Detroit Water and Sewerage Department
Board of Water Commissioners

2012 Sewage Disposal System Revenue Bonds

Presented by:

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Purpose of 2012 Sewage Disposal System Bonds

- Fund project costs.
- Terminate Forward Starting Hedge Swaps associated with new money bonds.
- Terminate remaining swap portfolio.
- Fund Debt Service Reserve Requirement.
- Pay costs of issuance of the bonds.

Estimated Sources and Uses of Funds [1]

Sources	
Bond Proceeds	$ 525,000,000
	$ 525,000,000
Uses	
Fund Project Costs	$ 210,000,000
Terminate Forward Starting Hedge Swaps [2]	119,700,000
Terminate Remaining Swap Portfolio [2]	164,800,000
Fund Debt Service Reserve Account	25,000,000
Pay Costs of Issuance	5,500,000
	$ 525,000,000

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[1] Does not include refunding or redemption amounts estimated at $193 million but dependent upon market conditions.

[2] Values as of December 19, 2011.

Widespread use of Swaps

- The use of swaps to achieve lower borrowing costs and hedge future borrowing costs was widespread in the 1990's through 2008.

- In 2002 Moody's said that "Moody's believes swaps serve as a useful tool in managing issuers debt and asset risks."

- In a 2004 report Moody's stated that "swaps now provide a real alternative for local government issuers seeking to lower borrowing costs, eliminate interest rate risk or hedge against fluctuation in their short term investment portfolios.

- In 2007 Standard and Poor's issued a report that concluded that swap use was expected to grow during the last half of that year.

- Standard and Poor's maintains ratings of swap portfolios on nearly 800 public sector borrowers in the United States.
  - Those issuers include: Los Angeles, Oakland, California, Denver, State of Connecticut, Miami, Chicago, State of Mississippi, State of North Carolina, State of New Jersey, State of New Mexico, New York City, State of New York, Cleveland, State of Ohio, Philadelphia, Dallas County Utility, Texas, San Antonio, Milwaukee Public Schools.

DWSD Sewer Swap Activities

- First sewer swap contracted in 1998.
- Total of seventeen swaps related to eleven bond issues.
- All or substantially all of eight swaps have subsequently been terminated.
- Swaps were entered into to save interest costs with a minimum savings threshold of 25 basis points
- Forward starting swaps were executed to fix favorable rates for anticipated bond issues.
  - In 2006 rates of 4.92% and 5.06% were achieved.
- Last new swap was contracted in 2006.
- Savings related to swap activities have been estimated to be at least $3 million per year.

DWSD Swap Protections

- DWSD senior lien sewer bonds were rated “A1” with a “stable” outlook from 1998 to 2008.

- Swap policy adopted by City Council to govern swap activities with restrictions including restriction on amounts, diversity of counterparties and credit quality of counterparties.
  - No more than 50% of bonds can be swapped.
  - Swaps must be with a diversified group of counterparties.
  - Counterparties must be rated at least “A” by two rating agencies.

- All swaps were insured by bond insurance companies rated “AAA” at the time.
  - S&P said in 2005 that “The extremely low rating volatility of “AAA” rated monoline bond insurers combined with the overall stability of municipal ratings indicates that a termination event due to coincidental rating downgrades is an extremely remote possibility.”

- Standard and Poor’s assigned a rating of “1.5” on the DWSD swap portfolio which was an indication of “Very low risk.”

2008 Market Environment

- Beginning in 2008 problems developed in the national variable rate bond market.
  - Liquidity providers were downgraded, bondholders "put" their bonds back to issuers, remarketings failed and liquidity facilities were drawn to meet "put" requirements.
  - Eight of nine "AAA" bond insurers were downgraded to junk status. Only one (Assured Guaranty) now rated Aa3 is still writing policies.
  - Bonds which had been "put" to liquidity providers now had higher "bank rates" and were subject to 5 year amortization versus the original 30+ years.

- With the bankruptcy of Lehman Brothers in September 2008, 930,000 of Lehman swaps around the country were terminated and many issuers (not DWSD) were forced to scramble to avoid default.

- While DWSD was not directly impacted by the Lehman bankruptcy, the market for new swaps dried up.

- DWSD was impacted by the decline of it's liquidity providers.

DWSD Reaction to 2008 Events

- In the spring of 2008 DWSD needed to move quickly to stop losses on the bonds that were "put" to the liquidity provider.

- DWSD remarketed $383 million of its variable rate bonds (2001C-2, 2001E and 2006A) to fixed rate.

- In conjunction with the remarketing DWSD entered into "mirror swaps" to offset the effect of the existing swaps without paying a single termination payment.
  - Remarketed bonds did not allow for raising new funds in sufficient amounts to make termination payment on this transaction.
  - Economic effect is to fix the termination amount and to amortize termination payment over the remaining term of the swaps.

- In June 2009 the City remarketed its remaining $305 million variable rate debt*, (2001C and 2003B) to fixed rate.

- In connection with the 2009 remarketing DWSD terminated the associated swaps except for the "swaption" related to the 2003B swap.
  - The swaption was costly to unwind at the time and posed very little risk to DWSD.

* The DWSD has other floating rate debt still outstanding that was not impacted by the 2008 events.

Current Sewer Swap Portfolio

- Forward Starting hedge swaps.
  - Designed to lock in low cost of funds for new money bonds.
  - Reduced CIP and increased SRF loans reduced the need for new publicly issued bonds and required an extension of the swaps from original issuance date of 2010 to 2012.
  - Will be terminated with new issuance as originally planned.

- Mirror Swaps.
  - Offsetting swaps designed to lock in the termination amount.
  - Allowed bonds to be converted to fixed rate without making one, large termination payment at the time.
  - Today's low borrowing cost offers an opportunity to terminate at low costs.
  - Termination value of $33.3 million* is relatively inelastic to interest rate changes.

- Variable Rate Hedge.
  - Converted floating rate bonds (2001 D-2 & 2006D) to fixed rate.
  - Discussions ongoing on how to handle variable rate risk when swaps are terminated.
  - Termination value of $121.2 million*.

- Barrier swaps (Knock-in/Knock-out).
  - Provided lower rate with minimal risk
  - Termination value of $10.3 million* positively correlated with interest rates. Today's low interest rates offer low termination values.

* Values as of December 19, 2011.

Swaps Impact on System Credit

- Termination event may have already occurred.

- Would require immediate payment of termination value (approximately $290 million as of December 13, 2011).

- Senior and Second Lien claim against Net Revenues of $64 million and debt service reserve accounts of $226 million.
  - Ordinance requires replenishment from bond proceeds or from Net Revenues over 60 months at $45 million per year.
  - Rate increase of approximately 10% to generate replenishment monies from revenues.
  - Surety bonds fund $136 million of debt service reserves. Cash totals $90 million.
  - Surety bonds require reimbursement over 12 months which would likely require the issuance of bonds.
  - Two of the four surety bonds are rated sub-investment grade (B3/B).

- A termination of the swaps would likely result in downgrade of system ratings.

- Downgrade of system to BBB+ would result in an increase in borrowing costs of at least 100 basis points.

- Market access may be compromised due to negative disclosure required.

Net Cost to Terminate Remaining Swap Portfolio

- Termination costs represent the present value change in interest rates since the swap was executed. They are not "fees".
  - As interest rates fall, termination cost generally rises except as noted for the barrier and mirror swaps.
  - As interest rates rise, cost to terminate falls.

- Despite termination value of $164.8 million, the present value net termination cost is estimated at $41 million.
  - Lower due to elimination of offsetting payments on mirror swaps.

- Bonding of balance of termination (exclusive of forward starting hedge swaps) costs would increase net annual debt service by approximately $3.1 million.

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