CITY AUDITOR'S OFFICE

Irrigation Water Distribution System

NOVEMBER 5, 2009 **AUDIT REPORT NO. 1003**

CITY COUNCIL
Mayor W.J. “Jim” Lane
Vice Mayor Lisa Borowsky
Wayne Ecton
Suzanne Klapp
Robert Littlefield
Ron McCullagh
Tony Nelssen

November 5, 2009

Honorable Mayor and Members of the City Council:

Enclosed is the report on the *Irrigation Water Distribution System (IWDS),* Audit No. 1003, which focused on whether program costs are recovered through participant billings.

We found that IWDS program costs are recovered through billing rates as intended, and all costs allowed by the Pipeline Capacity Agreements are included in the IWDS participant billings. Two areas noted for improvement include correcting in-lieu property tax charges and resolving issues associated with stored water credits.

We would like to thank the Public Works and Water Resources Division's staff, particularly Water Resources Analyst Gina Kirklin, for the cooperation and assistance provided during the audit.

If you need additional information or have any questions, please contact me at (480) 312-7867.

Sincerely,

Sharron Walker

Sharron Walker, CPA, CFE
City Auditor

<u>Audit Team:</u>
Joyce Gilbride, Assistant City Auditor

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EXECUTIVE SUMMARY

The *Irrigation Water Distribution System (IWDS*) audit was included on the Council-approved fiscal year 2009/10 Audit Plan to evaluate whether IWDS program costs were recovered through participant billings. The audit included reviewing current IWDS Pipeline Capacity Agreements, revenues, expenditures, and the rate setting and settlement processes for fiscal year 2008/09.

We found that the Water Resources Department has systems in place to provide reasonable assurance that IWDS rates are recovering costs as intended. Written procedures provide specific guidance for the rate setting and year-end settlement processes. Expenditures and revenues were accurately tracked, and documentation was maintained to ensure that all financial activity related to the IWDS is substantiated. Because rates include estimated costs and usage, the under- or overcharges that result at year-end are corrected through a billing or refund to the participants.

The audit noted the following areas for improvement:

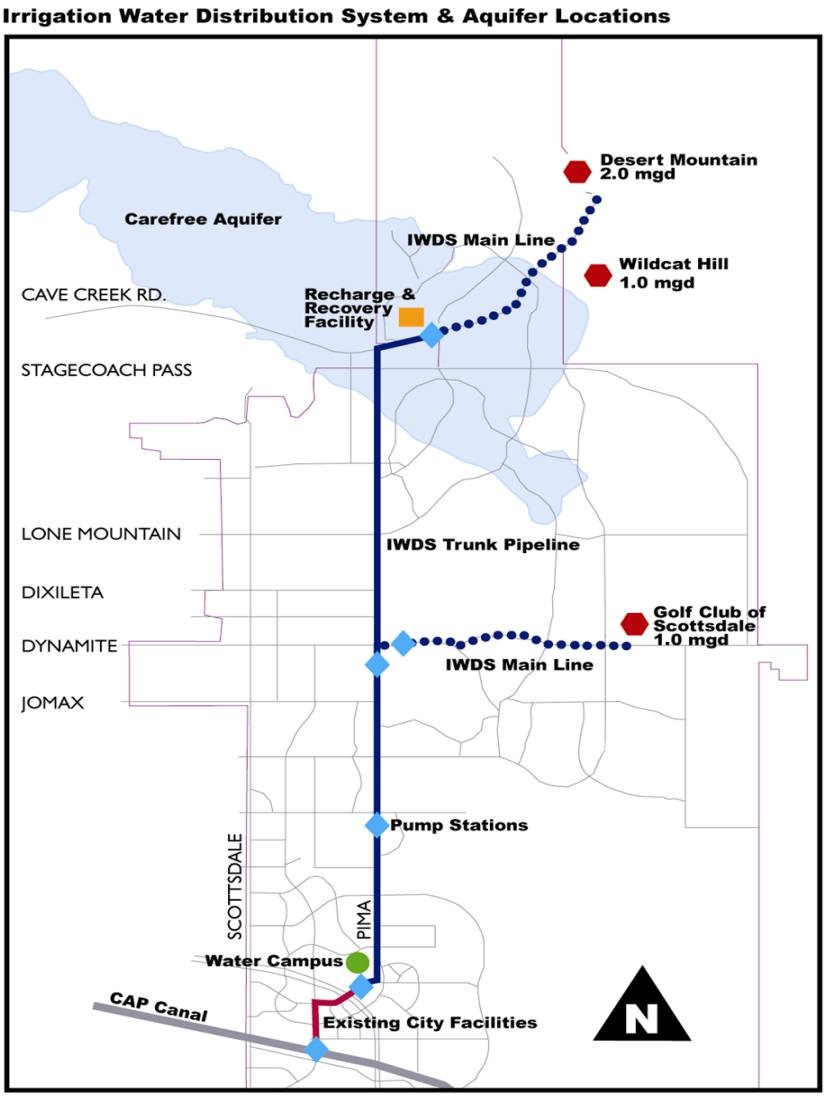
- Since July 2006, the in-lieu property tax percentage applied to the IWDS Fund has been higher than the percentage established in state statute. The Financial Management Division's practice is to charge all enterprise funds an in-lieu tax against the value of property held. As a result, this is an issue that should be addressed for all City enterprise funds as well as the IWDS Fund. The IWDS Fund was overcharged approximately $7,000, while all other enterprise funds were overcharged approximately $368,000 for the period of July 2006 through June 2009.

- The IWDS has not accrued the required operational reserve water credits or the minimum volume of statutory reserve water credits as stipulated in the City's agreement with the Central Arizona Water Conservation District (CAWCD) since 2006. The Water Resources Department is in the process of resolving these issues with the CAWCD and IWDS participants.

BACKGROUND

The City of Scottsdale operates the Irrigation Water Distribution System (IWDS), a water delivery, storage, and recovery system, to provide non-potable water for irrigation. The IWDS, the City's second non-potable irrigation water delivery system, was developed in response to golf course irrigation water requests above and beyond the capacity of the existing Reclaimed Water Distribution System (RWDS). Currently there are two companies funding the IWDS to provide irrigation to three golf courses. Following is Figure 1, which depicts the IWDS facilities.

Figure 1: IWDS Facilities



SOURCE: Map provided by Water Resources Department

Located north of the Central Arizona Project (CAP) canal, the IWDS consists of 13 miles of primary transmission line (IWDS Trunk Pipeline), seven booster stations, nine recharge wells, and two pipelines extending from the IWDS Trunk Pipeline to golf courses served by the system. The IWDS provides irrigation for three private Scottsdale golf courses owned and operated by two companies. These two IWDS participants constructed and paid for all components of the IWDS Delivery System and Storage and Recovery Project[1]. The City accepted conveyance of the IWDS Delivery System in December 2003, but has not yet accepted the Storage and Recovery Project due to unresolved capacity issues. The City and IWDS participants are working to resolve these issues, at which time the City will be able to accept conveyance. In July 2003, the first deliveries ran through the IWDS Trunk Pipeline.

Using untreated water from the CAP canal, the IWDS has a 5.25 million gallon per day (MGD) capacity. A maximum of 4.0 MGD of non-potable water is available to the golf courses, with the remaining 1.25 MGD reserved for City use. While this reserve was established with the intent of recharging the Carefree Basin Aquifer, the City has not used this capacity to date.

The Water Resources Department of the City's Public Works and Water Resources Division operates the IWDS.

IWDS Pipeline Capacity Agreement

In return for rights to IWDS water transmission capacity, the Pipeline Capacity Agreement (Agreement) requires participants to pay the full cost of operating and maintaining the water delivery system, as well as establishing sufficient operating and replacement reserves. The City's Water Resources Department allocates costs to each participant according to the IWDS capacities stated in their individual Agreements. Currently, the two participants' shares are 66.7 percent and 33.3 percent of available capacity.

Calculation of Rates

Annually, the Water Resources Department develops the IWDS rates based on historical and forecasted demands and costs with the exception of CAP water usage. This cost is based on the actual rate published annually by CAP and the Central Arizona Groundwater Replenishment District. Total estimated costs are divided by the estimated annual consumption in 1,000 gallon increments to determine the water rates for the coming year.

The purpose of the calculated rates is to cover the cost of service and build a reserve fund for future capital expenditures. Rates consist of monthly and annual components that are detailed in the Agreements. The base, or Tier 1 rate, includes direct costs to operate and maintain the IWDS, replacement and operating reserves, indirect charges consisting of general fund indirect, franchise fees, in-lieu property tax, and a percentage factor for Water Resources administrative costs. The Tier 2 rate includes all of the Tier 1 rate components plus a surcharge for electricity. The Tier 2 rate is charged to golf courses that are farthest north, as it costs more to pump CAP water through the IWDS Trunk Pipeline to them and the recharge wells.

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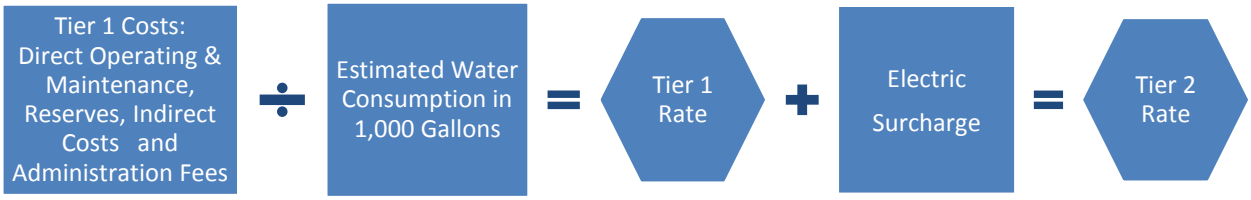
[1] The *IWDS Delivery System* includes the IWDS trunk line and pump stations, raw water pump station pump improvements, and the Water Campus pump station improvements. The *Storage and Recovery Project* is an underground water storage and recovery facility which will include the recharge and recovery wells, well piping, and filtration system.

Figure 2: IWDS Water Rate Process



SOURCE: Auditor analysis of IWDS Water Rate Schedule prepared by Water Resources Department

At year end, the department's Water Resources Analyst reconciles estimated and actual IWDS revenues and costs. Any resulting under- or overcharges are billed or refunded to the participants.

Long-term Water Supply

Under Arizona's Assured Water Supply (AWS) Rules, to begin operating, the City's IWDS had to demonstrate a long-term water supply that would be physically, legally, and continuously available for the next 100 years. In addition to the stored water reserves used to partly satisfy this obligation, the City accepted conveyance of 1,215 acres of farmland within the Harquahala Valley Irrigation District (HVID) from the IWDS participants in 2002. Although the land was acquired to transport groundwater when excess CAP water is not available, the City does not anticipate beginning to transport water for several years and is currently leasing the property as farmland. The annual lease income from the property is $52,500, through December 2010. The City shares with IWDS participants in both the income and expenses for the HVID property. Based on their respective acre-feet of water capacity, the City receives 36.42 percent and the two participants receive 63.58 percent.

Monthly, the IWDS participants are assessed a charge for future construction of the water infrastructure that will eventually be needed to deliver water from the HVID property to IWDS participants. Based on the Agreements, these funds and all accrued interest income are to be used solely for planning, designing and installing the HVID water infrastructure or for acquiring a replacement or supplementary long-term water supply.

In fall 2007, the Arizona Department of Water Resources (ADWR) proposed a modification to the AWS Rules, which, if put into law, could potentially impact the City's future ability to transport groundwater from the HVID property. The City and IWDS participants were involved in informal discussions with the ADWR over the draft rule. In May 2009, the parties were able to resolve the status of the transportation of HVID groundwater in a mutually satisfactory manner. The City was required to demonstrate to the ADWR its financial capability to fund future infrastructure needed to transport groundwater from the HVID property. In return, the City was given first priority for future transportation of water from this property.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of the audit was to determine whether IWDS program costs are recovered through billings to participants. The scope of the audit included current IWDS Pipeline Capacity Agreements, revenues, and expenditures for fiscal year 2008/09, with some analysis of prior years for trends and comparative data.

To accomplish the audit objective, we:

- Compared components of the annual IWDS water rates to the Pipeline Capacity Agreements to determine whether only allowable components were included in the rates.
- Reviewed the rate methodology to determine compliance with the Pipeline Capacity Agreements and whether rates are fairly and accurately recovering costs.
- Compared the monthly charges billed to IWDS participants to the Pipeline Capacity Agreements to determine whether all allowable charges were included in the billings.
- Evaluated the annual settlement process to determine if the process adequately reconciles the rates (revenues) to program costs.
- Examined calculations and supporting documentation for IWDS reserve funds, in-lieu property tax, franchise, and administration fees.
- Interviewed the Water Resources Analyst regarding financial and administrative aspects of the IWDS including the annual rate setting and settlement processes, monthly billings and receipt of funds, document retention, and reporting.
- Interviewed the Water Resources Planning Advisor regarding the future transportation of water from the property located within the Harquahala Valley Irrigation District.

To obtain an understanding of the IWDS and its history, we also performed the following:

- Reviewed Agreement No. 960047A for cost sharing, development, and transfer of property and rights, related to the IWDS construction.
- Reviewed IWDS Pipeline Capacity Agreements No. 2002-065-COS and No. 2002-066-COS.
- Reviewed the Member Service Area Agreement No. 200-199-COS, and Water Availability Status Contract No. 2000-200-COS between the City and Central Arizona Water Conservation District.
- Reviewed Lease Agreement No. 2006-012-COS for the City property located within the Harquahala Valley Irrigation District.
- Reviewed prior City Auditor's Report No. 0030, *Reclaimed Water Distribution System Rates*.

Based on these audit procedures, the Water Resources Department has systems in place to provide reasonable assurance that IWDS rates are recovering costs as intended. Procedures have been formalized that provide guidance for the rate setting and year-end

settlement processes, and expenditure and revenue documentation is retained. Test results indicate that rate setting and year-end settlement files include supporting documentation for calculations and methodologies used. Further, the Enterprise Finance Director reviews the year-end calculations for reasonableness. Any under- or overcharges resulting at year-end are corrected through a billing or refund to the participants. In addition, reserve funds have been maintained in accordance with the Pipeline Capacity Agreements. However, the audit did note two areas for improvement.

First, since July 2006, the in-lieu property tax percentage that the City's Financial Management Division applied to the IWDS Fund, and all enterprise funds, has been higher than the percentage established in state statute. As a result, this is an issue that should be addressed for all City enterprise funds as well as the IWDS Fund.

In addition, since early 2006, the IWDS has not accrued the required operational reserve water credits or the minimum volume of statutory reserve water credits as stipulated in the City's agreement with the Central Arizona Water Conservation District (CAWCD). Accordingly, IWDS participants have not been billed for the operational storage charge specified in their Agreements. However, participants have consistently been billed for the statutory long-term storage reserve requirement. The Water Resources Department is in the process of resolving the reserve credit issues with the CAWCD and IWDS participants.

We conducted this audit in accordance with generally accepted government auditing standards as required by Article III, Scottsdale Revised Code, Section 2-117, et seq. Generally accepted government auditing standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our observations and conclusions based on our audit objectives. Audit work took place from August 2009 through October 2009, with Joyce Gilbride conducting the work.

FINDINGS AND ANALYSIS

1. The in-lieu property tax percentage applied to the IWDS Fund, as well as all City enterprise funds, is higher than established in state statute.

The Financial Management Division overcharged the IWDS Fund approximately $7,000 and all other enterprise funds approximately $368,000 due to not applying the correct statutory rate for in-lieu property taxes. The City's enterprise funds include such business-type operations as water and sewer (including IWDS), solid waste, and aviation.

City-owned property is exempt from paying property taxes that are assessed against individual and business-owned properties. As enterprise operations are expected to cover all their related costs as a private business would, the City's practice is to charge its enterprise funds an in-lieu property tax. This charge represents the property taxes each enterprise operation would pay if it were not a City service.[2]

Since July 2006, the Financial Management Division did not adjust its in-lieu property tax calculation to use the applicable percentage established in Arizona Revised Statute (ARS) §42-15001.[3] While the statutory rate declined from 25 percent for calendar year 2005 to the current rate of 22 percent, the division continued charging 25 percent to City enterprise funds.

As a result, City enterprise funds paid approximately $375,000 more than necessary for the period of July 2006 through June 2009. These overcharges possibly impacted the user fees set by the enterprise operations. Although individually, the effect on rates is likely minimal, the cumulative effect over several years can be significant. For example, if the in-lieu property tax rate is not corrected for fiscal year 2009/10, enterprise funds could be overcharged an additional $282,000 this year.

Recommendation: The Water Resources Department should confirm that the in-lieu property tax amount charged to the IWDS Fund is correct prior to calculating IWDS participant rates. Further, the department should adjust the amounts charged to IWDS participants since July 2006.

Annually, the Financial Management Division should review ARS §42-15001 for any changes to determine the proper assessed valuation percentage to use in calculating in-lieu property taxes. In addition, the Financial Management Division should recalculate and adjust the in-lieu property tax charges made to all enterprise funds since July 2006.

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[2] ARS §42-12001 defines Class One property, which lists water, sewer, and wastewater utility companies and airport fuel delivery companies and properties used for 'any other commercial or industrial use, other than property that is specifically included in another class…'

[3] ARS 42-15001 specifies the percentage of a Class One property's assessed valuation that is used in calculating its property taxes.

2. The City has not complied with two provisions of its IWDS water reserve agreement with the Central Arizona Water Conservation District.

The City has a water reserve agreement with the Central Arizona Water Conservation District (CAWCD) for the IWDS to store water sufficient to meet Arizona's Assured Water Supply (AWS) Rules. Under the AWS Rules, the City had to demonstrate that a 100-year assured water supply is available to serve the IWDS. The related long-term storage facilities are located within the Carefree Basin Aquifer.

In its agreement with the CAWCD, the City is required to accrue two types of stored water credits at the Carefree Basin Aquifer, to be used during times of insufficient water supply from the CAP canal.

> The *Operational Reserve Credit* required a total of 3,460 acre-feet of water to be accrued by December 31, 2007. The City obtained a written agreement extending this requirement from 2007 to 2012. To date, the City has not accrued any of the required *Operational Reserve Credits*, and accordingly IWDS participants have not been charged for this cost.
>
> The second, a *Statutory Reserve Credit*, requires the delivery of at least 1,138 acre-feet of water to the Carefree Basin Aquifer to accrue 1,082 acre-feet of *Statutory Reserve Credits* each year. In 2007, the City deposited 96 acre-feet less than the 1,082 acre-feet storage requirement, and 145-acre feet less in 2008.

According to the Water Resources Executive Director, the hydrogeologic subsurface[4] conditions of the Carefree Basin Aquifer have made it difficult to store sufficient water to meet the two CAWCD reserve requirements. Although no monetary penalties are assessed for failure to accrue the credits, the City is required by its CAWCD agreement to meet and discuss the reasons for not meeting the reserve requirements. In early 2006, the Water Resources Department realized the 2007 *Operational Reserve Credit* deadline would not be met, addressed this with the CAWCD, and obtained an extension. Currently, the Water Resources Department is working with IWDS participants and the CAWCD to analyze the challenges and potential remedies for increasing recharge capabilities sufficiently to meet both credits. Some modifications have been identified and implemented, such as restoring a non-working well, installing a particle size filter at the facility's filter plant, and testing a 5-micron filter cloth. While these improvements will help ensure the City's ability to meet the Statutory Reserve requirement, the subsurface limitations will require an additional extension to address the Operational Reserve. Therefore, the department is working with IWDS participants and the CAWCD to develop a revised plan for achieving compliance with both reserve credits.

Recommendation: As these reserves have not been met since 2006, the Water Resources Department should expedite the plan with the IWDS participants for addressing these shortfalls. Further, the department should obtain written agreement from the CAWCD regarding the alternative plan, such as an amendment to the original agreement.

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[4] Hydrogeologic subsurface conditions relate to the distribution and movement of groundwater in the soil and rocks below the surface.

MANAGEMENT RESPONSE

Water Resources Department
Interoffice Memorandum

Date: November 5, 2009

To: Sharron E. Walker, City Auditor

From: Marshall P. Brown, Water Resources Executive Director

Re: RESPONSE TO CITY AUDIT REPORT NO. 1003

We appreciate the work performed by Joyce Gilbride in completing the Irrigation Water Distribution System Audit No. 1003. Attached is our written response to the observations set forth by your staff, which includes our response and timeline for implementation.

We further appreciate the opportunity to collaborate with your office as adherence to contractual obligations is a top priority for our department.

Attachment: Action Plan

c: David Ellison, Acting City Manager
David Smith, Interim City Treasurer
Joyce Gilbride, Assistant City Auditor
John Ralston, Enterprise Finance Director

Office of the City Treasurer, Division of Finance and Accounting
Interoffice Memorandum

Date: November 5, 2009

To: Sharron E. Walker, City Auditor

From: Scott McCarty, Financial Management Executive Director and
David Smith, Interim City Treasurer

Re: RESPONSE TO CITY AUDIT REPORT NO. 1003

This memorandum constitutes our Management Response for the Division of Finance and Accounting on the City Auditor's Office Audit Report No. 1003 on the "Irrigation Water Distribution System".

We would like to express appreciation for the professional and diligent manner in which the preparation of the above referenced audit and report was conducted. The resulting analysis will provide the Division of Finance and Accounting the opportunity to clarify and improve the in-lieu property tax assessment calculation.

We are in agreement with the Findings provided for in the Audit Report. In the attached Response, we have detailed actions that will be undertaken to resolve the issues identified in the report.

In closing, we appreciate the opportunity to have the City's in-lieu property tax practice reviewed, and we are dedicated to resolving the in-lieu property tax calculation issues after obtaining policy direction from the City Council.
Attachment: Action Plan

c: David Ellison, Acting City Manager
Marshall P. Brown, Water Resources Executive Director
Joyce Gilbride, Assistant City Auditor
John Ralston, Enterprise Finance Director

ACTION PLAN

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1. The in-lieu property tax percentage applied to the IWDS Fund, as well as all City enterprise funds, is higher than established in state statute.

MANAGEMENT RESPONSE: **The Water Resources Department** concurs with the recommendations to confirm that the in-lieu property tax amount charged to the IWDS Fund is correct prior to calculating IWDS participant rates and will adjust amounts previously charged to IWDS participants once final adjustment amounts are provided by the Division of Finance and Accounting.

PROPOSED RESOLUTION: Historically, the Financial Services Department has calculated the annual in-lieu property tax assessments that are charged to the IWDS Fund and other enterprise funds. As provided by the IWDS Pipeline Capacity Agreement, the Water Resources Department includes the in-lieu property taxes assessed to the IWDS Fund by the Financial Services Department in the rates charged to the users. As recommended, the Water Resources Department will review the in-lieu property tax calculation and verify that the amount charged to the IWDS Fund is correct prior to calculating the IWDS user rates. This review and verification will be incorporated into the written procedures for calculating the IWDS participant rates. Any concerns or questions regarding the in-lieu property tax calculation will be referred to the Division of Finance and Accounting for appropriate resolution. Any resulting adjustments to the in-lieu property tax assessment provided by the Division of Finance and Accounting will be incorporated into the IWDS rates.

RESPONSIBLE PARTY: The Water Resources Department will enhance the written procedures to include the verification of the in-lieu property tax calculation and assessment to ensure that the amount charged to IWDS is correct.

COMPLETED BY: The Water Resources Department enhanced the written procedures on November 5. 2009 to include the verification of the in-lieu property tax calculation and will use these procedures to calculate future IWDS rates

MANAGEMENT RESPONSE: **The Division of Finance and Accounting** concurs with this finding.

PROPOSED RESOLUTION: The Division of Finance and Accounting concurs that an annual review of ARS §42-15001 is necessary to identify the proper assessed valuation percentage to be used in the calculation of the in-lieu property tax assessments. The calculations beginning in fiscal year 2006/07 should have been adjusted to reflect the declining assessed valuation percentages established pursuant to ARS §42-15001 and this procedural error must be corrected. However, other factors (i.e. the determination of full cash value and limited property value) involved in the calculation of the in-lieu property tax assessments should also be reevaluated before final adjustments are adopted. The Division of Finance and Accounting recommends that a thorough analysis be conducted in order to develop options and recommendations to be presented to the City Council for a policy decision regarding the assessment of in-lieu property taxes.

RESPONSIBLE PARTY: Division of Finance and Accounting.

COMPLETED BY: The Division of Finance and Accounting will present options and recommendations to the City Council for a policy decision by January 31, 2010 and follow up accordingly with any necessary adjustments to the in-lieu property tax assessments.

2. The City has not complied with two provisions of its IWDS water reserve agreement with the Central Arizona Water Conservation District.

MANAGEMENT RESPONSE: Management concurs with this finding. Water Resources staff notified the IWDS participants of recharge capacity issues limiting the City's ability to comply with reserve requirements in 2005. Additionally, Water Resources initiated discussions with Central Arizona Water Conservation District (CAWCD) staff on November 10, 2005 regarding recharge limitations and the inability of the facility to comply with reserve requirements. From 2006 through 2009, the City has been coordinating with the IWDS participants on their installation of additional improvements (including permitting and outfitting two deep aquifer storage and recovery wells) to facilitate reserve capacity requirements. The City has also been continuing discussions with CAWCD staff to formulate a plan that would provide an opportunity for reserve requirements to be met in spite of geologic limitations. On August 25, 2009, the City presented a conceptual recharge plan to CAWCD that would result in full reserve volumes being recharged through utilization of the new infrastructure and an extension of the operational reserve deadline until 2019. Discussions with CAWCD staff indicate that the plan is acceptable and that an amendment to the original agreement is likely not required. Therefore, the plan has been formally submitted, and a written approval confirming the acceptability of the plan has been requested.

PROPOSED RESOLUTION: A written response from CAWCD staff indicating the acceptability of the City's proposed plan for achieving compliance with both reserve requirements will be obtained.

RESPONSIBLE PARTY: The Water Resources Department will be responsible for obtaining a written response from CAWCD.

COMPLETED BY: June 30, 2010

City Auditor's Office
4021 N. 75th St., Suite 105
Scottsdale, Arizona 85251
(480) 312-7756
http://www.ScottsdaleAZ.gov
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