

University of Massachusetts Building Authority Debt Management Policy

**Originally Dated: September 21, 2010
Last Reviewed: September 12, 2019**

GENERAL

This Debt Management Policy of the University of Massachusetts Building Authority (“Authority”) establishes the guidelines for the Authority to issue debt, and the factors to consider when evaluating the Authority’s contribution to the capital structure of the University of Massachusetts (“University”). These factors include the University’s debt capacity, bond credit ratings, the level of fixed and variable interest rate exposure, off-balance sheet financings, the use of interest rate swaps or other derivative products, methods of sale, and procedures for reporting to the Members of the Authority and the Board of Trustees of the University. The Authority’s Debt Policy will assist the University to manage its cost of capital, to mitigate risks associated with its debt, and to monitor its debt capacity.

The Board of Trustees of the University issued a Debt Policy for the University on September 9, 2009, which was last revised on June 18, 2014. The University Debt Policy, where applicable, is incorporated herein by reference and attached to the Authority’s Debt Policy Appendix A. In addition, the Authority has attached for reference its Interest Rate Swap Policy, which was adopted on March 3, 2008 and last revised on June 11, 2015, as Appendix B. The Authority represents only one option out of several that the University employs to issue debt on its behalf. Historically, the Authority has issued the vast majority of the University’s debt.

GOALS OF ISSUING DEBT

The goal of the Authority is to strategically manage debt that it issues on behalf of the University:

1. To provide funding for acquiring or replacing long-lived capital assets in the most cost-effect manner;
2. To match the cost of funding with the benefits received over the useful life of capital improvements;
3. To leverage other capital funding sources, such as matching state, federal, private and operating funding;
4. To borrow short-term funds in a cost-effective manner to provide bridge financing for capital projects between bond issues;
5. To take advantage of market opportunities to refund outstanding debt for economic savings; and

University of Massachusetts Building Authority Debt Management Policy

**Originally Dated: September 21, 2010
Last Reviewed: September 12, 2019**

6. To monitor the use of the proceeds from tax-exempt bond issues to ensure that the Authority and the University is in compliance with all applicable federal and state laws.

AUTHORIZATION TO ISSUE DEBT

The Authority was established by Chapter 773 of the Acts of 1960 as a body politic and corporate that constituted a public entity serving an essential governmental function. Pursuant to Section 3 of the Act, the “Authority is created for the general purposes of aiding and contributing to the educational and other purposes of the University ” Pursuant to Section 4(g) of the Act, the Authority is empowered “to borrow from time to time to achieve any one or more of its corporate purposes and to refund obligations earlier incurred for any such purpose and for refunding, and to sell its bonds and notes therefore, payable solely from its revenues ” The Authority has no constitutional or statutory debt limits. Pursuant to Section 10 of the Act, the Authority may issue up to two hundred million dollars outstanding at any one time of debt guaranteed by The Commonwealth.

MANAGEMENT OF THE AUTHORITY

The Authority consists of eleven members appointed by the Governor of the Commonwealth, five of whom are members of the University Board of Trustees, and six of whom are not. Two of the non-trustees must be graduates of the University. The Authority annually elects a chairman, a vice chairman, and a secretary-treasurer, and may elect an assistant secretary-treasurer.

Pursuant to Section 5 of the Act, the University may make officers and employees of the University available to the Authority to carry out its several functions, and currently all staff of the Authority are such loaned University employees.

The by-laws of the Authority provide for an Executive Director who shall be responsible for retaining appropriately qualified staff and consultants to implement the provisions of this policy. The Executive Director has appointed a Chief Financial Officer and a Treasurer on the staff of the Authority who will assist in the implementation of this policy and in the management of any outside consultants.

DEBT CAPACITY AND CAPITAL PLANNING

Issuance of debt by the Authority is subject to the University’s overall debt capacity as set forth in Appendix A hereto. The University provides an annual report to its Board of Trustees on debt capacity. Limited debt capacity dictates that capital spending will be prioritized and incorporated in the multi-year capital planning process. The Board of Trustees then approves a five year capital plan for the University and authorizes the

University of Massachusetts Building Authority Debt Management Policy

Originally Dated: September 21, 2010
Last Reviewed: September 12, 2019

Authority and other issuers to borrow funds to undertake approved capital projects. The Authority must obtain the approval of the Executive Office for Administration and Finance of the Commonwealth (the “Executive Office”) before proceeding with any project requested by the University. The Executive Office obtains detailed information regarding the proposed projects and on the current and future affordability of the projects from the University and the Authority prior to approval of such projects.

The University targets certain financial ratios as the benchmark to analyze its debt level. These are:

Debt Burden: Actual Debt Service/Total Expenses

This ratio should be no greater than 8% for the University or a campus. A waiver of this ceiling up to 10% can only be granted by vote of the Trustees.

Viability Ratio: Expendable Net Assets/Long-term Debt

This measures the ability of the University to respond to adverse conditions from internal resources. No numeric goal has been established for this ratio.

These ratios are reviewed and monitored annually by the University as a whole and for each separate campus to determine debt capacity as a whole and for each campus.

DEBT ISSUANCE PROCEDURES

All debt issuances are approved by Resolution of the Members of the Authority, which establishes the amount, the projects, the timing, the final maturity, and the maximum interest rate of the bond issue. Approval of the Resolution requires a minimum of six votes at a public meeting. The Authority may employ the services of an independent financial advisor (“FA”) to assist in derivative transactions and other duties as may arise from time to time. The FA shall be periodically selected through a Request for Proposals (“RFP”) process. When the Authority issues debt through a negotiated sale, it selects the investment banker firms from a pool of such investment banks that is developed from a periodic RFQ process.

BOND RATINGS

The credit behind the debt issued by the Authority is the general obligation of the University, except in limited cases when the project revenues of a facility are sometimes

University of Massachusetts Building Authority Debt Management Policy

**Originally Dated: September 21, 2010
Last Reviewed: September 12, 2019**

the main credit support to the Authority's bonds. The Authority and the University seek to maintain the highest credit rating possible and will evaluate the trade-off between capital project funding needs and cost of capital when evaluating financing options. It is understood that higher credit ratings provide market access at lower interest rates but also limit the amount of debt that may be incurred. (See Appendix A.)

Since the credit rating is highly dependent on the financial condition of the University, the Authority and University shall strive to keep disclosure documents current on a consistent basis in order to facilitate access to market and updated information to rating agencies and the investor community.

USE OF LONG-TERM FUNDING

The Authority utilizes long-term debt, primarily in the form of tax-exempt bonds, to finance long-term assets. The Authority will also issue taxable debt under special circumstances, such as to take advantage of special bond programs, such as the Build America Bonds, when funding is needed for projects that may not be tax-exempt eligible or taxable bonds are otherwise advantageous. The University issues debt for capital projects with a dependable long-term source of revenue available for repayment. Debt may only be issued for facilities that may be financed pursuant to state statutes governing Authority debt borrowings. Debt financings are coordinated among the several campuses to the extent practical to include multiple project needs in a single borrowing to reduce costs of issuance.

USE OF SHORT-TERM FINANCING

The Authority shall utilize short-term financing products to fund construction projects during design or construction when it is expected to be a cost-effective option based upon interest rate environments in the market.

USE OF OFF-BALANCE SHEET

The Authority and the University believe that there are circumstances when it may be desirable to work with a third party, for risk sharing, and for leasing on certain types of projects.

USE OF DERIVATIVES

The Authority's policy toward swaps and other derivatives can be found in a separate Derivatives Policy.

University of Massachusetts Building Authority Debt Management Policy

Originally Dated: September 21, 2010
Last Reviewed: September 12, 2019

USE OF VARIABLE RATE DEBT

The Authority recognizes that it may be financially prudent to utilize variable-rate debt, particularly during periods of high interest rates. The Authority would not issue variable-rate debt in excess of a maximum of 30% of its outstanding indebtedness.

DEBT STRUCTURE

1. Credit Support of Bonds: Generally, the Authority prefers to issue bonds based on a “general obligation” of the University (available fund balances), which are called “Project Revenue Bonds”. Bonds backed by the revenue derived from a particular facility (“Facility Revenue Bonds”) were used more frequently in the past by the Authority and may be used in the future if circumstances warrant the issuance of such bonds.
2. Allocation of Debt Service Responsibility: The Authority shall allocate the costs of debt service for any financing done by the Authority to the individual campuses based upon distinct debt service schedules that reflect each campus’s share of the borrowing.
3. Maturity of Indebtedness: The maturities of the debt issued are determined by the purpose of the financing. In general, the maturity of the debt does not exceed the useful life of the assets being financed.
4. Interest Rates: Interest rate structure is determined by market conditions at issuance. In most cases, the Authority issues fixed rate debt that is expected to be repaid from the unrestricted revenues of the University. In some cases, the debt is expected to be repaid from rates and charges associated with the facility financed by the bond issue. For this reason, the Authority approves the rates and charges set for student residences on the Lowell and Dartmouth campuses. Variable rate debt will be considered when interest rates are high and it is not advantageous to lock in long-term fixed rates or other times when variable rate debt provides significant benefits. Additionally, variable rate debt may be used as a hedge for the short-term assets subject to variable rates of investment return.

The Authority may pool debt service obligations, which would result in each campus being charged a fixed and blended interest rate for each issuance in which the campus had requested proceeds. In addition, each campus is charged annually a portion of the overhead cost of the Authority in proportion to the amount of the outstanding bonds attributable to them.

5. Refunding or Restructuring of Bonds: The Authority may issue current and advance refunding debt when material present value savings can be obtained.

University of Massachusetts Building Authority Debt Management Policy

Originally Dated: September 21, 2010
Last Reviewed: September 12, 2019

Present value savings less than 3% are not considered material. The Authority may issue bonds to restructure existing debt pursuant to a vote of the Board.

6. Redemption Provisions: The Authority prefers redemption provisions that are equal to or better than what the market requires.
7. Credit Enhancement: The Authority considers the use of credit enhancement when it materially lowers the cost of debt and does not require material additional debt and operating covenants by the Authority or the University.
8. Capitalized Interest: Capitalized interest may be funded during the construction period at the request of the University but the project funding may not be borrowed net of anticipated investment earnings during the construction period due to uncertainties in the interest markets and the cost of construction.

USE OF PROCEEDS AND POST ISSUANCE MATTERS

1. Use of Proceeds: Proceeds from a bond issue may only be expended by requisition after certification from responsible parties that goods and services have been provided by applicable contracts and in accordance with state and federal law.
2. Funding of University Employees: Proceeds from bond issues may be used to pay costs of University employees who are working on projects funded by the debt of the Authority, pursuant to a written agreement on the budget for such costs between the Executive Director and the Vice-Chancellor for Administration and Finance for the applicable campus.
3. Post-issuance Monitoring: The CFO, with the assistance of Executive Director, General Counsel, Treasurer and other staff, will be responsible for monitoring financial and other debt covenants and tax representations and regulations to ensure tax-exempt status for bonds. The Authority may use the assistance of the University to monitor the use of the bond proceeds.
4. Continuing Disclosure: The Authority is committed to annual and special event reporting of material events in accordance with its bond documents. The CFO works with Bond Counsel and Disclosure Counsel to prepare such disclosure.
5. Investor Relations Management: The CFO is responsible for responding to inquiries from investors in Authority bonds.

METHODS OF SALE

University of Massachusetts Building Authority Debt Management Policy

Originally Dated: September 21, 2010

Last Reviewed: September 12, 2019

1. Bonds may be issued by the Authority through either a competitive or negotiated sales process. When determining the use of competitive or negotiated sales, consideration shall be given to the most efficacious manner in marketing the bonds to investors, receiving information about current market conditions, management of investor relations, retail distribution capacity, and credit analysis and information about comparable issuers.
2. If negotiated sales are used, underwriters are selected through a competitive RFQ process. The RFQ process provides for a competitive underwriter's discount while retaining flexibility in timing of debt issuance.
3. Private placements or direct purchases will be considered for debt issuance when market conditions are favorable to the Authority.

REPORTING

The Executive Director and the CFO present a report on a bond sale to the Members of the Authority and to the Board of Trustees of the University on the meeting next following a bond issue. Throughout the year, the Executive Director and the CFO report to the Members and the Board of Trustees at regular meetings on the status of projects funded by the bond issuances and on all material post-issuance matters.

REVIEW

The Authority will review this Authority Debt Policy when needed but no less often than every two (2) years.

**University of Massachusetts Building Authority
Debt Management Policy**

**Originally Dated: September 21, 2010
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APPENDIX A

UNIVERSITY OF MASSACHUSETTS
DEBT POLICY

PURPOSE

To fulfill its mission, the University must make ongoing strategic capital investments in academic, student life, research, and other plant facilities using an appropriate mix of funding sources including state bonds and appropriations, University bonds, capital leases, internal reserves, operating funds, grants, and private gifts.

The purpose of the Debt Policy is to ensure the appropriate mix of funding sources is utilized and to provide guidance on the strategic use of debt (external and internal). Debt is a valuable source of capital project financing but should be limited to projects that relate to the mission and strategic objectives of the University consistent with its capital planning process. The amount of debt incurred has an impact on the financial health of the University and its credit rating.

This Policy provides a discipline and framework to be used by senior administration to evaluate the appropriate use of debt in capital financing plans.

I. INTRODUCTION

This policy will assist University management in the evaluation of internal and external debt while seeking to maintain an acceptable credit rating and sufficient liquidity. Although the attainment or maintenance of a specific rating is not the main objective of this policy, maintaining an acceptable credit rating that is the same or better than current rating levels will permit the University to continue to issue debt and finance capital investments at favorable interest rates. The University, consistent with its capital objectives, will limit its external debt to a level that will maintain an acceptable credit rating with bond rating agencies.

Management will use quantitative tests to evaluate the University's overall financial health, liquidity, present and future debt capacity. In addition, project-specific analysis, as appropriate, will be used to determine the financial feasibility of an individual project.

II. POLICY STATEMENT

- A. The University will only incur debt in strict compliance with applicable state and federal law and with debt-related contractual covenants.
- B. The University may incur debt to refinance existing debt or to fund capital projects that are consistent with the University's mission and strategic priorities and/or the University's capital plan.

- C. The University will incur external debt only with the prior approval of the Board of Trustees and the Commonwealth of Massachusetts as required.
- D. The ratio of debt service to operating expenses should be no greater than 8% for the University or a campus. An individual campus may exceed 8% if so authorized by a vote of the Board of Trustees, but may at no time exceed 10%.
- E. Management will promote the integration of long-term financial planning with long-term capital planning while incorporating sound financial practices and proactive resource management.
- F. Management shall seek the best possible national credit ratings based on an analysis of economic and market conditions and the University's capital plan.
- G. The University may incur debt bearing interest at variable rates when advantageous based on market conditions and will limit debt portfolio risk to appropriate levels as determined by the Senior Vice President for Administration & Finance in consultation with the President and Board of Trustees.
- H. The University shall not enter into debt-related derivative transactions for speculative purposes, but rather may use debt-related derivatives to limit risks and to provide appropriate protection.

III. STANDARDS

The President, in consultation with the Vice President(s) and Chancellors, will issue administrative standards to implement this policy.

**ADMINISTRATIVE STANDARDS FOR THE
DEBT POLICY
(Doc. T09-050, as amended)**

I. INTRODUCTION

This policy will assist University management in the evaluation of external and internal debt while seeking to maintain an acceptable credit rating and sufficient liquidity. The University, consistent with its capital objectives, will limit its external debt to a level that will maintain an acceptable credit rating with bond rating agencies. Maintaining a credit rating that is the same or better than current levels will permit the University to continue to issue debt and finance capital investments at favorable interest rates, although the attainment or maintenance of a specific rating is not an objective of this policy.

Management will use quantitative tests to evaluate the University's overall financial health, liquidity, and present and future debt capacity. In addition, project-specific quantitative tests, as appropriate, will be used to determine the financial feasibility of an individual project.

II. POLICY STATEMENT

- A. The University will only incur debt in strict compliance with applicable state and federal law and with debt-related contractual covenants.
- B. The University may incur debt to fund capital projects that are consistent with the University's mission and strategic priorities and/or the University's master plan, or to refinance existing outstanding debt.
- C. The University will incur debt only with the prior approval of the Board of Trustees and the Commonwealth of Massachusetts as required.
- D. The ratio of debt service to operating expenses should be no greater than 8% for the University or a campus. An individual campus may exceed 8% if so authorized by a vote of the Board of Trustees, but may at no time exceed 10%.
- E. Management will promote the integration of long-term financial planning with long-term capital planning while incorporating sound financial practices and proactive resource management.
- F. Management shall seek the highest possible national credit ratings given economic and market conditions.
- G. The University may incur debt bearing interest at variable rates when advantageous in light of market conditions and will limit debt portfolio risk to appropriate levels as determined by the Senior Vice President for Administration & Finance in consultation with the President and Board of Trustees.
- H. The University shall not enter into debt-related derivative transactions for speculative purposes, but rather may use debt-related derivatives to limit risks and to provide appropriate protection.

III. STANDARDS STATEMENT

The University will establish standards for overall debt management using a select number of financial ratios calculated and reported annually and when new debt is issued; and revised periodically to reflect any changes in accounting standards.

By maintaining an appropriate proportion of debt service to total expenses, other critical and strategic needs can be met as part of the expense base. The ratio of debt service to operating expenses should be no greater than 8% for the University or a campus. An individual campus may exceed 8% if so authorized by a vote of the Board of Trustees, but may at no time exceed 10%.

Financial ratios will serve as indicators of the University's financial health and capacity to incur debt. Calculation of these ratios will be calculated annually based on the audited financial statement on a University-wide and campus basis and campus basis and using operating budgets and other projections for years not yet closed and audited.

A. Ratios

The following strategic financial ratios, when considered together and over time, will help to provide a clear, high level, assessment of the overall financial health of the University.

1. **Debt Service Ratio:** Measures the share of the University's operating budget that is going to pay principal and interest on debt.

Annual Principal & Interest Expense on Debt/Operating Expenses & Interest on Indebtedness.

2. **Primary Reserve Ratio:** Measures the financial strength by comparing expendable net assets to total expenses. This ratio provides a snapshot of financial strength and flexibility by indicating how long the University could function using its expendable resources without relying on additional net assets generated by operations. A negative ratio or decreasing trend over time indicates a weakening financial condition.

Unrestricted Net Position/Operating Expenses & Interest on Indebtedness.

3. **Operating Margin:** Indicates whether total operating activities resulted in either a surplus or deficit as a percentage of the budget.

Operating Revenue (Operating Revenue & State Appropriation & Federal Appropriation & Gifts & Endowment Income & Non-Operating Federal Grants & Contracts & Investment Income net of Unrealized Gains/(Losses)) less Operating Expenses (Operating Expenses & Interest on Indebtedness/ Operating Revenue (Operating Revenue & State Appropriation & Federal Appropriation & Gifts & Endowment Income & Non-Operating Federal Grants & Contracts & Investment Income net of Unrealized Gains/Losses)).

4. **Viability Ratio:** Measures the availability of expendable net assets to cover debt. As this ratio falls below 1:1, the University's ability to respond to adverse conditions, to attract capital from external sources, and its flexibility to fund new objectives is diminished. This ratio is regarded as an important indicator of the ability to assume new debt.

Restricted Expendable & Unrestricted Net Positions/Capital Lease Obligations and Bonds Payable.

B. Synthetic Products Considerations

The University will consider the use of interest rate swaps and other synthetic financial products primarily to manage the University's variable rate debt exposure. They will not be used unless the contract or structure is understood and has been fully evaluated, can be monitored and managed, and the risk imposed has been evaluated and concluded to be appropriate for the University. Swaps and other synthetic financial products shall not be used for speculative purposes.

Procurement and Execution – The University has authority to enter into synthetic financial product transactions either through a competitive bid or a negotiated process. The University must take reasonable steps, such as hiring a qualified advisor, to ensure that the economics involved in a negotiated transaction represent a fair market price while taking into consideration the terms of the agreement and the University's current financial status.

Swap Counterparties – The University will execute synthetic financial product transactions with counterparties with credit ratings in the "A" category or above as of the transaction date. The University may seek credit enhancement in the form of collateral, guarantees, and/or termination event triggers should the counterparty's credit rating be downgraded below the "A" category. The University's ability to procure counterparty credit enhancement and termination event triggers will be subject to then current market standards and the University's then current financial status. The University will seek to maintain voluntary termination rights in all of its swap or synthetic financial product transactions.

Swap Documentation – The University will utilize standard International Swap Dealers Association swap documentation, including the Schedule to Master Agreement and Credit Support Annex (if applicable).

Rating Agencies – The University will seek a Rating Agency review to determine the effect of any synthetic financial product transaction on the credit quality of the University.

C. Disclosure And Reporting Requirements

The University will provide updated financial information operation data, and a timely notice of specified material events to each nationally recognized municipal securities information repository and any State information depository, pursuant to its continuing disclosure undertakings with respect to SEC Rule 15c2-12 (17 CFR 240.15c2-12).

Reporting Requirements – The University will prepare a report for the Board of Trustees on an annual basis which provides an update of the University's current debt structure and status and outlines the proposed future financing plans.

D. Definitions

Direct Debt: Financing that is assigned to and supported by the University of Massachusetts.

Present Value: The value at the current time of a cash payment or stream of payments which is expected to be received in the future, allowing for the fact that an amount received today could be invested to earn interest until the future date(s).

Present Value Savings: A method of calculating the aggregate amount of savings on a refinancing transaction. In each semi-annual period, the present value of the debt service on the Refunding Bonds is subtracted from the present value of the debt service on the refunded Bonds using the arbitrage yield on

the refunding bonds as the discount rate. The present value savings in each year are added together to result in the aggregate Present Value Savings.

Rating Agency: One of the three (Fitch Investors Service, Moody's Investors Service or Standard & Poor's Corporation) nationally-recognized credit rating agencies.

Refinancing: A procedure whereby an issuer issues new bonds to replace outstanding bonds. The newly issued bonds are called the "refunding bonds," while the bonds being refinanced are called the "refunded bonds."

Synthetic Financial Products: Financial products (i.e., interest rate swaps, caps, collars, etc.) that are primarily used to manage interest rate risk or asset/liability balance.

Terms and Structure: Terms and Structure shall have the same meaning as provided by the Treasury Board Debt Structuring and Issuance Guidelines, as amended.

Variable Rate Debt: Debt with interest payment requirements which change based on market conditions during the term of the debt.

E. Related Procedures, Forms, And Other Resources

APPENDIX B

**UMBA
INTEREST RATE SWAP POLICY**

Dated: March 3, 2008

**Revised: September 21, 2010, June 4, 2013
and June 11, 2015**

Table of Contents

I. Introduction.....	1
II. Scope and Authority	1
III. Conditions for the Use of Interest Rate Swaps.....	1
A. General Usage.....	1
B. Maximum Notional Amount.....	2
C. Liquidity Considerations	2
D. Call Option Value Considerations	2
E. Adherence To Dodd-Frank	2
IV. Interest Rate Swap Features	3
A. Interest Rate Swap Agreement.....	3
B. Interest Rate Swap Counterparties	3
C. Term and Notional Amount	4
D. Collateral Requirements.....	4
E. Prohibited Interest Rate Swap Features	5
V. Evaluation and Management of Interest Rate Swap Risks.....	5
A. Evaluation Methodology.....	5
B. Managing Interest Rate Swap Risks	6
C. Terminating Interest Rate Swaps	7
VI. . Selecting and Procuring Interest Rate Swaps.....	8
A. Financing Team.....	8
B. Underwriter Selection	8
C. Counterparty Selection.....	8
VII. Disclosure and Financial Reporting.....	8
Glossary of Terms	i
Annex A: Financial Advisory Board	ii

Authority

INTEREST RATE SWAP POLICY

I. Introduction

The purpose of the Interest Rate Swap Policy of the University of Massachusetts Building Authority (the “Authority”) is to establish guidelines for the use and management of interest rate swaps. The Interest Rate Swap Policy is prepared in accordance with the recommended practices of the Government Finance Officers Association regarding the contents of an interest rate swap policy.

II. Scope and Authority

This Interest Rate Swap Policy shall govern the Authority’s use and management of all interest rate swaps. While adherence to this Policy is required in applicable circumstances, the Authority recognizes that changes in the capital markets, agency programs, and other unforeseen circumstances may from time to time produce situations that are not covered by the Interest Rate Swap Policy and will require modifications or exceptions to achieve policy goals.

The Interest Rate Swap Policy shall be reviewed and updated by the Authority at least every two years. The Executive Director and the Chief Financial Officer (the “CFO”) are the designated administrators of the Authority’s Interest Rate Swap Policy. The CFO shall have the day-to-day responsibility and authority for structuring, implementing, and managing interest rate swaps.

The Members of the Authority (the “Board”) shall approve any transaction involving an interest rate swap. The Authority shall be authorized to enter into interest rate swap transactions only with qualified swap counterparties. The Executive Director, in consultation with the Chief Financial Officer, Authority Financial Advisor and Authority Bond Counsel, shall have the authority to select the counterparties so long as the criteria set forth in this Interest Rate Swap Policy are met.

III. Conditions for the Use of Interest Rate Swaps

A. General Usage

The Authority, consulting with the University of Massachusetts (the “University”), will use swaps to lock-in a fixed rate or, alternatively, to create additional variable rate exposure. Interest Rate Swaps may be used to produce interest rate savings, limit or hedge variable rate payments, alter the pattern of debt service payments or for asset/liability matching purposes.

In connection with the use of any swaps, the Authority's Board shall make a finding that the authorized swaps will be used to alter interest rate risk and/or alter the cost of borrowing in a beneficial manner, and when used in combination with new or outstanding bonds, will enhance the relationship between risk and return or achieve other policy objectives of the Authority.

B. Maximum Notional Amount

The Authority will limit the total notional amount of outstanding interest rate swaps based on criteria set forth in this Interest Rate Swap Policy regarding the proper management of risks, calculation of termination exposure and development of a contingency plan.

C. Liquidity Considerations

The Authority shall consider the impact of any variable rate bonds issued in combination with an interest rate swap on the availability and cost of liquidity support for other Authority variable rate programs. The Authority recognizes that there is a limited supply of letter of credit or liquidity facility support for Authority variable rate bonds and the usage of liquidity support in connection with an interest rate swap may result in higher overall costs.

D. Call Option Value Considerations

When considering the relative advantage of an interest rate swap to fixed rate bonds, the Authority will consider the value of the call option on fixed rate bonds. The value derived from the ability to call bonds at a future date is foregone when using a swap unless cancellation provisions are explicitly included in the swap. Typically Authority sells bonds that are callable after 10 years and could be refunded at that time. Interest rate swaps will not have a par call provision, unless the Authority pays for this option, and cannot be refunded in the future to provide economic savings.

E. Adherence To Dodd-Frank

It is the intent of the Authority to conform this policy to the requirements relating to recent legislation and regulations for over-the-counter derivatives transactions under the Wall Street Transparency and Accountability Act of 2010, as supplemented and amended from time to time (herein collectively referred to as "Dodd-Frank"), enacted in response to the financial markets crisis of 2008. Pursuant to such intent, it is the policy of the Authority that: the designated QIR (term for Swap Advisor under Dodd-Frank) agrees to meet and meets the requirements specified in Commodity Futures Trading Commission Regulation 23.450(b)(1) or any successor regulation thereto (herein referred to as the "Representative Regulation"); the designated QIR provide a written certification to the Authority to the effect that such designated QIR agrees to meet and meets the requirements specified in the Representative Regulation; (iii) Authority staff monitor the performance of each designated QIR consistent with the requirements specified in the Representative Regulation; (iv) Authority staff

exercise independent judgment in consultation with the Authority's designated QIR in evaluating all recommendations, if any, presented by any counterparty with respect to transactions authorized pursuant to this policy; and (v) Authority staff rely on the advice of the Authority's designated QIR with respect to transactions authorized pursuant to this policy and do not rely on recommendations, if any, presented by any counterparty with respect to transactions authorized pursuant to this policy.

IV. Interest Rate Swap Features

A. Interest Rate Swap Agreement

The Authority will use terms and conditions as set forth in the International Swap and Derivatives Association, Inc. ("ISDA") Master Agreement. The swap agreement between the Authority and each counterparty shall include payment, term, security, collateral, default, remedy, termination, and other terms, conditions, provisions and safeguards as the Authority, in consultation with its legal counsel, deems necessary or desirable.

Subject to the provisions contained herein, the terms of any Authority swap agreement shall use the following guidelines:

- i. Downgrade provisions triggering termination shall in no event be worse than those affecting the counterparty.
- ii. Governing law for swaps will be New York.
- iii. The specified indebtedness related to credit events in any swap agreement should be narrowly defined and refer only to indebtedness of the Authority that could have a materially adverse effect on Authority's ability to perform its obligations under the swap. Debt should typically only include obligations within the same lien as the swap obligation.
- iv. Collateral thresholds for the swap provider should be set on a sliding scale reflective of credit ratings. Collateral requirements should be established and based upon the credit ratings of the swap provider or guarantor. Collateral should be held by an independent third party.
- v. Eligible collateral should generally be limited to the list of permitted investments as outlined in the Authority's enabling legislation.
- vi. Authority shall have the right to optionally terminate a swap agreement at "market," at any time over the term of the agreement.
- vii. Termination value should be set by a "market quotation" methodology, unless Authority deems an alternate appropriate.

B. Interest Rate Swap Counterparties

1. Credit Criteria

The Authority will make its best efforts to work with qualified swap counterparties that have a general credit rating of: (i) at least “Aa3” or “AA-” by one of the nationally recognized rating agencies and not rated lower than “A2” or “A” by any nationally recognized rating agency, or (ii) have a “AAA” subsidiary as rated by at least one nationally recognized credit rating agency. The nationally recognized rating agencies are Moody’s Investors Services, Inc., Standard and Poor’s Rating Services, and Fitch Ratings.

For lower rated (below “Aa3 or “AA-“) counterparties, the Authority will seek credit enhancement in the form of:

- i. Contingent credit support or enhancement;
- ii. Collateral consistent with the policies contained herein;
- iii. Ratings downgrade triggers; (and notice to Authority of any credit actions)
- iv. Guaranty of parent, if any.

In addition, qualified swap counterparties must have a demonstrated record of successfully executing swap transactions as well as creating and implementing innovative ideas in the swap market.

2. Counterparty Exposure

The Authority shall endeavor to diversify its exposure to counterparties. To that end, before entering into a swap agreement, the Authority will determine its exposure to the relevant counterparty or counterparties and determine how the proposed transaction would affect that exposure. The exposure should be measured in terms of notional amount, mark to market valuation and volatility. The Authority shall also take into account the University exposure to any related entities of a particular counterparty as well as other credit facilities outstanding between the University, the Authority and the counterparty.

C. Term and Notional Amount

In connection with the issuance or carrying of bonds, the term of the swap agreement shall not extend beyond the final maturity date of the related bonds. The total “net notional amount” of all swaps related to a bond issue should not exceed the amount of outstanding bonds. For purposes of calculating the net notional amount, credit shall be given to any fixed versus variable rate swaps that offset for a specific bond transaction.

D. Collateral Requirements

As part of any swap agreement, the Authority may, based on credit ratings of the counterparty, require collateralization or other forms of credit enhancements to secure any or all swap payment obligations. As appropriate, Authority, in consultation with Bond Counsel and Swap Advisor, may require collateral or other credit enhancement to be posted by any swap counterparty if the credit rating of the

counterparty or parent falls below the “AA” credit rating category. Additional collateral for further decreases in credit ratings of each counterparty shall be posted by each counterparty in accordance with the provisions contained in the collateral support agreement to each counterparty with the Authority.

Threshold collateral amounts shall be determined by the Authority on a case-by-case basis. The Authority will determine the reasonable threshold limits for the initial deposit and for increments of collateral posting thereafter. Collateral shall be deposited with a third party trustee, or as mutually agreed upon between the Authority and the counterparty. A list of acceptable securities that may be posted as collateral and the valuation of such collateral will be determined and mutually agreed upon during negotiation of the swap agreement with each swap counterparty. The market value of the collateral shall be determined on a monthly basis, or more frequently if the Authority determines it is in its best interest given the specific collateral security.

E. Prohibited Interest Rate Swap Features

The Authority will not use interest rate swaps that:

- i are speculative or create extraordinary leverage or risk,
- ii lack adequate liquidity to terminate without incurring a significant bid/ask spread,
- iii provide insufficient price transparency to allow reasonable valuation, (iv) are used as investments,
- v cause the total swapped debt to exceed 50% of the Authority’s total debt outstanding.

V. Evaluation and Management of Interest Rate Swap Risks

Prior to the execution of any swap transaction, the Executive Director, Chief Financial Officer and Authority’s Swap Advisor and Bond Counsel shall evaluate the proposed transaction and report the findings to the Authority Board. Such a review shall include the identification of the proposed benefit and potential risks.

A. Evaluation Methodology

The Authority will review the following areas of potential risk for new and existing interest rate swaps:

Type of Risk	Description	Evaluation Methodology
Basis risk	The mismatch between actual variable rate debt service and variable rate indices used to determine swap payments.	The Authority will review historical trading differentials between the variable rate bonds and the index.
Tax risk	The risk created by potential tax events that could affect swap payments.	The Authority will review the tax events in proposed swap agreements. The Authority will evaluate the impact of potential changes in tax law on LIBOR indexed swaps.
Counterparty risk	The failure of the counterparty to make required payments.	The Authority will monitor exposure levels, ratings thresholds, and collateralization requirements.
Termination risk	The need to terminate the transaction in a market that dictates a termination payment by the issuer.	The Authority will compute its termination exposure for all existing and proposed swaps at market value.
Rollover risk	The mismatch of the maturity of the swap and the maturity of the underlying bonds.	The Authority will determine its capacity to issue variable rate bonds that may be outstanding after the maturity of the swap.
Liquidity risk	The inability to continue or renew a liquidity facility.	The Authority will evaluate the expected availability of liquidity support for swapped and unhedged variable rate debt.
Credit risk	The occurrence of an event modifying the credit rating of the issuer or its counterparty.	The Authority will monitor the ratings of its counterparties and insurers.
Pricing risk	The risk that the swap may not be priced competitively in comparison to the market for comparable swap transactions.	Prior to entering into a swap, the Authority will make a determination that the transaction can be priced with reasonable transparency and confidence.

Interest Rate risk	The risk that the Authority's costs associated with variable-rate exposure increases and negatively affect budgets, coverage ratios and cash flow margins. Variable-rate exposure may be created by a swap from fixed to floating, or a swap that otherwise creates some type of floating-rate liability. The interest rate risk presented by such a swap may be increased as interest rates increase generally, as intra-market relationships change, or because of credit concerns relating to the Authority or a credit enhancer.	Prior to taking on interest rate risk, the Authority will measure its capacity for floating rate exposure, based on policy targets for its mix of fixed and floating rate debt and taking into consideration future variable rate needs.
Amortization risk	The risk that the optimal or actual redemption pattern of the bonds may differ from the swap schedule, possibly producing a mismatch between the outstanding principal amount of the bonds and the notional amount of swap.	The term of the swap should not exceed the term of the underlying variable rate bonds, but ensuring that the notional schedule precisely matches the optimal debt amortization may not be possible. The Authority will evaluate the range of reasonably expected repayment patterns for the financed assets and ensure that the swap schedule may be met assuming the minimum expected revenue stream. The Authority may also allow the bonds to become unhedged as the swap notional declines, thereby increasing its interest rate risk

B. Managing Interest Rate Swap Risks

1. Annual Report to the Audit Committee of the Board

The Authority will evaluate the risks associated with outstanding interest rates swaps at least annually and provide a written report to the Authority Audit Committee of the findings. This evaluation will include the following information:

- i. A description of all outstanding interest rate swaps, including related bond series, types of swaps, rates paid and received by Authority, existing notional amount, the average life and remaining term of each swap

- agreement, and the current termination value of all outstanding swaps.
- ii. Separately for each swap, the actual debt service requirements versus the projected debt service on the swap transaction; and for any swaps used as part of a refunding, the actual cumulative savings versus the projected savings at the time the swap was executed.

- iii. The credit rating of each swap counterparty, parent, guarantor, and credit enhancer insuring swap payments, if any.
- iv. Actual collateral posting by swap counterparty, if any, per swap agreement and in total by swap counterparty.
- v. Information concerning any material event involving outstanding swap agreements, including a default by a swap counterparty, counterparty downgrade, or termination.
- vi. An updated contingency plan to replace, or fund a termination payment in the event an outstanding swap is terminated.
- vii. The status of any liquidity support used in connection with interest rate swaps, including the remaining term and current fee.

The Authority shall review the Interest Rate Swap Policy at least every two years.

2. Contingency Plan

The Authority shall compute the termination exposure of each of its swaps and its total swap termination payment exposure at least annually and prepare a contingency plan to either replace the swaps or fund the termination payments, if any, in the event one or more outstanding swaps are terminated. The Authority shall assess its ability to obtain replacement swaps and identify revenue sources to fund potential termination payments.

C. Terminating Interest Rate Swaps

1. Optional Termination

The Authority, in consultation with its Swap Advisor and Bond Counsel, may terminate a swap if it is determined that it is financially advantageous.

2. Mandatory Termination

In the event a swap is terminated as a result of a termination event, such as a default or a decrease in credit rating of either the Authority or the counterparty, the Authority will evaluate whether it is financially advantageous to obtain a replacement swap, or, depending on market value, make or receive a termination payment.

In the event the Authority makes a swap termination payment, the Authority shall attempt to follow the process identified in its swap contingency plan. The Authority shall also evaluate the economic costs and benefits of incorporating a provision into the swap agreement that will allow the Authority to make termination payments over time.

VI. Selecting and Procuring Interest Rate Swaps

A. Financing Team

The Authority will retain the services of a nationally recognized municipal bond counsel firm and qualified swap advisor for all interest rate swaps.

B. Underwriter Selection

In the event bonds are issued in connection with interest rate swaps, the Authority will select a lead Underwriter from its Senior Underwriting Team based on criteria established by the Executive Director and CFO and taking into account the experience level of each firm in regards to interest rate swaps.

C. Counterparty Selection

The Authority will utilize a competitive bidding process to select a swap counterparty and price a swap when that process will provide the lowest financing cost. The Authority may use a negotiated process to select a swap counterparty and price a swap when it believes market or competitive conditions justify such a process. Conditions that may suggest a negotiated selection are provided below.

- i. Marketing of the swap will require complex explanations about the security for repayment or credit quality.
- ii. Demand is weak among swap counterparties.
- iii. Market timing is important, such as for refundings.
- iv. Coordination of multiple components of the financing is required.
- v. The swap has non-standard features, such as a forward starting swap.
- vi. Bond insurance is not available or not offered.
- vii. The par amount for the transaction is significantly larger than normal.

VII. Disclosure and Financial Reporting

The Authority will take steps to ensure that there is full and complete disclosure of all interest rate swaps to the Authority, to rating agencies and in disclosure documents. Disclosure in marketing documents shall provide a clear summary of the special risks involved with swaps and any potential exposure to interest rate volatility or unusually large and rapid changes in market value. With respect to its financial statements, the Authority will adhere to the guidelines for the financing reporting of interest rate swaps, as set forth by the Government Accounting Standards Board.

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Glossary of Terms

Asset/Liability Matching Matching the term and amount of assets and liabilities in order to mitigate the impact of changes in interest rates.

Bid/Ask Spread The difference between the bid price (at which a market maker is willing to buy) and the ask price (at which a market maker is willing to sell).

Call Option The right to buy an underlying asset (e.g. a municipal bond) after a certain date and at a certain price. A call option is frequently embedded in a municipal bond, giving the issuer the right to buy, or redeem, the bonds at a certain price.

Collateral Assets pledged to secure an obligation. The assets are potentially subject to seizure in the event of default.

Downgrade A negative change in credit ratings.

Forward Starting Swap Interest rate swaps that start at some time in the future. Used to lock-in current interest rates.

Hedge A transaction that reduces the interest rate risk of an underlying security.

Interest Rate Swap The exchange of a fixed interest rate and a floating interest rate between counterparties.

Liquidity Support An agreement by a bank to make payment on a variable rate security to assure investors that the security can be sold.

LIBOR The London Interbank Offer Rate. Used as an index to compute the variable rate on an interest rate swap.

Notional Amount The amount used to determine the interest payments on a swap.

Termination Payment A payment made by a counterparty that is required to terminate the swap. The payment is commonly based on the market value of the swap, which is computed using the rate on the initial swap and the rate on a replacement swap.

Annex A: Finance Advisory Board

The following information is provided pursuant to the regulations published by the Finance Advisory Board of the Commonwealth of Massachusetts.

- 1) Legal authority to enter into derivative products: The Authority has broad authority through its Enabling Act to provide capital funding for University approved projects. Such authority has been determined by the Authority's Bond Counsel to extend to derivative products. Derivative products are used from time to time by the Authority to achieve financing goals such a lowering the costs of capital to the University.
- 2) Expected outcomes from derivative products: Please see section III A of the Interest Rate Swap Policy.
- 3) Security and sources of payments for derivative products: The Authority enters into a contractual relationship with the University at the time of each borrowing by the Authority. This agreement obligates the University to make payments to the Authority sufficient to cover the ongoing costs of the borrowing including the related derivative costs, if any. Termination of a derivative product would be done with the agreement of the University and, should the termination payment be significant, most likely as part of a new borrowing by the Authority for the University.
- 4) List of derivative products that are allowed and that are prohibited: See section IV. E. for a list of prohibited interest rate swap features. Additionally, per FAB regulations, the Authority shall be prohibited from entering into a swaption as defined by said regulations.
- 5) Conditions under which derivative products can be utilized: Please see sections IV. and VI. of the Interest Rate Swap Policy.
- 6) The maximum amount of derivative contracts: See section IV. E. v. of the Interest Rate Swap Policy.
- 7) Guidelines and criteria for selecting counterparties: See section VI. C. of the Interest Rate Swap Policy.
- 8) Methods for evaluating, measuring and managing derivative risk: See section V. of the Interest Rate Swap Policy.
- 9) Methods and process for procuring derivative products: See section VI. of the Interest Rate Swap Policy.
- 10) Post issuance monitoring and reporting: See section V. B. of the Interest Rate Swap Policy.