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MEMORANDUM

Date: August 14, 2017

To: Members of the Investment Committee
California Public Employees' Retirement System (CalPERS)

From: Pension Consulting Alliance, LLC (PCA)

RE: Real Estate Performance as of June 30, 2017

PCA received and reviewed Wilshire's Executive Summary of CalPERS' Investment Performance for the period ending June 30, 2017 as it relates to the Real Estate Portfolio. The following items should be considered in your assessment of Real Estate's performance:

Real Estate Markets:

1. The real estate **space markets'** cycle continues towards equilibrium. Generally, demand for space increased during January through June 2017 but at a moderated rate compared to the previous twelve months. Whilst new supply was relatively constrained, increased starts in office and warehouse facilities were noted compared to the previous twelve, twenty-four and thirty-six month periods. Net operating incomes, after operating expenses and before debt service, continued to increase at a moderate pace, as asking rents in many major metro areas have risen in-line with increased employment. In general, the North American commercial real estate markets continue to display sound fundamentals insofar as occupancy demand. Occupancy rates are at peak levels and cap rates continue to hover near historic lows, notwithstanding increases in base lending rates.
2. Absent compelling alternatives for current income, the real estate capital markets are flush with record allocations of equity and debt for new investments, seeking relatively better risk adjusted returns. Appreciation will continue, though likely in lower amounts than recorded during the past several years. Prices for completed and leased investment grade property assets, such as the ones which CalPERS' managers seek, continue to rise, with many bidders.
3. There are few to no distressed sellers. Like their cousins in the Private Equity asset class, value added and opportunistic fund General Partners who seek to acquire undermanaged assets to reposition or develop new properties have also seen prices bid up significantly. This has been observed by the lower target yields being offered by follow on funds and co-investments compared to earlier funds. In many cases, these more aggressive strategies, which are not the primary focus of the CalPERS portfolio, may reflect only a marginally acceptable projected level of risk-adjusted net returns.

4. The political landscape is having positive and negative implications for commercial real estate. Changes in regulations concerning mortgage lending are being relaxed. Materially reduced regulatory and enforcement budgets have been proposed. In June, the House passed a bill which effectively rolls back Dodd Frank. Whether the Senate's version includes deleted provisions or not is still unknown; however, it is likely that required risk based capital for regulated lenders will be reduced. Anticipated reductions in corporate tax rates, and the ability to "re-patriate" offshore cash may also increase the amount of capital available to ease credit.

   In the second half of FY 2016-2017, space demand continued to firm on the strength of increased employment and wage gains. However, the prospect of major, inward looking changes in trade policies could impact domestic firms whose growth depends on overseas purchasers of products.

   The capital markets did not experience the increase in rates which was predicted; however, lenders' underwriting standards, which tightened on many proposed loans compared to a year ago, may well loosen again. This low interest environment will likely keep the transaction market buoyant for completed and leased properties. Global political uncertainty will likely continue to make existing completed and leased US property assets attractive for flight capital.

5. Increases in value during the past six months for core risk real estate assets, while less than in the prior six months, continue due to significant pent up demand for property in major, primarily coastal and gateway cities. These types of assets account for a large portion (and increasing percentage) of CalPERS' real estate portfolio.

   Based on unspent commitments in open end funds and separate accounts, this demand should continue to be strong, and core risk real estate assets should provide relatively attractive risk adjusted current returns compared to other available income-oriented investments. As employment levels continue to increase, it is reasonable to expect increases in rent, occupancy, and many individual property valuations to continue during the next twelve months, though at a more moderate pace than that which has been achieved in prior years, and with less reliability.

6. Possibly offsetting the overall rise in values are certain secular changes which are beginning to be observed:
   a) The nature of retail consumption has always evolved and continues to do so; however, at present the rate of change and the attention to the changes are higher than typical. This has resulted in:
      i) an increased amount of on-line purchases;
      ii) new metrics for retail rents;
      iii) increased volatility in fashion based tenants;

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iv) a widening of cap rates between Class A regional malls and Class B-C; and uncertainty insofar as the broader future of grocery and convenience based shopping centers with Amazon and others entering the business.

b) The way in which traditional office tenants organize their space needs is also changing on the margins as companies emulate tech companies in order to provide environments and amenities which allow them to compete for talent. Technology continues to change the calculus for how much physical space is required for each employee, and new business models like WeWork are becoming major tenants.

c) The percentage of home ownership is likely to stay near the lower end of the historic range as Millennials defer purchasing homes, and along with retiring Boomers, elect to be renters in 18 and 24 hour cities in lieu of commuting from suburbs. This has significant ramifications for the design of new multifamily communities (common areas, amenities, parking ratios, etc.).

7. The same level of confidence in the maintenance of valuation levels cannot necessarily be said for international investments. Uncertainty now prevails over Western European markets due to a lack of clarity on Brexit terms and the strength of the EU central banking system will be tested as assets of "bad banks" are rolled up and sold. Many estimates of growth are improving, but there seems to be a high correlation between the estimators and being a General Partner of an opportunistic fund with capital raised or trying to be raised, versus job growth and increasing GDP.

   Much volatility, political, currency, demand and other risks continue to be observed in BRIC countries, where CalPERS has most of its international real estate net asset value. This is unlikely to change materially during the next twelve months, and it is quite possible that US dollar denominated valuations will continue to decline.

CalPERS' Real Estate:

1. During January through June 2017, the Real Estate Portfolio continued its positive transformation towards a diversifying, income oriented portion of the Real Assets Program, which provides positive cash flow to the System and a counterweight to equity risk.
2. Contributing strong positive total return performance to the Total Fund of 7.6%, the 1-year return beat the benchmark by 20 basis points for the year ending 6/30/17.
3. The 3-year return of 9.4% and the 5-year return of 10.8% were -140 and -30 basis points, respectively, compared to the benchmark. The 10-year performance continues to contain a material amount of non-strategic assets and includes the results from the Great Financial Crisis. It shows underperformance of -910 basis points compared to the benchmark.

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Real Estate Performance	Quarter	1 Year	3 Year	5 Year	10 Year
Real Estate Returns	1.8%	7.6%	9.4%	10.8%	-1.3%
Real Estate Policy Benchmark	1.5%	7.4%	10.8%	11.1%	7.8%
Difference	0.3%	0.2%	-1.4%	-0.3%	-9.1%

What Worked in 2H FY 2016-2017 and What Did Not Work:

Beyond the contribution of cash flows to the Total Fund, it is important for the Investment Committee to consider the following points of progress which continued through the second half of the FY:

1. Changes in the composition of a private, illiquid portfolio take significant amounts of time to effect, and Staff has continued to make worthwhile progress in re-positioning Real Estate to be aligned strategically within the Total Fund in the following ways:

    a) reducing expected volatility by eliminating many of the investments which did not contribute to the role of real estate insofar as they were not providing diversification to equity risk nor delivering reliable cash flow;
    b) managing leverage to reduce risk in the portfolio, by controlling absolute amounts as well as structure, term and rate, and by the more active consideration of real estate's and other assets' leverage within the context of the overall plan.
    c) strengthening portfolio management processes and tools which have also made risk management and reporting techniques more similar to best practices in the public market asset classes.
    d) improving governance by removing CalPERS from positions of non-control: most of the interests sold were limited partnership interests which offered little or no ability to influence the underlying assets. Improved governance is also illustrated by the revised Centerpoint organizational structure which saw the implementation of a revised business model including an outside board of directors chosen by CalPERS, and a fiduciary oversight manager who reported to them. As Centerpoint is more of an operating company than a collection of existing assets, this type of structure may have applicability in certain other parts of the investment program in the future.
    e) reducing high fee, high promote compensation structures, driving down the average cost of externally managed accounts, with additional savings in rates expected as key partners' accounts increase in scale.

2. Per Staff's analysis, the 20 basis points of one-year outperformance can be attributed primarily to strong returns from core holdings in the strategic partnerships, which produced a net return of 9.8%, including particularly strong

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returns from the office, industrial, data centers and grocery-anchored retail programs.

Compared to the benchmark performance, it should be noted that CalPERS' portfolio diverges insofar as:

a) higher leverage levels;
b) higher levels of non-stabilized assets; and
c) types of assets (e.g. Housing, Land) and locations of assets (e.g. Brazil, Russia, China) which are not part of the benchmark.

Each of these elements will provide benefits in some market periods and detriments in others. In the last year, Item c) continued to be negative to performance, while Item a) was slightly additive.

3. During FY 2016-17, CalPERS' experience of the past several years continued insofar as less new capital was invested than was approved ($1.6 billion versus $4.6 billion). Demand for the types of assets that CalPERS seeks was high and competition fierce. Managers and Staff demonstrated good discipline in not chasing acquisitions. The decision making processes continued to be improved, which will reduce the potential for future losses. Certain Sovereign Wealth Funds whose capital was pegged to oil prices became less active competitors for trophy assets; however, they were replaced by increased appetite from retirement systems, flight capital and other institutions whose need for current income was unsatisfied by fixed income choices.

PCA is available to take any questions of the Investment Committee.

Respectfully,

David Glickman
Managing Director

Christy Fields
Managing Director

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<u>Supplement for real estate and private equity partnerships:</u>

While PCA has reviewed the terms of the Fund referred to in this document and other accompanying financial information on predecessor partnerships, this document does not constitute a formal legal review of the partnership terms and other legal documents pertaining to the Fund. PCA recommends that its clients retain separate legal and tax counsel to review the legal and tax aspects and risks of investing in the Fund. Information presented in this report was gathered from documents provided by third party sources, including but not limited to, the private placement memorandum and related updates, due diligence responses, marketing presentations, limited partnership agreement and other supplemental materials. Analysis of information was performed by PCA.

An investment in the Fund is speculative and involves a degree of risk and no assurance can be provided that the investment objectives of the Fund will be achieved. Investment in the Fund is suitable only for sophisticated investors who are in a position to tolerate such risk and satisfy themselves that such investment is appropriate for them. The Fund may lack diversification, thereby increasing the risk of loss, and the Fund's performance may be volatile. As a result, an investor could lose all or a substantial amount of its investment. The Fund's governing documents will contain descriptions of certain of the risks associated with an investment in the Fund. In addition, the Fund's fees and expenses may offset its profits. It is unlikely that there will be a secondary market for the shares. There are restrictions on redeeming and transferring shares of the Fund. In making an investment decision, you must rely on your own examination of the Fund and the terms of the offering.