

MWRA EMPLOYEES' RETIREMENT BOARD MEETING

AGENDA

Thursday, September 28, 2023 10:00 a.m.

MWRA, 2 Griffin Way

Chelsea, MA 02150

Item 1 10:00 a.m. Meeting called to order

OLD BUSINESS

- Item 2 Standing Committee Reports
- i. By-Laws Committee: Member Kevin McKenna, Member Brian Peña
 - ii. Human Resources Committee: Member Frank Zecha, Member Matthew Horan
 - iii. Special Committee, Stipend: Member James M. Fleming, Member Kevin McKenna
 - iv. Job Review Committee: Member James M. Fleming, Member Frank Zecha

NEW BUSINESS

- Item 3 Approval of August 31, 2023 Minutes – VOTE
- Item 4 Approval of Warrants – VOTE
- a) Warrant 9-2023
 - b) Warrant 9-2023A – (zero balance reversed/reissued retirement payments)
 - c) Warrant 9-2023B – Payroll
- Item 5 Approval of Monthly Transfers 9-2023 – VOTE
- Item 6 Acknowledgement of retirement application under G.L. c 32 §5 – VOTE
- a) Thomas Wright DOR 8/26/2023
 - b) Deborah Ploof DOR 9/6/2023
 - c) Edward Brown DOR 9/13/2023
 - d) Randy Hattinger DOR 9/14/2023
- Item 7 Approval of August 2023 Bank Reconciliations – VOTE
- Item 8 10:15 a.m. Legal
- a) Anthony Cirelli Section 7 Retirement Review
 - b) Robert Hashem 91A Excess Earnings Review
 - c) Neal Gouck v. State Board of Retirement
- Item 9 Custody Search Presentations
- 10:45 a.m. a) State Street – Kate McCabe, Maria O'Toole, and Kim Moynihan
 - 11:00 a.m. b) Wilmington Trust – Jaclyn Callison and Anthony Teberio
 - 11:15 a.m. c) Comerica – Heather Leto, Brian Brown, and Felecia Ryans
- Item 10 NEPC
- a) Flash Report as of 8/31/23
 - b) Rebalance Recommendation – VOTE
 - c) Equity Structure Review
 - d) Custody Search Review

.....**FOR YOUR INFORMATION and REVIEW**

Item 99-1	PERAC MEMO # 19/2023 – Tobacco Company List
Item 99-2	<u>PERAC Pension News</u> September 2023
Item 99-3	Hamilton Lane Announces CEO Succession, Further Leadership Evolution
Item 99-4	Morgan Stanley Insight September 2023 “Dispelling the Misconceptions”

The Board reserves the right to consider items on the agenda out of order. The listing of items is those reasonably anticipated by the Chair to be discussed received at least forty-eight (48) hours prior to the meeting. Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law. Items identified for discussion in Executive Session may be conducted in open session, in addition to, or in lieu of discussion in Executive Session.

Date of next scheduled Retirement Board meeting is Thursday, October 26, 2023, 10:00 a.m., Chelsea

**MWRA EMPLOYEES' RETIREMENT BOARD MEETING
AUGUST 31, 2023**

A meeting of the MWRA Employees' Retirement Board was conducted in-person on Thursday, August 31, 2023. Remote access was provided to the public via Zoom, with call-in information provided on the official Meeting Notice posted to www.mwraetirement.com. Participating in the in-person meeting were Board members James Fleming, Matthew Horan, Kevin McKenna, and Frank Zecha, staff members Carolyn Russo, Julie McManus and Danielle DiRuzza, and Sebastian Grzejka representing NEPC. Mr. Brian Peña attended via remote access due to a scheduling conflict. Members of the public also attended via remote access. Mr. Fleming called the meeting to order at 10:00 a.m.

- 1) Call the meeting to order-roll call of members: Mr. Horan, Mr. McKenna, Mr. Peña, Mr. Zecha and Mr. Fleming present.
- 2) Standing Committee Reports
 - i. By-Laws Committee: No report
 - ii. Human Resources Committee:

Mr. Zecha deferred to the Executive Director for an update in regard to a review of the Job Descriptions. The Executive Director reported that as the result of the staff meeting at which the descriptions were discussed, the Job Descriptions will be updated to reflect the current divisions of responsibilities and levels of cross-training.

Mr. Horan raised the issue of the Authority's having taken away significant amounts of the Executive Director's vacation time in FY2023 and FY2024. The Executive Director first became aware of this approximately a week ago when it was brought to her attention by Internal Audit staff that she had lost approximately two weeks of accrued time over the past fiscal year alone. The Chair commented that the Authority does not determine retirement Staff pay and benefits, and should not be making any adjustments without prior authorization from the Retirement Board. Mr. Horan stated that what has been done for other employees is the time may be reinstated, and the employee given a pre-determined length of time to use it. Mr. Zecha made a motion that the Executive Director have any time she lost reinstated, with a requirement that the restored time be used by December 2024, given that the Executive Director was unaware the time had been taken. Mr. Horan stated that it is the Authority's practice, and is not an uncommon occurrence.

On a motion made by Mr. Zecha and seconded by Mr. McKenna:

VOTED

to reinstate any accrued vacation time taken by the Authority from the Executive Director, and that the Executive Director be required to use the reinstated time by December 2024. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes.

The Executive Director thanked the Board, and assured the members she would pay more attention to her accruals from here forward.

- iii. Special Committee, Stipend: No report
- iv. Job Review Committee: No report

3) Approval of July 27, 2023 Minutes – VOTE

On a motion made by Mr. Zecha and seconded by Mr. Peña:

VOTED

to approve the Minutes of the July 27, 2023 meeting. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes.

4) Approval of Warrants – VOTE

- a) Warrant 8-2023
- b) Warrant 8-2023A

The Executive Director requested that the Board also approve Warrant 8-2023B to reimburse a Board Member for Educational Travel expenses.

On a motion made by Mr. Zecha and seconded by Mr. McKenna:

VOTED

to approve Warrant 8-2023, Warrant 8-2023A, and Warrant 8-2023B, provided that the Executive Director first submit a copy of Warrant 8-2023B to the members of the Board. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes.

5) Approval of Monthly Transfers 8-2023 – VOTE

On a motion made by Mr. Peña and seconded by Mr. McKenna:

VOTED

to approve the monthly transfers for August. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes.

6) Acknowledgement of retirement applications filed under G.L. c 32 §5 – VOTE

- a) Joseph Favaloro DOR 6/30/2023
- b) Robert O'Neill DOR 7/12/2023
- c) Donna Yeo DOR 7/22/2023
- d) James Hession DOR 7/26/2023
- e) Timothy Smith DOR 7/26/2023
- f) Anthony Pires DOR 8/2/2023
- g) Patricia Russo DOR 8/5/2023
- h) Dillon Scott DOR 8/10/2023

On a motion by Mr. McKenna and seconded by Mr. Horan

VOTED

to acknowledge the section 5 retirements as listed. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes.

7) Approval of Maureen McAvoy's buyback of 6 months of Holyoke Community College employment – VOTE

On a motion by Mr. McKenna and seconded by Mr. Zecha:

VOTED

to approve the request made by Maureen McAvoy for purchase of prior service based on the salary and service documentation submitted by Holyoke Community College, and upon the State Retirement Board's denial of service credit. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes.

8) Approval July 2023 Bank Reconciliation – VOTE

On a motion by Mr. Zecha and seconded by Mr. Horan:

VOTED

to approve the Bank of America reconciliation for July 2023. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes.

9) Disability Update

The Retirement Coordinator reported that for one pending disability application, the Board just received the third medical panel report, but it was not received in time to be placed on the agenda for the August meeting, as the member needs to be put on notice. In regard to a second application, Attorney Gibson just reached out to member's counsel for additional information, which is required prior to the Board's acceptance of the application. A third application was filed several years ago but remains pending due to failure to provide medical records. Member's

counsel and providers have been contacted by staff multiple times. An invoice was just received from one of the member's treating facilities, so hopefully the deficiency in the filing will be resolved soon.

10) Manager Due Diligence Presentations

The following managers underwent an annual investment manager review pursuant to 840 CMR 16.07. The managers presented performance and investment reports detailing the manager's activities, which the Board reviewed.

- a) RhumbLine – Denise D'Entremont
- b) Axiom – Megan Strater and Don Elefson
- c) Kayne Capital – Danny Weingeist
- d) StepStone – Marc Rivitz

Ms. D'Entremont was not yet on the call, so at 10:17 a.m., the Board proceeded to Mr. Grzejka's presentation of the Flash Report for the month of July. Mr. Grzejka reported that his team only recently gained access to PRIT's new portal, so a corrected Flash was provided to the Board which included PRIT's returns for the month. In general, a handful of mega-caps are driving the returns. Mr. Fleming asked where the exposure would be, and Mr. Grzejka responded in the RhumbLine S&P and Polen accounts. Growth is outperforming, and to capture some of those returns NEPC is recommending that the Board take \$6m from RhumbLine. Polen is up over 31% year-to-date. In the Small Cap space, Growth is trailing Value and Mesirow returned 5.9% for the month. In Non-US, SEG is up 14.2% YTD, Schroders is up 14%, and Baillie Gifford is up 21%. Mr. McKenna asked if the \$48m shown under Polen includes the \$4m redemption, and Mr. Grzejka responded it does not, that the returns are through the end of July but the redemption was executed after the July meeting, in the first week of August. The Fixed Income portfolio returned 2.8% year-to-date, with Hedge Funds positive across the Board, with the exception of the Entrust wind-down. June returns have not yet been received for the Private Equity and Real Estate portfolios, but the fund is up overall 8.2% year-to-date. Private Equity valuations have been resilient, with buyouts, secondaries, and co-investments holding up well. The fund does not currently have a lot of venture exposure which has been an advantage. Mr. McKenna asked if the PE returns for Q2 are expected to increase the 8.2% year-to-date number, and Mr. Grzejka cautioned that any expected increase could be offset by further expected Real Estate write-downs. Mr. Horan asked if NEPC expects real estate opportunities as followed the 2008 GFC. Most of the current managers have already moved away from Office. NEPC sees opportunities shifting, to strong assets in good locations, assets which may be temporarily distressed but show good long-term prospects, Industrial, and Multi-family. Overall, the Real Estate portfolio has outperformed the NCREIF YTD.

In regard to the pacing plan, some of the Large Cap managers are coming up on the seven-year limit, so those RFP's will need to be done in the near term. Mr. Zecha asked for their 1, 3, and 5-year peer rankings, and Mr. Grzejka stated that was included in the package. Mr. Fleming asked other than China, what exposure the portfolio has to BRICS. Russia is already a prohibited investment, but India is not, is parallel, and has shown growth potential. The global equivalent of the S&P has been neutral on EM because of concentration in China. Axiom has exposure, but the markets have been beaten up, so it may be a good entry point.

Ms. D'Entremont joined the call at 10:27 a.m. representing RhumbLine. Mr. Grzejka stated that there are members of the public on the call and cautioned Ms. D'Entremont against disclosing any materials which may be considered proprietary. Ms. D'Entremont thanked the Board for being clients since 1997. The product is a passive-only index, consisting of pooled funds of MA public pension clients, to accommodate the investment restrictions in South Africa, Northern Ireland, etc. The fund is down 1.61% to date for the month of August, but is up 17.6% YTD. The since-inception return is 9.1%, with MWRAERS' investments totaling \$72m currently. Mr. McKenna asked how the fund's annual return is coming out higher than the S&P's. Ms. D'Entremont responded that the System began by investing \$5m in 1997, and added little by little. RhumbLine waited about a week for price pressures to settle, and more cash was added in 2007 and 2008 at low points, which also helped. The fund is monitored daily, and offers daily liquidity as well. The returns are net of all costs. Cash is invested if it exceeds one quarter of a basis point. The total portfolio stands at \$841m, with MWRAERS representing 8.61% of the total. Ms. D'Entremont referred the Board to page 5 for firm changes. Sally Gigliotti was hired as the CFO. Ms. D'Entremont thanked the Board and signed off at 10:37 a.m.

Steven Hanson and Don Elefson joined the call at 10:38 a.m. representing Axiom. Mr. Fleming stated that they will have 10-15 minutes to discuss personnel, philosophy, and performance. Mr. Grzejka stated that there are members of the public on the call and cautioned the presenters against disclosing any materials which may be considered proprietary. Mr. Hanson reported that the firm has \$19bn AUM, up \$5bn since 2022. Clients have added to accounts in order to capture upside. The firm is 100% employee-owned, with 60 employees, and will be celebrating its 25th anniversary tomorrow. 2022 was a challenging environment for growth. Axiom has outperformed its index 74% of the time, but doesn't do as well when there is a broad gap between growth and value. A more favorable environment seems to be on the horizon. Mr. Zecha stated that since inception the fund is down 14.5% while the benchmark is down 7.2% and that the Board wants to see better performance. Mr. Zecha asked whether a fee modification is possible in light of the underperformance. Mr. Hanson stated a favorable fee structure was negotiated with NEPC. Mr. Zecha asked that a fee history be sent to the Executive Director. Mr. Elefson noted that inflationary pressures in the US and headwinds in China have had negatively

affected Emerging Markets. China is the world's greatest user of raw materials and driver of consumer demand, and the economic slowdown has had a world-wide impact, causing a shift in money from growth toward value. Looking forward, the direction is not clear. EM may be coming out of this, but US interest and inflation rates are still high. Rates are also rising in Mexico and Brazil, which is unusual. In July, EPS revisions have been upward for the first time in ten months, which may indicate a bottom. Axiom has done well at inflection points in the past, averaging 100bps over the benchmark. The fund is underweight in China, and over in India. Mr. McKenna noted that he read an article which reported that after China predicted 5% GDP growth, they are now contracting, and asked when the weighting shifted. Mr. Elefson said during Q2 the exposure was cut to 500bps below the benchmark's. Over-regulation by the Chinese government is contributing to a decline of .5% in GDP growth expectations, and the government can't pivot quickly. Mr. McKenna noted no one wants to hear the word "contagion" but asked if that is likely. Mr. Elefson responded that given that GDP expectations in China already fell .5% in Q2, and are expected to fall again when Q3 numbers come out, if a contagion were going to happen, it likely would have happened already. Moving forward, inflation is not expected to be a big concern in EM. Mr. Fleming stated that we need to discuss performance, and asked how Axiom intends to turn it around. Mr. Elefson stated that he believes earnings will drive performance. Mr. Fleming directed NEPC and Staff to Schedule Axiom to come back in six months, at the February 2024 meeting. Axiom signed off the call at 10:56 a.m.

At 10:56 a.m. Danny Weingeist joined the call representing Kayne Anderson. He referred the Board to page 3 for performance. Mr. Grzejka stated that there are members of the public on the call and cautioned Mr. Weingeist against disclosing any materials which may be considered proprietary. The Board committed \$5m, and there are three investments remaining with a value of \$2.7m. The fund is likely to finish at 1.25x. Page 5 contains a macro look at energy, showing the trajectory of oil and natural gas prices. Oil and gas prices fell during COVID but have been resilient. Oil will likely go up over the next 18 months. Mr. McKenna asked if Kayne has ever looked at an overlay of page 5 with other power sources. Mr. Weingeist stated that as demonstrated on page 8, it doesn't matter the source, with population growth worldwide, we will need more of every kind of power source. The US use is small relatively speaking; the other 85% of the world will drive what happens with energy use, not the US. Mr. Horan asked what percent of the portfolio consists of hedges, or whether that is dictated by the benchmark. Mr. Weingeist responded that the further out you go, the more likely that your prediction is wrong. They generally hedge 80% of the portfolio for a five-year period. It could be 75% or 82% at times, but they don't try to make predictions. He referred to the "shallow slope of outcomes;" the strategy flattens some of the downs, but also reduces some of the ups. Kayne was down 17% during COVID, while the markets were down 60%. 20-30% has been distributed per year. They've been buying at good multiples. Fund VII is fully invested with three companies left: 89, Riverbend and Kraken. They are expected to sell in the

next three years. Distributions will be forthcoming. Riverbend is likely to sell Q1 2024. Mr. Weingeist signed off the call at 11:15 a.m.

Mr. Marc Rivitz from StepStone joined the call at 11:17 a.m. Mr. Fleming asked that Mr. Rivitz provide a brief overview of the firm, strategy and performance. Mr. Grzejka stated that there are members of the public on the call and cautioned Mr. Rivitz against disclosing any materials which may be considered proprietary. There have been no firm changes. The fund is in the wind-down phase. Mr. Rivitz referred the Board to page 3 of the presentation for Q1 performance. The Board committed \$2m, made contributions of \$1.3m and has received \$1.4m in distributions, with \$362,000 remaining value. Page 4 shows that for the one-year the return is (4.5%). TVPI (Total Value to Invested ratio) for the fund stands at 1.3x. Page 5 shows the details of the performance of underlying investments. FPA has been a driver, along with Fortress Japan, and Lupert-Adler VI and VI-A. Terranum Capital Latin America has been a poor performer due to instability and debt in the region. Page 6 shows geographic diversification. The fund is 35% in Latin America, which has been a drag on performance. Page 7 shows diversification by sector, with 45% retail exposure, and 11% Office. Both have been challenging, but the remaining assets are expected to be sold off by next year. Mr. Rivitz explained it is taking some time because StepStone is waiting for the most advantageous offers, and is not having a “fire sale.” Mr. Rivitz thanked the Board and signed off the call at 11:27 a.m.

The Board determined each manager continues to operate in a manner represented when retained and outlined in the agreement between the Board and the manager.

11) NEPC

- a) Flash Report as of 7/31/23
- b) Rebalance Recommendation – VOTE
- c) Liquidity Profile as of July 31, 2023
- d) Private Markets Pacing & Real Estate Pacing
- e) Quarter 2 2023 Investment Report
- f) Quarterly Performance Private Equity Report March 31, 2023
- g) Quarterly Performance Real Estate Report March 31, 2023
- h) Quarterly Performance Private Debt March 31, 2023

Mr. Grzejka stated StepStone is one of several older accounts remaining on the books that began with small commitments relative to today's allocations, similar to Invesco and Pinebridge. Some are funds-of-funds, so they carry double layers of fees. There is no longer space in the portfolio for that, but these products are in the wind-down phase. The GFC, a second global crisis, COVID-19, temporarily plummeting oil prices, all contributed to investors looking for return-seeking assets in the Private Equity space. Mr. Grzejka asked about the rebalance request in regard to the timeline for funding LMCG. The Executive

Director reported that the problematic provisions of the agreement had been removed or resolved, and that the investment would be funded Tuesday, September 5, 2023. Mr. Grzejka cautioned that the RhumbLine redemption should be requested first to ensure sufficient cash, and the Executive Director responded the RhumbLine redemption would be taking place tomorrow, Friday September 1, 2023.

Mr. Zecha asked whether Octagon would take 30-90 days to liquidate. Mr. Grzejka responded affirmatively, and stated that it would likely be at least October before any funds were received. Mr. Zecha moved that Octagon be liquidated effective immediately. The motion was seconded by Mr. Horan for purposes of discussion. Mr. Zecha asked Mr. Grzejka whether it is NEPC's recommendation to trim the position or liquidate it entirely, because of overlap with LMCG. Mr. Grzejka stated that the larger picture of the combination of managers and strategies within the fixed income portfolio overall is a factor as well. Octagon has performed well, but has a single-sector focus (mortgages) and LMCG offers more flexibility. Mr. McKenna asked about Private Equity pacing expectations. Mr. Grzejka stated he would like to finish the Fixed Income discussion first, since there is a motion on the table, and noted pacing is on the Agenda to be discussed separately (Item 11(d)).

On a motion by Mr. Zecha and seconded by Mr. Horan:

VOTED

to liquidate the Octagon account effective immediately. 5-0, with Mr. Horan voting yes, Mr. McKenna voting yes, Mr. Peña voting yes, Mr. Zecha voting yes, and Mr. Fleming voting yes

Mr. McKenna asked about where the proceeds will go, noting that there are a lot of moving parts. Mr. Grzejka stated half will likely remain in cash based on discussions with the Executive Director about cash needs, and half will likely be rebalanced. NEPC expects to make further rebalancing recommendations at the September meeting. Mr. Grzejka asked the Executive Director if \$12m would be a sufficient cash balance, and she responded it would. The payroll is running roughly \$3.5m a month.

As requested, NEPC completed a liquidity profile of the portfolio overall, which was included in the Board packages. 61% of the portfolio has daily liquidity, 9% has monthly, 6% has quarterly (Hedge Funds), and 24% of the holdings are illiquid (PE and RE). Mr. Fleming asked if this would be consistent with other public pension funds, and Mr. Grzejka responded that it would be similar to that of other funds with a similar asset allocation. The profile evolves with changing market conditions and valuations.

Mr. Grzejka reported that in the Custody Search, 6 firms initially showed interest, but only 3 responded to the RFP. NEPC recommends that all three be called in, and given 10 or 15 minutes each. NEPC will provide an analysis of the

responses. Mr. Fleming asked that the interviews be placed on the September agenda. Mr. Horan asked that the analysis be provided to the Board members in advance of the packages, to provide them sufficient time to review it. Mr. Grzejka stated the analysis would be done soon. Mr. Zecha stated he would like to see a fee comparison, as well as list of MA pension clients for each, but if one has not been provided, the question of MA public plan experience may be asked at the meeting. Mr. Zecha stated he would also be asking for input from the Executive Director, since she is the one who deals with the custody contacts on a day-to-day basis.

In regard to Private Equity pacing, Mr. Grzejka referred the Board to page 2 of the Private Markets handout for NEPC's recommendations. This is an annual review. Capital Calls and Distributions can't be controlled, and the Board does have some outstanding previously-committed capital. Essentially, we have to over-commit to maintain targets, because in most cases calls are gradual, and distributions are made over time. PE is slightly above target but investments will cycle out. NEPC recommends an additional \$12m allocation. The question becomes where the opportunities are. There are likely some in secondaries, and advantageous entry points for venture as well due to discounted valuations. PRIT's 2024 vintage is a possibility. Mr. Zecha noted that no RFP is required for PRIT but would be to add another fund/manager and Mr. Grzejka concurred.

For Real Estate pacing purposes, NEPC sees opportunities in Industrial and Multi-family, which is where the newer Terracap and TA funds are focused. NEPC is still expecting downward adjustments to valuations, so making additional allocations is not urgent. The graph on page 9 of the presentation shows the allocation is just slightly over target. NEPC recommends an additional allocation of \$12m in 2024. Page 18 factors in the impact of the potential liquidation of Morgan Stanley Prime. The result would be an additional recommended \$8m allocation. Mr. Horan asked where the money would go in the portfolio, and whether the PRIT Real Estate fund is an option to avoid delays in putting the funds to work. Mr. Grzejka agreed PRIT RE could be used as a placeholder, but we just don't know when Morgan Stanley will be distributing any funds. Mr. McKenna asked where there might be another "safe haven," and Mr. Grzejka responded cash and data centers are possibilities. Mr. McKenna asked about college housing. Mr. Grzejka stated that college enrollments have not rebounded, they are still down. Some properties are selling at deep discounts, with remaining Office consisting of much smaller footprints. Mr. Zecha asked if NEPC is back in their offices, and Mr. Grzejka responded that they are not. Many companies are adding amenities to their offices to entice workers back to in-person, such as wellness spaces, gyms, and on-site daycare.

Coho and Polen are reaching the end of the seven-year maximum contracts, so the Board needs to start thinking about what the structure of the Large Cap portfolio should look like, active/passive, growth/value, etc., and what kind of RFP will be done. Mr. Zecha asked how RhumbLine's index product has

performed vs. the active managers. Mr. McKenna asked whether we have one passive Large Cap manager or two. In response to Mr. Zecha's question, Mr. Grzejka stated that active managers will be additive, but have no real information advantage any more (i.e., there's no longer any time lag, information access is virtually instantaneous) and passive carries much lower fees. The S&P will contain all the growth names; the Board may want to complement that with a value manager, but then the Board needs to consider whether that means a 60/40 or possibly a 70/30 split within the Large Cap portfolio.

Mr. Grzejka raised the issue of scheduling a meeting for all of the remaining due diligence presentations. There are 13 left. The Board agreed to a remote meeting convened for this purpose on October 5, 2023 at 10:00 a.m.

Mr. Zecha brought up the matter of the PERAC Audit. The Executive Director reported that the same issues that have come up in the past are findings: 1) MWRAERS Cash books are not submitted to PERAC within 4 weeks of the close of each month because 2/3 of our reporting does not come in within that timeframe, which PERAC knows because they receive it at the same time; and 2) Fees for accounts that report returns net of fees were not consistently booked to the GL, which would also require corresponding increases to the GL gain/income accounts. The report, findings, and management responses will be posted to PERAC's site as well as the MWRA Employees' Retirement site, and each Board member will receive a copy. Mr. Zecha noted that the assets are reported with 100% accuracy, or within \$1 on assets of \$629m. MWRAERS has one of the most active portfolios in the State outside of the State, Teachers' and Boston, with the smallest staff. The Annual Statement is filed on time every year, and there are many other Systems which do not currently have staff able to do the accounting work. The Executive Director is in the top 10, if not the top 3, in the State in the financial reporting functions. Mr. Zecha expressed his appreciation for the Executive Director and Staff. The issues cited by PERAC are minor issues, and the Executive Director reported estimated fees to the GL in the 2022 Annual Statement to resolve the second finding. Mr. McKenna noted that the auditors are likely required to submit findings, and Mr. Fleming agreed. Mr. Zecha stated there has been a lot of turnover in retirement staff with more coming in the near term, and that the Executive Director would be hard to replace, and the Chair concurred.

Mr. McKenna commented that he had reviewed PERAC's Investment Report, and noted that Actuarial Investment Return assumption is not shown. Mr. Zecha added that the report is not necessarily comparing apples to apples because many of the Systems' funded ratios do not reflect the nearly universal actuarial losses sustained in 2022, while MWRAERS' does, since we do an annual Actuarial Valuation. One System reported a 22% loss last year, but remains near the top over the five-year. Mr. Zecha described the report as a nice document, but stated that you need to examine the details in making any comparison. The

actuarial smoothing was implemented as protection in this environment, and the Board remains on schedule moving forward to full-funding.

On a motion by Mr. Zecha and seconded by Mr. Horan:

VOTED

to adjourn the August 31, 2023 meeting of the MWRA Employees' Retirement Board. The meeting was adjourned at 12:16 p.m.

The following communications were distributed to the Board for review:

PERAC MEMO #17/2023 – Reinstatement to Service under G.L. c. 32 § 105
 PERAC MEMO #18/2023 – Cost of Living Increase for Supplemental Dependent Allowance Paid to Accidental Disability Retirees and Accidental Death Survivors
 Update: Retirement Office Access
 Regional Banks Slide After Moody's Downgrades
Pensions & Investments Cyberattack Article
 Invesco Memo re. Bill Grubbs Retiring

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Date of next scheduled Retirement Board meeting is Thursday, September 28, 2023, 10:00 a.m., Chelsea, MA.

James Fleming, Chair

Matthew Horan, Appointed Member

Kevin McKenna, Elected Member

Brian Peña, Ex Officio Member

Frank Zecha, Fifth Member

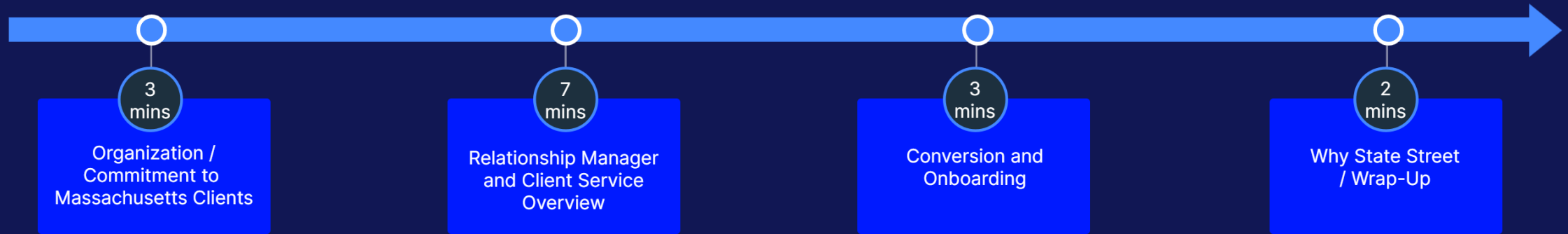


DISCUSSION WITH Massachusetts Water Resources Authority Retirement System

September 28th, 2023



Agenda



Attendees



Kate McCabe

Senior Vice President
Head of North American Sales,
U.S. Asset Owners



Maria O'Toole

Senior Vice President
Head of Client Service,
North America



Bill Collins

Vice President
Relationship Manager



Kim Moynihan

Managing Director
New Business Architect

A Global Enterprise Built for Your Success

\$39.6 trillion

in assets under custody
and/or administration ¹



State Street ranked

#8

on the Boston Business Journal's list of the largest
corporate charitable contributors in Massachusetts ³



We now service

over 40%

of the US asset owner
market ²



State Street's MA based
employees volunteered a total of

24,670 hours ³

Approximately **43,000** employees worldwide ¹



State Street Foundation granted

\$5 million

over 5 years to the New
Commonwealth Racial Equity
and Social Justice Fund



Servicing

58 Massachusetts based
companies within our US Asset
Owner team ⁴



State Street was a **co-founder of**
Small Business Strong, helping
women- and minority-owned small
businesses navigate the devastating
impact of the COVID-19 pandemic



Bridging the world of financial theory and practice
with innovative research and data through State Street
Associates and our academic partnership with **MIT**,
Harvard and Boston College



Designated as a **Systemically Important Financial Institution**
"SIFI" and **Global Systemically Important Bank "G-SIB"** as a
result we have one of the strongest balance sheets in the
industry exceeding fed requirements

1. As of June 30, 2023

2. As of January 2022

3. As of December 31, 2022

4. As of September 2023

MWRA Service Team



Relationship Manager



Bob Dollard

Senior Vice President

Head of Relationship Management



Bill Collins

Vice President

Relationship Manager



Client Service



Maria O'Toole

Senior Vice President

Head of Client Service, Asset Owners,
North America



Stephanie Skobel

Managing Director

Client Service Dept Head



Chris Bregoli

Vice President

Client Service Manager



Eloise Tan

Assistant Vice President

Client Service Lead

Service Model to Support MWRA's Strategic Needs

- Relationship Alignment
- Client Advocate
- Contractual Oversight
- Responsible for Overall Relationship Satisfaction



Relationship Manager

- Delivery of Thought Leadership
- Strategic Initiatives
- Industry Expertise
- Formalized Executive Governance

- Central point of contact into State Street
- Proactive Engagement
 - Status reporting of open items/key initiatives
- Client Solutioning
 - Leverage best practice reviews and client solutions with other clients
- Query management and resolution



Client Service

- Monthly Key Performance Indicator ("KPI") reporting
- Year end timetable and other periodic planning
- Support for annual audit engagements
- Product Training and facilitate demos, webinars, regulatory updates
- Change management coordination



Onboarding Experience with State Street

When you choose State Street, you choose a partner who will work with you to provide the expertise, solutions and scale that you define as critical to your success. As you onboard your business with us, we know that this experience creates the foundation for a lasting partnership. That's why we will work with you to create a comprehensive end-to-end conversion experience that instills confidence and builds alignment while delivering the solutions that you need on time and on budget. Your success is our No. 1 priority.



Discovery

Gain an initial understanding of your needs, your structure and your assets to build a preliminary view of complexity and associated service model.



Project Plan Development

Create a comprehensive plan based on detailed understanding of your needs, your structure, your assets and the specialized services you require. Focus on resource planning and build timelines.



Design and Development

Design target operating and governance model, further define custom requirements from the Discovery phase and create detailed conversion and delivery plan.



Testing and Validation

Build and confirm readiness for parallel:

- Staffing and process
- Testing, validation and deployment
- Sign-off



Conversion

Load conversion data. Perform dry runs, dress rehearsals and parallel processing to convert books and records to cut-over.



Go-Live



Post Go-Live Period

- Monitor, react and respond to post-conversion activities
- Conduct comprehensive lessons learned review internally and jointly with the client
- Post-conversion audit

Quick Facts



Onboarded more than 46 Projects representing more than 189 Billion in assets under Custody in 2022*



Experience across every asset class and fund type



Proven success managing complex, multi-jurisdictional conversions



Support network that spans 26 countries across 100 markets

* As of December 31, 2022



Why State Street



Massachusetts-based partner committed to the Commonwealth and its entities

- State Street Foundation made grants totaling more than \$6.4 million to over 75 Massachusetts based non-profit organizations
- State Street's MA-based employees volunteered a total of 24,670 hours
- State Street Foundation has made investments of more than \$5.3 million to launch and sustain Early College in the Quincy Public Schools and in the Boston Public Schools



Experienced Service Team

- 64+ years of institutional servicing experience with the proposed servicing team of Bill, Chris and Eloise
- An experienced, focused and seasoned servicing team coupled with subject matter experts across the organization



Asset Safety & Focus

- State Street is recognized as both a Systemically Important Financial Institution (SIFI) and a Global Systemically Important Bank (G-SIB)
- Both of these designations increase the regulatory oversight of our firm along with requiring us to hold incrementally higher regulatory capital compared to other financial institutions
- State Street is 100% focused on servicing institutional investors globally with 83% of our revenues coming from asset servicing and the other 17% coming from State Street Global Advisors



Competitive Market Arrangement

- Market competitive fee proposal for all servicing needs
- Robust technology driven service model including streamlined alternative asset support



Thank You!

September 28th, 2023



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Retirement and Institutional Custody Services

Wilmington Trust, N.A.

Presented to:

Massachusetts Water Resource Authority
Employees' Retirement System

September 28, 2023



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Holly Thibodeau

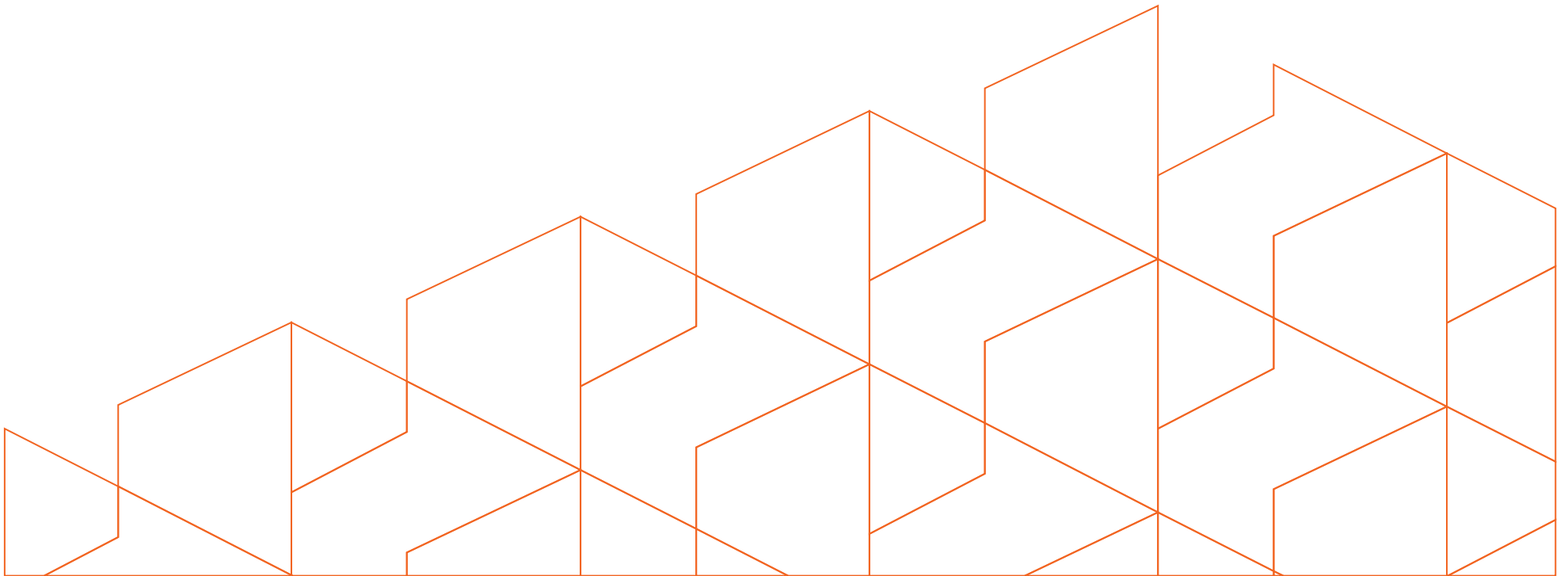
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Section 1 **Organizational Overview**



Wilmington Trust Overview

A powerful combination of strength and experience

M&T Bank Corporation – Strength and Stability for Over 160 Years

- Founded in Buffalo, NY in 1856. NYSE: MTB
- One of 15 largest U.S.- based, commercial bank holding companies¹
- \$207 billion in assets (as of June 30, 2023)

The Wilmington Trust² Advantage

Wilmington Trust, N.A. is wholly-owned subsidiary of the M&T Bank Corporation and provides trust administration services for retirement plans, companies, foundations, organizations, and financial institutions.

Retirement and Institutional Custody Services

- Directed trustee and custody services for institutional retirement and benefit programs

Wealth Advisory Services


- Wealth planning, Investment management, trust and estate services, financial solutions, and private banking³
- Industry-recognized leaders in trusts, planning, and investments
- Dedicated to finding innovative solutions to complex situations
- 401(k) advisory services providing plan design, benchmarking, and governance

Global Capital Markets

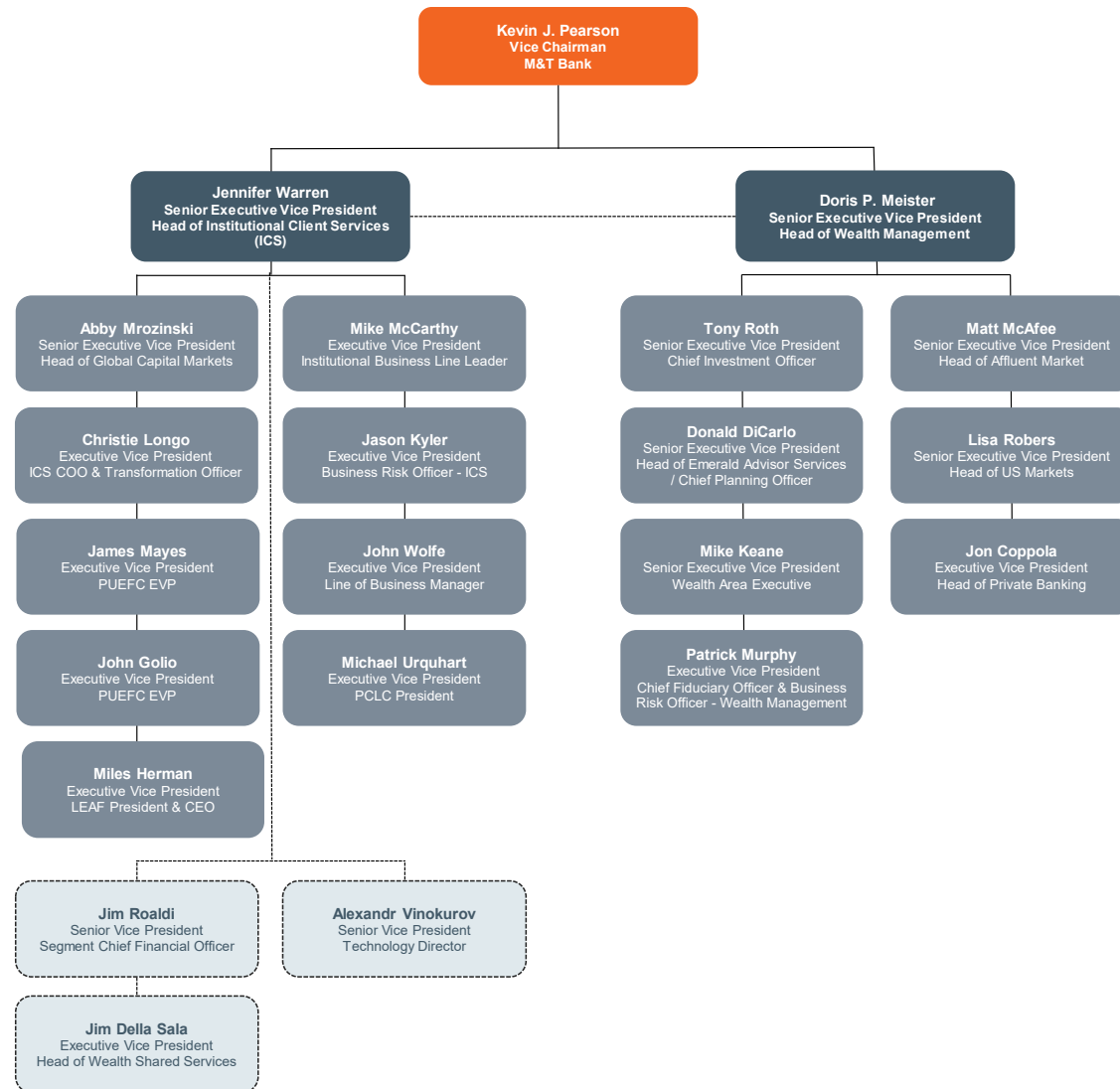
- Clients in more than 90 countries
- Specialized trust and agent services for capital markets financing structures
- Domestic and global institutional custody services
- Customized institutional investment capabilities

¹ Source: S&P Global Market Intelligence as of June 30, 2023, Methodology excludes subsidiaries of foreign bank parents, investment banks, credit card companies, insurance company subsidiaries, brokers, and asset managers.

² Wilmington Trust is a registered service mark used in connection with various fiduciary and non-fiduciary services offered by certain subsidiaries of M&T Bank Corporation including, but not limited to, Manufacturers & Traders Trust Company (M&T Bank), Wilmington Trust Company (WTC) operating in Delaware only, Wilmington Trust, N.A. (WTNA), Wilmington Trust Investment Advisors, Inc. (WTIA), Wilmington Funds Management Corporation (WFMC), Wilmington Trust Asset Management, LLC (WTAM), and Wilmington Trust Investment Management, LLC (WTIM). Such services include trustee, custodial, agency, investment management, and other services. International corporate and institutional services are offered through M&T Bank Corporation's international subsidiaries. Loans, credit cards, retail and business deposits, and other business and personal banking services and products are offered by M&T Bank. Member, FDIC. Wilmington Trust traces its roots to the founding of Wilmington Trust Company in 1903.

³ Private Bankers are M&T Bank employees. Loans, retail and business deposits, and other personal and business banking services and products are offered by M&T Bank,  Equal Housing Lender Bank NMLS #381076. Member FDIC.

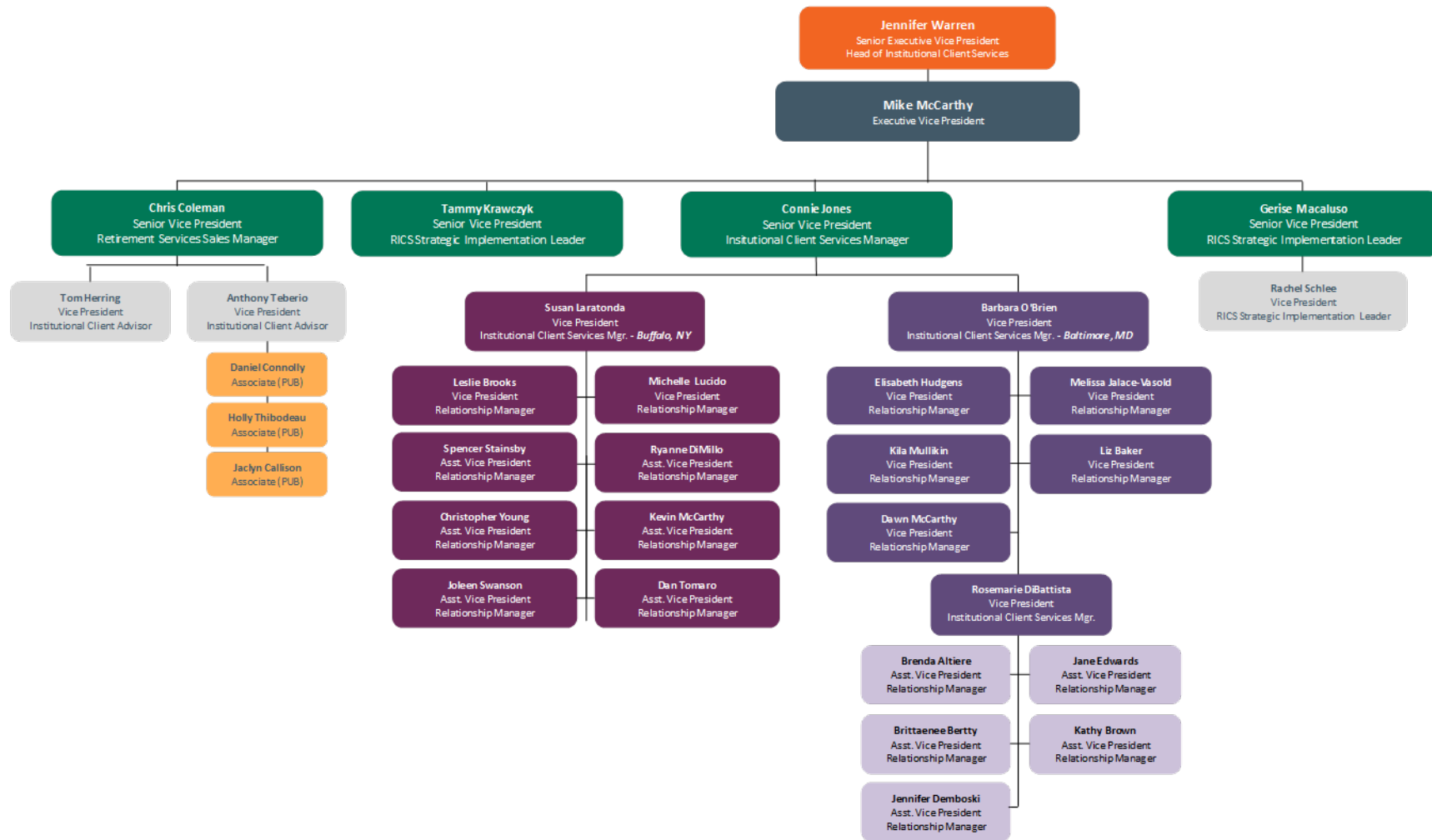
Leadership Organizational Chart



As of June 1, 2023

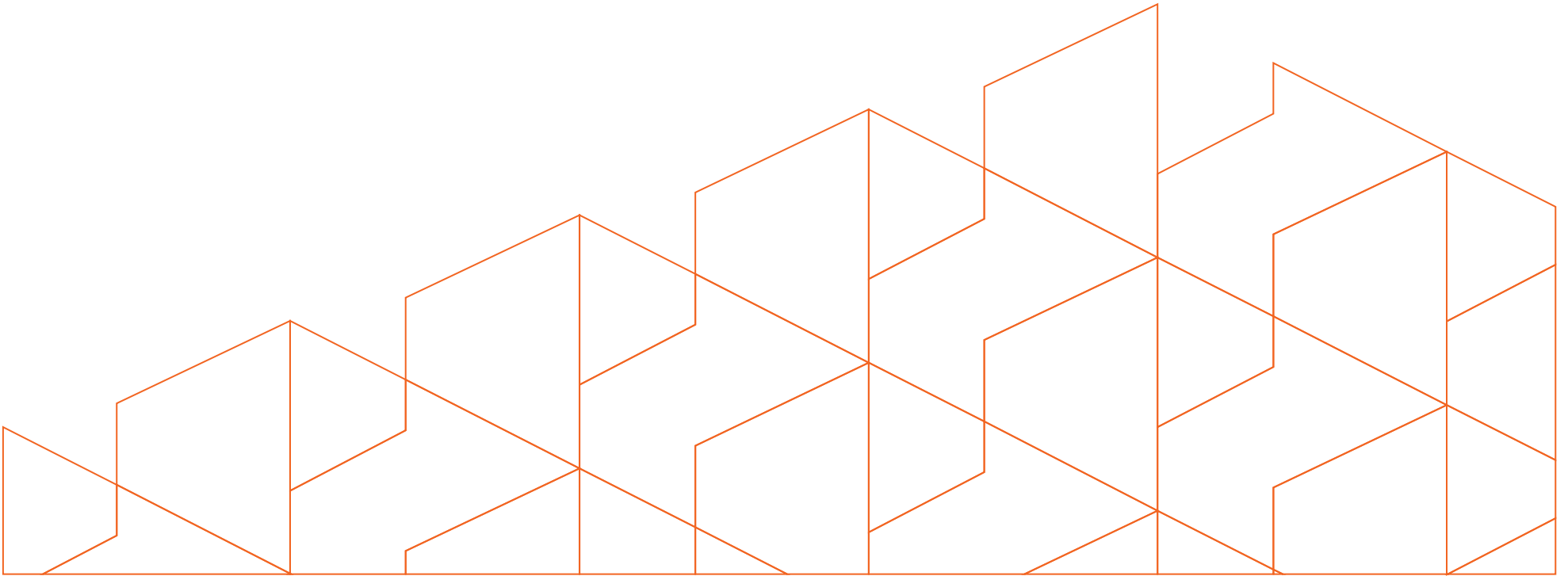
Institutional Custody Services

Organizational Chart

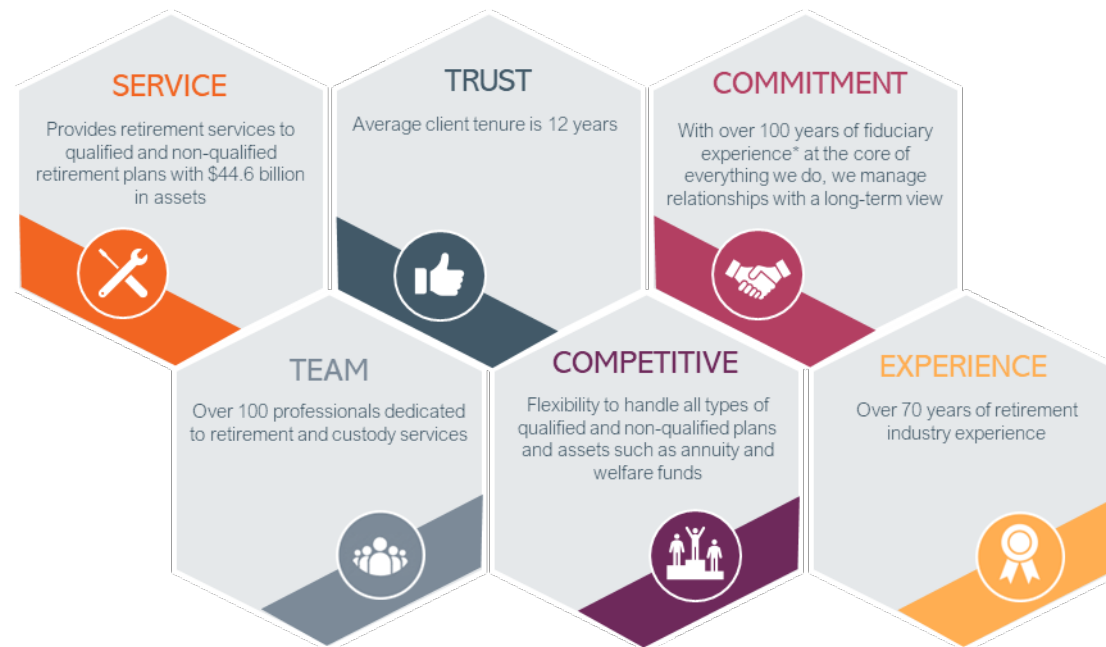


As of June 1, 2023

Section 2 Retirement and Institutional Custody Services



Wilmington Trust Advantages



Statistics provided as of June 30, 2023

* Wilmington Trust traces its roots to the founding of Wilmington Trust Company in 1903.

Our Complete Custody Solution

- Integrated team approach
 - Online access for plan sponsors and investment managers
 - Daily data interfaces assist managers and consultants in reconciliations
 - Foreign exchange services
 - Performance measurement
 - Securities lending
 - Local responsive presence, with global resources
-

Some services are provided by Bank of New York Mellon (“BNY Mellon”). See subsequent pages for details.

Retirement and Institutional Custody Statistics

Custody Assets as of June 30, 2023

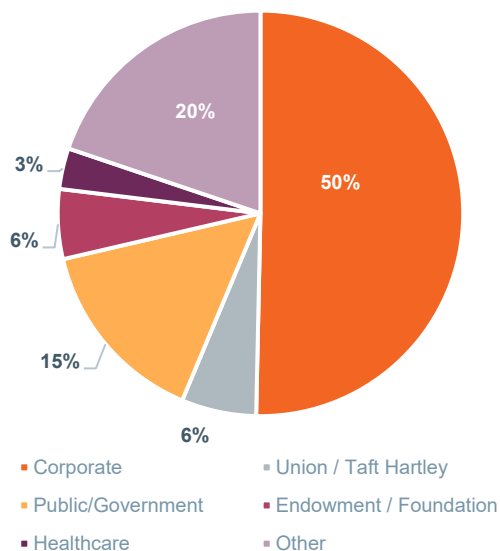
Client Type	Number of Clients	Number of Accounts	Market Value
Corporate*	742	2,317	\$63.27 billion
Union/Taft-Hartley	88	625	\$11.96 billion
Public/Government	222	610	\$47.80 billion
Endowment/Foundation	82	291	\$3.09 billion
Healthcare	48	333	\$7.42 billion
Other**	292	1,577	\$14.80 billion
Totals***	1,474	5,753	\$148.36 billion

*Corporate: Corporation, Financial Institution, Insurance Co., Investment Manager, LLP, LLC, Partnership, Sole Proprietor

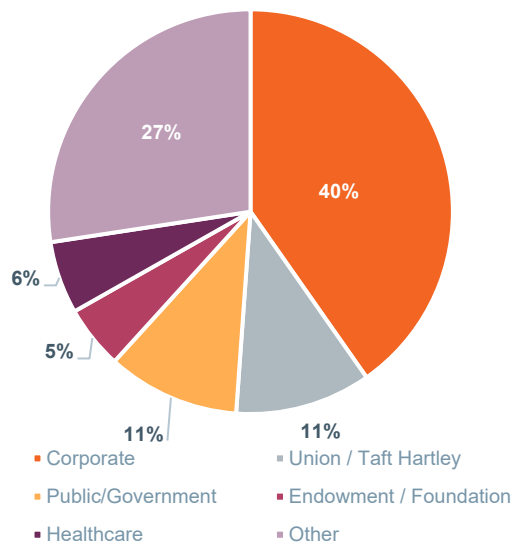
**Other: Individuals, Not-for-Profit, Trust, Estate, Educational

***Total number of clients are elevated as some clients show in multiple business segments

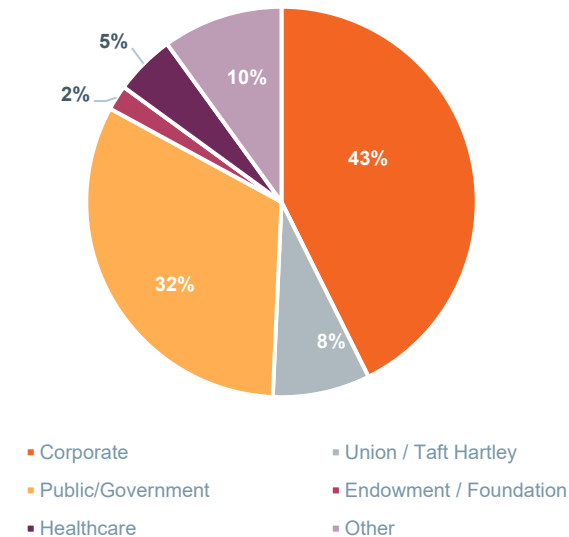
Market Segment – % of Clients



Market Segment – % of Accounts



Market Segment – % of Market Value



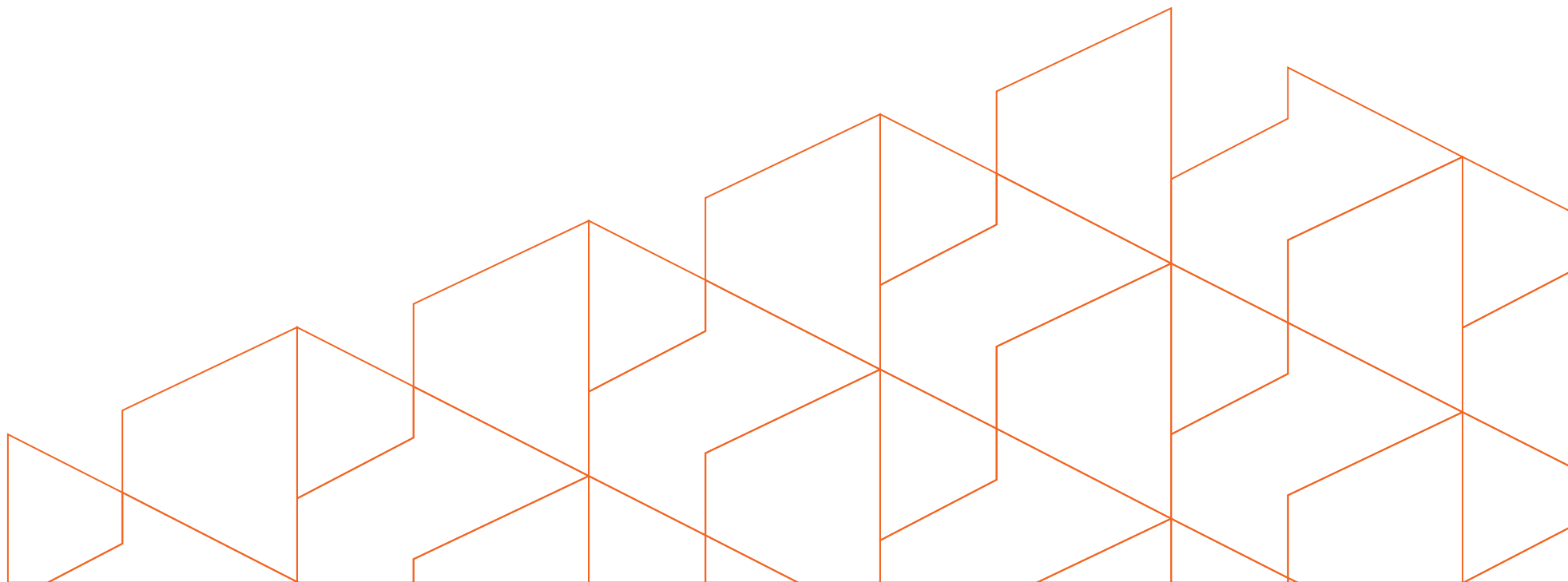
Massachusetts Pension Global Custody Accounts

<u>CLIENT</u>	<u>MARKET VALUE AS OF March 31, 2023</u>	<u>CLIENT SINCE</u>
ATTLEBORO	\$184,700,000	DECEMBER 2015
NORTH ATTLEBORO	\$146,300,000	FEBRUARY 2016
NATICK	\$211,600,000	MARCH 2016
PLYMOUTH	\$232,200,000	APRIL 2016
DUKES COUNTY	\$215,200,000	MAY 2016
SWAMPSCOTT	\$78,500,000	MAY 2016
LOWELL	\$486,400,000	JUNE 2016
CAMBRIDGE	\$1,656,000,000	SEPTEMBER 2016
HAVERHILL	\$265,300,000	SEPTEMBER 2016
MASS PORT	\$794,600,000	OCTOBER 2016
MASS WATER	\$647,500,000	NOVEMBER 2016
NORTHAMPTON	\$145,800,000	JANUARY 2017
NORTH ADAMS	\$74,000,000	MAY 2017
MEDFORD	\$229,000,000	JULY 2017
BELMONT	\$151,500,000	AUGUST 2017
DANVERS	\$135,800,000	SEPTEMBER 2017
TAUNTON	\$390,000,000	NOVEMBER 2017
MAYNARD	\$57,500,000	NOVEMBER 2018
WATERTOWN	\$247,500,000	NOVEMBER 2018
BRISTOL COUNTY	\$843,500,000	DECEMBER 2018
FALMOUTH	\$175,000,000	DECEMBER 2018
MA HOUSING	\$224,500,000	FEBRUARY 2019
WORCESTER	\$1,225,300,000	MARCH 2019
LEXINGTON	\$182,200,000	APRIL 2019
SAUGUS	\$142,000,000	APRIL 2019
NORWOOD	\$210,300,000	MAY 2019
WOBURN	\$178,600,000	MAY 2019
SHREWSBURY	\$34,200,000	SEPTEMBER 2019
QUINCY	\$809,000,000	DECEMBER 2019
NORFOLK COUNTY	\$1,280,200,000	DECEMBER 2019
ARLINGTON	\$200,800,000	MARCH 2020
MALDEN	\$200,000,000	JANUARY 2022
MARLBOROUGH	\$211,000,000	DECEMBER 2022
SOMERVILLE	\$260,000,000	SEPTEMBER 2023

Massachusetts Public Employee Retirement Systems' composite information is public information that can be accessed at the following website: <https://www.mass.gov/doc/2021-annual-report-full/download>

Section 3 **Online Access and Reporting**

Commentary and information in this section is provided by our sub-custodian, BNY Mellon



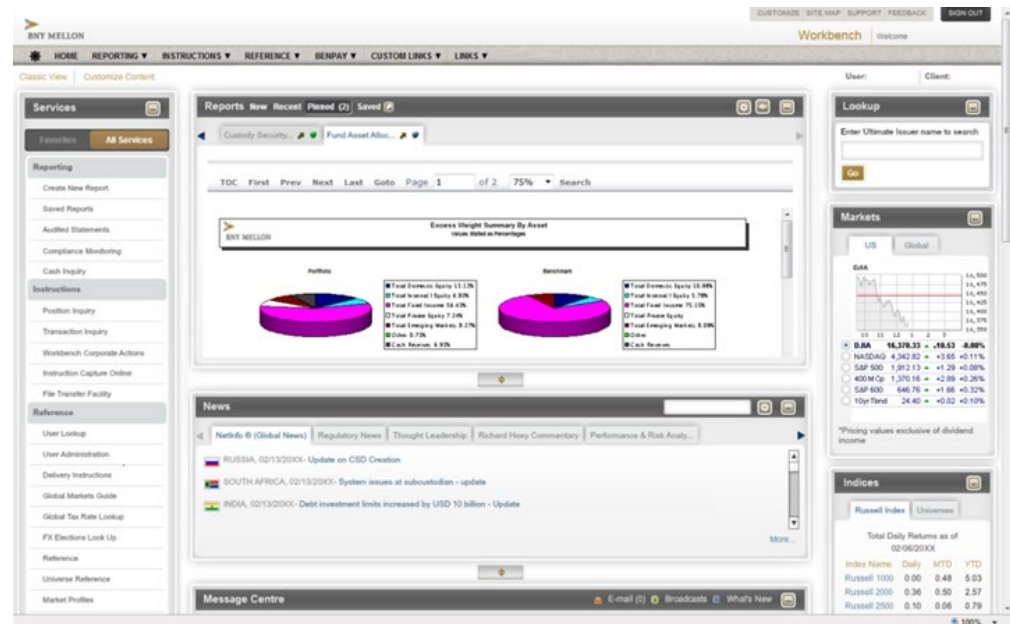
Online Access and Reporting

Provided by BNY Mellon

WorkbenchSM is BNY Mellon's internet-based information delivery tool. Workbench provides our institutional clients, investment managers, and service providers, such as consultants and auditors, access to a powerful and flexible integrated system of tools.

Key components include:

- Variety of News, Commentaries, and Market Updates
- Market Conditions and Trends
- Operational Policies and Global Custody Standards
- Thought Leadership
- Comprehensive Reporting and Graphics Engine
- Regulatory Reporting and Updates
- Enhanced Transparency Tool-Risk View
- Real-Time Custody
- Foreign Exchange Tool
- Online Meeting Center
- Trade Entry and Notification
- Corporate Action Notification and Response Module
- Data Storage Facility
- Auditor Resources



Reporting System

Provided by BNY Mellon

- Global News updates via NetInfo
- Market conditions and trends
- Thought leadership
- Operational policies and global custody standards
- Securities lending market updates
- Depository risk analysis
- Performance measurement and analytics, news and commentaries, along with index and universe information

Comprehensive Reporting and Graphics Engine

- Reports, custom downloads, and graphics can be customized via a series of optional parameters
- Supports multiple file formats for downloads
- Search capabilities within reporting menu
- Ability to preview reports with comprehensive online help
- Advanced graphics builder
- Sophisticated report writer
- Scheduling facility
- Comprehensive distribution tool
- Sharing capability
- Drill-down capabilities
- Customize reports with your company's logo
- Customizable reporting menu using “flagged” favorites

Reporting System, continued

BNY Mellon's reporting platform also provides users with an interactive option for viewing and customizing output

Key Features

- Custom grouping and summation of data
- Ad-hoc charting with drill-down capabilities
- Sort, filter, and manage columns
- Apply formulas with standard or custom-built expressions

Real-Time Custody

- Direct access to our core processing engine
- Status of transactions
- Details of asset positions
- Cash availability and projections
- Corporate actions announcements

Enhanced Transparency Tool

- Available through the Global Risk Solutions product line, this premium service provides enhanced investment transparency across all asset classes, including alternatives and derivatives, as the foundation for comprehensive risk assessment. It is based upon an innovative approach to the collection, normalization, and management of investment data from multiple sources tailored to clients' unique investment perspective.

Foreign Exchange Module

- Online foreign exchange trading
- Exchange rate forecast
- Technical analysis
- Currency profiles
- Economic & FX commentaries

Reporting System, continued

Provided by BNY Mellon

Instruction Capture Online

- Ability to enter or upload real-time, multi-currency trade instructions
- Security purchases, sales, and transfers
- Mutual fund trades
- DTCC affirmation
- Cash wires and transfers
- Foreign exchange transactions
- Multi-collateral repo instructions
- Advanced security features such as dual factor authentication
- Flexible authorization levels
- Audit trail ticket

Workbench Meeting Centre

- Virtual meeting space
- Enhanced security
- Used for training and support

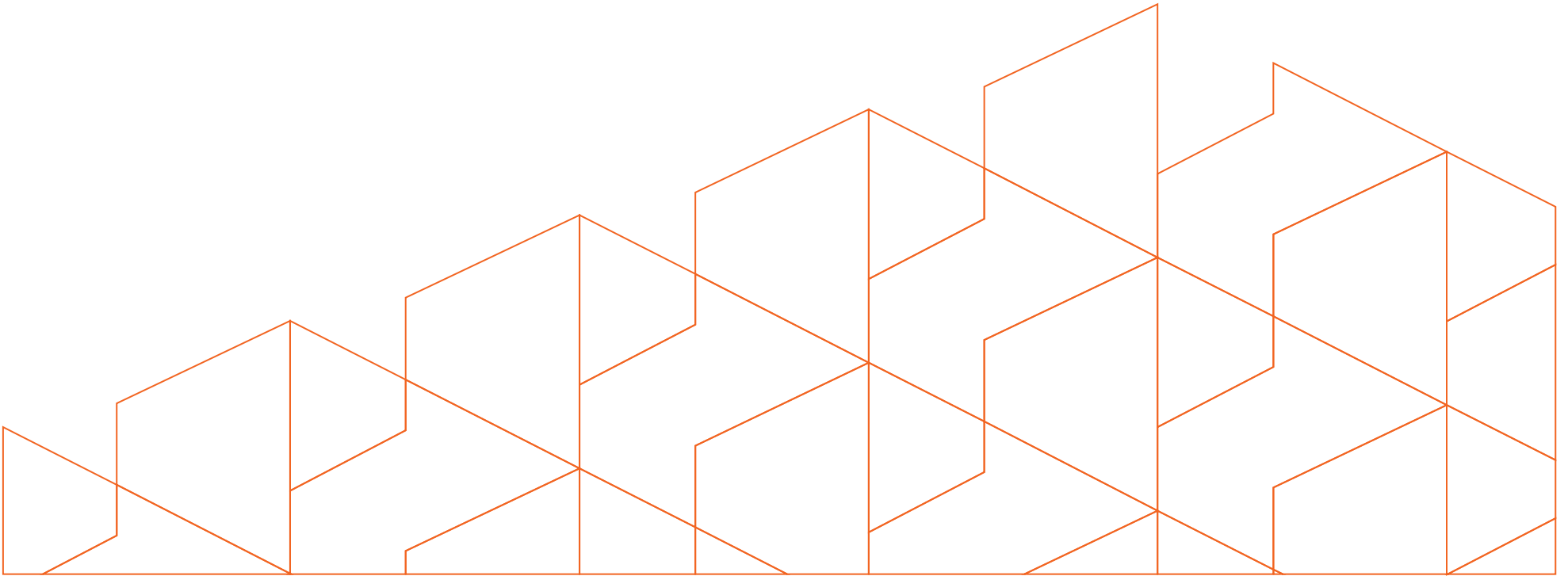
Two-Way Secure Messaging

- Workbench Message Centre which includes two-way communication leveraging 128-bit encryption

Data Storage

- Customizable section for client reference documents and procedures
- Data storage facility can be used to house documents such as legal agreements, authorized signature list, account schematics, custom procedures, and documents which need to be shared

Section 4 Appendices – Biographies & Disclosures



Anthony J. Teberio

Institutional Client Advisor



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Cell | 978.494.3453
ateberio@wilmingtontrust.com

Specializing In

- Relationship management
- Custody and accounting
- Institutional not-for-profit and public fund businesses

Tony has 30 years of experience in the Massachusetts Public Funds market and participated in the development of the annual PERAC reporting requirements. Prior to joining Wilmington Trust, N.A. in 2022, Tony worked for People's United Bank. He was also Vice President and Manager with State Street Bank where he was responsible for the middle markets' public funds business. Prior to State Street, Tony worked for Bank of Boston and BayBank.

Tony graduated from the Stonier Graduate School of Banking at the University of Delaware and is a member of the Massachusetts Association of Contributory Retirement Systems. Additionally, he is a member of the Georgia and Florida Public Pension Trustees Associations.

Jaclyn A. Callison

Senior Client Service Manager



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jcallison@wilmingtontrust.com

Specializing In

- Relationship management
- Custody and accounting
- Institutional not-for-profit and public fund businesses

Jaclyn has over 20 years of experience in the asset management and institutional custody industries. In her role as a Client Service Manager, she provides administrative account and client services to Wilmington Trust's institutional clientele. Prior to joining Wilmington Trust, N.A. in 2022, Jaclyn worked for People's United Bank. Jaclyn held client service roles in the institutional custody division of Bank of New York Mellon. She also worked for Woodstock Corporation and LifeHouse Financial Group providing financial services to individuals and families.

Jaclyn is a graduate of the University of Arizona with a B.A. in business administration.

Daniel J. Connolly

Relationship Manager



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dconnolly1@wilmingtontrust.com

Specializing In

- Relationship management
- Custody and accounting
- Institutional not-for-profit and public fund businesses

Dan has over 30 years of financial services management experience with a focus on relationship management, custody and accounting, institutional not-for-profit and public fund businesses. Prior to joining Wilmington Trust, N.A. in 2022, he worked for People's United Bank. Dan also worked in a similar capacity as a Client Relationship Manager for the not-for-profit segment of State Street Corporation.

Dan is a graduate of Bentley University with bachelor's degree in finance.

Holly Thibodeau

Senior Client Institutional Administrator



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Specializing In

- Relationship management
- Custody and accounting
- Institutional not-for-profit and public fund businesses

Prior to joining Wilmington Trust, N.A. in 2022, Holly worked with People's United Bank for more than 22 years. Having started her career in retail banking, Holly transitioned to wealth management and retirement services. Throughout her years with People's United Bank, Holly held such positions as Customer Service Representative, Wealth Management Specialist and Retirement Services Specialist. In August 2019, she joined the PUB Global Custody Team.

In her role as a Senior Client Institutional Administrator, she provides quality administrative account and client services to the bank's institutional clientele.

Christopher Coleman

Retirement Services Sales Manager



Contact Information

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ccoleman1@wilmingtontrust.com

Specializing In

- Collateral management
- Derivative services
- Segregation
- Public deposits
- Liquidity management

Christopher is responsible for introducing prospective clients to Wilmington Trust's full array of collateral management capabilities, including margin management and collateral segregation across a variety of asset classes, including but not limited to derivatives, TBAs, public deposits, and others. Christopher supports all regions across the United States.

Christopher joined Wilmington Trust in 2018, with more than two decades of experience in the financial services industry. In addition to his most recent job function as sales manager, he has held various roles over the last two decades, ranging from global operations manager providing data management, corporate action, and valuation support for mutual funds and hedge funds, to global product manager providing middle office outsourcing solutions, as well North American business manager focused on collateral and segregation solutions. Prior to joining Wilmington Trust, Christopher worked at The Bank of New York Mellon as a managing director of collateral management sales.

He holds a bachelor's degree from Stockton University.

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Comerica Institutional Trust, Custody & Investments

September 28, 2023



The Massachusetts Water Resource Authority Employees' Retirement System (MWRA)

September 28, 2023

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Comerica Incorporated

Comerica is a diversified financial services company headquartered in Dallas, Texas

Comerica Incorporated (NYSE: CMA) is a financial services company headquartered in Dallas, Texas, and strategically aligned by the Commercial Bank, the Retail Bank, and Wealth Management. Comerica's approximately 7,800 colleagues focus on relationships, and helping people and businesses be successful.

In addition to Texas, Comerica Bank locations can be found in Arizona, California, Florida and Michigan, with select businesses operating in several other states, as well as in Canada and Mexico. For more information about Comerica Incorporated, visit: comerica.com/about-us/company-overview.

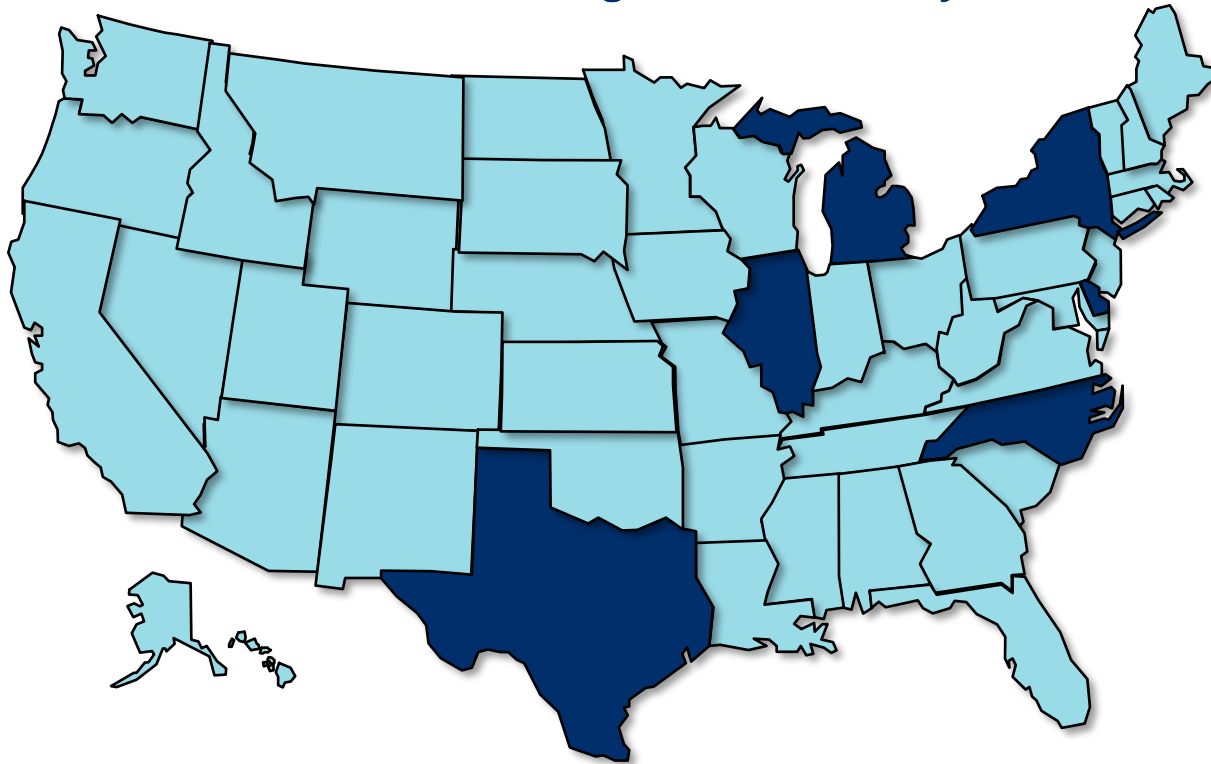
- Among the 25 largest U.S. financial holding companies (as of 3/31/23)
- Offices in 14 of the 15 largest metropolitan areas
- No. 4 prepaid card issuer¹
- 408 U.S. banking centers (as of 3/31/23)
- Highest concentration of C&I loans U.S. financial holding companies with greater than \$60B in assets²
- Named to Newsweek's list of America's Most Responsible Companies
- \$195 billion in assets under administration
- Trust powers in all 50 states



Comerica Institutional Trust



Primary Institutional Trust offices
located throughout the country



- Detroit, Michigan
- Austin and Dallas, Texas
- Wilmington, Delaware
- Chicago, Illinois
- New York, New York
- Charlotte, North Carolina

A single source in providing trust, custody, and investment management services to institutional clients and organizations

- Approximately \$136.1 billion in assets*
- Trust powers in all 50 states
- Approximately 100 professionals involved in providing superior client service
- Relationship Managers average over 18 years in the industry

* As of March 31, 2023

Institutional Trust

Our Strengths

Comerica has been providing trust services since 1900 and we continue to invest in this business as a part of the Bank's overall Strategy.

- Depth of experience and ability to share best practices with each of our clients is the hallmark of our service model
- Efficient, skillful, day-to-day administration is always the singular focus of our professionals



High Touch

High-Touch" client service delivered by experienced relationship and operations professionals



Real Time

Real time technology supporting an integrated service platform using advanced, web-based technology



Full Array

Full array of ancillary services, including benefit payments, securities lending, global custody and plan accounting services



Partnership

Strategic partnerships with other service providers to provide a "best in class" solution for our clients



Risk Management

Heavy emphasis on middle office controls

Business Segments We Support

Our dedicated teams are focused on the industries they support.



- **Corporate Benefits:**
- Pension, Money Purchase Pension, Executive Incentives, Supplemental Executive Retirement Plans (SERPs)



- **Taft-Hartley:**
- Pension/Money Purchase Pension/Defined Contribution, Health & Welfare, Voluntary Employees' Beneficiary Association (VEBA's) (Vacation/Training/General)



- **Municipal:**
- Employee Retirement Systems, Police & Fire, Local/County, Other Post-Employment Benefits (OPEB's), General Operating Funds



- **Insurance:**
- Domestic Insurance Companies, Reinsurance Trusts (Reg. 114 Trusts), Parent Captives, 831(b) Captives, Line of Credit (LOC) Clients



- **Not for Profit:**
- Endowments/Foundations, Health Systems, Colleges/Universities, Religious Organizations

Commitment to Public/Government Clients



- **Public/Government Clients:**
 - Local/County
 - General Operating Funds
 - Police & Fire
 - Employee Retirement Systems
 - OPEB's
- ***141 Public/Government with over \$15.7 billion* in assets under administration are served by Comerica***

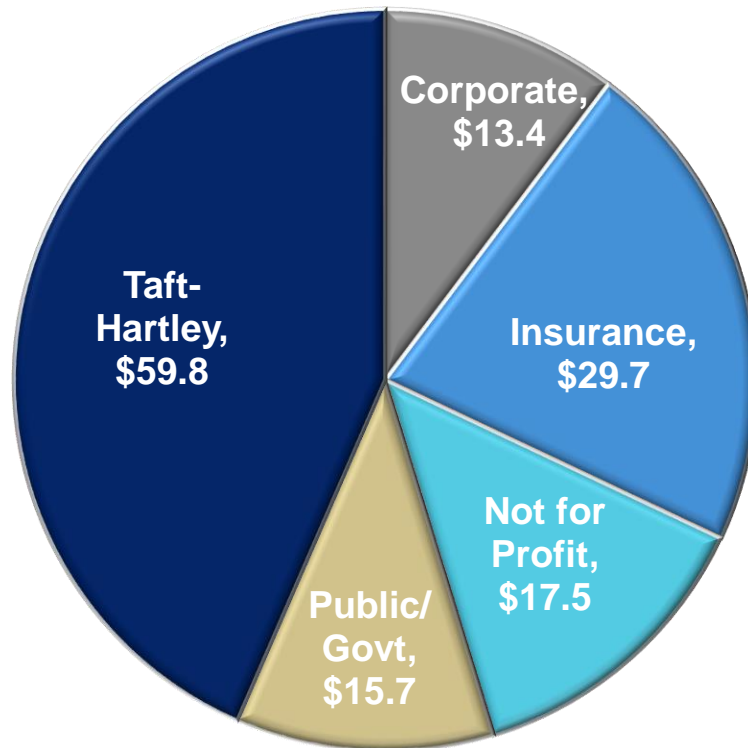
*As of March 31, 2023

Client Composition*

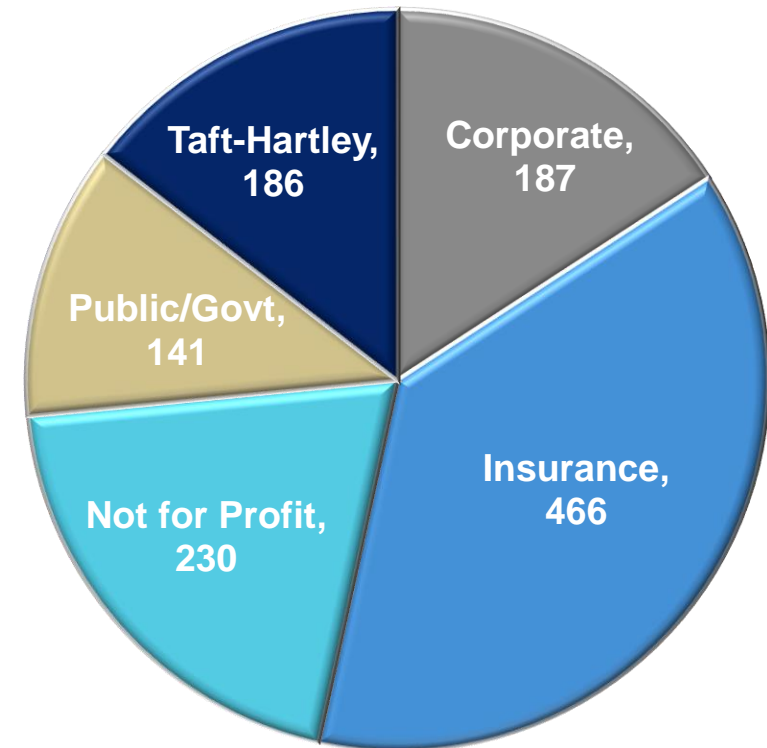


Market Value

(\$ in billions)



Number of Clients



*As of March 31, 2023

Client Relationship Team

Industry veterans
with long tenure at
Comerica

“High-touch”
delivery, providing
excellent service
and guidance

Engage in regular
dialogue with you
and your client

Work closely with
your client’s
auditors and
accountants

Positive working
relationship with
consultants

Consultative
approach



Client Service Team



Relationship Manager

Heather Leto
(313) 222-5472
hyleto@comerica.com

Back-Up Relationship Manager

Felecia Ryan
(313) 222-5472
fyans@comerica.com

Responsibilities

- Identifies products and services to enhance the client experience
- Oversees account relationship
- Coordinates workflow
- Resolves and researches problems
- Completes special projects as requested

Client Service Manager

Cynthia Corby
(313) 222-4747
cacorby@comerica.com

Back-Up Client Service Manager

Bruno Ceri
(313) 222-5430
bceri@comerica.com

Responsibilities

- Researches trade settlement and income issues
- Verifies accuracy of reports
- Reviews overdrafts and excess cash daily
- Resolves statement issues
- Coordinates preparation of plan accountings
- Open new accounts



Middle Office Controls

- Policies & operational procedures
- Dual control for transaction initiation / approval
- Use of group mailboxes to facilitate client requests to ensure timely handling of transactions
- Client profile sheets
- Directives database
- Consistent follow up

Risk Management

Comerica has a long-standing commitment to risk management, particularly in the Institutional Trust Division.



Commitment to Security

- We are diligent in knowing our clients and have procedures in place to properly authenticate outgoing wires.



Transparency in Reporting

- We deliver an annual SOC 1 report for our clients and their auditors, as requested.



Commitment to Compliance

- Our internal and external auditors review our compliance to policies and procedures on an annual basis.
- At an enterprise level, Comerica utilizes a “three-lines of defense” model which provides comprehensive regulatory and operational risk oversight activities.



Collaboration with our Regulatory Partners

- We meet regularly with Federal, State and OCC regulators to review our activities to ensure we are in compliance with applicable laws, rules, and regulations.

Comerica's Commitment to Products and Services

Comerica provides a full array of services delivered by experienced relationship professionals

- Accounting and Reporting
- Collective and Common Trust Funds
- Safekeeping of Assets
- Investment Management
- Online Access
- Cash Sweep
- Performance Measurement
- Benefit Payments
- Securities Lending
- Global Custody



Accounting

Our comprehensive trust accounting system is fully automated with multiple integrated external interfaces and completes the following activities:

- Accounting and Reporting
- Collective and Common Trust funds
- Safekeeping of Assets
- Investment Management
- Online Access
- Cash Sweep
- Performance Measurement
- Benefit Payments
- Securities Lending
- Global Custody

Safekeeping

All security transactions and cash movements are executed with the highest degree of accuracy for both domestic and global securities.

- Direct participant with Depository Trust & Clearing Corporation (DTCC)
- Direct member of the Federal Reserve Bank
- International safekeeping through our global custodian
- Rigorous pricing methodology for all asset classes
- Non-DTCC eligible physical assets are held in our dual-controlled vault and off-site at DTCC's Physical Custody vault
- Daily reconciliation of cash positions, internal trading accounts, suspense accounts, DTCC, and the Federal Reserve



Global Custody

We offer global custody services through our partnership with Bank of New York.

- Participation in approximately 90 markets with continual expansion worldwide
- SWIFT enabled global trade capture and settlement process
- Real-time online reporting of trades and global asset holdings
- Services include:
 - Foreign tax reclaims
 - Income collection
 - Corporate actions
 - Trade settlement



Cash Sweep Services

Comerica offers a variety of vehicles offered to accommodate investment requirements and/or cut-off times.

The investment options offered are not deposits or other obligations of or guaranteed by Comerica Bank or any of its affiliates; and are not insured by the FDIC. Money market mutual funds are subject to investment risk, including possible loss of the principal amount invested. Prospectuses should be reviewed prior to investing in any of the funds.

- Comerica Short Term Fund (available only for governmental plans or plans qualified under IRC 401(a))
- Invesco/AIM Treasurers Series Trust Premier U.S. Government Money Fund
- Invesco Short-Term Investments Trust Treasury Portfolio
- Goldman Sachs Financial Square Government Fund
- Goldman Sachs Financial Square Treasury Instruments Fund
- BlackRock Liquidity Funds: FedFund
- RBC U.S. Government Money Market Fund

Securities Lending

The unique resources and experience of our specialized partners, combined with Comerica's strength as a custodian provides clients with a high level of service that differentiates us from the typical agent program.

Key services include:

- Flexible lending opportunities and personalized service
- State-of-the-art system and trading technology
- Ability to customize reinvestment and borrower guidelines to match earnings objectives and risk tolerance level
- Knowledgeable and experienced team
- Daily compliance monitoring
- Access to markets and distribution capabilities
- Top-tiered borrowers
- Lending estimates
 - Based on current portfolio structure
 - Reinvestment strategy



Online Solutions

Comerica Trust Online provides a convenient, secure way to access information about your accounts with the following features:

- 24/7 site access
- Historical pricing
- Consolidated account reporting and transaction history
- Customized screen views
- Cash projections
- Ability to perform account analysis
- Secure site with password protection
- Export capabilities with Quicken®
- Customer Service Representatives available from 7:30 a.m. to 5:00 p.m. ET, Monday through Friday (bank holidays excluded)

Online Products

Benefit Payments Online provides plan sponsors with a convenient way to add, delete and update vital information quickly and easily. Additional features include:

- Intuitive, easy-to-use interface
- 24/7 site access
- Information processing in a real-time environment
- Password protection using multi-factor authentication to verify access
- Ability to establish and/or upload files for new retiree records, retroactive benefits and deductions, and decedent information
- Ability to view or edit name and address, direct deposit information, benefit information, deductions, and tax information
- Ability to view reconciliation and other reports for existing retirees and lump-sum payees
- Ability to access and export payment and report history

Benefit Payment Services



Comerica currently provides benefit payment services to a broad range of institutional clients.

Monthly Payments

Over 86,000 payments made every month

Calls

Over 18,000 call center inquiries handled per year, alleviating the burden on the plan administrator

Size of Plans

Plans range from 1 to 12,000 retirees

Committed to meeting the needs of your employees

- Payments made via check or EFT
- Trained and experienced call center with toll-free number
- Tax reporting
- Lump sum checks

Committed to meeting the needs of plan sponsors

- Comprehensive reporting
- Internet product to view, add, delete, or update retiree information
- Customized earnings and deductions categories
- Monthly decedent audit

Commitment to our Communities

(Awards and Contributions)



Named to the Civic 50 by Points of Light, the world's largest organization dedicated to volunteer service (June 2022)



Selected as 2022 LIFE Award Winner for 3rd consecutive year for our dedication to promoting consumer and financial education



Ranked among the top 100 in Newsweek's America's Most Responsible Companies which evaluated approach to environment, social and corporate governance (November 2022)

- Over \$2 billion in community and economic development loans of which \$222 million was for affordable housing lending (with an additional \$95 million in affordable housing investments) that support vibrant, accessible and sustainable development in 2022
- \$8.4 million committed in grants and charitable contributions for educating LMI individuals and families in 2022 (Comerica Charitable Foundation and Comerica Bank)
- Invested \$4 million in COVID-19 relief efforts for small business and community programming (March 2020)
- 66,270 volunteer hours donated by employees in 2022
- Over \$1.7 million raised for the United Way and Black United Fund in 2022

Commitment to Diversity



- Forbes names Comerica to 2022 Best Employers by State, Best Employers for Women
- Perfect score of 100 for the eighth consecutive year on Human Rights Campaign Foundations' Corporate Equality Index
- National Diversity Council Best U.S. Companies for Diversity
- DiversityInc 2022 Noteworthy Companies
- Professional Women's Magazine Top Financial & Banking Company and Top Employers
- Black EOE Journal Best of the Best 2022 Top Financial & Banking Company and Top Employers
- Hispanic Network Magazine Best of the Best 2022 Top Financial & Banking Company and Top Employers

Fee Proposal



Fee Proposal for Domestic Custodial Services for the Massachusetts Water Resource Authority

- **Cost of Services Assumptions**

- The Domestic Custody Fee Schedule for the MWRA is based on the assumptions outlined below. Any change in the portfolios could precipitate a change in the proposed fee schedule.
- Comerica will serve as Custodian for the MWRA Defined Benefit Plan of \$800 Million.
- The account configuration will consist of 32 accounts for mutual funds, commingled funds, and other line items, 1 account for a Separately Managed Account (Domestic Sm Cap Equity), and 1 cash account.
- Comerica's cash management vehicle(s) will be used for uninvested cash.
- Comerica will be established as an Interested Party for all special assets. Mutual Funds will be registered in Comerica's nominee name.
- Comerica may file claims in class action lawsuits that involve securities held in a client account.
- Comerica's standard reporting package will be utilized, which includes monthly statements of account, annual statements of account, and online access to all accounts in the client relationship.

Fee Schedule



Domestic Custody Fee Schedule for MWRA

Trustee Fee \$1,000 annually (*Not Applicable*)

Responsibility Fees

Account Fee \$500 annually per account (*Waived*)

Market Value Fee

All Assets 0.6 basis points (0.00006)

Minimum annual responsibility fee of \$12,500

Account and market value fees apply to minimum

Leveraged Loans Fees

All Assets .00035 (3.5 basis points)

Special Asset Fees

\$1,000 per asset, per account annually (*Waived*)

Open-end mutual funds, other bank collective funds, private placements, or other unique assets.

Activity Fees

Buy/Sell/Maturity Included

Wire Transfer Out Included

Disbursements (non-wire)* Included

Disbursements (ACH only)* Included

Pension Payments* Available upon request

Relationship pricing is available when custody services are bundled with Comerica's index or actively managed investment products.

Fee Schedule (Cont'd)



Other Services

- Online services are available at no additional charge
- Foreign securities with non-U.S. settlement will be charged under a global custody schedule
- Performance Measurement will be charged under Comerica's Performance Measurement Services Fee Schedule
- Comerica utilizes a third-party vendor to pursue foreign tax reclaims. Accounts that wish to have Comerica's vendor reclaim eligible amounts withheld will be charged based on the vendor's current fee schedule. The vendor's fee is deducted from the account. Comerica does not charge any additional fees.
- Other extraordinary services, including tax reporting, may be quoted separately based on the scope and costs of the activity

Cash Sweep

Comerica makes available a variety of highly rated cash investment funds for automated, same-day investment of cash balances resulting from income or trade settlement. A cash sweep charge of twenty-five basis points is netted to the earnings of the fund. Please note that Comerica may receive a servicing fee for non-proprietary money market funds.

Comerica's fees are billed quarterly in arrears and will be direct debited to the appropriate trust account(s).

Proposal valid until 12/31/2023

- * Comerica uses a general disbursement checking account to process disbursements it makes via check. This is a non-interest bearing account from which Comerica may receive float. Float is earned at the Fed Funds rate, as published in the Wall Street Journal or on the Federal Reserve's Web Site. Comerica may begin earning float once the funds are transferred from your trust account to the general disbursement checking account. Comerica continues to receive float on such funds until such time as the check is presented for payment or the funds are disposed of pursuant to an unclaimed funds procedure. Disbursements via wire or ACH do not generate float and provide improved funds availability for recipients. Generally, Comerica does not receive float on funds received pending investment instructions. Exceptions to the above-described procedures may ap



Why Comerica

- Our passion about meeting the needs of our clients.
- Experience of the team
- Customer service
- Distribution partner
- Optimum size
- Competitive fees
- Commitment to the public/government business segment

Disclosure

Comerica Trust is a unit of Comerica Wealth Management which consists of various divisions and affiliates of Comerica Incorporated, including Comerica Bank, Comerica Bank & Trust, N.A. Comerica Securities, Inc.; and Comerica Insurance Services, Inc. and its affiliated insurance agencies. Comerica Securities, Inc. is a federally registered investment advisor. Registrations do not imply a certain level of skill or training. Strategic alliance organizations of Comerica Bank & Trust, N.A. are neither subsidiaries nor affiliates of Comerica Incorporated or Comerica Bank & Trust, N.A.

Securities and other non-deposit investment products are not insured by the FDIC; are not deposits or other obligations of or guaranteed by Comerica Bank or any of its affiliates; and are subject to investment risks, including possible loss of principal invested.

Comerica and its affiliates do not provide tax or legal advice. Please consult with your tax and legal advisors regarding your specific situation.





MONTHLY PERFORMANCE REPORT

**MWRA EMPLOYEES' RETIREMENT
SYSTEM**

AUGUST 31, 2023



PROPRIETARY & CONFIDENTIAL

GOALS & OBJECTIVES

Investment Return Objective

"Its primary goal is to provide promised benefits to participants and beneficiaries of the MWRA Employees' Retirement system. Plan assets should be equal to or greater than the present value of the projected benefit obligations ("fully funded"). When Plan assets are less than the present value of projected benefit obligations, a schedule will be established and a plan will be in place to meet a fully funded status. When achieving return objectives required to fully fund the system, the Board is intent on controlling risk. Consistency of returns and risk of loss are primary considerations. The Board has also determined that the annual performance of plan assets should not vary substantially from returns achieved by other public pension funds with similar goals and objectives."

Return Expectations

The investment growth should be maintained in such a manner that the minimum nominal rate of return does not cause a negative real rate of return over a full market cycle:

- **Time Horizon:** Return assumptions will be based on a ten-year time horizon with a detailed review and analysis to be made at least annually to monitor allocations and assumptions. Should a manager deviate from proscribed mandate or expected risk and return profile by a consequential degree, that manager may be reevaluated at any time.
- **Liquidity Needs:** Presently contributions exceed plan withdrawals to provide benefits, payouts, and/or plan expenses. Portfolio liquidity will be managed based on the cash flow needs of the System.
- **Regulatory Considerations:** Assets of this Fund shall be invested in a manner consistent with the fiduciary standards established under Code of Massachusetts Regulations 840 ("840 CMR"). The Board shall also use as precedent the Employee Retirement Income Security Act (ERISA).



EXECUTIVE SUMMARY

	Market Value (\$)	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Composite	667,108,597	-1.8	6.3	4.7	4.7	5.4	6.4
<i>Allocation Index</i>		-1.7	6.7	4.9	5.7	5.9	6.9
<i>Policy Index</i>		-1.6	7.4	5.8	6.2	6.4	7.1

20 Years As of August 31, 2023				
	Return	Standard Deviation	Sharpe Ratio	Sortino Ratio
Composite	7.4	8.4	0.7	1.1
<i>Allocation Index</i>	6.8	7.9	0.7	1.0
<i>Policy Index</i>	7.3	8.5	0.7	1.0

Performance

- The Composite had a preliminary return of -1.8% (net) for the month, underperforming both the Allocation Index of -1.7% and Policy Index of -1.6%.
- In equities, the S&P 500 Index fell 1.6% in August; during the same period, non-U.S. markets were further challenged by a stronger U.S. dollar with the MSCI EAFE Index and MSCI Emerging Markets Index losing 3.8% and 6.2%, respectively. The portfolio's Domestic Equity composite returned -2.3% (net) and the Non-US Equity composite was down -5.9% (net).
- In fixed income, higher interest rates dampened investor sentiment, with U.S. rates trending higher last month: the 10- and 30-year Treasury yields added 14 and 19 basis points, respectively, weighing down longer-duration indexes. These moves came on the back of comments by Federal Reserve Chair Jerome Powell after the Jackson Hole Economic Symposium, in which the central bank said it is prepared to further raise rates if needed and will maintain a restrictive policy stance until it is confident that inflation is moving toward the stated 2% inflation target. Federal Funds Futures continue to reflect one additional rate hike for 2023 and four rate cuts in 2024.. The Fixed Income composite returned -0.5% (net) for the month while the Bloomberg Agg and the Bloomberg US HY returned -0.6% and 0.3%, respectively.
- This brings the total plan return for the trailing one-year period to 4.7% (net), while the Allocation Index and Policy Index both returned 4.9 and 5.8%, respectively.

Returns for 20 years Risk/Return and Statistics Summary are gross of fees.

Since inception return is 8.2% gross of fees. Prior to 1999, performance history does not capture separate net and gross returns.

TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy(%)	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Composite	667,108,597	100.0	100.0	-1.8	6.3	4.7	4.7	5.4	6.4	6.7	Jan-86
Allocation Index				-1.7	6.7	4.9	5.7	5.9	6.9		
Policy Index				-1.6	7.4	5.8	6.2	6.4	7.1		
Total Balanced	3,710,164	0.6	0.0	-0.9	7.4	6.1	7.9	6.2	5.1	4.8	Dec-10
PRIT Core Fund	3,710,164	0.6	0.0	-0.9	7.4	6.1	7.9	7.1	8.0	6.9	Apr-99
60% S&P 500 / 40% Bloomberg Aggregate				-1.2	11.5	9.0	4.6	7.1	8.4	6.2	
Total Domestic Equity	207,156,864	31.1	31.0	-2.3	13.3	10.5	7.5	8.6	10.9	7.5	May-99
Russell 3000 Index				-1.9	18.0	14.8	9.8	10.3	12.2	7.3	
Large Cap	159,685,682	23.9	24.0	-2.3	14.5	11.1	6.9	9.8	11.6	12.3	Dec-10
Rhumblin Advisors S&P 500 Index Fund	65,256,734	9.8	10.0	-1.6	18.7	15.9	10.5	11.1	12.7	9.0	Apr-97
S&P 500 Index				-1.6	18.7	15.9	10.5	11.1	12.8	9.0	
Coho Relative Value Equity	50,842,179	7.6	7.0	-4.2	-2.3	0.6	6.5	7.0		9.3	Mar-16
Russell 1000 Value Index				-2.7	5.9	8.6	11.6	7.1		10.1	
Polen Focused Growth	43,586,769	6.5	7.0	-1.2	30.3	16.3	1.6	10.3		13.7	Feb-16
Russell 1000 Growth Index				-0.9	32.2	21.9	8.3	13.8		17.0	
Small Cap	47,471,183	7.1	7.0	-2.5	9.1	8.5	9.8	5.3	9.0	10.8	Dec-10
Loomis Sayles Small Cap Growth	23,436,373	3.5	3.5	-1.4	9.9	10.9	4.6	5.2	9.9	6.7	Jan-97
Russell 2000 Growth Index				-5.2	12.7	6.8	2.7	2.5	8.2	6.6	
Mesirow Small Cap Value Equity CIT - Founders Class	24,034,809	3.6	3.5	-3.5						4.4	Apr-23
Russell 2000 Value Index				-4.8						5.6	
Total Non-US Equity	109,276,955	16.4	19.0	-5.9	6.8	6.7	-1.8	0.2	2.7	3.6	Mar-99
International Equity	71,545,425	10.7	12.0	-6.5	7.9	10.4	-0.3	1.8	3.7	3.2	Sep-05
SEG Baxter Street	29,714,780	4.5	5.0	-7.4	5.8	6.6	-1.9	2.6		5.7	May-16
MSCI AC World ex USA (Net)				-4.5	8.8	11.9	4.0	3.3		5.5	
Schroder International Alpha Trust Class 1	28,055,229	4.2	4.0	-4.1	9.3	15.4	4.4	5.9	6.2	6.3	Mar-12
MSCI AC World ex USA (Net)				-4.5	8.8	11.9	4.0	3.3	4.4	4.4	
Baillie Gifford International Growth Fund Class K	13,775,416	2.1	3.0	-9.2	9.9	8.9				-7.8	Oct-20
MSCI AC World ex USA (Net)				-4.5	8.8	11.9				5.0	

Since inception return is 8.2% gross of fees. Prior to 1999, performance history does not capture separate net and gross returns.

In November 2019, Loomis Sayles and Schroders transitioned from a mutual fund to a CIT structure. Performance prior to the transition to the CIT investment vehicle is linked to mutual fund performance history.

Preliminary performance is subject to change once finalized.

TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy(%)	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets Equity	37,731,530	5.7	7.0	-4.8	4.6	0.1				-12.5	Mar-21
Axiom Emerging Markets Trust Class 2	17,829,019	2.7	7.0	-5.0	1.2	-4.3				-15.7	Mar-21
MSCI Emerging Markets (Net)				-6.2	4.6	1.3				-9.3	
ABS Emerging Markets MA Fund	19,902,510	3.0		-4.6	7.7	4.2				-9.1	Dec-21
MSCI Emerging Markets (Net)				-6.2	4.6	1.3				-8.8	
Total Fixed Income	125,637,724	18.8	20.0	-0.5	2.3	-0.1	-2.5	1.6	2.7	5.6	Mar-99
Garcia Hamilton Fixed Income Aggregate	31,951,467	4.8	6.0	-0.9	0.8	-2.7	-4.4	0.2		0.4	Apr-18
Blmbg. U.S. Aggregate Index				-0.6	1.4	-1.2	-4.4	0.5		0.5	
Lord Abbett Core Fixed Income	36,908,942	5.5	4.0	-0.6	1.8	-1.1	-3.9	0.7		0.8	Apr-18
Blmbg. U.S. Aggregate Index				-0.6	1.4	-1.2	-4.4	0.5		0.5	
Loomis Sayles Multisector Full Discretion Trust	47,038,700	7.1	8.0	-0.5	2.8	0.9	-2.3	2.1	3.3	6.7	Mar-99
Blmbg. U.S. Aggregate Index				-0.6	1.4	-1.2	-4.4	0.5	1.5	3.8	
Blmbg. U.S. Corp: High Yield Index				0.3	7.1	7.2	1.8	3.3	4.5	6.2	
Octagon Senior Secured Credit Cayman Fund Ltd. - Class L Acc, Series 1	9,723,305	1.5	2.0	0.9	7.3	7.4	4.2			3.6	Aug-19
Credit Suisse Leveraged Loan				1.2	9.0	9.1	5.8			4.3	
Invesco Mortgage Recovery Loans Feeder Fund	15,311	0.0		0.0	-0.1	0.1	-0.2	0.9	5.8	9.5	Apr-10
Blmbg. U.S. Aggregate Index				-0.6	1.4	-1.2	-4.4	0.5	1.5	2.1	
Total Hedge Fund	40,522,319	6.1	6.0	0.3	4.6	3.7	5.1	4.0	3.4	3.4	Oct-06
PRIM Portfolio Completion Strategies	12,717,380	1.9		0.4	5.4	5.0	6.2	3.6	4.1	3.9	Oct-06
Corbin Pinehurst Partners	13,366,236	2.0		-0.1	6.2	5.6	4.3			4.9	Nov-18
HFRI Fund of Funds Composite Index				-0.1	3.2	3.3	3.8			4.2	
UBS Neutral Alpha Strategies	14,386,492	2.2		0.5	2.6	5.8	6.7			6.2	Nov-18
HFRI Fund of Funds Composite Index				-0.1	3.2	3.3	3.8			4.2	
Entrust Peru Wind Down	52,209	0.0		-0.6	-21.1	-92.9	-58.7	-42.5		-38.5	Dec-17
HFRI Fund of Funds Composite Index				-0.1	3.2	3.3	3.8	3.4		3.3	
Other	20,476,219	3.1	0.0	0.4	3.0	4.2	1.5	1.7	1.1	0.9	Dec-10
Cash Account	20,476,219	3.1		0.4	3.0	4.2	1.5	1.7	1.1	1.8	Feb-00
90 Day U.S. Treasury Bill				0.5	3.1	4.3	1.5	1.7	1.1	1.7	

Importantly, all returns in this report, including those of the private markets managers, are based on a time weighted return calculation and not based on IRRs, which can result in return differences.

Preliminary performance is subject to change once finalized.

TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy(%)	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Real Estate	68,065,561	10.2	12.0	0.0	-2.2	-4.1	10.6	8.4	9.9	8.0	Apr-99
<i>NCREIF Property Index</i>				0.0	-3.8	-6.6	6.8	5.9	7.8	8.3	
Morgan Stanley Prime Property (\$2.8m commitment in '95)	25,082,213	3.8		0.0	-3.5	-7.1	8.5	6.8	9.3	8.4	Sep-95
TA Realty Core Property Fund, LP (\$15m commitment in '19)	25,494,984	3.8		0.0	-1.9	-6.1	13.0			10.4	Jun-19
Invesco Mortgage Recovery II (\$3M commitment in '15)	858,992	0.1		0.0	-3.6	-22.8	-26.3	-13.2		-4.6	Oct-15
Landmark VI (\$2m commitment in '11)	5,866	0.0		0.0	-9.3	-13.4	-7.7	-10.3	-1.8	1.3	Jul-11
Landmark VIII (\$4m commitment in '17)	2,168,367	0.3		0.0	1.3	3.5	20.5	12.9		17.1	Nov-17
StepStone Real Estate Fund II (\$2m commitment in '11)	362,477	0.1		0.0	1.6	-2.0	0.2	-2.3	3.6	1.8	May-12
Cerberus Institutional Real Estate Partners III (\$1.5m commitment in '12)	479,669	0.1		0.0	1.7	12.4	21.1	15.8	14.9	14.3	May-13
TerraCap Partners III, LP (\$2.6m commitment in '15)	1,589,564	0.2		0.0	-1.3	16.2	8.8	8.6		10.2	Jul-15
TerraCap Partners IV, LP (\$4m commitment in '17)	3,518,882	0.5		0.0	-4.1	-0.4	8.1	9.2		8.7	Nov-17
TerraCap Partners V, LP (\$8m commitment in '22)	8,504,546	1.3		0.0	0.0	5.9				7.7	Jun-22
Total Private Equity and Debt	92,262,790	13.8	12.0	0.4	4.1	3.6	23.1	14.7	14.9	10.4	Apr-99
<i>CJA US All PE</i>				0.0	2.4	4.3	20.4	14.8	14.3	12.9	
<i>NASDAQ W/O Income</i>				-2.2	34.1	18.8	6.0	11.6	14.6	7.4	
PRIM Vintage Year 2008 (\$3m commitment in '08)	925,723	0.1		6.1	22.4	21.4	30.1	17.0	19.6	10.9	Jun-08
PRIM Vintage Year 2009 (\$1m commitment in '09)	54,286	0.0		2.6	-4.6	-4.8	38.4	27.5	24.5	13.2	Nov-09
PRIM Vintage Year 2010 (\$1m commitment in '10)	386,597	0.1		2.3	-12.6	-18.8	17.1	11.9	16.2	9.2	Jun-10
PRIM Vintage Year 2011 (\$1.5m commitment in '11)	771,046	0.1		2.3	3.4	1.9	34.2	23.4	22.5	9.7	May-11
PRIM Vintage Year 2012 (\$1m commitment in '12)	474,458	0.1		2.5	5.1	7.4	14.2	13.0	13.6	-8.4	Jun-12
PRIM Vintage Year 2014 (\$2m commitment in '14)	2,090,722	0.3		1.3	2.1	-1.0	26.6	21.4		8.1	Jun-14
PRIM Vintage Year 2017 (\$2m commitment in '17)	2,643,981	0.4		2.2	7.1	8.6	30.8	19.7		15.7	May-17
PRIM Vintage Year 2020 (\$5m commitment in '20)	4,270,165	0.6		2.5	3.7	2.9	19.9			14.6	Mar-20
PRIM Vintage Year 2021 (\$5m commitment in '21)	3,812,691	0.6		1.9	6.1	1.8				1.3	Dec-20
PRIM Vintage Year 2022 (\$7.5m commitment in '22)	1,772,283	0.3		1.7	5.1	3.2				-0.7	Apr-22
PRIM Vintage Year 2023 (\$10m commitment in '23)	291,922	0.0		-0.5						-0.4	May-23
Alcentra European DLF (\$5m commitment in '14)	208,355	0.0		0.0	4.8	6.6	27.7	13.5		11.7	Jan-15
Ascent Fund IV-B (\$1m commitment in '16)	20,242	0.0		0.0	-1.4	-49.8	-30.8	-29.8		-21.5	Jul-16
Ascent Fund V (\$2m commitment in '08)	1,274,437	0.2		0.0	1.0	-5.6	3.1	-1.8	2.2	3.8	Oct-08
Ascent VI (\$3m commitment in '15)	3,174,297	0.5		0.0	-2.6	-11.4	1.9	-0.4		0.7	Dec-15
CVI Credit Value Fund IV A LP (\$6m commitment in '17)	4,628,037	0.7		0.0	1.9	6.1	11.2	6.5		6.1	Dec-17
Invesco Fund VI (\$5m commitment in '13)	603,938	0.1		0.0	-21.5	-39.7	8.5	8.7	11.9	11.7	Jul-13

Importantly, all returns in this report, including those of the private real estate managers, are based on a time weighted return calculation and not based on IRRs, which can result in return differences.

Preliminary performance is subject to change once finalized.

TOTAL FUND PERFORMANCE DETAIL (NET)

	Allocation			Performance (%)							
	Market Value (\$)	% of Portfolio	Policy(%)	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Kayne Energy Fund VII (\$5m commitment in '15)	2,686,582	0.4		0.0	-5.1	-20.0	23.7	-18.0		-4.6	Jan-16
Foundry 2007 (\$3m commitment in '07)	205,925	0.0		0.0	-0.6	-57.5	3.2	-14.2	2.3	12.6	Dec-07
Foundry 2010 (\$3m commitment in '10)	5,901,587	0.9		0.0	-0.3	-2.8	34.4	20.4	13.4	13.4	Feb-11
Foundry 2010 Annex (\$0.4m commitment in '15)	1,100,130	0.2		0.0	0.0	-1.3	89.5	54.7		37.8	Sep-15
Pinebridge PEP V (\$6.23m commitment in '07)	439,074	0.1		0.0	0.4	-7.8	2.6	1.9	6.8	6.7	Dec-10
Pinebridge (AIG) PEP V Asia (\$.55m commitment)	31,731	0.0		0.0	0.0	-6.4	-8.8			-12.8	Oct-18
Pinebridge (AIG) PEP V Co-Investment (\$.9m commitment)	88,883	0.0		0.0	0.1	-15.5	13.2			5.0	Oct-18
Pinebridge (AIG) PEP V Europe (\$1.6m commitment)	17,219	0.0		0.0	5.3	-3.6	-14.3			101.3	Oct-18
Pinebridge (AIG) PEP V Large Market US Buyout (\$.7m commitment)	83,015	0.0		0.0	2.0	0.5	8.5			7.6	Oct-18
Pinebridge (AIG) PEP V Preferred Participation Fund (\$.5m commitment)	67,760	0.0		0.0	-1.0	-11.8	-2.6			-5.5	Oct-18
Pinebridge (AIG) PEP V Secondary (\$.6m commitment)	20,143	0.0		0.0	-4.2	-15.9	-13.4	-14.4		-11.0	Jan-17
Pinebridge (AIG) PEP V Small-Mid Market US Buyout (\$.9m commitment)	91,163	0.0		0.0	1.8	3.0	7.7			13.8	Oct-18
Pinebridge (AIG) PEP V US Venture (\$.48m commitment)	39,160	0.0		0.0	-1.8	-16.8	-3.3			-6.0	Oct-18
Landmark XV (\$3m commitment in '13)	619,449	0.1		0.0	-2.1	-19.3	9.3	4.2		9.6	Nov-13
JFL Equity Investors IV, L.P. (\$6m commitment in '16)	2,302,229	0.3		0.0	27.9	34.9	42.3	42.8		38.0	Jan-17
Private Advisors Small Co. Coinvestment Fund, LP (\$4m commitment in '17)	4,606,965	0.7		0.0	7.5	9.9	20.3	22.8		18.8	Feb-17
Park Square Credit Opportunities III (\$3m commitment in '17)	2,809,653	0.4		0.0	5.2	9.6	8.1	8.7		7.2	Feb-18
Ironsides Constitution Opportunities (\$3m commitment in '18)	1,515,127	0.2		0.0	8.0	13.7	13.3			11.8	Oct-18
HarbourVest Dover Street X (\$9m commitment in '20)	7,134,762	1.1		0.0	1.5	2.5	29.6			49.6	Jun-20
Hamilton Lane Secondary Fund V LP (\$9m commitment in '20)	7,635,026	1.1		0.0	1.2	3.5	28.8			27.1	Jul-20
Constitution Ironsides Co-Investment Fund VI (\$12m commitment in '21)	12,377,930	1.9		0.0	1.9	-0.6				2.3	Nov-21
HarbourVest Co-Investment Fund VI (\$8m commitment in '21)	4,107,601	0.6		0.0	4.6	1.1					Jan-22
JFL Equity Investors V, L.P. (\$9m commitment in '20)	11,417,570	1.7		0.0	14.6	32.3	10.0			10.0	Sep-20

Importantly, all returns in this report, including those of the private markets managers, are based on a time weighted return calculation and not based on IRRs, which can result in return differences.

FEE SCHEDULE

Account Name	Fee Schedule	Market Value (\$)	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
PRIT Core Fund	0.49 % of Assets	3,710,164	0.56	18,180	0.49
Rhumblin Advisors S&P 500 Index Fund	0.04 % of Assets	65,256,734	9.78	26,103	0.04
Coho Relative Value Equity	0.50 % of First \$75 M 0.40 % of Next \$75 M 0.35 % Thereafter	50,842,179	7.62	254,211	0.50
Polen Focused Growth	0.65 % of Assets	43,586,769	6.53	283,314	0.65
Loomis Sayles Small Cap Growth	0.45 % of Assets Minimum Fee: \$45,000	23,436,373	3.51	105,464	0.45
SEG Baxter Street	1.00 % of Assets	29,714,780	4.45	297,148	1.00
Schroder International Alpha Trust Class 1	0.55 % of Assets	28,055,229	4.21	154,304	0.55
Baillie Gifford International Growth Fund Class K	0.60 % of Assets	13,775,416	2.06	82,652	0.60
Axiom Emerging Markets Trust Class 2	0.77 % of Assets	17,829,019	2.67	137,283	0.77
ABS Emerging Markets MA Fund	0.75 % of Assets	19,902,510	2.98	149,269	0.75
Garcia Hamilton Fixed Income Aggregate		31,951,467	4.79	39,939	0.13
Lord Abbett Core Fixed Income	0.19 % of Assets	36,908,942	5.53	70,127	0.19
Loomis Sayles Multisector Full Discretion Trust	0.39 % of First \$50 M 0.30 % Thereafter	47,038,700	7.05	183,451	0.39
Mesirow Small Cap Value Equity CIT - Founders Class	0.45 % of Assets	24,034,809	3.60	108,157	0.45
Octagon Senior Secured Credit Cayman Fund Ltd. - Class L Acc, Series 1	0.40 % of Assets	9,723,305	1.46	38,893	0.40
Invesco Mortgage Recovery Loans Feeder Fund		15,311	0.00		
PRIM Portfolio Completion Strategies		12,717,380	1.91		
Corbin Pinehurst Partners	0.85 % of Assets	13,366,236	2.00	113,613	0.85
UBS Neutral Alpha Strategies	0.90 % of Assets	14,386,492	2.16	129,478	0.90
Entrust Peru Wind Down	0.50 % of Assets	52,209	0.01	261	0.50
Cash Account		20,476,219	3.07		
Morgan Stanley Prime Property (\$2.8m commitment in '95)		25,082,213	3.76		
TA Realty Core Property Fund, LP (\$15m commitment in '19)		25,494,984	3.82		
Invesco Mortgage Recovery II (\$3M commitment in '15)		858,992	0.13		
Landmark VI (\$2m commitment in '11)		5,866	0.00		
Landmark VIII (\$4m commitment in '17)		2,168,367	0.33		
StepStone Real Estate Fund II (\$2m commitment in '11)		362,477	0.05		
Cerberus Institutional Real Estate Partners III (\$1.5m commitment in '12)		479,669	0.07		
TA Realty Fund X LP (\$3.5m commitment in '12)		1	0.00		
TerraCap Partners III, LP (\$2.6m commitment in '15)		1,589,564	0.24		

FEE SCHEDULE

Account Name	Fee Schedule	Market Value (\$)	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
TerraCap Partners IV, LP (\$4m commitment in '17)		3,518,882	0.53		
TerraCap Partners V, LP (\$8m commitment in '22)		8,504,546	1.27		
PRIM Vintage Year 2008 (\$3m commitment in '08)		925,723	0.14		
PRIM Vintage Year 2009 (\$1m commitment in '09)		54,286	0.01		
PRIM Vintage Year 2010 (\$1m commitment in '10)		386,597	0.06		
PRIM Vintage Year 2011 (\$1.5m commitment in '11)		771,046	0.12		
PRIM Vintage Year 2012 (\$1m commitment in '12)		474,458	0.07		
PRIM Vintage Year 2014 (\$2m commitment in '14)		2,090,722	0.31		
PRIM Vintage Year 2017 (\$2m commitment in '17)		2,643,981	0.40		
PRIM Vintage Year 2020 (\$5m commitment in '20)		4,270,165	0.64		
PRIM Vintage Year 2021 (\$5m commitment in '21)		3,812,691	0.57		
PRIM Vintage Year 2022 (\$7.5m commitment in '22)		1,772,283	0.27		
PRIM Vintage Year 2023 (\$10m commitment in '23)		291,922	0.04		
Alcentra European DLF (\$5m commitment in '14)		208,355	0.03		
Ascent Fund IV-B (\$1m commitment in '16)		20,242	0.00		
Ascent Fund V (\$2m commitment in '08)		1,274,437	0.19		
Ascent VI (\$3m commitment in '15)		3,174,297	0.48		
CVI Credit Value Fund IV A LP (\$6m commitment in '17)		4,628,037	0.69		
Invesco Fund VI (\$5m commitment in '13)		603,938	0.09		
Kayne Energy Fund VII (\$5m commitment in '15)		2,686,582	0.40		
Foundry 2007 (\$3m commitment in '07)		205,925	0.03		
Foundry 2010 (\$3m commitment in '10)		5,901,587	0.88		
Foundry 2010 Annex (\$0.4m commitment in '15)		1,100,130	0.16		
Pinebridge (AIG) PEP V Asia (\$.55m commitment)		31,731	0.00		
Pinebridge (AIG) PEP V Co-Investment (\$.9m commitment)		88,883	0.01		
Pinebridge (AIG) PEP V Europe (\$1.6m commitment)		17,219	0.00		
Pinebridge (AIG) PEP V Large Market US Buyout (\$.7m commitment)		83,015	0.01		
Pinebridge (AIG) PEP V Preferred Participation Fund (\$.5m commitment)		67,760	0.01		
Pinebridge (AIG) PEP V Secondary (\$.6m commitment)		20,143	0.00		
Pinebridge (AIG) PEP V Small-Mid Market US Buyout (\$.9m commitment)		91,163	0.01		
Pinebridge (AIG) PEP V US Venture (\$.48m commitment)		39,160	0.01		
Landmark XV (\$3m commitment in '13)		619,449	0.09		
JFL Equity Investors IV, L.P. (\$6m commitment in '16)		2,302,229	0.35		
Private Advisors Small Co. Coinvestment Fund, LP (\$4m commitment in '17)		4,606,965	0.69		

FEE SCHEDULE

Account Name	Fee Schedule	Market Value (\$)	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Park Square Credit Opportunities III (\$3m commitment in '17)		2,809,653	0.42		
Ironsides Constitution Opportunities (\$3m commitment in '18)		1,515,127	0.23		
HarbourVest Dover Street X (\$9m commitment in '20)		7,134,762	1.07		
Hamilton Lane Secondary Fund V LP (\$9m commitment in '20)		7,635,026	1.14		
Constitution Ironsides Co-Investment Fund VI (\$12m commitment in '21)		12,377,930	1.86		
JFL Equity Investors V, L.P. (\$9m commitment in '20)		11,417,570	1.71		
HarbourVest Co-Investment Fund VI (\$8m commitment in '21)		4,107,601	0.62		
Investment Management Fee		667,108,597	100.00	2,191,847	0.33

NOTES

- 1 - Results for periods longer than one year are annualized.
- 2 - Total Balances, Large Cap, Small Cap, and Other Composite performance starts 12/1/2010.
- 3 - Preliminary Total Composite net of fee since inception return is 6.7% for the current month.
- 4 - Preliminary Total Composite gross of fee since inception return is 8.2% for the current month.
- 5 - Targets, Allocation Index, and Policy Index have been updated to reflect new allocation of 02/01/2022.
- 6 - Policy Index changed from Nasdaq to Cambridge All PE to reflect as of 5/1/2012.
- 7 - Policy Index Consists of: 24% S&P 500, 7% Russell 2000, 12% MSCI ACWI IMI, 7% MSCI Emerging Markets, 12% Bloomberg US Aggregate TR, 8% Bloomberg US Universal TR, 6% HFRI Fund of Funds Composite Index, 12% NCREIF Property Index, 12% CJA US All PE.
- 8 - Allocation index consists of: Weighted index of underlying managers to their respective benchmark.
- 9 - All Private Market managers are final as of 6/30/23, except for Constitution Ironsides Co-Invmnt VI, CVI Credit IV, Hamilton Lane Secondary V, HarbourVest Co-Investment VI, HarbourVest Dover Street X, Invesco Fund VI, Pinebridge PEP (All), Private Adv Co-Invmnt, Invesco Mortgage Recovery Feeder, Invesco Mortgage Recovery II and StepStone RE II are final as of 3/31/23.

DISCLAIMERS & DISCLOSURES

Past performance is no guarantee of future results.

Returns for pooled funds, e.g. mutual funds and collective investment trusts, are collected from third parties; they are not generally calculated by NEPC. Returns for separate accounts, with some exceptions, are calculated by NEPC. Returns are reported net of manager fees unless otherwise noted.

A “since inception” return, if reported, begins with the first full month after funding, although actual inception dates (e.g. the middle of a month) and the timing of cash flows are taken into account in Composite return calculations.

NEPC’s preferred data source is the plan’s custodian bank or record-keeper. If data cannot be obtained from one of the preferred data sources, data provided by investment managers may be used. Information on market indices and security characteristics is received from additional providers. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within. In addition, some index returns displayed in this report or used in calculation of a policy index, allocation index or other custom benchmark may be preliminary and subject to change.

All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.

The opinions presented herein represent the good faith views of NEPC as of the date of this presentation and are subject to change at any time. Neither fund performance nor universe rankings contained in this report should be considered a recommendation by NEPC.

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Source of private fund performance benchmark data: Cambridge Associates, via Refinitiv

Estimated Asset Allocation Rebalance Summary

September 22, 2023

	Market Value	Weight in Fund	Target Weight	Recommendation	New Market Value	New Weight
Composite	\$655,458,524	100.0%	100.0%	\$0	\$655,458,524	100.0%
Total Balanced	\$4,180,105	0.6%	0.0%	\$0	\$4,180,105	0.6%
PRIT Core Fund	\$4,180,105	0.6%	0.0%	\$0	\$4,180,105	0.6%
Total Domestic Equity	\$198,610,498	30.3%	31.0%	\$0	\$198,610,498	30.3%
Rhumblin Advisors S&P 500 Index Fund	\$62,581,208	9.5%	10.0%	\$0	\$62,581,208	9.5%
Coho Relative Value	\$48,961,336	7.5%	7.0%	\$0	\$48,961,336	7.5%
Polen Focused Growth	\$40,991,451	6.3%	7.0%	\$0	\$40,991,451	6.3%
Mesirow Smcall Cap Value	\$24,034,809	3.7%	3.5%	\$0	\$24,034,809	3.7%
Loomis Sayles Small Cap Growth	\$22,041,694	3.4%	3.5%	\$0	\$22,041,694	3.4%
Total International Equity	\$107,478,779	16.4%	19.0%	\$0	\$107,478,779	16.4%
SEG - Baxter Street Fund	\$29,714,780	4.5%	5.0%	\$0	\$29,714,780	4.5%
Schroders International Alpha	\$27,185,517	4.1%	4.0%	\$0	\$27,185,517	4.1%
Baillie Gifford	\$12,846,953	2.0%	3.0%	\$0	\$12,846,953	2.0%
Axiom Emerging Markets	\$17,829,019	2.7%	3.5%	\$0	\$17,829,019	2.7%
ABS Emerging Markets Strategic Portfolio	\$19,902,510	3.0%	3.5%	\$0	\$19,902,510	3.0%
Total Equity	\$306,089,277	46.7%	50.0%	\$0	\$306,089,277	46.7%
Total Fixed Income	\$135,534,288	20.7%	20.0%	-\$3,723,305	\$131,810,983	20.1%
Garcia Hamilton	\$31,227,018	4.8%	6.0%	\$0	\$31,227,018	4.8%
Lord Abbett	\$36,226,127	5.5%	6.0%	\$3,000,000	\$39,226,127	6.0%
Loomis Sayles Multi Sector Bonds	\$46,342,527	7.1%	7.0%	\$3,000,000	\$49,342,527	7.5%
LMCG Serenitas	\$12,000,000	1.8%	0.0%	\$0	\$12,000,000	1.8%
Octagon Senior Secured Loans	\$9,723,305	1.5%	1.0%	-\$9,723,305	\$0	0.0%
Invesco Mortgage Recovery	\$15,311	0.0%	0.0%	\$0	\$15,311	0.0%
Total Hedge Fund	\$40,522,317	6.2%	6.0%	\$0	\$40,522,317	6.2%
PRIM Absolute Return Fund	\$12,717,380	1.9%		\$0	\$12,717,380	1.9%
Corbin Pinehurst Partners	\$13,366,236	2.0%		\$0	\$13,366,236	2.0%
UBS Neutral Alpha Strategies	\$14,386,492	2.2%		\$0	\$14,386,492	2.2%
Entrust Peru Winddown	\$52,209	0.0%		\$0	\$52,209	0.0%
Total Real Estate	\$68,065,561	10.4%	12.0%	\$0	\$68,065,561	10.4%
TA Realty Core	\$25,494,984	3.9%		\$0	\$25,494,984	3.9%
Morgan Stanley PPF	\$25,082,213	3.8%		\$0	\$25,082,213	3.8%
Total Private Equity	\$92,262,790	14.1%	12.0%	\$0	\$92,262,790	14.1%
Cash	\$8,804,186	1.3%	0.0%	\$3,723,305	\$12,527,491	1.9%
M&T Cash	\$8,804,186	1.3%	0.0%	\$3,723,305	\$12,527,491	1.9%





EQUITY STRUCTURE REVIEW

MWRA RETIREMENT SYSTEM

SEPTEMBER 28, 2023

Sebastian Grzejka, CAIA, Partner
Alexandra Sollers, CFA, Consultant
Francesca LoVerde, Sr. Consulting Analyst



PROPRIETARY & CONFIDENTIAL

EXECUTIVE SUMMARY

- **The purpose of today's presentation is to review the current structure and implementation of the US equity allocation**
 - The goal is to reaffirm the structure and consider next steps in the implementation of the exposure
- **Today, we want to focus on the following areas**
 - *US Equity Implementation:*
 - We have provided a detailed quantitative analysis of the current allocation
 - The goal is to reaffirm the existing approach, or consider adjustments to implementation that best meets the Systems goals
 - We have provided two options for consideration to enhance the exposure
 - *Small Cap and Index exposure already completed:*
 - Three RFP's have been issued over the last twelve months focused on small cap growth, value and the S&P 500 Index exposure
 - Loomis Small Cap Growth was retained for the small growth allocation
 - Mesirow Small Cap Value replaced Boston Partners in small value
 - Rhumblin was retained to manage the S&P 500 Index exposure
- **Based on today's review, we recommend issuing an RFP for an active large cap manager**



WORK PLAN BASED ON TIME SINCE LAST RFP

	2023	2024	2025	2026	2027
Small Cap Growth and Value	✓				
Passive Large Cap	✓				
Large Cap Growth and Value	✗				
Custody		✗			
International Value		✗			
Core Fixed Income			✗		
Hedge Funds			✗		
Yield Seeking Fixed Income				✗	
Core Real Estate				✗	
International Growth					✗
Emerging Markets					✗
Private Equity					
Private Real Estate					

US EQUITY STRUCTURE REVIEW



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PORTFOLIO CONSTRUCTION SUMMARY

Fund	Domestic Equity Incumbent	Mix 1 (LC Passive)	Mix 2 (Coho Option)	Mix 3 (Polen Option)	Benchmark	Analysis Start Date	Analysis End Date
Rhumblin S&P 500 Index	32%	77%	46%	46%	S&P 500	7/31/2007	6/30/2023
Coho Relative Value Equity	23%	---	31%	---	Russell 1000 Value	7/31/2007	6/30/2023
Polen Focus Growth	23%	---	---	31%	Russell 1000 Growth	7/31/2007	6/30/2023
Mesirow Financial Small Cap Value Equity	11%	11%	11%	11%	Russell 2000 Value	7/31/2007	6/30/2023
Loomis Sayles Small Cap Growth	11%	11%	11%	11%	Russell 2000 Growth	7/31/2007	6/30/2023
Total	100%	100%	100%	100%			

	Domestic Equity Incumbent	Mix 1 (LC Passive)	Mix 2 (Coho Option)	Mix 3 (Polen Option)
Active Risk and Return				
Realized Alpha	1.4%	0.4%	1.5%	0.7%
Beta	0.94	0.98	0.94	0.97
Tracking Error	2.2%	0.9%	1.9%	2.1%
Diversification Ratio	1.52	1.19	1.33	1.32
Information Ratio	0.63	0.50	0.78	0.34
Style and Size Regression				
Style	Neutral	Neutral	Neutral	Growth
Size	Large Cap	Large Cap	Large Cap	Large Cap
Return Decomposition				
Upside Market Capture	93.0%	98.1%	94.3%	95.0%
Downside Market Capture	89.7%	97.5%	90.5%	93.8%
Upside Alpha	0.0%	0.1%	0.5%	-0.4%
Downside Alpha	3.1%	0.9%	2.6%	2.2%

The current equity allocation was designed to provide balanced exposure and downside protection, which has been achieved.

In an all-passive large cap approach, the upside capture improves, however, the downside capture also increases, given limited protection from remaining active management.

In a "core"-"satellite" approach, there is potential to achieve balanced exposure, while also maintaining an attractive risk and return profile.

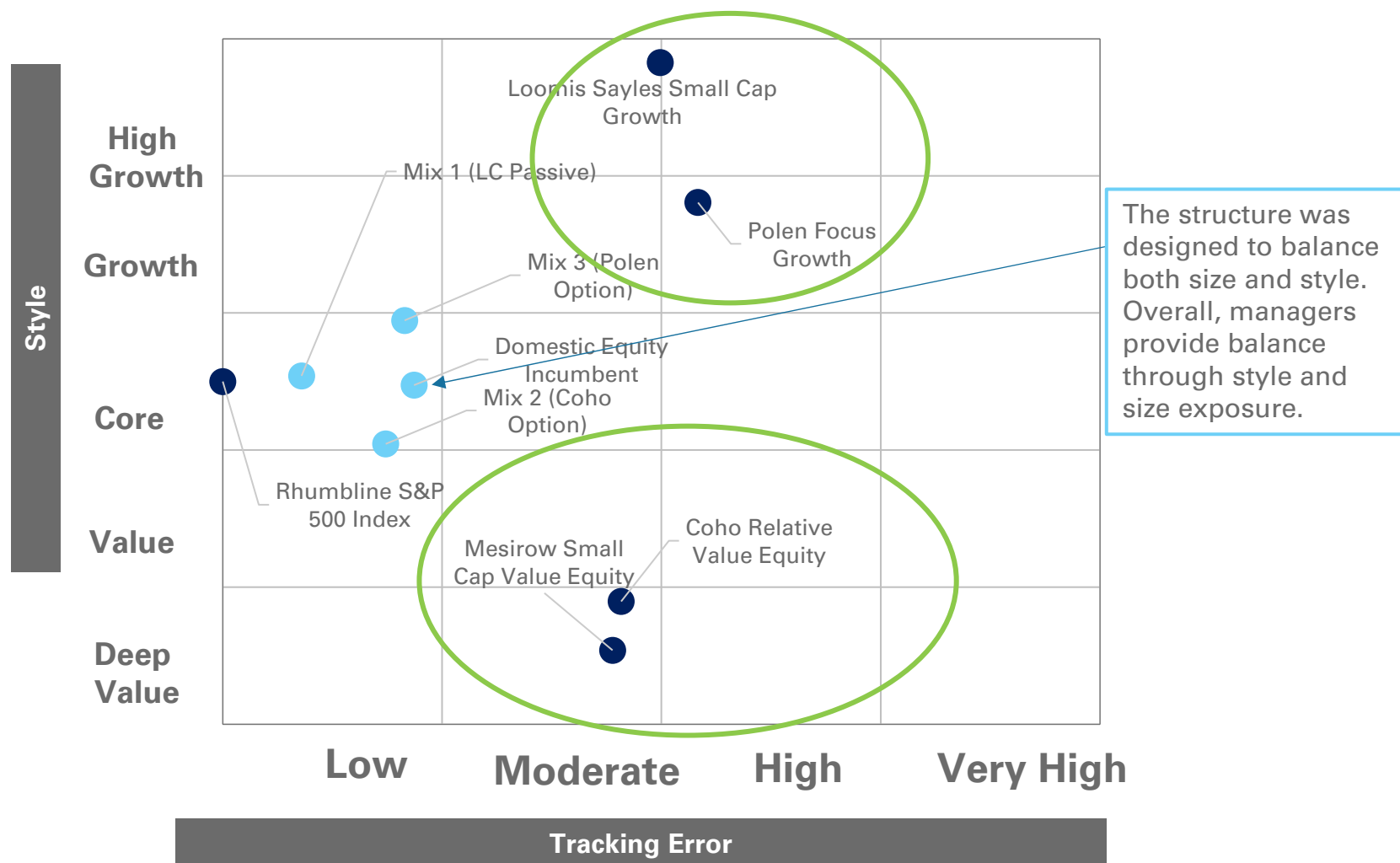
All Risk/Return statistics calculated through 06/30/23. Portfolio metrics calculated by combining fund statistics at specified weights.

Diversification Ratio defined as: $\sum(\text{Fund Active Risk} * \text{Fund Weight}) / (\text{Total Portfolio Active Risk})$. Higher numbers represent greater diversification.

Information Ratio defined as: $\text{Realized Alpha} / \text{Tracking Error}$

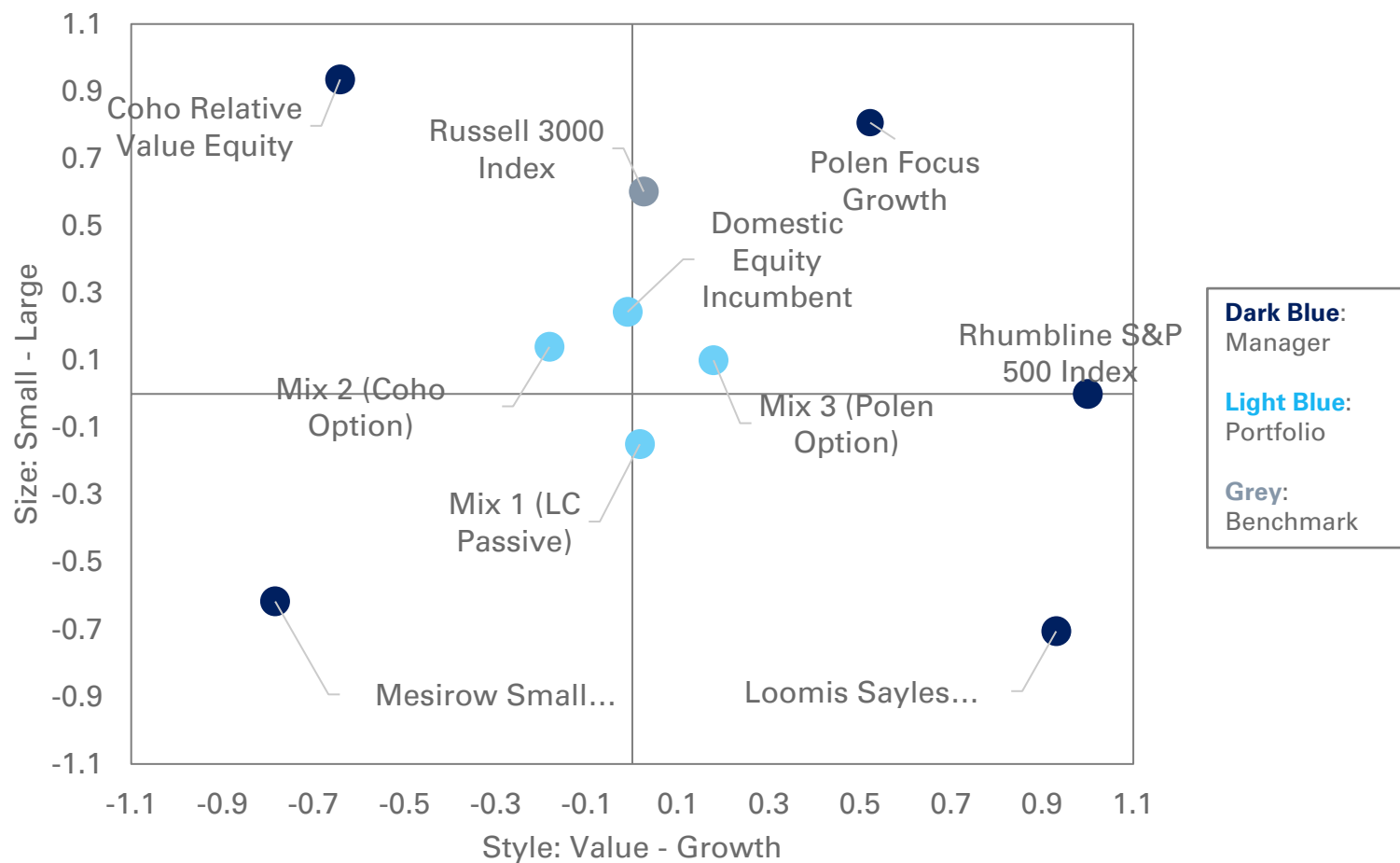


STYLE/TRACKING ERROR MATRIX



STYLE EXPOSURES

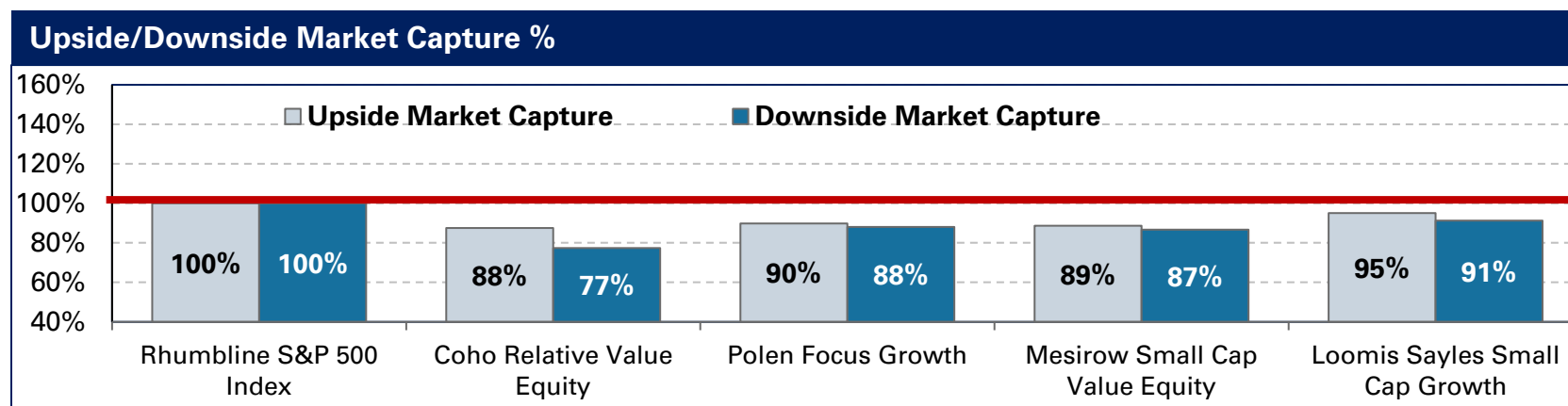
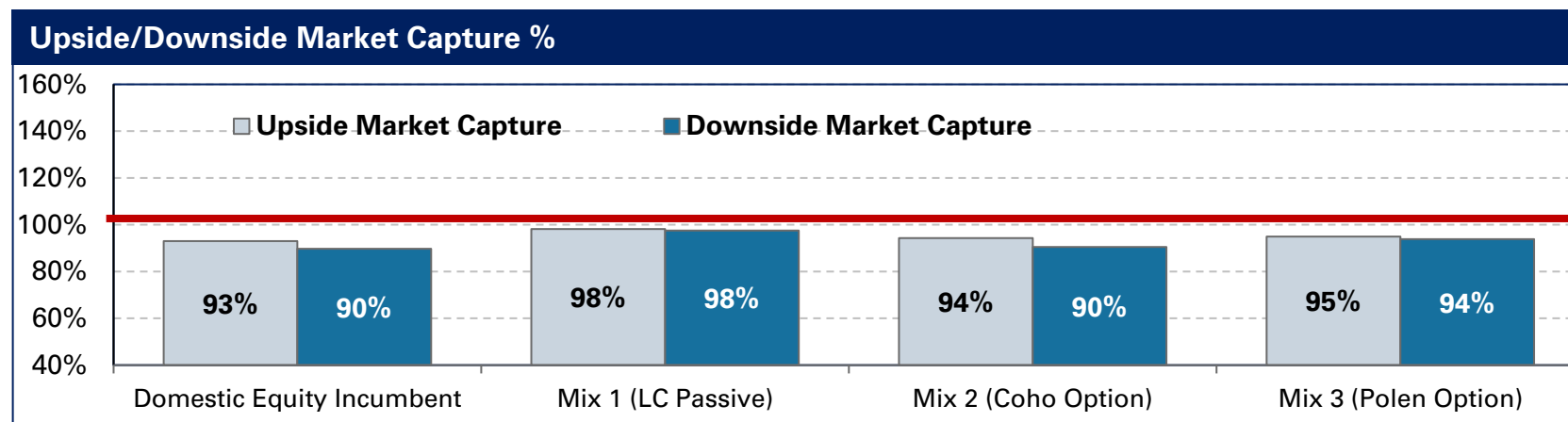
STYLE & SIZE



Style Spectrum: Russell 6 Style Indices Style Exposures

RETURN DECOMPOSITION

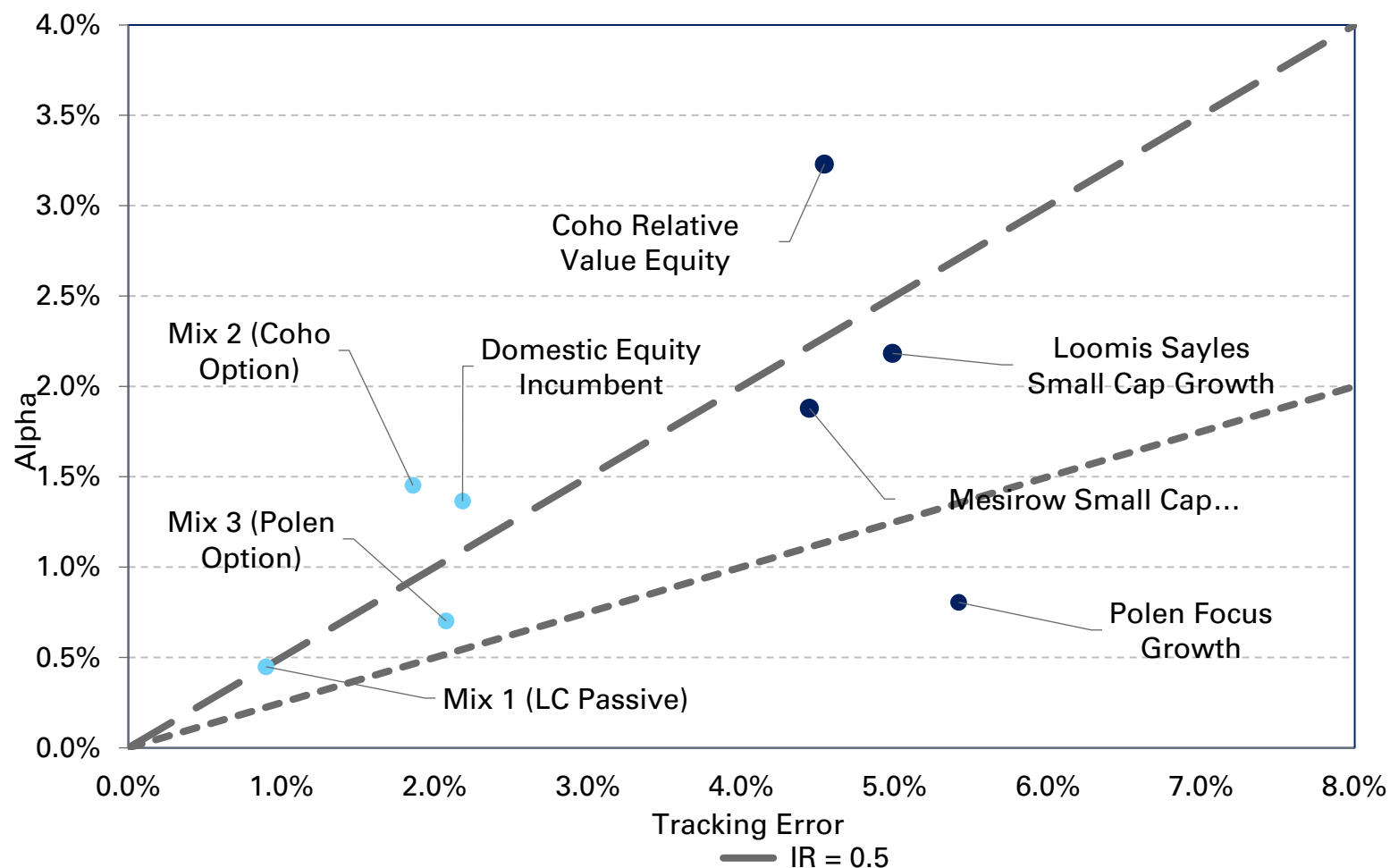
UPSIDE/DOWNSIDE CAPTURE



All Risk/Return statistics calculated through 06/30/23.
Benchmarks shown on page 2 (Portfolio construction summary)

ACTIVE RISK/RETURN

ALPHA, TRACKING ERROR, & INFORMATION RATIO



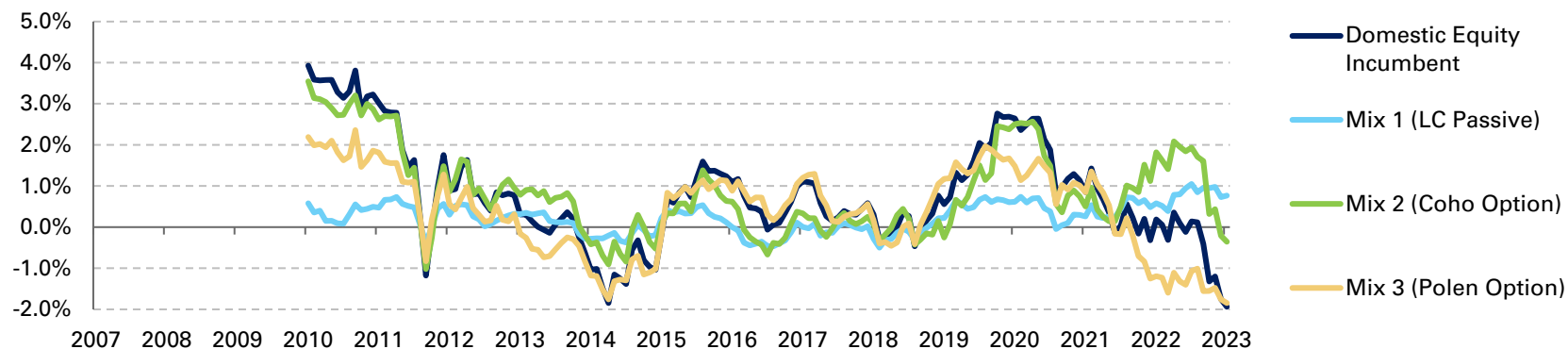
All Risk/Return statistics calculated from 7/31/07 through 06/30/23.
Benchmarks shown on page 2 (Portfolio construction summary)
Information Ratio defined as: Realized Alpha/Tracking Error



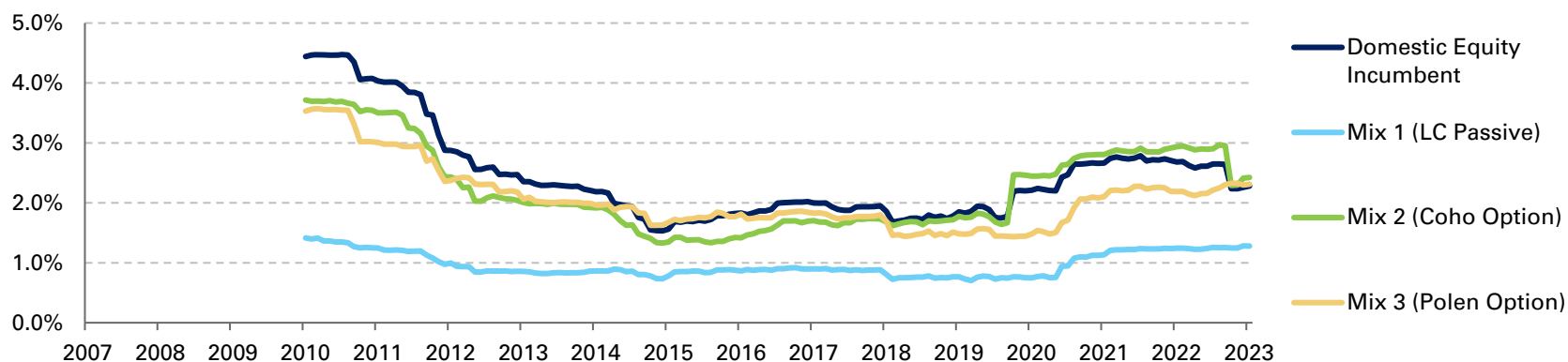
ACTIVE RISK/RETURN

ROLLING RISK/RETURN

Rolling Alpha (3 Yr.)



Rolling Tracking Error (3 Yr.)



All Risk/Return statistics calculated through 06/30/23.

Benchmarks shown on page 2 (Portfolio construction summary)

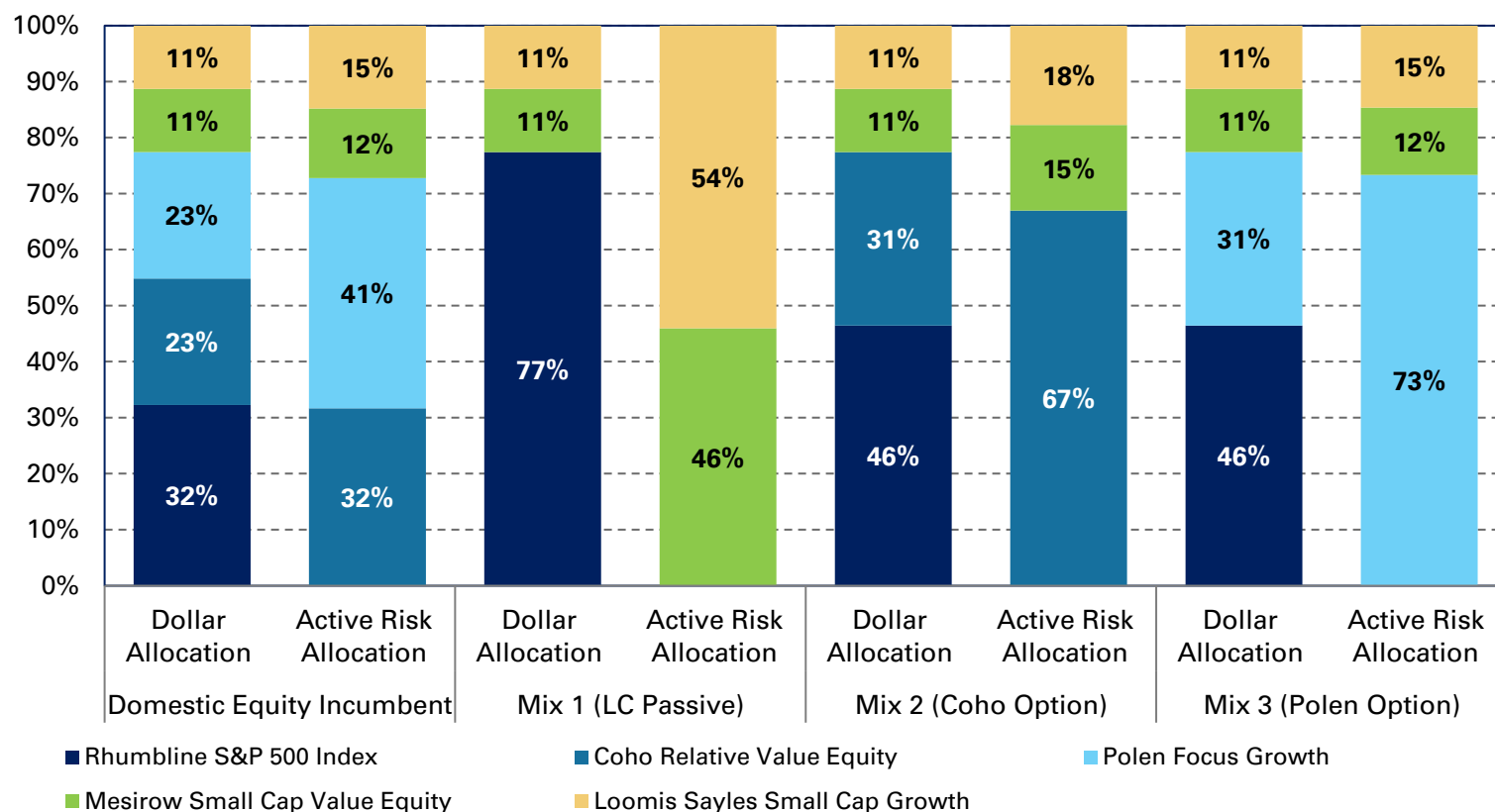
Information Ratio defined as: Realized Alpha/Tracking Error



ACTIVE RISK/RETURN

ACTIVE RISK BUDGET

Active Risk Budget



All Risk/Return statistics calculated through 06/30/23.
 Benchmarks shown on page 2 (Portfolio construction summary)

CONCLUSION AND NEXT STEPS

- **The current equity allocation has been designed to provide a balanced and diversified approach, while also providing downside protection**
 - While this has been achieved over time, there have been periods where the performance of certain strategies has been outside of expectations
 - As a result, the Board has expressed a desire to review the existing allocation, and consider other potential implementation options for the allocation
- **Given these discussions, NEPC recommends one of two options for the allocation:**
 - **Option One:** Consider moving the large cap allocation fully passive
 - Given the efficiency of the large cap space, active management can be difficult
 - Moving to a fully passive approach reduces fees and reduces tracking error
 - This option allows the System to fine tune the risk profile using active small cap managers
 - **Option Two:** Move to a “Core”-“Satellite” approach
 - The “core” passive exposure would represent a larger share of the allocation
 - This would be complemented by one high conviction active “satellite” manager in large cap
 - The structure of this exposure would be ~ 70% passive and ~30% active
 - As in the first option, we would fine tune the risk profile of the active small cap managers
- **While both options result in a change to the current equity allocation, they maintain a balanced approach for the allocation**
 - In each, the Plan would see reduced fees and administration given the consolidation
 - As part of the restructure, NEPC will issue RFPs to help with the efficient implementation of the approved changes



APPENDIX

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PORTFOLIO CONSTRUCTION DATA DISCLOSURES

ANALYSIS PERIOD AND SUMMARY STATISTICS

Displayed is a summary of the data we modeled.

	Rhumblin S&P 500 Index	Coho Relative Value Equity	Polen Focus Growth	Mesirow Small Cap Value Equity	Loomis Sayles Small Cap Growth
Total Risk and Return					
Annualized Return (Since Inception)	9.2%	9.2%	11.9%	7.4%	9.3%
Annualized Standard Deviation	16.0%	13.7%	16.6%	19.1%	19.8%
Active Risk and Return					
Realized Alpha	0.0%	3.2%	0.8%	1.9%	2.2%
Beta	1.00	0.87	0.94	0.92	0.93
Tracking Error	0.0%	4.5%	5.4%	4.4%	5.0%
Information Ratio	---	0.71	0.15	0.42	0.44
Style and Size Regression					
Style	Neutral	Value	High Growth	Deep Value	High Growth
Size	Large Cap	Large Cap	Large Cap	Small Cap	Small Cap
Return Decomposition					
Upside Market Capture	100.0%	87.5%	89.7%	88.6%	95.0%
Downside Market Capture	100.0%	77.3%	88.0%	86.7%	91.2%

All Risk/Return statistics calculated through 06/30/23.

Benchmarks shown on page 2 (Portfolio construction summary)

Information Ratio defined as: Realized Alpha/Tracking Error



PORTFOLIO CONSTRUCTION DATA DISCLOSURES

INVESTMENT MANAGER TRAILING RETURNS

Displayed is a summary of the data we modeled.

Fund	Analysis Start Date	Analysis End Date	Last 3 Months	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception (Analysis Start Date)
Rhumblin S&P 500 Index	7/31/2007	6/30/2023	8.7%	16.9%	19.6%	14.6%	12.3%	13.4%	12.8%	9.2%
S&P 500			8.7%	16.9%	19.6%	14.6%	12.3%	13.4%	12.9%	9.2%
<i>Excess Return</i>			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Coho Relative Value Equity	7/31/2007	6/30/2023	0.4%	-0.7%	6.3%	10.6%	8.5%	9.2%	10.0%	9.2%
Russell 1000 Value			4.1%	5.1%	11.5%	14.3%	8.1%	8.9%	9.2%	6.4%
<i>Excess Return</i>			-3.7%	-5.8%	-5.2%	-3.7%	0.4%	0.2%	0.7%	2.8%
Polen Focus Growth	7/31/2007	6/30/2023	10.4%	25.9%	18.7%	5.4%	11.6%	14.4%	14.9%	11.9%
Russell 1000 Growth			12.8%	29.0%	27.1%	13.7%	15.1%	16.9%	15.7%	11.6%
<i>Excess Return</i>			-2.4%	-3.1%	-8.4%	-8.3%	-3.6%	-2.5%	-0.9%	0.3%
Mesirow Financial Small Cap Value Equity	7/31/2007	6/30/2023	2.3%	5.9%	15.6%	20.7%	7.9%	9.9%	9.2%	7.4%
Russell 2000 Value			3.2%	2.5%	6.0%	15.4%	3.5%	7.7%	7.3%	5.6%
<i>Excess Return</i>			-0.8%	3.4%	9.5%	5.3%	4.4%	2.2%	1.9%	1.8%
Loomis Sayles Small Cap Growth	7/31/2007	6/30/2023	4.5%	9.1%	18.3%	8.0%	6.8%	11.8%	10.1%	9.3%
Russell 2000 Growth			7.1%	13.6%	18.5%	6.1%	4.2%	9.3%	8.8%	7.5%
<i>Excess Return</i>			-2.5%	-4.4%	-0.2%	1.9%	2.5%	2.5%	1.3%	1.8%
Russell 3000 Index	7/31/2007	6/30/2023	8.4%	16.2%	18.9%	13.9%	11.4%	12.8%	12.3%	9.0%
Russell 3000			8.4%	16.2%	19.0%	13.9%	11.4%	12.9%	12.3%	9.0%
<i>Excess Return</i>			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



All return statistics calculated net of fee through 06/30/23

EXCESS RETURNS

ALPHA CORRELATIONS

Alpha Correlations	Rhumblin S&P 500 Index	Coho Relative Value Equity	Polen Focus Growth	Mesirow Small Cap Value Equity	Loomis Sayles Small Cap Growth
Rhumblin S&P 500 Index	1.00				
Coho Relative Value Equity	0.01	1.00			
Polen Focus Growth	0.00	0.17	1.00		
Mesirow Small Cap Value Equity	0.00	0.22	0.7	1.00	
Loomis Sayles Small Cap Growth	0.00	0.22	0.20	0.42	1.00

Positive (>0.25)
Relatively Uncorrelated (-0.25 – 0.25)
Negative (<-0.25)

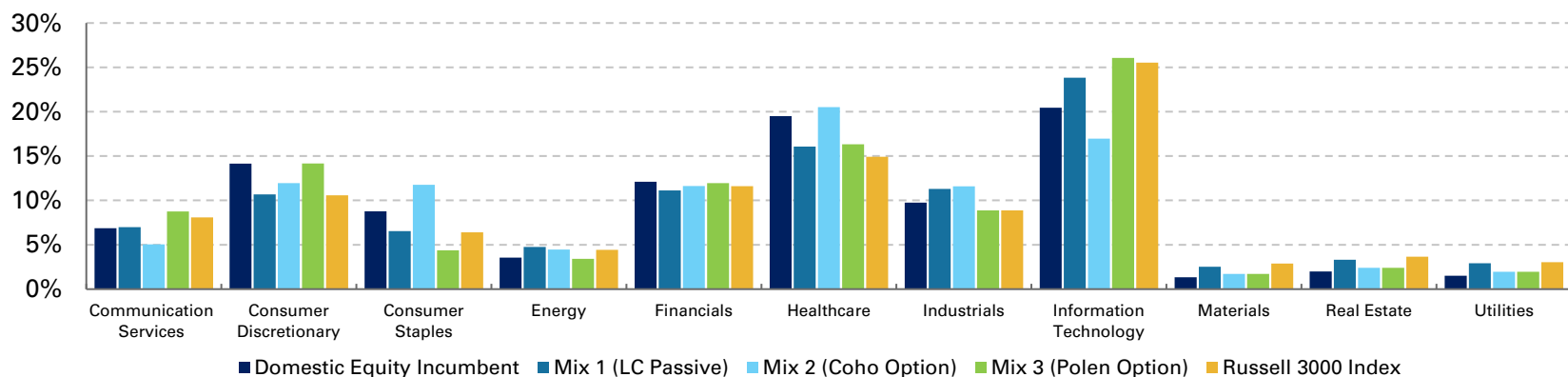


All Risk/Return statistics calculated through 06/30/23.
Benchmarks shown on page 2 (Portfolio construction summary)

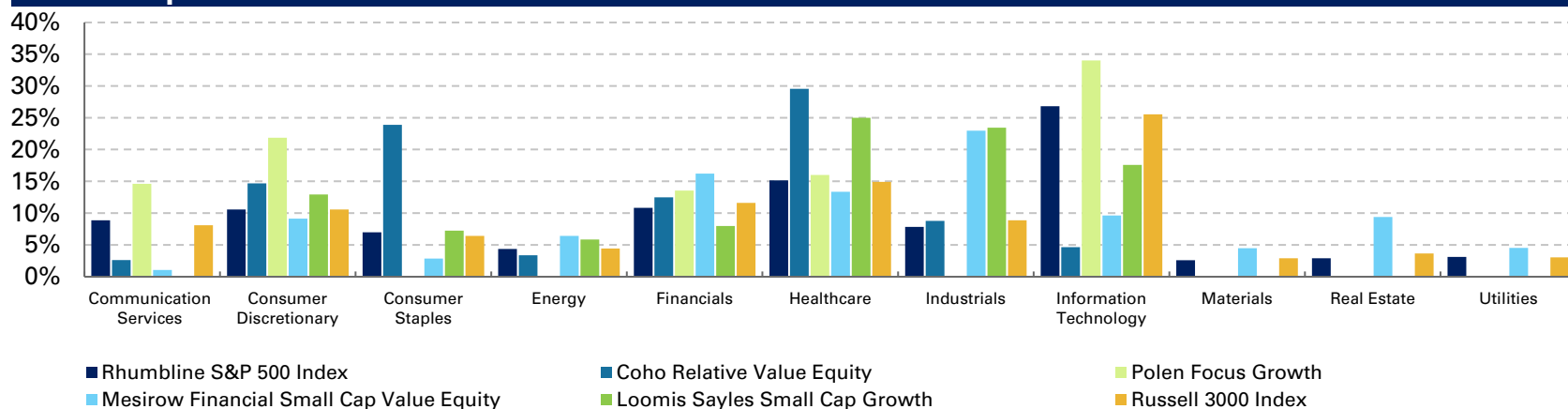
HOLDINGS-BASED ANALYSIS

EQUITY EXPOSURES | SECTOR

Sector Exposures



Sector Exposures



Allocations as of 06/30/2023

NEPC PUBLIC MARKET EQUITY OUTLOOK

We recommend **reducing S&P 500 and U.S. mega-cap equity exposure**, while maintaining U.S. large-cap value positions

Implementation Outlook: Target strategies with high alpha potential, such as global equity, to capture regional and industry shifts within the developed world

SUB-ASSET CLASS	DYNAMIC TILT					COMMENTS
U.S. Large-Cap	<i>Reduce</i>					We recommend reducing S&P 500 and U.S. mega-cap exposure in favor of credit risk, while maintaining U.S. value positions.
U.S. Small-Cap	<i>Neutral</i>					
EAFE Large-Cap	<i>Neutral</i>					
EAFE Small-Cap	<i>Unfavorable</i>					We recommend tilting equity exposure to global equity strategies and encourage greater usage of active equity approaches.
EM Large-Cap	<i>Neutral</i>					
EM Small-Cap	<i>Unfavorable</i>					
DM Currency Hedge	<i>Unfavorable</i>					

REDUCE

UNFAVORABLE

NEUTRAL

FAVORABLE

ADD



Shaded diagonal ratings reflect the asset class ratings for the previous month.

CORE ASSET CLASS RETURN ASSUMPTIONS

	Asset Class	06/30/23 10-Year Return	06/30/23 10-Year Return	Delta
	Cash	4.0%	2.9%	+1.1%
	U.S. Inflation	2.7%	2.4%	+0.3%
Equity	U.S. Large-Cap Equity	4.6%	5.8%	-1.2%
	Non-U.S. Developed Equity	5.0%	6.4%	-1.4%
	Emerging Market Equity	9.2%	9.6%	-0.4%
	Global Equity*	5.7%	6.8%	-1.1%
	Private Equity*	9.1%	9.8%	-0.7%
Fixed Income	U.S. Treasury Bond	4.2%	3.2%	+1.0%
	U.S. Municipal Bond	4.1%	4.0%	+0.1%
	U.S. Aggregate Bond*	4.7%	3.8%	+0.9%
	U.S. TIPS	4.6%	3.0%	+1.6%
	U.S. High Yield Corporate Bond	6.8%	6.9%	-0.1%
	Private Debt*	8.6%	8.0%	+0.6%
Real Assets	Commodity Futures	4.8%	3.4%	+1.4%
	REIT	6.4%	6.1%	+0.3%
	Gold	5.3%	4.4%	+0.9%
	Real Estate - Core	5.3%	4.4%	+0.9%
	Private Real Assets - Infrastructure	6.3%	6.1%	+0.2%
Multi-Asset	60% S&P 500 & 40% U.S. Aggregate	4.9%	5.3%	-0.4%
	60% MSCI ACWI & 40% U.S. Agg.	5.6%	6.0%	-0.4%
	Hedge Fund*	6.3%	6.0%	+0.3%



*Calculated as a blend of other asset classes

NEPC DISCLOSURES

Past performance is no guarantee of future results.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

Some of the information presented herein has been obtained from external sources NEPC believes to be reliable. While NEPC has exercised reasonable professional care in preparing this content, we cannot guarantee the accuracy of all source information contained within.

The opinions presented herein represent the good faith views of NEPC as of the publication date and are subject to change at any time.

This presentation contains summary information regarding the investment management approaches described herein but is not a complete description of the investment objectives, portfolio management and research that supports these approaches. This analysis does not constitute a recommendation to implement any of the aforementioned approaches.





CUSTODY SEARCH REVIEW

MWRA RETIREMENT SYSTEM

SEPTEMBER 28, 2023

Sebastian Grzejka
Francesca LoVarde



PROPRIETARY & CONFIDENTIAL

EXECUTIVE SUMMARY

- **NEPC initiated a Custody Search on behalf of The Massachusetts Water Resource Authority Employee Retirement System**
 - BNY Mellon, State Street, Northern Trust, US Bank, Comerica Bank, Broadridge Financial Solutions, Inc. and Wilmington Trust/M&T Bank (incumbent) requested access to the search
 - The RFP included plan assets and metrics as of **5/31/2023**. For reference purposes, assets were **\$639 million** and responses were due by **August 11, 2023**

- **BNY Mellon and Northern Trust declined to participate noting limited asset size, scope of services and that relationship would fall under their annual custody minimum. US Bank declined to participate due to PERAC requirements, which they do not support today**
 - Broadridge Financial Solutions, Inc. requested copies of the search materials, but did not provide a proposal

- **NEPC received responses from State Street, Comerica Bank and Wilmington Trust/M&T Bank (incumbent custodian). Included in each response was an overview and pricing estimate for the following services:**
 - Core Custody Services

- **The following presentation summarizes the qualifications, products/services and pricing proposals from each custodian**
 - Detailed RFP responses, supplemental documents and exhibits to be provided for reference



SUMMARY ANALYSIS

COMPETITIVE ADVANTAGES & AREAS FOR CONCERN¹

State Street	Comerica Bank	Wilmington Trust/ M&T Bank
<ul style="list-style-type: none"> • Largest trust/custody revenue contribution (to entire firm) in comparison to other providers • Provide domestic and global custody (direct access to US and non-US markets) • Single proprietary systems for custody and accounting services • Notable technology budget and spend • Dedicated conversion staff including conversion specialist for each client transition • Lowest pricing proposal • Local service team (Quincy, MA) 	<ul style="list-style-type: none"> • Public Fund/Taft-Hartley focus • Continuous custody client gains • Superior client service model compared to larger global custodians 	<ul style="list-style-type: none"> • Existing provider –relationship team is knowledgeable of existing plans(s)/structure • No transition required – although Wilmington Trust/M&T Bank do have a dedicated conversion staff including conversion specialist for each client transition • Local service team (Andover, MA)
<ul style="list-style-type: none"> • Client losses over last five years high relative to client assets gained and other providers 	<ul style="list-style-type: none"> • Third-party custody and accounting systems • Utilize BNY Mellon for global custody services (do not have direct access to non-US markets) • Highest pricing proposal • Service team located in Detroit, MI 	<ul style="list-style-type: none"> • Utilize third-party systems for custody operations • Lowest trust/custody revenue contribution (to entire firm) in comparison to other providers



The scoresheet is intended for documentation purposes and to facilitate discussion, particularly around areas of comparative strength, weakness or "fit". It is not intended to bind a decision or recommendation to a selection Committee.

¹Competitive Advantages and Areas for Concern (Cited & Observed)

SUMMARY ANALYSIS

CRITERIA & SCORING

Score	Methodology
	Does not currently support product/service
	Unclear response and/or does not align with client requirements
	Clear response which appears to align with client requirements
	Vigorous response which is highly aligned with client requirements

Standard Criteria	State Street	Comerica Bank	Wilmington Trust/M&T Bank
Firm History, Experience & Financial Stability			
Relationship Team Experience & Structure			
Core Custody Services			
Technology, Systems & Applications			
Transition/Conversion			



The scoresheet is intended for documentation purposes and to facilitate discussion, particularly around areas of comparative strength, weakness or "fit". It is not intended to bind a decision or recommendation to a selection Committee.

SUMMARY ANALYSIS

CRITERIA & SCORING (PERAC)

Score	Methodology
	Does not currently support product/service
	Unclear response and/or does not align with client requirements
	Clear response which appears to align with client requirements
	Vigorous response which is highly aligned with client requirements

Standard Criteria	State Street	Comerica Bank	Wilmington Trust/M&T Bank
Candidates must have familiarity with and agree to comply with Massachusetts G.L. Chapter 32 and Chapter 176 of the Acts of 2011. Additionally, candidates must have familiarity and agree to comply with the reporting and investment guidelines administered by PERAC.			
Candidates must have experience working with public pension plans.			
Candidates must have a global platform.			



FINDINGS AND CONSIDERATIONS

- **State Street and Comerica Bank are both equipped to service Massachusetts Water Resource Authority Employee Retirement System across the custody services**
Wilmington Trust/M&T Bank is providing today
- **Wilmington Trust/M&T Bank outsources their back office functions to BNY Mellon**
 - Client relationship teams and servicing is handled by Wilmington Trust directly, while the core custody operations and functions are handled through BNY Mellon systems and client portal
- **State Street is the only candidate that provides domestic and global custody services directly**
 - Comerica Bank and Wilmington Trust/M&T Bank utilize BNY Mellon for access to non-US markets
- **State Street responded with the lowest pricing proposal, followed by Wilmington Trust/M&T Bank and then Comerica Bank**
- **NEPC recommends interviewing all three respondents for Custody Services**



CUSTODIAN ANALYSIS



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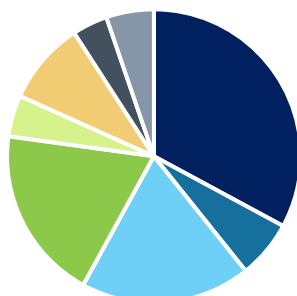
STATE STREET

OVERVIEW¹

Assets under Custody/Administration:
\$42.1 Trillion

Clients by Type

- Corporate
- Taft-Hartley
- Public Funds
- E&F
- Asset Mgrs
- Healthcare
- Insurance
- Other



Clients by Size	State Street
\$100M-\$500M	199
\$501M - \$1B	54
\$1.01B - \$5B	87
Over \$5B	98
Total	438

CUSTODY SERVICES

DIFFERENTIATORS

Leader in Technology:

- State Street Alpha
- Charles River Acquisition
- GlobalLink

- Safekeeping ✓
- Trade Processing ✓
- Trade Settlement ✓
- Income Collections ✓
- Corporate Actions ✓
- Cash Sweep ✓
- Accounting Services ✓
- Directed Trustee ✓
- Online Portal: **MyStateStreet** ✓

Subcustodian Network: 105 markets

Trade Settlement Rates: 96%

- U.S. Settlements: 98%
- Non-U.S. Settlements: 94%

OTHER

DIFFERENTIATORS

Market leader servicing retirement, operating and not-for-profit assets with a continuing focus on servicing Asset Owners.

One-Stop Shop: Custody services can be integrated with solutions across State Street's businesses – clients benefit from the ease of working with a single provider.

- **Data & Analytics:** Performance Attribution & Measurement, Multi-Asset Class Analytics, Compliance & Regulatory Reporting, ESG Analytics, Liquidity/Risk Reporting
- **Investment Operations:** Retiree Services (Benefit Payments), Investment Recordkeeping, Collateral Management
- **Securities Finance (SSGM):** Agency Lending, Outsourced Trading, Foreign Exchange, Transition Management, Brokerage, Sponsored Repo
- **State Street Alpha:** Front, Middle & Back Office Solution
- **State Street Digital:** Digital Finance



NEPC'S THOUGHTS

- Headquarters located in Boston, MA
- Experienced global custodian – robust custody service offering
- Notable shift in target client base – focus on \$3-\$5+ billion clients



¹Assets under Custody/Administration, clients by type and total clients by size of 12/31/2022.

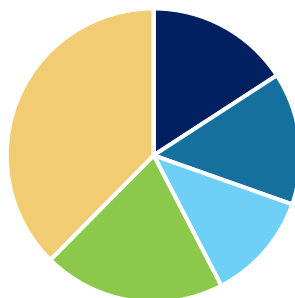
COMERICA BANK

OVERVIEW¹

Assets Under Custody/Administration:
\$134.1 Billion

Clients by Type

- Corporate
- Taft-Hartley
- Public Funds
- E&F
- Healthcare
- Insurance
- High Net Worth



Clients by Size	Comerica
Under \$500M	1,106
\$500M - \$1B	37
\$1B - \$5B	25
Over \$5B	-
Total	1,168

CUSTODY SERVICES

DIFFERENTIATORS

"Large enough to offer advanced technologies, small enough to realize value of customized/response & professional services"

- Safekeeping ✓
- Trade Processing ✓
- Trade Settlement ✓
- Income Collections ✓
- Corporate Actions ✓
- Cash Sweep ✓
- Accounting Services ✓
- Online Portal: **Comerica Trust** ✓

Subcustodian Network: 90 markets²

Trade Settlement Rate: 98%

OTHER

DIFFERENTIATORS

Among the DiversityInc® top 10 regional companies for diversity

Institutional Trust Focus:

- Nonprofit
- Public Retirement Funds
- Corporate Benefit Plans
- Taft-Hartley Plans
- Domestic and Captive Insurance

Additional Products & Services:

- Commercial Bank: credit and non-credit financial products and services including commercial loans, cash management, and global trade access.
- Wealth Management: trust services, financial planning, private banking, investment management, and insurance services.



NEPC'S THOUGHTS

- Headquarters located in Dallas, Texas
- Domestic custodian – no direct access to global markets (use Bank of New York Mellon)



¹Assets under Custody/Administration, total clients by type and size as of 12/31/2022.

²Subcustodian network reflective of BNY Mellon global market access as of 12/31/2022.

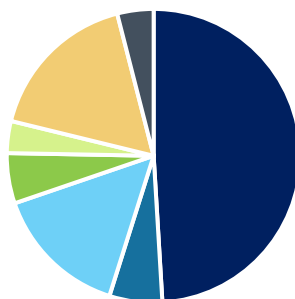
WILMINGTON TRUST

OVERVIEW¹

Assets Under Custody/Administration:
\$150.3 Billion

Clients by Type

- Corporate
- Taft-Hartley
- Public Funds
- E&F
- Healthcare
- Insurance
- High Net Worth



Clients by Size	W/M&T
Under \$500M	1,668
\$500M - \$1B	34
\$1B - \$5B	20
Over \$5B	2
Total	1,724

CUSTODY SERVICES

DIFFERENTIATORS

Offer custody services for endowments, foundations, government agencies, private investment partnerships, DE and non-DE holding companies, and capital markets transactions.

- Safekeeping ✓
- Trade Processing ✓
- Trade Settlement ✓
- Income Collections ✓
- Corporate Actions ✓
- Cash Sweep ✓
- Accounting Services ✓
- Online Portal: NEXEN² ✓

Subcustodian Network: 100+ Markets²

Trade Settlement Rate: 97%²

OTHER

DIFFERENTIATORS

Wilmington Trust is a member of the M&T Family.

Subsidiaries of M&T Bank Corporation:

- Manufacturers & Traders Trust Company (M&T Bank)
- Wilmington Trust Company (WTC) operating in Delaware only
- Wilmington Trust, N.A. (WTNA)
- Wilmington Trust Investment Advisors, Inc. (WTIA)
- Wilmington Funds Management Corporation (WFMC)
- Wilmington Trust Asset Management, LLC (WTAM)
- Wilmington Trust Investment Management, LLC (WTIM)

Services offered by Wilmington Trust include trustee, custodial, agency, investment management, and other services.



NEPC'S THOUGHTS

- Headquarters located in Wilmington, Delaware
- Utilize BNY Mellon for core custody operations and custody client web portal (NEXEN)

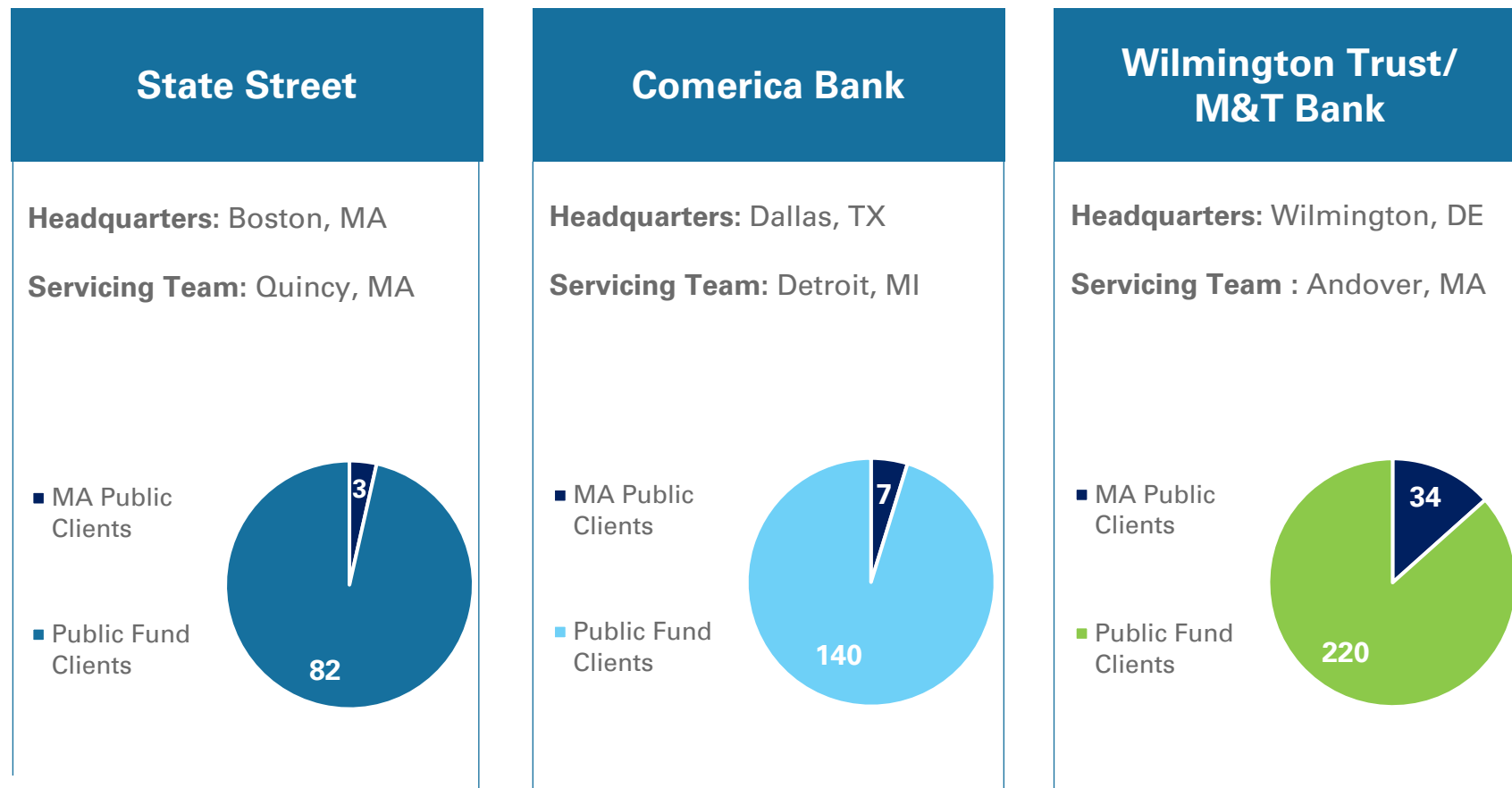


¹Assets under Custody/Administration, total clients by type and size as of 3/31/2023.

²Subcustodian network and trade settlements rates reflective of BNY Mellon network and processing rates as of 12/31/2022.

SERVICING AND LOCAL EXPERTISE

SERVICING TEAM & SIMILAR CLIENTS

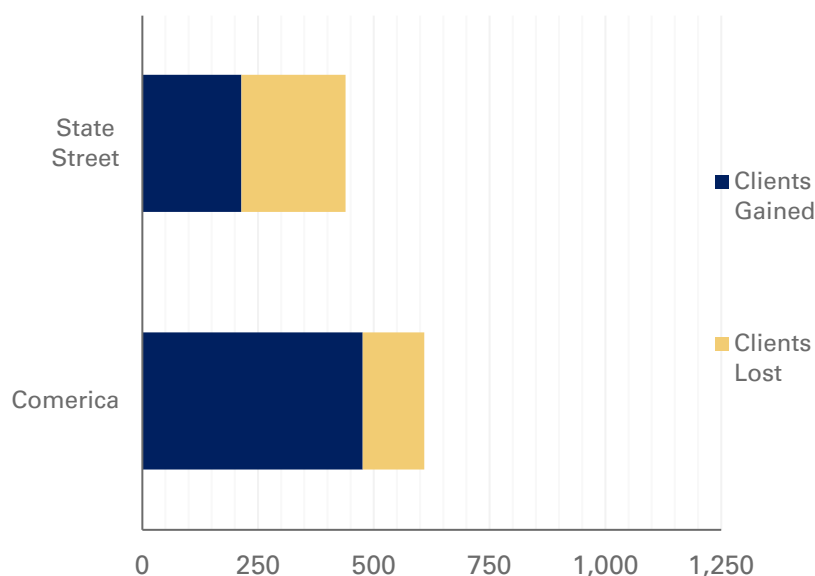


Source: NEPC 2023 Request for Information – Trust/Custody Services.
Massachusetts based public client statistics as of 9/1/2023.

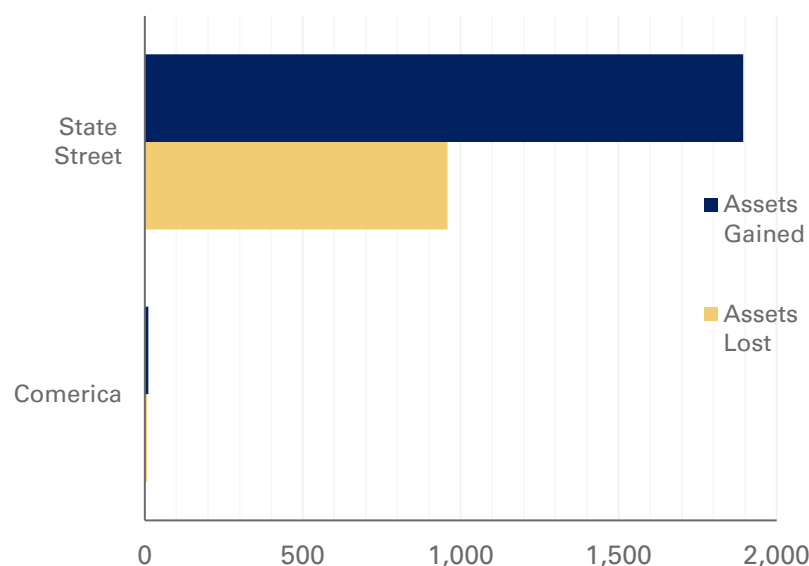
CLIENT GAINS & LOSSES

2018-2022

Total Trust/Custody Clients



Total Assets under Custody (000's)



Wilmington Trust, N.A. does not have this information readily available as we do not maintain these statistics. The Retirement & Institutional Custody division has a 98%+ retention rate (as of March 31, 2023).

State Street has spent the last few years examining our business and the way we deliver successfully on our client objectives which resulted in clients being repositioned to smaller, regional firms that were better aligned with their objectives and cost priorities. The trending in our win/loss statistics are representative of this change. This has allowed State Street to focus on the core tenants of our business and to build out in areas where we believe our clients will derive the most value. The trending in our overall AUC/A is also reflective of this strategy where we have been able to expand our existing client relationships leading to an overall expansion in our business and overall assets serviced.

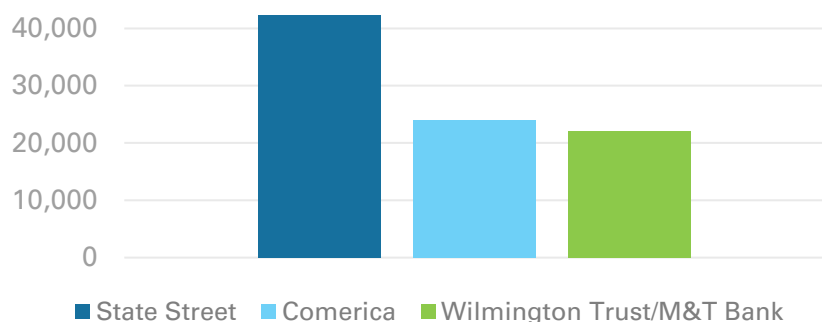


Source: NEPC 2023 Request for Information – Trust/Custody Services.

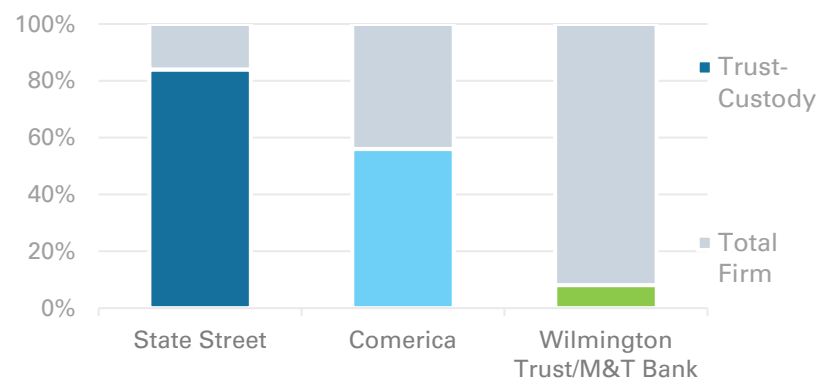
CORE CUSTODY SERVICES

KEY METRICS

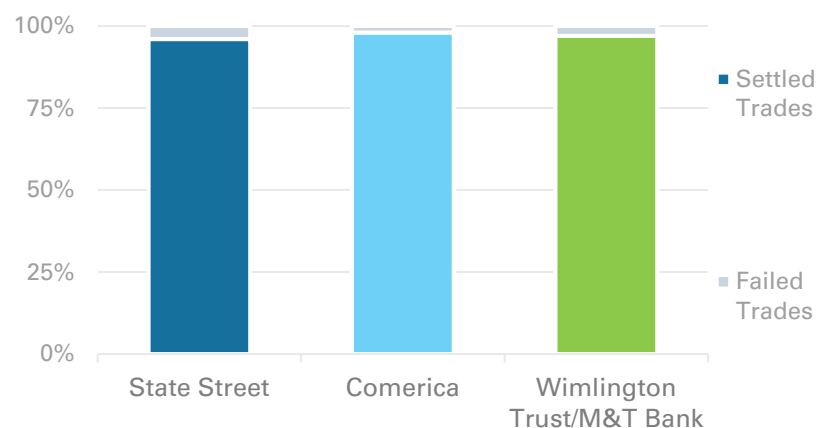
Trust/Custody Servicing Staff



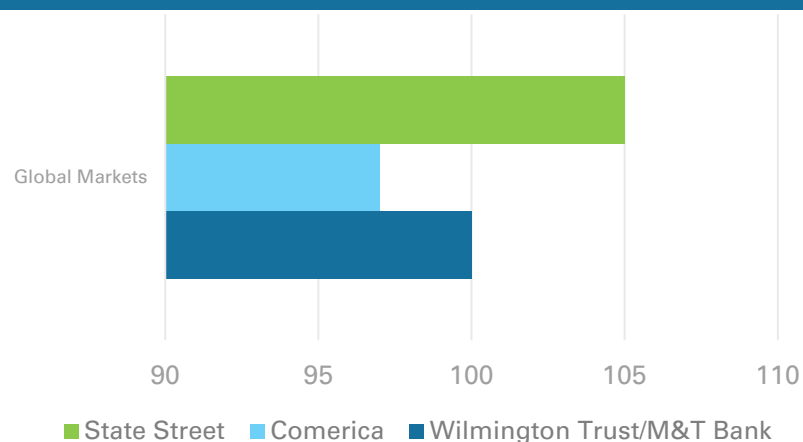
Trust/Custody Revenue Contribution¹



Trade Processing & Settlement



Subcustodian Network



Source: NEPC 2023 Request for Information – Trust/Custody Services.

CORE CUSTODY SERVICES

ACCOUNTING & REPORTING

Accounting System



State Street: Single proprietary system supporting all clients (Global Horizon).

Comerica Bank: Utilize third party system for custody (Sungard) and accounting (ComTrac).

Wilmington Trust/M&T Bank: Utilize third party system for custody (NEXEN) and accounting (Institutional Accounting System – IAS) through BNY Mellon.

Reporting & Audited Statements



State Street: Audited monthly statements: ~5-7 business days after month end. Audited annual statements: ~30 business days after year-end.

Comerica Bank: Audited monthly statements ~2-3 business days following month end. Audited annual statements: ~14 business days after year-end.

Wilmington Trust/M&T Bank: Audited monthly statements ~1 business day following month end. Audited annual statements: ~30 business days after year-end.



CORE CUSTODY SERVICES

DATA & TECHNOLOGY

Client Portal



MyStateStreet

Single integrated technology platform for all clients including cash movement, trade input capabilities and client reporting.

Comerica Trust Online

Integrated technology platform including client reporting and view only access for cash activity.
Cash/trade instructions, remote use unavailable.

NEXEN

NEXEN is a third party system via BNY Mellon, which is a single integrated technology platform for all clients including cash movement, trade input capabilities and client reporting.

Technology Budget & Spend



State Street

2023 Budget: \$2.3 billion
Historical spend: \$2.3 billion

Comerica Bank

2023 Budget: \$3 million
Historical spend: \$3.1 million

Wilmington Trust/M&T Bank¹

2023 Budget: \$1.2 billion
Historical spend: \$1.08 billion

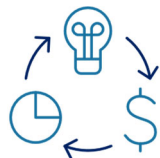


Source: NEPC 2023 Request for Information – Trust/Custody Services.

¹Technology budget and spend reflective of BNY Mellon's historical spend and expected spend for 2023. Wilmington Trust/M&T Bank utilize BNY Mellon's platform for custody services.

CONVERSION & ONBOARDING

OVERVIEW



Standard Conversion Period

Dedicated Conversion Team

Dedicated Conversion Specialist

Conversion Dashboard

State Street: ~90 days
from notification date

Comerica Bank: 8
weeks

**Wilmington Trust/M&T
Bank:** 4-8 weeks

State Street: Yes

Comerica Bank: No

**Wilmington Trust/M&T
Bank:** Yes

State Street: Yes

Comerica Bank: No

**Wilmington Trust/M&T
Bank:** Yes

State Street: Yes

Comerica Bank: No

**Wilmington Trust/M&T
Bank:** No



PRICING ANALYSIS



PROPRIETARY & CONFIDENTIAL

PRICING ANALYSIS

SUMMARY

	State Street	Comerica Bank	Wilmington Trust / M&T Bank
Core Custody Services¹			
Account Based Fees	Included in Minimum Fee	\$ -	\$7,500
Asset Based Fees	Included in Minimum Fee	\$79,878	\$63,903
Holdings Based Fees	Included in Minimum Fee	\$ -	\$ -
Transaction Based Fees	Included in Minimum Fee	\$2,703	\$4,210
Total Estimated Fees²	\$50,000	\$82,581	\$75,613

¹ Custody fee structure varies by custodian. Please refer to detailed fee proposals for additional details.

² State Street's annual minimum fee of \$50,000 applies. Wilmington Trust/M&T Bank transaction fee estimate includes miscellaneous pass through fees.



Fee quotes are based on MWRA ERS custody account structure as of 5/31/2023. Pricing terms are based on "all-in" fee schedules, where one custodian is selected for all services in scope of this search. Cash management fees netted against income earned and not billed directly to the plan (management fees vary by product). Broker commissions are not a part of custodian transaction fees and would be additional cost based on actual trading activity. Detailed pricing estimates available upon request.

PRICING ANALYSIS

DETAILED

Account(s)	Volume (#)	State Street		Comerica		Wilmington Trust / M&T Bank	
		Itemized Fees	Annual Fees	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees
US Separate Managed Accounts	5	\$ -	\$ -	\$ -	\$ -	\$ 1,250	\$ 6,250
Non-US Separately Managed Accounts	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Line Item Accounts (PE, RE, Natural Resources)	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cash Accounts	1	\$ -	\$ -	\$ -	\$ -	\$ 1,250	\$ 1,250
Subtotal	7		\$ -		\$ -	\$	7,500
Safekeeping (\$)	Market Value (\$)	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees
US Separately Managed Assets - Equity	\$ 451,523,748	\$ -	\$ -	\$ 0	\$ 56,440	\$ 0.00010	\$ 45,152
US Separately Managed Assets - Fixed Income	\$ 32,367,559	\$ -	\$ -	\$ 0	\$ 4,046	\$ 0.00010	\$ 3,237
Non-US Separately Managed Assets	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Line-Item Assets - Private Equity	\$ 100,139,031	\$ -	\$ -	\$ 0	\$ 12,517	\$ 0.00010	\$ 10,014
Line Item Assets - Real Estate	\$ 41,619,456	\$ -	\$ -	\$ 0	\$ 5,202	\$ 0.00010	\$ 4,162
Line Item Assets - Natural Resources	\$ 2,614,028	\$ -	\$ -	\$ 0	\$ 327	\$ 0.00010	\$ 261
Cash	\$ 10,762,740	\$ -	\$ -	\$ 0	\$ 1,345	\$ 0.00010	\$ 1,076
Subtotal	\$ 639,026,563		\$ -		\$ 79,878	1.00	\$ 63,903
Holding(s)	Volume (#)	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees
US Separately Managed Assets - Equity	176	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
US Separately Managed Assets - Fixed Income	31	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-US Separately Managed Holdings	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Line-Item Assets - Private Equity	26	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Line Item Assets - Real Estate	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Line Item Assets - Natural Resources	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	241		\$ -		\$ -	\$ -	\$ -
Transaction(s)	Volume (#)	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees
US Separate Managed Transactions	276	\$ -	\$ -	\$ -	\$ -	\$ 6	\$ 1,656
Non-US Separately Managed Transactions	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Line Item Transactions (PE, RE, Natural Resources)	9	\$ -	\$ -	\$ -	\$ -	\$ 6	\$ 54
Wires/Transfers	159	\$ -	\$ -	\$ 17	\$ 2,703	\$ -	\$ -
Transfers	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Paydowns	48	\$ -	\$ -	\$ -	\$ -	\$ 6	\$ -
Foreign Exchange (executed via custodian)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Third Party Foreign Exchange	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate Actions/Class Actions	3	\$ -	\$ -	\$ -	\$ -	\$ 6	\$ -
Investment Manager/Custodian Fees	3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Manual Transactions	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(Other/Additional Services)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	500		\$ -		\$ 2,703		\$ 1,710
Other/Additional Services	Volume (#)	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees	Itemized Fees	Annual Fees
Annual/Regulatory Reporting	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Minimum Fee	-	\$ -	\$ 50,000	\$ -	\$ -	\$ -	\$ -
Misc. Pass-Through Fees (M&T/Wilmington)	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,500
Subtotal			\$ 50,000		\$ -		\$ 2,500
Total			\$ 50,000		\$ 82,581		\$ 75,613

¹ Custody fee structure varies by custodian. Please refer to detailed fee proposals for additional details.

² State Street's annual minimum fee of \$50,000 applies. Wilmington Trust/M&T Bank transaction fee estimate includes miscellaneous pass through fees.



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APPENDIX



PROPRIETARY & CONFIDENTIAL

INFORMATION DISCLOSURE

These materials contain summary information regarding the custodian banks described herein and are not a complete description of the products, services, and/or legal agreements for each provider. This analysis does not constitute a formal recommendation, approval or affirmation by NEPC. This report is for informational purposes and should be used as legal and/or tax advise. This report was prepared by NEPC for use by an individual client and should not be used by anyone other than the intended recipient. This report may consist of statements of opinion which are as of the date published and specific to the individual client review.

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