MONTANA BOARD OF INVESTMENTS
DEPARTMENT OF COMMERCE
2401 Colonial Drive, 3rd Floor
Helena, Montana

MINUTES OF THE MEETING – February 11-12, 2020

BOARD MEMBERS PRESENT:
Karl Englund, Chair
Mark Noennig, Vice Chair *via telephone/Skype*
Terry Cohea
Jim Edwards
Jeff Greenfield
Bruce Nelson
Maggie Peterson
Jack Prothero
Diane Fladmo *(day one)*

LEGISLATIVE LIAISONS PRESENT:
Senator Fred Thomas
Representative Jim Hamilton

STAFF PRESENT:

Polly Boutin, Associate Financial Manager
Jason Brent, CFA, CAIA, Investment Officer Public Markets
Dana Chapman, Board Secretary
Frank Cornwell, CPA Associate Financial Manager
Roberta Diaz, Investment Accountant
Julie Feldman, CPA, Financial Manager
Kelsey Gauthier, CPA, Investment Accountant
Kirsten Haswell, Investment Analyst
Tim House, Investment Analyst
Doug Hill, Director of In-State Loan Programs
Ethan Hurley, CAIA Director of Real Estate/Natural Resources
Teri Kolnik, CFA, Investment Analyst
Emily Kovarik, CPA, Investment Analyst
Peggy MacEwen, Deputy Director
Savannah Morgan, Bond Program Officer
Rande Muffick, CFA Director of Public Market Investments
Michael Nguyen, Director of Private Equity
Mike Pettit, Director of Investment Operations
Jon Putnam, CFA, FRM, CAIA Director of Fixed Income
John Romasko, CFA Investment Officer, Fixed Income
Steve Strong, Investment Analyst
Dan Villa, Executive Director
Louise Welsh, Senior Bond Program Officer
Thomas Winkler, CAIA, Investment Analyst
Dan Zarling, CFA, CIPM Director of Risk Management

GUESTS:
Jim Voytko, President, Director of Research, Senior Consultant, Principal, RVK, Inc.
Dore Schwinden, Executive Director, Montana Public Employee Retirement Administration
William Holahan, Legal Counsel, Montana Public Employee Retirement Administration
Greg Gould, MBOI Counsel
Cliff Sheets

CALL TO ORDER

Board Chairman Karl Englund called the regular meeting of the Board of Investments (Board) to order at 11:49 a.m. As noted above a quorum of Board Members was present. Chairman Englund advised of video and audio recording of the meeting and asked for public comment on issues within Board jurisdiction. There was none.

Chairman Englund called for approval of the November 19-20, 2019 Board Meeting Minutes and asked if there were any changes or revisions.

Member Maggie Peterson made a motion to approve the November 19-20, 2019 Board Meeting Minutes. Member Jack Prothero seconded the motion. The motion carried.

ADMINISTRATIVE BUSINESS

Audit Committee Report

The Audit Committee met prior to the Board meeting. Committee Chair Maggie Peterson reported that Ms. Julie Feldman provided an update on the fiscal year 2019 Financial Audit. The Legislative Audit Division (LAD) issued unqualified audit opinions for both the Unified Investment and Enterprise Fund financial statements. Chair Peterson reported staff and LAD met for the exit interview on January 3rd which Chair Peterson attended via conference call. Chair Peterson commended staff and Executive Director Villa for their excellent work during the audit process. The BOI audit will be presented before the Legislative Audit Committee on April 27 or 28, 2020. LAD has posted the BOI audit to their website. The fiscal year 2020 LAD audit entrance conference will be held in March or April. The Fiscal Year 2019 BOI Annual Report was posted to the website by December 31, 2019 as required by law.

Ms. Feldman stated Wipfli staff will be on site in April for planning and testing in preparation for the SOC 1® Type 2 Report Audit. In December, Wipfli provided a management letter which included some recommendations, including physical building security, adherence to investment policies, ACH wire transfer, document shredding and emergency recovery procedures.

Ms. Feldman presented proposed policy revisions to the Governance Policy and two appendices. Appendix B - Code of Ethics has minor changes to remove reference to the Fun Committee which has been dissolved. Appendix N - Custodial Bank Policy has revisions regarding the Nationally Recognized Statistical Rating Organization (NRSRO). The proposed changes to the Governance Policy also include occasions where the Executive Director and Chief Investment Officer may pause decisions when there is an investment decision that requires Board input.

> Committee Chair Peterson stated the Audit Committee approved all proposed policy revisions to the Governance Policy, Appendix B - Ethics Policy and Appendix N - Custodial Bank Policy, and made a motion for full Board approval. Member Bruce Nelson seconded the motion. The motion carried.

Human Resources (HR) Committee Report

The HR Committee met prior to the Board meeting. Committee Chair Terry Cohea thanked the Board members and staff who participated throughout the Chief Investment Officer (CIO) recruitment process.

> Committee Chair Cohea made a motion to approve the hiring of Jon Putnam as CIO per the Committee approved contract. Member Maggie Peterson seconded the motion. The motion carried.

> Committee Chair Cohea made a motion to approve the hiring of Rande Muffick as Deputy CIO per the terms and conditions of the Committee approved supplemental contract. Member Peterson seconded the motion. The motion carried.

Board Chairman Karl Englund echoed the compliments to staff for their help and thanked Committee Chair Terry Cohea on behalf of the Board.

Loan Committee Report

The Loan Committee met prior to the Board meeting. Committee Chair Jack Prothero stated the Committee approved three loan policies which require full Board approval. The three policies are the Commercial Loan Policy, the Infrastructure Loan Policy and the Value-Added Loan Policy.

Committee Chair Prothero made a motion to approve all three policies. Member Bruce Nelson seconded the motion. The motion carried.

Committee Chair Prothero noted the Loan Committee also reviewed a $7 million participation loan to Montana Craft Malt Company in Butte. TrailWest Bank in Missoula is a newly approved BOI lender and is participating 30% ($3 million) on the total amount of $10 million. The loan is fully federally guaranteed through the USDA Rural Business-Cooperative Service (RBS). Staff are authorized to approve federally guaranteed loans and Committee/Board approval is not required.

Committee Chair Prothero reported the Committee approved two INTERCAP loans. The first loan is to Sun Prairie Village County Water & Sewer District in the amount of $1,335,000 for interim financing in anticipation of (USDA) Rural Development Services (RD) long-term financing for wastewater system upgrades.

The second loan is to a new borrower, the Department of Corrections (DOC) in the amount of $2,750,000 to finance long range building at the Montana State Prison Facility (Prison) in Deer Lodge. The loan is for the expansion of the Prison's cook chill building. The loan is in the form of a general promise to pay with a 15-year term. DOC is contributing $250,000 to the total project cost of $3 million.

<u>Public Employees' Retirement System (PERS) and Teachers' Retirement System (TRS) Updates</u>
Member Jeff Greenfield reported the TRS Board met on December 6th. There was an update and discussion on the information system which has been underway for over three years. The work has been completed and the system is functional. The online forms are working well. The project came in under budget and creates more functionality to members for online changes and updates. The Board also completed the long-term strategic plan updates and is working on remodeling the space TRS vacated which will be rented or sold.

Member Maggie Peterson reported the MPERA Board met on December 12th. Two members, Marty Tuttle and Julie McKenna have resigned from the MPERA Board and a third member resigned last week. The Board has only seven members, so there will be three vacancies to fill.

The City of White Sulphur Springs and Plentywood have both joined the 457 Plan. The Board had an audit committee meeting and some recurring issues were raised. A total of 22 employers were audited and 15 had several issues. The largest was not offering retirement to employees which impacted 49 employees. Providing back contributions can be a major issue. There were also reporting errors for four employers. The Board also discussed three different litigation issues. Lastly the Board received an update on the new IT system. The system is up and running and the kinks are being worked out.

<u>Legislative Liaison Comments</u>
Senator Fred Thomas reported the legislature received an update last week on fiscal division revenues which remain strong.

Representative Jim Hamilton reported revenue is $80 million above estimates. During the legislative week all legislators were encouraged to attend a high-level presentation on pensions and there was a lot of interest. Many more legislators attended than had been expected. There were also presentations to the Legislative Finance Committee and Executive Director Villa reviewed the BOI processes for the SAVA Committee. There was also a deep dive presentation on risk assessment and the Pew Charitable Fund made a presentation. In February, Cavanaugh Macdonald will be providing a risk assessment.

Representative Hamilton noted study bill HB 715 provides for the Legislative Finance Committee to study long term budget stabilization including financial modernization and risk analysis.

EXECUTIVE DIRECTOR'S REPORT

Overall Comments

Executive Director Dan Villa noted in response to the question from Vice Chair Noennig at the November meeting on liquidity analysis, Mr. Jim Voytko would present a review later in the meeting. Director Villa added the report he presented to the State Administration and Veterans Affairs (SAVA) Committee is included in the packet. The information includes the difference between expected returns as seen in asset allocation discussions and the actuarially required returns which staff talk about on a regular basis.

Mr. Voytko explained there is a lot of confusion about the actuary's estimate and the information that comes out of asset allocation studies. It would be a statistical oddity if they were the same. The reason is due to the different time horizons. The actuary looks over a much longer time period and factors in what an appropriate contribution level is to be sure the plan amortizes. The main purpose is to set plan contributions and meet normal costs using a different time horizon.

The expected rate of return from an asset allocation study is driven by a shorter-term horizon of 10+ years, much shorter than the actuary. The actuary is also spreading the costs of public service appropriately over the generations they have. The idea is to not push costs to future generations or to unfairly benefit the current generation while adhering to a prudent protection of assets.

Asset allocation considers a different time frame and has no connection to contributions. Investing is according to the prudent investor rule to create a diversified portfolio that, given the uncertainty of capital markets, will allow the fund to reap the benefits of what the market has to offer. The risk assessment you make must incorporate your obligation to protect the corpus. The actuary is not directly interested in that area. At times there may be cause to have a more conservative portfolio which may return below the expected actuary requirement. Other times, you may be comfortable with taking more risk and the assumed rate of return may be higher than the actuary rate. However, over the long term, they should be similar to each other.

Representative Hamilton asked for more information on the time frame boundaries used by RVK for capital market expectations.

Mr. Voytko noted the time frame previously was shorter at 10 years, although now the regression to the mean method is used. RVK uses a variety of methods to estimate the future, and often look at historical data and relative value standards. An asset may be high, and a regression to the mean assumed, but how long will that take? The gap extends beyond 10 years, but the timing is unknown; it can take a period of 10+ years. The time horizon used is always shorter than the actuary.

Executive Director Villa welcomed and introduced Peggy McEwen, BOI's new deputy director.

Short Term Investment Pool (STIP) Review

Ms. Kirsten Haswell provided an overview of STIP and noted the tagline is, safety first, liquidity second and income third. The goal is to preserve principal, provide participants with one day liquidity while adhering to the prudent principal, and managing for risk and liquidity.

STIP was nearly $4.5 billion at year end. Staff managed over 1,000 transactions worth more than $27 billion involving the work of several staff members. At December 31, 2019, the STIP Reserve equaled 1.16% of the STIP balance. The fundamental risk is breaking the buck, where a participant would be unable to redeem their dollar for a dollar.

Ms. Haswell explained there are four main risks associated with STIP, credit risk, market risk, liquidity risk and interest rate risk.

Credit risk is the risk a security will underperform; one default can make it difficult to return the dollar. This risk is mitigated by buying only approved names and conferring with risk management staff. For example, Boeing was downgraded at the end of last year. They were on BOI's approved list and totaled 2.5% of the portfolio value. Of that total, $90 million will roll off soon, and another $20 million runs out until November. Staff will not be buying more Boeing. As soon as Boeing was downgraded, staff removed it from the approved list.

Responding to a question from Chairman Englund, Mr. John Romasko explained anyone on the fixed income team can determine that a name be removed from the approved list.

Ms. Haswell added staff are not forced sellers when a downgrade occurs.

Ms. Haswell stated the second risk, market risk, includes factors due to the overall financial market environment. The best way to counter market risk is through diversification and to maintain maturity caps on different assets.

Ms. Haswell stated liquidity risk is linked very closely to market risk. You want to avoid any forced sales at unfavorable prices. Unique to BOI is the stability of state agency money. The accounting team advises when a local government is withdrawing a large amount of money and they must give a one day notice.

Ms. Julie Feldman added when staff have conducted outreach with local governments, they are requested to give ample notice of withdrawals up to $5 or $10 million.

Ms. Haswell explained the last risk, interest rate risk, is the risk of the portfolio value changing with fluctuations in the treasury rate.

Mr. John Romasko reviewed STIP performance. In recent years, performance has gone up due to the Federal Reserve increasing the effective funds rate. Treasury rates and risk premiums are a factor. The LIBOR (London interbank offered rate) has been replaced by the SOFR (Secured Overnight Financing Rate), which does not include a market risk premium. SOFR is in its infancy in building a forward curve, which is taking longer than anticipated. It started on pace, but LIBOR securities are still being issued, even past the sunset date, which is surprising.

Executive Director Villa noted Ms. Haswell has passed Level I of the CFA (Chartered Financial Analyst) and she is scheduled to take the Level II exam in June.

Mr. Romasko and Ms. Haswell then conducted a Bloomberg presentation detailing daily transaction procedures.

Investment Policy Revisions

Mr. Jon Putnam reviewed proposed STIP Investment Policy changes which consist mostly of clean up. One change clarifies language on rating agencies, removing references to specific rating agencies and substituting NRSRO (Nationally Recognized Statistical Rating Organization).

> Member Terry Cohea made a motion to approve the revised STIP Investment Policy. Member Diane Fladmo seconded the motion. The motion carried.

Mr. John Romasko presented proposed additional Schedules to the Separately Managed Investments Policy. The four new schedules are for the Department of Environmental Quality (DEQ) which would like to begin investing longer term. DEQ is now able to project with some reasonable certainty future expenditures which will enable them to invest in trust funds.

The four schedules include the Barker Hughesville St Response, Flying J CECRA Facilities Fund, Libby Asbestos Site State Cost and Luttrill Pitt – Oper & Maint.

> Member Maggie Peterson made a motion to approve the four new Schedules of the Separately Managed Investments Policy. Member Terry Cohea seconded the motion. The motion carried.

Mr. Jon Putnam presented the proposed changes to the Trust Funds Investment Pool (TFIP) Policy. The proposed revisions include revising the allocation to investment grade fixed income and cash from 82%-100% to 60%-100%. Yields have become low. Investment in equities is not allowed and most participants are very long term and cannot spend principal. Real estate provides a stable income stream with less volatility. RVK projections show better returns for real estate over 10 years, with low volatility and low standard deviation. Illiquidity is not an issue as participant funds are static. The real estate added would be core real estate which has an equity-like component to it. Real estate has steady returns through rents/leases and appreciation of buildings which grows the rent/lease payments. Staff are recommending an increase in the real estate allocation from 0%-8% to 0%-30%. It will take 3 to 5 years to increase to the higher level.

Mr. Voytko added RVK met with BOI staff as a team. Yields are low, and there is not much prospect for that to change. Staff have experience with real estate. There are two factors: it interjects some equity beta into the Trust Funds portfolio, and it can add additional return to the Fund. The tracking of equity beta of the fund would be monitored for risk. Additionally, it is a long term 3+ year project and RVK is supportive.

Member Prothero asked if the change had been discussed with fund participants.

Mr. Putnam replied no; however, they are mainly interested in the income received each year. There is a wide disparity of interest among participants. Participants want to know the income expected over the next year and they have been concerned with decreasing income over the past few years.

Responding to a question from Chairman Englund, Mr. Romasko noted participants already own shares in the Trust Fund which includes core real estate.

Director Villa added similar to private and other investments, staff has set an aspiration for higher illiquids, it’s directional. An increase in real estate acts to counter the diminishing participant yields.

Mr. Putnam explained the real estate will be mostly core, although may include some debt-oriented strategies. The core real estate will be Class A properties and properties with steady return potential. Participants cannot handle a great deal of volatility. Most core real estate is U.S. oriented.

Mr. Ethan Hurley added core real estate is less than 2% international and is North American centric. It is highly stabilized with great credit, durable income yields and long-term leases.

> Member Terry Cohea made a motion to approve the proposed Trust Funds Investment Pool Investment Policy. Member Jack Prothero seconded the motion. The motion carried.

Mr. Putnam presented proposed changes to the Montana State Fund Investment Pool Investment (SFIP) Policy; final approval will occur at the April Board Meeting. Staff are proposing the addition of the high yield asset class with a range of 0%-7%. Currently the portfolio has no high yield and the buildup will be gradual. Reviewing the last several years of peer reviews, the vast majority have an allocation to high yield, averaging 3%. Staff have discussed the addition of high yield with State Fund. They are aware of and comfortable with the impacts.

Other proposed revisions include changing the fixed income benchmark from the Bloomberg/Barclays Intermediate Government/Credit Index to the Bloomberg/Barclays Intermediate Aggregate Index. The difference is there are no securitized assets in the Government/Credit Index. Staff like securitized over corporates as they are better priced. It is not an easier benchmark to beat, in fact it may be a bit more difficult. Staff will go before the State Fund Board in March to present the changes and will come before the BOI Board in April for final approval.

Mr. Voytko added for State Fund it is less about investment risk than regulatory risk. All insurance companies have an examiner; risk mitigation and assessment are on their side. Although asset liability risk is a factor, risk assessment is on their side.

<u>In State Loan Program</u>

Mr. Doug Hill presented the commercial and residential loan portfolios. The Commercial loan portfolio totaled $166,957,256 as of January 2, 2020. There are four loan reservations that total $16.7 million and nine loan commitments that total $56,428,132. The loan program yield, excluding the Veterans Home Loan Program (VA) is 3.0%. The Springs of Bozeman is complete and occupancy is ahead of schedule.

The Residential loan portfolio balance as of January 20, 2020 was $3,261,276 which represents 85 loans and has a yield of 6.58%. There is no activity except for payments. One loan is 90 days past due with an FHA guarantee. The VA loan portfolio as of January 20, 2020 had a balance of $45,771,427 representing 260 loans. Portfolio yield is at 1.88%. There are 10 reservations totaling $1,907,558 with a projected yield of 1.70%. There is one loan over 90 days past due totaling $172,131. As of January 31, 2020 there was just $1.1 million in remaining available funds.

BOND PROGRAM REPORTS

<u>Activity Report</u>

Ms. Savannah Morgan presented the INTERCAP Activity Summary and staff approved loans. There were three staff approved loans, two from repeat borrowers, Ronan and McCone County.

Chairman Englund asked why program activity was so slow.

Ms. Morgan stated at the end of the year, a lot of people are out for holidays, and many are aware of the INTERCAP interest rate change in February and could be waiting for that.

Ms. Welsh added one factor has been short-term interest rates are the same as the 5- or 10-year rates and borrowers may be locking in fixed rates with their banks. Staff expect the new rate will be around the Treasury rate. Staff are redeeming the 2005 Bond Series early. U of M did a large pay down of $11.5 million which it refinanced. BOI will take one series back that was tendered at 77%, which is normal. Remarketing will be successful; the tendered bonds are just under $70 million. If bond buy back is required, it can be managed. Piper Jaffray, the remarketing agent, recently merged with Sandler O'Neill & Partners, L.P. to become Piper Sandler Companies and they added 300 employees. The final INTERCAP rate will be determined February 24 and staff will know then if there are any bonds that are not remarketed. The spread is then added on, with a maximum spread of 1.5%.

Member Maggie Peterson asked if the pay down from U of M has hurt.

Ms. Welsh replied yes, it was a lot of cash and now there is too much; although staff usually redeems bonds two years before maturity.

LITIGATION DISCUSSION

The meeting was closed to the public for a litigation discussion at 3:15 p.m.

The regular meeting was called back to order at 4:24 p.m.

Member Jack Prothero made a motion to authorize MBOI counsel, Luxan & Murfitt, PLLP, to file an amicus brief on behalf of the Montana Public Employees Retirement Board on case #OP 20-0063. Member Diane Fladmo seconded the motion. The Motion carried.

With no further business before the Board, the meeting was adjourned for the day at 4:27 p.m.

BOARD MEETING DAY 2

CALL TO ORDER

Board Chairman Karl Englund called the regular meeting of the Board of Investments (Board) to order at 8:30 a.m. A quorum of Board Members was present. Chairman Englund advised of video and audio recording of the meeting and asked for public comment on issues within Board jurisdiction. There was none.

Private Investments – New Commitments

Mr. Michael Nguyen reported there was one new commitment of $45 million on November 27, 2019 to Ascendent Capital Partners Fund III. Ascendent is a China manager which staff first met with in 2018 and again in 2019. The team came from JP Morgan and D. E. Shaw & Co.

Ascendent has a high-level focus on the macro theme of the upgrade consumption of the middle class in China. An example of that is with a focus on education for kids. A lot of households have four grandparents, two parents, and one child. The future prestige of the family is on that one child. Another theme is health care with the growing elderly population, along with millennial spending and technology. The largest coffee chain in China only accepts payment via app, not cash. Ascendent has a value investor tilt rather than high growth. China multiples have been very high compared to the U.S. and they have been involved in these areas for a while. Their track record is very good; they have completed 15 deals with no losses.

Member Peterson asked whether, as a limited partner where BOI acts as an observer only, it is valuable.

Mr. Nguyen replied yes, there is value in sitting in and participating. Ascendent is reserving LPAC membership for much larger investors and did not want to make an exception for BOI. However, staff have a good relationship with them and although we have no formal vote, we still have a voice.

Chairman Englund asked if there were concerns with China due to tariffs and the Coronavirus.

Mr. Nguyen agreed, timing was not great with the virus, although he didn't believe the tariffs were an issue. Ascendent is more involved with domestic consumption within China; the virus impacts retail and travel more than consumption. No one knows yet what the long-term impact of the virus will be, it's too early to tell. There have been differing projections on how the virus will impact China GDP, 3% vs. 5%. Staff have received status updates and forecasts from other resources, such as economists.

Real Estate and Natural Resources – New Commitments

Ms. Emily Kovarik presented the commitment to Walton Street Real Estate Debt Fund II. Staff have been actively considering private real estate debt and have looked at over 65 funds. The key attributes of Walton Street include the tenured team, that they have a real estate equity side and have the ability to take back an asset in case of default. Staff committed $100 million on December 20, 2019. They have a core plus and debt platform and have closed on $2.8 billion over the last two years. The loans are secured by income producing assets, and they only lend in U.S. markets. Walton Street has an experienced real estate platform and a great team.

Responding to a question from Member Prothero, Ms. Kovarik stated Walton Street focuses on major metropolitan areas, such as Chicago, LA, and those on the east coast. They focus on multifamily and industrial as a mezzanine lender. They are not buying on the secondary market and they sell off the senior piece of the loan.

Member Jim Edwards asked for more information on the mezzanine portion of the loan.

Mr. Hurley explained the partner along with the bank originates the whole loan, which has a Part A and Part B piece. They sell the senior piece of the loan value to the bank and they hold on to the B which earns a higher yield. The borrower may not have the 35%-40% of equity required for a bank loan, so the equity sponsor goes to alternative sources of capital, such as a debt fund, to originate the part of the loan which the bank will not fund. It is a structural issue due to the bad loans during the Great Financial Crisis.

Ms. Kovarik presented the staff commitment to Oak Street Real Estate Fund V. Staff committed $30 million on January 23, 2020, a re-up of a manager with a proven track record. Oak Street is institutional and registered with the SEC. They have had strong returns on their funds. They source through a proprietary system with a focus on best return. BOI was able to be part of the first close of Fund V. Oak Street is just finishing up Fund IV which has a net IRR of 8%; earlier funds were even higher.

Oak Street invests in assets with a triple net lease. The manager buys the asset then leases it back to the tenant, who is responsible for maintenance and taxes. Oak Street is involved with tracking the care of the assets.

Ms. Kovarik presented the staff commitment to DRA Growth and Income Fund X, LLC. A re-up with an existing manager, staff committed $30 million on November 26, 2019. DRA has a proven track record in value added non-core real estate. BOI has invested in DRA since 2007 and has invested in Funds VI, VII, VIII and IX with an average net IRR of 14.5%. DRA is a highly institutional manager and they are also registered with the SEC. DRA has a strong culture with experience over many market cycles; they manage large and small deals. They limit downside risk and two thirds of return is cash flow.

Senator Fred Thomas asked about staff reporting preferred return vs. actual return to the Board.

Mr. Hurley stated staff can easily include returns on the briefs which may be helpful, particularly on serial re-up managers. DRA has been very consistent with double digit returns.

Chairman Karl Englund asked if the management fees for DRA are less.

Ms. Kovarik explained DRA approaches fees differently than other managers. Fees are based on gross asset cost, which is not the same as committed capital. Staff analyzed it and found 1.5% is the average, therefore the fees are market comparable.

Mr. Hurley presented the staff commitment to Ecosystem Investment Partners IV, LP. Staff committed $45 million on December 5, 2019. EIP uses a mitigation banking/environmental restoration strategy and have solid, steady performance. They are 100% founder/employee owned and each of them invests in the funds. Their approach to partnership uses good communication, accountability, and they are disciplined. Mr. Hurley noted he is looking forward to seeing fund performance, adding he has followed the firm since Fund II and has talked to them over the years.

Mr. Hurley presented the staff commitment to Mountain Capital Partners II, LP. Mountain Capital is a re-up manager. Staff committed $30 million in January 2020. Mountain Capital uses a leveraged buyout approach, investing in distressed companies. They don't buy debt or take control; they source deals from hedge funds with exploration and production using a focus on upstream companies. They use a deep value approach and run a concentrated portfolio. They are uniquely situated for the current environment; bankruptcies have continued to rise. They have a solid team, with good returns through a downturn in the oil and gas industry. Return has been 10.7% net IRR since inception. Oil and gas are never going away. While ESG (Environmental, Social and Governance) is contributing to oil and gas apathy, it remains a cyclical industry and will cycle back. Now is a good time to invest.

Staff conducted an onsite visit and met all team members. As part of the process of assessing teams, staff met with each person separately to assess the culture of the organization.

CONSULTANT REPORT

Quarterly Performance Report – RVK, Inc. – Mr. Jim Voytko

Mr. Jim Voytko reviewed the Executive Summary of the December 31, 2019 quarterly performance. The fund is doing well, although not quite hitting on all cylinders. Calendar year to date performance has been astounding for capital markets; a bit of a surprise given the high valuations. Large cap equity markets have had great performance, small caps a bit less, although still good absolute performance. On the international side, the MSCI EAFE has had good absolute returns. The bond markets interest rate decline over the most recent quarter means a dependence on yields which are very low. The U.S. market outperformance over foreign markets is a 10-year phenomenon with double digit returns over 10 years on an annualized basis. Valuations are historically high in equity markets with a big gap in U.S. vs. international markets.

Real estate market returns are going down, although the fund has benefited from being in the NCREIF ODCE market; over more recent periods the annualized rate of return has gone down.

For one-year absolute returns, many asset classes exceeded the actuarial rate of return, which is good for valuation and funding ratios of the pension plans. The yield curve is flat, and was inverted slightly for a period, penalizing long term investing. The fund is doing well, although not as well as recent years.

There are three ways to look at performance: vs. the actuarial rate of return, vs. benchmark returns and vs. peers. Investment performance of the fund has exceeded the actuarial expected rate of return over the 3-, 7- and 10-year periods. Performance execution vs. the benchmarks for each asset class and the total fund have fallen a bit short, and in the last year, a lot short. This is partly attributable to the illiquid private investments which are benchmarked to the public equity market. Public markets went up 31% in 2019 and it was tough for private equity to catch up. However, it is not too concerning, and the lag effect washes out over time. The third measurement is how the fund is performing vs. peer plans. This is the least important given that other plans have different liabilities, risk preference, and different asset classes. Although it is the least useful measurement, it is still worth reviewing. The plan fares well vs. peers, which includes plans at $3 billion and above. Over 5-, 7- and 10-years the plan is doing well, although not as well recently, ranking just above the median. It is difficult to stay at the top; the downward trend is not concerning. To get into the top quartile or decile, you need to be consistently above the median over time. The plan gravitates higher vs. the long-term rankings.

Mr. Voytko explained risk is tracked through how volatile fund performance is. Returns are fine, but it’s best to avoid too much risk. For return vs. risk, the benchmark has more risk than the median plan. Actual recorded volatility of the portfolio is less than the benchmark, which is a good sign. Plan returns are above the median, although you took less risk less than the median; the best place to be. Some funds are the opposite.

Mr. Voytko reviewed returns for the Trust Funds Investment Pool. Returns have seen a gradual decline with the exception of capital gains due to the interest rate decline. Low returns last quarter prompted staff to look at investment exposure to increase yield. The execution of the Trust Funds Investment Pool has been excellent, and it has beaten the Bloomberg US Aggregate Bond Index consistently.

Mr. Voytko reviewed performance for domestic and international equity. Absolute returns have been good, although there has been a bit of an execution return difference. Over the 1-, 3-, 5-, 7- and 10-year, the portfolio has done better than the international benchmark, which is not true for domestic equity.

Domestic equity from an execution point of view has fallen short of the benchmark, but outperformed peers; ranking above the median. BOI has been better at pursuing domestic equities than median plans.

Mr. Voytko noted the opposite is true in the case of international equities; BOI has performed better than the benchmark, but ranked below peers. For international equity and emerging markets, the median manager outperformed your fund.

Mr. Voytko explained although there is downside risk in all categories, equity is the most volatile. In a financial crisis, the market can decline 20%. It is difficult for private equity and bond markets to decline that much. Total fund sensitivity to the U.S. equity market indicates harm if a big downturn occurs. The fund's sensitivity has been declining since about 2014, which is a good sign. Although it would not protect the fund value, you are not in a position to be exceptionally harmed. Other fund allocations which provide diversification help the total fund. If the U.S. equity market falls 10%, the total portfolio should fall more like 5.5%, due to the fund sensitivity. You have been able to invest heavily in the equity market, but the total fund has some protection in a downturn. All diversifying assets have very little sensitivity to U.S. equity markets. Uncorrelated exposures help.

Illiquid Asset Allocation Risk Analysis

Executive Director Villa stated in response to Vice Chairman Mark Noennig's question in October asking how illiquid the pension fund can be and still make benefit payments, staff met with RVK for discussions on liquidity and risk.

Mr. Voytko added it was a classic example of good collaboration with staff. This question is coming up with a lot of institutional investors. Assets have been moving into less liquid assets which raises the question, why invest in illiquids? To avoid risk, you buy T-Bills; however, there is little return. The capital market is where the risks are, and return is generally associated with risk. When you take a risk premium with domestic equity, the result is generally higher equity values. Over time, a premium return is provided over non-risk assets. For private equity and real estate, you should get paid for the added risk, and over time there has been a premium for tying up your money. This Board has gradually increased illiquid asset classes, real estate and private equity, and although they provide the benefit, there is a risk if you need cash immediately. You may face a penalty, or it is not possible at all. There are various types of risk pursuing an illiquidity premium. If you have cash tied up and need to make payments, you would need to take cash out of the portfolio and if other areas of the market are at low valuations, you may need to sell at loss.

Member Terry Cohea asked if there would be enough cash and fixed income if needed.

Mr. Voytko replied yes, you would be able to meet your liquidity needs, although it depends on how long of a drawdown and whether it persisted for years. For example, if you ramp up the allocation of illiquid assets to 40% from the current 27%, you would expect a greater effect, but there would still be enough cash/core fixed income to survive without having to sell public equities. It would also mean a significant decline in public equity. It could be dealt with by rebalancing and you could meet liquidity needs and not have to sell public equity. In that case, you could add to public equity. Illiquids would approach half of the portfolio, but a downturn is unlikely to last years.

Executive Director Villa noted benefits payments are around 3% of the portfolio.

Mr. Voytko reviewed portfolio volatility. Volatility is the enemy of long-term compound returns, although it is very difficult to determine. One question is the various levels of illiquids, and whether they increase expected volatility risk to the portfolio. Based on assumptions, yes. Ramping up illiquids causes portfolio risk to increase, although it is difficult to determine by how much, and it seems less volatile due to the lag.

Another risk in the illiquid space is the dispersion of returns among managers is much larger. There is always risk in manager selection, which may leave you short. The gains and benefit and risks are much different in private investments. You may have managers who have historically outperformed but have recently underperformed. The difference between top and bottom quartile equity managers is 133 basis points in small cap; while meaningful, it is not large. In private real estate and private equity, the gap between top and bottom managers is 2000 basis points, extremely higher than equities.

The risk of illiquid investments is first in manager selection, which is very important in this asset class. Due diligence is very appropriate for addressing risk. Portfolio volatility is the next risk, although it is masked and has a greater penalty to returns. Forced selling is also a risk but is the one of least concern; over long periods, it doesn't compare to adverse manager selection.

INVESTMENT UPDATE (Quarter Ending 12/31/19)

CIO Update

Mr. Jon Putnam reviewed the retirement plans. Value was added over the last year, minus cash outflows for benefit payments. Returns were very good across the board for all asset classes and significant value added to pensions over the last year. There was a significant boost to pension plans over the 5- and 10-year periods and returns overall are good over the last 10 years.

Pension plan returns are all similar due to the CAPP (Consolidated Asset Pension Pool) allocations. Since inception in July 1994, over 25 years, the plans are hitting actuarial returns over the long term. Asset class breakdowns as of December 31, 2019 reflect the six fixed income categories that were combined back into the core fixed income asset class, which was completed in the fourth quarter.

Mr. Putnam noted good returns across the board. Compared to the current midpoints, the portfolio is slightly overweight domestic equity and a bit over in international equity. Core fixed income will come down, and staff are looking to increase midpoints for private equity and real estate over time. All asset classes are within policy ranges. The higher cash levels have been coming down and are close to the goals staff set. Core fixed income will be used over the next several months to fund benefit payments. Staff may use cash to add to domestic equity if there are opportunities.

Mr. Putnam noted total plan and asset class cash at December 31, 2019 was 2.55% and is closer to 2.0% currently. Staff are working on a risk management dashboard.

Risk Management

Mr. Dan Zarling presented a summary of risk management. Price to earnings (P/E) data from MSCI, the benchmark provider, includes a valuation of ranges for all benchmarks assigned to asset classes. The P/E is calculated for each benchmark monthly, and over the long term of 25-30 years shows the dispersion of valuations from lowest to highest and the median valuation vs. the current index valuation. The lows occur around recession periods and the highs around market peaks, but valuation extremes can persist, so they are not good signals for market timing. Typically, value investment managers believe low valuations will eventually revert upwards to the mean. If the current valuation is above or below the mean, it might indicate that there is increasing valuation risk (overvalued) or an opportunity to buy (undervalued) assets. Staff look at both extremes.

For fixed income, core and non-core, investment grade and high yield, the spread (OAS) for US Corporates is a good proxy for risk. Fixed income ranges are wider than you'd expect as spreads widened out during the Great Financial Crisis. Bond valuations get cheap during recessions which mean spreads are wide to compensate investors for the risk of default. One important metric not shown is the ten year treasury yield and the yield curve, which are at historic lows and trending lower.

Mr. Zarling stated illiquid investments currently make up 23% of the portfolio, or $2.8 billion. There is adequate liquidity based on the current illiquid $2.8B net asset value (NAV). The back of the envelope 50/50 rule of relating total illiquid NAV to unfunded commitments and calculating potential capital calls equates to $750 million of required liquidity per year. The key assumption is having enough liquidity to cover 50% of the projected unfunded commitments if called in one year. There needs to be enough daily liquidity to avoid forced selling to cover potential capital calls and pension benefit payments for one year. In stressed market environments, fixed income securities trade at unappealing wide spreads such that selling is unwise. Keeping a strict definition of liquidity to cash, money-market instruments and treasuries avoids accepting un-natural wide spreads for fixed income transactions.

Cash Asset Class

Mr. Mike Pettit stated staff monitors cash daily. In July, staff started a review of cash balances and discussed it with RVK. Retirement plan STIP was at 2.97% as of June 30, 2019. The balance was slowly reduced and in January we reached the target of 0.75%. The cash asset class includes the State Street STIF account, a very liquid daily sweep vehicle, and STIP within the asset class. As of December 31, 2019 there was 25% in STIP and 75% in STIF. From June 30, 2019 to December 31, 2019 total plan and asset class cash was reduced from 5.92% to 2.55%. Staff is exploring different cash vehicles at State Street. STIF has an early deadline each day and staff are seeking a late day vehicle.

Private Investments

Mr. Michael Nguyen stated the private environment is generally fully valued, although there was some cooling off in 2019 with a 20% reduction in the number and value of deals. Valuations are still fully valued for buyouts driven by cheap debt. The leverage is 5.9 times for buyouts, driving valuations. The portfolio is well positioned. Staff are very stringent with new relationships; we are looking for value not just growth.

Portfolio performance has been strong. Staff are very selective as we continue to increase the credit allocation and are looking at sector specialists. It has been busy so far this year. Staff expect three or four more deals for the next meeting. Through the first quarter staff have completed about half of the pacing for the year. We continue to give preference to existing managers. Cash flow was negative $12.82 million for the quarter ending December 31, 2019. We expect cash flow to be negative moving forward due to the J curve and ramping up of the portfolio. Staff are starting to look at more European opportunities. Staff have not spent much time in Europe and do not have many contacts. Mr. Nguyen added he will head Berlin soon and will meet with larger cap managers as well as some smaller managers.

Real Estate

Mr. Ethan Hurley stated real estate fundamentals are healthy, although moderating. Deal flow remains robust, with $800 billion globally last year. REITS have done well and fundraising is high. Staff are adding to the existing REITS exposure and will become more income reliant going forward. Real estate performance is good on both absolute returns and relative to the benchmark.

The portfolio is North American centric, and staff are not looking to global areas, such as Asia. Returns show no real need to invest there; the additional risk is not worth the investment. The U.S. is still the largest and deepest market in the world and provides sufficient diversity. Portfolio leverage constraints are good; cash flow is negative for the quarter ending December 31, 2019 due to investments.

The portfolio is broadly diversified with a core focus on high conviction managers. Staff are looking at separate accounts for portfolio structure. The real estate industry is geared towards creating value and trading away, realizing value. The BOI fund is a perpetual vehicle. If we can create prudent diversification with moderate leverage it would create long term durable cash flows. Rather than trade it away, we could continue to manage and collect the income streams over time. Staff are having conversations with managers who have property management leasing staff, construction, and financing staff which could manage assets long term on our behalf. This would provide more control and lower fees in the future and we may move out of funds. This offers a better way to manage the real estate portfolio longer term and would provide durable cash flows through income distribution. We could still sell the assets at any time.

Member Maggie Peterson asked if operation and maintenance would be factors.

Mr. Hurley replied selling when faced with functional obsolescence is an issue. We can develop a management plan and budget for maintenance.

Representative Jim Hamilton asked what turnover would look like on a separately managed account if the life of a fund was 15 years.

Mr. Hurley replied most real estate funds have a fund life of 7-10 years. In the case of a separate account, the terms of the agreement are created from scratch. It could be a closed end or open fund in perpetuity, where you could hold or sell and recycle in and out on another separate account. You buy deals, create value, generate an 8-9% yield and actively manage and maintain it through time. One benefit is the reduction of frictional costs, as you source new deals with bigger, stronger relationships

Mr. Hurley stated staff time would increase initially, but over time would stabilize as relationships were built. There are investors who are doing this where entire staffs are dedicated to due diligence on managers and entering into separate account relationships. Some manage funds and some manage real estate directly through the purchase.

Mr. Hurley noted staff will present a redefined investment policy statement for real estate in April to specifically address the sizing, prudent diversification, and individual size limits for managers. There is a cap on natural resource managers of 1% for any one manager; staff will propose no more than 2% for a single real estate manager.

Natural Resources

Mr. Hurley reviewed natural resources. The key takeaway is oil prices have recently sold off, some due to Iran, some due to the Coronavirus. OPEC continues to discuss production cuts and U.S. production continues to grow. Fundamentals for MLP remain strong and the fundraising market remains steady. Staff are hoping for a reversion to the mean.

The portfolio is North American centric; mitigation banking and aggregates strategies are growing as staff continue to look for other strategies. The portfolio is energy heavy. Cash flow was negative for the quarter ending December 31, 2019 due to recent large capital calls.

Core Fixed Income

Mr. Jon Putnam reviewed core fixed income which has been rolled back up. The U.S. Treasury curve remained mostly flat and was down about 100 basis points over the year. Inflation was subdued with no dramatic moves. Spreads have been tight on the low end on corporates. Staff have added more to securitized assets which are looking a bit more favorable. The markets are open with good volumes and corporate issues continue to be healthy. Staff rebalanced the portfolio in December. Some treasuries and TIPS were sold to reallocate mostly into mortgages, some corporates and long treasuries. There was a bit of a selloff in December; the portfolio is under yielding the index. Yield drives what we do; there will be modest underperformance over the start of the year.

Non-Core Fixed Income

Mr. Rande Muffick reviewed non-core fixed income which includes the three high yield managers. Return was nearly 14% for the calendar year. Managers are outperforming investment grade corporates and treasuries. High yield spreads are still tight. All three managers use defensive strategies and lag a bit in strong markets.

Domestic Equity

Mr. Muffick stated the domestic equity large cap index returned 30.75% for the calendar year, although small caps lagged. The China tariffs were a factor. Staff do not anticipate any upcoming manager changes. Results for managers were mixed for the calendar year, underperforming the benchmark by about 40 basis points. Higher valuation stocks generally outperformed. Big tech stocks have done well; the big four make up about 20% of the S&P 500. Even with mixed results, staff have confidence in our managers. Returns vs. peers are good due to the high allocation to passive and manager selection. Large cap active is now 23% and staff have reduced active management exposure.

International Equity
Mr. Muffick reviewed international equity. Staff are generally pleased with international equity which lagged U.S. markets in the last year. The lighter portfolio allocation vs. peers paid off; return was 22.86% for the year. Although the portfolio is doing better vs. the benchmark, performance is not as good vs. peers. The portfolio was restructured a few years ago. All managers except one outperformed their benchmark for the calendar year.

STIP (Short Term Investment Pool)
Ms. Haswell noted STIP was covered earlier, and added the growth in STIP was due mostly to the increase in the General Fund.

Montana State Fund
Mr. Jon Putnam presented a summary of State Fund. Performance has been good with a return of 9.60% for 2019. Staff have been working towards reducing corporate bonds and moving more into mortgages. Staff made a modest increase in core real estate to JP Morgan Core Real Estate Fund which is gradually replacing UBS.

Trust Funds Investment Pool (TFIP)
Mr. Putnam reviewed the Trust Funds Investment Pool. The Board has approved the policy changes. Returns have been solid; total portfolio outperformed the benchmark as of December 31, 2019 by 26 basis points. With maturities, staff will move more into mortgages and shorter maturities.

Executive Director Villa reviewed items on the “to do” list for the next Board meeting:

1. Domestic Equity Review
2. Benchmark Review
3. Vote on State Fund Policy revisions
4. Investment Policy revisions
5. Update on Director of Fixed Income and Fixed Income Analyst positions
6. Begin 2021 Budget process
7. Staff will include returns from prior funds for re-up managers in private investment briefs

Having no further business before the Board, the meeting adjourned at 12:25 p.m.

Next Meeting
The next regular meeting of the Board will be April 14, 2020 in Helena, Montana. Complete copies of reports presented to the Board are on file with the Board of Investments.

MONTANA BOARD OF INVESTMENTS

APPROVE: ______________________________
Karl J. Englund, Chairman

ATTEST: ______________________________
Dan Villa, Executive Director

DATE: April 14, 2020

BOI/drc 4/1/2020