FINAL AGENDA

Times shown are approximate. Some items may take more or less time than scheduled, or the Chair may grant requests to hear items in an order other than shown.

1. Consideration of Action to Approve the Minutes of the August 15, 2019 CAGRD and Underground Storage Committee - Megdal (12:30)
2. Report on 2019 Q2 Member Land and Member Service Area Enrollment and Activation Activity (Replenishment: CAGRD Management and Oversight) - Fox (12:35)
4. Update on CAGRD Conservation Program Development - Fox (1:05)
5. Report on Annual CAGRD Water Provider Audit Results - Fox (1:15)
6. Discussion of Recovery Agreements Related to the Ag Pool Groundwater Infrastructure and Efficiency Program - Seasholes (1:30)
7. Future Agenda Items (1:40)
8. Public Comment (1:45)
9. Adjourn

^ Linkage to 2016 CAWCD Board of Directors Strategic Plan.
A meeting of the Central Arizona Groundwater Replenishment District ("CAGRD") and Underground Storage Committee ("Committee") of the Central Arizona Water Conservation District’s ("CAP" or "CAWCD") Board of Directors was called to order by Chairperson Megdal on 8/15/2019 at 12:30 p.m. The meeting was held at the Central Arizona Project, 23636 North Seventh Street, Phoenix, Arizona, in the Board Room.

Committee Members present were: Chair Sharon Megdal, Pima County; Karen Cesare, Pima County; Jim Hartdegen, Pinal County; Pat Jacobs, Pima County; Heather Macre, Maricopa County (via teleconference); and Jennifer Martin, Maricopa County.

Staff members present were: Ted Cooke, General Manager; Jay Johnson, General Counsel; Suzanne Ticknor, Assistant General Manager, Water Policy and External Affairs; Bridget Schwartz-Manock, Director of Public Affairs; Laura Grignano, CAGRD Manager, Doug Dunlap, Finance and Accounting Manager; Ken Seasholes, Resource Planning and Analysis Manager; Chris Brooks, Senior Water Resources Analyst; Andrew Craddock, Planning Analyst III; Megan Casey, Public Affairs Management Analyst, Jenn Miller, Board Support Specialist; and Nelle Carlsmith, CAGRD Specialist.

1. **CONSIDERATION OF ACTION TO APPROVE THE MINUTES OF THE JUNE 20, 2019 CAGRD AND UNDERGROUND STORAGE COMMITTEE - MEGDAL**

On a motion (Board Member Jacobs) and a second (Board Member Hartdegen), approved the minutes of the June 20, 2019 meeting. Motion passed.

*Voting yes: Sharon B. Megdal, Karen Cesare, Jim Hartdegen, Pat Jacobs, Heather A. Macre, Jennifer Martin*

2. **REPORT ON EXTERNAL FINANCING FOR WATER ACQUISITION APPROVED BY THE BOARD BETWEEN CAWCD, GILA RIVER INDIAN COMMUNITY AND GILA RIVER WATER STORAGE LLC - DUNLAP**

Doug Dunlap, Finance and Accounting, gave the Committee an update on the status of the Board-approved external financing of $20 million dollars for the final payment of the GRIC/GRWS long-term storage credit acquisition. Mr. Dunlap reported that, earlier this summer, CAWCD sent a request for proposal to six financial institutions for financing options, which resulted in three responses. Based on the results, CAWCD selected BBVA, formerly Compass Bank, and entered into a five-year agreement on July 24, 2019. With this loan, the final payment to GRIC/GRWS was made on August 1. The interest rate for the financing was 2.45%, which is better than staff expected. The final payment for the loan is due on January 1, 2025, with the option of paying the loan off without penalty within 3 years.
3. **REPORT ON CAGRD MID-PLAN REVIEW: WATER SUPPLIES UPDATE AND REPLENISHMENT RESERVE (REPLENISHMENT: CAGRD MANAGEMENT AND OVERSIGHT*) - BROOKS/CRADDOCK**

Chris Brooks, CAGRD, presented an update on CAGRD water supplies, how those supplies will be used to meet projected replenishment obligations, and a preliminary evaluation of CAGRD’s need to acquire additional supplies. He reported that the near-term supply outlook is positive with ample wet water supplies with the GRIC lease and exchange with no projected reliance on Excess Water. He added that future supply acquisitions would be needed to hedge drought risk to CAP NIA supplies and to meet longer-term obligations and Replenishment Reserve Targets.

Andrew Craddock spoke in detail about the Replenishment Reserve (RR). He explained that in times of water supply shortage, CAGRD could use the RR credits to ensure the ability to meet annual replenishment obligation, provide rate stability for its members, minimize water supply competition with municipal water providers, and improve short-term supply reliability. He reported that CAGRD was making reasonable progress towards meeting the RR Targets outlined in the Plan of Operation.

3.a. **REPORT ON WATER MARKET TRENDS - HARRY SEELY, WESTWATER RESEARCH, LLC**

Harry Seely, WestWater Research, presented to the Committee on five active and evolving markets relevant to CAWCD that include: Long Term Storage Credits (LTSCs), CAP Tribal Leases, Colorado River Entitlements, Extinguishment Credits, and Type 2 Grandfathered Groundwater Rights. He reported that the Phoenix AMA is the most active AMA for LTSCs transactions and prices per AF continue to rise. CAGRD has received favorable pricing due factors including 1) large buyer with scale, 2) financial capabilities, 3) legacy contracts, and 4) a disciplined water supply program. He explained that there is an active market for CAP Tribal Leases, both short term leases and long term leases. Short term leases are between 1 and 5 years and are more common than long term leases. Long term lease prices continue to rise. He reported there is a continued interest in transfers of Colorado River Entitlements to Central Arizona, however, these have been politically challenging and contain regulatory uncertainty. CAGRD has not participated in the Extinguishment Credits (EC) market. ECs provide the owner with 1 AF of groundwater consistent with the management Goals of the AMA. Some buyers of EC are seeking to reduce CAGRD obligation. He noted that CAGRD has not participated in the Type 2 Grandfathered Groundwater Rights markets.

4. **REPORT ON THE 2016/2017 CAGRD OPERATIONAL CHALLENGES LIST (REPLENISHMENT: CAGRD MANAGEMENT AND OVERSIGHT*) - GRIGNANO**

Laura Grignano brought back to the Committee for discussion the CAGRD Operational Challenges list of issues that staff developed and presented to the committee in late 2016, and in February 2017. The issues are categorized under the topics of rate structure, replenishment reserve, annual reports, annual membership dues, Category II Lands, unpaid assessments, drought exemption, and the water conservation program. From a staff resourcing perspective, she explained it would be beneficial to wait until after the Mid-Plan Review progress was complete. Ms. Grignano noted that, to fix or make changes to some of the issues on the list, may require statutory changes. The Committee asked staff to prioritize the issues and add a comment column on the table next to an issue indicating if there has been an update since the issue was last discussed. For example, Ms. Grignano reported that there have been
improvements made to the annual reporting process to assist Member Land water providers in completing their reports. Staff has provided a tutorial online, on how to fill out the annual reports, and created an online tool that helps the water providers crosscheck the accuracy of the reporting data. She noted that staff has seen more accurate annual reporting data submitted by Member Land Water Providers due to these tools.

5. **DISCUSSION PURSUANT TO BOARD MEMBER AGENDA ITEM REQUEST REGARDING THE RELATIONSHIP BETWEEN CAGRD ENROLLMENT OBLIGATION AND AVAILABLE CAGRD WATER SUPPLIES - MEGDAL**

Committee Chair Megdal invited Board Member Martin to restate her request for a Board discussion on the topic of CAGRD’s enabling legislation regarding enrollment and water supplies. Board Member Martin summarized her concerns that she has regarding the legislation that created CAGRD, noting that the CAGRD is required to enroll any applicants that have met the criteria with ADWR. Board Member Martin expressed concerned that there is no language in statute that acknowledges the availability of water. Board Member Macre commented that the Committee needs to proceed with extreme caution and take their time in these types of discussions. Chair Megdal noted that she looked forward to broader discussions regarding the relationship between CAGRD enrollment and obligation and available CAGRD water supplies. Ms. Grignano shared with the Committee that the CAGRD enabling legislation requires the Director of ADWR to consider the availability of water supplies to meet projected replenishment obligations through the review and approval of the CAGRD Plan of Operation. Chair Megdal ended the discussion by stressing the importance of educating the Legislature on current CAGRD statutes.

6. **REPORT ON CAWCD PARTICIPATION IN CAP AG POOL GROUNDWATER INFRASTRUCTURE AND EFFICIENCY PROGRAM - SEASHOLES**

Ken Seasholes, Resource Planning and Analysist Manager, provided an update on the Ag Pool Groundwater Infrastructure and Efficiency Program. He reported on two potential impediments to moving forward with recovery agreements with the Pinal County Ag Districts: 1) the potential inability to include CAWCD’s funds as part of the non-Federal match for the proposed $25 million dollar grant from the USDA’s Resource Conservation Partnership Program (RCPP), and 2) the water quality issue raised by the Ak-Chin Community. Mr. Seasholes indicated that given the uncertainty of the RCPP process, the Ag Districts prefer moving forward with agreements even if some of the non-Federal match is lost. With respect to the Ak-Chin issue, Mr. Seasholes indicated that Board President Atkins sent a letter to Chairman Miguel recognizing the importance of the water quality issue to the Community, while also expressing CAWCD’s desire to fulfill our commitments to Ag infrastructure under DCP. He noted the letter requests a meeting so CAP can begin to explore some potential solutions.

7. **REPORT ON 2019 Q2 MEMBER LAND AND MEMBER SERVICE AREA ENROLLMENT AND ACTIVATION ACTIVITY (REPLENISHMENT: CAGRD MANAGEMENT AND OVERSIGHT) - FOX**

Due to time constraints, this topic was postponed until next month.
8. **REPORT ON THE HISTORY OF MINIMUM REPORTING REQUIREMENTS FOR CAGRD MEMBER LANDS - GRIGNANO**
   Due to time constraints, this topic was not covered.

9. **FUTURE AGENDA ITEMS**
   Chair Megdal shared the items that are anticipated to be on the September 26 CAGRD Committee agenda, including a report on the Mid-Plan Review relating to financial capability, a report on Conservation Program Development, Member Land Water Provider Audit, and a report on 2019 2nd Quarter Member Land and Member Service Area Enrollment and Activation Activity.

10. **PUBLIC COMMENT**
    No public comment.

11. **ADJOURN**
    There being no further business to come before the Committee, the meeting adjourned at 2:32 p.m.

___________________________
Sharon B. Megdal
Chair
Report on 2019 Q2 Member Land and Member Service Area Enrollment and Activation Activity
September 26, 2019

Jessica Fox
Sr. Policy Analyst

Member Land Enrollment
Member Land Enrollment

Total Enrolled Lots, 1995-2019

Enrolled Lots by AMA, 2010-2019

Member Land Enrollment
Compared to Plan Projection

West Phoenix AMA    East Phoenix AMA   Pinal AMA   Tucson AMA   Plan Projection

Lot's

Lots
Activation Units

Enrollment & Activations
through June 30, 2019

YTD 2019

<table>
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<tr>
<th></th>
<th>Phoenix AMA</th>
<th>Pinal AMA</th>
<th>Tucson AMA</th>
<th>Total</th>
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<tr>
<td>Enrollment (ML Lots)</td>
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<td>3,963</td>
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<td>Activation (ML &amp; MSA Lots)</td>
<td>9,387</td>
<td>620</td>
<td>1,549</td>
<td>11,556</td>
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Table 1: YTD 2019 Enrollment Units

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<th>AMA</th>
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<th>Projected Demand (AF/yr)</th>
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<td>East Phoenix</td>
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<td>TOTAL</td>
<td>3,963</td>
<td>2,996</td>
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Table 2: YTD 2019 Activation Units

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<th>MSA Lots</th>
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<td>Phoenix</td>
<td>5,723</td>
<td>3,664</td>
<td>9,387</td>
</tr>
<tr>
<td>Pinal</td>
<td>11</td>
<td>609</td>
<td>620</td>
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<tr>
<td>Tucson</td>
<td>316</td>
<td>1,233</td>
<td>1,549</td>
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<td>TOTAL</td>
<td>6,050</td>
<td>5,506</td>
<td>11,556</td>
</tr>
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</table>
2019 YTD Enrollment

An individual subdivision enrolls as a Member Land (ML) of CAGRD when: (1) its owner executes and records an irrevocable declaration of covenants, conditions and restrictions (“ML Declaration”) running with the land that includes the land in CAGRD and subjects it to the replenishment assessment; and (2) the owner and the municipal provider that will supply water to the subdivision execute and record an agreement (“ML Agreement”) under which the water provider agrees to submit the water delivery information necessary to calculate the replenishment assessment for each parcel of land annually to CAGRD. Individual parcels within a CAGRD ML are categorized as Category 1 MLs or Category 2 MLs. Category 2 MLs are those parcels that are part of a golf course and that choose not to participate in CAGRD’s replenishment reserve program. Category 1 MLs are all ML parcels that do not qualify as Category 2 MLs.

Figure 1 illustrates the recent history of CAGRD member land enrollment from 2010 through Q2 2019. Table 1 provides a breakdown by AMA of member land enrollment activity during the first half of 2019. So far, all 2019 ML enrollment occurred in the Phoenix AMA, primarily in the East Valley, and was comprised of 17 subdivisions with 3,963 lots whose projected obligation totaled 2,996 AF/year. The East Valley encompassed 74% of new membership (2,918 lots) with a projected annual obligation of 1,883 AF/year associated with the new enrollment. The West Valley encompassed 26% of new membership (1,045 lots) with a projected annual obligation of 1,083 AF/year. No new subdivisions have enrolled in 2019 within the Pinal or Tucson AMAs.

One Member Land subdivision that enrolled in the first half of 2019 included Category 2 golf course parcels (Victory at Verrado). The ML subdivision is part of an 18-hole golf course located in the West Valley of the Phoenix AMA, served by EPCOR. It is expected to be delivered only effluent by 2026.

No new Member Service Areas (MSAs) enrolled in the first half of 2019, and there were no ML de-enrollments.

2019 YTD Activation

The Arizona Department of Real Estate issues a public report allowing the sale of lots within subdivisions. Prior to this report being issued for subdivisions within CAGRD MLs and MSAs, an Activation Fee must be paid to CAGRD per residential unit offered for sale. Figure 2 shows the recent history of activation lots in Member Lands and Member Service Areas by AMA. MSA lots are represented with crosshatching while ML lots are solid colors by AMA. Through Q2 2019, the number of lots activated totaled 11,556 (Member Land lots = 6,050; Member Service Area lots = 5,506). Table 2 provides a breakdown by AMA of previously enrolled lots that were activated in the first half of 2019.
<table>
<thead>
<tr>
<th>Member Land Name</th>
<th>CAGRD #</th>
<th>County</th>
<th>AMA</th>
<th>Member Date</th>
<th>Lots</th>
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<td>Encanta</td>
<td>017-14-1366</td>
<td>Maricopa</td>
<td>Phoenix - West</td>
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<td>Marbella Ranch Parcel 4</td>
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<td>Verrado Marketside District Residential Phase-3</td>
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<td>Victory at Verrado-Phase 5 w/Golf Course</td>
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<td>Northern Farms</td>
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<td>Barney Farms</td>
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<td><strong>TOTAL</strong></td>
<td><strong>3,963</strong></td>
<td></td>
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Denotes ML with Category 2 Parcels
Agenda Number 3.

CONTACT: Doug Dunlap  
623-869-2360  
ddunlap@cap-az.com

MEETING DATE: Thursday, September 26, 2019


LINKAGE TO STRATEGIC PLAN, POLICY, STATUTE OR GUIDING PRINCIPLE: 
Replenishment: CAGRD Management and Oversight

PREVIOUS BOARD ACTION/ACTIVITY: 
None

ISSUE SUMMARY/DESCRIPTION: 
As part of the Mid-Plan review of the CAGRD 2015 Plan of Operations, staff are evaluating the financial capability of the CAGRD.

CAGRD have 4 major categories of funds:

- Administrative
- Water & Replenishment
- Replenishment Reserve
- Infrastructure & Water Rights

The Administrative and Water & Replenishment funds are collected on a "pay as you go" basis. Rates and fees are set to collect what is needed for each year. The Replenishment Reserve rates and fees are set to collect the amount needed to purchase long term storage credits to continue on a path toward the replenishment goal. Infrastructure & Water Rights rates and fees are based on the projected needs to develop infrastructure necessary to perform its replenishment obligations.

Overall, CAGRD is well-positioned financially to meet its obligations.

ATTACHMENTS:
1. Financial Capability Presentation
Report on CAGRD Mid-Plan Review:
Financial Capability
CAGRD & Underground Storage Committee
September 26, 2019
Doug Dunlap
Finance & Accounting Manager

CAGRD Revenue Stream

- **Enrollment Fees**
  - MSAs
  - MLs
  Paid with enrollment

- **Activation Fees**
  - MSAs & MLs
  Paid prior to sale of home

- **Repl. Reserve Fees**
  - MSAs & MLs
  Used to pay the cost to acquire rights to water and develop infrastructure necessary for CAGRD to perform its replenishment obligations

- **Rates (MSAs & MLs)**
  - Admin
  - Water & Repl.
  - Infr. & Water Rights
  - Repl. Reserve
  Paid annually based on excess groundwater use

- **Membership Dues**
  - MSAs
  - MLs
  To be paid annually regardless of groundwater use

**CAGRD Revenue Stream**

- **ADMIN.**
  Used to pay the administrative costs of CAGRD (including salaries, benefits, overhead, equipment, special services, implementation of CAGRD conservation program)

- **WATER & REPL.**
  Used to pay the annual cost to deliver and replenish water to meet annual replenishment obligations

- **INFR. & WATER RIGHTS**
  Used to pay the cost to acquire rights to water and develop infrastructure necessary for CAGRD to perform its replenishment obligations

- **REPL. RESERVE**
  Used to pay the cost of establishing and maintaining a replenishment reserve of long-term storage credits
Administrative

- Administrative costs including salaries and related employee expenses, computer services, technical studies, legal costs, materials & supplies and overhead (support costs from CAWCD)
  - Excludes I&WR staff, consultants, studies, legal, etc. costs

Funded by:
- Enrollment Fees
- Administrative Rate Component

Financial Profile:
2019-2024 annual expenditure is approximately $800,000 - $900,000
Annual collections ≈ Annual spend

Water & Replenishment

- Revenues cover costs of meeting annual replenishment obligation
  - Estimated on the cost to replenish the water over the next 1-3 years

Funded by:
- Water & Replenishment Rate Component

Financial Profile:
Rates are revised annually, if needed, to address changes in mix of supplies to satisfy obligation
Annual collections ≈ Next year’s annual spend
Replenishment Reserve

- Revenues cover costs of acquiring or developing long-term storage credits for the Replenishment Reserve
  - CAWCD has dedicated approximately 540 KAF LTSC available to the Replenishment Reserve

Funded by:
- Replenishment Reserve Charge -collected over first 23 years of water use
- Replenishment Reserve Fee

Financial Profile:
- Rates are revised annually, if needed, to address changes in mix of supplies to satisfy reserve increase requirement
- Annual collections ≈ Annual spend

09/26/19 Report on CAGRD Mid-Plan Review: Financial Capability

Infrastructure & Water Rights

- Revenues cover costs of acquiring water supplies and developing infrastructure to meet replenishment obligation, including salaries and related costs, outside services and technical studies

Funded by:
- Enrollment Fees
- Activation Fees
- Infrastructure & Water Rights Rate Component
- Annual Membership Dues

Financial Profile:
- More complex than other reserves

09/26/19 Report on CAGRD Mid-Plan Review: Financial Capability
### Infrastructure and Water Rights Reserve

#### Summary Overview

- **CAGRD maintains reserve funds for each revenue use**
- **Administrative costs and Water & Replenishment costs are “pay as you go” expenditures**
- **Based on its current assets and projected revenues, CAGRD is well suited to meet its statutory obligation through the Plan of Operation**
- **Alternative rate structures will be evaluated that are equitable and based on the member’s reliance on the CAGRD**
- **Rates will be established to ensure CAGRD’s financial ability to achieve its responsibilities**

#### (Millions)

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<th></th>
<th>2019</th>
<th>2020</th>
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<td>Interest Income</td>
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<td>(103.1)</td>
<td>(15.0)</td>
<td>(7.5)</td>
<td>(4.3)</td>
<td>(11.6)</td>
<td>(11.9)</td>
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<tr>
<td>Acquisition Costs*</td>
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<td>(7.7)</td>
<td>(7.7)</td>
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<tr>
<td>Admin Costs</td>
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<td>(0.9)</td>
<td>(1.3)</td>
<td>(1.4)</td>
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<td>Debt Service</td>
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<td><strong>Total Outflows</strong></td>
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<td><strong>ENDING BALANCE</strong></td>
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<td>LTSC Inventory Balance (KAF)</td>
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<td>948</td>
<td>853</td>
<td>941</td>
<td>858</td>
<td>884</td>
</tr>
</tbody>
</table>

*starting in 2021 CAGRD pays $7.7M per year for the NIA reallocation
Agenda Number 4.

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MEETING DATE: Thursday, September 26, 2019

AGENDA ITEM: Update on CAGRD Conservation Program Development - Fox

LINKAGE TO STRATEGIC PLAN, POLICY, STATUTE OR GUIDING PRINCIPLE:
- 2016 CAWCD Strategic Plan
- Replenishment: Water Supply

PREVIOUS BOARD ACTION/ACTIVITY:
- May 16, 2019 Report on CAGRD Conservation Plan Development Process
- June 20, 2019 Report on Next Steps for CAGRD Conservation Project

ISSUE SUMMARY/DESCRIPTION:
At the June 2019 Committee meeting, staff gave an update on plans to release an RFP for CAGRD Member Land Water Demand Analysis work. The RFP was subsequently issued in July, with proposals accepted through August 8, 2019. CAGRD received proposals from four qualified firms in response to the RFP.

After thoroughly consulting with a four-member proposal review team, and in coordination with staff from CAP Purchasing, CAGRD entered into a 6-month contract with Gary Woodard Water Resources Consulting to analyze and evaluate CAGRD member land water demand to identify and target water conservation opportunities. Gary Woodard brings over 35 years of experience analyzing all aspects of municipal water demand, with an emphasis on residential demand in Arizona's metropolitan areas. His project team specializes in municipal demand modeling and forecasting, as well as in water conservation and water use efficiency. The results of this project will allow conservation efforts to be based on an in-depth and detailed understanding of member property characteristics and how they impact water demand. The project also calls for developing prioritized recommendations of specific conservation measures that target identified classes of member lands.

The project kick-off meeting was held in late August. The project is scoped to be complete by February 2020. Staff will continue to update the Committee on the project in the coming months.

ATTACHMENTS:
None
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MEETING DATE: Thursday, September 26, 2019

AGENDA ITEM: Report on Annual CAGRD Water Provider Audit Results - Fox

LINKAGE TO STRATEGIC PLAN, POLICY, STATUTE OR GUIDING PRINCIPLE:
2016 CAWCD Strategic Plan:
Replenishment: CAGRD Management and Oversight

PREVIOUS BOARD ACTION/ACTIVITY:
None

ISSUE SUMMARY/DESCRIPTION:
In September 2019, a report was issued to communicate the results of a departmental audit of three CAGRD member land water provider annual reports and related CAGRD quality control functions used to assess the reliability of such reports. No issues were found in the reports of the three providers, which included Beardsley Water Company, Tierra Buena Water Company, and Valley Utilities Water Company. The final report is attached.

ATTACHMENTS:
1. Audit Results Presentation
2. 2019 CAGRD Final Audit Report
CAGRD Water Provider Reports

Background

- Annual reports due from member land water providers each year on or before March 31
- Total water and groundwater deliveries provided by parcel number and ML subdivision
- Reported information used to develop assessments on property owners
- CAGRD staff analyze trends, view aerial photos and conduct other analysis to assess the accuracy of reported water deliveries
- Questionable information is referred back to the water provider for confirmation or correction
CAGRD Water Provider Report Audit

Objective & Scope:

- Evaluate the accuracy and completeness of data reported in the 2018 Reports of Water Deliveries submitted by:
  - Beardsley Water Company
  - Tierra Buena Water Company
  - Valley Utilities Water Company

- Assess CAGRD progress in automating portions of the analytical process used to gauge the reasonableness of water provider data

- CAGRD assisted the Internal Auditor last year, but assumed these audit responsibilities this year
Audit Results

Beardsley Water Company – No Errors

Audit Results

Tierra Buena Water Company – No Errors
Audit Results

Valley Utilities Water Company – No Errors

Enhancements to CAGRD Annual Reporting Workbooks

CAGRD has made significant progress in automating their process of analyzing the reasonableness of reported water deliveries.

• Excel spreadsheet now includes automated analysis of three year trends
  • Upfront variance calculations allow for immediate review of questionable data by water provider

• Enhancements have reduced QA/QC time and resulted in significantly fewer reported data discrepancies

• Report recommends future improvements to tracking and versioning annual report submittals
Questions?
Central Arizona Groundwater Replenishment District

Annual Departmental Audit of Water Providers Serving Member Lands

September 26, 2019
Executive Summary

It has been standard practice for CAWCD’s Internal Auditor Manager to annually audit a select few water providers that serve CAGRD member lands. The purpose of the audit is to determine the accuracy of the water delivery data being reported to CAGRD, as this data forms the basis for CAGRD’s replenishment obligations and the annual CAGRD tax parcel assessments levied by the county assessors. Last year, the Internal Auditor determined, because this audit was conducted annually, it was a responsibility of CAGRD. This year, for the first time, the audit responsibilities were performed by CAGRD staff.

The 2018 Annual Reports of Water Deliveries submitted to CAGRD by Beardsley Water Company, Tierra Buena Water Company, and Valley Utilities Water Company were selected for this year’s annual audit to evaluate the accuracy and completeness of reported quantities. The reporting for Tierra Buena Water Company and Valley Utilities Water Company are completed by the same entity. All three water companies maintain their customer delivery and billing accounts in databases, and all three were able to run a report of annual water deliveries to the CAGRD member lots in order to complete their CAGRD Annual Reports. In total, the three providers serve 27 Member Land subdivisions containing 2,618 parcels.

CAGRD staff either met with or discussed the audit process with representatives from each water company. Staff were then provided with the annual water delivery records and supporting documents detailing the source data used to submit the 2018 Report of Water Deliveries to CAGRD. Staff used the information to verify the accuracy of the report submitted, by checking the reported annual water deliveries for each CAGRD parcel against the source data. No errors or inaccuracies were found in any of the three water providers’ annual reports, showing that the method used by these providers to merge their datasets into the CAGRD Report of Water Deliveries workbook was complete and accurate for 2018.

Staff also reviewed the additional quality control functions that were added to the annual reporting workbooks this reporting year. This audit concludes that CAGRD continues to make significant progress toward that end. CAGRD staff report that these enhancements have reduced the time required to analyze the reasonableness of reported water deliveries. Significantly fewer data discrepancies or reporting issues are flagged by CAGRD staff and sent back to the water providers for a second review. One suggested improvement following this year’s audit is for CAGRD staff to implement an improved system for storing each version of the Excel workbooks submitted by the water providers to ensure consistent tracking.
Background

On or before March 31 of each year, Municipal providers are required by law to submit annual reports to the Central Arizona Groundwater Replenishment District (CAGRD) for subdivisions served that are enrolled as member lands. The reports include the amount of total water and groundwater delivered to individual tax parcels in the previous calendar year, the reporting basis for the water delivered (i.e. metered or other), and the excess groundwater percent elected by the Municipal provider for each subdivision. CAGRD uses the information, in part, to determine the total replenishment obligation for all of its members and to determine the tax assessment to be levied on each member land parcel. The information is forwarded to each respective county assessor for inclusion in tax parcel assessments by July of the year the reports were submitted. Therefore the information provided in these reports forms the basis of CAGRD’s annual replenishment and financial responsibilities. In time, CAGRD intends to have audited all of the 60+ water providers serving member lands to ensure the accuracy of reports received.

An audit of the accuracy of member land water provider reports has been undertaken by the Central Arizona Water Conservation District (CAWCD) Internal Audit Manager in previous years. Beginning this year, CAGRD staff has assumed the water provider audit responsibilities. Since the CAGRD water provider audit has become standard practice each year, it was determined over the course of the past several auditing cycles that the audit would be best handled by CAGRD staff, and the responsibilities were added to the required duties of the Senior Policy Analyst of the CAGRD.

Scope and Objectives

The objective of this audit was to evaluate the accuracy and completeness of water delivery quantities reported by three selected providers in their 2018 Annual Report of Water Deliveries submitted to CAGRD. The three water providers selected for this 2018 report year audit include Beardsley Water Company, Tierra Buena Water Company, and Valley Utilities Water Company. All three water providers are located in the Phoenix Active Management Area (see general location map on the following page). The three selected water providers were chosen for this year’s audit because they had not been audited in the past, and/or CAGRD staff had fielded questions from homeowners in their service areas in the past. CAGRD intends to audit all member land water providers in time. Audit work for the providers was limited to inspecting records and supporting documents that served as the original source for the data submitted in their 2018 Report of Water Deliveries to CAGRD.

Last year’s audit report stated that Marana Domestic Water Improvement District (MDWID) should be one of the water providers selected for audit in 2018 since the requisite supporting data could not be provided within the required timeframe for a planned audit in that year. However, MDWID once again has experienced turnover in its staffing which resulted in a request for additional time to submit their 2018 annual report. CAGRD granted them a short time extension and learned further about their difficulties in developing the supporting datasets needed. It was determined that an audit of MDWID would once again be delayed until the new staff are prepared to organize and submit the datasets required for the audit.
An additional objective of this audit was to assess the progress CAGRD has made in pursuing options to automate portions of the process it uses to analyze the reasonableness of the data contained in the Reports of Water Deliveries received from all water providers serving member lands.
Beardsley Water Company Results

CAGRD staff met with a representative of First National Management, responsible for Beardsley Water Company’s annual reporting to CAGRD, at their office on May 7, 2019. Staff obtained copies of their annual billing records report that relates to subdivisions enrolled in CAGRD as member lands. The annual usage report is generated from their customer billing database which is used to track and retain all monthly deliveries to their customers. The water deliveries cited in these billing records were then matched to the CAGRD parcel records and compared to the water deliveries cited in their 2018 Annual Report of Water Deliveries submitted to CAGRD.

The analysis revealed no errors or issues between the billing records and the water deliveries reported by parcel to CAGRD. It appeared at first that two small discrepancies existed in the initial submission but they had already been discovered and corrected by staff at Beardsley Water Company before a second submission was sent to CAGRD during the regular QA/QC process. The issues related to parcels that were not questioned by CAGRD staff; rather, staff at Beardsley discovered and corrected the issues in their own data checking.

A map of Beardsley Water Company’s service area and the Member Land subdivisions it serves is shown on the following page. The service area measures approximately 9.9 square miles, and the company delivers water to 13 member lands containing 1,483 parcels. The 2018 total obligation for MLs served by Beardsley Water Company was 32.84 acre-feet.
Tierra Buena Water Company Results

On April 17, 2019, CAGRD staff spoke with the representative for Tierra Buena Water Company to notify him of our intent to inspect their records and supporting documents related to the 2018 CAGRD Annual Report, and to inquire about their record keeping and reporting process. The representative stated that their delivery and billing records were maintained in a database, which could run a report of annual deliveries to CAGRD member land lots, and that the information would be provided to us shortly. The following day, the representative provided the report of total gallons sold to all customers by service address in 2018, along with CAGRD reporting notes that specified the relationship between their customer account numbers and the CAGRD report lot numbers. The water deliveries cited in the database report were then matched to the CAGRD parcel records and compared to the water deliveries cited in the original 2018 Annual Report of Water Deliveries submitted to CAGRD.

The analysis revealed no errors or issues between the billing records and the water deliveries reported by parcel to CAGRD.

A map of Tierra Buena Water Company’s service area and the Member Land subdivisions it serves is shown on the following page. The service area measures approximately 0.15 square miles, and the company delivers water to one member land containing 71 parcels. The 2018 total obligation for the ML served by Tierra Buena Water Company was 54.99 acre-feet.
Valley Utilities Water Company Results

The annual reporting for Valley Utilities Water Company was assembled by the same individual who provided information for Tierra Buena Water Company. As a result, copies of supporting billing record data were obtained via email following the same conversation noted above. The records were generated by a report run from their customer billing database, and notes were provided on how the customer account numbers are matched with parcel numbers used by CAGRD. The water delivery volumes by account were then matched to the parcel records in the CAGRD reporting spreadsheet and compared to the water deliveries cited in the original 2018 Annual Report of Water Deliveries submitted to CAGRD.

The analysis revealed no errors or issues between the billing records and the water deliveries reported by parcel to CAGRD.

A map of Valley Utilities Water Company’s service area and the Member Land subdivisions it serves is shown on the following page. The service area measures approximately 4.27 square miles, and the water company serves 13 member lands containing 1,064 parcels. The 2018 total obligation for MLs served by Valley Utilities Water Company was 450.03 acre-feet.
**Enhancements to CAGRD Annual Reporting Workbooks**

Audits from the past two years have described CAGRD as having an effective, but labor intensive, process for analyzing the reasonableness of information submitted in the Annual Reports of Water Deliveries. As a result, the Internal Audit recommended that CAGRD explore options to automate at least a portion of that analysis process. CAGRD retains an outside contractor responsible for managing its large proprietary database of member land parcels. Before the 2018 annual reporting cycle commenced, the contractor worked with CAGRD staff to add more functionality to the reporting workbook that is customized and sent to each reporting water provider.

The workbook now provides additional information to the water provider upfront that helps to identify potential data errors as the provider is moving through the report, such as whether the reported water deliveries to a single parcel vary more than twenty percent from the previous reporting year. The water providers are then prompted to verify that the flagged water deliveries are accurate and if not, to make corrections. If the provider determines that the flagged water delivery amounts are accurate, they will be requested to provide additional support, or to explain the reason for the water delivery deviation from the prior year.

After reviewing the additional quality control functions that were added to the annual reporting workbooks this year, this audit concludes that CAGRD continues to make significant progress toward that end. CAGRD staff report that these enhancements have reduced the time required to analyze the reasonableness of reported water deliveries. Significantly fewer data discrepancies or reporting issues are flagged by CAGRD staff and sent back to the water providers for a second review.

One additional suggested improvement following this year’s audit is an improved system for storing each version of the Excel workbooks submitted by the water providers. The system that is in place currently works well unless a provider has reviewed their workbook for errors and sent multiple corrections. In that case, there is potential for error in recognizing which version is the most current or final version. It is suggested that CAGRD staff work to improve this system to ensure consistent tracking before the 2019 reporting cycle.