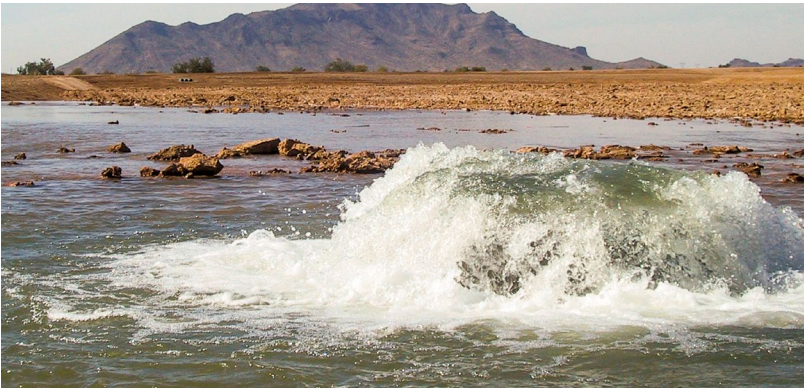




2021 UPDATE

# RECOVERY OF WATER STORED BY THE ARIZONA WATER BANKING AUTHORITY

A JOINT PLAN BY AWBA, ADWR AND CAP



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## Executive Summary

Over the past twenty-five years, the Arizona Water Banking Authority (AWBA) has stored more than 3.6 million acre-feet (MAF) of Central Arizona Project water to mitigate Arizona reductions in supply due to Colorado River shortages and an additional 0.6 MAF on behalf of Southern Nevada Water Authority (SNWA). The 2021 Update to the Joint Recovery Plan (Joint Update) represents a collaborative effort among the AWBA, Central Arizona Water Conservation District (CAWCD, referred to in this plan as CAP), Arizona Department of Water Resources (ADWR) and the Recovery Planning Advisory Group (RPAG), to improve planning-level certainty, refine key recovery concepts and prepare for the recovery of AWBA Long-Term Storage Credits (LTSCs). It includes an update on recovery planning activities that have occurred since the completion of the 2014 Joint Recovery Plan (2014 Plan), an updated analysis of projected AWBA firming volumes, estimated recovery capacity needs and an updated operational timeline to further refine the procedural steps for recovery implementation.

With the increasing likelihood of Colorado River shortages and the additional reductions required under the Lower Basin Drought Contingency Plan (LBDCCP), stakeholders expressed a desire for updated recovery modeling and additional clarity in recovery implementation. In 2018 the RPAG was convened to ensure stakeholder perspectives are considered as recovery concepts are updated. The contributions of RPAG members and other stakeholders played an important role in furthering the concepts reflected in this Joint Update.

The range of possible future AWBA firming and recovery needs identified during the planning period (through 2045) frames the likelihood, timing and magnitude of recovery activities. Modeling results suggest that the probability of firming and the annual firming volumes are low in the near term but will likely increase steadily through 2045. Reductions to Tribal CAP Non-Indian Agriculture (NIA) supplies are expected to be the first reductions requiring AWBA firming since these supplies have a lower priority. While firming volumes are much higher for CAP municipal and industrial (M&I) supplies, shortage reductions to these supplies are more likely to occur in the mid to long-term planning periods. Similarly, firming for on-River Fourth Priority (P4) M&I may not be needed until the latter portion of the planning period and volumes are expected to be relatively small.

This Joint Update builds on previous planning efforts in the 2014 Plan, further discusses Independent Recovery concepts intended to increase flexibility and fully utilize existing infrastructure, includes an analysis of recovery capacity requirements focused on impacts to direct uses, and identifies future activities and commitments by AWBA, ADWR and CAP. Future activities include CAP efforts to secure additional short and long-term recovery partnership agreements and perform feasibility studies for future direct recovery projects. The AWBA is committed to further analysis of credit distribution, credit balances and credit utilization rates for each of its firming objectives. All three agencies will continue to work in collaboration with the RPAG and continue monitoring the factors that influence Colorado River supplies. This includes joint technical work to perform updated recovery modeling and analysis in response to the work of the Arizona Reconsultation Committee (convened in 2020) and further analysis of the estimated AWBA credit balance utilization rates over the next one-hundred years.

# 1.0

## Background, Purpose and Scope

### Background

The AWBA has stored more than 4 MAF of Central Arizona Project water (CAP water) underground since its inception in 1996. In the event of a declared shortage on the Colorado River, the AWBA's LTSCs will be recovered to provide firming for CAP M&I subcontractors and on-River Fourth Priority (P4) M&I users. AWBA LTSCs will also be recovered to meet Arizona's obligations pursuant to Indian water rights settlements and to meet contractual obligations for interstate water banking with Nevada. The AWBA, ADWR and CAP have a long history of interagency coordination to plan for the recovery of AWBA LTSCs. In 2014, the three agencies published the Recovery of Water Stored by the Arizona Water Banking Authority: A Joint Plan by AWBA, ADWR and CAP (2014 Plan). Building on past planning efforts and extensive collaboration among the agencies and stakeholders, the 2014 Plan provided a roadmap for the recovery of AWBA LTSCs.

The 2014 Plan identified future activities and commitments by AWBA, ADWR and CAP. CAP committed to pursue short and long-term agreements that secure recovery capacity and perform technical studies for future recovery projects. The AWBA aimed to seek opportunities to recharge in locations with future recovery in mind. With diminishing excess CAP supplies, AWBA also pursued alternative options for achieving its firming goals, including opportunities that reduce reliance on recovery. All three agencies committed to continued coordination, as well as monitoring of factors influencing Colorado River supplies, demands and shortage impacts. Updates to the 2014 Plan were also anticipated.

Since the release of the 2014 Plan, stakeholders have expressed a desire for additional recovery planning and implementation activities. The increasing likelihood of shortages on the Colorado River and the additional reductions to Arizona required under the LBDCP added to the importance of additional planning. In response, ADWR, AWBA, and CAP identified the next steps for more in-depth recovery planning.

In January 2018, ADWR, along with AWBA and CAP, convened the RPAG to include stakeholder perspectives as recovery planning and implementation concepts are updated and refined. It was acknowledged that the input from RPAG is critical for the success of the recovery program. The RPAG is a 14-member advisory group comprised of the following representatives from agricultural, municipal, tribal, utility and on-river entities:

- **Brian Betcher/Tony Solano** – Maricopa-Stanfield IDD
- **Brian Draper** – City of Mesa
- **Cynthia Campbell** – City of Phoenix
- **Dave Roberts** – Salt River Project
- **Dee Korich** – Tucson Water
- **Mike Boule/Fred Stevens** – City of Surprise
- **Gene Franzoy** – Gila River Indian Community
- **John Kmiec** – Marana Water
- **Maureen George/Jamie Kelley** – Mohave County Water Authority
- **Robert Lotts** – Arizona Public Service
- **Troy Day** – EPCOR
- **Wally Wilson** – Metro Water
- **Warren Tenney** – Arizona Municipal Water Users Association
- **William Garfield** – Arizona Water Company



In addition to the above representatives, there were alternates that also participated. Meetings were publicized and members of the public had opportunities to provide input.

RPAG met fifteen times from January 2018 through February 2021 (see Appendix A – RPAG Meeting Summary). Numerous topics were discussed and evaluated including updated modeling, shortage impacts, recovery methods, recovery capacity, credit distribution and firming proposals, credit sustainability, and a near-term firming exercise (see Appendix B – Firming Exercise Form). Throughout the process, RPAG members were asked to apprise and seek input from those they represent.

RPAG members and others were central in furthering recovery planning efforts and their contributions and feedback are reflected in this Joint Update.

## Purpose and Scope

This Joint Update is a collaborative effort among the AWBA, ADWR, CAP and stakeholders. It incorporates recovery planning accomplishments that have occurred since the 2014 Plan while also providing current information on anticipated recovery needs and identifying any changes in approach from what was previously envisioned. The Joint Update is intended to:

- Clarify roles of the primary institutions involved in the recovery of AWBA LTSCs
- Discuss Independent Recovery concepts and clarify the role of recovery beneficiaries
- Establish planning-level certainty around key recovery concepts
- Analyze and project the potential timing and magnitude of firming and recovery under a range of future supply and demand conditions
- Identify potential recovery partners and opportunities to meet recovery needs
- Identify key recovery implementation triggers, decision points and actions to be taken within the planning horizon
- Provide the framework for continued cooperation among CAP, ADWR, AWBA, and stakeholders

### FIRMING VERSUS RECOVERY

This document uses the terms “firming” and “recovery” extensively. Firming is a broader term that refers to the use of one supply to increase the reliability of another, while recovery refers to pumping that is associated with an ADWR-permitted Recovery Well. Although these terms are often used synonymously, not all options for firming require the use of a recovery well. This distinction is described more fully in Section 5 of this Update.

# 2.0

## Roles and Responsibilities

The recovery of AWBA LTSCs involves multiple entities and requires coordination with a variety of stakeholders. The AWBA is responsible for the distribution of LTSCs, consistent with its statutory and contractual responsibilities. ADWR serves both a regulatory and an advisory role in the recovery of AWBA LTSCs, and CAP is the primary designated recovery agent for the AWBA. The 2014 Plan provides a detailed description of these roles and responsibilities and clarifies the roles of the Bureau of Reclamation, CAP's recovery partners, firming beneficiaries and other interested parties. The primary roles of each have not changed. However, many CAP M&I stakeholders have expressed an interest in recovering AWBA LTSCs independently, either through their own infrastructure or with a partner, in addition to or in place of CAP recovery, particularly in the near term.

As the designated recovery agent for the AWBA, CAP is responsible for the recovery of water stored by the AWBA for both intrastate firming and interstate banking with Nevada. However, some firmed entities may also opt for Independent Recovery of AWBA LTSCs (with no direct reliance on CAP recovery), which allows for operational flexibility and maximizes the use of existing infrastructure. This approach alters how recovery implementation was envisioned in the 2014 Plan. Senate Bill 1147, adopted in the spring of 2021, authorizes the AWBA to distribute LTSCs directly to CAP M&I subcontractors for firming purposes. Both CAP recovery and Independent Recovery will likely rely on recovery partnerships and CAP has developed many of the recovery opportunities identified in the 2014 Plan. Additional recovery partnerships have also been developed among the M&I subcontractors themselves. CAP M&I Independent Recovery is discussed in greater detail in Section 4.

The AWBA's Tribal firming responsibilities have also been affected by Agreements entered into between the AWBA and the Gila River Indian Community (Community). These agreements include certain firming methods that do not require the recovery of AWBA LTSCs, thus reducing reliance on traditional recovery methods. These alternative firming options are discussed further in Section 3.

# 3.0

## Funding, Purpose & Location of Credits

The AWBA has accrued or acquired a total of 4.28 MAF of LTSCs through 2019. These LTSCs include 3.67 MAF for Arizona's needs and nearly 614,000 acre-feet (AF) for interstate purposes stored on behalf of the Southern Nevada Water Authority (SNWA).

The distribution of these LTSCs for firming will be determined based on several factors: the funding sources used to accrue the LTSCs, the statutory purpose for distributing the LTSCs, and the location of both the LTSCs and entities that will be recovering the LTSCs.

### Funding Sources

As discussed in the 2014 Plan, the AWBA uses four main revenue sources to meet its objectives: an ad valorem water storage property tax levied and collected by CAWCD, groundwater withdrawal fees collected by ADWR in the Phoenix, Pinal and Tucson AMAs, general fund appropriations, and proceeds of interstate banking. CAWCD's authority to levy the water storage tax within its three-county service area has since been extended through 2030. The tax may be levied at a rate of up to four cents per \$100 of assessed property value through tax year 2024 and up to three cents for the remainder of the term.

The availability of each of these funding sources continues to vary annually. Additionally, recent statutory changes have limited the AWBA's access to the withdrawal fees collected in the Pinal AMA. Withdrawal fees levied in the Pinal AMA during calendar years 2020 through 2026 will not be collected for AWBA purposes and will instead be distributed by ADWR to qualified Pinal irrigation districts for groundwater and efficiency projects as part of the LBDCP Implementation Plan. Administratively, withdrawal fees levied during a particular calendar year are collected the following year. Therefore, Pinal AMA withdrawal fees will not be available to the AWBA from calendar years 2021 through 2027.

**Table 1** identifies the amount of LTSCs accrued, through storage or acquisition, by location and the funding source that was used.



**Table 1** | AWBA LTSC Balances through 2019, by AMA and Funding Source (AF)<sup>1</sup>

FUNDING SOURCE	Phoenix AMA	Pinal AMA	Tucson AMA	Total
Water Storage Tax	1,519,147	223,571	485,028	2,227,745
Withdrawal Fees	339,724	434,530	110,182	884,436
General Fund	42,316	306,968	54,546	403,830
Indian Firming Appropriation	-	-	28,481	28,481
Shortage Reparation <sup>2</sup>	20,642	60,507	28,340	109,489
GSF Operator Full Cost Share <sup>3</sup>	-	14,125	-	14,125
<b>Intrastate TOTAL</b>	<b>1,921,828</b>	<b>1,039,701</b>	<b>706,577</b>	<b>3,668,106</b>
Interstate - Nevada	60,021	440,241	113,584	613,846
<b>Intrastate TOTAL</b>	<b>1,921,828</b>	<b>1,039,701</b>	<b>706,577</b>	<b>3,668,106</b>

<sup>1</sup> Totals may not sum due to rounding.

<sup>2</sup> \$8 million in funds made available by SNWA pursuant to the Arizona-Nevada Shortage-Sharing Agreement executed in 2007.

<sup>3</sup> GSF operators paid AWBA's full water delivery cost because AWBA funding resources were fully subscribed and the water was needed to avoid crop losses.

## Statutory Purposes

Overall, the purpose for which AWBA LTSCs can be distributed has not changed. **Table 2** identifies allowable uses for LTSCs accrued with various funding sources. In 2019, in addition to its ability to exchange LTSCs accrued with general fund appropriations, the AWBA was given legislative authority<sup>3</sup> to enter agreements to exchange certain water management (withdrawal fee) LTSCs as part of the Arizona DCP Implementation Plan.<sup>4</sup> Additionally, LTSCs received by the AWBA under the exchange may be used for the benefit of any AMA.

The LTSC exchange agreements entered pursuant to the Arizona DCP Implementation Plan facilitate water storage at groundwater savings facilities (GSFs) located in the Pinal AMA to provide partial wet water mitigation during Tier 1 and Tier 2 shortages that might occur through 2022. Exchanging AWBA LTSCs in the Phoenix and Tucson AMAs for equal volumes of LTSCs in the Pinal AMA gives storing entities the ability to recover and use the water in the AMA where they are located. The AWBA's authority to exchange its withdrawal fee LTSCs for this purpose expires on December 31, 2026. Therefore, all exchanges must be completed by this date.

<sup>3</sup> A.R.S. § 45-2457.01.

<sup>4</sup> Lower Basin Drought Contingency Plan ("LBDCP") Implementation Plan: Agreement to Exchange Long-Term Storage Credits between AWBA and the City of Avondale; City of Chandler; City of Goodyear; City of Peoria; City of Phoenix; City of Scottsdale; City of Tucson; Freeport Minerals Corporation; and EPCOR Water Arizona Inc.

**Table 2** | Summary of Intrastate Funding Sources and Allowable Use

FUNDING SOURCE	Firming M&I CAP	Firming On-River M&I (P-4)	Firming Indian Settlements (Tribal NIA)	Fulfilling Water Management Objectives
Water Storage Tax	✓			
Groundwater Withdrawal Fees	✓		✓	✓
General Fund	✓	✓	✓	✓
Shortage Reparations	✓	✓	✓	✓

## Location

The AWBA has stored water at two dozen recharge facilities located in the Phoenix, Pinal, and Tucson AMAs. The AWBA has also supplemented storage through LTSC acquisitions due to the recent declines in excess CAP water availability. **Table 3** identifies the number of LTSCs accrued or acquired by individual facility.

By statute, recovery must occur within the AMA where the original storage took place, and there are often advantages for recovery to take place in the vicinity of the storage facilities both from an operational and a water management perspective, a view that has been encouraged by RPAG members and stakeholders. Location of the LTSCs is, therefore, a key consideration in recovery planning.

Of the 3.67 MAF of intrastate LTSCs, 1.92 MAF are in the Phoenix AMA, 1.04 MAF are in the Pinal AMA, and 0.71 MAF are in the Tucson AMA. The AWBA has also accrued nearly 614,000 AF of LTSCs on behalf of SNWA with more than two-thirds of these LTSCs accrued in the Pinal AMA.

As discussed above, the AWBA has agreed to exchange up to 43,225 AF of LTSCs per year in 2020 through 2022 under Tier 1 and 2a shortages, in support of the LBDCP Implementation Plan. A Tier Zero condition has been declared in 2020 and 2021, therefore no exchange occurred. In the event of a Tier 1 shortage declaration in 2022, the maximum cumulative exchange volume would be 43,225 AF.

**Table 3** | AWBA LTSCs through 2019 by Facility

RECHARGE LOCATIONS		AWBA LTSCs Through 2019		
PHOENIX AMA		Intrastate	Interstate	Total
USF	GRUSP	412,592	–	412,592
	AGUA FRIA	120,715	2,242	122,957
	HASSAYAMPA	1,276	–	1,276
	HIEROGLYPHIC MTNS	105,885	–	105,885
	TONOPAH DESERT	429,430	51,009	480,439
	SUPERSTITION MTNS	36,558	–	36,558
	Sub Total	1,106,456	53,251	1,159,707
GSF	CHANDLER HGTS CID	4,517	–	4,517
	MWD	47,916	–	47,916
	NEW MAGMA	353,519	2,850	356,369
	QUEEN CREEK	118,425	3,449	121,874
	SRP	84,788	–	84,788
	RWCD	114,456	–	114,456
	TONOPAH ID	3,438	471	3,909
	GRIIDD-PHX	88,313	–	88,313
Sub Total	815,372	6,770	822,142	
<b>TOTAL LTSCS</b>		<b>1,921,828</b>	<b>60,021</b>	<b>1,981,849</b>
PINAL AMA		Intrastate	Interstate	Total
GSF	CAIDD	234,488	117,514	352,002
	HOHOKAM	395,533	71,427	466,960
	MSIDD	392,602	251,300	643,902
	GRIIDD-Pinal	17,077	–	17,077
<b>TOTAL LTSCS</b>		<b>1,039,700</b>	<b>440,241</b>	<b>1,479,941</b>
TUCSON AMA		Intrastate	Interstate	Total
USF	AVRA VALLEY	62,290	1,315	63,606
	CAVSARP	90,444	4,717	95,161
	PIMA MINE RD	102,326	31,028	133,354
	LOWER SANTA CRUZ	257,403	73,930	331,334
	SAVSARP	151,856	–	151,856
Sub Total	664,319	110,992	775,311	
GSF	ASARCO (45-841.01 credits)	6,766	–	6,766
	CMID	17,479	1,425	18,904
	KAI FARMS (Red Rock)	14,948	1,168	16,116
	BKW-FARMS	3,066	–	3,066
Sub Total	42,259	2,593	44,851	
<b>TOTAL LTSCS</b>		<b>706,578</b>	<b>113,584</b>	<b>820,162</b>
<b>TOTAL</b>		<b>3,668,106</b>	<b>613,846</b>	<b>4,281,952</b>

AWBA storage activity is accounted for at the level of individual recharge facility, while the financial accounting is tracked by funding source at the AMA (and County) level. As a consequence, LTSCs earned at an individual facility are not specifically differentiated by funding source. With the exception of interstate storage and certain LTSCs that have been dedicated for Tribal firming, it is only when recovery takes place that the storage facility and funding source accounting is reconciled.

Of the nearly 775,000 AF of withdrawal fee LTSCs accrued in the Phoenix and Pinal AMAs, 105,390 AF will not need to be recovered. They were accrued at the Gila River Indian Irrigation and Drainage District GSF located on Community lands. Under the AWBA's 2015 intergovernmental agreement (IGA) with the Community,<sup>5</sup> these LTSCs will be extinguished by the AWBA and accepted by the Community as water delivered to meet an equivalent portion of the State's firming obligation for Tribal CAP NIA supplies in a given shortage year.

Similarly, the AWBA developed 44,000 AF of "Firming Credits" on Community lands through payment for water delivered to the Community during non-shortage years, an accepted firming method under the 2015 IGA further described in a separate IGA.<sup>6</sup> As part of the Arizona DCP Implementation Plan, the AWBA is also funding the creation of 50,000 AF of Intentionally Created Surplus (ICS) in Lake Mead<sup>7</sup> resulting in 45,000 AF of Firming ICS due to a one-time ten percent reduction for system and evaporation losses. This ICS ("Firming ICS") will be used to firm supplies for the Community after 2026. These firming methods do not require recovery, thus near-term recovery capacity needs are effectively reduced.

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<sup>5</sup> IGA between the AWBA and the Gila River Indian Community, executed June 16, 2015

<sup>6</sup> IGA between the AWBA and the Gila River Indian Community for the Development of Firming Credits, executed June 30, 2016

<sup>7</sup> IGA between the AWBA and the Gila River Indian Community for the Development of Firming ICS executed May 20, 2019.

# 4.0

## Methods and Costs

### Methods

The 2014 Plan identifies three methods for the recovery of AWBA LTSCs – direct recovery, indirect recovery and credit exchange. The 2014 Plan provides detailed descriptions of these methods, each with their own attributes and associated costs. The methods are primarily differentiated by their reliance on the CAP system and whether additional pumping and energy are required over normal operations. The 2014 Plan also assumed that CAP would play a central role in recovery, directly or with recovery partners, and, in particular, that firming M&I subcontractors would occur by making up the shortfall to the M&I Priority Pool as a whole, not on an individual subcontractor basis. The terms of the 2017 CAP System Use Agreement (SUA) changed the pool concept as this water is accounted for separately from project water available per a CAP subcontract. This section describes how the approach to the recovery methods that were envisioned in the 2014 Plan has changed.

### Implementation and Accounting of Firming

In early 2015, discussions between CAP and Reclamation identified two recovery-related issues that had not received sufficient previous attention: (i) how M&I firming affected the contractual shortage-sharing provisions between Indian and M&I priority CAP water, and (ii) accounting distinctions between Project and Non-Project water. The former could complicate efforts to firm the M&I Priority CAP subcontracts while the co-equal<sup>8</sup> Indian Priority contracts were reduced. The latter implicated unresolved issues related to wheeling and disputed provisions of the 1988 CAP Master Repayment Contract.

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<sup>8</sup> The actual allocation between the two priorities is governed by a formula that can (depending on utilization rates) result in a slightly unequal percentage reduction during shortage.

Initially, the proposed approach was to enshrine the established recovery methods as authorized ways that AWBA, CAP on behalf of AWBA, or Reclamation could use to satisfy their respective firming responsibilities.<sup>9</sup> CAP, ADWR, AWBA and Reclamation identified a number of key issues associated with that approach, but were unable to reach consensus on potential solutions. Simultaneously, CAP and Reclamation were working on a standard form wheeling contract and were, in consultation with ADWR, addressing issues posed by an exchange agreement entered into between the cities of Phoenix and Tucson. Ultimately discussions on all three of those issues were combined and resolved in the CAP SUA, which includes key provisions related to wheeling, firming and exchanges.

## System Use Agreement

The SUA (see Appendix C – System Use Agreement) defines Firming as “satisfying all or a portion of a long-term contract entitlement that has been reduced due to a Water Shortage,” and Firming Water as water available for firming CAP long-term contracts. Firming water includes both directly introduced non-project water (i.e., direct recovery) and exchange water (e.g., indirect recovery) and the SUA provides for its scheduling priority (identical to the priority of the supply it is supplementing), and an exemption from the 5% loss factor applied to wheeling contractors. However, because firming water is not a part of the project water supply available under the recipient’s CAP contract or subcontract, it must be separately accounted for and may require a separate Firming Agreement between CAP and the individual long-term contractor. This approach fundamentally alters some of the assumptions about CAP’s role in recovery, particularly the “pool” concept for firming the M&I Priority Pool as a whole.

The provisions of the SUA related to exchanges also affect AWBA recovery. Based on the underlying contract authorities, the SUA defines three types of permissible exchanges,<sup>10</sup> each of which involves the use of a project water supply and a non-project water supply. For AWBA recovery, the non-project supply is recovered LTSCs. The reliance on water-for-water exchanges comports with both state law and the underlying provisions of the long-term contracts. This approach also steers clear of any characterization that M&I subcontracts are being leased, which is expressly prohibited and was an exclusive benefit negotiated by tribal contractors as part of several Tribal water rights settlements.

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<sup>9</sup> Pursuant to Article 10.4 of the Master Repayment Contract

<sup>10</sup> The SUA defines three categories of exchanges based on the parties involved: between a long-term contractor and CAP; between a federal long-term contractor and a party holding a Non-Project Water supply; and a non-federal long-term contractor and a party holding a Non-Project Water supply.

## Exchanges

A water-for-water exchange allows CAP or other entities to exchange recovered AWBA LTSCs (recovered water) for CAP water. This mechanism figures predominately in both CAP recovery and in recovery among other parties. In an exchange, one party provides recovered water (i.e., LTSCs recovered pursuant to permitted recovery wells), and the other party provides a CAP supply. The statutory requirements for an exchange involving recovered LTSCs and CAP water include a written notice to ADWR<sup>11</sup> and a written exchange contract between the exchange partners.

For recovery of AWBA LTSCs by CAP, the CAP water that CAP receives in the exchange is available for CAP to deliver to CAP water users that require direct delivery of firming water. In this exchange situation, from an accounting perspective, CAP is not delivering a contractor or subcontractor's CAP water per se, but instead is delivering the exchanged recovered water. The LTSCs that CAP recovers are assigned to it by the AWBA based on an approved Interstate or Intrastate Recovery Schedule. The ability of CAP and contractors or subcontractors to enter into exchanges is further addressed in the CAP SUA, which requires Reclamation approval of Exchange Agreements between CAP and Long-Term Contractors (SUA § 9.1) and authorizes CAP to use the CAP System to deliver exchange water without the need for a wheeling agreement (SUA § 5.1.2).

For Independent Recovery of AWBA LTSCs, the party recovering the AWBA LTSCs would exchange this non-project water, (i.e., the recovered water), with a partner who has CAP water. The holder of the CAP water would have this water delivered to their partner's turnouts. The Exchange Agreement between the parties in this arrangement require Reclamation and CAP approval and an additional Exchange Implementation Agreement between the party holding a non-project water supply, non-Federal long-term contractor and CAP (SUA § 9.2).

### EXCHANGE ACCOUNTING

Arizona law authorizes parties with a right or claim to use water to conduct water-for-water exchanges consistent with certain statutory requirements. A.R.S. § 45-1001 et seq. Each party in an exchange is restricted to using the water they physically receive in the same manner as the water they give (the "giver rule"). A.R.S. § 45-1003(A).

The "giver rule" applies the following three restrictions to the parties in an exchange:

1. Each party receiving water through an exchange must hold a legal right to use the water they give in an exchange.
2. Each party may use the water received only in the same manner that they could have used the water they gave.
3. Each party must comply with all legal requirements relating to the water they gave.

<sup>11</sup> A Notice of Water Exchange is filed with the Arizona Department of Water Resources. A noticed water exchange must comply with requirements and conditions of A.R.S. § 45-1001 et. Sec.

## Approach to Recovery Methods

Changes in the firming approach resulting from the SUA prompted an extensive examination of recovery methods by RPAG members. The three recovery methods identified in the 2014 Plan remained largely unchanged. However, the SUA provided a mechanism to broaden the approach to recovery implementation. In the RPAG discussion, many M&I stakeholders expressed a preference for Independent Recovery of AWBA LTSCs. The term Independent Recovery describes CAP M&I subcontractors who elect to recover AWBA LTSCs through their own infrastructure or recover with a partner using any of the three recovery methods. Independent Recovery allows subcontractors to tailor recovery to suit their water supplies, demands and operating systems. This is one of the primary concepts developed in the RPAG process and fundamentally changes recovery roles and implementation. Direct distribution of AWBA LTSCs to CAP M&I subcontractors can occur through the completion of the Long-Term Storage Credit Transfer Form.

Recovery of AWBA LTSCs can be performed by CAP, or by (sub)contractors, on their own or with a partner. Any recovery of LTSCs requires a recovery well permit, but the types of additional agreements and permits required depend primarily on who is recovering, whether there is an exchange, and whether the CAP system is involved.

If AWBA LTSCs are distributed to CAP, under most circumstances CAP will hold the recovery well permit, even if a partner is recovering LTSCs on behalf of CAP. This confers legal ownership of the recovered water to CAP, and that non-Project supply can then be delivered or exchanged. Pursuant to Section 5.1.2 of the SUA, delivery of Firming Water does not require a wheeling contract. However, since firming is not specified in existing subcontracts, recipients of Firming Water from CAP must enter into a Firming Agreement specifying the conditions under which CAP will deliver, and the holder of the long-term contract will accept Firming Water.

If AWBA LTSCs are transferred directly to a (sub)contractor, the (sub)contractor is responsible for the recovery of those credits, either with their own infrastructure or with a partner. If the arrangement with the partner involves a water-for-water exchange, a Notice of Water Exchange is required pursuant to A.R.S. § 45-1051(A). If the CAP system is necessary to effectuate the exchange, provisions of the subcontract and the SUA require that the exchange be approved by CAP and Reclamation along with an Exchange Implementation Agreement with CAP. If the CAP system is not implicated in the exchange, then no additional agreements with CAP would be necessary.

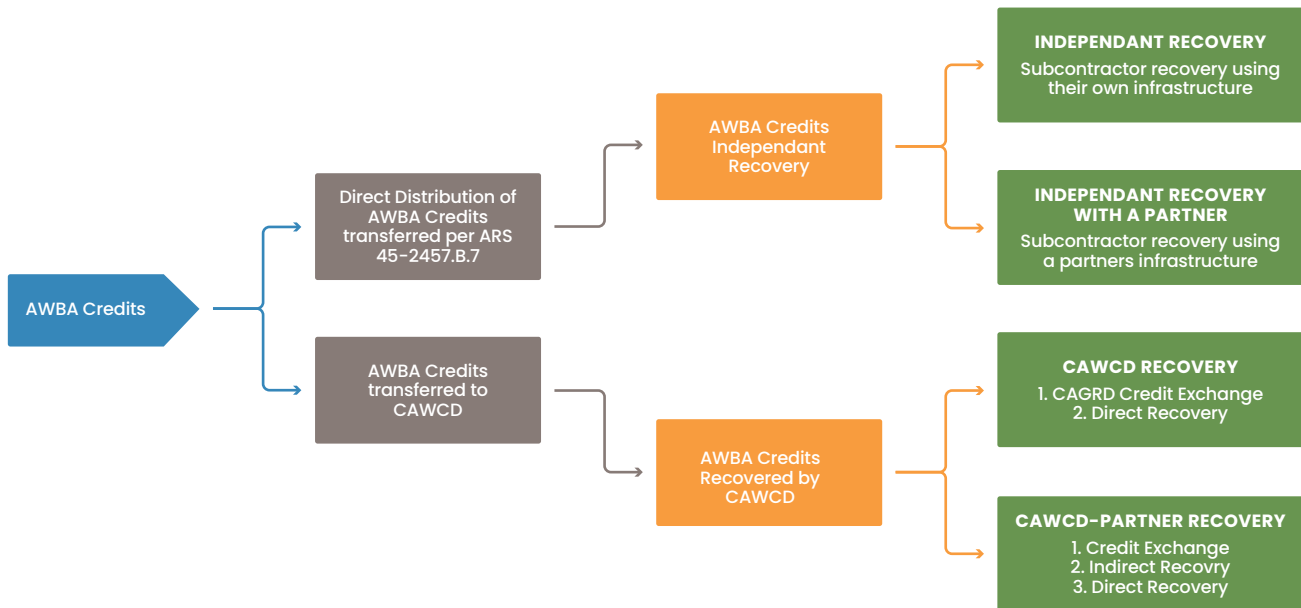
### INDEPENDENT RECOVERY

To facilitate Independent Recovery, Senate Bill 1147, which passed unanimously during the Spring 2021 legislative session, modified the language in A.R.S. § 45-2457(B)(7) applying to LTSCs that have been accrued by the AWBA and paid for with the ad valorem water storage tax levied by CAP. It authorizes the AWBA to distribute LTSCs directly to CAP M&I subcontractors with the stipulations that the LTSCs cannot be sold, and the subcontractor is responsible for all fees assessed by AWBA or ADWR for the distribution of the LTSCs and all costs of recovery of the LTSCs. The statute previously required the AWBA to distribute these credits to CAP.



**Figure 1** shows the general credit distribution pathway and recovery methods for both CAP and (sub)contractor recovery. A detailed diagram is in **Appendix D** that further illustrates these recovery options, agreements and permits, and the general terms and conditions of the agreements.

**Figure 1** | Approaches and methods for the recovery of AWBA LTSCs



In addition to the evaluation of recovery methods, for planning purposes, RPAG members proposed evaluating shortage reductions that impact the CAP M&I Priority Pool in the near term. This firming exercise provided an opportunity to analyze individual recovery preferences. Of the M&I subcontractors who participated in the scenario exercise, many indicated that they would elect to recover AWBA LTSCs independently or would opt out of receiving AWBA LTSCs altogether. This exercise highlighted the likelihood that CAP could be responsible for reduced recovery in the near term.

## Costs

The overall cost of recovery will still depend on the method or combination of methods used to physically recover AWBA LTSCs. The cost components of each recovery method remain the same as the 2014 Plan. Entities electing to use CAP for recovery will be responsible for paying the cost of the Firming Water. Entities electing to recover independently will be responsible for their own costs.

In addition to the “CAP Policy Allowing the Use of the CAGRDR Long-Term CAP Contract to Satisfy the Arizona Water Banking Authority’s Firming or Interstate Obligations” (see Appendix E for the policy), CAP has entered into recovery agreements with Arizona Water Company (AZWC), Roosevelt Water Conservation District (RWCD), Tucson Water

(Tucson), New Magma Irrigation and Drainage District, Queen Creek Irrigation District, Central Arizona Irrigation and Drainage District and Maricopa–Stanfield Irrigation and Drainage District. These agreements have associated costs for recovery of certain volumes of water. The recovery costs associated with the AZWC and Tucson agreements are \$15.38/AF. The RWCD Agreement has a water recovery and delivery charge of \$125/AF with a potential for an annual adjustment of up to 2.5% of the total unit cost or any component of the total unit cost, an administrative fee of \$2,000/month and additional fixed costs. The agreements with the four irrigation districts have a recovery cost of \$15.38/AF and an operation, maintenance and pumping energy rate starting in 2027 at \$70/AF increased by 2.5%/year over the term of the agreement. Finally, the CAGR policy has a \$15/AF cost. Additional administrative costs associated with recovery well permitting, LTSC transfers and annual recovery will also be incorporated into the firming cost.

For implementation of Independent Recovery, recovery opportunities identified in the 2014 Plan are now being developed among a number of M&I subcontractors instead of CAP. This reliance on Independent Recovery reduces the amount of recovery capacity needed by CAP. As recovery roles and opportunities change in the future, this will have a direct effect on the cost of firming water developed by CAP.

For the near term, if CAP is able to create recovery capacity through CAGR policy or credit exchange partnerships, then the costs for firming water will remain low as is seen in the existing recovery agreements mentioned above. However, if there are limited opportunities to enter into credit exchange agreements, then direct recovery may be necessary. The costs to develop firming water through CAP direct recovery would be higher with the development of wells and conveyance systems, maintenance and operation costs of wells including energy for pumping and the potential for water treatment.

Based on the feasibility studies in 2017 and 2018 which found smaller hydraulic conductivity and higher concentrations of arsenic and fluoride, direct recovery at Tonopah Desert Recharge Project (TDRP) may be as high as \$500/AF. Currently, alternative recovery sites with potentially lower recovery costs are being evaluated. With the focus on interstate recovery in the near term and interest in Independent Recovery among intrastate parties, direct recovery may not be needed immediately, allowing for a more pragmatic, stepwise approach in future feasibility investigations with potential reduced costs.

Initially, the costs of feasibility studies were paid for in the rates, but in 2017 the CAP Board established a \$10 million Recovery Reserve with property tax funds to cover upfront recovery costs when there is no revenue from beneficiaries receiving recovered water. Beneficiaries of recovery will be responsible for the costs associated with recovering LTSCs for delivery in place of a reduced CAP delivery, including reimbursing expenditures out of the Recovery Reserve. Recovery costs are described in more detail in Section 7.

# 5.0

## Likelihood, Timing & Magnitude of Shortage and AWBA Firming

Estimating the likelihood, timing and magnitude of Colorado River shortages and the need for AWBA firming is an essential component of recovery planning. Updated modeling compares water supply and demand factors to estimate when AWBA firming might be needed. Estimating the magnitude of potential AWBA firming volumes is a function of both Colorado River supply and Arizona demand for Colorado River water, both on-River and within the CAP service area. This section discusses the revised supply and demand assumptions and updated modeling results for each of the AWBA firming responsibilities.

### Factors Affecting Recovery

The need for recovery can result from shortages in the Colorado River supply available to Arizona or a request by Nevada for the creation of ICUA. Whether or not recovery is triggered by a shortage is dependent on the magnitude of the shortage and the demands by Colorado River water users in Arizona at the time of shortage. Therefore, recovery of AWBA LTSCs may be required when the reduction in supply intersects demand by CAP pools and on-River P4 M&I users for which AWBA has firming responsibilities.

### Supply Factors

Colorado River supply each year is affected by reservoir storage, runoff from snowmelt and precipitation, Upper Basin consumptive use, and policies governing reservoir operations. Although hydrology and consumptive uses change from year to year, the most significant operational change since the 2014 Plan is the adoption of the Drought Contingency Plans (DCPs) for the Upper and Lower Basin that went into effect in 2019.

The LBDCP is a set of agreements designed to protect the Colorado River system through increased conservation and reductions at higher elevations. The LBDCP acts as an overlay to the 2007 Lower Basin Shortages and Coordinated Operation of Lake Powell and Lake Mead (2007 Interim Guidelines) and accordingly will operate through December 31, 2026.

The LBDCP established earlier and deeper reductions by requiring additional contributions from Arizona (**Table 4**) and Nevada, along with new contributions from California and the United States. Arizona and Nevada contributions are in addition to the shortage reductions set forth by the 2007 Interim Guidelines. Also, the Republic of Mexico has agreed to water savings in parity with those in the LBDCP under a Binational Water Scarcity Contingency Plan (BWSCP) pursuant to Minute 323 signed in September 2017.

While the LBDCP allows the conversion of existing ICS to DCP ICS to satisfy a State's LBDCP contribution, the modeling results presented in this Section assume the contributions will be satisfied through reductions in available supply. The operational rules for the LBDCP, the 2007 Interim Guidelines and the BWSCP are all extended through 2045 for recovery planning purposes.

**Table 4** | Arizona Shortage Reductions under 2007 Interim Guidelines and Additional LBDCP Contributions

LAKE MEAD ELEVATION (FT.)	Tier	2007 Interim Guidelines (AF)	LBDCP Contribution (AF)	Total (AF)
≤1090>1075	Tier 0	0	192,000	<b>192,000</b>
≤1075>1050	Tier 1	320,000	192,000	<b>512,000</b>
≤1050>1045	Tier 2a	400,000	192,000	<b>592,000</b>
≤1045>1025	Tier 2b	400,000	240,000	<b>640,000</b>
≤ 1025	Tier 3	480,000	240,000	<b>720,000</b>

Source: 2007 Interim Guidelines and LBDCP (2019)

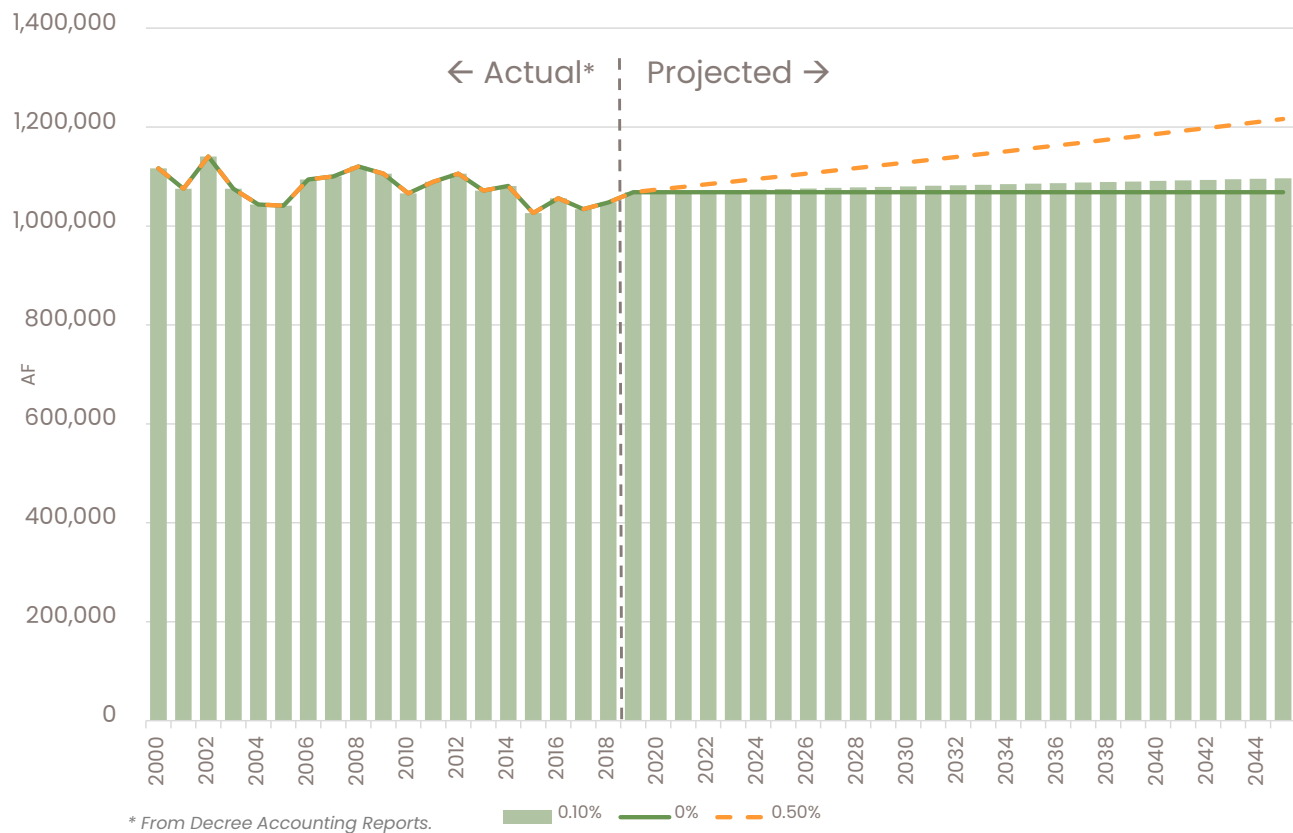
Reductions to Arizona as shown in **Table 4** above are apportioned among fourth priority users based on the 2006 Director's Shortage Sharing Recommendation. The Recommendation outlines a step-by-step approach in which the supply available to P4 users is first determined by subtracting First through Third Priority (P1-3) consumptive uses from supplies available to Arizona. Shortage reductions are then shared between on-River P4 users and CAP, using a formula that is based on the total P4 supply prior to a shortage reduction, and on-River P4 supplies based on the use of their entitlements. Because current on-River P4 uses are considerably below the full combined entitlement of 164,652 AF, Arizona shortage reductions will primarily impact CAP water users in the near term.

## Demand Factors

### On-River Demand

High priority P1-3 users are not directly impacted by shortage reductions to Arizona’s Colorado River supply. These uses are primarily agricultural and have not exhibited an upward trend in use over the past decade. However, for this Joint Update, the ten-year average (2009-2018) consumptive use was used as the starting point for the three P1-3 growth projection scenarios: 1) no increase; 2) 0.1% annual increase and 3) 0.5% annual increase (**Figure 2**). The 0.1% increase scenario was selected as the baseline for this Joint Update.

**Figure 2** | Actual and Projected P1-3 On-River Use



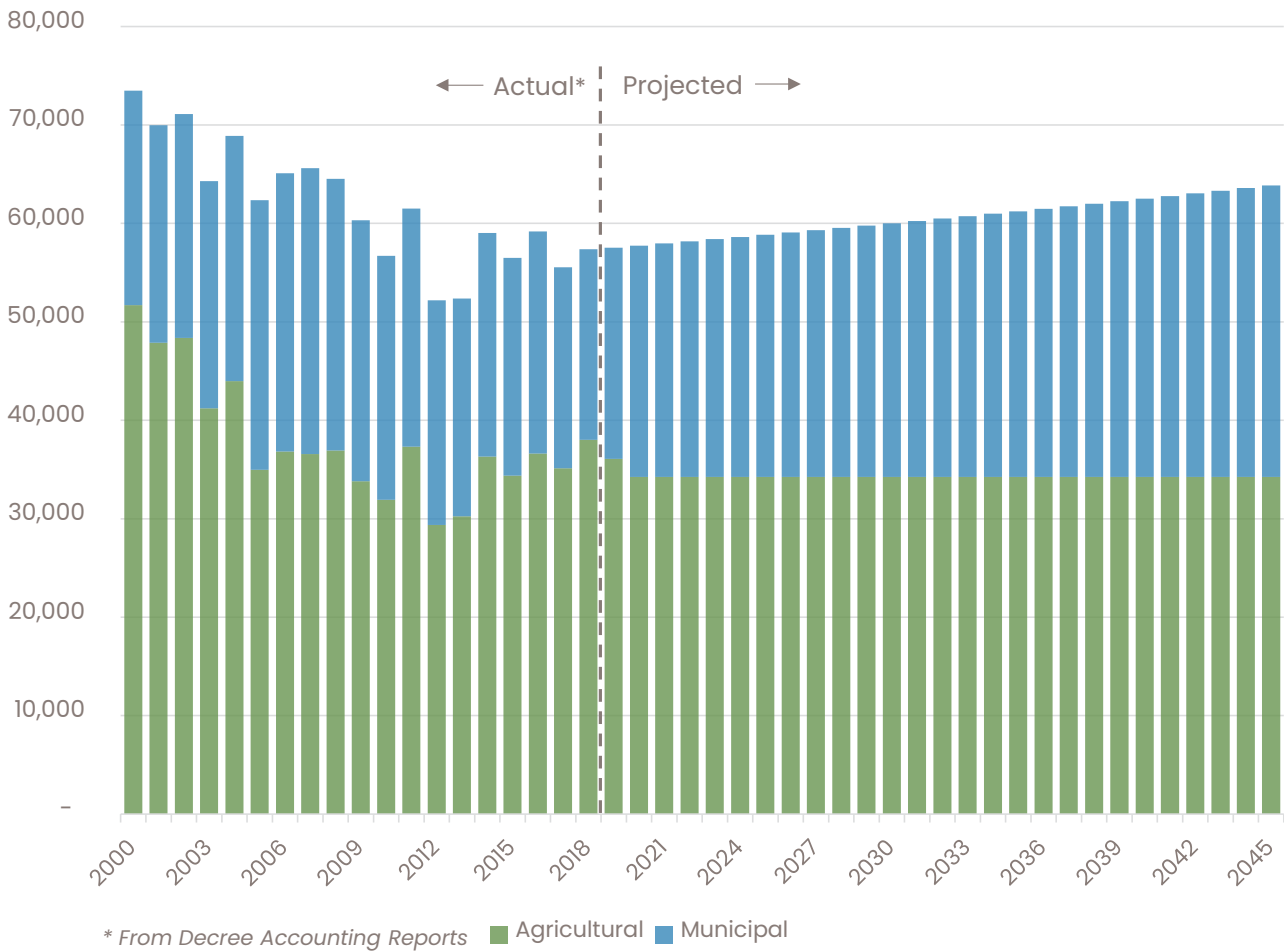
**Figure 2** Actual and Projected On-River P1-3 Consumptive Use for three scenarios: (i) use held constant; (ii) 0.1% annual increase; iii) a 0.5% annual increase

In the 2014 Plan, on-River (P1-4) contract use was projected to increase to approximately 1.22 MAF by 2045.<sup>12</sup> As explained above, on-River P4 contracts in aggregate are underutilized, but there is recognition that P4 demands may grow in the future.

<sup>12</sup> This is the same assumption that ADWR called “Scenario A” in its NIA reallocation process modeling (2012) showing mainstem uses growing at a moderate rate.

On-River P4 contracts are a combination of agricultural and municipal uses. In the 2014 Plan, on-River P4 contract use was projected to be 92,000 AF by 2045. On-River P4 contract use has been lower than these projections with a 2014-2018 average use of 57,534 AF. As a result, the five-year average (2014-2018) was used as a starting point with a 1% projected increase for M&I uses and agricultural use remaining constant (**Figure 3**).

**Figure 3 | Actual and Projected Agricultural and Municipal On-River P4 Consumptive Use**

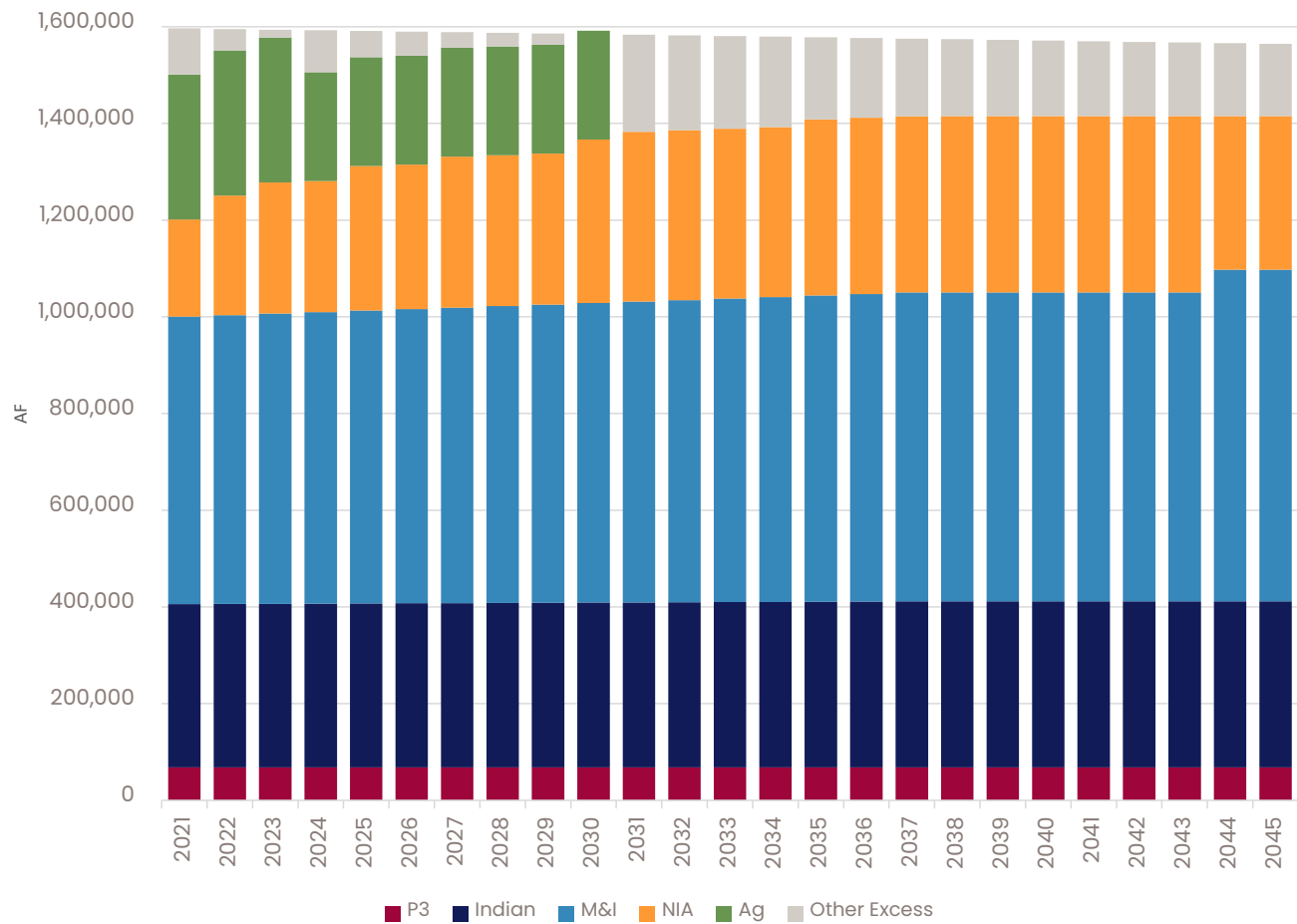


**CAP Demand**

Projections of CAP demand were developed based on the total available delivery supply; the four long-term contract priority pools;<sup>13</sup> the Agricultural Settlement Pool (through 2030); and Other Excess. The updated modeling was based on a starting point of 2020 water orders, and an assumption that the full CAP long-term contract volume of 1.415 MAF would be allocated and used by 2038 (**Figure 4**). In the 2014 Plan, full utilization by 2035 and 2045 was modeled. The more specific timing of the NIA reallocations for M&I uses, the enforceability of the White Mountain Apache Tribe water settlement, and future Tribal water settlements was also updated from the 2014 Plan.

<sup>13</sup> The CAP long-term entitlements are grouped into four priority types; P3, Indian, M&I and NIA (listed from highest to lowest priority).

**Figure 4 | CAP Build-Up Demand Schedule**



**Interstate Requests**

Southern Nevada Water Authority (SNWA) is reviewing its ten-year plan for Intentionally Created Unused Apportionment (ICUA) requests, which would generate the need for recovery. Currently, the AWBA holds 613,846 AF of LTSCs for SNWA of which approximately 600,000 AF must be recovered by the early 2060s. For planning purposes, AWBA and CAWCD anticipate SNWA will request a minimum of 2,500 AF of ICUA development per year beginning in 2025, pursuant to an agreement with Arizona Water Company. ICUA requests beyond that, including requests for ICUA during a shortage year, are defined in the Third Amended Agreement.<sup>14</sup> The focus of recovery for ICUA development will be in the Pinal AMA, where the majority of interstate credits are located.

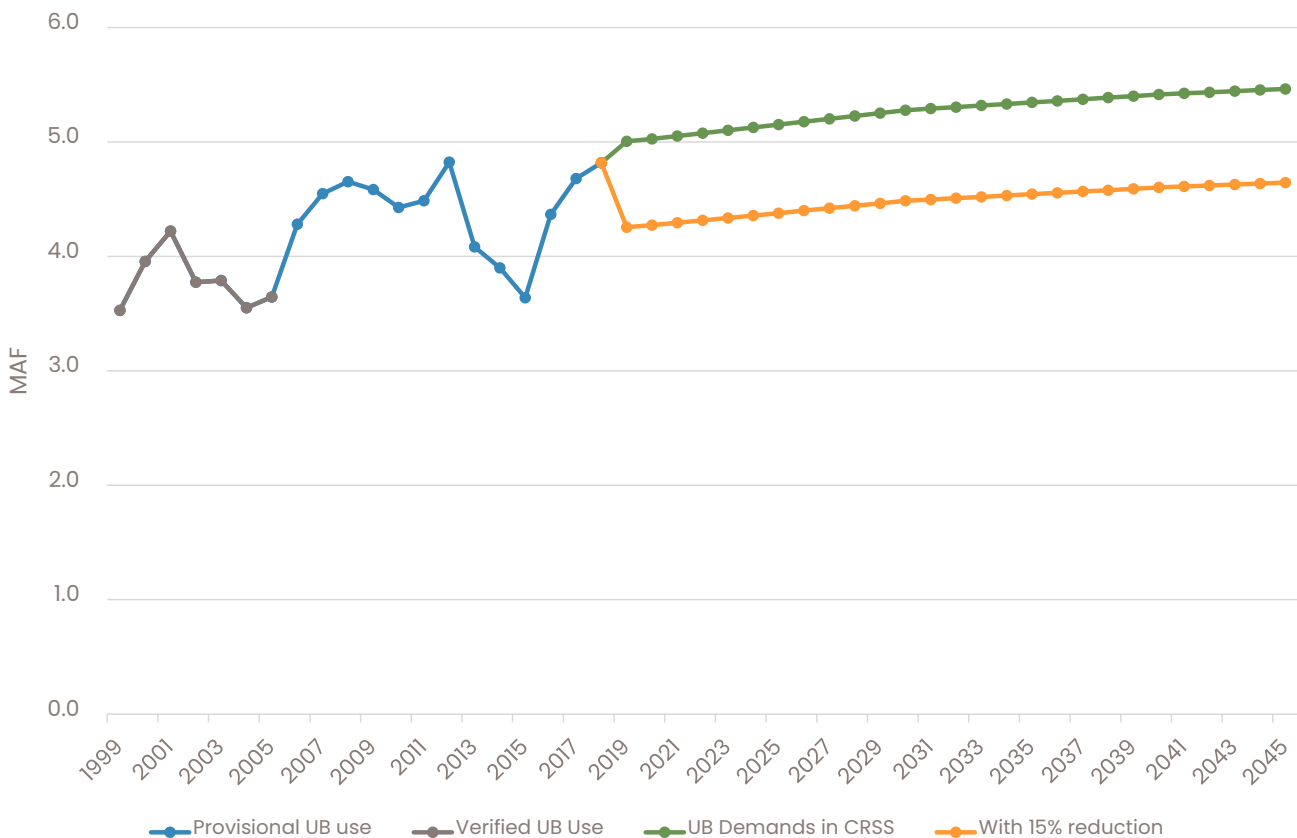
<sup>14</sup> Third Amended and Restated Agreement for Interstate Water Banking (2013)

## Modeling Approach

The supply and demand factors described above are quantified and evaluated using two different models - the Bureau of Reclamation’s Colorado River Simulation System (CRSS) and a custom Joint Recovery Model (JRM).

The CRSS model generates a range of future Colorado River supplies available to Arizona by incorporating basin hydrology, Upper Basin demands and current reservoir operating rules. Recovery modeling for the 2014 Plan used Colorado River direct natural flow (1906–2010) hydrology and analyzed scenarios based on different intrastate and interstate demand assumptions. This Joint Update incorporates more recent hydrology and DCP operating rules. Some of the key assumptions used in the CRSS model for this Joint Update are outlined in **Table 5** below. To prepare for a wide range of future hydrologic conditions, and to explore the sensitivity of Lake Mead elevations to a range of variables explicit in the CRSS model, the modeling for this Joint Update explored multiple scenarios using two different projected Upper Basin demands and two different basin hydrologies. The Upper Basin demand projections evaluated include the demand projection inherent in the CRSS model and a scenario using a 15% reduction to the CRSS demand projection. The hydrologies evaluated include the Colorado River full observed record of direct natural flow (1906–2017) hydrology, and a scenario using stress test hydrology (1988–2017). A list of additional assumptions can be found in **Appendix F**.

**Figure 5 |** Upper Basin Demand Scenarios





Using these assumptions, CRSS generates projections of future Colorado River system conditions, including elevations of Lake Mead and supply available to Arizona.

**Table 5** | Key Modeling Parameters & Assumptions that affect Arizona’s Colorado River Supply

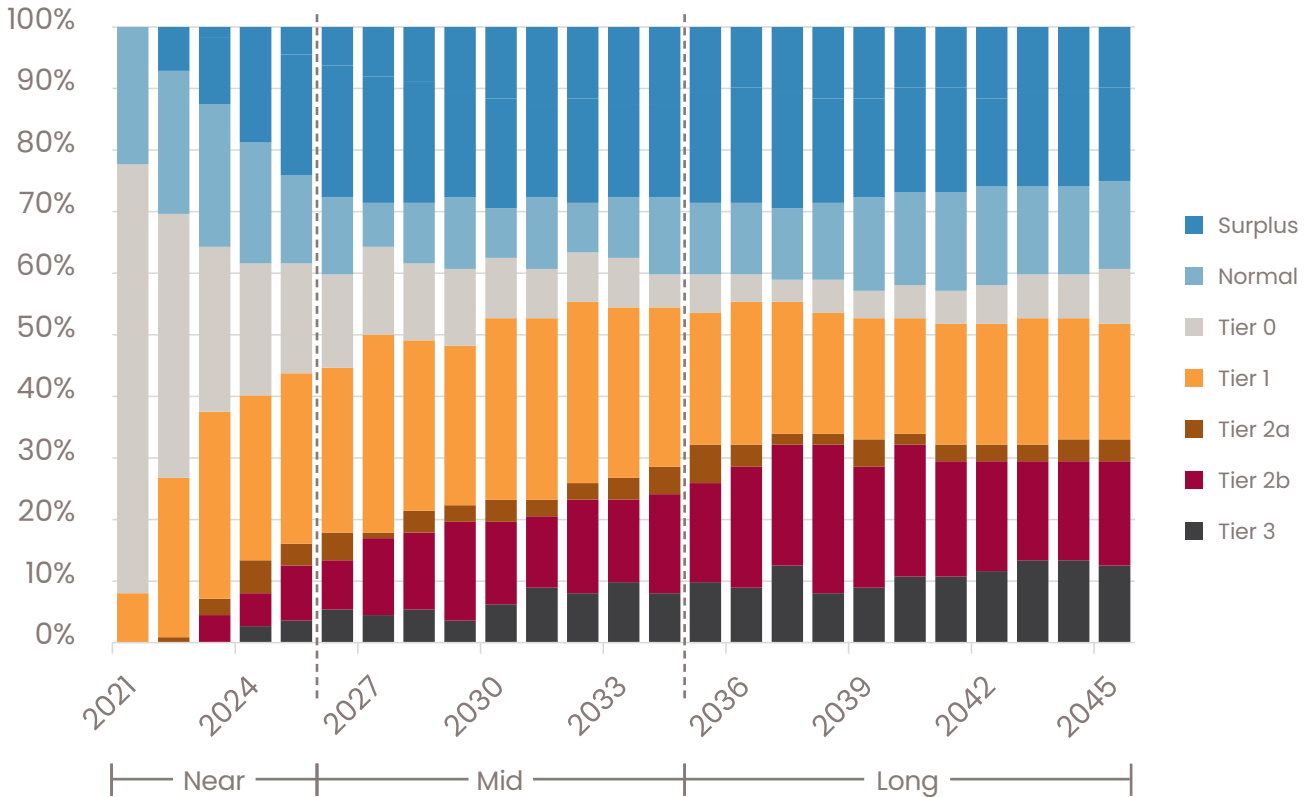
MODELING PARAMETERS	MODELING ASSUMPTIONS
Basin Hydrology	Observed Record (1906–2017)
Upper Basin Demands	“As-is” in the August (December Update) 2019 model
Operation of Yuma Desalting Plant	No
Mexico Shortage Sharing	Minute 323
Reservoir Operations	2007 Interim Guidelines and DCP, extended through the planning period
Initial Reservoir Condition	August 2019 model with December model correction

These outputs from CRSS, specifically Lake Mead elevations and thereby the supply available to Arizona are then provided as an input to the JRM. The JRM calculates the supplies available to Arizona, estimates when the available supplies may not meet on-River and CAP demands and evaluates the impacts to the AWBA firming responsibilities.

## Modeling Results

Since the 2014 Plan, updated modeling shows larger potential maximum firming volumes for the CAP M&I Priority Pool due to greater supply reductions resulting from the implementation of LBDCP and an increase in demand for the CAP Indian and M&I Priority Pools. The estimated AWBA firming volumes for Tribal CAP NIA supplies are similar to the 2014 Plan, but the probability has grown due to the increased utilization rate of higher priority supplies.

**Figure 6 | Annual Probabilities of River Condition (Shortage Tier, Normal or Surplus)**



The chart of annual probabilities using the 112 Direct Natural Flows hydrologic traces, along with the “As-Is” CRSS Upper Basin demands is shown in **Figure 6**. These results clearly show the increased risk of deeper shortages over time. While the annual probabilities are useful in identifying trends, they can also mask some of the effects of the underlying hydrology, so it can be helpful to evaluate the likelihood of occurrence over a period of time. **Table 6** was generated by selecting the minimum elevation for each model run (i.e., hydrologic trace), by planning period, and then calculating the probabilities for those 112 results. This approach shows the risk associated with experiencing a particular shortage level during each planning period, irrespective of the particular year it occurs. For instance, in the mid term there is a 71% likelihood of dropping below 1,075’ (i.e., Tier 1 or worse) at least once sometime during that nine-year period, and a 25% likelihood of dropping below 1,025’ (Tier 3).

**Table 6** | Probability of Dropping Below Defined Lake Mead Elevations At Least Once During a Planning Period.

LAKE MEAD ELEVATION	Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
<= 1,090'	Tier 0 or greater	86%	75%	73%
<= 1,075'	Tier 1 or greater	55%	71%	68%
<= 1,050'	Tier 2a or greater	22%	47%	50%
<= 1,045'	Tier 2b or greater	17%	44%	49%
<= 1,025'	Tier 3	7%	25%	34%

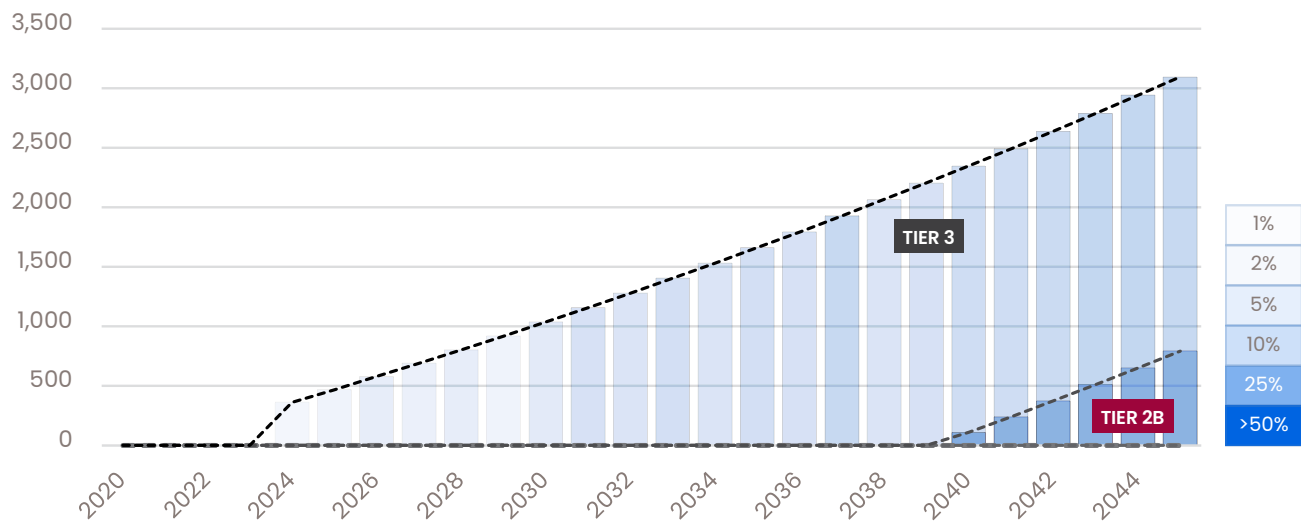
Three additional scenarios with variations in hydrology and Upper Basin demand are included in **Appendix F**. Note that these variations in hydrology and Upper Basin demands have a significant impact on the likelihood and timing of shortages, but not on the magnitude of impact at a given shortage tier. For instance, the scenario using the 15% reduction in projected Upper Basin demand lowers the probability of a Tier 3 shortage, but the impact of the 720,000 AF reduction in a given year to on-River and CAP supplies would be identical to the other scenarios.

The probabilistic results from the initial scenario were then used to calculate impacts to each of the supplies that the AWBA has firming responsibilities for. The following graphs depict both the probability of firming and the projected AWBA firming volumes for on-River P4 M&I, Tribal CAP NIA and the annual maximum firming volumes for CAP M&I subcontractors through the planning period. Shading of the graphs indicate the underlying probabilities for the projected annual firming volume and the dashed lines represent the LBDCP Tiers. Very pale blue represents the incidence of a lower number of hydrologic traces that show shortage and consequently a lower probability of firming, while the darker blue indicates a larger number of hydrologic traces that show shortages and therefore higher probabilities of firming. To simplify the discussion of these results, the planning horizon was divided into three different periods: near term (2021-2026), mid term (2027-2035) and long term (2036-2045). In addition, with the LBDCP now effective, modeling results in this Joint Update are shown in relation to the LBDCP shortage tiers.

### On-River P4

Modeling results for on-River P4 M&I users show AWBA firming volumes and probabilities through the planning period (**Figure 7**). The magnitude and likelihood of the need for AWBA firming increases through the planning period as the use of P4 contracts increases. There is no on-River recovery in a Tier Zero, 1 or 2a. As deeper reductions in the supply occur, the probability for potential recovery increases in the mid and long-term planning periods, though the volumes are relatively low.

**Figure 7** | On-River P4 M&I Firming Volume and Associated Probabilities



The projected annual on-River P4 M&I firming volumes through the planning period are low (**Table 7**). The projected annual on-River P4 firming volumes reach 1,700 AF in the mid term and 3,100 AF in the long term.

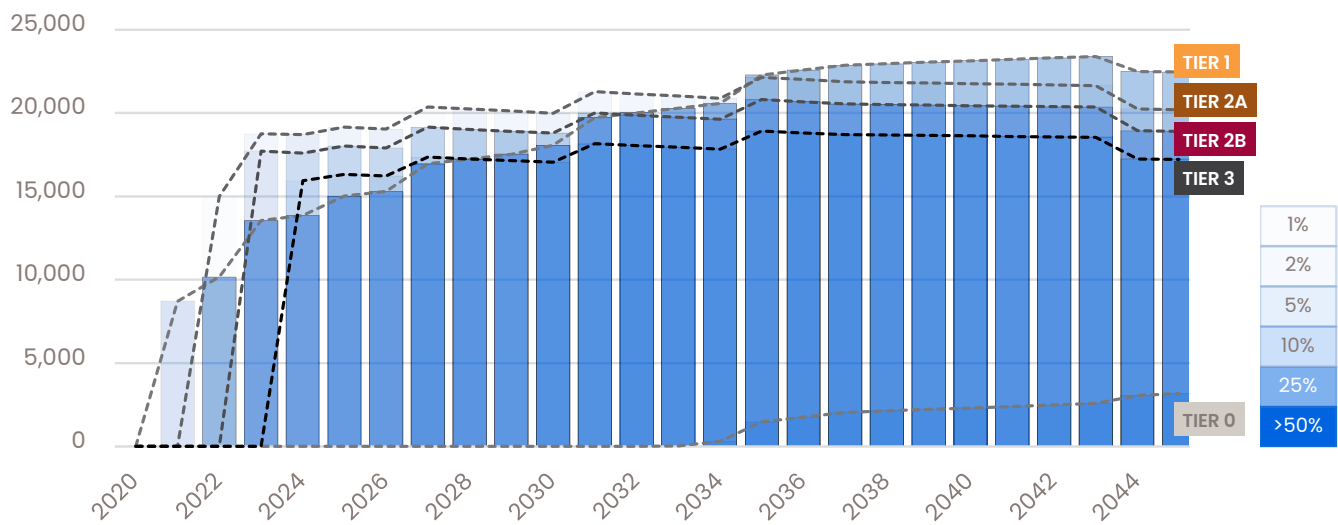
**Table 7** | Projected Annual AWBA Firming Volume for the On-River P4 M&I Users, by Shortage Tier and Planning Period

Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
0	0	0	0
1	0	0	0
2a	0	0	0
2b	0	0	800
3	600	1,700	3,100

### Tribal CAP NIA

Modeling results for Tribal CAP NIA Priority supplies show projected AWBA firming volumes and probabilities over the planning period (**Figure 8**). The magnitude and likelihood of firming increases over the planning period as the use of CAP long-term entitlements increase. Only a portion of the CAP NIA Priority Pool used for Tribal settlements is firming by the AWBA. The maximum Tribal CAP NIA firming by the AWBA is 23,724 AF per year.

**Figure 8 | Tribal CAP NIA AWBA Firming Volume and Associated Probabilities**



The maximum AWBA firming volume increases through the near and mid term (**Table 8**). After 2035, Tribal CAP NIA firming volumes are reduced in correlation with M&I firming. The Arizona Water Settlements Act stipulated a portion of the CAP NIA pool received by tribes will be firming to the same extent as the CAP M&I Priority Pool, with the remainder keeping the lower CAP NIA Priority status. As a result, when a shortage results in a reduction to the CAP M&I Priority Pool, there will be an equivalent percent reduction to the AWBA firming requirement for Tribal CAP NIA supplies.

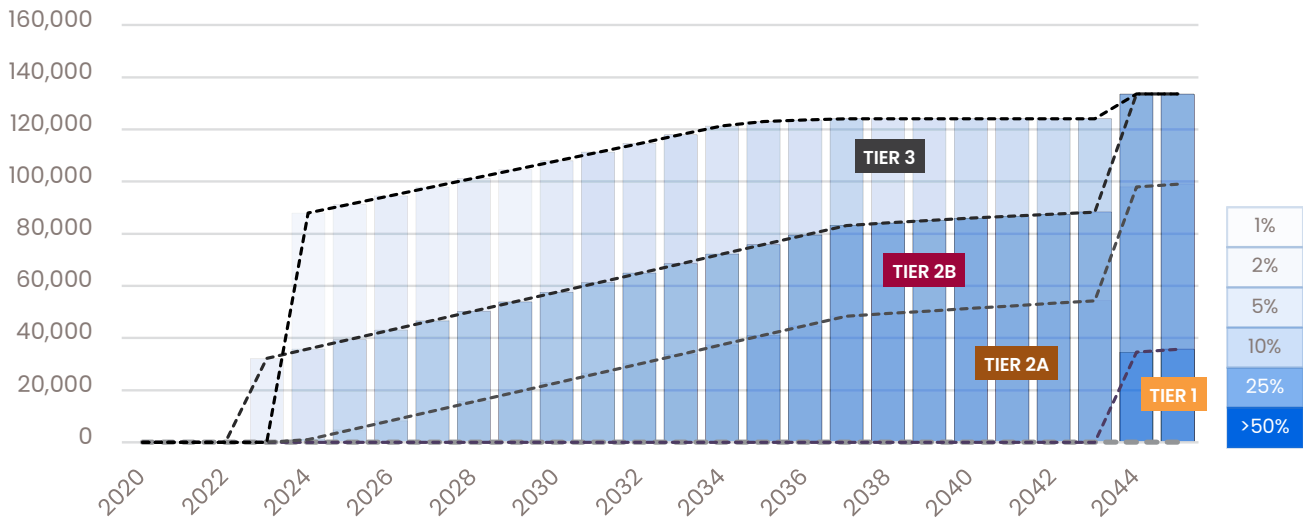
**Table 8 | Maximum Annual AWBA Firming Volume for Tribal CAP NIA supplies, by Shortage Tier and Planning Period**

Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
0	0	1,500	3,200
1	15,300	22,300	23,400
2a	19,200	22,100	22,000
2b	18,000	20,800	20,700
3	16,300	18,900	18,800

### M&I

Modeling results for CAP M&I Priority supplies indicate the annual probability of shortage reductions to the CAP M&I Priority Pool and the potential maximum AWBA firming volumes over the planning period (**Figure 9**).

**Figure 9** | CAP M&I Firming Volumes and Associated Shortage Probabilities



The potential maximum CAP M&I firming volumes increase through the planning period (**Table 9**). The CAP M&I Priority Pool is firming to 100% through 2026 and is capped at 20% of the projected M&I demand over the remainder of the planning period. Shortage impacts to the CAP M&I Priority Pool will likely increase over time as CAP long-term contracts grow into full utilization. Current estimates of Tier 3 shortage reductions to the CAP M&I Priority Pool are approximately 14% to 16% in the near term, 17% to 21% in the mid term and 21% to 28% in the long term. In the near term, AWBA firming for CAP M&I subcontracts will not be necessary in Tier 0 or Tier 1 reductions.

**Table 9** | Potential Maximum Annual AWBA Firming Volume for the CAP M&I Priority Pool, by Shortage Tier and Planning Period (AF)

Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
0	0	0	0
1	0	0	37,500
2a	8,300	41,100	99,100
2b	43,000	75,800	133,600
3	94,600	123,000	133,600

During risk discussions, RPAG members indicated a clear desire to address the highest recovery volumes, even if the probability is low, to ensure that recovery planning addresses the greatest level of impact. Those maximum volumes, based on a Tier 3 shortage, result in the total intrastate firming volume of up to 114,400 AF in the near term, 147,000 AF in the mid term and 160,100 AF in the long term (**Table 10**). The implications for recovery of these firming volumes are discussed in the next section.

**Table 10** | Potential Maximum Annual Firming Volume

AWBA Firming Responsibility	Maximum Annual Volume (AF)		
	(2021-2026)	(2027-2035)	(2036-2045)
Tribal CAP NIA	19,200	22,300	23,400
On-River P4 M&I	600	1,700	3,100
CAP M&I	94,600	123,000	133,600

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## Recovery Capacity Analysis

The AWBA has firming responsibilities for certain Tribal NIA supplies, CAP M&I subcontractors, on-River P4 M&I users and interstate water banking obligations with Nevada. Section 5 analyzed the projected maximum potential AWBA firming volumes and the most likely timing of recovery needs for these firming responsibilities. Each of the entities firming by the AWBA have unique requirements for how firming might be accomplished. This section focuses on the portion of AWBA firming volumes that will likely require recovery well capacity for the physical recovery of AWBA LTSCs. This section also includes an update on CAP recovery capacity, as well as a discussion of Independent Recovery by M&I subcontractors and next steps for additional recovery capacity.

### Tribal NIA Firming

NIA priority CAP water is the lowest priority among the categories of CAP long-term contracts, so the AWBA's Tribal CAP NIA firming responsibilities will likely be the first to be implemented. To prepare, the AWBA has focused on developing multiple options for firming Tribal CAP NIA Priority supplies.

Under the Arizona Water Settlements Act, the AWBA, as the agent for the State, assumed the obligation to firm 23,724 acre-feet per year (AFY) of NIA priority CAP water allocated to Arizona Indian Tribes. This includes an obligation to firm up to 15,000 AFY for the Community, up to 3,750 AFY made available under the White Mountain Apache Tribe Water Quantification Act of 2010 (WMAT Quantification Act) and 557.5 AFY under the proposed Hualapai Indian Tribe's settlement.

Future firming obligations under the WMAT Quantification Act and the Hualapai Tribe's settlement are part of the total 8,724 AFY of NIA priority CAP water identified for future settlements under the AWSA. Water firming by the AWBA under the WMAT Quantification Act is intended to be leased to the cities of Avondale, Chandler, Gilbert, Glendale, Mesa, Peoria, Phoenix and Tempe. Therefore, the AWBA's firming obligations will accrue to the lessees. The enforceability date of the WMAT Quantification Act was extended to April 30, 2023.



## AWBA's Options for Tribal Firming

The AWBA and the Community entered into an IGA in 2015 to address the AWBA's firming obligations to the Community. The IGA outlines the steps that must be taken by each party as the potential for shortage approaches. The IGA also identifies several options that can be used to satisfy a firming obligation.

As discussed in Section 3, these options include the use of 105,390 AF of LTSCs accrued at the Gila River Indian Irrigation and Drainage District GSF, 44,000 AF of Firming credits accrued on Community lands and 45,000 AF of Firming ICS accrued in Lake Mead.<sup>16</sup> There are constraints on the timing of the use of each these options. Firming ICS may not be used until after 2026, after which they will be used first, subject to the rules, regulations and guidelines governing the delivery of ICS.

Combined, these firming options represent 194,390 AF that will not require recovery capacity from CAP. However, the Community maintains the option to request firming through CAP, in which case CAP would recover AWBA LTSCs using one of the recovery methods described in Section 4 and deliver water to the Community.

Although the WMAT Quantification Act is not yet enforceable, AWBA staff met with the lessees in 2017 to discuss potential firming opportunities. The lessees indicated the desire for flexibility in developing firming agreements, including the distribution of LTSCs for Independent Recovery or recovery through CAP when needed.

The AWBA has developed 774,254 AF of withdrawal fee LTSCs for water management purposes, including Tribal firming: 339,724 AF in the Phoenix AMA and 434,530 AF in the Pinal AMA. These LTSCs must be used for the benefit of the AMA in which the revenues were collected.

## CAP's Recovery Capacity for Tribal Firming

CAP has several recovery options available to satisfy a request for Tribal firming (see **Table 12**), but of particular relevance is an agreement CAP entered into in 2018 with Roosevelt Water Conservation District (RWCD) for the recovery of up to 10,000 AF per year of AWBA LTSCs. RWCD can utilize their wells and conveyance system for the recovery and transportation of recovered LTSCs that could be utilized for firming the Community.

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<sup>16</sup> To date, the AWBA has accrued 19,584 acre-feet of the 45,000 acre-feet of Firming ICS.

## CAP M&I Firming

Through 2019, the AWBA has accrued or acquired 2,227,745 AF of LTSCs that will be used for the benefit of CAP M&I subcontractors to mitigate reductions in Colorado River supplies. In 2019, the AWBA adopted a policy for distributing LTSCs to CAP M&I subcontractors in order to facilitate the mitigation component of Arizona's Implementation Plan for the LBDCP (**Appendix H**). Under the policy, LTSCs will be distributed to meet all reductions to scheduled CAP M&I subcontracts due to a shortage condition or required DCP Contributions through 2026. The planning assumption for the mid and long term is that the maximum firming is capped at 20%, which is consistent with previous AWBA planning assumptions. However, as detailed below, not all of those firming volumes may require physical recovery infrastructure. To estimate the portion of AWBA firming volumes that might require recovery well capacity, it is helpful to evaluate how shortage reductions impact M&I subcontractors' annual direct uses.

### Impacts to Annual Direct Uses

The projected maximum potential firming volumes identified in Section 5 reflect the impacts of Tier 3 shortage reductions to the entire CAP M&I Priority Pool, but the implications of those reductions vary considerably among the individual CAP M&I subcontractors. For instance, in some cases the reduction may only affect the ability of a subcontractor to accrue LTSCs for future use, but in other cases it may affect a subcontractor's direct uses, including delivery of CAP water to a treatment plant or use of supplies for annual storage and recovery. This is relevant for recovery planning purposes because the impacts to direct uses affect the amount of recovery capacity required for AWBA M&I firming, as well as the types of recovery agreements that may be necessary. It is particularly important to understand how much of an impact there may be to direct uses because under most circumstances addressing those impacts involves the use of recovery wells that must be available in the year that the impacts occur.

The approach used to estimate the impacts to direct uses included an evaluation of the entire portfolio of CAP supplies available to each subcontractor during a Tier 3 shortage condition. To identify the total volume of recovery capacity required, all CAP supplies (e.g., P3, Tribal leases, etc.) were included in the analysis to account for the total “wet” CAP water available to the M&I subcontractor to satisfy their annual direct use. The inclusion of all CAP supplies in the evaluation does not affect the magnitude of AWBA M&I firming. Under the AWBA’s interim policy, CAP M&I subcontractors would still receive firming for the entire reduction to their M&I subcontract order. To estimate the direct use impacts, and thus the amount of firming that will require physical recovery, the following methodology was used for each M&I subcontractor:

- A. Determine the full portfolio of CAP supplies available to the subcontractor
- B. Determine the total volume of CAP water available to the subcontractor during Tier 3 reduction
- C. Estimate the subcontractor’s direct use CAP demands<sup>17</sup>
- D. If the volume in C is greater than B, the difference is the total estimated required recovery capacity for that subcontractor

### **Estimated M&I Recovery Capacity Required**

The analysis of Tier 3 shortage impacts to CAP M&I subcontractors and the initial estimate of recovery capacity needed for AWBA M&I firming was presented to RPAG members in September 2020. RPAG members indicated support for the overall approach and methodology used and suggested additional work to refine the estimates by requesting more detailed feedback on the assumptions used. RPAG members requested staff present the analysis to a wider audience of M&I subcontractors for additional feedback. After a series of stakeholder meetings with potentially impacted CAP M&I subcontractors, each of the participating subcontractors received a spreadsheet representing their individual components of the larger analysis. Each subcontractor was asked to review specific components of their individual analysis, confirm the embedded assumptions and answer a few questions relevant to their plans for Independent Recovery of AWBA LTSCs.

Staff from the AWBA, ADWR and CAP worked collaboratively with each of the impacted CAP M&I subcontractors to confirm the planning assumptions and/or make revisions if necessary. The responses received were compiled into an updated summary of direct use impacts and revised M&I recovery capacity estimates for AWBA firming. In addition to assisting with numeric estimates, many of the impacted M&I subcontractors provided updated estimates for the volume of CAP direct deliveries they anticipate, as well as the recovery well capacity they expect will be available for Independent Recovery of AWBA LTSCs.

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<sup>17</sup> Based on CAP delivery records, ADWR Annual Reports and an assumed 1% per year growth rate in CAP direct uses. Growth rate assumptions were refined for certain CAP M&I subcontractors based on their feedback

The analysis of a Tier 3 shortage reduction, the impacts to CAP supplies and the corresponding estimated recovery capacity required are summarized in Table 11. The table includes the total CAP portfolio of supplies available to M&I subcontractors in a non-shortage year, the total Tier 3 shortage reduction to the CAP supplies used to accrue LTSCs versus annual direct uses, and the estimated AWBA M&I recovery capacity required to firm M&I subcontractors' reductions to direct uses. Note that approximately 94% of the direct use impacts occur within the Phoenix AMA, with 5% in the Pinal AMA and 1% in the Tucson AMA.

**Table 11** | Estimated AWBA M&I Recovery Capacity Required Under a Tier 3 Reduction<sup>1</sup>

Tier 3 Reduction – M&I Impacts (AFY)	2026 <sup>6</sup>	2035 <sup>6</sup>	2043 <sup>6</sup>	2045 <sup>6</sup>
<b>Total CAP Supplies Used by M&amp;I Subcontractors<sup>2</sup></b>	<b>859,900</b>	<b>878,300</b>	<b>878,300</b>	<b>878,300</b>
<b>Tier 3 Reduction to CAP Supplies Used by M&amp;I Subcontractors</b>	<b>207,800</b>	<b>239,300</b>	<b>252,300</b>	<b>254,600</b>
Reduction to LTSC Accrual	158,700	155,000	135,700	137,900
Reduction to Direct Uses <sup>3</sup>	49,100	84,300	116,700	116,700
<i>Reduction to M&amp;I Priority Direct Uses</i>	<i>29,100</i>	<i>54,900</i>	<i>79,800</i>	<i>90,100</i>
<b>AWBA M&amp;I Recovery Capacity Needed<sup>4</sup></b>	<b>27,000</b>	<b>51,100</b>	<b>71,000</b>	<b>68,000</b>
Capacity Met by CAP	11,500	15,100	18,800	21,700
Capacity Met by Independent Recovery <sup>5</sup>	15,500	36,000	52,200	46,300

<sup>1</sup> Includes Phoenix, Pinal and Tucson AMAs. All values in acre-feet per year (AFY).

<sup>2</sup> Total CAP supplies used by M&I subcontractors during a non-shortage year, all CAP Priority Pools.

<sup>3</sup> Direct use includes CAP supplies not used to accrue LTSCs (e.g., water sent to treatment plants and water reported as Annual Storage & Recovery).

<sup>4</sup> Recovery capacity past 2026 is capped at 20% of the total M&I Priority Pool, excluding the San Carlos Apache Tribe's M&I priority supply of 18,145 acre-feet.

<sup>5</sup> Estimates based on feedback provided by subcontractors. Numbers may not sum due to rounding.

<sup>6</sup> Reflects the final year of each planning period, with 2043 and 2045 separated to show before and after the 47,303 AF of NIA priority supply converts to M&I priority in 2044.

## M&I Subcontractor's Independent Recovery Capacity

During the RPAG process, many M&I subcontractors consistently indicated an ability and a preference to be firmed without direct reliance on CAP recovery. The majority of M&I subcontractors anticipate the ability to recover AWBA LTSCs independently, reducing the recovery capacity needed by CAP. During stakeholder meetings, subcontractors were asked to indicate their anticipated reliance on CAP for direct deliveries of AWBA firming water and provide estimates of their recovery well capacity available for Independent Recovery during each planning period (**Table 11**). These volumes are estimates for planning purposes only.

While most M&I subcontractors indicated a preference for Independent Recovery, some are still evaluating their recovery needs and shared a variety of factors that influence their recovery preferences. The most common consideration mentioned was the delivery rate for CAP recovery compared with the costs of new recovery wells or investments in restoring inactive wells. Other factors that influence recovery preferences include water quality considerations, well capacity during seasonal peaks, aquifer pumping impacts by other entities, location of AWBA LTSCs and potential AWBA policies on recovery during the same year credits are transferred.

### CAP's Recovery Capacity for M&I Firming

The recovery capacity available to CAP for M&I firming is summarized in **Table 12**, but of particular relevance to M&I firming in the Phoenix AMA is the CAP Board policy allowing for the use of the CAP M&I Priority Supplemental Contract held for the benefit of the Central Arizona Groundwater Replenishment District (CAGRDR)<sup>18</sup> to satisfy AWBA firming commitments both for intrastate and interstate recovery (**Appendix D**). The policy specifies that the CAGRDR can reduce delivery of its CAP water available under its Supplemental Contract and instead receive LTSCs in its conservation district account established under Arizona Revised Statute § 45-859.01 in satisfaction of replenishment obligations. The CAP water can then be used to firm other subcontractors who request CAP recovery. Of the CAGRDR's 6,426 AF CAP M&I entitlement, 5,075 AF can be reduced for LTSCs anywhere in the Phoenix AMA, while 1,351 AF can be reduced for LTSCs created at specific facilities within the area of hydrologic impact of the groundwater withdrawals to be replenished. Other Phoenix AMA capacity available to CAP for M&I firming includes the RWCD agreement described above, and agreements with New Magma Irrigation and Drainage District (IDD) and Queen Creek Irrigation District (ID) for 1,500 AFY and 1,750 AFY respectively. Additional recovery agreements, including possible Direct Recovery, will likely be needed in the future. This need will continue to be assessed so appropriate planning can occur.

### On-River Firming

The AWBA has accrued 403,000 AF of LTSCs to firm on-River P4 M&I contractors. The volume of AWBA LTSCs needed for on-River recovery will be based on requests for firming by on-River P4 M&I contractors pursuant to recovery and exchange agreements. The modeling results in Section 5 suggest there will not be an on-River firming responsibility until there is a Tier 3 shortage in the near term or a Tier 2b shortage in the long term. The projected maximum annual firming volumes for on-River P4 M&I users are 600 AF in the near term, 1,700 AF in the mid term and 3,100 AF in the long term.

The AWBA and Mohave County Water Authority (MCWA) entered into an agreement that reserved 256,174 AF of LTSCs to firm MCWA subcontractors during times of shortage. CAP and MCWA have also entered into an agreement for the exchange and recovery of these reserved credits. In addition, there are 147,656 AF of LTSCs available to be set aside for the remaining P4 M&I entitlement holders.

<sup>18</sup> Supplemental Contract between the United States and the Central Arizona Water Conservation District for Delivery of Central Arizona Project Water contract no. 14-06-W-245

Mohave County Water Authority (MCWA) is currently the only on-River entity to enter into a firming agreement with the AWBA. The AWBA may enter into agreements with the remaining entitlement holders for their pro rata share of the available LTSCs with provisions similar to those in the agreement with MCWA. In 2010, the AWBA adopted a Resolution describing the procedure for the remaining on-River P4 M&I contractors to enter into a firming agreement with the AWBA.<sup>19</sup>

### **CAP's Recovery Capacity for On-River Firming**

The majority of the LTSCs dedicated for on-River firming are located in the Pinal AMA, where CAP has agreements with Central Arizona IDD (CAIDD) and Maricopa-Stanfield IDD (MSIDD) for recovery capacity of 5,250 AFY and 5,000 AFY respectively for a 25-year period starting in 2027. In addition to the agreements with CAIDD and MSIDD, there are also agreements with New Magma IDD and Queen Creek ID in the Phoenix AMA. The irrigation districts have agreed to exchange CAP water scheduled to their district as Ag Pool or in lieu water, with recovered CAP water withdrawn pursuant to CAP Recovery Well permits on district wells. CAP will then make the exchanged water available to on-River users by reducing CAP diversions by a like amount.

## **Interstate Intentionally Created Unused Apportionment**

The AWBA holds 613,846 AF of LTSCs on behalf of Southern Nevada Water Authority (SNWA). SNWA is authorized to request up to 40,000 AF per year of recovery for the development of Intentionally Created Unused Apportionment (ICUA). However, if sufficient recovery capacity exists, during Colorado River shortages SNWA may request the development of additional ICUA to replace reductions in supply. When SNWA requests water, CAWCD will create ICUA on behalf of the AWBA, to be paid for by SNWA.<sup>20</sup>

### **CAP's Recovery Capacity for Interstate**

To facilitate ICUA creation and manage associated costs, SNWA made two separate \$1 million investments to reserve recovery capacity. These agreements provide dedicated pre-paid recovery capacity for just over 20% of SNWA's approximately 613,000 AF of LTSCs in Arizona. In addition to these investments, SNWA has pre-paid for 50,000 AF as described in the Interstate Water Banking Agreement. Any water recovered pursuant to the following agreements shall not count against the 50,000 AF of LTSCs for which recovery has been pre-paid.

<sup>19</sup> AWBA Resolution 2010-1

<sup>20</sup> 2002 Storage and Interstate Release Agreement and 2002 Agreement for Development of ICUA

In 2017, CAP entered into an agreement with the Arizona Water Company (AWC) for future recovery of the AWBA's interstate credits held on behalf of SNWA. Under a separate agreement, SNWA has provided CAP \$1 million that was advanced to AWC for 2,500 AF of annual recovery capacity for a 26-year period beginning on January 1, 2025. In any year that recovery capacity is not utilized to develop ICUA for SNWA, it would be made available to CAP for other in-state firming needs.

In 2018, CAP entered into an agreement with Tucson Water for the recovery of AWBA interstate LTSCs to develop ICUA for SNWA. This agreement, similar to the CAP-AWC agreement, includes a payment of \$1 million for the recovery of up to 10,000 AF/year, not to exceed 65,000 AF during the term of the agreement, January 1, 2020, through December 31, 2050. The AWBA agreed to prioritize the use of AWC and Tucson Water recovery capacity when ICUA is requested by SNWA.

Since the majority of the AWBA's interstate LTSCs are located in the Pinal AMA, the previously described agreements with MSIDD and CAIDD are expected to be used primarily for interstate purposes. However, even with the existing recovery capacity, it is insufficient to cover the magnitude of interstate credit requests to create ICUA. Additional recovery agreements and new infrastructure will be necessary. The focus of this work will be in the Pinal AMA, where 72% of interstate credits are located.

## Summary of CAP's Recovery Capacity

The recovery capacity secured by CAP is summarized in **Table 12**. This capacity would be available when CAP Recovery is necessary. For on-River P4 M&I users, the maximum recovery volumes from Section 5 range from 600 AF in the near term to 3,100 AF in the long term. CAP would be responsible for the entirety of this recovery. For Tribal NIA firming, Section 5 projected recovery volumes range from 19,200 AF (Tier 2a) in the near term to 23,400 AF (Tier 1) in the long term. For M&I firming, the total CAP recovery capacity required ranges from 11,500 AF to 21,700 AF as shown in Table 11 above. This results in 31,300 AF of CAP recovery capacity that may be needed in the near term increasing to 46,200 AF of CAP recovery capacity in the long term. Sufficient CAP recovery capacity exists in the near term, but additional recovery agreements and direct recovery infrastructure will be necessary for CAP to have sufficient recovery capacity in the long term.

**Table 12** | CAP's Recovery Capacity

AMA	Partner	Volume (AF)	Term	Conditions
<b>Phoenix</b>	CAGR D	6,426	Undefined	
	New Magma IDD	1,500	2027-2052	
	Queen Creek ID	1,750	2027-2052	
	RWCD	10,000	2008-2022	
	<b>Phoenix AMA TOTAL</b>	<b>19,676</b>		
<b>Pinal</b>	AZ Water Company	2,500	2025-2050	Interstate 1st
	Central Arizona IDD	5,250	2027-2052	
	Maricopa-Stanfield IDD	5,000	2027-2052	
	<b>Pinal AMA TOTAL</b>	<b>12,750</b>		
<b>Tucson</b>	Tucson Water	10,000	2020-2050	Interstate only
	<b>Tucson AMA TOTAL</b>	<b>10,000</b>		
<b>Grand TOTAL</b>		<b>42,426</b>		

## Next Steps

Successful recovery depends on the effective implementation of various recovery opportunities using methods such as credit exchange, indirect recovery and direct recovery. AWBA and CAP will continue to pursue recovery opportunities to secure recovery capacity for intrastate recovery and interstate ICUA on behalf of SNWA. With changing hydrologic conditions, continued analysis and coordination will be needed to ensure additional recovery agreements are in place and new infrastructure can be planned for appropriately.



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## Implementation

Planning for future recovery includes ongoing efforts to identify new recovery opportunities, further develop and implement firming agreements, and continue collaboration among the AWBA, ADWR, CAP and firmed entities to refine the procedural steps required for successful implementation. Previous sections of this document describe long-term planning tools utilized to project the likelihood, magnitude, and timing of future AWBA firming and then provide estimates of the recovery capacity required. This section relies on short-term and mid-term shortage projections to trigger notifications and begin implementation of the operational timeline for the recovery of AWBA LTSCs. Updates to the operational timeline provided in this document identify critical decision points, deadlines to finalize firming agreements and a timeline for CAP recovery rate notification. This section also includes a discussion of the factors influencing CAP recovery costs.

### Shortage Notification

As the potential for recovery of AWBA LTSCs increases, sufficient lead time will be necessary for coordination among the AWBA, ADWR, CAP and CAP contractors and subcontractors. This lead time is important both for the entities that might rely on CAP recovery and for M&I subcontractors that intend to perform Independent Recovery. The triggers used to implement recovery differ according to specific recovery agreements, including existing agreements with the Gila River Indian Community, the MCWA and the SNWA. However, in general, recovery coordination begins at least three years prior to the recovery year.

## Notification Triggers

In determining when recovery implementation activities will begin relative to shortage, near term and mid-term projections will provide triggers in the three years preceding a potential shortage year. The triggers, which are detailed in the operational timeline below, are tied to Reclamation's April Five-Year Probability Table and 24-Month Study. April is an important month because it occurs after the primary snow accumulation season and Reclamation uses the April 24-Month Study to evaluate the possibility of additional releases from Lake Powell following the current Colorado River operating rules.

## Notification to CAP M&I Subcontractors

Shortage notification will occur through the "Water Delivery Schedule Request" letter that is sent in June. The letter will notify M&I subcontractors that CAP will be requesting additional information related to recovery preferences and any anticipated changes to the two-year-out schedule estimates as a consequence of shortage. This information will be provided as part of a subcontractor's water order, due by October 1st. M&I subcontractors that would rely on CAP recovery would need to have a signed Firming Agreement two years prior to the potential shortage year.

## Credit Requests & Distribution

To mitigate reductions in Arizona's Colorado River supplies, the AWBA will distribute credits for the benefit of on-River P4 M&I users, CAP M&I subcontractors and entities firmed under the Arizona Water Settlements Act. Additionally, SNWA can request the development of ICUA in both shortage and non-shortage years. When SNWA requests ICUA, recovered water will be delivered to an Arizona user and water that would have otherwise been delivered through the CAP system will remain on the river to be diverted by SNWA. SNWA must provide three years' advance notice for ICUA requests.

The AWBA will include an evaluation of recovery capacity and estimated firming volumes in the Ten-Year Plan included with the AWBA Annual Report, with the level of detail tied to the shortage triggers. A more detailed credit distribution plan will be incorporated into its Annual Plan of Operation in shortage years. Credit distribution will require the AWBA to evaluate all firming objectives (e.g., volume of LTSCs available at storage facilities). LTSCs will be distributed in accordance with State regulations and policies and also take into consideration the location of CAP M&I subcontractors, recovery partnership agreements, the location of direct recovery facilities, the location where the subcontractor has stored, annual operational issues/needs, and provisions in AWBA firming agreements. These criteria may be revised based on information gained through implementation experience.

As previously discussed, credit funding sources dictate the allowable use(s) of the credits accrued by the AWBA. Table 13 summarizes AWBA LTSCs accrued through 2019 by funding source and the percentage stored in each AMA. Credits accrued using groundwater withdrawal fees and ad valorem property tax monies (Water Storage Tax) may only be used for the benefit of the AMA or county, respectively, in which the funds were collected. Credits accrued on behalf of interstate partners are funded by the state requesting storage.

**Table 13** | AWBA LTSCs (AF) accrued through 2019, by funding source and AMA

Funding Source	LTSCs (AF)	Phoenix AMA	Pinal AMA	Tucson AMA
Water Storage Tax	2,227,745	68%	10%	22%
Withdrawal Fees	884,436	38%	49%	12%
General Fund	403,830	10%	76%	14%
Shortage Reparations	109,489	19%	55%	26%
Interstate - Nevada	613,846	10%	72%	19%

The AWBA is responsible for the distribution of credits, consistent with its statutory and contractual responsibilities. However, the AWBA is not authorized to recover stored water and must rely on CAP or other recovery partners. Many CAP M&I subcontractors have indicated a preference for Independent Recovery of AWBA LTSCs using their own infrastructure (or with a partner). As previously discussed, Senate Bill 1147, adopted in spring 2021, authorizes the AWBA to distribute ad valorem water storage tax credits directly to CAP M&I subcontractors for firming purposes. This amendment to A.R.S. § 45-2457 allows M&I subcontractors to enter into a firming agreement with the AWBA and request a direct transfer of AWBA LTSCs for firming purposes.

### M&I Firming Policy

The AWBA adopted a policy in 2019 for distributing LTSCs to CAP M&I subcontractors in order to facilitate the mitigation component of Arizona's Implementation Plan for the LBDCP.<sup>21</sup> Under the policy, through 2026 the AWBA will distribute LTSCs to meet all reductions to scheduled CAP M&I Priority water due to a shortage with impacts to the CAP M&I Priority Pool or required LBDCP contributions, regardless of when and how the LTSCs are used. In doing so, the policy provides water supply certainty to CAP M&I subcontractors during shortages that may occur through 2026. In developing this policy, the AWBA set aside long-held planning assumptions, as well as issues previously considered, involving reduced volumes of LTSCs distributed during shortages to account for Assured Water Supply Rule exemptions, conservation efforts, and accrual of long-term storage credits. These issues affect the balance of LTSCs held by the AWBA and the duration over which AWBA M&I firming may be available. By adopting this policy through 2026, the AWBA hopes to learn more about CAP M&I Priority water uses during shortage years when the M&I Priority Pool is reduced and will use the operating experience gained during this time to inform future AWBA policies on LTSC distribution.

<sup>21</sup> Policy Regarding the Distribution of Long-Term Storage Credits for Firming CAP Municipal and Industrial Subcontractors, dated March 4, 2019.

## On-River Firming Requests

The AWBA has up to 403,830 AF of LTSCs to firm on-River P4 M&I users, with 257,000 AF reserved for MCWA. The volume of AWBA LTSCs needed for on-River recovery will be based on requests for firming by on-River P4 M&I contractors pursuant to recovery and exchange agreements. MCWA is currently the only on-River entity to enter into a firming agreement with the AWBA and exchange agreement with CAP. AWBA Resolution 2010-1 describes the process by which additional on-River P4 M&I users may enter into a firming agreement with the AWBA.

## Tribal CAP NIA Firming

Colorado River modeling projections have shown that Tribal CAP NIA Priority water will most likely be the first supplies the AWBA will need to firm. To prepare, the AWBA has focused on developing multiple options for firming Tribal CAP NIA priority supplies. The AWBA has the option to enter into an agreement with CAP for the recovery and delivery of water. However, several other firming options are available for Tribal CAP NIA Priority supplies that do not rely on CAP.

## Operational Timeline

As noted above, the operational timeline for intrastate firming will be triggered based on shortage projections and will result in progressive levels of implementation activity in the three years leading up to a potential shortage year. The AWBA Annual Report released in July each year will include a Ten-Year Plan with updates on recovery implementation, including projected recovery volumes for each of the firming obligations.

The operational timeline for interstate recovery will be triggered by a request for the creation of ICUA. Recovery of AWBA LTSCs accrued on behalf of Nevada will be governed by the 2010 Recovery Agreement between the interstate parties (AWBA, CAWCD, SNWA and CRCN) to address recovery schedules, quantities and payments.

## Three Years Prior to Recovery Year

The first implementation trigger for CAP M&I firming occurs when Reclamation's April five-year table shows a greater than 15% probability of a shortage with impacts to the CAP M&I Priority Pool in the third year. In June, CAP's "Water Delivery Schedule Request" letter will notify M&I subcontractors that CAP will be requesting additional information related to recovery preferences and any anticipated changes to the two-year out estimates as a consequence of shortage as part of their October water order. The AWBA Ten-Year Plan, released by July 1 each year, includes shortage projections for each AWBA firming obligation and implements recovery consultation when the Ten-Year Plan identifies a shortage within three years. Requests by Nevada for the creation of ICUA include a three-year advance notification and will follow the annual recovery request schedule submitted by SNWA.

## **Two Years Prior to Recovery Year**

The second trigger for CAP M&I firming occurs when the “Min Probable” forecast from Reclamation’s April 24-Month Study shows a shortage with impacts to the CAP M&I Priority Pool in the second year. Two years prior to a potential shortage year, the AWBA begins coordination/consultation with CAP M&I subcontractors who indicate an interest in performing Independent Recovery. The AWBA will also continue to coordinate with entities firming under the Arizona Water Settlements Act. CAP will include a notification of water availability in the June “Water Delivery Schedule Request” letter, based on Reclamation’s April 24-month study shortage projection two years out. CAP M&I subcontractors that intend to rely on CAP for the recovery of AWBA LTSCs will be asked to confirm the volume of Firming Water requested and enter into a firming agreement with CAP.

## **One Year Prior to Recovery Year**

The final trigger for CAP M&I firming occurs when the “Most Probable” forecast from Reclamation’s April 24-Month Study shows a shortage with impacts to the CAP M&I Priority Pool for the following year. During the year prior to a potential shortage year, the AWBA, ADWR and CAP will develop a recovery schedule to identify the projected number of credits being transferred the following year. The recovery schedule will include those credits the MCWA plans to exchange with CAP, the request for ICUA on behalf of SNWA, the credits CAP will recover for CAP M&I subcontractors and credits being recovered for entities firming under the Arizona Water Settlements Act. As previously discussed, the 2021 amendment of A.R.S. § 45-2457(B)(7) will allow the AWBA to distribute credits directly to CAP M&I subcontractors performing Independent Recovery. Direct distribution of credits to CAP M&I subcontractors will also be outlined in the recovery schedule. AWBA and ADWR will ensure the recovery schedule is consistent with State laws and adopted policies. The AWBA will incorporate the final recovery schedule into its Annual Plan of Operation as part of its requirement to identify the projected amount, location, purpose, and recipient of credits that will be distributed in that year. The specific timing of credit transfers, and obligations of the parties, will be defined in the AWBA firming agreements.

## **After Recovery Year**

Final accounting of credits recovered in the previous year can only occur after the recovery year has ended and after all Annual Water Use Reports have been submitted to ADWR for review and reconciliation. The final accounting of credits will be determined by ADWR and identified in the AWBA’s Annual Report.

## Operational Coordination

Recovery implementation requires operational coordination among the AWBA, ADWR, CAP and CAP contractors and subcontractors (see **Appendix I** – CAP M&I Firming Timeline). Shortage projections will trigger notifications of potential shortage reductions and require coordination to develop the AWBA credit distribution plan. Recovery of AWBA LTSCs will be implemented according to existing recovery agreements and future firming agreements with CAP M&I subcontractors. Extensive coordination will be required to develop new firming agreements, a credit distribution plan and a CAP recovery schedule.

CAP will begin coordination with customers in April of each year with a preliminary estimate of water availability in the following year. Customer coordination will continue with additional information on water supply availability at the June CAP shortage workshop. This will include a request to contractors and subcontractors to evaluate their water orders including whether they expect to adjust their October water order as a result of shortage. Contractors and subcontractors will submit their full orders in October and, based on water supply availability, CAP will provide notification of reductions to both AWBA and contractors/subcontractors. Orders are then resubmitted with adjusted requests for CAP water and Firming Water. CAP's Annual Operating Plan (AOP) will include the final Water Delivery Schedules, confirming the volumes of Project Water and Firming Water to be delivered. The timeline for development of the AOP begins in September, then proceeds with the receipt of orders in October with final approval of Colorado River diversions by Reclamation in December.

The AWBA will begin coordination with CAP and CAP contractors and subcontractors three years prior to a potential shortage year. The March–May timeframe in the year prior to a potential shortage year will likely require additional coordination to review firming volumes, discuss firming methods and consult on the credit distribution plan. In July the AWBA releases the Annual Report, including a Ten-Year Plan which evaluates recovery capacity requirements, projections for CAP recovery capacity and Independent Recovery estimates. The Ten-Year Plan is updated annually with the most current information and will include projections for credit requests and credit distribution.

The AWBA releases a draft Annual Plan of Operation (Plan) in September of each year that estimates planned activities for the upcoming year, including the development of a credit distribution plan for shortage mitigation or the development of ICUA. The Plan is developed based on water availability estimates provided by CAP and the recovery capacity available to both CAP and M&I subcontractors who have elected to recover independently. After public review and adjustments made based on final CAP Water Delivery Schedules, the Plan is adopted in December upon approval by the AWBA Commission. If the recovery of AWBA LTSCs is anticipated during the upcoming year, the Plan will include a detailed description for the distribution or extinguishment of AWBA LTSCs for firming purposes.

## Recovery Costs

Beneficiaries of AWBA firming are responsible for the associated costs of recovery. M&I subcontractors performing Independent Recovery of AWBA LTSCs are responsible for all costs associated with the recovery of those credits. Entities that will rely on CAP recovery of AWBA LTSCs are responsible for all costs of CAP recovery. Interstate recovery costs are borne by SNWA.

CAP recovery costs are a function of both the recovery options CAP can use to recover AWBA LTSCs and the volume of AWBA LTSC recovery needed in a particular year. As described in Section 4, CAP has several options for recovery including the CAGR policy, credit exchange, indirect, and direct recovery. Only the CAGR policy and direct recovery can be accomplished solely by CAP without a recovery partner. CAP's cost of recovery with partners is determined by the specific terms of partner agreements and can vary based on recovery method, and that range of costs is quite broad. To support the work of securing additional recovery capacity, including direct recovery, CAP has established a recovery reserve fund. Expenditures from that separately tracked fund will also factor into the recovery cost for beneficiaries.

It is anticipated that CAP will provide a firming rate with provisional rates for the following two years. Those rates will ultimately be set by CAP's elected Board, but for purposes of planning CAP anticipates firming rates would be in line with the delivery charges for CAP water. CAP will collect costs from the beneficiaries of firming pursuant to terms of firming agreements.

**Table 14** | Recovery Operational Timeline

Year	Month	Task
<b>Before</b> (Preparation)	<b>April</b>	<ul style="list-style-type: none"> <li>• USBR provides likely water availability (i.e., Normal, Surplus or Shortage)               <ul style="list-style-type: none"> <li>– Trigger 1: April 5-year table &gt; 15% probability of a shortage with impacts to the CAP M&amp;I Priority Pool in the third year</li> <li>– Trigger 2: April 24-Month Study, “Min Probable” forecast reflects a shortage with impacts to the CAP M&amp;I Priority Pool in second year</li> <li>– Trigger 3: April 24-Month Study, “Most Probable” forecast reflects a shortage with impacts to the CAP M&amp;I Priority Pool in following year</li> </ul> </li> </ul>
	<b>May</b>	<ul style="list-style-type: none"> <li>• SNWA provides preliminary request for ICUA for the upcoming year and an estimate for the two succeeding years</li> <li>• AWBA and CAP M&amp;I subcontractors confirm the firming proposal by May 15th if shortage is forecasted in the following year</li> </ul>
	<b>June</b>	<ul style="list-style-type: none"> <li>• AWBA adopts Ten-Year Plan with a summary of projected recovery capacity required, including projections for CAP Recovery and Independent Recovery</li> </ul>
	<b>July – Sept</b>	<ul style="list-style-type: none"> <li>• AWBA consults with CAP M&amp;I subcontractors on firming volumes, firming methods and credit distribution plan. If shortage is forecasted in the following year, AWBA provides final notification of firming plan by Sept. 1st</li> </ul>
	<b>August</b>	<ul style="list-style-type: none"> <li>• 24 Month Study, USBR indicates water availability (i.e., Normal, Surplus or Shortage)</li> <li>• CAP holds an annual customer workshop advising customers of expected CAP water availability for the next year</li> </ul>
	<b>September</b>	<ul style="list-style-type: none"> <li>• SNWA makes a final request to the Secretary for the release of the ICUA</li> <li>• AWBA Preliminary Annual Plan of Operation (APO), which includes preliminary Recovery Schedule, is presented to the AWBA Commission</li> </ul>
	<b>October</b>	<ul style="list-style-type: none"> <li>• CAP M&amp;I subcontractors submit water orders for the upcoming year, includes an estimate of requested AWBA firming volumes for the two succeeding years</li> <li>• Deadline for MCWA to notify CAP its intent to exchange LTSCs</li> </ul>
	<b>November</b>	<ul style="list-style-type: none"> <li>• AWBA presents its preliminary APO to the GUACs</li> <li>• CAP and AWBA collaborate on any adjustments to Recovery Schedule</li> </ul>
	<b>December</b>	<ul style="list-style-type: none"> <li>• Final Draft APO is presented to the AWBA Commission for adoption</li> <li>• Deadline for MCWA to transfer credits to CAP prior to Exchange Year</li> <li>• USBR official determination of water availability for next year in their Annual Operating Plan (AOP) signed in December</li> </ul>
<b>During</b> (Recovery)	<b>During Year</b>	<ul style="list-style-type: none"> <li>• CAP works with recovery partners to monitor and ensure compliance with contractual responsibilities</li> </ul>
	<b>Quarterly</b>	<ul style="list-style-type: none"> <li>• CAP sends AWBA any substantive changes to the Recovery Schedule</li> <li>• AWBA incorporates the changes in their quarterly reports</li> </ul>
	<b>December</b>	<ul style="list-style-type: none"> <li>• CAP sends AWBA a recovery report with accounting of credit utilization</li> </ul>
	<b>By End of Year</b>	<ul style="list-style-type: none"> <li>• AWBA LTSCs must be transferred to recovery partner (or 3rd party partner)</li> </ul>
<b>After</b> (Reporting)	<b>March</b>	<ul style="list-style-type: none"> <li>• Deadline for CAP and recovery partners to submit annual reports to ADWR</li> </ul>
	<b>June</b>	<ul style="list-style-type: none"> <li>• Reconciliation of annual reporting, if necessary</li> </ul>
	<b>June</b>	<ul style="list-style-type: none"> <li>• Final accounting of credits recovered in previous year in AWBA’s Annual Report</li> </ul>



# 8.0

## Future Activities and Commitments

Based on the analysis in Section 6, there is sufficient recovery capacity for the AWBA near term firming responsibilities. However, additional recovery capacity will need to be developed through the rest of the planning period. The recovery capacity analysis for CAP M&I firming provides additional planning clarity for both CAP recovery and Independent Recovery. As the likelihood of shortage increases, both CAP and the AWBA anticipate additional stakeholder meetings to discuss the firming agreements required prior to recovery implementation. CAP continues to prepare for long-term recovery needs by conducting on-going feasibility studies for the development of infrastructure to support new recovery projects.

### Recovery Agreements

CAP continues to seek recovery partnership opportunities to develop long-term agreements for the recovery of AWBA LTSCs to meet firming responsibilities. Because the planning horizon spans over two decades, there may be varying levels of interest and commitment between recovery partners and CAP through the planning period. Agreements must have the flexibility required to accommodate customers' changing operations through time while also providing certainty to ensure recovery volumes can be met when needed.

CAP will continually assess its existing and planned recovery capacity (by method and location) and prepare for additional recovery capacity needs within the planning period. The near-term recovery focus will remain in the Pinal AMA due to the AWBA LTSCs reserved for P4 on-River M&I users and the large volume of credits accrued on behalf of SNWA for interstate banking purposes. There may be additional challenges in the Pinal AMA due to physical recovery constraints such as recovery well permitting and physical availability.

## Firming Agreements

The distribution of AWBA LTSCs for CAP M&I firming may require a firming agreement with the AWBA and/or CAP. In the three years prior to a shortage year, CAP will request M&I subcontractors indicate whether they plan to perform Independent Recovery of AWBA LTSCs or rely on CAP recovery of AWBA LTSCs. M&I subcontractors who plan to rely on CAP direct deliveries will need to enter into a Firming Agreement with CAP. The Firming Agreement is a supplemental water delivery contract for subcontractors who elect to be firming by CAP with either recovered water or exchange water. It includes additional terms and conditions on cost, water quality and scheduling.

M&I subcontractors who expect to perform Independent Recovery of AWBA LTSCs will need to enter into a Firming Agreement with the AWBA. The purpose of the AWBA Firming Agreement is to confirm that during a shortage year, the subcontractor agrees to accept AWBA LTSCs in lieu of a water delivery for firming purposes. It is also intended to release the AWBA from liability due to recovery-related activities, including any potential water quality issues that may arise from recovery of AWBA LTSCs. The term of the initial agreement is anticipated to coincide with the Interim Period, with ten-year terms thereafter. However, determinations on the distribution of credits for firming purposes will be made on an annual basis through mutual agreement. For planning purposes, the agreement may also include options for credit distribution consistent with the considerations identified in Section 7 of this Plan.

## Exchange Implementation Agreements

CAP M&I subcontractors performing Independent Recovery through an exchange agreement involving the CAP System will also need to enter into an Exchange Implementation Agreement with CAP. The Exchange Implementation Agreement includes terms and conditions for CAP to deliver Exchange Water pursuant to an Exchange Agreement including additional terms and conditions on water quality and scheduling.

## Technical Studies and Future Project Feasibility

Future recovery implementation challenges for CAP include the development of direct recovery infrastructure. CAP has completed numerous feasibility studies at the Tonopah Desert Recharge Project (TDRP), located in the Phoenix AMA, for development of a recovery well field. The feasibility work that has been completed has identified hydrogeological challenges at TDRP, specifically smaller hydraulic conductivity and higher concentrations of arsenic and fluoride.

Currently, studies are being done on the feasibility of expanding the recovery infrastructure outside of the TDRP boundary to sites that are more favorable for recovery based on hydrogeological data and other criteria. Recovery infrastructure may also be required in the Pinal AMA due to the recovery constraints previously mentioned. CAP will continue to explore recovery infrastructure sites within both AMAs.

## Monitoring & Updating

CAP, ADWR, and AWBA will continue to monitor factors influencing Colorado River supplies available to Arizona, as well as Arizona demands and requests from Nevada. As these factors change through time, the three entities will update the Joint Recovery Model and analyze the resulting impacts on both firming volumes and recovery capacity needs.

### Colorado River Status

CAP, ADWR, and AWBA will regularly monitor shortage probability and available supplies to Arizona using the USBR's 24-month water forecast and CRSS model. Collaborative modeling and analysis will use the latest versions of the official CRSS model and updated CRSS shortage sequences will be incorporated into the Joint Recovery Model to ensure recovery projections are monitored with changing hydrologic conditions and updates to the Colorado River System Operating Guidelines. The new Colorado River operating conditions taking effect after the Interim Period will require updated modeling to determine the impact on the frequency and magnitude of shortage reductions. Arizona, along with the other Colorado River Basin States, will participate in the process to develop new operating guidelines for the long-term management of the Colorado River system. As members of the Arizona Reconsultation Committee (ARC), the three agencies will evaluate the impact of proposed operating guidelines on the AWBA's firming responsibilities.

### CAP & On-River Demands

CAP and ADWR will regularly monitor on-River and CAP system demand schedules and update future demand projections in the Joint Recovery Model. Each October, CAP receives customers' water orders for the following year as well as estimates of water orders for the next two years. Using this data, CAP will update modeling as needed to reflect the most current demand assumptions.

### Discussions with Nevada

As part of a cooperative planning effort, SNWA, AWBA, CAP and the Colorado River Commission of Nevada (CRCN) have agreed to meet annually to discuss Nevada's plans for requesting ICUA and the associated recovery costs. Because Nevada's request for ICUA will begin in 2025 and the timing and magnitude of ICUA requests will have a significant role in mid and long-term recovery planning, the AWBA and CAP will continue ongoing discussions to plan for Nevada's request for ICUA.

## AWBA Activities

Future AWBA operating activities will likely be influenced by policy updates and changes to the Colorado River operating rules after the Interim Period. Changes in hydrologic conditions and reservoir operating rules will have a direct impact on AWBA firming volumes and the recovery capacity needed. Based on the modeling performed for this Joint Update and a recent evaluation of the AWBA's 100-year firming targets, the volume of credits necessary for Tribal CAP NIA and CAP M&I firming are larger than previously modeled. The AWBA will continue to evaluate the operational and policy implications of these increases and engage stakeholders.

The AWBA policy on distribution of LTSCs for CAP M&I firming must also be updated to replace the current policy, expiring at the end of the Interim Period. Under the current policy, which remains in effect through the Interim Period, the AWBA will firm all reductions to CAP M&I Priority water, regardless of use behaviors. Current water use trends show that a large portion of CAP M&I subcontractors' total water orders are scheduled for long-term storage. Issues such as the accrual of long-term storage credits and conservation efforts will affect the longevity of AWBA water storage tax credits to be used for CAP M&I firming. The operating experience gained during the Interim Period, along with the results of updated modeling and analysis, will help to inform the AWBA as it works with stakeholders to develop a future policy on distribution of LTSCs for CAP M&I firming after 2026.

## RPAG's Ongoing Role

ADWR, AWBA, and CAP remain committed to ongoing collaboration with stakeholders and the RPAG to ensure successful recovery planning and implementation. This includes regularly updated analyses to ensure recovery assumptions remain current. As previously discussed, April will be a key month for recovery implementation triggers and additional coordination may be needed in the April/May timeframe each year.

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# Appendix A:

## Summary of RPAG Meetings

Meeting	Date	Summary
1	1/17/18	Meeting 1 included a review of RPAG's objectives, process, key questions and the 2014 Joint Recovery Plan. RPAG's objective was to provide input into the next phase of recovery planning and implementation. The key recovery questions included: When? How much? Cost? How?
2	3/17/18	Meeting 2 was a review and discussion on recovery modeling using direct natural flow hydrology and updated projections with a review of the results on recovery timing, frequency and magnitude.
2a	5/10/18	Meeting 2a was a special meeting to review modeling using stress test hydrology. A review of the modeling results shows the probability of recovery increasing, but not the recovery volumes.
3	5/22/18	Meeting 3 was an update of AWBA LTSCs accrual by AMA and funding source. The meeting included a review of the recovery methods identified in the Plan – credit exchange, indirect and direct. There was a request for RPAG stakeholders to submit proposals on credit distribution and firming methods.
4	7/17/18	Meeting 4 had proposal presentations by RPAG stakeholders for credit distribution and firming methods. The proposals were organized into a matrix for comparison.
5	8/28/18	Meeting 5 was a review of the matrix and matrix revisions to condense similar proposals. There was discussion and agreement to complete a near term firming exercise by RPAG stakeholders.
6	9/24/18	Meeting 6 included presentations on the firming exercise. The exercise highlighted the interest by M&I subcontractors in Independent Recovery to satisfy near-term firming. This would likely delay the need for CAP direct recovery in the near term, reducing costs (see Appendix B for the Firming Exercise Form).
7	10/24/18	Meeting 7 focused on an AWBA credit sustainability analysis. Larger entitlement holders have a greater impact on credit longevity. A recovery methods schematic was introduced showing CAP recovery or Independent Recovery options.
8	2/19/19	Meeting 8 was a review of the recovery methods schematic. Additional information was provided on recovery implementation agreements.
9	4/16/19	Meeting 9 was a review of recovery method implementation and a discussion on the Joint Update to the 2014 Plan.
10	9/10/19	Meeting 10 was a review and discussion of the table of contents for the Joint Update to the 2014 Plan.
11	4/9/20	Meeting 11 was a review and discussion of the draft Update Sections 1-4.
12	5/19/20	Meeting 12 was a review of the recovery modeling, P4 On-River and CAP shortage and firming results.
13	9/23/20	Meeting 13 was a review of the recovery capacity analysis.
14	12/16/20	Meeting 14 was a review of the updated recovery capacity analysis and draft Update Sections 6 and 7.
15	2/18/21	Meeting 15 was a review of the Update Section 7 and 8.

## Appendix B: Firming Exercise Form (M&I)

The form below was completed by RPAG members to show how they would handle a near-term shortage. This firming exercise highlighted RPAG members' near-term implementation plan and helped identify any recovery implementation issues. Completion of the exercise showed RPAG members largely would rely on Independent Recovery to address a near-term shortage.

2022 M&I Firming Exercise: Generally based on modeling results presented to the RPAG, this exercise assumes an estimated 546,300 AF of M&I pool orders in 2022 and an estimated 35,181 AF of AWBA M&I firming (6.4%). To prepare and submit the form, please follow these guidelines:

1. Fill out one form for each subcontractor. Answer for yourself only.
2. Indicate projected M&I order for 2022 broken down by the four delivery categories listed below.
3. Calculate requested reduction at 7% (rounded up from 6.4%).
4. Answer the three questions.
5. Return completed form to by Friday, SEPTEMBER 14, 2018.

**Subcontractor Name:**

**AMA:**

**Projected normal M&I Order in 2022 (AF):**

**Delivery to WTP (AF):**

**Direct, non-potable (AF):**

**Subcontract Entitlement (AF):**

**Delivery to USF (AF):**

**Delivery to GSF (AF):**

**M&I Cut (2022 M&I Order x 7%):**

What actions will you take to address the 7% cut to your M&I order specifically?

What entities are you relying on for help, if any, and how are they helping you? What entities might be affected by your actions?

What issues with your approach (operational, legal, or financial) can you identify today that will need further regulatory analysis for potential change?



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## Appendix C: System Use Agreement<sup>22</sup>

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<sup>22</sup> For general reference only. Please refer to original document for implementation.

**CENTRAL ARIZONA PROJECT SYSTEM USE AGREEMENT  
BETWEEN  
THE UNITED STATES  
AND  
THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT**

1. **PREAMBLE:** THIS CENTRAL ARIZONA PROJECT (“CAP”) SYSTEM USE AGREEMENT, hereinafter referred to as (“Agreement”), is made and entered into this 2<sup>nd</sup> day of February, 2017, between the UNITED STATES OF AMERICA, acting through the Secretary of the Interior, hereinafter referred to as (“Secretary”), and the Central Arizona Water Conservation District, hereinafter referred to as (“CAWCD”), a multi-county water conservation district organized under the laws of the State of Arizona, each being referred to individually as “Party” and collectively as the “Parties”.

**WITNESSETH, THAT:**

2. **EXPLANATORY RECITALS:**

2.1 WHEREAS, Section 301(a) of the Colorado River Basin Project Act (“Basin Project Act”), Pub. L. 90-537, authorized construction of the CAP;

2.2 WHEREAS, Section 102(a) of the Basin Project Act identified authorized purposes as “the purposes, among others, of regulating the flow of the Colorado River; controlling floods; improving navigation; providing for the storage and delivery of the waters of the Colorado River for reclamation of lands, including supplemental water supplies, and for municipal, industrial, and other beneficial purposes; improving water quality; providing for basic public outdoor recreation facilities; improving conditions for fish and wildlife, and for the generation and sale of electrical power as an incident of the foregoing purposes”;

2.3 WHEREAS, the United States has allocated CAP water to various Arizona Indian Tribes as part of Indian water rights settlements or in anticipation of Indian water rights settlements, and has entered into Long-Term Contracts with several Arizona Indian Tribes for the delivery of CAP water;

2.4 WHEREAS, the United States has an interest in ensuring Arizona Indian Tribes with Long-Term Contracts receive their allocation of CAP water pursuant to the terms of their Long-Term

Contracts, and in times of a Water Shortage, that all Arizona Indian Tribes with Long-Term Contracts have the opportunity to firm the delivery of their CAP allocation using the CAP System;

2.5 WHEREAS, Section 103 of the Arizona Water Settlements Act ("AWSA"), Pub. L. 108-451, provides that, "In accordance with the CAP Master Repayment Contract, the CAP may be used to transport nonproject water for - (1) domestic, municipal, fish and wildlife, and industrial purposes; and (2) any purpose authorized under the Colorado River Basin Project Act;"

2.6 WHEREAS, Section 105 of the AWSA sets forth certain obligations of the Secretary and the State of Arizona to firm water supplies for Arizona Indian water right claims and settlements;

2.7 WHEREAS, as required by Section 105 of the Arizona Water Settlements Act ("AWSA") and in accordance with the Arizona Revised Statutes ("A.R.S.") § 45-2423 and § 45-2491, the Secretary and the State of Arizona, acting through the Arizona Water Banking Authority ("Banking Authority"), entered into the Agreement Between the Secretary of the Interior and the State of Arizona for the Firming of Central Arizona Project Indian Water, dated November 15, 2007;

2.8 WHEREAS, in accordance with Title 45, Chapter 14, Articles 1 through 5 of A.R.S., the Banking Authority stores water in underground storage facilities and groundwater savings facilities to accrue Long-Term Storage Credits for the following purposes: (a) to carry out Arizona's obligations under Section 105 of the AWSA, (b) to firm CAP municipal and industrial ("M&I") supplies for Long-Term Contractors, (c) to firm water supplies for certain M&I users of Colorado River water in the State of Arizona located outside the service area of CAWCD, (d) to meet interstate firming obligations under contracts entered into with the State of Nevada or others pursuant to 43 C.F.R. Part 414, and (e) to meet State of Arizona commitments to firm Indian Settlement water;

2.9 WHEREAS, to date, the Banking Authority has accrued and acquired over 4 million Long-Term Storage Credits under Title 45, Chapter 3.1 of the A.R.S, which may be recovered in accordance with Arizona state law under permits issued by the Arizona Department of Water Resources ("ADWR");

2.10 WHEREAS, CAWCD is a multi-county water conservation district organized under A.R.S. § 48-3701 et seq.;

2.11 WHEREAS, CAWCD is the operating agency for the United States for the CAP and operates the CAP System in accordance with contracts between CAWCD and the United States, including, among others, the Master Repayment Contract and the Operating Agreement;

2.12 WHEREAS, under A.R.S. §§ 45-2457, 45-2472 and 45-2491, CAWCD is a recovery agent for the Banking Authority for the purpose of recovering Long-Term Storage Credits to: assist in carrying out the State of Arizona's obligations under Section 105 of the AWSA; firm CAP M&I supplies for Long-Term Contractors; firm certain M&I uses of Colorado River water in Arizona located outside the service area of CAWCD; and meet interstate firming obligations;

2.13 WHEREAS, a Long-Term Contractor may utilize Non-Project Water supplies, including recovered Long-Term Storage Credits, for the purpose of firming its Long-Term Contract entitlement in the event of a Water Shortage;

2.14 WHEREAS, Reclamation and CAWCD anticipate that the Operational Capability of the CAP System will continue to be adequate to deliver Project Water, and during Water Shortage, Project Water and Firming Water, to delivery points within the Segments where Long-Term Contractors can take delivery to their service area or reservation;

2.15 WHEREAS, Long-Term Contractors may desire to schedule delivery of Project Water, and during Water Shortage, Project Water and Firming Water, either directly or through exchange, to Segments that are Upstream or Downstream of the Long-Term Contractor's service area or reservation;

2.16 WHEREAS, the Operational Capability of the CAP System may not be sufficient during certain months and certain Segments for the delivery of Project Water, and during Water Shortage, Project Water and Firming Water, to Segments that are Downstream of the service area or reservation of Long-Term Contractors;

2.17 WHEREAS, entities may acquire Non-Project Water and desire to ensure there is sufficient Operational Capability for the delivery of that Non-Project Water;

2.18 WHEREAS, the Operational Capability of the CAP System may be optimized through modifications of the existing CAP System for the purpose of creating additional Operational Capability

Provided, that such additional Operational Capability will not exceed the annual system capacity authorized in the Basin Project Act;

2.19 WHEREAS, the Parties intend that the existence of additional Operational Capability shall be verified by Reclamation after modifications to the CAP System are completed for this purpose;

2.20 WHEREAS, Reclamation and CAWCD anticipate that from time to time entities will request the use of the CAP System to deliver Non-Project Water, whether for firming or other purposes;

2.21 WHEREAS, it is Reclamation policy to maximize the benefits of a Federal Reclamation project such as the CAP;

2.22 WHEREAS, Articles 8.17 and 8.18 of the Master Repayment Contract support the full use of the CAP System pursuant to contracts or other arrangements for such use;

2.23 WHEREAS, Reclamation and CAWCD desire to clarify the administration of Articles 8.17 and 8.18 of the Master Repayment Contract with respect to the use of the CAP System;

2.24 WHEREAS, the Repayment Stipulation grants CAWCD exclusive authority to sell or use all Excess Water for any authorized purpose of the CAP, subject to the terms and conditions set forth in the Repayment Stipulation; and

2.25 WHEREAS, Reclamation and CAWCD desire to enter into this Agreement: (a) to adopt a standard form of CAWCD Wheeling Contract for the transportation of Non-Project Water through the CAP System, (b) to set forth scheduling priorities in the event that Operational Capability of the CAP System is constrained, (c) to facilitate the use of the CAP System to firm Long-Term Contracts during a Water Shortage, including Firming for Indian Long-Term Contractors, (d) to facilitate the use of the CAP System to firm certain M&I use of Colorado River water in the State of Arizona located outside the service area of CAWCD, (e) to facilitate the use of the CAP System to meet interstate obligations under contracts entered into with the State of Nevada or others pursuant to 43 C.F.R. Part 414, and (f) to set forth standard terms and conditions for a Reclamation Wheeling Contract.

**NOW, THEREFORE,** in consideration of the mutual covenants herein contained, the United States and CAWCD agree as follows:

**3. DEFINITIONS:**

3.1 “Agricultural Settlement Pool Contracts” means Excess Water Contracts entered into pursuant to the Supplemental Policy for Marketing of Excess Water for Non-Indian Agricultural Use – 2004 through 2030, as supplemented.

3.2 “Annual Operating Plan” means the final Water Delivery Schedules prepared annually by CAWCD, confirming the volumes of Project Water and Non-Project Water to be delivered during the following Year.

3.3 “Arizona Water Settlements Act or AWSA” means the Arizona Water Settlements Act, Pub. L. 108-451, 118 Stat. 3478, dated December 10, 2004, as amended.

3.4 “A.R.S.” means the Arizona Revised Statutes.

3.5 “Banking Authority” means the Arizona Water Banking Authority or its successor agency.

3.6 “Basin Project Act” means the Colorado River Basin Project Act, Pub. L. 90-537, 82 Stat. 885, dated September 30, 1968, as amended.

3.7 “CAP” means the Central Arizona Project.

3.8 “CAP System” means all of the Transferred Works of the CAP including but not limited to: (A) the Mark Wilmer Pumping Plant; (B) the Hayden-Rhodes Aqueduct; (C) the Fannin-McFarland Aqueduct; (D) the Tucson Aqueduct; (E) the New Waddell Dam; (F) any pumping plant or appurtenant works of a feature described in any of (A) through (E); and (G) any extension of, addition to, or replacement for a feature described in any of (A) through (F).

3.9 “CAP Terminus” means the terminus of the CAP System as depicted on the map attached hereto as Exhibit A.

3.10 “CAWCD” means the Central Arizona Water Conservation District, a multi-county water conservation district organized under the laws of Arizona, or any successor operating agency for the CAP.

3.11 “CAWCD Wheeling Contract” means an executed contract substantially in the form of the standard form of CAWCD Wheeling Contract attached hereto as Exhibit B or such other CAWCD

wheeling contract as may be approved by Reclamation pursuant to Article 8.18 of the Master Repayment Contract.

3.12 “Central Arizona Groundwater Replenishment District” means the replenishment authorities granted to CAWCD in Title 48, Chapter 22, Article 4 of A.R.S., which are exercised as a function of CAWCD.

3.13 “Downstream” means the direction along the CAP System towards the CAP Terminus.

3.14 “Excess Water” means that water defined as Excess Water in the Repayment Stipulation.

3.15 “Excess Water Contract” means an agreement between CAWCD and a water user for the delivery of Excess Water.

3.16 “Exchange Agreement” means an agreement between a Long-Term Contractor and a separate party holding Non-Project Water in which Project Water available for delivery to the Long-Term Contractor is exchanged for Non-Project Water.

3.17 “Exchange Implementation Agreement” means an agreement among a non-Federal Long-Term Contractor, a separate party holding Non-Project Water and CAWCD, setting forth the terms and conditions under which CAWCD will deliver Exchange Water pursuant to an Exchange Agreement.

3.18 “Exchange Water” means Project Water exchanged for Non-Project Water pursuant to an Exchange Agreement.

3.19 “Exhibit A” is a map of the CAP System. Exhibit A is attached hereto and by this reference made a part hereof.

3.20 “Exhibit B” sets forth the standard form of CAWCD Wheeling Contract. Exhibit B is attached hereto and by this reference made a part hereof.

3.21 “Exhibit C” sets forth standard terms and conditions for Reclamation Wheeling Contracts to transport Non-Project Water. Exhibit C is attached hereto and by this reference made a part hereof.

3.22 “Federal Arrangement” means an arrangement relating to use of the CAP System entered into by Reclamation and a separate party under Article 8.17 of the Master Repayment Contract.

3.23 “Firming Agreement” means an agreement between the United States or CAWCD and Long-Term Contractors or lessees of tribal Project Water to set forth the terms and conditions under

which CAWCD will deliver, and the Long-Term Contractor or lessee of tribal Project Water will accept, Firming Water.

3.24 "Firming" means satisfying all or a portion of a Long-Term Contract entitlement that has been reduced due to a Water Shortage.

3.25 "Firming Water" means water available for Firming a Long-Term Contract, as identified in Section 8 of this Agreement.

3.26 "Fixed OM&R Charge(s)" has the same meaning as under the Repayment Stipulation.

3.27 "Interstate Agreements" means contracts entered into in accordance with 43 C.F.R. Part 414, Offstream Storage of Colorado River Water and Development and Release of Intentionally Created Unused Apportionment in the Lower Division States.

3.28 "Long-Term Contract" means a long-term contract or subcontract for delivery of a Project Water entitlement as defined in footnote 1 to Section 4(a) of the Repayment Stipulation. Excess Water Contracts are not Long-Term Contracts.

3.29 "Long-Term Contractor" means an entity holding a Long-Term Contract.

3.30 "Long-Term Storage Credit" means a Long-Term Storage Credit, as defined in A.R.S. § 45-801.02(11).

3.31 "Master Repayment Contract" means the Contract Between the United States and the Central Arizona Water Conservation District for Delivery of Water and Repayment of Costs of the Central Arizona Project, Contract No. 14-06-W-245, Amendment No. 1, dated December 1, 1988, as it may be amended and supplemented.

3.32 "Non-Project Water" means all water, including Recovered Water, other than Project Water. For the purposes of this Agreement the term Non-Project Water does not include Long-Term Storage Credits.

3.33 "Notice of Completion" means the Notice of Completion to be issued by Reclamation at the conclusion of a System Improvement Project.

3.34 "On-River Firming" means agreements entered into with certain M&I users of Colorado River water in Arizona located outside the service area of CAWCD, approved by the Secretary, to provide firming for such water users pursuant to A.R.S. § 45-2457.



3.35 “Operating Agreement” means the Operating Agreement between the United States of America and the Central Arizona Water Conservation District for Operation and Maintenance of the Central Arizona Project, dated June 15, 2000.

3.36 “Operational Capability” means the ability of the CAP System to deliver water given the system’s physical and operational characteristics.

3.37 “Project Water” means that water defined as Project Water in the Repayment Stipulation.

3.38 “Projected Additional Operational Capability” means Reclamation’s projection of the additional Operational Capability that is expected to result from a proposed System Improvement Project.

3.39 “Project Power” means the United States’ entitlement to capacity and energy from the Navajo Generating Station and the Transmission System, or any replacement thereof, as authorized by Section 303 of the Basin Project Act and as described in contracts entered into pursuant to that Act.

3.40 “Pumping Energy Charge(s)” has the same meaning as under the Repayment Stipulation.

3.41 “Reclamation” means the United States Bureau of Reclamation.

3.42 “Reclamation Wheeling Contract” means a contract between Reclamation and a separate entity to deliver Non-Project Water using the CAP System entered into pursuant to Article 8.17 of the Master Repayment Contract.

3.43 “Recovered Water” means the water resulting from the recovery of Long-Term Storage Credits from wells pursuant to a valid recovery well permit issued by ADWR under A.R.S. § 45-834.01.

3.44 “Repayment Stipulation” means the Stipulated Judgment and the Stipulation for Judgment (including any exhibits to those documents) entered on November 21, 2007, in the United States District Court for the District of Arizona in the consolidated civil action styled *Central Arizona Water Conservation District v. United States, et al.*, and numbered CIV 95-625-TUC-WDB (EHC) and CIV 95-1720-PHX-EHC.

3.45 “Secretary” means the Secretary of the Interior or his duly authorized representative.

3.46 “Segment” means a section of the CAP System between pumping plants, as depicted on the map attached hereto as Exhibit A.

3.47 "System Improvement Project" means a material modification of the Transferred Works that creates Verified Additional Operational Capability in accordance with Section 13 of this Agreement.

3.48 "Transferred Works" means Transferred Works as defined in the Operating Agreement or as may be transferred under subsequent transfer notices.

3.49 "United States" means the United States of America.

3.50 "Upstream" means the direction along the CAP System towards Lake Havasu.

3.51 "Verified Additional Operational Capability" means the additional Operational Capability attributable to a completed System Improvement Project, measured in acre-feet per annum, as determined by Reclamation in accordance with Section 13 of this Agreement.

3.52 "Water Delivery Schedules" means schedules submitted to CAWCD pursuant to the terms of Long-Term Contracts, including leases and exchanges, Excess Water Contracts, CAWCD Wheeling Contracts, Firming Agreements, Reclamation Wheeling Contracts, or Federal Arrangements.

3.53 "Water Shortage" for the purposes of this Agreement, means either that the Project Water supply is insufficient to satisfy all Long-Term Contract orders, or that an unplanned CAP System outage has occurred disrupting the delivery of Long-Term Contract orders.

3.54 "Year" means a calendar year.

4. **TERM OF AGREEMENT:** This Agreement shall commence on the date of execution by Reclamation and CAWCD and shall have the same term as the Master Repayment Contract.

5. **USE OF CAP SYSTEM:**

5.1 CAWCD is authorized to use the CAP System for the following purposes:

5.1.1 Delivery of Project Water;

5.1.2 Delivery of Exchange Water;

5.1.3 On-River Firming;

5.1.4 Satisfaction of Interstate Agreements; and

5.1.5 Delivery of Non-Project Water, including Recovered Water, for Firming of CAP Long-Term Contracts.

5.2 For purposes other than those in Subsections 5.1.1, 5.1.2, 5.1.3, 5.1.4, and 5.1.5 use of the CAP System to deliver water shall require a Reclamation Wheeling Contract, Federal Arrangement, or a CAWCD Wheeling Contract. All uses of the CAP System shall be subject to the Scheduling Priorities for CAP System Use set forth in Section 11 of this Agreement.

6. **STANDARD FORM OF CAWCD WHEELING CONTRACT:** In satisfaction of Article 8.18 of the Master Repayment Contract, the Parties approve the standard form of CAWCD Wheeling Contract attached hereto as Exhibit B. CAWCD may enter into the standard form of CAWCD Wheeling Contract with any Federal, state, local, tribal or private entity desiring to enter such an agreement. Approval of the form of CAWCD Wheeling Contract under this Agreement does not constitute approval of any specific agreement by Reclamation in accordance with Article 8.18 of the Master Repayment Contract. Any specific CAWCD Wheeling Contract must be approved by Reclamation in accordance with Article 8.18 of the Master Repayment Contract and this Agreement.

7. **RECLAMATION WHEELING:**

7.1 As the Operating Agency for the CAP, CAWCD will perform the delivery obligations of the United States to transport Non-Project Water under Reclamation Wheeling Contracts and Federal Arrangements, so long as such obligations are not inconsistent with: (a) existing Long-Term Contracts, (b) the Repayment Stipulation, (c) the Master Repayment Contract, (d) the Operating Agreement, (e) priorities of Project Water; and/or (f) this Agreement. Reclamation will coordinate and consult with CAWCD prior to entering into any Reclamation Wheeling Contracts or Federal Arrangements.

7.2 At a minimum, the terms of any Reclamation Wheeling Contracts will incorporate provisions substantially similar to those in Exhibit C. Reclamation will consult with CAWCD on any variations from the provisions provided in Exhibit C.

7.3 Reclamation will describe the terms of any Federal Arrangements in writing and provide a copy of such writing to CAWCD. At a minimum, the terms of any Federal Arrangements will incorporate provisions substantially similar to those in Exhibit C. Reclamation will consult with CAWCD on any variations from the provisions provided in Exhibit C.

8. **FIRMING WATER:**

8.1 **Sources of Firming Water may include, but are not limited to:**

8.1.1 Non-Project Water delivered through the CAP System, including Recovered Water introduced into the CAP System; and

8.1.2 Exchange Water.

8.2 Subject to the requirements of the "Amended Navajo Power Marketing Plan" published in the *Federal Register* on September 24, 2007 (72 Fed. Reg. 54286), or any amendments thereto, Project Power, at Project Power rates, may be used to develop or deliver Firming Water.

8.3 CAWCD shall require non-Federal Long-Term Contractors to enter into Firming Agreements for any Firming that involves the use of the CAP System to set forth the terms and conditions under which CAWCD will deliver, and the holder of the Long-Term Contract will accept Firming Water.

8.4 For any Firming of a Federal Long-Term Contract that involves the use of the CAP System, Reclamation will enter into an agreement with the Federal Long-Term Contractor to specify the terms and conditions under which Firming Water will be delivered to such Federal Long-Term Contractor. At a minimum, the terms of any such agreement will incorporate provisions substantially similar to those in Exhibit C. If the agreement is not in writing, Reclamation will describe the terms of the agreement in writing and provide a copy of such writing to CAWCD.

8.5 As the Operating Agency for the CAP, CAWCD will perform the delivery obligations of the United States to deliver Firming Water, so long as such obligations are not inconsistent with: (a) existing Long-Term Contracts, (b) the Repayment Stipulation, (c) the Master Repayment Contract, (d) the Operating Agreement, (e) priorities of Project Water; and/or (f) this Agreement. Reclamation will coordinate and consult with CAWCD prior to entering into any agreement for the delivery of Firming Water.

8.6 Firming Water shall not be subject to redistribution, nor made available for delivery, under the shortage sharing provisions of Long-Term Contracts.

**9. EXCHANGE AGREEMENTS ENTERED INTO BY LONG-TERM CONTRACTORS:**

**9.1 Exchanges between Long-Term Contractors and CAWCD:**

9.1.1 Exchanges of Project Water for Non-Project Water, including exchanges of Recovered Water for Firming purposes, between Long-Term Contractors and CAWCD shall be:

9.1.1.1 In accordance with the terms of Long-Term Contracts and this Agreement;  
and

9.1.1.2 Pursuant to an Exchange Agreement between the Long-Term Contractor and CAWCD, approved by Reclamation.

9.1.2 Notwithstanding Subsection 3.32 of this Agreement, a Long-Term Contract held by CAWCD for the benefit of the Central Arizona Groundwater Replenishment District may be used to exchange Project Water for Long-Term Storage Credits, provided that those credits are transferred into a conservation district account established under A.R.S. § 45-859.01 in satisfaction of a replenishment obligation, and such an exchange shall be:

9.1.2.1 In accordance with the terms of Long-Term Contracts and this Agreement;  
and

9.1.2.2 Approved by Reclamation.

**9.2 Exchanges between Non-Federal Long-Term Contractors and parties holding Non-Project Water supplies:**

9.2.1 Other than exchanges with CAWCD under Subsection 9.1 of this Agreement, exchanges of Project Water for Non-Project Water between Non-Federal Long-Term Contractors and separate parties holding Non-Project Water supplies shall be:

9.2.1.1 In accordance with the terms of the Long-Term Contracts involved in such exchanges and this Agreement;

9.2.1.2 Pursuant to an Exchange Agreement between the non-Federal Long-Term Contractor and the party holding the Non-Project Water supply, which is approved by CAWCD and Reclamation; and

9.2.1.3 Pursuant to an Exchange Implementation Agreement among the non-Federal Long-Term Contractor, the party holding the Non-Project Water supply and CAWCD.

**9.3 Exchanges between Federal Long-Term Contractors and parties holding Non-Project Water supplies:**

9.3.1 Other than exchanges with CAWCD under Subsection 9.1 of this Agreement, exchanges of Project Water for Non-Project Water between Federal Long-Term Contractors and separate parties holding the Non-Project Water supplies shall be:

9.3.1.1 In accordance with the terms of the Federal Long-Term Contracts involved in such exchanges and this Agreement, and

9.3.1.2 Pursuant to an Exchange Agreement between the Federal Long-Term Contractor and the party holding the Non-Project Water supply, which is approved by Reclamation.

9.3.2 Reclamation shall ensure that the recipient of Exchange Water from the CAP System agrees to take delivery of such water in accordance with the terms of the Federal Long-Term Contract under which the exchange of Project Water is being implemented. Reclamation will describe the terms of any such delivery agreement in writing and provide a copy of such writing to CAWCD.

9.3.3 As the Operating Agency for the CAP, CAWCD will perform the delivery obligations of the United States to deliver water pursuant to exchanges of Project Water for Non-Project Water by Federal Long-Term Contractors, so long as such obligations are not inconsistent with (a) existing Long-Term Contracts, (b) the Repayment Stipulation, (c) the Master Repayment Contract, (d) the Operating Agreement, (e) priorities of Project Water; and/or (f) this Agreement. Reclamation will coordinate and consult with CAWCD prior to approving any exchange of Project Water for Non-Project Water by a Federal Long-Term Contractor.

**10. ANNUAL OPERATING PLAN FOR CAP SYSTEM USE:**

10.1 Each year, after receipt of Water Delivery Schedules, CAWCD shall develop an Annual Operating Plan confirming the monthly Water Delivery Schedules for the subsequent Year. The Annual Operating Plan shall, to the extent reasonable, make maximum use of the CAP System, subject to the provisions of Subsection 10.2.1 of this Agreement, and shall be made available for the Secretary's review.

10.2 In the development of the Annual Operating Plan, CAWCD shall:

10.2.1 Take into account the Operational Capability, by month and Segment, following established technical procedures that address such factors as physical

and operational constraints, projected Project and Non-Project Water supplies, system losses, projected location and timing of deliveries including constraints caused by deliveries scheduled for delivery Downstream of Long-Term Contractors' reservations or service areas, scheduled maintenance activities, energy programs, Lake Pleasant operations, underground storage facility capacity, daily peak flows, and the reasonable reservation of Operational Capability not to exceed 50,000 acre-feet for operational efficiency.

- 10.2.2 Apply an annual uniform loss assessment of 5% to the volume of any Non-Project Water delivered by the CAP System, provided, however, Firming Water shall bear no loss assessment.
- 10.2.3 In accordance with the terms of Long-Term Contracts, including leases and exchanges, Excess Water Contracts, Reclamation Wheeling Contracts, other Federal Arrangements, and CAWCD Wheeling Contracts, make only such adjustments to the Water Delivery Schedules as are necessary to accommodate the physical and operational constraints identified in Subsection 10.2.1 of this Agreement and in accordance with the Scheduling Priorities for CAP System Use set forth in Section 11 of this Agreement.
- 10.2.4 By December 15 of each year prior, provide a copy of the Annual Operating Plan to Reclamation.

## **11. SCHEDULING PRIORITIES FOR CAP SYSTEM USE:**

11.1 If, in preparation of the Annual Operating Plan in Section 10 of this Agreement, CAWCD determines that there is insufficient Operational Capability to satisfy Water Delivery Schedules in specific Segments, in specific months, and if, after affected parties have been consulted and provided opportunities to amend their Water Delivery Schedules, Water Delivery Schedule modifications are required, CAWCD shall utilize the following priorities for scheduling Operational Capability in those Segments and months.

11.1.1 First, Water Delivery Schedules pursuant to Long-Term Contracts for: (a) delivery, directly or by exchange, for use within the Long-Term Contractor's reservation or service area, and/or (b) deliveries for leases, exchanges or underground storage within the same Segment as the Long-Term Contractor's service area or reservation, or within a Segment located Upstream of the Long-Term Contractor's service area or reservation. For Long-Term Contractors that are only able to take delivery of their Project Water entitlement to their service area or reservation by exchange, the approved points

of delivery for any such exchange are deemed to be within the same Segment as the Long-Term Contractor's service area or reservation for purposes of scheduling priority under Section 11 of this Agreement.

11.1.2 Second, through 2030, Water Delivery Schedules pursuant to Agricultural Settlement Pool Contracts.

11.1.3 Third, Water Delivery Schedules pursuant to CAWCD Wheeling Contracts that are associated with Verified Additional Operational Capability.

11.1.4 Fourth, Water Delivery Schedules pursuant to Long-Term Contracts for deliveries for leases, exchanges or underground storage within a Segment located Downstream of the Long-Term Contractor's service area or reservation.

11.1.5 Fifth, Water Delivery Schedules pursuant to Excess Water Contracts, other than Agricultural Settlement Pool Contracts.

11.1.6 Sixth, Water Delivery Schedules for Non-Project Water, other than Firming Water, pursuant to Reclamation Wheeling Contracts or Federal Arrangements for Indian and Federal agency purposes.

11.1.7 Seventh, Water Delivery Schedules for Non-Project Water, other than Firming Water, pursuant to Reclamation Wheeling Contracts or Federal Arrangements for purposes other than Indian and Federal agency purposes.

11.1.8 Eighth, Water Delivery Schedules pursuant to CAWCD Wheeling Contracts that are associated with Projected Additional Operational Capability.

11.2 During Water Shortage, Firming Water shall carry the scheduling priority of the Project Water it replaces.

11.3 Any further reductions to Water Delivery Schedules that are necessary within the priorities as described in Subsection 11.1 of this Agreement shall be based on any applicable provisions specified in water delivery contracts, and if further necessary, on a *pro-rata* basis.

11.4 This Section is not intended to, and shall not be construed to, contravene the provisions of any Long-Term Contract, or lease pursuant to a Long-Term Contract.



11.5 CAWCD will indemnify the United States from and against all damages resulting from suits, actions, or claims arising out of CAWCD's implementation of this Section of the Agreement in developing the Annual Operating Plan, except to the extent that such suits, actions, or claims challenge the scheduling priorities set forth in this Section of the Agreement.

**12. WATER QUALITY:**

12.1 Reclamation and CAWCD shall establish uniform water quality standards for any Non-Project Water introduced into the CAP System.

12.2 The party introducing the Non-Project Water into the CAP System, including CAWCD or Reclamation, shall be responsible for compliance with the standards of Subsection 12.1 of this Agreement.

12.3 The party introducing the Non-Project Water into the CAP System shall indemnify and hold the United States and CAWCD harmless from and against all claims, damages, costs and other liabilities resulting from that party's introduction of Non-Project Water into the CAP System.

**13. CAP SYSTEM IMPROVEMENT PROJECTS:**

13.1 System Improvement Projects shall be modifications of the CAP System, which increase the Operational Capability of the CAP System.

13.2 Prior to commencing any System Improvement Project, CAWCD shall submit a proposal for the System Improvement Project to Reclamation, together with CAWCD's estimate of the associated increase in Operational Capability if the System Improvement Project were to be completed, a technical justification for the CAWCD estimate, and the results of such additional analysis as Reclamation determines to be appropriate.

13.3 Reclamation, within 60 days of receiving the information specified under Subsection 13.2, of this Agreement, shall evaluate the proposed System Improvement Project and determine if the proposed System Improvement Project qualifies as a "Substantial Change" under Article 12 of the Operating Agreement.

13.4 If, under Subsection 13.3 of this Agreement, Reclamation determines the proposed System Improvement Project qualifies as a "Substantial Change" under Article 12 of the Operating Agreement, Reclamation, in consultation with CAWCD and within 180 days of receiving the information specified under Subsection 13.2 of this Agreement, shall evaluate the proposed System Improvement Project and

make a determination of Projected Additional Operational Capability, which shall be quantified in acre-feet per annum.

13.5 Upon Reclamation's determination of Projected Additional Operational Capability under Subsection 13.4 of this Agreement, CAWCD may deliver Non-Project Water pursuant to CAWCD Wheeling Contracts, approved by Reclamation, up to the amount of the Projected Additional Operational Capability, and subject to the eighth priority as defined in the Scheduling Priorities for CAP System Use in Section 11 of this Agreement.

13.6 Reclamation shall perform all necessary environmental compliance for the proposed System Improvement Project. The length of time required to perform such environmental compliance will depend upon the scope of the proposed System Improvement Project.

13.7 CAWCD may proceed with the proposed System Improvement Project after Reclamation completes environmental compliance under Subsection 13.6 of this Agreement and provides CAWCD with written consent for the proposed System Improvement Project.

13.8 Upon completion of a System Improvement Project that received a determination of Projected Additional Operational Capability under Subsection 13.4 of this Agreement, CAWCD shall provide Reclamation with written notice that the System Improvement Project has been completed. The notice shall include CAWCD's estimate of the actual additional Operational Capability resulting from the System Improvement Project, a technical justification for the CAWCD estimate, and the results of such additional analysis as Reclamation determines to be appropriate.

13.9 Reclamation, in consultation with CAWCD, shall evaluate the completion of the System Improvement Project in accordance with the terms of the Operating Agreement and shall issue a Notice of Completion.

13.10 Within 180 days of issuance of a Notice of Completion under Subsection 13.9 of this Agreement, Reclamation, in consultation with CAWCD, shall:

13.10.1 Evaluate CAWCD's estimate of the actual associated increase in Operational Capability and the CAWCD technical justification; and

13.10.2 Make a determination of Verified Additional Operational Capability.

13.11 Upon Reclamation's determination of Verified Additional Operational Capability under Subsection 13.10 of this Agreement, CAWCD may deliver Non-Project Water pursuant to CAWCD

Wheeling Contracts, approved by Reclamation, up to the amount of the Verified Additional Operational Capability, and subject to the third priority as defined in the Scheduling Priorities for CAP System Use in Section 11 of this Agreement.

13.12 Title to any modifications of the CAP System resulting from a System Improvement Project shall remain with the United States.

13.13 CAWCD will indemnify the United States from and against all damages resulting from suits, actions, or claims arising out of any determination of Projected Additional Operational Capability or Verified Additional Operational Capability by Reclamation under this Agreement.

**14. FEES, CHARGES, AND REVENUES:**

14.1 Long-Term Contractors exchanging Project Water for Non-Project Water pursuant to Section 9 of this Agreement shall pay the Fixed OM&R and Pumping Energy Charge established annually by CAWCD, and applicable capital charges, except any such charges paid by the United States on behalf of the Long-Term Contractor.

14.2 Parties taking delivery of Non-Project Water pursuant to CAWCD Wheeling Contracts, Reclamation Wheeling Contracts or Federal Arrangements shall pay the same Fixed OM&R and Pumping Energy Charge established annually by CAWCD for Project Water.

14.3 A Capital Equivalency Charge (as that term is defined in Exhibits B and C to this Agreement) shall be applied to Non-Project Water as set forth in CAWCD Wheeling Contracts, Reclamation Wheeling Contracts or Federal Arrangements. Deliveries of Non-Project Water for Firming are not subject to Capital Equivalency Charges. CAWCD shall deposit Capital Equivalency Charge revenues into the Lower Colorado River Basin Development Fund.

14.4 Firming Agreements authorized under Subsections 8.3 and 8.4 of this Agreement may contain provisions for CAWCD to collect charges based on CAWCD estimates of CAWCD's actual expenses to be incurred in the development and delivery of Firming Water and the revenues collected from such charges shall be available for use by CAWCD solely for such purposes.

14.5 Fixed OM&R Charges shall not be used to pay the costs to complete a System Improvement Project.

**15. NO CONFLICT; NO DELEGATION OF AUTHORITY:** Nothing in this Agreement, or any Annual Operating Plan, is intended to contravene or diminish the Secretary's or CAWCD's rights and

obligations under the provisions of the Master Repayment Contract, the Stipulation, any Long-Term Contract or Federal law. In the case of a conflict between this Agreement and pre-existing agreements between Reclamation and CAWCD (e.g., the Master Repayment Contract, Repayment Stipulation, and the Operating Agreement), those pre-existing agreements will prevail. Nothing in this Agreement shall be construed as a delegation of authority to perform or interpret inherently Federal functions.

16. **GENERAL PROVISIONS:**

16.1 **NOTICES:** Any notice, demand, or request authorized or required by this Agreement shall be deemed to have been given, on behalf of CAWCD, when mailed, postage prepaid, or delivered to the Regional Director, Lower Colorado Region, Bureau of Reclamation, 500 Date Street, Boulder City, NV 89005, and the Phoenix Area Office Area Manager, 6150 West Thunderbird Road, Glendale AZ 85306-4001, and on behalf of the United States, when mailed, postage prepaid, or delivered to the General Manager of the Central Arizona Water Conservation District, 23636 North 7<sup>th</sup> Street, Phoenix, AZ 85024. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this article for other notices.

16.2 **CONTINGENT ON APPROPRIATIONS OR ALLOTMENT OF FUNDS:** The expenditure or advance of any money or the performance of any obligation of the United States under this Agreement shall be contingent upon appropriation or allotment of funds. Absence of appropriation or allotment of funds shall not relieve CAWCD from any obligations under this Agreement. No liability shall accrue to the United States in case funds are not appropriated or allotted.

16.3 **OFFICIALS NOT TO BENEFIT:** No Member of or Delegate to the Congress, Resident Commissioner, or official of CAWCD shall benefit from this Agreement other than as a water user or landowner in the same manner as other water users or landowners.

16.4 **CHANGES IN CAWCD'S ORGANIZATION:** While this Agreement is in effect, no change may be made in CAWCD's organization, by exclusion of lands, by dissolution, consolidation, merger or otherwise which may affect the respective rights, obligations, privileges, and duties of either the United States or CAWCD under this Agreement, except upon the Secretary's written consent.

16.5 **ASSIGNMENT LIMITED – SUCCESSORS AND ASSIGNS OBLIGATED:** The provisions of this Agreement shall apply to and bind the successors and assigns of the Parties hereto,

but no assignment or transfer of this Agreement or any right or interest therein by either Party shall be valid until approved in writing by the other Party.

16.6 BOOKS, RECORDS, AND REPORTS: CAWCD shall establish and maintain accounts and other books and records pertaining to administration of the terms and conditions of this Agreement, including CAWCD's financial transactions; water supply data; project operation, maintenance and replacement logs; project land and rights-of-way use agreements; and other matters that the Secretary may require. Reports thereon shall be furnished to the Secretary in such form and on such date or dates as the Secretary may require. Subject to applicable Federal laws and regulations, each Party to this Agreement shall have the right during office hours to examine and make copies of the other Party's books and records relating to matters covered by this Agreement.

16.7 RULES, REGULATIONS, AND DETERMINATIONS:

16.7.1 The Parties hereto agree that the delivery of water or the use of Federal facilities pursuant to this Agreement is subject to Federal reclamation law, as amended and supplemented, and the rules and regulations promulgated by the Secretary of the Interior under Federal reclamation law.

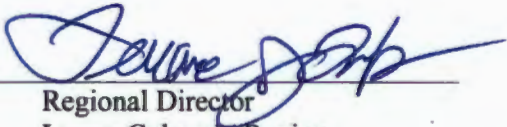
16.7.2 The Secretary shall have the right to make determinations necessary to administer this Agreement that are consistent with its expressed and implied provisions, the laws of the United States and the State of Arizona, and the rules and regulations promulgated by the Secretary of the Interior. Such determinations shall be made in consultation with CAWCD.

16.8 EXHIBITS MADE PART OF AGREEMENT: The Exhibits to this Agreement may change during the term of this Agreement, but only with the written agreement of both parties hereto. The initial Exhibits are attached hereto and made a part hereof, and each shall be in force and effect in accordance with its respective provisions until superseded by a subsequent exhibit executed by the Parties hereto.

16.9 CONTRACT DRAFTING CONSIDERATIONS: This Agreement has been negotiated and reviewed by the Parties hereto, each of whom is sophisticated in the matters to which this Agreement pertains. Articles 1 through 16 of this Agreement have been drafted, negotiated, and reviewed by the Parties hereto, and no one Party shall be considered to have drafted the stated articles.

IN WITNESS WHEREOF, the Parties have executed this CAP System Use Agreement the day and year first above written.


**THE UNITED STATES OF AMERICA**

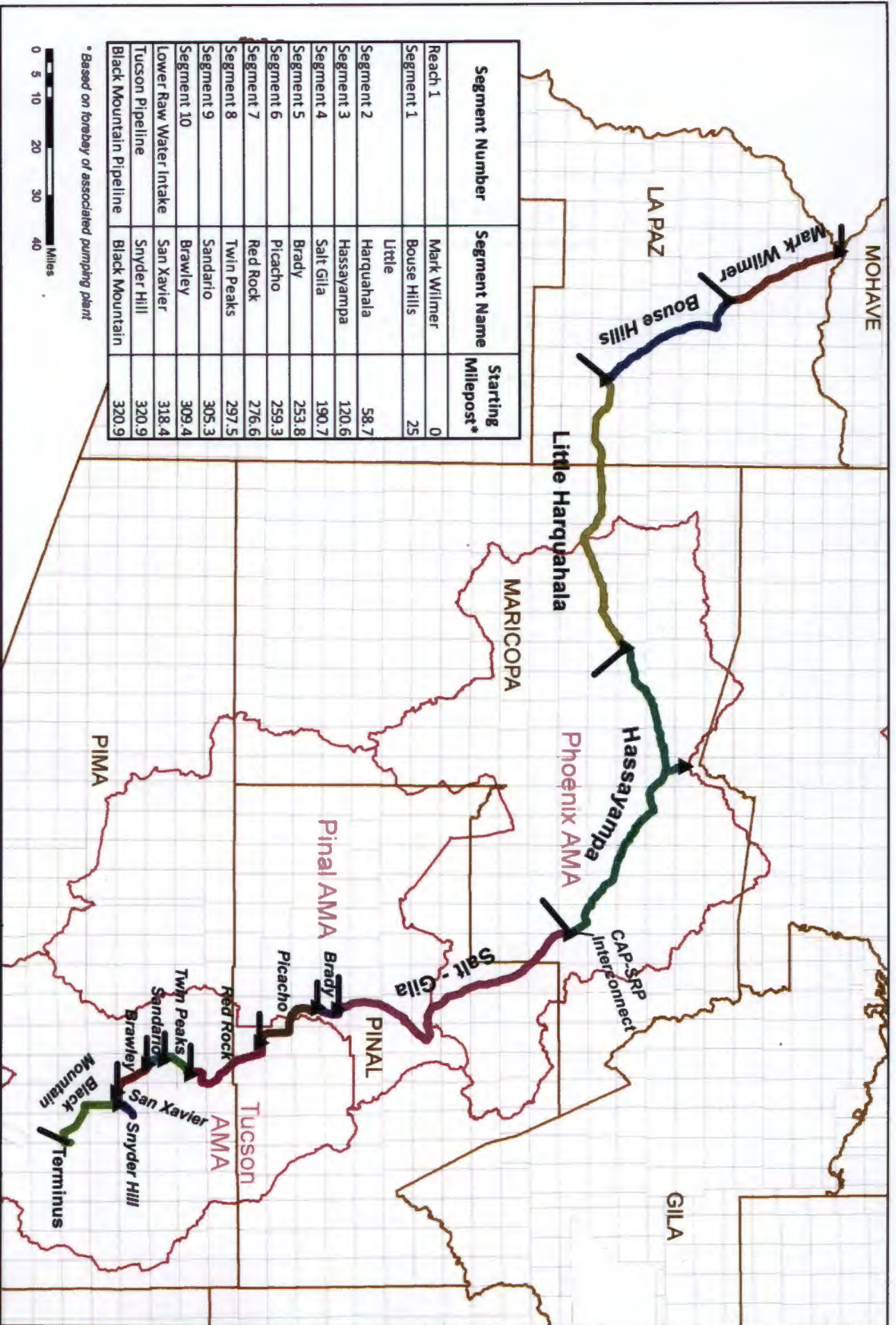
By:   
Regional Director  
Lower Colorado Region  
Bureau of Reclamation

**CENTRAL ARIZONA WATER  
CONSERVATION DISTRICT**

Approved as to Form:

By:   
Secretary


By:   
President



# Central Arizona Project System Use Agreement: Exhibit A

This map is subject to change and portions may be incorrect or not current. It is the sole responsibility of the user to determine the suitability of this information. No warranty or guarantee of fitness is implied. Central Arizona Project shall have neither liability nor responsibility to any person or entity with respect to any loss or damage in connection with or arising from the information contained

**Date:** December 2016  
**Location:** X:\Mapell\_egan\SUA\_Exhibit\_A\_Segments.mxd  
**Projection:** NAD 83, HARN, AZ State Plane, Central Zone, Intl. Feet



**EXHIBIT B**

**Standard Form of CAWCD Wheeling Contract**

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**WHEELING CONTRACT**

**BETWEEN**

**THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT AND  
[ENTITY]**

This CAWCD Wheeling Contract ("Contract") is made this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, between the Central Arizona Water Conservation District ("CAWCD"), a political subdivision of the State of Arizona, and [Entity] (Insert short-form reference, if desired, i.e. "City").

**RECITALS**

A. WHEREAS, the United States and CAWCD have entered into the CAP System Use Agreement between the United States and the Central Arizona Water Conservation District ("CAP System Use Agreement"), dated [ ];

B. WHEREAS, the CAP System Use Agreement authorizes CAWCD to transport Non-Project Water through the CAP System under a CAWCD Wheeling Contract between CAWCD and other parties, subject to the approval of the United States;

C. WHEREAS, in Section 6 of the CAP System Use Agreement, the United States approved a standard form of CAWCD Wheeling Contract.

D. WHEREAS, the [Entity] desires to wheel Non-Project Water through the CAP System;  
and

D. WHEREAS, CAWCD and the [Entity] desire to enter into this Contract to set forth the terms and conditions under which CAWCD will transport Non-Project Water through the CAP System for the use or benefit of the [Entity].



**1. AGREEMENT:**

In consideration of the mutual covenants and agreements set forth below, and intending to be legally bound, CAWCD and the [Entity] hereby agree as follows:

**2. DEFINITIONS:**

Definitions included in the CAP System Use Agreement are applicable to this Contract. The first letters of terms so defined are capitalized herein. In addition, the following terms, when capitalized, have the meanings indicated:

2.1 Capital Equivalency Charge: An amount equal to the M&I water service capital charge, as published in CAWCD's annual rate schedule for a particular Year, multiplied by the maximum number of acre-feet per year of Wheeled Water that may be transported through the CAP System under this Contract, as shown in Exhibit 2.6 hereto, regardless of the amount to be transported in any given Year.

2.2 Place of Use: The service area or place of use depicted on the map in Exhibit 2.2 hereto.

2.3 Point(s) of Receipt: The location(s) designated in Exhibit 2.3, hereto, where Wheeled Water will enter the CAP System.

2.4 Point(s) of Delivery: The location(s) designated in Exhibit 2.4, hereto, where Wheeled Water is diverted from the CAP System for delivery to or on behalf of the [Entity].

2.5 System Improvement Projects: The project(s) described in Exhibit 2.5 hereto to modify the CAP System to create Verified Additional Operational Capability in accordance with the System Use Agreement.

2.6 Wheeled Water: The Non-Project Water, of the type or source available to the [Entity] under a contract, decree, or statute, all as specified in Exhibit 2.6 to this Contract, to be transported through the CAP System pursuant to this Contract.

**3. TERM:**

This Contract shall become effective on the date first written above and shall remain in effect until the termination of [the Entity's] contract or other right to Wheeled Water specified in Subsection 2.6 of this Contract, unless otherwise agreed to in writing by the parties to this Contract.

**4. TRANSPORTATION OF WHEELED WATER BY CAWCD:**

CAWCD shall transport Wheeled Water from the Point(s) of Receipt to the Point(s) of Delivery in accordance with the terms of this Contract, subject to the scheduling priorities for use of the CAP System in Section 11 of the CAP System Use Agreement.

**5. AVAILABILITY OF VERIFIED ADDITIONAL OPERATIONAL CAPABILITY:**

5.1 Pursuant to the CAP System Use Agreement, Reclamation has made a determination of Projected Additional Operational Capability. This determination is attached hereto as Exhibit 5.1.

5.2 After, in accordance with the terms of the CAP System Use Agreement, Reclamation issues a final determination of Verified Additional Operational Capability, CAWCD will provide a copy of such final determination to the [Entity]. The final determination of Verified Additional Operational Capability will be attached to this Contract as Exhibit 5.2 hereto and will supersede the determination of Projected Additional Operational Capability, and Exhibit 5.1, for purposes of implementation of this Contract.

5.3 Reclamation's determination of Verified Additional Operational Capability may be greater, lesser, or equal to Reclamation's determination of Projected Additional Operational Capability. If Reclamation's determination of Verified Additional Operational Capability is greater or lesser than its determination of Projected Additional Operational Capability, CAWCD and [Entity] agree to amend Exhibit 2.6 to be consistent with Reclamation's determination of Verified Additional Operational Capability. If the total volume of water to be transported under issued CAWCD Wheeling Contracts exceeds the Verified Additional Operational Capability of the associated System Improvement Project, the volume of water to be transported under such CAWCD Wheeling Contracts will be reduced on a pro rata basis.

*[In the event that this Contract is being entered into after Reclamation has made a determination of Verified Additional Operational Capability, then 5.1, 5.2 and 5.3 will be replaced with the following: "5.1 Pursuant to the CAP System Use Agreement, Reclamation has made a determination of Verified Additional Operational Capability. This determination is attached hereto as Exhibit 5.1."]*

**6. ENVIRONMENTAL CLEARANCE:**

Notwithstanding any other provision of this Contract, Wheeled Water shall not be delivered to the [Entity] unless and until the [Entity] has obtained final environmental clearance from the United States

for the transportation of Wheeled Water through the CAP System, and for the system or systems through which Wheeled Water is to be conveyed to the Point(s) of Receipt, and the system or systems through which Wheeled Water is to be conveyed from the Point(s) of Delivery to the Place of Use. Such system(s) shall include all pipelines, canals, distribution systems, treatment, storage, and other facilities through or in which Wheeled Water is conveyed. Wheeled Water shall only be transported for the [Entity] in a manner consistent with the final environmental clearances from the United States.

**7. POINT(S) OF DELIVERY, POINT(S) OF RECEIPT, MEASUREMENT AND RESPONSIBILITY:**

7.1 CAWCD shall transport Wheeled Water from the Point(s) of Receipt to the Point(s) of Delivery for delivery to or for the benefit of the [Entity].

7.2 The [Entity] shall secure from CAWCD all necessary land use permits, as provided under Article 7.2.8 of the Operating Agreement, for facilities to be located within the CAP System right-of-way for the purpose of conveying Wheeled Water to the CAP System Point(s) of Receipt and from the Point(s) of Delivery to the Place of Use. Unless CAWCD and the [Entity] agree in writing to the contrary, the [Entity] shall construct and install, at its sole cost and expense: (i) all facilities required to transport Wheeled Water to the Point(s) of Receipt; and (ii) all facilities required to transport Wheeled Water from the Point(s) of Delivery to the Place of Use. The [Entity] shall furnish to CAWCD, drawings and specifications showing all such facilities to be constructed or installed within the CAP System right-of-way, and shall obtain CAWCD's written approval before commencing construction or installation of such facilities. All facilities constructed, installed, operated or maintained on the CAP System right-of-way by or for the [Entity] shall be subject to such further agreements and to such restrictions and regulations as to type, location, method of installation, operation, and maintenance as may be prescribed by CAWCD.

7.3 Upon termination of this Contract and written notice from CAWCD, the [Entity] shall promptly remove, at its sole cost and expense, all facilities constructed or installed on the CAP System right-of-way under this Contract and restore said right-of-way and all Project facilities affected to their condition immediately prior to the construction or installation of such connection facilities. If the [Entity] fails to remove said facilities and restore said right-of-way and Project facilities within thirty (30) days after receiving any written notice from CAWCD to do so, CAWCD may remove said facilities and restore said right-of-way and Project facilities at the [Entity]'s cost and expense. Within thirty (30) days after receiving written demand from CAWCD to do so, the [Entity] shall pay CAWCD, as specified in such

written demand, for all costs and expenses incurred by CAWCD in removing said facilities and restoring said right-of-way and Project facilities.

7.4 When making or considering modifications to the CAP System, CAWCD shall comply with the terms of Article 12 of the Operating Agreement. If modification of the CAP System is required to allow for the interconnection between the CAP System and the [Entity]'s facilities constructed on the CAP System right-of-way, including construction of one or more additional CAP turnouts, CAWCD shall make such interconnection modifications at the sole expense of the Entity which shall advance fund CAWCD's costs.

7.5 All Wheeled Water shall be measured with equipment that complies with CAWCD and United States standards and shall be operated and maintained by CAWCD. Upon request of the Entity, the accuracy of such measurements shall be investigated by CAWCD and the Entity, and any errors which are mutually determined to have occurred shall be adjusted; Provided, however, if CAWCD and the [Entity] cannot agree on the required adjustment, CAWCD's determination shall be conclusive, subject to review and revision by the Secretary.

7.6 If the [Entity] intends to transport Wheeled Water through facilities on the CAP System right-of-way that are owned or operated by entities other than the United States or CAWCD, the use by the [Entity] of such facilities shall be the subject of written agreement(s) between the [Entity] and the owner(s) or operator(s) of such facilities.

7.7 Neither the United States nor CAWCD shall be responsible for the control, carriage, handling, use, disposal, or distribution of water up to the Point(s) of Receipt or beyond the Point(s) of Delivery. Except for such claims, costs or damages arising from acts of negligence and committed by the United States or its employees, agents, or contractors for which the United States is found liable under the Federal Tort Claims Act, the [Entity] shall indemnify and hold the United States and CAWCD harmless on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death arising out of or connected with the control, carriage, handling, use, disposal, or distribution of water up to the Point(s) of Receipt or beyond the Point(s) of Delivery.

**8. PLACE OF USE:**

Wheeled Water shall be used within the Place of Use.

**9. INTERRUPTIONS AND REDUCTIONS:**

CAWCD may discontinue or reduce the quantity of Wheeled Water to be transported as herein provided for the purposes of investigation, inspection, construction, testing, maintenance, repair, or replacement of any of the Project facilities or any part thereof. CAWCD shall attempt to coordinate any such discontinuance or reduction with the [Entity] and give the [Entity] due notice in advance of such discontinuance or reduction. In case of emergency, no notice need be given. The United States, its officers, agents, and employees, and CAWCD, its officers, agents, and employees, shall not be liable for damages when, for any reason whatsoever, any interruption, discontinuance, or reduction in transportation of Wheeled Water occurs. If any such discontinuance or temporary reduction results in transportation for the [Entity] of less water than what has been paid for in advance, the [Entity] shall be reimbursed or given credit for the appropriate proportion of Fixed OM&R Charges and Pumping Energy charges prior to the date of the entities next payment.

**10. WATER QUALITY:**

10.1 Neither the United States nor CAWCD warrants the quality of water transported through the CAP System to the [Entity] pursuant to this Contract and the United States and CAWCD are under no obligation to construct or furnish water treatment facilities to maintain or better the quality of any water transported through the CAP System. The [Entity] assumes all responsibility for purifying or otherwise treating Wheeled Water received at the Point of Delivery to meet applicable water quality standards established by federal, state or local authorities. The [Entity] waives its rights to make a claim against the United States, CAWCD or any Long-Term Contractor or contractor for Excess Water service on account of the quality of Wheeled Water or any changes in water quality caused by the commingling of Wheeled Water with Project Water and/or Non-Project water.

10.2 The [Entity] shall comply with and pay for all water quality monitoring, water quality reporting and water quality compliance and treatment requirements prescribed by CAWCD or the United States applicable to the transportation of Wheeled Water under this Contract, which requirements may be amended by CAWCD and/or the United States from time to time.

10.3 The [Entity] shall comply with all applicable state and federal laws, rules, and regulations governing the transportation of Wheeled Water under this Contract. All references in this Contract to laws, rules and regulations include all amendments and successor laws, rules, and regulations to such laws, rules and regulations.

10.4 Nothing in this Contract shall be construed to require CAWCD to receive or transport Wheeled Water if such water fails to meet water quality standards established by CAWCD and the United States under Subsection 12.1 of the CAP System Use Agreement, which water quality standards may be amended by CAWCD and the United States from time to time. Further, nothing in this Contract shall be construed to require that CAWCD receive or transport Wheeled Water from any source when such receipt or transportation is likely to result in a violation of then existing federal and state laws or regulations regarding water quality. CAWCD has the right, without liability of any kind, to refuse to receive or transport Wheeled Water if such water fails to meet water quality standards established by CAWCD and the United States and/or if such transportation is likely to result in a violation of then existing federal and state laws or regulations regarding water quality.

10.5 The [Entity] shall indemnify and hold harmless CAWCD and the United States from and against any and all claims, damages, costs and other liabilities resulting from water quality degradation due to the [Entity's] introduction of Wheeled Water into the CAP System, whether or not asserted by a third party, and, at CAWCD's election, defend CAWCD against any such losses, claims, damages or other liabilities asserted by a third party.

10.6 CAWCD shall cooperate fully with the [Entity] in the defense of any and all claims, damages, costs and other liabilities asserted by a third party under this Section 10 and shall provide the [Entity] with all information and records necessary for the [Entity] to defend against such claims, damages, costs and other liabilities.

10.7 The [Entity]'s obligation to indemnify under this Section 10 shall encompass only:

10.7.1 The payment of claims, damages, costs and other liabilities that have been determined by mutual agreement of the [Entity] and CAWCD, and, if applicable, the United States, or by arbitration, or a court to have resulted from water quality degradation due to the [Entity's] introduction of Wheeled Water into the CAP System.

10.7.2 All costs incurred by CAWCD in defending against any and all claims, damages, costs and other liabilities asserted by a third party resulting from water quality degradation due to the [Entity's] introduction of Wheeled Water into the CAP System and all costs incurred by CAWCD in cooperating with the [Entity] under Subsection 10.6 of this Contract.

**11. LOSSES:**

Except for any volume of water transported under this Contract that is Firming Water, as that term is defined in the CAP System Use Agreement, the [Entity] shall be assessed uniform losses of five percent (5%) against all Wheeled Water transported through the CAP System under this Contract such that the amount of Wheeled Water delivered at Point(s) of Delivery under this Contract will be five percent (5%) less than the amount of Wheeled Water entering the CAP System at the Point(s) of Receipt. Water transported under this Contract that is Firming Water shall bear no losses.

**12. RIGHT TO CONTRACT:**

CAWCD and the United States retain the right to contract directly with other entities desiring to transport Non-Project Water through the CAP System.

**13. PROCEDURE FOR SCHEDULING TRANSPORTATION OF WHEELED WATER:**

13.1 On or before October 1 of each Year, the [Entity] shall submit in writing to CAWCD a Water Delivery Schedule indicating the amounts of Wheeled Water the [Entity] desires to be transported from the Point(s) of Receipt to the Point(s) of Delivery during each month of the following Year, taking into account applicable losses.

13.2 Each year, after receipt of the schedule, CAWCD shall review it together with all other Water Delivery Schedules, and shall make such adjustments to the Entity's Water Delivery Schedule as are necessary to accommodate the CAP System physical and operational constraints and scheduling priorities identified in Subsection 10.2.1 and Section 11 of the CAP System Use Agreement, respectively.

13.3 On or before December 15 of each Year, CAWCD shall provide the [Entity] with a copy of the final Water Delivery Schedule for the following Year, which shall show the amount of Wheeled Water to be transported from the Point(s) of Receipt to the Point(s) of Delivery during each month of that Year and shall reflect applicable losses.

13.4 The monthly Water Delivery Schedule may be amended upon the [Entity]'s written request to CAWCD. Proposed amendments shall be submitted by the [Entity] to CAWCD no later than fifteen (15) days before the desired change is to become effective. CAWCD may modify proposed amendments to the [Entity]'s monthly Water Delivery Schedule as necessary to conform to previously approved Water Delivery Schedules. CAWCD shall notify the [Entity] of its action on the Entity's requested schedule modification within ten (10) days of CAWCD's receipt of such request.

13.5 In any one month during the Year, the [Entity] shall not be entitled to the transportation of greater than eleven percent (11%) of the maximum number of acre-feet per year of Wheeled Water that may be transported through the CAP System under this Contract, after applicable losses, as shown in Exhibit 2.6 hereto. If requested by the [Entity], CAWCD may, at its sole discretion, transport more than eleven percent (11%) of the Wheeled Water in a month only after satisfying all Water Delivery Schedules with the same CAP System scheduling priority as set forth in Section 11 of the CAP System Use Agreement.

13.6 The [Entity] shall indemnify and hold CAWCD, its officers, agents and employees, and the United States, its officers, agents and employees, harmless from all damages and any claims of damage of any nature whatsoever arising out of or connected with the actions of CAWCD regarding water transportation schedules furnished by or to the [Entity].

#### 14. WATER TRANSPORTATION CHARGES:

##### 14.1 Annual Charges:

14.1.1 Fixed OM&R Charge: The [Entity] shall pay in advance the same Fixed OM&R Charge established annually by CAWCD for the delivery of Project Water in the CAP System. On or before the date of execution of this Contract, or as soon thereafter as is practicable, CAWCD shall notify the [Entity] of the Fixed OM&R Charge for the initial Year of water transportation ("initial Year"). Within a reasonable time of receipt of such notice, but prior to the transportation of Wheeled Water, the [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of the initial Year, the Fixed OM&R Charge due for transportation of Wheeled Water scheduled for transportation in the initial Year. For each subsequent Year, CAWCD will establish the Fixed OM&R Charge and shall notify the [Entity] of the Fixed OM&R Charge for such subsequent Year on or before December 15 preceding each subsequent Year. The [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of said subsequent Year, the Fixed OM&R Charge due for transportation of Wheeled Water scheduled for transportation in said subsequent Year.

14.1.2 Pumping Energy Charge: The [Entity] shall pay in advance the same Pumping Energy Charge established annually by CAWCD for the delivery of Project Water in the CAP System. On or before the date of execution of this Contract, or as soon thereafter as is practicable, CAWCD shall notify the [Entity] of the Pumping Energy Charge for the initial Year of water transportation. Within a reasonable time of receipt of such notice, but prior to the transportation of Wheeled Water, the [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of the



initial Year, the Pumping Energy Charge due for transportation of Wheeled Water scheduled for transportation in the initial Year. For each subsequent Year, CAWCD will establish the Pumping Energy Charge and shall notify the [Entity] of the Pumping Energy Charge for such subsequent Year on or before December 15 preceding each subsequent Year. The [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of said subsequent Year, the Pumping Energy Charge due for transportation of Wheeled Water scheduled for transportation in said subsequent Year. The [Entity] shall receive credit for the Pumping Energy Charges associated with any Wheeled Water scheduled for transportation that is not transported through the CAP System to the Point(s) of Delivery.

14.1.3 Capital Equivalency Charge: In addition to the Fixed OM&R Charges and the Pumping Energy Charges required in Subsections 14.1.1 and 14.1.2 of this Contract, each Year the [Entity] shall make payment to CAWCD in equal semiannual installments of a Capital Equivalency Charge. Until fulfillment of CAWCD's repayment obligation, the amount of this charge in any Year shall be equal to the M&I water service capital charge, as published in CAWCD's annual rate schedule for that Year, multiplied by the maximum number of acre-feet per year of Wheeled Water that may be transported through the CAP System under this Contract, regardless of the amount to be transported in any given Year, except that the amount of the Capital Equivalency Charge will be reduced for each acre-foot of Wheeled Water that the [Entity] schedules to be delivered for Firming in that Year. CAWCD and the United States will coordinate and consult regarding any appropriate charge for transportation of Wheeled Water following fulfillment of CAWCD's repayment obligation in addition to the charges set forth under Subsections 14.1.1 and 14.1.2 of this Contract. The Capital Equivalency Charge payment for the initial Year shall be advanced to CAWCD in equal semiannual installments on or before December 1 preceding the initial Year and June 1 of said initial Year. Thereafter, for each subsequent Year, payments by the [Entity] in accordance with the foregoing provisions shall be made in equal semiannual installments on or before the December 1 preceding said subsequent Year and the June 1 of said subsequent Year as may be specified by CAWCD in written notices to the [Entity]. CAWCD shall deposit the Capital Equivalency Charge revenues to the Lower Colorado River Basin Development Fund.

14.2 The payment of all water transportation charges when due as stipulated in Subsections 14.1.1, 14.1.2 and 14.1.3 of this Contract is a condition precedent to the transportation of Wheeled Water through the CAP System.

14.3 The obligation of the [Entity] to pay CAWCD as provided in this Contract is a general obligation of the [Entity] notwithstanding the manner in which the obligation may be distributed among

the [Entity]'s water users and notwithstanding the default of individual water users in their obligations to the [Entity].

**15. CHARGES FOR DELINQUENT PAYMENTS AND REMEDIES FOR FAILURE TO PAY:**

15.1 The [Entity] shall be subject to interest, administrative and penalty charges on delinquent installments or payments. The [Entity] shall pay an interest charge for each day the payment is delinquent beyond the due date. When a payment becomes sixty (60) days delinquent, the [Entity] shall pay an administrative charge to cover additional costs of billing and processing the delinquent payment. When a payment is delinquent ninety (90) days or more, the [Entity] shall pay an additional penalty charge of six percent (6%) per year for each day the payment is delinquent beyond the due date. Further, the Entity shall pay any fees incurred for debt collection services associated with a delinquent payment.

15.2 The interest charge rate shall be the greater of the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest rate of one-half percent (0.5%) per month. The interest charge rate shall be determined as of the due date and remain fixed for the duration of the delinquent period.

15.3 In the event any delinquent amount is not paid by the [Entity] within thirty (30) days after receipt by the [Entity] of written notice by CAWCD to the [Entity] of the delinquency, CAWCD shall have the right, without liability of any kind, to refuse to transport Wheeled Water so long as the said amount remains unpaid and may terminate this Contract. Nothing herein shall limit the rights of CAWCD to use any available legal remedy to effect collection of said amounts.

**16. RULES, REGULATIONS AND DETERMINATIONS:**

CAWCD and the [Entity] agree that the transportation of Wheeled Water pursuant to this Contract is subject to Federal Reclamation law, as amended and supplemented, and the rules and regulations promulgated by the Secretary of the Interior under Federal Reclamation law. The Secretary shall have the right to make determinations necessary to administer this Contract that are consistent with its express and implied provisions, the laws of the United States and the State of Arizona, and the rules and regulations promulgated by the Secretary of the Interior. Such determinations shall be made in consultation with CAWCD and [the Entity].

**17. COMPLIANCE WITH ENVIRONMENTAL LAWS:**

The [Entity], in carrying out this Contract, shall comply with all applicable environmental laws and regulations of the United States and the State of Arizona and shall obtain all required approvals, permits, or licenses from the appropriate Federal, State, or local authorities.

**18. UNCONTROLLABLE FORCES:**

Neither CAWCD nor the Entity shall be considered to be in default in the performance of any of its obligations hereunder (other than the obligations of the Entity to make payment for service hereunder) when a failure of performance shall be due to uncontrollable forces. The term "uncontrollable forces" shall mean any cause beyond the control of the party unable to perform such obligation, including, but not limited to, failure of or threat of failure of facilities, flood, earthquake, storm, fire, lightning and other natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strike, labor dispute, labor or material shortage, sabotage, government priorities and restraint by court order or public authority, and action or nonaction by, or failure to obtain the necessary authorizations or approvals from, any governmental agency or authority, which by exercise of due diligence such party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome.

**19. NOTICES:**

Any notice, demand, or request authorized or required by this Contract shall be in writing and delivered in person, or sent by registered or certified mail, postage prepaid, to:

CAWCD:

Central Arizona Water Conservation District  
General Manager  
P.O. Box 43020  
Phoenix, Arizona 85090-3020

[ENTITY]:

**20. WAIVER:**

The waiver by either Party of any breach of any term, covenant or condition herein contained shall not be deemed a waiver of any other term, covenant or condition, or any subsequent breach of the same or any other term, covenant or condition herein contained.

**21. GOVERNING LAW:**

This Contract is made under, and shall be governed by, applicable Federal law and, if none, the laws of the State of Arizona.

**22. ASSIGNMENT:**

The provisions of this Contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this Contract shall be valid until approved by CAWCD and the United States.

**23. EXHIBITS:**

The exhibits attached hereto may be modified by mutual consent of CAWCD and the [Entity], subject to the approval of the United States. The initial exhibits are attached hereto and each is incorporated into this Contract until superseded by a subsequent exhibit which shall then be incorporated into this Contract.

IN WITNESS WHEREOF, the parties hereto have executed this Contract effective the day and year first above-written.

Approved as to Form:

[ENTITY]

By: \_\_\_\_\_  
Its:

By: \_\_\_\_\_  
Its:

Approved as to Form:

**CENTRAL ARIZONA WATER  
CONSERVATION DISTRICT**

By: \_\_\_\_\_  
Secretary

By: \_\_\_\_\_  
President

**APPROVAL OF THE UNITED STATES:**

In accordance with Article 8.18 of the Master Repayment Contract, the foregoing Wheeling Contract between the Central Arizona Water Conservation District and the [Entity] is hereby approved.

United States of America

By: \_\_\_\_\_

[PXAO Area Mgr or LCR Regional Director]

Bureau of Reclamation

**EXHIBITS** (not attached)

- Exhibit 2.2: Place of Use
- Exhibit 2.3: Locations of Point(s) of Receipt
- Exhibit 2.4: Location of Point(s) of Delivery
- Exhibit 2.5: System Improvement Project(s)
- Exhibit 2.6: Description of Wheeled Water
- Exhibit 5.1: Reclamation's initial determination of Projected Additional Operational Capability.
- Exhibit 5.2: Reclamation's final determination of Verified Additional Operational Capability
- Exhibit 10.2 (Possible): Water Quality Monitoring and Reporting Plan

## EXHIBIT C

### STANDARD TERMS AND CONDITIONS FOR RECLAMATION WHEELING CONTRACTS TO TRANSPORT NON-PROJECT WATER

#### 1. DEFINITIONS:

Definitions included in the CAP System Use Agreement between the United States and the Central Arizona Water Conservation District dated [ ] (“CAP System Use Agreement”) are applicable to this [Reclamation Wheeling Contract (“Contract”)]. The first letters of terms so defined are capitalized herein. In addition, the following terms, when capitalized, have the meanings indicated:

1.1 Capital Equivalency Charge: An amount equal to the M&I water service capital charge, as published in CAWCD’s annual rate schedule for a particular Year, multiplied by the maximum number of acre-feet per year of Wheeled Water that may be transported through the CAP System under this Contract, as shown in Exhibit 1.5 hereto, regardless of the amount to be transported in any given Year.

1.2 Place of Use: The service area or place of use depicted on the map in Exhibit 1.2 hereto.

1.3 Point(s) of Receipt: The location(s) designated in Exhibit 1.3, hereto, where Wheeled Water will enter the CAP System.

1.4 Point(s) of Delivery: The location(s) designated in Exhibit 1.4, hereto, where Wheeled Water is diverted from the CAP System for delivery to or on behalf of the [Entity].

1.5 Wheeled Water: The Non-Project Water, of the type or source available to the [Entity] under a contract, decree, or statute, all as specified in Exhibit 1.5 to this Contract, to be transported through the CAP System pursuant to this Contract.

#### 2. TERM:

This Contract shall become effective on the date first written above and shall remain in effect until the termination of [the Entity’s] contract or other right to Wheeled Water specified in Subsection 1.5 of this Contract, unless otherwise agreed to in writing by the parties to this Contract.

#### 3. ENVIRONMENTAL CLEARANCE:

Notwithstanding any other provision of this Contract, Wheeled Water shall not be delivered to the [Entity] unless and until the [Entity] has obtained final environmental clearance from the United States for the transportation of Wheeled Water through the CAP System, and for the system or systems through which Wheeled Water is to be conveyed to the Point(s) of Receipt, and for the system or systems through



which Wheeled Water is to be conveyed from the Point(s) of Delivery to the Place of Use. Such system(s) shall include all pipelines, canals, distribution systems, treatment, storage, and other facilities through or in which Wheeled Water is conveyed. Wheeled Water shall only be transported for the [Entity] in a manner consistent with the final environmental clearances from the United States.

**4. POINT(S) OF DELIVERY, POINT(S) OF RECEIPT, MEASUREMENT AND RESPONSIBILITY:**

4.1 The United States will coordinate with CAWCD for the transportation of Wheeled Water from the Point(s) of Receipt to the Point(s) of Delivery for delivery to or for the benefit of the [Entity].

4.2 The [Entity] shall secure from CAWCD all necessary land use permits, as provided under Article 7.2.8 of the Operating Agreement, for facilities to be located within the CAP System right-of-way for the purpose of conveying Wheeled Water to the CAP System Point(s) of Receipt and from the Point(s) of Delivery to the Place of Use. Unless CAWCD and the [Entity] agree in writing to the contrary, the [Entity] shall construct and install, at its sole cost and expense: (i) all facilities required to transport Wheeled Water to the Point(s) of Receipt; and (ii) all facilities required to transport Wheeled Water from the Point(s) of Delivery to the Place of Use. The [Entity] shall furnish to CAWCD, drawings and specifications showing all such facilities to be constructed or installed within the CAP System right-of-way, and shall obtain CAWCD's written approval before commencing construction or installation of such facilities. All facilities constructed, installed, operated or maintained on the CAP System right-of-way by or for the [Entity] shall be subject to such further agreements and to such restrictions and regulations as to type, location, method of installation, operation, and maintenance as may be prescribed by CAWCD.

4.3 Upon termination of this Contract and written notice from CAWCD, the [Entity] shall promptly remove, at its sole cost and expense, all facilities constructed or installed on the CAP System right-of-way under this Contract and restore said right-of-way and all Project facilities affected to their condition immediately prior to the construction or installation of such connection facilities. If the [Entity] fails to remove said facilities and restore said right-of-way and Project facilities within thirty (30) days after receiving any written notice from CAWCD to do so, CAWCD may remove said facilities and restore said right-of-way and Project facilities at the [Entity]'s cost and expense. Within thirty (30) days after receiving written demand from CAWCD to do so, the [Entity] shall pay CAWCD, as specified in such written demand, for all costs and expenses incurred by CAWCD in removing said facilities and restoring said right-of-way and Project facilities.

4.4 When making or considering modifications to the CAP System, CAWCD shall comply with the terms of Article 12 of the Operating Agreement. If modification of the CAP System is required to allow for the interconnection between the CAP System and the [Entity]'s facilities constructed on the

CAP System right-of-way, including construction of one or more additional CAP turnouts, CAWCD shall make such interconnection modifications at the sole expense of the Entity which shall advance fund CAWCD's costs.

4.5 All Wheeled Water shall be measured with equipment that complies with CAWCD and United States standards and shall be operated and maintained by CAWCD. Upon request of the Entity, the accuracy of such measurements shall be investigated by CAWCD and the Entity, and any errors which are mutually determined to have occurred shall be adjusted; Provided, however, if CAWCD and the Entity cannot agree on the required adjustment, CAWCD's determination shall be conclusive, subject to review and revision by the Secretary.

4.6 If the [Entity] intends to transport Wheeled Water through facilities on the CAP System right-of-way that are owned or operated by entities other than the United States or CAWCD, the use by the [Entity] of such facilities shall be the subject of written agreement(s) between the [Entity] and the owner(s) or operator(s) of such facilities.

4.7 Neither the United States nor CAWCD shall be responsible for the control, carriage, handling, use, disposal, or distribution of water up to the Point(s) of Receipt or beyond the Point(s) of Delivery. Except for such claims, costs or damages arising from acts of negligence and committed by the United States or its employees, agents, or contractors for which the United States is found liable under the Federal Tort Claims Act, the [Entity] shall indemnify and hold the United States and CAWCD harmless on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death arising out of or connected with the control, carriage, handling, use, disposal, or distribution of water up to the Point(s) of Receipt or beyond the Point(s) of Delivery.

## **5. PLACE OF USE:**

Wheeled Water shall be used within the Place of Use.

## **6. INTERRUPTIONS AND REDUCTIONS**

The United States and/or CAWCD may discontinue or reduce the quantity of Wheeled Water to be transported as herein provided for the purposes of investigation, inspection, construction, testing, maintenance, repair, or replacement of any of the Project facilities or any part thereof. CAWCD shall attempt to coordinate any such discontinuance or reduction with the [Entity] and give the [Entity] due notice in advance of such discontinuance or reduction. In case of emergency, no notice need be given. The United States, its officers, agents, and employees, and CAWCD, its officers, agents, and employees, shall not be liable for damages when, for any reason whatsoever, any interruption, discontinuance, or

reduction in transportation of Wheeled Water occurs. If any such discontinuance or temporary reduction results in transportation for the [Entity] of less water than what has been paid for in advance, the [Entity] shall be reimbursed or given credit for the appropriate proportion of Fixed OM&R Charges and Pumping Energy Charges prior to the date of the entities next payment.

## **7. WATER QUALITY**

7.1 Neither the United States nor CAWCD warrants the quality of water transported through the CAP System to the [Entity] pursuant to this Contract and the United States and CAWCD are under no obligation to construct or furnish water treatment facilities to maintain or better the quality of any water transported through the CAP System. [Entity] assumes all responsibility for purifying or otherwise treating Wheeled Water received at the Point of Delivery to meet applicable water quality standards established by federal, state or local authorities. The [Entity] waives its rights to make a claim against the United States, CAWCD or any Long-Term Contractor or contractor for Excess Water service on account of the quality of Wheeled Water or any changes in water quality caused by the commingling of Wheeled Water with Project Water and/or Non-Project Water.

7.2 The [Entity] shall comply with and pay for all water quality monitoring, water quality reporting and water quality compliance and treatment requirements prescribed by CAWCD or the United States applicable to the transportation of Wheeled Water under this [Reclamation Wheeling Contract/Federal Arrangement], which requirements may be amended by CAWCD and/or the United States from time to time.

7.3 The [Entity] shall comply with all applicable state and federal laws, rules, and regulations governing the transportation of Wheeled Water under this Contract. All references in this Contract to laws, rules and regulations include all amendments and successor laws, rules, and regulations to such laws, rules and regulations

7.4 Nothing in this Contract shall be construed to require CAWCD to receive or transport Wheeled Water if such water fails to meet water quality standards established by CAWCD and the United States under Subsection 12.1 of the CAP System Use Agreement, which water quality standards may be amended by CAWCD and the United States from time to time. Further, nothing in this [Reclamation Wheeling Contract/Federal Arrangement] shall be construed so as to require that CAWCD receive or transport Wheeled Water from any source when such receipt or transportation is likely to result in a violation of then existing federal and state laws or regulations regarding water quality. CAWCD shall have the right, without liability of any kind, to refuse to transport Wheeled Water if such water fails to meet water quality standards established by CAWCD and the United States and/or if such transportation

is likely to result in a violation of then existing federal and state laws or regulations regarding water quality.

7.5 The [Entity] shall indemnify and hold harmless CAWCD and the United States from and against any and all claims, damages, costs and other liabilities resulting from water quality degradation due to the [Entity's] introduction of Wheeled Water into the CAP System, whether or not asserted by a third party, and, at CAWCD's election, defend CAWCD against any such losses, claims, damages or other liabilities asserted by a third party.

7.6 CAWCD shall cooperate fully with the [Entity] in the defense of any and all claims, damages, costs and other liabilities asserted by a third party under this Section 7 and shall provide the [Entity] with all information and records necessary for the [Entity] to defend against such claims, damages, costs and other liabilities.

7.7 The [Entity]'s obligation to indemnify under this Section 7 shall encompass only:

7.7.1 The payment of claims, damages, costs and other liabilities that have been determined by mutual agreement of the [Entity] and CAWCD, and, if applicable, the United States, or by arbitration or a court to have resulted from water quality degradation due to the [Entity's] introduction of Wheeled Water into the CAP System.

7.7.2 All costs incurred by CAWCD in defending against any and all claims, damages, costs and other liabilities asserted by a third party resulting from water quality degradation due to the [Entity's] introduction of Wheeled Water into the CAP System and all costs incurred by CAWCD in cooperating with the [Entity] under Subsection 7.6 of this Contract.

## **8. LOSSES**

Except for any volume of water transported under this Contract that is Firming Water, as that term is defined in the CAP System Use Agreement, the [Entity] shall be assessed uniform losses of five percent (5%) against all Wheeled Water transported through the CAP System under this Contract such that the amount of Wheeled Water delivered at Point(s) of Delivery under this Contract will be five percent (5%) less than the amount of Wheeled Water entering the CAP System at the Point(s) of Receipt. Water transported under this Contract that is Firming Water shall bear no losses.

## **9. PROCEDURE FOR SCHEDULING WATER**

9.1 On or before October 1 of each Year, the [Entity] shall submit in writing to CAWCD a Water Delivery Schedule indicating the amounts of Wheeled Water the [Entity] desires to be transported

from the Point(s) of Receipt to the Point(s) of Delivery during each month of the following Year, taking into account applicable losses.

9.2 Each year, after receipt of [Entity's] Water Delivery Schedule, CAWCD shall review it together with all other Water Delivery Schedules, and shall make such adjustments to the Entity's Water Delivery Schedule as are necessary to accommodate the CAP System physical and operational constraints and scheduling priorities identified in Subsection 10.2.1 and Section 11 of the CAP System Use Agreement, respectively.

9.3 On or before December 15 of each Year, CAWCD shall provide the [Entity] with a copy of the final Water Delivery Schedule for the following Year, which shall show the amount of Wheeled Water to be transported from the Point(s) of Receipt to the Point(s) of Delivery during each month of that Year and shall reflect applicable losses.

9.4 The monthly Water Delivery Schedule may be amended upon the [Entity]'s written request to CAWCD. Proposed amendments shall be submitted by the [Entity] to CAWCD no later than fifteen (15) days before the desired change is to become effective. CAWCD may modify proposed amendments to the [Entity]'s monthly Water Delivery Schedule as necessary to conform to previously approved Water Delivery Schedules. CAWCD shall notify the [Entity] of its action on the Entity's requested schedule modification within ten (10) days of CAWCD's receipt of such request.

9.5 The [Entity] shall indemnify and hold CAWCD, its officers, agents and employees, and the United States, its officers, agents and employees, harmless from all damages and any claims of damage of any nature whatsoever arising out of or connected with the actions of CAWCD regarding water transportation schedules furnished by or to the [Entity].

## 10. CHARGES

### 10.1 Annual Charges:

10.1.1 Fixed OM&R Charge: The [Entity] shall pay in advance the same Fixed OM&R Charge established annually by CAWCD for the delivery of Project Water in the CAP System. On or before the date of execution of this Contract, or as soon thereafter as is practicable, CAWCD shall notify the [Entity] of the Fixed OM&R Charge for the initial Year of water transportation ("initial Year"). Within a reasonable time of receipt of such notice, but prior to the transportation of Wheeled Water, the [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of the initial Year, the Fixed OM&R Charge due for transportation of Wheeled Water scheduled for transportation in the initial Year. For each subsequent Year, CAWCD will establish the Fixed OM&R Charge and shall notify the [Entity] of the Fixed OM&R Charge for such subsequent Year on or before

December 15 preceding each subsequent Year. The [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of said subsequent Year, the Fixed OM&R Charge due for transportation of Wheeled Water scheduled for transportation in said subsequent Year.

10.1.2 Pumping Energy Charge: The [Entity] shall pay in advance the same Pumping Energy Charge established annually by CAWCD for the delivery of Project Water in the CAP System. On or before the date of execution of this Contract, or as soon thereafter as is practicable, CAWCD shall notify the [Entity] of the Pumping Energy Charge for the initial Year of water transportation. Within a reasonable time of receipt of such notice, but prior to the transportation of Wheeled Water, the [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of the initial Year, the Pumping Energy Charge due for transportation of Wheeled Water scheduled for transportation in the initial Year. For each subsequent Year, CAWCD will establish the Pumping Energy Charge and shall notify the [Entity] of the Pumping Energy Charge for such subsequent Year on or before December 15 preceding each subsequent Year. The [Entity] shall advance to CAWCD, in monthly installments payable on or before the first day of each month of said subsequent Year the Pumping Energy Charge due for transportation of Wheeled Water scheduled for transportation in said subsequent Year. The [Entity] shall receive credit for the Pumping Energy Charges associated with any Wheeled Water scheduled for transportation that is not transported through the CAP System to the Point(s) of Delivery.

10.1.3 Capital Equivalency Charge: In addition to the Fixed OM&R Charges and the Pumping Energy Charges required in Subsections 10.1.1 and 10.1.2 of this Contract, each Year the [Entity] shall make payment to CAWCD in equal semiannual installments of a Capital Equivalency Charge. Until fulfillment of CAWCD's repayment obligation the amount of this charge in any Year shall be equal to the M&I water service capital charge, as published in CAWCD's annual rate schedule for that Year, multiplied by the maximum number of acre-feet per year of Wheeled Water that may be transported through the CAP System under this Contract, regardless of the amount to be transported in any given Year, except that the amount of the Capital Equivalency Charge will be reduced for each acre-foot of Wheeled Water that the [Entity] schedules to be delivered for Firming in that Year. CAWCD and the United States will coordinate and consult regarding any appropriate charge for transportation of Wheeled Water following fulfillment of CAWCD's repayment obligation in addition to the charges set forth under Subsections 10.1.1 and 10.1.2. The Capital Equivalency Charge payment for the initial Year shall be advanced to CAWCD in equal semiannual installments on or before December 1 preceding the initial Year and June 1 of said initial Year. Thereafter, for each subsequent Year, payments by the [Entity] in accordance with the foregoing provisions shall be made in equal semiannual installments on or before the

December 1 preceding said subsequent Year and the June 1 of said subsequent Year as may be specified by CAWCD in written notices to the [Entity]. CAWCD shall deposit the Capital Equivalency Charge revenues to the Lower Colorado River Basin Development Fund.

10.2 The payment of all water transportation charges when due as stipulated in Subsections 10.1.1, 10.1.2, and 10.1.3 of this Contract is a condition precedent to the transportation of Wheeled Water through the CAP System.

10.3 The obligation of the [Entity] to pay CAWCD as provided in this Contract is a general obligation of the [Entity] notwithstanding the manner in which the obligation may be distributed among the [Entity]'s water users and notwithstanding the default of individual water users in their obligations to the [Entity].

**11. CHARGES FOR DELINQUENT PAYMENTS AND REMEDIES FOR FAILURE TO PAY:**

11.1 The Entity shall be subject to interest, administrative and penalty charges on delinquent installments or payments. The [Entity] shall pay an interest charge for each day the payment is delinquent beyond the due date. When a payment becomes sixty (60) days delinquent, the [Entity] shall pay an administrative charge to cover additional costs of billing and processing the delinquent payment. When a payment is delinquent ninety (90) days or more, the [Entity] shall pay an additional penalty charge of six percent (6%) per year for each day the payment is delinquent beyond the due date. Further, the Entity shall pay any fees incurred for debt collection services associated with a delinquent payment.

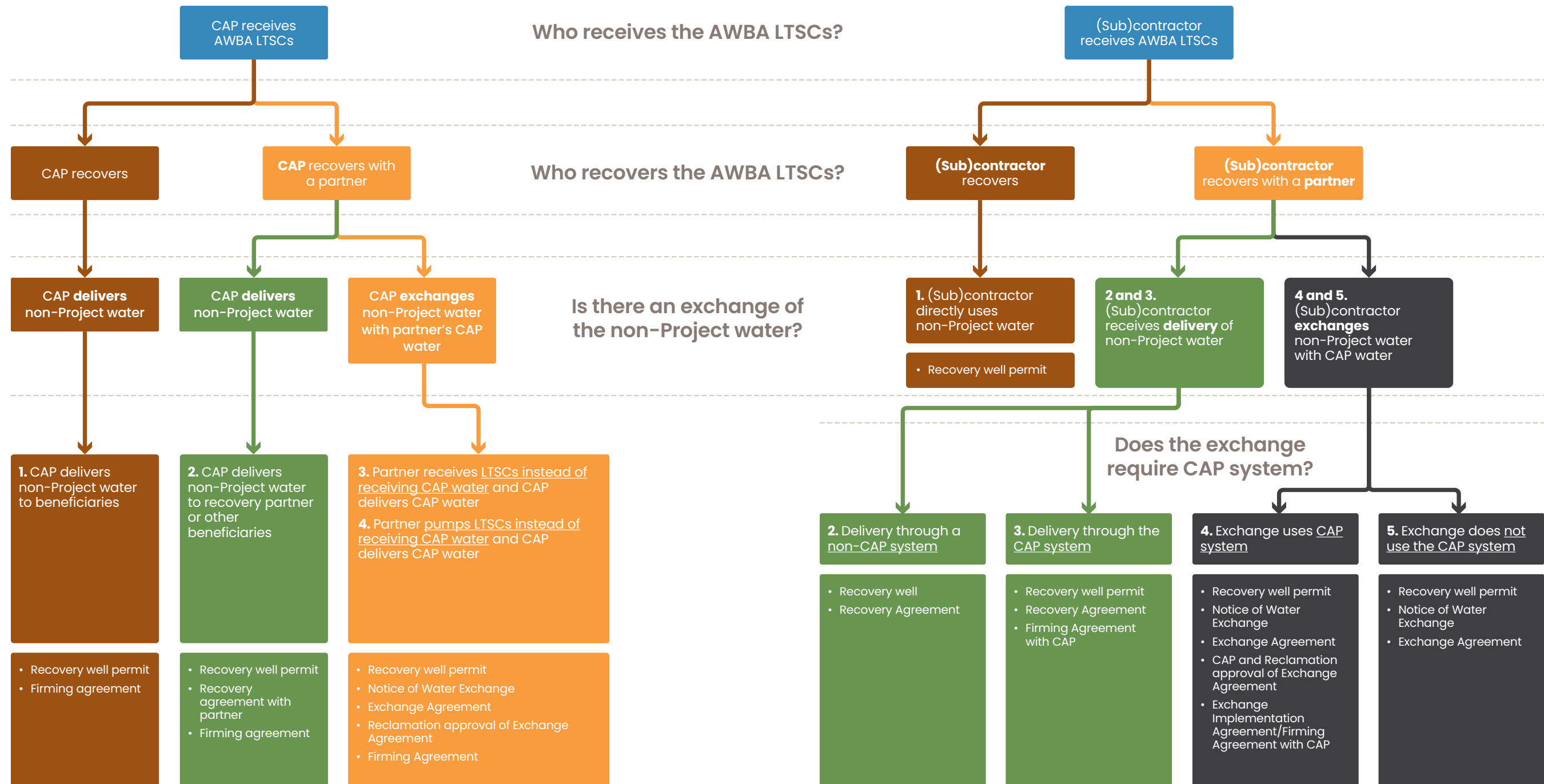
11.2 The interest charge rate shall be the greater of the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest rate of one-half percent (0.5%) per month. The interest charge rate shall be determined as of the due date and remain fixed for the duration of the delinquent period.

**12. SCHEDULING PRIORITIES:**

The scheduling and delivery of Wheeled Water pursuant to this Contract shall be subject to the CAP System Use Scheduling Priorities as set forth in the CAP System Use Agreement.

# Appendix D: Recovery Options, Agreements, Permits and Terms and Conditions

## AWBA LTSCs Recovery





## AWBA LTSC Recovery Options and Agreements

### CAP Recovery

1. CAP receives AWBA LTSCs – CAP recovers LTSCs (CAGR policy or direct) – CAP delivers non-Project water to beneficiaries
  - Recovery well permit \*
  - Firming Agreements with those that are receiving non-Project water (firming)\*
2. CAP receives AWBA LTSCs – CAP recovers with a partner – CAP delivers non-Project water to recovery partner or other beneficiaries
  - Recovery well permit\*
  - Recovery agreement with partner
  - Firming Agreements with entities receiving non-Project water (firming)\*
3. CAP receives AWBA LTSCs – CAP recovers with a partner – CAP exchanges non-Project water with partner's CAP water – partner receives LTSCs instead of CAP water – CAP delivers the exchanged CAP water
  - Recovery well permit\*
  - Notice of Water Exchange\*
  - Exchange Agreement\*
  - Reclamation approval of Exchange Agreement
  - Firming Agreement with recovery partner receiving non-Project water (firming)\*
4. CAP receives AWBA LTSCs – CAP recovers with a partner – CAP exchanges non-Project water with partner's CAP water – partner pumps LTSCs in place of receiving CAP water – CAP delivers the exchanged CAP water
  - Recovery well permit\*
  - Notice of Water Exchange\*
  - Exchange Agreement\*
  - Reclamation approval of Exchange Agreement
  - Firming Agreement with recovery partner receiving non-Project water (firming)\*

## **(Sub)contractor Recovery**

1. (Sub)contractor receives AWBA LTSCs – (sub)contractor recovers LTSCs on their own – directly uses the non-Project water
  - Recovery well permit\*
2. (Sub)contractor receives AWBA LTSCs – (Sub)contractor recovers with a partner – partner delivers the non-Project water through a non-CAP system
  - Recovery well permit\*
3. (Sub)contractor receives AWBA LTSCs – (sub)contractor recovers with a partner – partner delivers the non-Project water through the CAP system
  - Recovery well permit\*
  - Recovery Agreement among the parties
  - Firming Agreement between (sub)contractor and CAP\*
4. (Sub)contractor receives AWBA LTSCs – (sub)contractor recovers with a partner – (sub)contractor exchanges non-Project water with partner’s CAP water – the CAP System is used to complete the exchange
  - Recovery well permit\*
  - Notice of Water Exchange\*
  - Exchange Agreement among the parties\*
  - CAP and Reclamation approval of Exchange Agreement
  - Exchange Implementation/Firming Agreement with CAP\*
5. (Sub)contractor receives AWBA LTSCs – (sub)contractor recovers with a partner – (sub)contractor exchanges non-Project water with partner’s CAP water – CAP System is not used to complete the exchange
  - Recovery well permit\*
  - Notice of Water Exchange\*
  - Exchange Agreement among the parties\*

## \*Summary of Agreements

### Recovery Well Permit [ADWR]

- Establishes legal character of recovered water to the entity recovering the water
- For production of a Non-Project Water supply (i.e., recovered CAP water) that can be delivered directly, indirectly or by exchange (ARS § 45-834.01)

### Exchange Agreement [Exchange Parties]

- Defines terms of the exchange between the parties. May require CAP & Reclamation approval.
- The Exchange Agreement specifies the terms of a water-for-water exchange between two parties—one providing CAP Project Water, the other providing recovered CAP water. The Exchange Agreement may contain a range of provisions that are unique to the arrangement between the parties (e.g., compensation, volumes, timing, noticing, dispute resolution, etc.). Exchange Agreements require approval by Reclamation and CAP to conform with the terms of M&I subcontracts section 4.3(d) (to which CAP and Reclamation are parties) and the System Use Agreement (see section references below).
  - If CAP is providing the recovered CAP water, (via recovery well permits under its name), section 9.1 of the System Use Agreement applies, (“9.1 Exchanges between Long-Term Contractors and CAP”).
- If an entity other than a tribe is providing the recovered CAP water, section 9.2 applies (“9.2 Exchanges between Non-Federal Long-Term Contractors and parties holding Non-Project Water supplies”). Note that the party holding the non-project water supply may also happen to be an M&I subcontractor, but their subcontract is not involved in the exchange per se. An exchange is subject to ADWR review (Notice of Exchange) and a required Exchange Implementation Agreement with CAP.

### Notice of Exchange [ADWR]

- Confirms that a water-for-water exchange meets statutory requirements
- Under State law (ARS § 45-1051), an exchange is “water for any other water” and subject to regulatory oversight

### Exchange Implementation Agreement [Exchange Parties & CAP]

- If the CAP system is necessary to effectuate the exchange, provisions of the subcontract and the SUA require that the exchange be approved by CAP and Reclamation, and an Exchange Implementation Agreement with CAP
- Defines terms under which CAP will deliver, and party will receive Exchange Water (e.g., payment, release of liability, etc.)
- In instances in which CAP is not a direct party to an Exchange, an Exchange Implementation Agreement is required under the System Use Agreement section 9.2.1.3 to memorialize the operational terms of the exchange.
  - Defines responsibility and procedure for paying water delivery charges (e.g., CAP Energy and Fixed OM&R)

- Defines water scheduling responsibilities, and scheduling priority
- Confirms that Exchange Water is not assessed a loss factor
- Confirms that CAP will deliver Exchange Water to specified points of delivery
- Confirms that CAP does not warrant the quality of the Exchange Water (i.e., same language as M&I subcontract)

#### **Firming Agreement [Exchange Parties & CAP]**

- If the CAP System is involved, defines terms under which CAP will deliver, and party will receive Firming Water (e.g., payment, release of liability, etc.)
- Under the System Use Agreement, “Firming” means “satisfying all or a portion of a Long-Term Contract entitlement that has been reduced due to a Water Shortage.” “Firming Water” is then defined to include both “Non-Project Water delivered through the CAP System, including Recovered Water introduced into the CAP System” and Exchange Water. For those electing to receive Firming Water, a Firming Agreement is required under the System Use Agreement section 8.3 between the Long-Term Contractor (or lessees of tribal Project Water) and CAP to define the operational terms of the delivery of this water. Note, since Firming Water does not require a Wheeling Agreement, a Firming Agreement may also serve as a water delivery contract for 3rd party firming.
  - Defines responsibility and procedure for paying water delivery charges (e.g., CAP Energy, Fixed OM&R, and, if applicable, charges based on CAP’s expenses incurred in the development and delivery of Firming Water)
  - Defines water scheduling responsibilities, and scheduling priority
  - Confirms that Firming Water is not assessed a loss factor
  - Confirms that CAP will deliver Firming Water to specified points of delivery
- Confirms that CAP does not warrant the quality of the Exchange Water (i.e., same language as M&I subcontract)

# Appendix E:

## CAP Policy Allowing the Use of the CAGRDLong-Term CAP Contract to Satisfy the Arizona Water Banking Authority's Firming or Interstate Obligations<sup>23</sup>

### CAP BOARD Policy

*Approved CAWCD Board - June 8, 2017*

#### **I. Process for CAGRDL to Accept Long-Term Storage Credits**

- A. Prior to the use of the CAGRDL Long-Term CAP contract to satisfy the Arizona Water Banking Authority's firming or interstate obligations, CAWCD shall obtain approval from the United States Bureau of Reclamation that the process is consistent with the exchange requirements in the CAP System Use Agreement section 9.1 and in accordance with the Supplemental Contract between the United States and the Central Arizona Water Conservation District for Delivery of Central Arizona Project Water contract no. 14-06-W-245 and any subsequent supplements or amendments (the "Supplemental Contract").
- B. In any year in which CAWCD is required to recover long-term storage credits on behalf of the Arizona Water Banking Authority for either instate firming or interstate obligations, CAWCD may exchange up to the maximum quantity of CAP water available to CAGRDL under the Supplemental Contract, as authorized by the CAP System Use Agreement.
- C. For every long-term storage credit exchanged with the Supplemental Contract, CAGRDL shall accept an equal reduction in the volume of CAP water deliveries in that same calendar year.
- D. Any long-term storage credits transferred to CAGRDL for firming or instate obligations must be transferred into a conservation district account established under Arizona Revised Statute § 45-859.01 in satisfaction of a replenishment obligation.

- E. CAGRD shall pay all charges, including CAP Fixed OM&R Charges, CAP Pumping Energy Charges, CAP Capital Charges, and any applicable water storage charges for CAP or non-CAP owned and operated facilities, that would otherwise have been associated with delivery of CAGRD's CAP water order as if the CAP water order was fully delivered to CAGRD as ordered and no exchange had taken place.
- F. By April 30 of the year following the year in which long-term storage credits were transferred, CAWCD shall pay \$15 to CAGRD for each every long-term storage credit that CAWCD exchanges with CAGRD.

## **II. Locations From Which CAGRD May Accept Long-Term Storage Credits**

- A. Exhibit A of the Supplemental Contract, as amended, identifies the entities that have assigned CAP M&I water entitlements to CAGRD.
- B. In a given calendar year, CAGRD may only reduce CAP water deliveries for its CAP M&I water entitlements obtained from Sunrise Water Company, West End Water Company, New River Utility Company, and Valley Utilities Water Company for long-term storage credits that were created at water storage facilities within the area of hydrologic impact of the groundwater withdrawals to be replenished.
- C. In a given calendar year, CAGRD may reduce CAP water deliveries for its CAP M&I water entitlements obtained from Litchfield Park Service Company and Chandler Heights Citrus Irrigation District for long-term storage credits that were created at water storage facilities in the Phoenix Active Management Area.
- D. To the extent that CAGRD obtains NIA Priority Water, in a given calendar year, CAGRD may reduce CAP water deliveries available for its CAP NIA Priority water entitlements for long-term storage credits that were created at any water storage facility in the Phoenix, Pinal, or Tucson Active Management Areas.

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<sup>22</sup> For general reference only. Please refer to original document for implementation.

# Appendix F:

## Assumptions for CAP Utilization

### 1. Total Deliveries:

CAP deliveries begin at approximately 1.66 MAF at the beginning of the projection period (2021), declining to 1.63 MAF at the end of the planning period before CAP system losses. There are no reductions due to 2007 Guidelines or LBDCP.

### 2. CAP System Losses:

Assumes 75,000 AFY losses due to evaporation and transmission, across the entire projection period.

### 3. P3 Priority:

Assumes continued full utilization of P3 contracts by Indian and M&I users across the entire projection period (68,400 AFY).

### 4. Indian Priority, used by M&I:

Assumes the White Mountain Apache Tribe's Water Settlement is enforceable by 2023. The Indian priority allocation (1,218 AFY) and NIA priority allocation (23,782 AFY) is leased to M&I users in 2023.

### 5. Indian Priority, used by Indians:

Assumes full utilization of all remaining Indian Priority water by Indian users, after leases and exchanges have been subtracted.

### 6. M&I Priority, used by M&I:

By 2038, assumes full utilization of M&I subcontracts (totaling 620,678 AFY). Also assumes full utilization of former Hohokam assignment water (47,303 AFY) in 2044 - 2045 after it converts from NIA priority.

#### a. M&I Priority, allocated to Indians:

The San Carlos Apache Tribe's allocation includes 18,145 AFY that is M&I Priority. There is full utilization of this allocation currently though a 12,500 AFY lease by Scottsdale and 5,645 AFY lease by Freeport-Morenci.

**7. NIA Priority, used by M&I:**

Assumes the first round of currently unallocated NIA water (46,629 AF) is allocated to M&I users within the CAP Service Area in 2022 with 44,914 AF taken in 2022 and the remainder of 1,715 AF taken in 2023. Assumes the second reallocation round (49,666 AF) has 17,333 AF taken in 2025 along with 6,374 AF of the original 15,000 AF of water providers serving land in Central Arizona Irrigation and Drainage District and Maricopa–Stanfield Irrigation and Drainage District. The remainder of the 15,000 AF (8,626 AF) and 17,333 AF reserved for outside the CAP Service Area are assumed to be allocated in 2030. Of the White Mountain Apache Tribe allocation, the Indian priority allocation (1,218 AFY) and NIA priority allocation (23,782 AFY) is leased to M&I users starting in 2023.

**8. NIA Priority, used by Indians:**

Assumes full utilization of all remaining NIA pool water by Indian users (GRIC and Tohono O’odham), after long-term leases and exchanges have been subtracted. Assumes the remaining pool volume reserved for future Indian Settlements (43,518 AF) is allocated and fully utilized by Indian users as follows – Hualapai 4,000 AF in 2025 with the remaining amount (39,518 AF) allocated in three rounds in 2027, 2031 and 2035.

**9. Ag Settlement Pool:**

Assumes tiered Agricultural Settlement Pool allocation with the step down to 225,000 AF in 2024.

**10. Other Excess:**

The projected Other Excess pool represents the residual CAP delivery supply after long-term contract and Ag Pool demands are fulfilled annually.

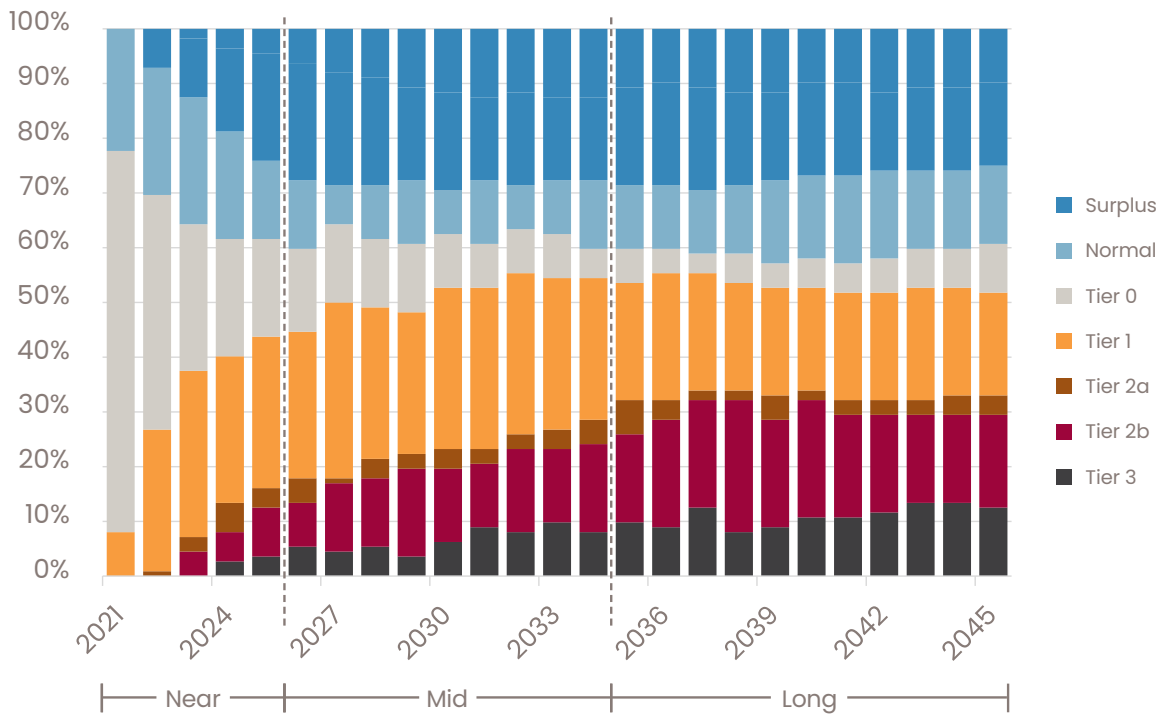


# Appendix G: Scenario Planning Probability Results

As described in Section 5, for this Joint Update two different Upper Basin demand projections were considered—the demand projections inherent in the CRSS model and a scenario using a 15% reduction to the demand projections inherent in CRSS. Two different hydrologies were evaluated—Direct Natural Flow and Stress Test.

A chart of annual probabilities, and a table of the probability of dropping below defined Lake Mead Elevations, is shown below for each scenario. These two together provide insight into the level of risk associated with future hydrologic conditions.

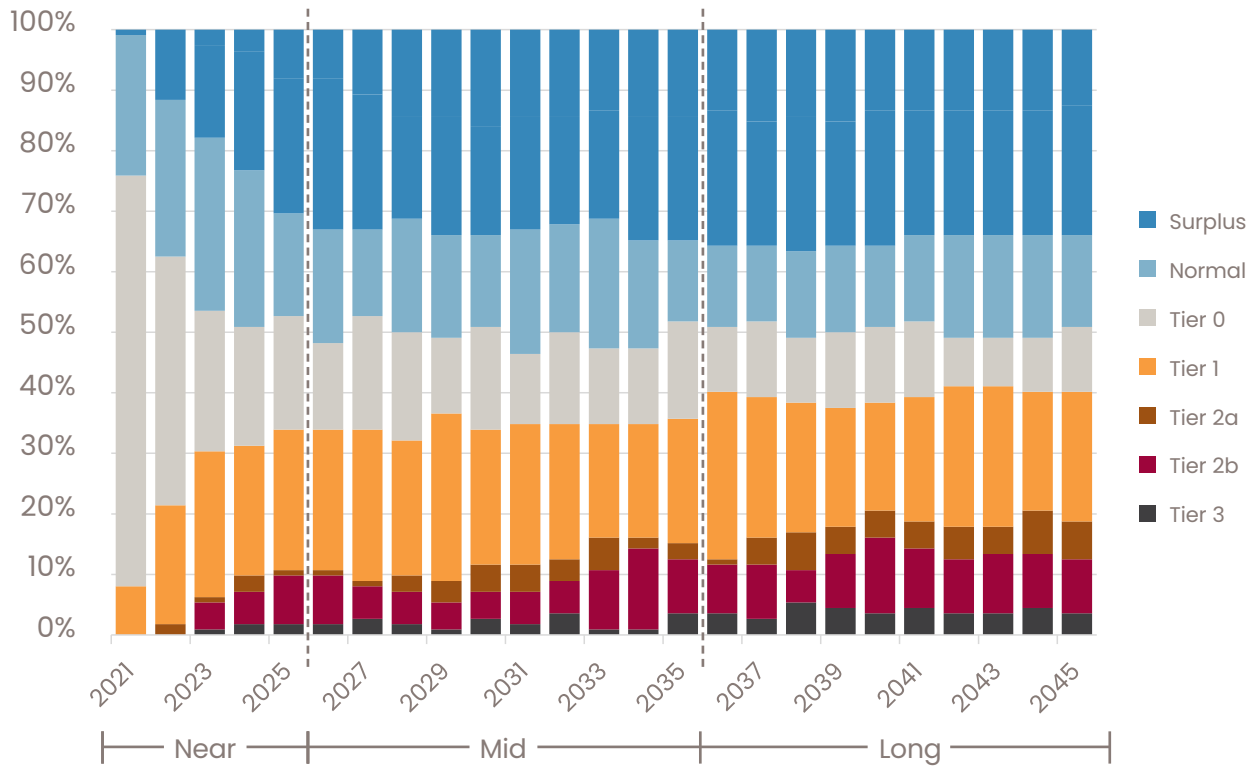
### DNF “As-Is”



### Probability of Dropping Below Defined Lake Mead Elevations at Least Once During a Planning Period: DNF “As-Is”

Lake Mead Elevation	Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
<= 1,090'	Tier 0 or greater	86%	75%	73%
<= 1,075'	Tier 1 or greater	55%	71%	68%
<= 1,050'	Tier 2a or greater	22%	47%	50%
<= 1,045'	Tier 2b or greater	17%	44%	49%
<= 1,025'	Tier 3	7%	25%	34%

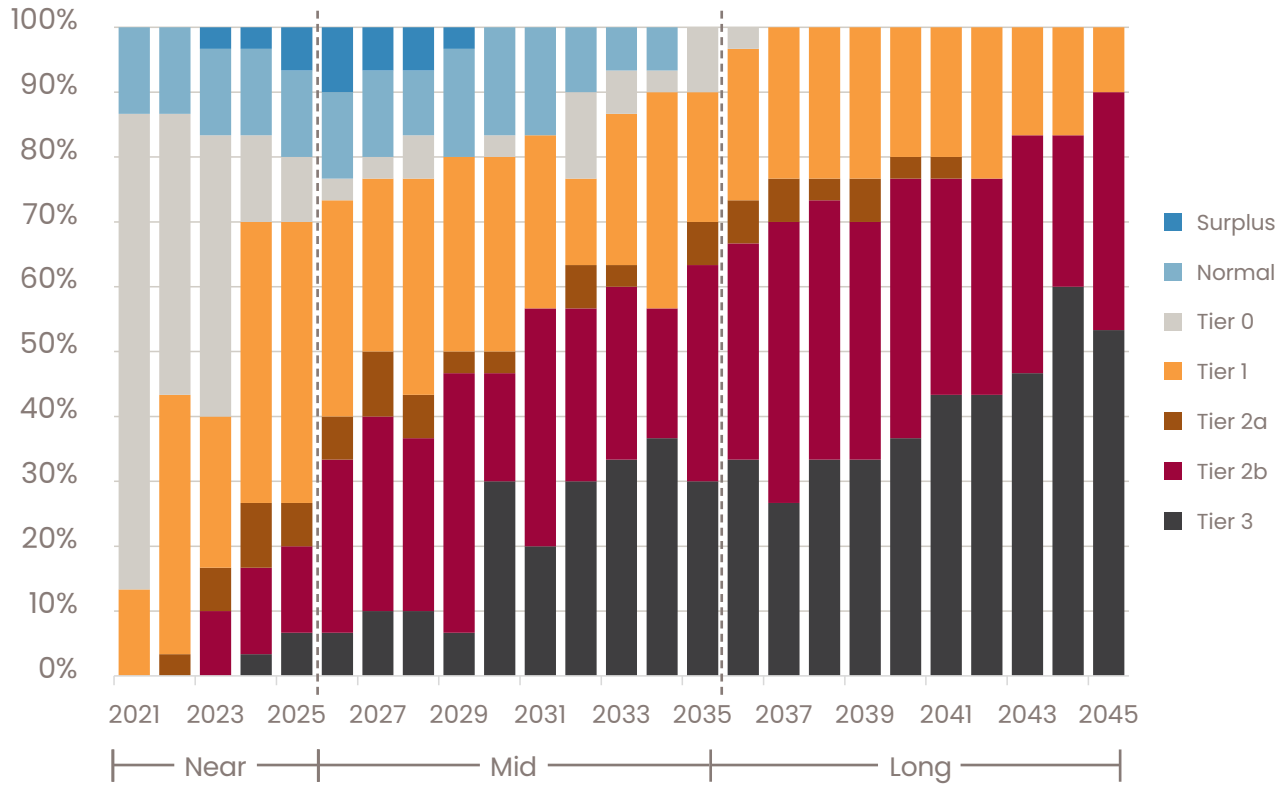
**DNF 15% Upper Basin Adjustment**



**Probability of Dropping Below Defined Lake Mead Elevations at Least Once During a Planning Period: DNF “As-Is”**

Lake Mead Elevation	Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
<= 1,090'	Tier 0 or greater	81%	71%	68%
<= 1,075'	Tier 1 or greater	50%	59%	57%
<= 1,050'	Tier 2a or greater	15%	23%	35%
<= 1,045'	Tier 2b or greater	13%	19%	33%
<= 1,025'	Tier 3	5%	8%	21%

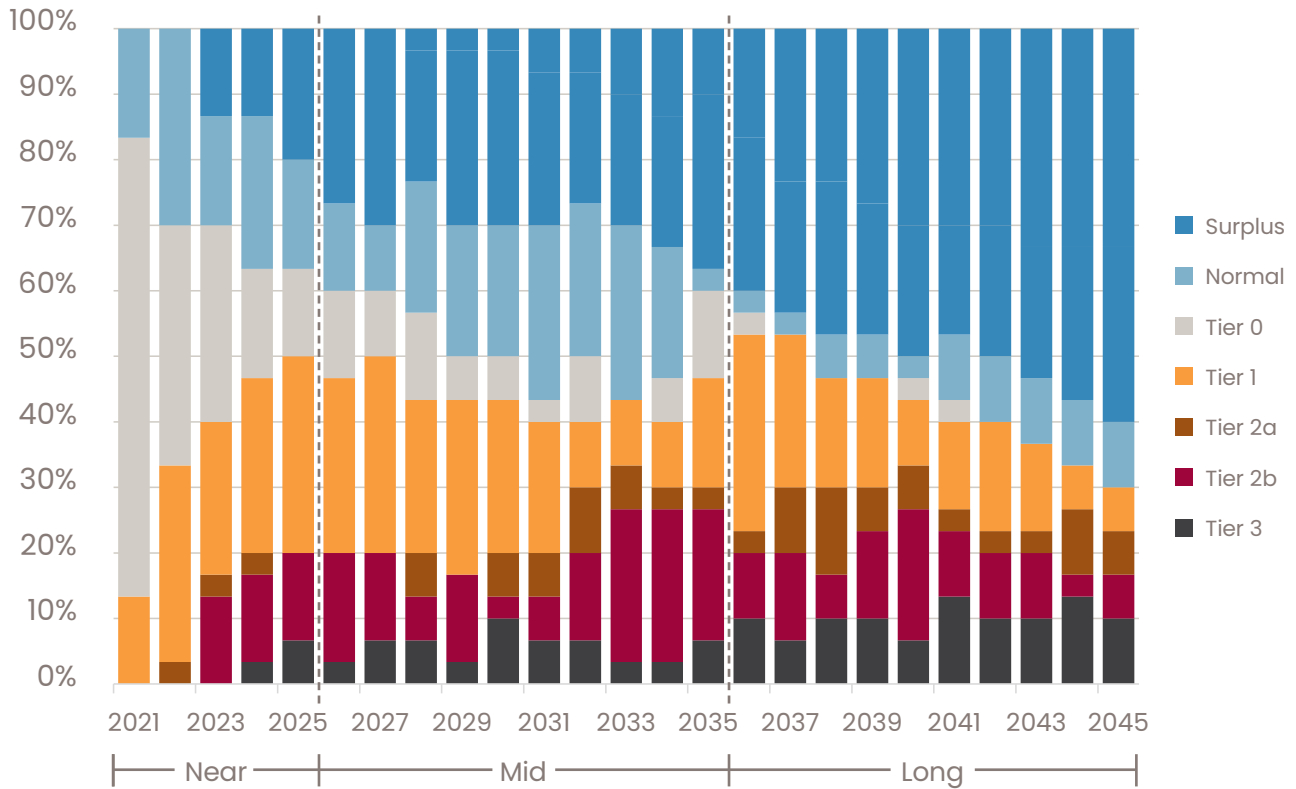
**Stress Test “As-Is”**



**Probability of Dropping Below Defined Lake Mead Elevations at Least Once During a Planning Period: Stress Test “As-Is”**

Lake Mead Elevation	Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
<= 1,090'	Tier 0 or greater	97%	100%	100%
<= 1,075'	Tier 1 or greater	77%	100%	100%
<= 1,050'	Tier 2a or greater	47%	87%	100%
<= 1,045'	Tier 2b or greater	40%	83%	100%
<= 1,025'	Tier 3	10%	63%	90%

**Stress Test 15% Upper Basin Adjustment**



**Probability of Dropping Below Defined Lake Mead Elevations at Least Once During a Planning Period: Stress Test 15% Upper Basin Adjustment**

Lake Mead Elevation	Tier	Near (2021-2026)	Mid (2027-2035)	Long (2036-2045)
<= 1,090'	Tier 0 or greater	90%	83%	57%
<= 1,075'	Tier 1 or greater	67%	80%	57%
<= 1,050'	Tier 2a or greater	27%	47%	53%
<= 1,045'	Tier 2b or greater	27%	33%	50%
<= 1,025'	Tier 3	10%	17%	43%

# Appendix H: AWBA Policy Regarding the Distribution of Long-Term Storage Credits for Firming CAP Municipal and Industrial Subcontractors<sup>24</sup>

*Adopted March 4, 2019*

## **I. Definitions**

For purposes of this Policy, the following definitions apply:

- A. "2007 Guidelines" shall mean the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, 73 Fed. Reg. 19873 (Apr. 11, 2008).
- B. "CAWCD" shall mean the multi-county water conservation district established under title 48, chapter 22.
- C. "DCP Contributions" shall have the same meaning set forth in the LBOps.
- D. "Interim Period" shall have the same meaning as described in Section 8 of the 2007 Guidelines.
- E. "LBDCP" shall mean the Lower Basin Drought Contingency Plan, as described in the Lower Basin Drought Contingency Plan Agreement ("LBDCP Agreement") and the Lower Basin Drought Contingency Operations ("LBOps") attached as Exhibit 1 to the LBDCP Agreement and incorporated by reference.
- F. "CAP M&I Priority Water" shall mean Project Water having a municipal and industrial delivery priority as provided in the CAP Subcontracts for M&I Uses.
- G. "CAP M&I Subcontractors" shall mean non-federal parties holding entitlements to CAP M&I Priority Water.
- H. "Shortage Condition" shall have the same meaning set forth in Section 2.D. of the 2007 Guidelines.

## **II. Background**

The Arizona Water Banking Authority ("AWBA") has accrued or acquired certain long-term storage credits that are intended to be distributed "to CAWCD to the extent necessary to meet the demands of CAWCD's municipal and industrial subcontractors" during Shortage Conditions A.R.S. § 45-2457(B)(7). The AWBA has previously considered issues related to the distribution of long-term storage credits during Shortage Conditions that affect CAP M&I Subcontractors. Those issues include reducing the volume of credits distributed to account for assured

water supply rule exemptions, conservation efforts, and accrual of long-term storage credits. Rather than considering action on these issues, the AWBA has elected to wait until more information is available about how water uses by the CAP M&I Subcontractors will be affected during Shortage Conditions.

As the State of Arizona considers the implementation of the LBDCP, stakeholders are seeking certainty regarding the supplies available to meet demands and to ensure that sufficient resources are available for mitigation of water reductions required under the LBDCP. The AWBA can provide certainty about the distribution of credits to meet demands of the CAP M&I Subcontractors under the terms of the LBDCP.

By adopting a policy for the Interim Period, the AWBA will benefit from learning more about CAP M&I Priority Water uses during Shortage Conditions, including required DCP Contributions, and the best way to meet demands of the CAP M&I Subcontractors during the longer term. The actual operating experience gained during the Interim Period, as well as the determination of Colorado River operations after the Interim Period, will inform future policies.

### **III. Policy**

During the Interim Period, the AWBA will distribute long-term storage credits pursuant to A.R.S. § 45-2457(B)(7) to meet all reductions to scheduled CAP M&I Priority Water due to a Shortage Condition or required DCP Contributions.

### **IV. Term**

This policy is effective from the effective date of the LBDCP Agreement until the conclusion of the Interim Period.

# Appendix I: CAP M&I Firming Timeline

