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# COUNTY OF SAN DIEGO

## DEBT ADVISORY COMMITTEE

### INTEREST RATE SWAP POLICY

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#### INTRODUCTION

The purpose of this policy (“Policy”) of the County of San Diego (“County”) is to support the Operational Excellence Strategic Initiative in the County’s Strategic Plan by establishing guidelines for the execution and management of the County’s use of interest rate and other swaps, caps, options, basis swaps, rate locks, total return swaps and other similar products (collectively, “Swap Products”). This Policy confirms the commitment of the Board of Supervisors (“Board”), management, staff, advisors, and other decision makers to adhere to sound financial and risk management practices. As noted, the use of Swap Products will be considered only in so much as they are the most effective instrument for maintaining Fiscal Stability at the County and minimizing exposure to risk.

This Policy shall be reviewed annually by the Debt Advisory Committee (DAC). Each year, the Debt Finance Manager shall review the Policy with the County’s Municipal Advisor (MA) to determine if any changes to the Policy are needed. Subsequent to review with the MA, the Debt Finance Manager shall send the Policy with any proposed changes, if applicable, to the DAC members and supporting staff for additional input. The DAC shall approve any changes by the end of the calendar year and the changes will become effective upon approval.

#### PHILOSOPHY REGARDING USE OF SWAP PRODUCTS

The County recognizes that Swap Products can be effective financial management tools. This Policy sets forth the manner in which the County may enter into a transaction involving Swap Products (“Swap Transaction”). The County shall integrate Swap Transactions into its overall debt and investment management programs in a prudent manner in accordance with the parameters set forth in this Policy.

Swap Products may be used by the County to achieve a specific objective consistent with its overall Long-term Obligation and Financial Management Policy (B-65), but the County shall not assume risks through the use of Swap Products that would not be considered prudent in light of the below-stated rationales. Rationales for the use of Swap Products and the execution of Swap Transactions include, but are not limited to:

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- To hedge or actively manage interest rate, tax, basis, and other risks
  - To enhance the relationship between risk and return with respect to debt or investments
  - To achieve an appropriate match of assets and liabilities
  - To reduce the cost of fixed or variable rate debt, through swaps and related products by synthetically creating fixed or variable rate exposure
  - To lock in current fixed rates for future use, including synthetically advance refunding debt that cannot be refunded with a conventional cash-market issuance
  - To access the capital markets more rapidly than may be possible with conventional debt instruments
  - To provide a higher level of savings, lower level of risk, greater flexibility, or other direct benefits not available in the conventional debt market
  - To manage the County's exposure to the risk of changes in the legal and regulatory tax treatment of tax-exempt bonds (e.g., income tax rate changes)
  - To manage the County's credit exposure to financial institutions and other entities; and
  - To achieve more flexibility in meeting overall financial objectives than can be achieved in conventional markets

The County shall not enter into Swap Transactions under any of the following circumstances:

- The Swap Transaction will expose the County to extraordinary leverage or risk
- The Swap Transaction serves a purely speculative purpose, such as entering into a Swap Transaction for the sole purpose of trading gains
- The County is unable to reasonably anticipate that it will have sufficient liquidity or financing capacity to terminate the Swap Transaction at market rates, if it should need to;
- There is insufficient pricing data available to allow the County and its advisors to adequately value the Swap Transaction or Product.

When a Swap Transaction or Product is being used in connection with a refunding rather than a new-money bond issue in order to produce savings, as a general rule the level of savings should exceed the County's fixed rate refunding savings target for conventional debt. The analysis of savings should consider the presence or absence of call options and advance refunding restrictions on both the bonds and the Swap Transaction (See County's Refunding Policy for additional criteria). When a Swap Transaction is used in connection with a new-money financing, a similar analysis may be used, comparing the savings produced through use of a Swap Transaction or Product with a hypothetical conventional fixed rate or variable rate financing.

## **CONSIDERATIONS**

The County shall consider entering into Swap Transactions based on the following analysis:

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- The appropriateness of the transaction for the County based on the balance of risks and rewards presented by the proposed transaction, including a detailed description of the transactional structure, a description of the risks it presents, and risk mitigation measures, where applicable
  - The legal framework for the transaction within the context of California statutes, Board authorization, and relevant indenture and contractual requirements (including those contained in credit agreements), as well as any implications of the transaction under federal tax regulations
  - The reporting impact of the execution, performance and value of a Swap Transaction for accounting purposes. A comprehensive discussion of any Swap transaction should be included in the County's Comprehensive Annual Financial Report.
  - The potential effects that the transaction may have on the credit ratings of the County assigned by the rating agencies
  - The potential impact of the transaction on any areas where the County's capacity may be constrained, now or in the future, including the availability of credit facilities such as bank liquidity facilities, letters of credit, and bond insurance
  - The impact on the County's policy limitation on variable rate exposure, taking into account the degree of variability in the County's net debt service payments that may be caused by basis risk, and specifically, by the form of basis risk known as tax risk (i.e., when a taxable index like LIBOR (or its successor rate) or a tax-exempt index like the SIFMA Municipal Swap Index is used to hedge underlying tax-exempt floating rate debt)
  - The ability of the County and its professional staff to handle any administrative burden that may be imposed by the transaction, including accounting and financial reporting requirements
  - Other implications of the proposed transaction as warranted

## **PERMITTED INSTRUMENTS**

The County may consider the following, or similar, Swap Products, each of which is a two-party agreement between the County and a counterparty:

- Interest Rate Swaps
- Options on Swaps
- Basis Swaps
- Rate Locks
- Interest Rate Caps, Collars, Floors
- Total Return Swaps
- Constant Maturity Swaps
- Other Swap Products (e.g., energy, commodity, credit, as appropriate)

Other Swap Products shall be permitted at the discretion of the Board.

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## RISK ANALYSIS

Among the risks that the County will monitor, evaluate, and seek to mitigate are the following, listed in order of greatest potential impact:

<b>Type of Risk</b>	<b>Description</b>	<b>Evaluation Methodology</b>	<b>Mitigation</b>
<b>Counterparty Risk</b>	The risk that the counterparty will not fulfill its obligations as specified by the terms of the Swap Transaction, typically due to default by the counterparty or other severe credit event.	The County will evaluate the Swap providers' credit ratings and existing exposure on other transactions.	The County will diversify its counterparty exposure, impose minimum credit rating standards and require protective documentation provisions. ("Counterparty Credit Standards")
<b>Termination Risk</b>	The risk that a Swap Transaction could be terminated prior to its scheduled termination date pursuant to its terms as a result of any of several events relating to either the County or its counterparty. Upon an early termination, the County could owe a termination payment to the counterparty or receive a termination payment from the counterparty. Such payment would typically reflect the then-current market value of all Swap Transactions executed between the County and its counterparty under a single master agreement.	The County will review potential causes of early termination, including those resulting from documentation provisions and the likelihood of credit downgrade that could precipitate an early termination.	The County will use protective documentation provisions and will evaluate sources of internal liquidity and market access that could be used in the event a termination payment were required to be made. For example, the risk of termination due to the County's downgrade to a rating below BBB may be mitigated with bond insurance when the associated bond issue is insured.

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<b>Type of Risk</b>	<b>Description</b>	<b>Evaluation Methodology</b>	<b>Mitigation</b>
<b>Interest Rate Risk</b>	The risk that the County's costs associated with variable-rate exposure increase and negatively affects 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 variable liability, such as basis risk, tax risk or yield curve risk (described below). 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 County or a credit enhancer.	Prior to taking on interest rate risk, the County will measure its capacity for floating rate exposure, based on policy targets for its mix of fixed and floating rate debt and investments, taking into consideration future variable rate needs.	The County will maintain floating rate exposure within the 15% limitation specified in its Long-term Financial Obligation Management Policy (B-65), and will make selected use of interest rate hedges, like caps and collars, to reduce that risk. In evaluating its variable rate exposure, the County will consider the residual risks of variable rate debt that is not fully hedged by swaps, such as basis and tax risk.
<b>Basis Risk</b>	The mismatch between the rate received by the County under a Swap Transaction and the rate payable by the County on any related obligation. For example, the risk in a floating-to-fixed swap that the floating rate received by the County under the Swap Transaction may not at all times equal the floating rate paid by the County on the variable rate bonds that it is hedging.	The County will measure and review the historic variation between the floating rate index used in the Swap and the underlying floating rate instrument it is hedging. In the absence of a sufficient history of underlying instrument, it will use relevant comparable floating rate instruments. The degree of risks should be evaluated in comparison with degree of benefit provided.	The County will analyze historic relationships and consider mitigation techniques as warranted. When used in connection with an advanced refunding, mitigation techniques could include maintaining a cushion between the floating rate index and the expected trading level of the floating rate instrument, creating a reserve to cover potential basis risk mismatches, and including provisions for optional termination.

Type of Risk	Description	Evaluation Methodology	Mitigation
Tax Risk	<p>A common type of basis risk on Swaps used in conjunction with floating-rate tax-exempt debt is often referred to as “tax risk”, or the risk of a mismatch between the floating rate on the tax-exempt debt and a Swap index based on a taxable index like LIBOR or a successor index. The correlation between the LIBOR or successor-based rate and the floating rate on the debt may change based on changes in tax law, for example, changes in marginal tax rates, or other market events that change the trading pattern between tax-exempt and taxable securities. This risk can also be created by “basis swaps,” where-in both parties pay a variable rate, but only one is based on a tax-exempt index.</p>	<p>The County will assess the risk of a significant tax law change that could reduce the benefits of a Swap or generate unanticipated losses. Because this assessment requires judgment about future actions by the Federal government, the rewards for taking this risk should be deemed to be significantly greater than the risks, based on a careful assessment.</p>	<p>The County should monitor its tax risk position, including taking steps to reduce tax risk when favorable market opportunities present themselves, limiting tax risk to within acceptable bounds, and considering the use of financial mechanisms to cap tax risk exposure.</p>
Yield-curve	<p>Yield curve risk may be present in swaps where a longer-term floating rate is used to hedge a shorter-term floating rate, creating different potential gain and loss depending on the steepness of the yield curve. This form of swap, often called a “constant maturity swap” to reflect the fact that one party continues to receive payment based on a rolling long-term rate, is popular when there is a flat yield curve, in anticipation of a steepening in the future.</p>	<p>In addition to an examination of historic yield curves and the probability of net positive receipts, the County will also evaluate how the use of this swap fits into its overall risk management goals. For example, yield-curve swaps can help mitigate the underperformance of other structures in certain markets.</p>	<p>The County will identify offsetting transactions that mitigate the effect of continued or renewed flattening of yield curves. Also, the County will consider forward-starting instruments in flat-yield curve environments.</p>

<b>Type of Risk</b>	<b>Description</b>	<b>Evaluation Methodology</b>	<b>Mitigation</b>
<b>Rollover Risk</b>	When a Swap is used in conjunction with underlying puttable floating-rate debt, bank facility rollover risk exists if the term of a needed liquidity or credit facility on the debt is shorter than the term of the Swap. The County is at risk as to both the availability and the price of successive bank facilities.	The County will evaluate the likelihood of unavailability of bank facilities based on the underlying credit of the debt as well as the general market for liquidity facilities.	This is a risk shared generally by variable-rate debt structures. The County may use any of the following mitigation techniques: purchasing longer term facilities for credits where rollover risk is greatest; including alternative floating rate mechanisms like auction rate securities; and staggering the maturity dates of different liquidity facility programs to diversify points of market re-entry.
<b>Pricing Risk</b>	The risk that the Swap may not be priced fairly in comparison to the market for comparable Swap transactions.	Prior to entering into a Swap, the County will make a determination that the transaction can be priced with reasonable transparency and confidence.	The County will not enter into overly complex or illiquid transactions where fair pricing cannot be ascertained. For negotiated transactions, the County will seek independent price verification through appropriate professional advice. The County will also consider pursuing a competitive process for swap transactions, based on the complexity of the structure.

## **PROCUREMENT**

The County may choose counterparties for entering into swap contracts on either a negotiated or competitive basis. To provide safeguards on negotiated transactions, the County should generally secure outside professional advice to assist in the process of structuring, documenting and pricing the transaction, and to render an opinion that a fair price was obtained.

To uphold the highest standards and integrity of the municipal securities industry, the County requires that counterparties comply with the Municipal Securities Rulemaking Board (“MSRB”) rules regulating political contributions. In addition, the counterparty must disclose to the County any gifts or payments made to County elected officials and County finance professionals that the officials would be required to report on their California Fair Political Practices Commission Form 700. The counterparty must also disclose any payment made to County consultants, including financial consultants and attorneys, who assisted the counterparty in securing business with the County and all payments made to third parties for the benefit of the County in connection with the

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Swap Transaction (such as fees to a broker or other intermediary.) In addition, upon request of the County, the counterparty shall disclose the terms of any “mirror” or “back-up” Swap Transaction or other hedging relationship entered into the counterparty in connection with the County’s Swap Transaction.

## **COUNTERPARTY CREDIT STANDARDS**

Unlike conventional debt instruments, Swap Products can create for the County a continuing exposure to the creditworthiness of financial institutions that serve as the County’s counterparties on Swap Transactions. To protect the County’s interests in the event of a counterparty credit problem, Swap Transactions entered into by the County will adhere to the following standards:

- Use of highly rated counterparties: Standards of creditworthiness, as measured by credit ratings, will determine eligible counterparties. Differing standards may be employed depending on the term, size, and interest-rate sensitivity of a transaction, types of counterparty, and potential for impact on the County’s credit ratings. As a general rule, the County will enter into transactions only with counterparties whose obligations are rated in the double-A category or better from at least one nationally recognized rating agency.
- Collateralization on downgrade: If a counterparty’s credit rating is downgraded below the double-A rating category, the County shall generally require that its exposure to the counterparty be collateralized.
- Termination: If counterparty’s credit is downgraded below a second (lower) threshold, that is, below an A-level rating, the County may exercise a right to terminate the transaction prior to its scheduled termination date notwithstanding the counterparty’s posting of collateral. The County will seek to require, whenever possible, that terminations triggered by a counterparty credit downgrade will occur on the side of the bid-offer spread which is most beneficial to the County, and which would allow the County to go back into the market to replace the downgraded party with another suitable counterparty at no out-of-pocket cost to the County.
- Notice: The County’s Swap counterparties will be required to notify the County in the event a credit agency takes negative action with regard to the counterparty’s credit rating, including both an actual downgrading of the credit rating as well as the publication of a notice by a rating agency that the counterparty’s rating is in jeopardy of a downgrading (i.e., being placed on Standard & Poor’s Credit Watch or being assigned a negative outlook by Moody’s).
- Exposure limits: In order to limit the County’s counterparty risk, the County will seek to avoid excessive concentration of exposure to a single counterparty or guarantor by diversifying its counterparty exposure over time. Exposure to any counterparty will be measured based on the termination value of any Swap Transactions entered into with the Counterparty, as well as such other measurements as the County may deem suitable



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to measure potential changes in exposure, such as peak exposure. Peak exposure will be determined by a standard quantitative measurement that reflects the size, term, and projected volatility of the Swap Transactions. Exposure measurement will take into account offsetting swaps. The maximum potential exposure of all County Swap Transactions should be no more than 10% of outstanding debt.

- Termination value will be determined at least annually, based on a mark-to-market calculation of the cost of terminating the Swap Transaction given the market conditions on the valuation date. Aggregate Swap termination value for each counterparty should take into account netting of offsetting transactions (i.e., fixed-to-floating vs. floating-to-fixed). The County may require counterparties to provide regular mark-to-market valuations of Swap Transactions they have entered into with the County and may also seek independent valuations from third-party professionals.
- These policies are not applicable to Swap Transactions previously approved prior to the adoption of these policies.

## **SWAP DOCUMENTATION**

The County will use one of the forms of the International Swaps and Derivatives Association, Inc. ("ISDA") Master Agreement as a framework for Swap documentation. The Swap agreement between the County and each counterparty shall include payment, term, security, collateral, default, remedy, termination, and other terms, conditions, provisions and safeguards as the County, in consultation with its advisors and legal counsel, deems necessary or desirable.

Subject to the provisions contained herein, the terms of any new County Swap agreement shall adhere to the following guidelines:

- Downgrade provisions triggering termination shall be reflective of the relative credit strength of the County in comparison with the Swap provider. This comparison should give weight to the prevailing greater credit strength of public sector entities as compared with the credit strength and higher corporate-equivalent ratings assigned to private sector financial institutions. For example, downgrade provisions affecting the County would be triggered at a BBB- level, while downgrade provisions affecting the Swap provider would be triggered at an A- level.
- The County will strive to minimize or avoid cross default provisions. The specific indebtedness related to credit events in any Swap agreement should be narrowly defined and refer only to indebtedness of the County that could have a materially adverse effect on the County's ability to perform its obligations under the Swap Transaction. Debt should only include obligations within the same or superior lien as the Swap obligation.

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- Collateral thresholds<sup>1</sup> 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 its guarantor. County collateral thresholds, if any, will be negotiated on a transaction-by-transaction basis.
  - Eligible collateral should generally be limited to cash, Treasuries and direct obligations of Federal Agencies, excluding interest-only, principal-only, and other complex securities.
  - The County shall have the right to optionally terminate a Swap agreement “at market” at any time over the term of the agreement. The Swap provider should have no similar right.
  - The County understands that its procurement and negotiation of the optimum portfolio of Swap Transactions in accordance with the terms of this Policy may be dependent, in part, on its ability to secure its payments to its counterparties. The County shall consider, in light of its overall debt and investment management policy, and consistent with any limitations imposed by its other credit agreements, the benefits of providing its counterparties with a favorable credit position vis-à-vis its other creditors (e.g., parity with bondholders, etc.). Additionally, the County may provide additional credit enhancement to its counterparties in the form of collateral, financial guaranty insurance or other credit support.

## **EXECUTION AND ONGOING MANAGEMENT**

The County shall seek to maximize the benefits it accrues and manage the risks it bears by actively managing its use of Swap Products. This shall entail continuous monitoring of market conditions, in conjunction with the counterparty and the County’s advisors, for emergent opportunities and risks. The DAC is authorized to manage existing Swap Transactions without additional Board approval, but consistent with any applicable resolution of the Board. This discretion shall extend to future termination or modifications of the initial Swap Transactions provided the resulting structure does not exceed the parameters set forth in this Policy. Ongoing management may entail modifications of existing positions including:

- Early termination of a Swap Transaction
- Modification of the duration of a Swap Transaction
- A sale or purchase of options; and

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<sup>1</sup> Collateral thresholds are used to determine the amount of securities that a swap counterparty must post as collateral to secure their potential payment if there were an early termination. The threshold is generally expressed as a specified dollar amount. If the mark-to-market value of the swap exceeds the dollar amount, the counterparty is required to post collateral equal to the amount of the excess. As counterparty’s credit ratings decline, the threshold amount should shrink, requiring collateral posting even for smaller mark-to-market values. If ratings drop far enough, the threshold will fall to zero, meaning the counterparty must post collateral equal to the full amount of the market-to-market value.

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- Application of basis swaps

The County recognizes that changes in the capital markets or, the County's programs, and other unforeseen circumstances may from time to time produce circumstances that are not contemplated by this Policy and shall require modifications or exceptions to achieve the County's goals. In these cases, management flexibility is appropriate, provided that specific authorization from the Board is obtained on a financing basis.

## **REPORTING AND COMPLIANCE**

The Deputy Chief Administrative Officer / Chief Financial Officer of the County shall prepare periodic reports on the status of its Swap Transactions to be reported to the DAC. Each report shall include an evaluation of the performance of each Swap Transaction in relation to the goals and risks identified when the Swap Transaction was entered into. Each report shall include a summary of the terms of each Swap Transaction, including the credit rating and outlook of the counterparty, the market value of any collateral that has been posted, the market value of the Swap Transaction, as well as cumulative and periodic cash flows. Each report shall note all material changes to existing Swap Transactions and any new Swap Transactions entered into by the County since the previous report.

The Deputy Chief Administrative Officer / Chief Financial Officer of the County shall ensure compliance with this Policy as well as prevailing accounting practices and federal, state, and local regulations and requirements. Disclosure shall be provided to rating agencies as needed.

## **RELATED DEFINITIONS**

### *Basis Risk*

The risk of a mismatch between the rate received by the County under a Swap Transaction and the rate payable by the County on any related obligation. For example, the risk in a floating-to-fixed swap that the floating rate received by the County under the Swap Transaction may not at all times equal the floating rate paid by the County on the variable rate bonds that it is hedging. Basis risk commonly occurs if variable rate swap payments are based on a percentage of LIBOR (or successor-based) index.

### *Basis Swap*

A floating-to-floating rate swap in which one variable rate index is swapped for another. Basis swaps are commonly used to modify basis risk.

### *Bid/Ask Spread*

The difference between the (i) bid price at which a market maker is willing to buy and (ii) the ask price at which a market maker is willing to sell. Also referred to as a bid/offer spread.

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*Collar*

A combination of an interest rate cap and an interest rate floor.

*Collateral Thresholds*

Used to determine the amount of securities that a swap counterparty must post as collateral to secure their potential payment if there were an early termination. The threshold is generally expressed as a specified dollar amount. If the mark-to-market value of the swap exceeds the dollar amount, the counterparty is required to post collateral equal to the amount of the excess. As counterparty's credit ratings decline, the threshold amount should shrink, requiring collateral posting even for smaller mark-to-market values. If ratings drop far enough, the threshold will fall to zero, meaning the counterparty must post collateral equal to the full amount of the market-to-market value.

*Collateralization Risk*

The risk that circumstances will arise in the future that will require an agency to post collateral pursuant to a swap agreement.

*Constant Maturity Swaps*

Swaps in which a longer-term floating rate is used to hedge a shorter-term floating rate, creating different potential gain and loss depending on the steepness of the yield curve.

*Counterparty*

A party in a swap transaction.

*Counterparty Credit Risk*

The risk that the counterparty will not fulfill its obligations as specified by the terms of the Swap Transaction, typically due to default by the counterparty.

*Credit Support*

Collateral in the form of cash and/or marketable securities posted by one party to a swap agreement to reduce the credit exposure of the counterparty.

*Credit Support Annex*

A document governed by the ISDA Master Agreement which states the provisions and circumstances under which collateral posting is required.

*Derivative Subsidiary*

Typically created by a financial institution for entering into swap transactions. Such subsidiaries are usually guaranteed by the financial institution creating them or are terminated if such financial institution falls into bankruptcy.

*Fixed Rate Swap*

An interest rate swap in which an agency pays a counterparty a fixed interest rate in exchange for receiving a variable interest rate – commonly used to create synthetic fixed rate obligations.

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*Floor*

A financial contract under which an issuer will make a payment to the swap provider when the underlying debt falls below the predetermined strike rate, or floor rate.

*Forward Starting Swap*

An interest rate swap under which the exchange of cash flows commences at later date - commonly used to lock in current interest rates for future transactions.

*Interest Rate Cap*

A financial contract in which the provider, in exchange for a fee, will make payments to an issuer of variable rate debt to the extent that the interest rate on that debt exceeds a specific rate (known as the "cap rate").

*Interest Rate Risk*

The risk that the County's costs associated with variable-rate exposure increase and negatively affect budgets, coverage ratios and cash flow margins. Variable-rate exposure may be created by a Swap Transaction or Product from fixed to floating, or a Swap Transaction or Product that otherwise creates some type of variable liability, such as basis risk, tax risk or yield curve risk. The interest rate risk presented by such a Swap Transaction or Product may be increased as interest rates increase generally, as intra- market relationships change, or because of credit concerns relating to the County or a credit enhancer.

*Interest Rate Swaps*

A contractual agreement to exchange periodic payments based upon changes in rates over a period of time. Cash flows are calculated based on a fixed or floating rate against a set "notional" amount (amount used only for calculation of payments) and may begin on a current or forward basis. Principal is not exchanged.

*ISDA Master Agreement*

The standardized master legal agreement for all derivative transactions between an agency and counterparty.

*London Inter-Bank Offered Rate (LIBOR)*

The interest rate banks charge each other for short-term money, up to a 12-month term. LIBOR has typically been used as the index for the variable rate component of interest rate swaps but is in the process of being phased out. LIBOR will cease being published daily and will be replaced with an alternative index, such as the Secured Overnight Financing Rate (SOFR) on December 31, 2021.

*Mark-to-Market*

Calculation of the value of a financial instrument (e.g., an interest rate swap) based on current market rates.

*Notional Amount*

Similar to bond principal amount; used as the basis to determine the amount of swap interest

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payments. The notional amount will often amortize over time to match the amortization of the bonds to which the swap is related.

*Optional Termination*

The right of a party to terminate a swap at any time at prevailing market prices - in swap agreements, typically the agency is the only party to have such rights.

*Options on Swaps*

An agreement in which one party has the right, but not the obligation, to enter into, cancel or modify a predetermined swap with the other party on a future date or dates or during a specific period.

*Peak Exposure (also "Value at Risk")*

Provides a quantification of the County's reasonable "worst case" swap exposure, i.e. the risk to the County in the event of a swap termination. It is calculated by applying stress tests to the County's swaps to show how large the potential termination cost of the swaps could be if markets moved in an extremely adverse manner. Market movements are typically calculated assuming two standard deviations in interest rates, based on historic and/or implied volatilities, to provide a better than 95% degree of confidence.

*Pricing Risk*

The risk that the Swap Transaction or Product may not be priced fairly in comparison to the market for comparable Swap Transactions.

*Rate Locks*

An agreement with a single cash flow, which is most often used to hedge, though not necessarily reduce, the interest cost of an anticipated future fixed rate issue.

*Rollover Risk*

The risk when a Swap Product is used in conjunction with underlying puttable floating-rate debt, bank facility rollover risk exists if the term of a needed liquidity or credit facility on the debt is shorter than the term of the Swap Transaction or Product. The County is at risk as to both the availability and the price of successive bank facilities.

*Settlement Amount*

The amount the County or the counterparty would need to pay to the other upon early termination of the swap to make up for a loss in value due to a change in interest rates.

*SIFMA Municipal Swap Index*

The Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Index is a 7-day high-grade market index comprised of tax-exempt variable rate demand obligations from the Municipal Market Data database.

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*Secured Overnight Financing Rate (SOFR)*

The secured overnight financing rate (SOFR) is a benchmark, secured interbank interest rate and reference rate that has been established as an alternative to LIBOR.

*Strike Rate*

The rate at which the cash flows will be exchanged between the purchaser and the seller.

*Swap Curve*

The swap's equivalent of a yield curve for fixed rate securities. The swap curve identifies the relationship between rates at varying maturities.

*Swaption*

An option on an interest swap that gives the purchaser the right, but not the obligation to begin, terminate or extend a swap based on certain agreed upon parameters.

*Synthetic Fixed Rate*

A synthetic fixed rate is created when issuing variable rate bonds together with entering into a variable to fixed interest rate swap agreement.

*Tax Risk*

The risk of a mismatch between the floating rate on the tax-exempt debt and a Swap index based on a taxable index like LIBOR or its successor rate. The correlation between the LIBOR or its successor-based rate and the floating rate on the debt may change based on changes in tax law, for example, changes in marginal tax rates, or other market events that change the trading pattern between tax-exempt and taxable securities. This risk can also be created by "basis swaps," where-in both parties pay a variable rate, but only one is based on a tax-exempt index.

*Termination Event*

Events that allow for the termination of a swap, e.g., a credit downgrade of the counterparty.

*Termination Payment*

Payment made by one counterparty to the other if the swap is terminated before its scheduled termination date. The payment is commonly based on the market value of the swap.

*Termination Risk*

The risk that a Swap Transaction could be terminated prior to its scheduled termination date pursuant to its terms as a result of any of several events relating to either the County or its counterparty. Upon an early termination, the County could owe a termination payment to the counterparty or receive a termination payment from the counterparty. Such payment would typically reflect the then-current market value of all Swap Transactions executed between the County and its counterparty under a single master agreement.

*Threshold*

The point at which the counterparty or the County will need to post collateral under the swap agreement. Threshold will vary with rating levels.

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*Total Return Swaps*

A swap pursuant to which one party receives synthetic exposure to a debt or equity instrument in return for a fixed or floating payment.

*Variable Rate Swap*

An interest rate swap in which an agency pays counterparty a variable interest rate in exchange for receiving a fixed interest rate - commonly used to create synthetic variable rate obligations.

*Yield Curve Risk*

A risk that may be present in swaps where a longer-term floating rate is used to hedge a shorter-term floating rate, creating different potential gain and loss depending on the steepness of the yield curve. This form of swap, often called a “constant maturity swap” to reflect the fact that one party continues to receive payment based on a rolling long-term rate, is popular when there is a flat yield curve, in anticipation of a steepening in the future.