No.	Solicitations	Details	Program	Release	Anticipated Contract Start	Description of Services
1.	Asset Liability Management (ALM) Decision Support Tool and Consulting Services (Solicitation No. TBD) Investment Risk and Performance & Trust Level Portfolio Management	Solicitation; five-year contract term; estimated contract amount to be negotiated.	INVO	Winter 2018	Spring 2019	Software support tool and consulting services to assist CalPERS in the management of the plan's assets in context of its liabilities.
2.	Multi-Asset Trading Platform (Solicitation No. TBD) Investment Servicing Division	Solicitation; five-year contract term; estimated contract amount to be negotiated.	INVO	Winter/Spring 2019	Spring 2019	Increase efficiencies and reduce operational risk through implementation and use of a single, multi-asset trading platform for public securities.
3.	Opportunistic Strategies Manager (Solicitation No. TBD) Opportunistic Strategies	Solicitation; multiple contract awards; five-year contract term; estimated contract amounts to be negotiated.	INVO	Spring 2019	Summer 2019	Investment manager solicitation for broad based opportunistic investment strategies.
4.	Investment Consulting Services (fiduciary) Spring-Fed Pool (Solicitation No. 2018-8399) INVO-Wide	Solicitation; multiple contract awards; estimated pool amount to be negotiated.	INVO	January 2019	July 2020	General Investment, Investment Banking, Financial Advisory Services, Infrastructure, Real Estate for operational needs such as strategy and project management consultants.

No.	Solicitations	Details	Program	Release	Anticipated Contract Start	Description of Services
5.	Investment Consulting Services (non-fiduciary) Spring-Fed Pool (Solicitation No. 2018-8402) INVO-Wide	Solicitation; multiple contract awards; estimated pool amount to be negotiated.	INVO	January 2019	July 2019	General Investment, Investment Banking, Financial Advisory Services, Infrastructure, Real Estate for operational needs such as strategy and project management consultants.
6.	Board of Administration Consultants (Solicitation No. TBD)	Solicitation; four (4) contract awards; contract amounts to be negotiated.	INVO	January 2019	July 2020	Board of Administration Consultant RFP for the General Pension Board Consultant, as well as Private Equity, Infrastructure and Real Estate Board of Administration Consultants.

No.	New Contracts/Amendments	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
1.	KPMG, LLP (Contract No. 2017-8393)	Contract for services reported in April 2018 Prospective Report with an amount to be negotiated. Exemption from competitive bid; one-year contract term; contract amount not to exceed \$4M.	LEGO	June 2018	June 2018	Independent Financial Statement Auditor. Annual external audit services including work on GASB 68 and 75 opinions.

No.	New Contracts/Amendments	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
2.	Milliman, Inc. (Contract No. 2018-8542) Health Data Warehouse, Data Analysis, and Actuarial Services	Solicitation reported in April 2018 Prospective Report with an amount to be negotiated. Five-year contract term; contract amount not to exceed \$13,203,730 over the duration of the contract term.	HPRD	October 2018	October 2018	Health Care Data Warehouse Administrator and Actuarial/Analytical Services Provider.
3.	BlackRock Financial Management (Contract No. TBD) Global Fixed Income & Investment Servicing Division	Exemption from Competitive Bid; five- year contract term; estimated contract amount not to exceed \$50M.	INVO	Spring 2019	Summer 2019	Principal Investment Office/Global Fixed Income trading and management system.
4.	State Street Bank and Trust Company (Contract No. 2018-8344) INVO-Wide	Existing contract; amendment will increase funding in the amount of \$5M; new total contract amount not to exceed \$85M.	INVO	Existing	Winter 2019	Master custody and accounting services.
5.	Contract TBD (Contract No. TBD) Global Equity	Total Fund Transition Manager solicitation reported in December 2016 with one contract award; however, there will now be two contract awards; term is without defined duration; contract value is "undefined"; estimated contract value may exceed \$1M/year.	INVO	Winter 2018/2019	Summer 2019	Investment Manager selected as a result of the Transition Manager Solicitation

No.	New Contracts/Amendments	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
6.	Contract TBD (Contract No. TBD) Global Equity	Total Fund Transition Manager solicitation reported in December 2016 with one contract award; however, there will now be two contract awards; term is without defined duration; contract value is "undefined"; estimated contract value may exceed \$1M/year.	INVO	Winter 2018/2019	Summer 2019	Investment Manager selected as a result of the Transition Manager Solicitation
7.	Contract TBD (Contract No. TBD) Global Equity	Exemption from Competitive Bid; five- year contract term; contract value is "undefined" and based on assets under management; estimated contract value may exceed \$5M for the duration of the contract.	INVO	Summer 2019	Summer 2019	Investment Advisory services for an external model provider delivering solutions that are focused on providing protection from severe drawdowns.
8.	Contract TBD (Contract No. TBD) Global Equity	Exemption from Competitive Bid; five- year contract term; contract value is "undefined" and based on assets under management; estimated contract value may exceed \$5M for the duration of the contract.	INVO	Summer 2019	Summer 2019	Investment Advisory services for an external model provider delivering solutions that are focused on providing protection from severe drawdowns.
9.	Goldman Sachs Asset Management, LP (Contract No. TBD) Global Equity	Exemption from Competitive Bid; five- year contract term; contract value is "undefined" and based on assets under management; estimated contract value may exceed \$5M for the duration of the contract.	INVO	Summer 2019	Summer 2019	Investment advisory services and/or modeling services for the Global Equity portfolio.

N	o. New Contracts/Amendments	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
10	Research Affiliates 0. (Contract No. TBD) Global Equity	Exemption from Competitive Bid; five- year contract term; contract value is "undefined" and based on assets under management; estimated contract value may exceed \$5M for the duration of the contract.	INVO	Summer 2019	Summer 2019	Investment advisory services and/or modeling services for the Global Equity portfolio.

No.	Purchase Orders	Details	Program	Initiate	Change Order Effective	Description of Services
1.	Glass Lewis (Purchase Order No. TBD) Global Equity	Subscription agreement; three-year term; total purchase order amount may exceed \$1M for entire subscription.	INVO	July 2019	N/A	Proxy voting system subscription for Global Equity.
2.	Purchase Order TBD (Purchase Order No. TBD) Real Estate and Private Asset Analytics	Subscription agreement; three-year term; total purchase order amount may exceed \$1M for entire subscription.	INVO	July 2019	N/A	Data collection and validation service; attribution and value creation analysis platform for Real Estate.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
1.	Allianz Global Investors (Contract No. 2014-7482) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
2.	Arrowstreet Capital LP (Contract No. 2002-2945) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
3.	Arrowstreet Capital LP (Contract No. 2014-7483) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
4.	Baillie Gifford Overseas Limited (Contract No. 2000-2263) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
5.	Epoch Investment Partners, Inc. (Contract No. 2014-7481) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
6.	Fidelity Institutional Asset Management Trust Company (Contract No. 2006-3954) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
7.	First Quadrant, LP (Contract No. 2006-4182) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
8.	Hermes Sourcecap Limited (Contract No. 2013-7179) Global Equity	Existing Investment Manager, undefined value; term is without defined duration and may or may not be funded throughout 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
9.	J.P. Morgan Investments Management, Inc. (Contract No. 2007-4529) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
10.	Lazard Asset Management, LLC (Contract No. 2006-3943) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
11.	Pzena Investment Manager (Contract No. 2000-2097) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
12.	State Street Bank Global Advisors (Contract No. 2012-6541) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
13.	The Boston Company Asset Management (Contract No. 1997-0288) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
14.	Wellington Management Company, LP (Contract No. 2014-7480) Global Equity	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the Global Equity portfolio.
15.	Alliance Bernstein LP (Contract No. 2006-4120) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the international fixed income portfolio.
16.	Baring International Investment Limited (Contract No. 2000-2089) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the international fixed income portfolio.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
17.	Blue Bay Asset Management LLP (Contract No. 2014-7473) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the international fixed income portfolio.
18.	CitiMortgage (Contract No. 2007-4581) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Financial servicing for the member home loan program.
19.	Columbia Management Investment Advisors, LLC (Contract No. 2008-4960) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the high yield fixed income portfolio.
20.	Goldman Sachs Asset Management, L.P. (Contract No. 2014-7474) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the international fixed income portfolio.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
21.	Investec Asset Management North America, Inc. (Contract No. 2014-7475) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the international fixed income portfolio.
22.	J.P. Morgan Investment Management (Contract No. 2008-4963) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the high yield fixed income portfolio.
23.	Logan Circle Partners, LP (Contract No. 2008-4962) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for high yield fixed income portfolio.
24.	Neuberger Berman Investment Advisors, LLC (Contract No. 2014-7476) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the international fixed income portfolio.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
25.	Nomura Corporate Research and Asset Management, Inc. (Contract No. 2001-2621) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the high yield fixed income portfolio.
26.	Pacific Investment Management Company, Inc. (Contract No. 2001-2620) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the high yield fixed income portfolio.
27.	Pacific Investment Management Company, Inc. (Contract No. 2006-4121) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the international fixed income portfolio.
28.	The Putnam Advisory Company, LLC (Contract No. 2008-4961) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Exiting	Investment management services for the high yield fixed income portfolio.

No.	Existing Investment Manager Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
29.	Voya Investment Management Co. LLC (Contract No. 2008-4965) Global Fixed Income	Existing Investment Manager, undefined value; term is without defined duration, may or may not be funded throughout FY 2019-20; if funded, base and/or performance fees may exceed \$1M.	INVO	Existing	Existing	Investment management services for the high yield fixed income portfolio.

No.	Contracts Without Fixed Values (non-investment manager where payment is based on specified fees, terms, and services)	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
1.	Alliance Bernstein LP (Contract No. 2017-8291) Global Equity	Contract expires July 2022; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
2.	Axa Rosenberg Investment Management, LLC (Contract No. 2017-8363) Global Equity	Contract expires February 2023; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
3.	Blackrock Financial Management, Inc. (Contract No. 2013-6927) Global Fixed Income	Contract expires September 2019; payment is based on assets on the investment platform and may exceed \$1M/year.	INVO	Existing	Existing	Investment management platform for fixed income assets and other services.

No.	Contracts Without Fixed Values (non-investment manager where payment is based on specified fees, terms, and services)	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
4.	Blackrock Financial Management, Inc. (Contract No. 2017-8301) Global Equity	Contract expires November 2023; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
5.	Credit Suisse Securities (USA) LLC (Contract No. 2017-8302) Global Equity	Contract expires May 2023; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
6.	Goldman Sachs Asset Management, L.P. (Contract No. 2013-7008) Global Equity	Contract expires June 2019; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
7.	Lazard Asset Management, LLC (Contract No. 2017-8292) Global Equity	Contract expires July 2022; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
8.	QS Investors, LLC (Contract No. 2017-8296) Global Equity	Contract expires November 2022; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.

No.	Contracts Without Fixed Values (non-investment manager where payment is based on specified fees, terms, and services)	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
9.	Quantitative Management Associates, LLC (Contract No. 2017-8293) Global Equity	Contract expires September 2022; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
10.	Research Affiliates (Contract No. 2013-6917) Global Equity	Contract expires May 2019; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment advisory services and/or modeling services for the Global Equity portfolio.
11.	TOBAM SAS (Contract No. 2017-8295) Global Equity	Contract expires September 2022; payment is based on assets and may exceed \$1M/year.	INVO	Existing	Existing	Investment research and/or modeling services for the global equity portfolio.

No.	Undefined – Legal Services Contracts	Details	Program	Award/ Initiate	Contract/ Amendment Start	Description of Services
1.	Wilson Sonsini Goodrich & Rosati, Professional Corporation (Contract No. 2017-8340)	Contract expires Dec 2018; amending for one-year time extension where estimated contract amount may reach \$2M.	LEGO	Existing	Existing	Outside Legal Counsel services in connection with the Private Equity Investment Program.

Item 4c, Attachment 1

No.	Letters of Engagement	Details	Program	Initiate	Contract/ Amendment Start	Description of Services
1.	Buck Global, LLC (Contract No. 2018-8524)	Professional Actuarial Services Spring- Fed Pool LOEs; multiple purchase orders; estimated amount not to exceed \$3.5M through FY 2019-20.	ACTO	Fall 2018	November 2018	Advanced Analytics and Integration Project (AAI). Implementing new technology that will add features and functionality to ACTO's current AVSRE system.

Legend:

ACTO – Actuarial Office

HPRD – Health Policy Research Division

INVO – Investment Office

LEGO – Legal Office