REAL ESTATE INVESTMENT PROGRAM STRATEGIC PLAN

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Executive Summary

The Arizona State Retirement System (ASRS) has determined that, over the long term, inclusion of Real Estate (RE) investments in the total portfolio will provide benefits to the ASRS. In 2003, the ASRS approved a six percent (6%) funding target to institutional RE investments as a part of the ASRS' asset allocation policy. Through subsequent modifications, this target allocation has been increased to 10%. The target allows for a range of plus/minus two percent (+/- 2%). To reach and maintain the ten percent (10%) funded target, the ASRS will make allocations in accordance with amounts determined by a pacing study and implementation plan updated annually.

This document establishes the specific objectives and policies involved in the implementation and oversight of the RE program. The objectives define the specific role and return expectations of the RE program. The policies provide specifications for acceptable investment styles and management of the various risks associated with the asset class.

Objectives

The purpose of the ASRS' RE program is to provide the following benefits:

- Achieve attractive risk-adjusted returns.
- Enhance the overall diversification of the ASRS' investment program.
- Generate regular cash flow from stabilized properties.

RE is expected to positively contribute to the ASRS' investment objective to meet or exceed the actuarial assumed investment rate of return of the ASRS. In addition to achieving attractive risk-adjusted returns relative to other asset classes, another objective for RE is to enhance the overall diversification of the ASRS' investment program.

For purposes of total fund performance, the ASRS real estate program will be benchmarked on a net of fees basis against the net return of the NCREIF Fund Index - Open End Diversified Core Equity (NFI- ODCE). However, by selecting the NFI-ODCE as benchmark, the ASRS considers this benchmark as an opportunity cost, not a model portfolio. The ASRS expects that its portfolio will vary significantly from the ODCE index. The ASRS will manage its investments actively and dynamically in the real estate asset class in order to target a net return expectation of 8%. The 8% net objective represents a significant premium over the 6.5% net long term expectation for passive, stable, equity real estate positions. Incremental returns are expected to result from any one or more of the following active management strategies.

1. Actively managing those assets providing stabilized returns from cash flow in order to maintain and grow cash flow levels over the duration of the hold period.
2. Assume life cycle or market risk to actively create/restore value for realization or stabilized hold.
3. Tactically allocate to strategies favored by market dynamics during isolated periods of time.

The Private Markets Committee (PrivMC) may take a course of action at any time to reduce ASRS' exposure to the real estate asset class or terminate any future funding to the asset class when appropriate risk adjusted returns appear unachievable.

Policies

A. Portfolio Composition

All portfolio investments will be classified by their general risk/return profile. There are two major categories:

1. Stable Investments

Stable investments include existing, substantially leased income-producing properties located principally in metropolitan areas that exhibit reasonable economic diversification. Stable properties typically exhibit the following characteristics:

- Predictable income flows with a high proportion of anticipated total return arising from current income and cash flow;
- Located in a metropolitan area with adequate demand generators or location features relevant to the property;
- Credit quality tenants or multi-tenant with a staggered lease maturity schedule ;
- Quality construction and design features;
- Reasonable expectation of a broad pool of potential purchasers upon disposition;
- Investments deemed by the PrivMC to be consistent with the goals of the Stable portfolio.

These investments may come in the form of a separately managed account, commingled fund, joint venture, direct investment, co- investment or secondary structure as determined to be the most appropriate vehicle for the specific investment.

Stable investments may include any property type which generates income from rent or similar charges for the right to occupy the property. This includes without limitation apartments, student housing, senior housing, office, medical office, industrial, self-storage and hotels. Stable properties will not include any "for sale" properties such as condominiums or single family residential which reflect a strategy of subdivision of a property in smaller units for sale whether by plat, condominium regime or other similar method. Agricultural and infrastructure assets (except parking as an interim or complementary use) will not be considered part of the real estate portfolio. The PrivMC will decide whether property types or strategies or appropriate for inclusion in the Real Estate portfolio.

Public RE securities (e.g. Real Estate Investment Trusts or REITs) will also be considered part of the Stable component of the ASRS' portfolio. Public RE securities are publicly traded companies that manage a portfolio of real estate based investments in order to produce income and capital appreciation for investors.

2. Value Creation Investments

Value Creation investments represent those properties and/or investment strategies that require specialized acquisition and management expertise or skill to mitigate the business and leasing risk that may be associated with individual investments. Value Creation investments have greater associated volatility compared to Stable investments. Value Creation investments may exhibit one or more of the following characteristics:

- Properties involving significant appreciation, lease-up, construction, development and/or redevelopment risks;
- For Sale property types including (but not limited to) condominiums and single family residential housing;
- Debt Securities and/or Properties which are considered to be in "work out" mode;
- Distressed for control and restructuring situations;
- Mezzanine or preferred equity with significant equity features; and,
- Investments deemed by the PrivMC to be consistent with the goals of the Value Creation portfolio.

Value Creation investments may come in the form of a commingled fund, joint venture, direct investment, co- investment or secondary structure as determined by the most appropriate vehicle for the specific investment.

While the characteristics of risk/return can be grouped and broadly defined, the return expectations from each group will vary from market cycle to market cycle.

Near term, five to seven (5-7) years, return expectations for each group are as follows:

Component	Expected Net Returns
Stable - Private	Net NFI-ODCE
Public Securities	FTSE EPRA/NAREIT
Global Index Value Creation - Private	Greater than net NFI-ODCE

The aggregate benchmark for the RE portfolio will be Net NFI-ODCE. The selection of a benchmark is not intended to establish a portfolio structure.

The risk constraints by category are as follows:

Component	Minimum/Maximum
Stable	Minimum 40%
Public Securities	Maximum 30%
Value Creation	Maximum 60%

Construction and development risk (excluding fully preleased build to suits) Maximum 30%.

B. Portfolio Structure

The ASRS will implement its total RE allocation through two distinct programs.

1. Separate Account Allocations

75% (+/- 10%) of the portfolio allocations will be directed to Separate Account Manager (SMA) relationships wherein the selected managers will manage across Stable, and Value Creation investments to achieve the 8% net return objective on an inception IRR basis. The ASRS will be the majority owner and will have significant control rights in any Separate Account, including the right to terminate the investment period preventing new investments being made in the account. Separate Account Relationships are intended to be limited in number (estimated at 10 to 15). Firms are expected to be vertically integrated with full service capabilities (property construction, leasing, management etc.) in their targeted investment class(es).

2. Commingled Allocations

25% (+/- 10%) of the portfolio allocations will be directed toward Commingled investment strategies based on market opportunities and expected returns. Investments may include, but not be limited to, Public Securities, Open-ended Commingled Funds, Closed-end Commingled Funds and other permissible vehicles discussed herein. In Commingled Investments, ASRS will be a non-control minority owner, generally less than 20% although it may elect to own a larger non-control position in "club" type structures.

C. Risk Management

The primary risks associated with equity RE investments include implementation risk, investment manager risk, property market risk, asset and portfolio risk, and liquidity risks. The ASRS will mitigate risk in a prudent manner. Key to the management of risks is clearly established roles and responsibilities of all participants. The ASRS decision-making process is set forth in the governance document known as SIP006, attached hereto as "Exhibit A." Risks will be mitigated through appropriate selection and use of Investment Structures, prudent Diversification and use of Leverage and appropriate Valuation policies as discussed below.

1. Investment Structures

The ASRS recognizes that RE is a relatively illiquid asset class. The degree of illiquidity is impacted by the investment structure with closed end structures being highly illiquid and open end funds being moderately illiquid. Separate accounts that maximize investor control of the assets are preferred because of the ability to negotiate terms to enhance alignment of interest with custom fee structures, negotiate terms permitting the termination of the investment period preventing new investments from being added to the account, create tailored investment criteria, enhance control through a certification process to ensure individual assets meet investment criteria and enhance liquidity through the ability to control exits.

The ASRS may invest through the following vehicle options:

a. Separately Managed Accounts

The ASRS may purchase assets on a majority (50% or greater) owned basis through Separately Managed Account (SMA) structures, or through direct ownership. The ASRS will hold not less than a 50% interest in property in SMA structures and will have control over liquidity after a reasonable period of time for properties to achieve stabilization.

b. Commingled Vehicles

The ASRS may also purchase assets through the ownership of units or shares of commingled vehicles. Any legally permissible vehicle will be allowed including, but not limited to, joint ventures, limited partnerships, real estate investment trusts and limited liability corporations.

2. Diversification

The ASRS will seek to diversify its RE program by manager, property type, property location, and investment style. However, initial allocations, i.e. implementation of the RE program may result in temporary variances to the policies stated below. Variances to the Manager, Vehicle and Property type/location policies will be reviewed and approved by the PrivMC.

a. Manager

The ASRS will implement a multi-manager program. At the time of investment, no manager will be more than thirty percent (30%) of the target RE portfolio to ensure that any possible underperformance of one manager will not unduly impact the total portfolio.

b. Vehicle

The ASRS will diversify the risk associated with a single manager and the implemented strategy through the diversification of selected investments. At the time of investment, no single commingled investment will be more than thirty percent (30%) of the target RE portfolio to ensure that any possible underperformance of one vehicle will not unduly impact the total portfolio. When investing in commingled investments, the ASRS will generally mitigate manager and vehicle risk by limiting its pro rata position within any commingled vehicle to twenty percent (20%) of the total equity capital raised at the final close of the vehicle or at the time of investment for open-ended investments. Exceptions to this 20% limit may be made by the PrivMC when allocating to club and joint venture structures.

c. Property Type and Location

The ASRS will diversify its exposure to property type and location. However, it is expected that at various points in time, the portfolio may be more heavily exposed to a single property type or location by virtue of opportunities available in the market, which are projected to generate the alpha targeted by the ASRS. Exposure to any geographic location (defined as a Metropolitan Statistical Area as determined by the U.S. Office of Management and Budget and/or a single country except the United States) in excess of forty percent (40%) of the total targeted real estate portfolio will be reviewed as an exception by the PrivMC. Portfolio limits by property type are shown in the following table:

Apartments	50%
Retail	30%
Office (including Medical Office)	30%
Industrial	30%
Student Housing	15%
Senior Housing	15%
Hotel	10%
Self-Storage	10%
Other property types authorized by PrivMC	10%

With the maturation of the RE asset class, investments have become global in nature and the ASRS may invest outside the United States. International investments will be limited to no more than thirty percent (30%) of the total targeted RE portfolio and may include Stable private and public investments as well as Value Creation investments.

3. Leverage

Leverage will be targeted to a range of 50% to 60% of the total portfolio, although individual accounts may have different leverage policies. The PrivMC will monitor and evaluate individual leverage policies so that collectively they result in achieving the target leverage. If appraisal changes, market events or other factors cause actual leverage to be outside the target range, the PrivMC will adopt plans that are expected to result in the portfolio to returning to the target leverage range within a reasonable period of time.

Separate Account Managers will have broad discretion in the use of debt within their individual mandates, however each separate account will have a financing policy approved by the PrivMC as part of the account approval and reviewed annually. Such governance documents may allow higher initial loan to cost and allow reasonable time frames to achieve target leverage with stabilization of properties and to remedy excess leverage situations which occur temporarily in program formation or as a result of appraisal changes. Risk classification of assets held in each SMP will be determined solely on the characteristics of the property; property level debt will not be utilized to classify asset risk. Appropriateness of leverage ratios will be established based on property type, the stability of the rental stream and whether the loan is fixed rate or not. The following table illustrates leverage limits for property types and loan types.

	Permitted loan to value for Fixed rate loans or multi-family loans with affordable housing subsidy features with an initial term at least seven (7) years	Loan to cost at acquisition for Variable Rate Loans	Loan to value at stabilization for Variable Rate Loans
Apartments, student housing and senior housing	75% if amortizing 70% if interest only	65%	50%
Single tenant lease with investment grade tenant	75% if amortizing 70% if interest only	65%	50%
Other property types	65% if amortizing 60% if interest only	65%	50%

Separate Account Managers will be evaluated on the prudent use of leverage to consistently meet/exceed the net 8% return target on an inception IRR basis.

Commingled Allocations may include the use of leverage within specific strategies. Leverage in Commingled Portfolio investments will be reviewed and approved in conjunction with PrivMC approval of each allocation. It is expected that the loan to value ratio for the Commingled Portfolio will not exceed 60% in the aggregate across all investments however, the PrivMC will determine acceptable leverage for each investment during the approval process. Tactical allocations will be evaluated relative to targeted returns, equity multiples and vintage year performance.

Variances to the leverage policies will be reviewed and approved by the PrivMC.

4. Valuations

All investments in a SMA and directly owned investments will be independently valued on an annual basis in accounts established or amended after 2012. For accounts established in 2012 or earlier, assets will be appraised not less than once every three years by a qualified expert (certified Member of the Appraisal Institute-MAI). During interim years, if applicable, valuations will be performed by the Manager in accordance with industry standards. Investments held in commingled funds will be subject to the agreed upon valuation policy approved with the selection of the investment.

Exhibit A

Arizona State Retirement System (SIP006)

Investment Manager, Partner, and Co-investment Selection Oversight

Investment Manager, Partner, and Co-Investment Selection and Oversight

Purpose:
To codify the policy to be utilized for the selection of public market and private market investment managers and partners. Throughout the remainder of this policy the term *investment manager* will refer to both public and private market investment managers and partners.

Policy:
The ASRS will establish and follow an Investment Manager, Partner, and Co-investment Selection Policy that will govern the process and activities regarding the selection of ASRS investment managers.

The process is outlined as follows:

1. **Opportunity Set - Sourcing**

   The primary responsibility for sourcing investment managers and co-investments resides with the Investment Management Division (IMD). In addition, any other party, specifically including Director, ASRS investment consultants (both staff extension consultants as well as the general consultant), and ASRS trustees may communicate investment manager recommendations or opportunities to either the Director or Chief Investment Officer (CIO).

2. **Opportunity Set - Screening**

   The CIO or designee will determine if the investment manager recommendations or co-investment opportunities deserve further internal or external due diligence resource allocation. This determination will be based upon the merits of the opportunity under consideration, within the context of:

   - ASRS strategic asset allocation;
   - IMD Investment House Views;
   - Investment manager organization structure;
   - Investment manager investment strategy, terms and structure; and
   - ASRS investment priorities.

3. **Analysis and Due Diligence**

   IMD staff will provide expertise in, and project-manage, the investment manager analysis and due diligence process. This process will include the development of a comprehensive due diligence packet which will be developed by staff extension consultants, IMD staff, or a combination of both. The CIO will determine which staff-extension consultants will be utilized and the related scope-of-work and product deliverables.

   The due diligence packet will include sufficient information to ensure the manager has been properly vetted and enable the asset class committee to make an informed decision, and will include but not be limited to the following information, when relevant to the manager:

1. Organization
2. Staff
3. Strategy
4. Terms
5. Performance
6. Risk
    a. Investment Risk Management
    b. Operational Risk Management
7. Disclosures
8. Miscellaneous

As applicable, public markets managers and private markets managers may have additional factors included.

The full list of due diligence packet contents can be found in Appendix I.

Decision to hire an investment manager should primarily be evidence-based and based on a reasonable expectation of their ability to add value to ASRS investment goals and objectives. Evidence typically includes empirical data, historical statistical analysis, risk-adjusted return metrics, and risk measures (ex., alpha, beta, r-squared, standard deviation, and Sharpe ratio) in combination with a forward-looking confidence in the strategy and its theoretical logic.

The analysis and due diligence of co-investments, whereby ASRS has the opportunity to participate in a pending investment to be made by a manager of a fund or account, will be evaluated through a process as described in Appendix II.

4. Asset Class Committee Meetings – Decision Making

The CIO will determine which Asset Class Committee (Public Markets or Private Markets) is the appropriate forum to discuss the investment manager under consideration and work with IMD staff regarding the meeting dates for respective Committees.

The due diligence packet will be disseminated to the relevant Committee membership prior to the meeting in order to allow members sufficient time to review and prepare for the meeting.

The ASRS general investment consultant and Internal Audit (IA) will be notified of each Public Market Committee and Private Market Committee meeting and will be provided an agenda and due diligence packet in advance for each meeting in order to allow them sufficient time should they wish to attend or ask questions. The ASRS general investment consultant and IA may attend any Public Market Committee or Private Market Committee meeting.

Asset Class Committees will be comprised of the Director, CIO and one or more IMD portfolio managers as determined by the CIO based upon related skills and knowledge and, as applicable, staff-extension consultants.

Voting members of the Committee include the Director, CIO and one or more IMD portfolio managers. Investment manager selection decisions require the consensus of both the Director and CIO.

As applicable, the ASRS Procurement Officer will distribute Confidentiality and Disclosure forms to IMD staff, which will be completed and returned prior to commencing the meeting.

5. Post-Committee Meeting Documentation and Dissemination

Asset Class Committee meeting minutes will be prepared by IMD staff, which will include the agenda and motions or directives and decisions made by the Committee. The meeting minutes will be disseminated to voting Committee members for review and approval. Once approved, the minutes (which may be marked as confidential and non-public) will be disseminated to the Investment Committee (IC) Trustees, ASRS general investment consultant, and IA.

6. Governance Oversight

The ASRS general consultant will conduct an independent review, at least annually, of the process to determine compliance with the Policy and Appendix A, and that the investment recommendation is consistent with ASRS Strategic Asset Allocation Policy targets/ranges, House Views and, as applicable, investment programs' pacing and implementation plans. The general consultant will use the following information and resources to help make their determination: investment due diligence packet; Committee meeting minutes and motions and other presentation materials; general and specific market knowledge of the investment, and discussions with the Director, CIO, or Portfolio Managers.

If the general consultant does not believe that the Policy and Appendix are being followed, or that a prudent decision is being made, they shall contact any or all of the following parties: Board Chair; Investment Committee Chair; Chief Internal Auditor; Director.

As standard operating procedure, the CIO will keep the IC informed of the selection and termination decisions made regarding investment managers.

During each external audit, the external financial auditor will review this policy and conduct a sample process review or audit to determine possible omissions or violations, and report such omissions or violations to any or all of the following parties: Board Chair; Investment Committee Chair; Chief Internal Auditor; Director, and may include such findings in their monthly investment compliance report which resides in the Director's section of the Board packet.

7. Post-Investment Manager and Co-Investment Selection Monitoring

Public and private investment managers and co-investments are monitored by various functions performed by the CIO, IMD staff, ASRS custody bank, general consultant, staff extension consultants and other service providers and reported to the Asset Class Committees, IC and Board.

ASRS custody bank provides look-through Committee on Uniform Security Identification Procedures (CUSIP)-level capabilities for separate account public manager portfolios and generates various customizable reports on holdings, risk, and returns. IMD staff uses this and other information from a third-party research providers as the basis for staff's quarterly conference calls with the managers to review performance, attribution, and consistency of process and decision-making, and other matters related to firm personnel, Assets Under Management (AUM), and operations.

For private investments, ASRS external back-office provider calculates performance measurements as well as other services such as: document warehousing, administers ASRS approval capital calls and distributions, and various aggregate program and individual fund level reports. IMD staff may use this information in their calls, meetings, and correspondence with managers and their participation at limited partner advisory committees of which we are members. IMD staff also provides timely private market program information such as portfolio performance, portfolio news, detail fund activity and pacing activity to the Private Markets

Committee

With respect to ASRS Real Estate Strategic Manager program, staff extension consultants provide operational and an investment oversight functions that ensures that each proposed investment is in compliance with contracted investment criteria, i.e., investment type, underwriting, leverage, etc. and that, subsequent to purchase, investments are monitored on an ongoing basis.

On a quarterly basis, ASRS general consultant generates an investment performance reports containing information about both public and private managers. IMD staff and the general consultant provides asset class presentations to the Investment Committee which includes performance measurement relative to the mandate's benchmarks as well as select risk and return metrics relative to peers, and a qualitative review of the manager.

Appendix I

The due diligence packet will include sufficient information to ensure the manager has been properly vetted and enable the asset class committee to make an informed decision and include, but not be limited to the following information when relevant to the manager:

1. **Organization**
   a. History of the firm
   b. Firm ownership
   c. Office location(s)
   d. Strategy offerings and capabilities
   e. Staff allocated across and/or between strategies
   f. Assets Under Management for the firm
2. **Staff**
   a. Team background/biographies
   b. Organizational responsibilities
   c. Operational capabilities
   d. Technical resources
   e. Key additions/subtractions to team
3. **Strategy**
   a. Description of investment strategy and/or philosophy
   b. Idea sourcing resources
   c. Research sources: in-house and external
   d. Decision-making process
   e. Staff allocated to the strategy
   f. Asset under Management (AUM) for the strategy
   g. Comparison with other strategies
4. **Terms**
   a. Fees
   b. Fee structure
   c. Vehicle structure
   d. Benchmark definition
5. **Performance**
   a. Historical rates of return (public markets)
   b. Multiples of invested capital return (private markets)
   c. Internal rates of return (private markets)
   d. Peer manager universe criteria
   e. Comparative returns versus peers and/or prior funds
   f. Historical quartile ranking analysis
6. **Risk**
   a. Investment Risk Management
      i. Risk metrics

    ii. Portfolio limitations
    iii. Portfolio characteristics
    iv. Portfolio diversification
  b. Operational Risk Management
    i. Personnel turnover
    ii. Information security
    iii. Internal controls
    iv. Regulatory oversight
    v. Legal inquiries/investigations

7. **Disclosures**
   a. Placement agents
   b. Conflict of interest
8. **Miscellaneous**
   a. Integration of strategy with other ASRS mandates
   b. Strategic relationship role of manager with ASRS
   c. Composition of current investors in the strategy
   d. Analysis of competing managers and firms

As applicable, also assess public markets managers and public markets managers for:

Public Markets

1. **Terms**
   e. alpha and tracking error targets
   b. Most-favored nations clauses
2. **Investment Risk**
   a. Portfolio turnover
   b. Correlation to benchmark
   c. Correlation to peers
   d. Volatility of returns
   e. Risk adjusted return metrics

Private Markets

1. **Terms:**
   a. Investment time horizon and total fund term
   b. GP commitment
   c. Co-investment policy
   d. Key man provision
   e. No-fault termination
   f. Recall/recycle provisions
2. **Operational risk:**
   a. Legal structure
   b. Placement agent disclosures

c. GP reference checks

3. **Investment risk:**
   a. Fund leverage
   b. Portfolio company references
   c. Fund Opportunity SWOT Analysis

Appendix II

For co-investments, whereby ASRS has the opportunity to participate in a pending investment to be made by the manager of a fund or account, the analysis and due diligence process will be as follows:

Debt Co-Investment Opportunities:

When evaluating debt co-investment opportunities, IMD staff and the Asset Class Committee will focus on portfolio and ASRS Total Fund construction considerations, while the merits of a particular investment will be determined by the investment manager of the fund. IMD staff will review a due diligence packet for the co-investment opportunity provided by the investment manager to determine its suitability with respect to portfolio and Total Fund considerations including but not limited to the following:

- The size of ASRS' commitment to the fund,
- The overall portfolio concentration (ex. industry, geographic etc.) of the fund,
- The fund's investment guidelines, and
- ASRS Total Fund considerations.

For suitable co-investment opportunities, IMD staff will prepare a memo summarizing its conclusions and submit it to the appropriate Asset Class Committee, along with the due diligence packet provided by the manager, to obtain approval.

Equity Co-Investment Opportunities:

Due to the higher risk associated with equity investments, equity co-investment opportunities require confirmatory due diligence by IMD staff and/or staff extension consultants. The primary due diligence will be performed by the financial sponsor. Staff or the extension consultant will perform additional diligence to confirm that appropriate diligence has been done by the sponsor and to confirm that the major results of the diligence reasonably support the investment thesis and metrics. The scope of such confirmatory diligence will be determined on a case by case basis by the CIO in consultation with the portfolio manager for the project.