during the manager selection process. Accordingly, a thorough Review and Analysis of a Money Manager will be conducted, should:

- A manager perform in the bottom quartile (75th percentile) of their peer group over an annual period;
- A manager fall in the southeast quadrant of the risk/return scatterplot for 4-

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and/or 5-year time periods;

• A manager have a 5-year risk-adjusted return fall below that of the median manager within the appropriate peer group.

Furthermore, performance which may require the replacement of a manager includes:

- Managers that consistently perform below the median (50th percentile) of their peer group over rolling three-year periods.
- Managers that perform below the median (50th percentile) of their peer group over a five-year period.
- Managers with negative alphas for 3- and/or 5-year time periods.

Major organizational changes also warrant immediate review of the manager, including:

- Change in professionals
- Significant account losses
- Significant growth of new business
- Change in ownership

The performance of the investment managers will be monitored on an ongoing basis. The Treasurer retains the discretion to terminate external money managers at any time based upon concerns shared with members of the Investment Advisory Committee.

The proxy voting policies of external managers will be reviewed annually by the Treasury staff to ensure that these policies support the University's investment objectives.

Review of Investment Objectives

The investment program will be reviewed at least annually to determine the continued feasibility of achieving the investment objectives and the appropriateness of the IPS for achieving those objectives. It is not expected that the IPS will change frequently. In particular, short-term changes in the financial markets should not require adjustments to the IPS. Changes in the financial condition of the University and the Treasury Pool may lead to significant changes in the Operating Procedures for the Investment Policy Statement for Treasury Pool. To that end, an analysis of the time horizon and liquidity needs of each Segment will be undertaken annually to determine the relative portion of the Treasury Pool to be allocated to each Segment.

Active Cash Managers whose objective is to achieve a maximum return on short-term financial instruments through active management. The average portfolio duration is typically less than one year.

Active Management A form of investment management which involves buying and selling financial assets with the objective of earning positive risk-adjusted returns.

Alpha This statistic measures a portfolio's return in excess of the market return adjusted for risk. It is a measure of the manager's contribution to performance with reference to security selection. A positive alpha indicates that a portfolio was positively rewarded for the residual risk which was taken for that level of market exposure.

Alpha = Mean of excess return of portfolio $-\beta$ (Mean of excess returns of the index).

Alternative Investments are investment products other than traditional investments such as equities, fixed-income, or cash. The term is used to describe investments strategies and investments in financial assets such as commodities, private equity, and hedge funds.

Asset Allocation The process of determining the optimal allocation of a fund's portfolio among broad asset classes.

Bloomberg Barclays US Aggregate Bond Index- The Aggregate Index is a composite of all dollar-denominated, fixed-rate, non-convertible, securities. The issues must be rated investment-grade. Each issue must have a minimum outstanding principal of \$250 million. Asset-backed securities must have at least \$500 million deal size and \$25 million tranche size. Commercial mortgage-backed securities must have similar deal and tranche size and current outstanding transaction size of at least \$300 million. All securities must have a maturity of at least one year. The index is capitalization weighted. This index is the most commonly used index for the domestic bond market.

Barclays Capital Intermediate Aggregate Index The Intermediate Aggregate Index is the portion of the Aggregate Index that has a maturity of less than 10 years. Thus the index is composed of all dollar-denominated, investment grade, fixed rate securities with a maturity of at least one year and less than 10 years.

Barclays Capital Gov/Credit Index Barclays Capital Gov/Credit Index is a composite of all publicly issued, fixed rate, non-convertible, domestic bonds. The issues included are rated no lower than BBB- and Baa3, have a minimum outstanding principal of \$250 million, and have a maturity of at least one year. The index is capitalization-weighted.

- Barclays Capital Gov/Credit 1-3 Year Index is one of the components of the Gov/Credit Index, which includes only bonds with maturities of one to three years.
- Barclays Capital Gov/Credit 1-5 Year Index is one of the components of the Gov/Credit Index, which includes only bonds with maturities of one to five years.

Book Value The value at which an asset is carried on the balance sheet. In portfolio management, book value is the net worth per share of a company's stock. Book value is calculated by subtracting from total assets the following items: intangible assets, liabilities and the par value of preferred stock. The sum is divided by the number of common shares of stock the company has outstanding. The deficiency of book value is that it is normally based on historical cost of assets (after depreciation). The fair market value of these assets may be far in excess of their historical cost but it is used as an estimate of the company's break up value.

Cash Flow/Sales Cash flow divided by sales. Cash flow is the cash generated by a company after all cash expenses, including income taxes and minority interest, but before provision for dividends. Expenses do not include non-cash expenses such as depreciation. Sales represent gross sales reduced by cash discounts, return sales, etc.

Commingled Fund An investment fund which is similar to a mutual fund in that investors purchase and redeem units that represent ownership in a pool of securities. Commingled funds are usually offered through a bank-administered plan allowing for broader and more efficient investing.

Defensive A fixed income investment strategy where objective is to minimize interest rate risk by investing only in short to intermediate term securities. The average portfolio maturity is typically two to five years.

Disbursement Any net decrease in the level of funding for a portfolio, asset class, or security. At the total fund level, a disbursement would be a cash or asset withdrawal from the portfolio. At the asset class level, a disbursement would be any sales of assets that would bring about a net decrease in the amount of asset in the asset class. For a security, a disbursement would be a sale of that asset. Since a principal payment reduces the amount of assets in a portfolio, it is also considered a sale and thus a disbursement.

Duration A measure of the average maturity of the stream of interest payments of a bond. The value of a given bond is more sensitive to interest rate changes as duration increases (i.e., longer duration bonds have greater interest rate volatility than shorter duration bonds). Duration is always shorter than maturity except for zero coupon bonds.

Europe Managers who invest predominantly in the well-developed stock markets of Europe. These products will exhibit risk/return profiles similar to the MSCI Europe Index.

Emerging Market Equities Managers who invest in Emerging Market companies seek shares of stock located in countries with small markets or brief histories of offering securities. Examples are Latin America and Eastern Europe as well as some South and East Asian countries.

Fiduciary Indicates the relationship of trust and confidence where one person (the fiduciary) holds or controls property for the benefit of another person. For example, the relationship between a trustee and the beneficiaries of the trust.

• Under ERISA, any person who: (1) exercised any discretionary authority or control over the management of a plan or the management or disposition of its asset, (2) render investment advice for a fee or other compensation with respect to the funds or property of a plan, or has the authority

to do so, or (3) has any discretionary authority or responsibility in the administration of a plan.

• One who acts in a capacity of a trust and who is therefore accountable for whatever actions may be construed by the courts as breaching that trust. Under ERISA, fiduciaries must discharge their duties solely in the interest of the participants and beneficiaries of an employee benefit plan. In addition, a fiduciary must act exclusively for the purpose of providing benefits to participants and beneficiaries in defraying reasonable expenses of the plan.

Guaranteed Investment Contracts (GICs) Contract between an insurance company and a corporate profit-sharing or pension plan that guarantees a specific rate of return on the invested capital over the life of the contract. Although the insurance company takes all market, credit and interest rate risks on the investment portfolio, it can profit if its returns exceed the guaranteed amount. For pension and profit-sharing plans, guaranteed income contracts are a conservative way of assuring beneficiaries that their money will achieve a certain rate of return.

Liquidity In general, liquidity refers to the ease by which a financial asset can be converted into cash. Liquidity is often more narrowly defined as the ability to sell an asset quickly without having to make a substantial price concession.

Maturity The date on which a bond's par value becomes due and payable.

MSCI ACWI (All Country World Index) Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. As of May 2, 2010, the **MSCI ACWI** consisted of 45 country indices comprising 24 developed and 21 emerging market country indices.

MSCI ACWI (All Country World Index) ex USA is a market capitalization weighted index that is designed to measure the investable equity market performance for global investors of developed and emerging markets, excluding the United States.

MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. As of May 27, 2010, the **MSCI World Index** consisted of 24 developed market countries.

Small Capitalization Managers who invest in companies with relatively small Market Capitalization. The cut-off point for small capitalization varies from manager to manager, but on average, targets firms with capitalization of \$100 million to \$2 billion.

- **International Small Capitalization** Managers who invest in international companies with relatively small capitalization. The companies typically have zero dividends or dividend yields below the broader market. The securities exhibit greater volatility than the broader market as measured by the risk statistics Beta and Standard Deviation.
- Small Capitalization (Growth) Managers who invest mainly in small companies that are
 expected to have above average prospects for long-term growth in earnings and profitability.
 Future growth prospects take precedence over valuation levels in the stock selection process.

Managers who invest in companies with P/E ratios, Price-to-Book values, and Growth-in-Earnings values above the broader market, in addition to the small capitalization market segment. The companies typically have zero dividends or dividend yields below the broader market. The securities exhibit greater volatility than the broader market as well as the small capitalization market segment as measured by the risk statistics values Beta and Standard Deviation.

• Small Capitalization (Value) Manager who invests in small capitalization companies that are believed to be currently undervalued in the general market. Valuation issues take precedence over near-term earnings prospects in the stock selection process. The companies are expected to have a near-term earnings rebound and eventual realization of expected value. Invests in companies with P/E ratios, return-on-equity values, and price-to-book values below the broader marked in addition to the small capitalization market segment. Invests in securities with risk/reward profiles in the lower risk range of the small capitalization market.

Standard & Poor's 500 Composite Stock Index An index of stocks composed of 400 industrial, 40 utilities, 40 financial firms, and 25 transportation issues. The index is market weighted. The Index is widely used as a benchmark for account performance measurement. Mutual funds and common trust funds have been organized to duplicate this index.

Strategic Asset Allocation Rebalancing back to the normal mix at specific time intervals or when established tolerance bands are violated ($\pm 10\%$).

Style The description of the type of approach and strategy utilized by an investment manager to manage funds. The style is determined by, as an example for equities, portfolio characteristics such as: market capitalization of issues, price-to-earnings ratio and dividend yield. Some equity styles include Growth, Value, Yield, Core and Small Cap.

Quantitative Closeness of Fit Cluster Analysis Manager's Description Philosophy, Strategy Rolling Performance Manager Interviews

Building the Style Groups

Total Return A standard measure of performance that includes both capital appreciation or depreciation as well as realized gains and losses and income. The term is widely misunderstood and

sometimes bitterly debated. Total return is often a published investment objective, usually a compromise between those trustees that advocate "growth" and those that advocate "income". It is a standard for performance comparison between funds because it includes both income and growth as the manager's entire contribution to the portfolio.

Total Risk Total risk is a measure of the total volatility of the returns of an asset or portfolio. The total risk is comprised of two measures of risk: market (non-diversifiable or systematic risk) and residual risk (diversifiable or firm specific) risk.

90-Day U.S. Treasury Bill The 90-Day T-Bill provides a measure of riskless return. The rate of return is the average interest rate available in the beginning of each month for a T-Bill maturing in 90 days.

Variance The Variance is a statistical measure that indicates the spread of values within a set of values. For example, the range of daily prices for a stock will have a variance over time period that reflects the amount that the stock price varies from the average, or mean, price of the stock. Variance is useful as a risk statistic because it gives an indication of how much the value of a portfolio might fluctuate up or down from the average value over a given time period.