

Date: May 27, 2025 Submitted By: Travis Cossey

Asst. Director Nixa Utilities & Public Works

# RE: PASS THROUGH CONTRACT FOR STOCKTON LAKE WATER ALLOCATION

# Background:

For your consideration is an ordinance authorizing the City Administrator to enter into a Pass-Through contract between the City of Nixa and the Southwest Missouri Joint Municipal Water Utility Commission (JMUC) for the reallocation of water storage space in Stockton Lake. The City of Nixa has been working with Southwest Missouri Water (SWMO) for over twenty years to secure an additional water supply for Nixa and Southwest Missouri. I wanted to first provide you with a little background information on the organization and the necessity to secure a future water source for the city.

As a brief history, SWMO Water was originally formed as Tri-State Water in 2003. The sole purpose of the organization is to ensure adequate, affordable, long-term water supply for Southwest Missouri. Understanding that continued high growth in Southwest Missouri will put a strain on water resources, a 16-county footprint was established to provide a collaborative means to work together to meet a critical and certain need for future water supply. Within the 16-county footprint, SWMO Water has a membership which includes eleven organizations. Current members include Nixa, Branson, Carthage, CU, Joplin, Monett, Mt. Vernon, Stockton, Ozark, Republic, Willard and Pierce City.

Extensive research has been conducted on water demand, supply, and future sources. Looking ahead to 2060, research studies identified that water needs in the future exceeded current supplies by 53 million gallons per day (MGD). SWMO, working with the Corps of Engineers (COE), has identified Stockton Lake as the best available resource for the lion's share of needed water to fill the gap. For the past several years, SWMO Water has been working through a water allocation request with COE to secure 38 MGD from Stockton. The COE Kansas City District has prepared a Feasibility Study for the requested allocation. This study is nearing completion and to negotiate the contract with COE, SWMO needs to know exactly how much its members can take and pay for.

The City of Nixa is a member of SWMO Water and a participating dues paying member of the Joint Municipal Water Utility Commission (JMUC) established as a subsidiary of SWMO Water. The JMUC was formed as the legal entity allowing members to acquire and pool the funds necessary to purchase a water



allocation from Stockton Lake and to secure the infrastructure necessary to transfer that allocation from the lake to member jurisdictions.

# Analysis:

The City of Nixa is requesting to purchase 2.6% of the water allocation for a total of 2,389 acre-feet of storage space, equating to a yield of approximately 1 million gallons per day.

After 22 long years, the allocation request was approved by the COE on January 17, 2025 for 90,790 acre-feet of storage which equates to 38 million gallons per day. When the Federal Water Storage Contract (attached) is executed, JMUC will be committing to take and pay for a specific number of acre-feet of water. To finalize this contract with the Corps, JMUC needs to know exactly how much its members intend to take and pay for. JMUC's contract with the COE will require it to pay a fixed cost (approximately \$46 million), which will be amortized over 30 years with annual payments of approximately \$2.75 million. JMUC has received authorization from the Missouri DNR to use the State Revolving Fund to purchase the allocation from the COE on a 30-year note. Following the execution of a contract with the Corp, SWMO, through the JMUC will utilize the "pass through" contract with each participating member to suballocate the storage space and allocate costs proportionally.

As provided above, the City of Nixa is requesting 2.6% of the anticipated allocation space yielding approximately 1 million gallons per day of water for the city. The pass-through contract ultimately executed by the city will provide a yearly payment of approximately \$53,277.00 for 30 years to JMUC for the necessary water allocation.

The term of the contract is effectively permanent; it continues to remain in effect as long as the Stockton Reservoir remains operational under the COE. In addition to paying the federal government's principal (called "first costs"), JMUC will also be required to pay an annual charge for operations and maintenance (O&M) to the Corp for the percentage interest in the Stockton Reservoir. The initial 30-year payment referenced above includes a 25% premium (over the principal) to cover the anticipated O&M. After repaying the first costs in year 30, the City of Nixa will continue to make the O&M payment as required under the contract, making this contract perpetual and permanent.



#### Recommendation:

This year's budget included funding necessary to pay for the first installment of the 30-year contract and our current water rate structure was adopted with this 30-year payment included. This water allocation is viewed by staff as a necessary investment to secure future water supplies for the city. Therefore, it is recommended to approve the ordinance authorizing the City Administrator to execute a contract with JMUC for the purchase of an allocation of water storage from Stockton Lake from the COE.

MEMO PREPARED BY:

**Travis Cossey** | Asst. Director Nixa Utilities & Public Works



MAYOR TO EXECUTE A WATER STORAGE AGREEMENT WITH THE SOUTHWEST MISSOURI JOINT MUNICIPAL WATER UTILITY COMMISSION FOR THE PURPOSE OF PROVIDING THE CITY WITH AN ALLOCATION OF WATER FROM STOCKTON LAKE.

AN ORDINANCE OF THE COUNCIL OF THE CITY OF NIXA AUTHORIZING THE

**WHEREAS** Section 70.220 RSMo. authorizes units of government to cooperate with one another and to enter into intergovernmental cooperative agreements for such purposes; and

**WHEREAS** the City has been collaborating with other municipalities and utilities for over twenty years to secure an additional source of water supply from Stockton Lake; and

**WHEREAS** the City has requested to purchase 2,389 acre-feet of water (equating to approximately 1 million gallons per day) from Stockton Lake; and

**WHEREAS** the City's allocation request has been approved by the Army Corps of Engineers, which manages Stockton Lake; and

WHEREAS to facilitate this purchase of acre-feet, the City is required to enter into a "pass-through" agreement with the Southwest Missouri Joint Municipal Water Utility Commission ("JMUC"); and

**WHEREAS** the City Council desires to contract with JMUC to secure the City's water allocation in Stockton Lake; and

WHEREAS the City Council desires to authorize the Mayor to execute a Water Storage Agreement between the Southwest Missouri Joint Municipal Water Utility Commission and the City of Nixa, Missouri for the Use of Water Storage Space in Stockton Lake, said Agreement to be in substantially similar to the document attached hereto as "Council Bill Exhibit A."

# NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF NIXA, AS FOLLOWS, THAT:

**SECTION 1:** The Mayor, or designee, is hereby authorized and directed to execute a "Water Storage Agreement between the Southwest Missouri Joint Municipal Water Utility Commission and the City of Nixa, Missouri for the Use of Water Storage Space in Stockton Lake" (the "Contract") with the Southwest Missouri Joint Municipal Water Utility Commission. Said Contract shall be in substantially similar form as the document attached hereto, and incorporated herein by this reference, as "Council Bill Exhibit A."

**SECTION 2:** The Mayor, City Administrator, and the officers of the City are hereby authorized to do all things necessary or convenient to carry out the terms and intent of this Ordinance.

# **COUNCIL BILL NO. 2025-19**

ORDINA	ANCE	NO.	
	7110	110.	

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48	SECTION 3: This Ordinance shall	be in full force and	d effect from and after if	ts final
49	passage by the City Council and after its	approval by the Ma	ayor, subject to the prov	isions
50	of section 3.11(g) of the City Charter.			
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53	ADOPTED BY THE COUNCIL THIS	DAY OF	2025.	
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55		ATT	EST:	
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57	DDEOLDING OFFICED	OLT	( O   ED   (	
58	PRESIDING OFFICER	CITY	'CLERK	
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60 61	APPROVED BY THE MAYOR THIS	DAY OF	2025.	
62	AFFROVED BY THE MIATOR THIS	DAT OF	2023.	
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66	MAYOR	CITY	'CLERK	
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69	APPROVED AS TO FORM:			
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72	CITY ATTORNEY			

# WATER STORAGE AGREEMENT BETWEEN THE SOUTHWEST MISSOURI JOINT MUNICIPAL WATER UTILITY COMMISSION AND THE CITY OF NIVA MISCOURI

# THE CITY OF NIXA, MISSOURI FOR

THE USE OF WATER STORAGE SPACE IN STOCKTON LAKE

THIS AGREEMENT, entered into the	nisday of	, 2025, by and between
Southwest Missouri Joint Municipal Water	Utility Commission	("JMUC") and the City of Nixa,
Missouri ("User").		

#### WITNESSETH THAT:

WHEREAS, JMUC is a Joint Municipal Utility Commission formed under the Joint Municipal Utility Commission Act, Revised Statutes of Missouri Section 393.700 *et seq.*;

WHEREAS, JMUC was created to develop water supply projects for Southwest Missouri to meet projected future needs;

WHEREAS, Stockton Lake (the "Project) is a multipurpose reservoir owned and operated by the United States Army Corps of Engineers (the "Corps");

WHEREAS, the Thomas R. Carper Water Resources Development Act of 2024, Pub. L. 118-272 (Jan. 4, 2025) authorized the United States Army Corps of Engineers to enter into a contract with JMUC to utilize 90,790 acre-feet of storage space in Stockton Lake to store water for municipal and industrial water supply;

WHEREAS, Public Law 118-272 provides for the contract to be bifurcated, with at least half of the 90,790 acre-feet to be taken and paid for in 2025 at the Updated Cost of Storage as of Fiscal Year 2010 [approximately \$300 per acre-foot], and any remainder to be available ten years after the contract date at the "Update Cost of Storage" during the fiscal year in which the contract is executed approximately [\$493] per acre-foot;

WHEREAS, by memorandum dated January 17, 2025, the Assistant Secretary of the Army (Civil Works) approved the reallocation of storage in Stockton Lake to meet JMUC's water supply needs and bifurcated contract:

WHEREAS, on [\_\_\_\_\_\_\_], 2025 (the "Federal Contract Date"), JMUC entered into a contract with the United States (the "Federal Storage Contract"), a copy of which is attached as Exhibit A to this agreement;

WHEREAS, the Federal Storage Contract authorizes JMUC to utilize 90,790 acre-feet of storage space in the Project to store water for municipal and industrial water supply purposes;

WHEREAS, the Federal Storage Contract obligates JMUC to pay the following to the Corps:

- (1) "First costs," as required by Article 5.a;
- (2) "Repair, rehabilitation, and replacement costs" as required by Article 5.b;
- (3) "Operations and maintenance," as required by Article 5.c; and
- (4) Any liabilities incurred under the "release of claims" in Article 8;

WHEREAS, User wishes to utilize a portion of the storage space contracted to JMUC under the terms set forth in this agreement; and

WHEREAS, a separate agreement (the "Delivery Agreement") will be entered into between JMUC and User to document the terms under which water stored in Stockton Lake will be delivered to User;

NOW, THEREFORE, JMUC and User agree as follows:

#### ARTICLE 1. User's Storage Space

a. User's Storage Space shall be **2,389** acre-feet.

#### ARTICLE 2. Water Storage Rights

- a. User shall have the right to utilize water from the Project to the extent water is available in User's Storage Space. The storage accounting system described in Exhibit B will be utilized to determine how much water is available in User's Storage Space.
- b. This contract is for storage space only. It does not include delivery of water from the Project to User, which will be addressed in a separate Delivery Agreement.

## ARTICLE 3. Payments

- a. In consideration for the water storage rights described in Articles 1 and 2, User shall pay to JMUC the following charges:
- (1) *Unit Charge*. User shall pay the Unit Charge for each acre-foot in User's Storage Space, which will be the sum of the charges defined in paragraphs (a) through (d) below:
- a) First Costs. The Unit Charge will include the amount necessary to amortize the "First Cost" for User's storage under the Federal Contract. Pub. L. 118-272 provides two options for this element of the Unit Charge, as described in subparagraphs (1) and (2) below. User has selected Option A.

- (1) *Option A*. Under Option A, the first cost is \$300 per year per acre-foot, which will be amortized over a thirty-year period at a variable interest specified in the Federal Contract. The first payment will be due 30 days after the Federal Contract Date.
- (2) *Option B*. Under Option B, the first cost is [\$493] per acre-foot, which will be amortized over a thirty-year period at a variable interest specified in the Federal Contract. The first payment will be due on the tenth anniversary of the Federal Contract Date.

The First Cost may be prepaid at any time without penalty under either option.

- b) *RR&R*. In the event repair, rehabilitation, or replacement costs are charged to JMUC under Article 5.b of the Federal Contract, the unit charge will be increased as necessary to cover this obligation.
- c) Administration fee. The Unit Charge will include an additional fee equal to 25% of the First Cost specified in paragraph (a) above (whether Option A or B is selected) to cover operations and maintenance and other contingencies. This charge may be reduced in JMUC's sole discretion after a sufficient reserve has been established.
- d) *Special assessments*. If the Unit Charge proves insufficient to cover JMUC's obligations under the Federal Contract, a special assessment may be added to the Unit Charge as necessary to cover those costs.
- (2) Carrying Cost for Uncontracted Storage Space. Charges associated with Uncontracted Storage Space will be borne by users with contracts. User will pay a percentage of the Unit Charge for each acre-foot of Uncontracted Storage Space determined by dividing User's Storage Space by the total number of acre-feet of Contracted Storage Space. Any payments by User pursuant to this subparagraph will be credited to User's Investment Account as described in Article 5.
- (3) Step-up Payment for Uncovered Obligations. If any user fails to remit payment to JMUC as required by subparagraphs (1) and (2) above, the resulting Uncovered Obligation will be paid by JMUC from its reserve to the extent funds are available. If sufficient reserves are not available, any remaining Uncovered Obligation will be borne by users. User will pay a percentage of the Uncovered Obligation equal to the number of acre-feet in User's Storage Space divided by the total number of acre-feet contracted to users who are able to fulfill their financial obligations to JMUC. Any payments by User pursuant to this subparagraph will be credited to User's Step-up Account as described in Article 5.
- b. *Invoicing*. User's payments will be due annually on the anniversary of the Federal Contract Date.

#### ARTICLE 4. Sedimentation

If at any time JMUC's Storage Space is reduced due to sedimentation as provided in Article 1.e of the Federal Storage Contract, User's Storage Space shall be reduced, and the Unit Charge described in Article 3 increased, proportionally.

## ARTICLE 5. Uncontracted Storage Space

- a. Any payments by User under Article 3.a(2) for Uncontracted Storage Space will be repaid to the User with interest when Uncontracted Storage Space is contracted to a new user. The accounting procedures described in Article 5.b through 5.d will be employed to determine the amount to be repaid by JMUC to User.
- b. Each payment by User required under Article 3.a(2) will be credited to the User's Investment Account.
- c. The User's Investment Account will collect interest at an annual rate equal to the greater of (a) 7% per annum; or (b) the interest rate specified by Article 5 of the Federal Storage Contract, plus 1%.
  - d. When Uncontracted Storage Space is contracted by JMUC to a new user:
- (1) The contract between JMUC and the new user will be materially identical to this agreement, except for the amount stated in Article 1 and the Unit Charge identified in Article 3.a(1), which will be set by JMUC at a rate at least sufficient to provide the return on investment specified in Article 5.c.
- (2) Within 30 days of receiving payment from a new user for any Uncontracted Storage Space placed under contract, JMUC will remit to User an amount equal to the balance of User's Investment Account divided by the Total Uncontracted Storage Space Investment Account for all users, multiplied by the cost of Uncontracted Storage contracted to the new user.
- (3) Any payments to the User under Article 5.d(2) will be debited to the User's Investment Account.

#### ARTICLE 6. Step-up Payments

- a. If any user fails to remit payment to JMUC in accordance with Article 3, and if the Contingency Fund is not sufficient to cover the resulting Uncovered Obligation to the Corps, a Step-up Payment will be required under Article 3.a.(3). Any such payments will be repaid to User with interest when and if JMUC secures payment from the user that failed to make the payment. The accounting procedures described in Article 6.b through 6.d will be employed to determine the amount to be repaid to User.
  - b. Each Step-up Payment under Article 3.a(3) will be credited to User's Step-up Account.

- c. The User's Step-up Account will earn interest at the annual rate specified in Article 5.c.
- d. When and if JMUC receives payment for any Unpaid Obligation for which User has made Step-Up Payments under Article 3.a(3), JMUC within 30 days shall remit to User an amount equal to the portion of the User's Step-up Account associated with such Unpaid Obligation. Any payments to the User under this subparagraph will be debited to the User's Step-up Account.
- e. JMUC will advise all users of the potential need for a Step-up Payment as soon as possible after becoming aware that such payments might be required. Step-up Payments will be due to JMUC within 30 days of invoicing by JMUC.
- f. When and if, due to the default of another user, any Storage Space for which Step-up Payments have been made under Article 3.a(3) is returned to the status of Uncontracted Storage Space under Article 7, the User's Investment Account will be credited with an amount equal to the portion of the User's Step-up Account associated with such storage.

# ARTICLE 7. Default

- a. If at any time User fails to make a payment required by Article 3, User's obligation to JMUC shall bear interest at the rate specified in Article 5.c. Interest shall continue to accrue until all amounts due, including interest, are received by JMUC. If User's default cannot be remedied within twelve months, JMUC may elect to terminate User's contract, in which case User's right to utilize JMUC's Storage will terminate, and User's Storage Space will become Uncontracted Storage Space. This provision shall not be construed as giving the User a choice of either making payments when due or paying interest; nor shall it be construed as waiving any other rights of JMUC, at law or in equity, which might result from any default by User.
- b. In the event this Agreement is terminated pursuant to Article 7.a, (i) User shall forfeit any right or equity in User's Storage Space and in the various accounts established pursuant to this Agreement, and JMUC shall have no obligation to make any payment to User for any reason; (ii) User shall continue to be responsible for the payments required by Article 3 unless and until User's Storage Space is contracted to another User. In addition, a non-defaulting Party shall have the right to seek remedies at law or in equity or damages for the breach of any term, condition, covenant, or obligation under this agreement.
- c. Furthermore, and notwithstanding anything to the contrary in this agreement, the Parties acknowledge and agree that (i) a dispute over which a Governmental Authority has exclusive jurisdiction shall, in the first instance, be brought before and resolved by such Governmental Authority, and (ii) monetary damages may not be an adequate remedy at law for the failure of a Party to perform certain material obligations under this agreement, and under such circumstances, a non-defaulting Party shall have the right to seek a court order requiring specific performance by a defaulting Party of such obligations under this Agreement.

# ARTICLE 8. Duration of Agreement

- a. Unless terminated due to default by User or with the express written consent of JMUC, this agreement shall continue in full force and effect for so long as JMUC retains the right to utilize JMUC's Storage Space or for the maximum period allowed by law, whichever is shorter.
- b. In the event this contract terminates under Article 8.a due to any legal limitation on the duration of this agreement, this agreement shall be renewable at User's option for so long as JMUC retains the right to utilize JMUC's Storage Space.

# ARTICLE 9. User's Obligation

- a. Each User shall establish, maintain and collect such rates, fees and charges for the water service of its water utility system so as to provide revenues at least sufficient to enable User to make all payments required to be made by it under this Agreement and any other agreements with respect to its water utility, and all other operating expenses of User's water system.
- b. The obligations of each User to make payments under this Agreement shall be limited to the obligation to make payments from revenues of its water utility system and available water utility system reserves. All payments made by a User pursuant to this Agreement shall constitute operation and maintenance expense of its water utility system. No User shall be obligated to levy any taxes for the purpose of paying any amount due under this Agreement. No User may issue any evidence of indebtedness with a lien on water system revenues that is prior to the payment of operating and maintenance expenses.
- c. No User shall sell, lease or otherwise dispose of all or substantially all of its water system except on ninety (90) days' prior written notice to JMUC (which notice shall be provided after obtaining required User voter approval for such disposition) and, in any event, shall not so sell, lease or otherwise dispose of the same unless the following conditions are met: (i) the User shall assign this Agreement and its rights and interest hereunder to the purchaser or lessee of the water system and such purchaser or lessee shall assume all obligations of the User under this Agreement; (ii) if and to the extent necessary to reflect such assignment and assumption, JMUC and such purchaser or lessee shall enter into an agreement supplemental to this Agreement to clarify the terms on which water and water rights are to be sold hereunder by JMUC to such purchaser or lessee; (iii) opinions shall be obtained from counsel for assignee and counsel for JMUC that the assignment is permitted under applicable law and is valid and binding on the parties; and (vi) the rates to be paid by the assignee have been approved by applicable regulatory authority(ies). No User may take any action the effect of which would be to prevent, hinder or delay JMUC from the timely fulfillment of its obligations under this Agreement.
- d. Nothing herein shall limit any User's present or future right to issue bonds, notes or other evidences of indebtedness or incur lease obligations which are payable on a parity with operating expenses or payable from revenues after payment of operating expenses; provided, however, no User may issue bonds, notes or other evidences of indebtedness or incur lease obligations which

are payable from the revenues derived from its water system superior to the payment of the operating expenses of its water system

- e. Each User shall cooperate with JMUC and keep accurate records and Accounts.
- f. Notwithstanding any provision herein to the contrary, the City is obligated only to make the payments set forth herein as may lawfully be made from funds budgeted and appropriated for that purpose during the City's then current fiscal year.

# ARTICLE 10. Transfers and Assignments

User shall not transfer or assign this agreement or any of its rights under this agreement without express written approval of JMUC, whose consent shall not be unreasonably withheld.

# ARTICLE 11. Notice

a. Every notice or other communication required by this Agreement shall be provided in writing and shall be delivered either (1) by United States registered or certified mail, return receipt requested or (2) by nationally recognized overnight delivery service to the following:

For User:

[]

For JMUC:

Roddy Rogers Executive Director Southwest Missouri Joint Municipal Water Commission 2241 E Powell, Springfield, Missouri 65804

- b. A courtesy copy shall be delivered by electronic mail. Notice will only become effective upon receipt of the hard copy delivered in accordance with paragraph (a) above.
- c. Any party may change its address for purposes of notice under this Agreement by giving formal written notice to the other parties to this Agreement.

# ARTICLE 12. Miscellaneous

- a. Choice of Law. This Agreement shall be governed, construed, and enforced in accordance with the laws of the State of Missouri.
- b. Severability. In the event any provision of this Agreement is determined to be void or unenforceable, such determination shall not affect the remainder of this Agreement.

c. Merger. This Agreement contains the entire understanding between the Parties and supersedes all previous negotiations and agreements.

# ARTICLE 13. Definitions

- a. "User's Storage Space" means number of acre-feet allocated to User as specified in Article 1.
- b. "JMUC's Storage Space" means the number of acre-feet allocated to JMUC as specified in Article 1 of the Federal Storage Contract, subject to any adjustment for sedimentation in accordance with Article 4 of that contract.
- c. "Contracted Storage Space" means the portion of JMUC's Storage Space that has been contracted to individual users.
- d. "Uncontracted Storage Space" means the portion of JMUC's Storage Space that has not been contracted to individual users.
  - e. "Unit Charge" means the amount specified in Article 3.a(1).
- f. "User's Uncontracted Storage Investment" means the balance of User's Uncontracted Storage Space Investment Account.
- g. "Total Uncontracted Storage Investment" means the sum of all users' Uncontracted Storage Investment Accounts.
  - h. "Storage Space" means physical space within the Project that is used to store water.
  - i. "Step-up Payment" any payment required by Article 3.a(3).

IN WITNESS WHEREOF, the parties have executed this agreement as of the day and year first above written.

THE CITY OF NIXA, MISSOURI	SOUTHWEST MISSOURI JOINT MUNICIPAL WATER COMMISSION
By:	By: Roddy Rogers, Executive Director
Date:	Date:

#### EXHIBIT B: STORAGE AND WATER ACCOUNTING

The Active Multipurpose Pool at Stockton Lake contains a total of 694,575 acre-feet of storage between 830 and 868.9 feet NGVD67. Because all water for all conservation purposes is held in this common pool, a system is needed to determine how much of the water held in the common pool is available to each user. "Storage accounting" is used for this purpose.

## 1. Storage and Water Accounting Principles

1.1 The Active Multipurpose Pool at Stockton Lake is divided into "storage accounts." The size of each water supply storage account is equal to the volume of storage under contract. The remainder of the Active Multipurpose Pool is assigned to the federal account. The current allocation is shown in Table 1.1 below:

Account holder	Account size (AF)
Federal	549,825
City Utilities Springfield	52,320 <sup>1</sup>
JMUC	90,790
Total Active Multipurpose Storage all accounts	694,575

JMUC's storage account will be subdivided into accounts held by its members. The same principles and formulas will be used by JMUC to manage its members accounts.

- 1.2 Inflows and outflows to the Active Multipurpose Pool will be tracked daily, and gains and losses will be assigned to individual storage accounts using the formulas set forth in part 2. The "account balance" for each user represents the volume of water available to that user.
- 1.3 The sum of all account balances will equal the total volume of water in the Active Multipurpose Pool. When the Active Multipurpose Pool is full (i.e., the pool is at or above the guide curve) all accounts are full.

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<sup>&</sup>lt;sup>1</sup> City of Springfield's storage account will increase from 50,000 acre-feet to 52,320 acre-feet as a result of the Dependable Yield Mitigation Storage ("DYMS") provided by JMUC as a condition of the 2024 reallocation.

- 1.4 Some gains and losses will be shared proportionally, while others will be credited or debited to specific accounts as described in paragraphs 1.5 and 1.6 below.
- 1.5 Losses from evaporation will be debited proportionally based on the size of the account. Losses due to discharges from the dam, including leakage, will be debited to the federal account.
  - 1.6 Water supply withdrawals will be debited to the account responsible for the withdrawal.
- 1.7 Any "state allocated inflows" will be credited to specific accounts in accordance with State law. All other gains will be distributed proportionally based on the size of the account.
- 1.8 When the credits applied to an individual storage account would cause it to overflow (i.e., cause the account balance to exceed the account limit, or the size of the account), any excess inflow will be distributed *pro rata* to other storage accounts with space available to store the water (i.e., accounts that are less than full). In concept, full storage accounts "spill" water into storage accounts that are not full, until the entire Active Multipurpose Pool is full.

#### 2. Storage Accounting Formulas

The storage accounting principles above are implemented through the following formulas:

2.1  $S_{u,t} = S_{u,t-1} + I_u - W_u + AI_u$  Where:

 $S_{u,t} = Storage \ account \ balance \ for \ user \ ``u" \ at \ end \ of \ period \ ``t" \ [\textit{Observed}]$ 

S<sub>u,t-1</sub> = Storage Account balance for user "u" at end of period "t-1" [Observed]

 $I_u = User's share of Calculated Inflow ("CI") [Equation 2.2]$ 

 $W_u = User's water withdrawal [Observed]$ 

 $AI_u = Inflow allocated to User by State law [Observed or Reported]$ 

2.2  $I_u = [V_u / V_t] * CI Where:$ 

 $I_{\mathrm{u}}\,=\,$  User's share of Adjusted Inflow

 $V_u = Volume of storage space contracted to User [Observed]$ 

 $V_t$  = Total volume of Active Multipurpose Storage Space when the inflow occurs, as defined by Top of Multipurpose Rule Curve [Observed]

CI = Calculated Inflow [Equation 2.3]

2.3  $CI = \Delta S + D + \sum W_u - \sum AI_u$  Where:

CI = Calculated Inflow

 $\Delta S$  = Change in the total volume of water in storage between period "t" and period "t-1" [Observed.]

D = Total discharge (powerhouse + leakage + spill + sluice) [Observed]

 $\sum W_u = \text{Sum of water supply withdrawals, all users } [Observed]$ 

 $\Sigma AI_u = Sum \text{ of Allocated Inflows, all users } [Observed]$ 

The calculated inflow ("CI") is the portion of the net inflow that is apportioned *pro rata*. This is calculated from the change in storage ( $\Delta S$ ), which is an observed value showing the net effect of all gains and losses to the Active Multipurpose Pool during the period (i.e., the day), including gains and losses from inflow, precipitation, evaporation, leakage, discharges from the dam, water supply withdrawals, and foreign water. This value is adjusted to remove the effects of any discharges from the Dam ("D") as well as specific gains ("AI," allocated inflows) and losses ("W," water supply withdrawals) that need to be credited or debited to individual accounts, rather than being shared *pro rata*. *See* Principle 1.4.

## 3. Storage accounting procedures

The data needed to perform these calculations will be collected on a daily time step. The calculations will be performed weekly under normal circumstances, but more frequently during droughts. The Active Multipurpose Pool is drawn down as outflow exceeds inflow. The individual accounts are drawn down at different rates based on their storage. Users will be notified on a weekly basis of the available storage remaining, once their storage account balance drops below 30%.