

# 2024 SOUTH TEXAS AUTHORITY WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN



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# Table of Contents

Table of Contents .....	1
Part I - Water Conservation Plan .....	3
Introduction .....	3
Service Area .....	3
Regional Water Supply Sources .....	4
Treatment Capacity .....	5
Leak Detection and Repair .....	5
Future Improvements to Leak Prevention and Detection.....	7
Water Master Plan .....	7
Cathodic Protection Upgrade.....	8
Annual Survey .....	9
Transmission Line Internal Inspection.....	10
Modeling of STWA Distribution System .....	12
Reservoir System Operation Plan:.....	13
Five-year and Ten-year .....	13
Conservation Strategies .....	14
Water Supply Contract .....	14
Implementation .....	15
Coordination with the Regional Water Planning Group .....	15
Review And Update:.....	15
Part II – Drought Contingency Plan .....	16
Section I: Declaration, Policy and Intent .....	16
Section II: Public Involvement.....	16
Section III: Wholesale Water Customers Education.....	16
Section IV: Coordination with Regional Water Planning Groups .....	17
Section V: Authorization.....	17
Section VI: Application .....	17
Section VII Triggering Criteria for Initiation and Termination of Drought Response Stages .....	17
(a) Stage 1 – Mild Water Shortage Conditions.....	18

(b) Stage 2 – Moderate Water Shortage Conditions .....	18
(c) Stage 3 – Critical Water Shortage Conditions .....	18
(d) Stage 4 – Emergency Water Shortage Conditions .....	19
Section VIII: Drought Response Stages .....	19
Stage 1 – Mild Water Shortage Conditions .....	19
Stage 2 – Moderate Water Shortage Conditions .....	20
Stage 3 – Critical Water Shortage Conditions .....	21
Stage 4 – Emergency Water Shortage .....	22
Section IX: Pro Rata Water Allocation .....	23
Section X: Enforcement .....	24
Section XI: Variances .....	26
Section XII: Severability .....	27



## Part I- Water Conservation Plan

### Introduction

The South Texas Water Authority (STWA) provides treated water supplies to seven (7) wholesale customers. Its mission is to

- Provide a safe supply of water to communities, residents and entities in central Kleberg County and westers Nueces County
- Insure a dependable, abundant supply is available to our customers and,
- Utilize regional approach that minimizes adverse cost of service based on entity size

South Texas Water Authority does not provide wastewater service.

### Service Area

The following information is the latest population data and water usage for the last five (5) Fiscal Years. South Texas Water Authority provides wholesale service – not retail service – to these customers

Entity	Population	5 Year Average (annual) FY 19'-23'	Peak Demand Month for FY 19'-23'	Monthly Peak Demand FY 19'-23'
<i>City of Agua Dulce</i>	628	27,002,316	July 2023	3,431,044
<i>City of Bishop</i>	3,174	61,122,000	July 2022	17,334,000
<i>City of Driscoll</i>	680	43,237,860	Dec 2020	9,094,300
<i>City of Kingsville</i>	25,402	141,389,600	July 2022	28,743,000
<i>Nueces Water Supply Corporation</i>	3,276	163,280,273	December 2023	20,233,260
<i>Nueces County Water Control &amp; Improvement District #5</i>	745	22,068,553	August 2019	2,619,900
<i>Ricardo Water Supply Corporation</i>	3,330	113,843,800	July 2022	14,484,000

Table 1. STWA wholesale customer's population and 5-year average water demands and monthly peaks

All customers are located within the Authority district with exception of Nueces County Water Control and Improvement District #5 (Banquette), which is served as an Out-of-District customer

The Authority facilities were designed and constructed to serve four original customers, Kingsville, Bishop, Driscoll and Agua Dulce with 100% of their water needs. At the time of construction in 1983, it was anticipated that these entities would initially require between 5 MGD and 7 MGD. The system was designed to meet a 50-year planning period; therefore, the delivery capacity of the system is 17 MGD.



South Texas Water Authority purchases treated water from the City of Corpus Christi. Supplies are transported approximately thirty (30) miles south from the O.N. Stevens Treatment Plant to the City of Kingsville via a 42" steel reinforced concrete cylinder water line. The City of Driscoll, the City of Bishop and a portion of the Nueces Water Supply Corporation customers are serviced along the route of the 42" transmission line. A smaller asbestos concrete spur line (14-inch and 12- inch) supplies customers in Agua Dulce, Banquete, and the remainder of the Nueces Water Supply Corporation's customers. Construction of the Regional Water System included pump station and storage facilities designed to provide a full day's supply during peak periods.

Direct water service to the Ricardo Water Supply Corporation is provided via a 12-inch transmission line. The Ricardo Water Supply Corporation owns the waterline which was funded by a combination of loan and grant funds through the US Department of Agriculture Rural Development Program.

In Fiscal Year 2023 (October 1, 2022 through September 30, 2023), the Authority purchased 596,417,102 gallons from the City of Corpus Christi. In the past 30+ years, however, the largest potential customer, Kingsville, has opted to continue using groundwater wells for the majority of its needs. Therefore, on average the Authority provides less than 2 MGD to its seven (7) customers. During extremely dry conditions, water demand has exceeded 3 MGD.

## Regional Water Supply Sources

The Regional Provider's (the City of Corpus Christi) sources of water is from multiple river basins. The combined Lake Corpus Christi/Choke Canyon Reservoir System is fed from the Atascosa, Frio and Nueces Rivers. When full Lake Corpus Christi has the capacity to store 256,339 acre-feet of water (83.5 billion gallons) and, Choke Canyon Reservoir has a capacity to store 662,821 acre-feet (227 billion gallons). The 101-mile-long Mary Rhodes Pipeline transports water through a 64-inch pipeline from Lake Texana which is supplied by the Navidad and Lavaca Rivers. In 1993, the City of Corpus Christi entered into a contract with the Lavaca-Navidad River Authority to purchase 41,840 acre-feet (13.66 billion gallons) of water per year. The city is currently contracted to divert 31,440 acre-feet after the LNRA recalled 10,4000.

In addition to the aforementioned supplies, in 1999 the City of Corpus Christi acquired senior water rights to 35,000 acre-feet of water per year in the Lower Colorado River. Construction of the Mary Rhodes Phase II Pipeline to access what is usually referred to as the Garwood water is now complete.

In the past, the City of Corpus Christi has explored the feasibility of desalination. In 2003, the City of Corpus Christi was one of three sites awarded a \$500,000 state grant to conduct a study as part of Governor Rick Perry's initiative to assess the potential desalination of seawater to help meet the state's regional water needs. The City of Corpus Christi also participated in a U.S. Army Corps of Engineers feasibility study to assess the potential for desalination as a water supply source for the region. This study was jointly sponsored by the San Antonio Water System, San Antonio River Authority, and Guadalupe Blanco River Authority.

The city of Corpus Christi is currently working on activities for a procurement of a Seawater Desalination plant with a base design output of 20 MGD expandable to 30 MGD located on the Corpus Christi Inner

Harbor while simultaneously working on acquiring permits for a future plant in the La Quinta Channel area for the Coastal Bend Region.

In 2005, the City of Corpus Christi also formed an Aquifer Storage and Recovery Conservation District (CCASRCD). This district was the result of legislation passed in the 79th Texas Legislature. The CCASRCD, according to the City's Water Conservation Plan, is "dedicated to protecting groundwater supplies within the district, developing and maintaining an aquifer storage and recovery program, providing the most efficient use of groundwater resources to supplement existing supplies, while controlling and preventing waste of groundwater." It is not certain, at this time, whether the City of Corpus Christi activities would be regional in nature.

This region continues its efforts in diversifying its resources. In July of 2017, the Texas Water Development Board announced that the City of Corpus Christi and the San Patricio Municipal Water District would receive a low interest loan in the amount of \$2.75 million from the State's SWIFT (State Water Implementation Fund for Texas) for a seawater desalination study described as follows:

*A Consortium of industrial and municipal stakeholders has completed a feasibility study for the implementation of a seawater desalination plant in the Corpus Christi Bay Area. The intent of the Consortium is to conduct project definition and planning studies for implementing a full-scale seawater desalination project. This funding application is to address those preparation and definition activities which will include recommendation of a project implementation agency, a plant siting evaluation, infrastructure integration planning, source water characterization, economic impact and cost modeling, public outreach, analysis of concentrate management methods, evaluation of cost allocation strategies, evaluation and selection of a project procurement methodology.*

## Treatment Capacity

According to the City of Corpus Christi's 2020 Water Conservation Plan (WCP), the O.N. Stevens Water Treatment Plant has a rated capacity of 167 million gallons per day, well above the peak summer demand of 100 million gallons per day. Additionally, the City 2020 WCP reports that the City treats approximately 23 billion gallons annually

## Leak Detection and Repair

As mentioned in the previous section, all water is metered as it leaves the O.N. Stevens Plant and enters the Authority's Regional System. Water is metered again as it enters the ground storage tanks servicing the Authority's seven (7) wholesale customers. Meters are read on the first day of the month by field personnel, and meter readings and flow volumes are recorded daily via a Supervisory Control and Data Acquisition system (SCADA). A water loss report is calculated Monday through Friday by comparing recordings from the O.N. Stevens Plant against the cumulative of the Authority's wholesale customers. In



addition to the daily water loss report and daily metering, the Authority periodically drives out the route of the line. A major portion of the Authority's Regional System's waterlines are located in rural farmlands; therefore, leaks that are not detected by employees are reported by landowners or tenant farmers. For those areas that are not located in cultivated fields, the Authority clears its right-of-way using leased equipment.

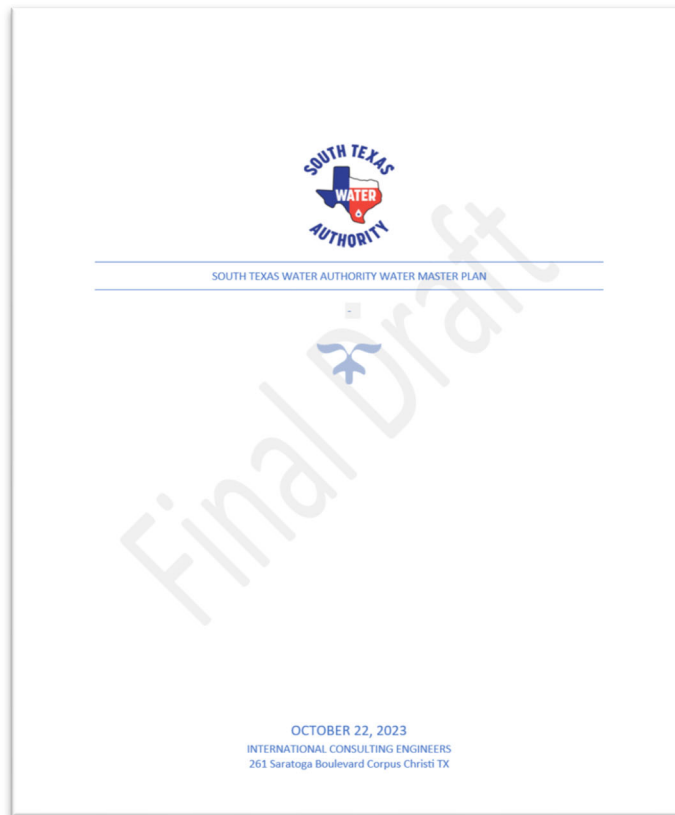
Leaks have been located as part of the Authority's cathodic protection program, which involves excavating the 42" transmission line to install sacrificial zinc anodes every 100 lineal feet. Master meters are tested annually by a consultant company specializing in testing larger meters. For deviations from 100% in a range of plus or minus 2%, the meter is re-calibrated. Meters are tested prior to the annual test date in the event the meter is slowing down in registering. Ground storage and elevated tanks are inspected annually. Cathodic protection systems are installed in the Kingsville and Bishop ground storage tanks. Tanks are refurbished every five years, or as needed, by interior and exterior cleaning, spot painting, or if needed complete repainting of the tank.



## Future Improvements to Leak Prevention and Detection

### Water Master Plan

In April 2023 International Consulting Engineers was commissioned with drafting the South Texas Water Authority Water Master Plan. As part of the assessment of their facilities leak detection was addressed in the plan and is the top of the priority list and item that need to be addressed first.



*Figure 1, Cover page of South Texas Water Authority Water Master Plan*

The Water Master Plan was submitted to the Texas Water Development Board in 2023 and the application is currently being reviewed

The following are some of the items related to leak prevention and detection



Cathodic Protection Upgrade

As part of South Texas Water Authority Water Master Plan 2023, International Consulting Engineers recommended an upgrade to their current cathodic system that uses sacrificial anodes for an impress system that uses rectifiers. Currently there are sections that are unprotected due aging of the system and the constant maintenance a sacrificial system requires. The new system requires almost no maintenance is more cost effective and will protect the entire transmission line from corrosion and future leaks.

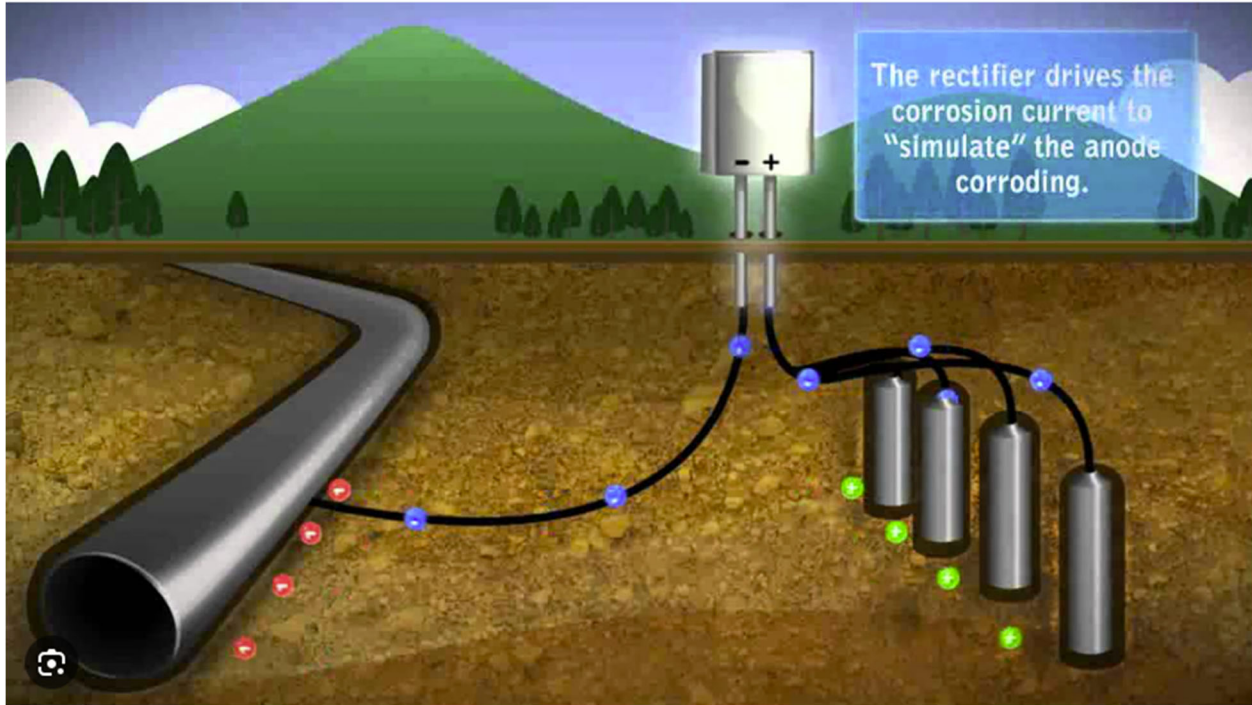


Figure 2. Depiction of an impress system that uses rectifiers like the one proposed as upgrade to STWA



## Annual Survey

An annual survey of the cathodic system has been recommended to address any minor issues. The survey will be conducted by a company that specializes on Cathodic Protection that will be selected by South Texas Water Authority

## Transmission Line Internal Inspection

The entire transmission line has never been inspected since the construction of the line in 1982. After over 40 years of service, it is necessary to assess the internal condition of the transmission line in order to detect any leaks or possible future leaks.

The survey we are proposing will insert a device called a Smart Ball which will detect

- Leaks,
- Air pockets X, Y,
- GPS coordinates



Figure 3. Smart Ball device for leak detection and GPS coordinates

The second device for the internal inspections is called a Pipe Diver. This apparatus is introduced through an Air Relief Valve (ARV) and navigates the entire length of the pipe providing

- Wall thickness,
- Identify pipe features such as outlets, valves and joints
- Provide location from upstream joint

This survey will provide a map of the current physical location of the line and will provide a report of the current condition of the pipe. If any small or major problems are detected repairs can be scheduled accordingly.



Figure 4. PipeDiver device for pipe internal inspection

## Modeling of STWA Distribution System

In order to better comprehend the behavior of a distribution system a water modeling of the system is required. A model allows to understand how the water flows through the pipes and identify problem areas, and to better understand the distribution network with current and future conditions.

The modeling will include the following STWA distribution lines

- 42" Transmission Line
- 14" Spur line branching out west in Robstown and going to Central
- 12" Spur line branching leaving Central and going to Banquete, Sablatura and Agua Dulce
- 12" Spur line branching out south in Kingsville and going to Ricardo
- The interconnections between these lines and the pump stations

The modeling will not include the distribution lines of the municipalities. That is the network that connects the residencies and business within the municipality.



Figure 5. WaterCAD Modeling Software



Reservoir System Operation Plan:

The Authority does not own or operate any reservoirs. The water wholesaled by the Authority is purchased from the City of Corpus Christi, the responsible entity overseeing those tasks.

Five-year and Ten-year

Below are the FY 2023 per capita rates for the Authority's seven (7) wholesale customers. These figures are based on STWA's sales to these customers as well as information provided by the wholesale customers for self-supplied groundwater. The usage includes residential, commercial, institutional and industrial use.

As shown below, the cities of Kingsville and Bishop use groundwater wells in addition to the water provided by South Texas Water Authority. The remaining wholesale customers utilize South Texas Water Authority for 100% of their water needs. Population figures are from the TWDB's Water User Group Entity Detailed GPCD Report with the exception of the Nueces WSC population which is based on the number of connections in 2023 multiplied times three (3) and the Nueces County Water Control and Improvement District #5 (Banquete CDP, Texas) which is based on American Fact Finder, United States Census Bureau.

Entity	FY 2023 Purchased Volume	FY 2023 Self supplied/ Adjustments	FY 2023 Total	FY 2023 Population	FY 2023 Per Capita Rate
Agua Dulce	31,158,936	0	31,158,936	685	125
Bishop	82,668,000	38,699,000	121,367,000	3,174	105
Driscoll	32,315,000	0	32,315,000	680	130
Kingsville	159,693,000	1,261,551,000	1,421,244,000	25,402	153
Nueces WSC (w/o Geo/IES)	143,105,930	30,836,620	112,269,310	3,276	94
• Geo Detention	26,786,020				
• IES/KB Foundation	4,050,600				
NCWCID#5	21,554,236	0	21,554,236	745	79
Ricardo WSC	125,922,000	0	125,922,000	3,330	104

Table 2. FY 2023 per capita rates for the Authority's seven (7) wholesale customers

The Authority has no enforcement mechanism to impose conservation targets and goals upon its wholesale customers. The Authority encourages its wholesale customers to educate its retail customers on the importance of water conservation in order to maintain a per capita gallon goal in the 140 - 145 gallon range. This figure closely correlates to the figure reported in the Texas Water Development Board's Water Use of Texas Water Utilities, Report to the 84<sup>th</sup> Texas Legislature, January 2015, for



Medium Utilities, Table 8. Average Water Use in Gallons Per Capita Daily, 2013 on page 20. According to Table 8 Medium Utilities Average Total Water Use- Gallons Per Capita Daily is 141 gallons.

## Conservation Strategies

- A. Conservation-Oriented Water Rates and Programs -South Texas Water Authority's negotiated contracts with its wholesale customers provide for a water rate which includes a Handling Charge to recoup fixed costs, and a variable cost component to cover the cost of water purchased from Corpus Christi and other variable expenses. South Texas Water Authority does not have any retail customers; therefore, it does not have any conservation programs such as providing low flow devices or appliances.
- B. South Texas Water Authority does not sell water to any agricultural customers; therefore, the Authority does not have any programs to assist agricultural customers in the development of conservation pollution prevention and abatement plans.
- C. South Texas Water Authority does not provide wastewater service; therefore, it does not have any programs for reuse and/or recycling of wastewater and/or graywater.

The Authority recognizes that there are numerous factors involved in achieving these goals including educating customers, adoption of conservation-oriented rates, and properly maintaining its infrastructure. As such, the Authority is actively involved in the Coastal Bend Regional Water Planning Group. The Authority will continue to assist its wholesale customers through the following voluntary programs:

- Providing Major Rivers to school districts
- Providing financial data for grant/loan applications
- Providing information on its website

In addition, the Authority makes use of water-wise vegetation and crushed limestone landscaping and grounds keeping. The Authority will request that wholesale customers voluntarily report their progress on water conservation activities on an annual basis.

## Water Supply Contract

South Texas Water Authority recognizes that a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, stipulates that each successive wholesale customer develop and implement a water conservation plan or water conservation measures. In addition, the Authority recognizes that should the customer intend to





## 2024 South Texas Authority Water Conservation and Drought Contingency Plan

resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures. Contracts or contract extensions will include those stipulations.

### Implementation

Enclosed is a copy of the resolution adopting The Water Conservation and Drought Contingency Plan attached as Appendix A.

### Coordination with the Regional Water Planning Group

Enclosed is a copy of the cover letter sent to the Nueces River Authority, administrator of the Coastal Bend Regional Water Planning Group, attached as Appendix B.

### Review And Update:

South Texas Water Authority shall review and update its Water Conservation and Drought Contingency Plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The original review occurred in May of 2009 and was scheduled for its next review in May of 2014. Instead, due to the extremely dry conditions of 2011, the plan was reviewed a year early in 2013. Now, in light of the City of Corpus Christi's updating of its Drought Contingency Plan, the Plan is being updated and will be revisited during 2024. Moving forwards the WCP will be revised every 5 years, next revision will be in 2029.





## Part II – Drought Contingency Plan

The following Part II of the Water Conservation and Drought Contingency Plan is based on South Texas Water Authority's Drought Contingency Plan adopted by Board resolution on August 26, 1999 and updated to reflect changes made by the City of Corpus Christi to its drought contingency plan. Of particular importance are the changes to the trigger levels and accompanying restrictions. In addition, the allocation volumes have been recalculated to include the most recent data, located in Appendix C.

### Section I: Declaration, Policy and Intent

In order to conserve the available water supply and/or to protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the South Texas Water Authority adopts the following Drought Contingency Plan, herein after referred to as the "Plan."

It is the intent that the Plan will:

- a) maintain a drought contingency plan providing the information and direction required by the Texas Administrative Code, Title 30, Environmental Quality, Chapter 288, as these regulations may be amended or modified;
- b) facilitate the development of the specifics of a regional drought contingency plan in conjunction with the Coastal Bend Regional Water Planning Group and the regional water supplier, the City of Corpus Christi;
- c) assist the Authority's customers in development and implementation of plans.

### Section II: Public Involvement

Opportunity for the public and wholesale water customers to provide input into the preparation of the Plan was provided by South Texas Water Authority by means of notice of a public meeting and certified letter to wholesale customers.

### Section III: Wholesale Water Customers Education

The South Texas Water Authority will periodically provide wholesale water customers with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means of email, regular mail and certified letters.



The South Texas Water Authority currently wholesales water to the cities of Agua Dulce, Bishop, Driscoll, Kingsville and the Nueces County Water Control and Improvement District #5, (Banquete), the Nueces Water Supply Corporation and the Ricardo Water Supply Corporation.

#### Section IV: Coordination with Regional Water Planning Groups

The water service area of the South Texas Water Authority is located within Region N and the South Texas Water Authority has provided a copy of the Plan to the Coastal Bend Regional Water Planning Group

#### Section V: Authorization

The Executive Director/Administrator, or his/her designee, is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The Executive Director/Administrator, or his/her designee, shall have the authorization to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

#### Section VI: Application

The provisions of this Plan shall apply to all customers utilizing water provided by the South Texas Water Authority. The terms person and customer as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

#### Section VII Triggering Criteria for Initiation and Termination of Drought Response Stages

The Executive Director/Administrator or his/her designee shall monitor water supply and/or demand conditions on a weekly basis and shall determine when conditions warrant initiation or termination of each stage of the Plan. Coordination with the City of Corpus Christi, the regional water supplier, will be required. Customer notification of the initiation or termination of drought response stages will be made by mail or telephone. The news media will also be informed.

The table below is based on limits as adopted by the Corpus Christi City Council.



Drought Stage Response	CCR/LCC Combined Reservoir Storage Level	Target Demand Reduction Level
Stage 1 – Mild	<40% of CCR/LCC Combined Level	10%
Stage 2 – Moderate	<30% of CCR/LCC Combined Level	20%
Stage 3 – Critical	<20% of CCR/LCC Combined Level	30%
Stage 4 – Emergency	Not Applicable	50%

(a) Stage 1 – Mild Water Shortage Conditions

**Requirements for initiation** - The South Texas Water Authority will declare and advise its wholesale customers that a mild water shortage condition exists when the combined water storage level declines below 40%

**Requirements for termination** – The South Texas Water Authority will declare and advise its wholesale customers that a moderate water shortage condition exists when the combined storage capacity of the Lake Corpus Christi/Choke Canyon Reservoirs is less than 30%

(b) Stage 2 Moderate Water Shortage Conditions

**Requirements for initiation** - The South Texas Water Authority will declare and advise its wholesale customers that a moderate water shortage condition exists when the combined storage levels of the Lake Corpus Christi/Choke Canyon Reservoirs (LCC/CCR) is less than 30%.

**Requirements for termination** - Stage 2 of the Plan may be rescinded when the combined storage capacity level of the LCC/CCR increases to above 40%. Upon termination of Stage 2, Stage 1 becomes operative. The South Texas Water Authority will notify its wholesale customers and the media of the termination of Stage 2 in the same manner as the notification of initiation of Stage 1 of the Plan, if applicable.

(c) Stage 3 – Critical Water Shortage Conditions

**Requirements for initiation** - The South Texas Water Authority will declare and advise its wholesale customers that a critical water shortage condition exists when the combined storage capacity of the Lake Corpus Christi/Choke Canyon Reservoirs is less than 20% of total storage capacity.

**Requirements for termination** - Stage 3 of the Plan may be rescinded when the combined storage capacity level of the LCC/CCR increases to above 30%. Upon termination of Stage 3, Stage 2 becomes operative. The South Texas Water Authority will notify its wholesale customers and the media of the termination of Stage 3 in the same manner as the notification of Stage 2 initiation, if applicable.



#### (d) Stage – Emergency Water Shortage Conditions

**Requirements for initiation** - South Texas Water Authority will declare and advise its wholesale customers that an emergency water shortage condition exists in the event of:

- a) A major water line break or breaks and/or pump station failures, whether owned and operated by South Texas Water Authority or the City of Corpus Christi, which cause unprecedented loss of capability to provide water service, or
- b) Water production limitations associated with the City of Corpus Christi's water treatment facilities, or
- c) A natural or man-made contamination of the water supply source(s).

**Requirements for termination** - Stage 4 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist and are rescinded by the Corpus Christi City Manager or South Texas Water Authority Executive Director/Administrator, whoever is applicable.

### Section VIII: Drought Response Stages

The Executive Director/Administrator, or his/her designee, shall monitor the water supply and/or demand conditions and, in accordance with the triggering criteria set forth in Section VII, shall determine that mild, moderate, severe or critical water shortage conditions exist, as established by the City of Corpus Christi, or that an emergency condition exists and shall implement the following actions:

#### Stage 1 – Mild Water Shortage Conditions

1. Goal: achieve a ten percent (10%) reduction as requested by the City of Corpus Christi.
2. Supply Management Measures. Request that wholesale customers consider implementation of the following regulations or prohibitions:
  - a. Irrigation of landscaped areas with hose-end sprinklers or automatic irrigation systems shall be limited to once per week. Irrigation of landscaped areas could be permitted on any day if it is by means of a hand-held hose (with positive shutoff nozzle), a faucet filled bucket or watering can of five (5) gallons or less, or drip irrigation system with a positive shutoff device. The City of Corpus Christi's watering schedule will be determined by the Corpus Christi City Manager or his/her designee. South Texas Water Authority will provide that information to its wholesale customers and recommend that similar, if unable to adopt identical, schedules be adopted. The Authority also recommends that exceptions for this restriction be permitted, upon review and approval by a Water Allocation and Review Committee appointed by the wholesale customer's governing body. Exceptions for consideration can include: new plantings - for up to 60 days, vegetable gardens, athletic playing fields and botanical gardens. Wholesale customers



may also consider adopting an exemption (whereby this restriction does not apply) to their retail customers irrigation with well water or an aerobic septic system. The Authority recommends that its wholesale customers adopt a permitting process for this exemption including the issuance of a posted permit to be prominently displayed on the premises and visible within two (2) feet of the premise's address.

- b. Use of water from hydrants shall be limited to firefighting, related activities, or other activities necessary to maintain public health, safety, and welfare, except that use of water from designated fire hydrants for construction purposes may be allowed under special permit from the wholesale customer or wholesale customer's water department.
  - c. Use of water for the irrigation of golf course greens, tees, and fairways is prohibited except on designated watering days. However, if the golf course utilizes a water source other than that provided from the City of Corpus Christi's regional supply, the facility will not be subject to this restriction, unless it is a separate requirement of the wholesale customer.
  - d. Use of water to maintain the integrity of building foundations is limited to designated watering days and is only permitted by use of hand-held hose or drip irrigation.
3. Demand Management Measures:
- a. The Executive Director/Administrator, or his/her designee(s) will initiate contact with wholesale water customers as needed to discuss water supply and/or demand conditions and the possibility of pro rata curtailment of water diversions and/or deliveries.
  - b. The Executive Director/Administrator, or his/her designee(s), will request wholesale water customers to initiate mandatory measures to reduce non-essential water use.
  - c. The Executive Director/Administrator, or his/her designee(s), will initiate preparations for the implementation of pro rata curtailment of water diversions and/or deliveries by preparing a monthly water usage allocation baseline for each wholesale customer according to the procedures specified in Section IX of the Plan.
  - d. The Executive Director/Administrator, or his/her designee(s), will provide reports as needed to the City of Corpus Christi with information regarding current wholesale customer usage.

#### Stage 2 – Moderate Shortage Conditions

1. Goal: achieve a twenty percent (20%) reduction as requested by the City of Corpus Christi.
2. Supply Management Measures. South Texas Water Authority will advise its wholesale customers to continue in full force with restrictions set forth in Stage 1. In addition, request that wholesale customers consider implementation of the following additional regulations or prohibitions:



- a. Eliminate the flushing of water mains unless required for decontamination and/or public safety.
  - b. Review their retail customers' water usage for compliance based on the previous month's water use and notify violators verbally or in writing as the situation dictates.
  - c. Irrigation of landscaped areas shall be limited to **once every other week**. The City of Corpus Christi watering schedule will be determined by the Corpus Christi City Manager or his/her designee. South Texas Water Authority will provide that information to its wholesale customers and recommend that similar, if unable to adopt identical, schedules be adopted. The Authority will also recommend that exceptions for this restriction be permitted, upon review and approval by a Water Allocation and Review Committee appointed by the wholesale customer's governing body. Exceptions for consideration can include: new plantings - for up to 60 days, vegetable gardens, athletic playing fields and botanical gardens. Wholesale customers may also consider adopting an exemption (whereby this restriction does not apply) to their retail customers irrigating with well water or an aerobic septic system. The Authority recommends that its wholesale customers adopt a permitting process for this exemption including the issuance of a posted permit to be prominently displayed on the premises and visible within two (2) feet of the premise's address.
  - d. Irrigation of landscaped areas is permitted on any day if it is by means of a hand-held hose with positive shutoff nozzle, a faucet filled bucket or watering can of five (5) gallons or less, or drip irrigation system with a positive shutoff device.
  - e. The watering of golf course fairways is prohibited. Watering of greens and tees is limited to once every other week unless the golf course utilizes a water source other than that provided from the City of Corpus Christi's regional supply or if done by means of hand-held hoses, hand-held buckets, or drip irrigation and at the discretion of the wholesale customer's governing body.
  - f. In addition, the City of Corpus Christi may implement a drought surcharge for its residential and multi-unit customers to deter discretionary use of water. According to the City's Plan, the surcharge may be up to and including 100% of the current water rate added to the customer's bill.
  - g. South Texas Water Authority understands that its wholesale customers have their own budgetary needs and have the potential to face shortfalls as a result of decreased sales. In addition, South Texas Water Authority will be charged surcharges by the City of Corpus Christi for exceeding the calculated allocations. These surcharges will be collected from each wholesale customer that exceeds its allocation in accordance with Section IX of this Plan.
3. The Executive Director/Administrator, or his/her designee(s), will provide reports as needed to the City of Corpus Christi with information regarding current wholesale customer usage.

### Stage 3 – Critical Water Shortage Conditions

1. Goal: achieve a thirty percent (30%) reduction as requested by the City of Corpus Christi.



2. Supply Management Measures. South Texas Water Authority will advise its wholesale customers to continue in full force with restrictions set forth in Stage 2. In addition, request that wholesale customers consider implementation of the following additional regulations or prohibitions:
  - a. Upon written notice, disconnect the water meters of willful violators if absolutely necessary to prevent the deliberate wasting of water.
  - b. Irrigation of landscaped areas shall be prohibited at all times.
  - c. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle not on the premises of a commercial car wash station and not in the immediate interest of public health, safety, and welfare is prohibited.
  - d. Use of water to fill, refill, or add to any indoor or outdoor swimming pools, wading pools, or Jacuzzi-type pools and water parks, unless the source of water is a non-city, alternative source is prohibited.
  - e. Use of water to maintain the integrity of building foundations is still permitted on the designated Stage 2 watering day and is only permitted by use of hand-held hose or drip irrigation.
  - f. An additional measure at the discretion of the governing body is to disallow any applications for new, additional, expanded, or increase in size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind.
  - g. In addition, the City of Corpus Christi may implement a drought surcharge for its residential and multi-unit customers to deter discretionary use of water. According to the City's Plan, the surcharge may be up to and including 100% of the current water rate added to the customer's bill.
  - h. South Texas Water Authority understands that its wholesale customers have their own budgetary needs and have the potential to face shortfalls as a result of decreased sales. In addition, South Texas Water Authority will be charged surcharges by the City of Corpus Christi for exceeding the calculated allocations. These surcharges will be collected from each wholesale customer that exceeds its allocation in accordance with Section IX of this Plan.
  
3. The Executive Director/Administrator, or his/her designee(s), will provide reports as needed to the City of Corpus Christi with information regarding current wholesale customer usage.

#### Stage 4 – Emergency Water Shortage

Whenever emergency water shortage conditions exist as defined in Section VII of the Plan, the Executive Director/Administrator shall:

1. Assess the severity of the problem and identify the actions needed and time required to solve the problem.
2. Inform the utility director or other responsible official of each wholesale water customer by telephone or in person and suggest actions, as appropriate, to alleviate problems.



3. If appropriate, notify city, county, and/or state emergency response officials for assistance.
4. Undertake necessary actions, including repairs and/or cleanup as needed. These actions shall include but not be limited to activating the emergency 4" waterline interconnection between the Nueces Water Supply Corporation's distribution system and the Nueces Water Control and Improvement District #5, use of tankard water trucks and hauling water from nearby systems such as the City of Alice and the City of Corpus Christi (if the emergency is not as a result of the City's own emergency), requesting the City of Agua Dulce to activate their groundwater well, requesting the City of Bishop to utilize its groundwater well for a larger percentage of its needs and requesting the City of Kingsville to utilize its groundwater wells for 100% of its water needs.
5. Prepare a post-event assessment report on the incident and critique of emergency response procedures and action.

### Section IX: Pro Rata Water Allocation

In the event that the triggering criteria specified in Section VII of the Plan for Stage 3- Critical Water Shortage Conditions have been met, the Executive Director/Administrator is hereby authorized to initiate allocation of water supplies on a pro rata basis in accordance with Texas Water Code Section 11.039 and according to the following water allocation policies and procedures:

- a) A wholesale customer's monthly allocation shall be a percentage of the customer's water usage baseline. The percentage will be set by resolution of the Board of Directors based on the Executive Director's/Administrator's assessment of the severity of the water shortage condition and the need to curtail water diversions and/or deliveries and may be adjusted periodically by resolution of the Board of Directors as conditions warrant. Once pro rata allocation is in effect, water diversions by or deliveries to each wholesale customer shall be limited to the allocation established for each month.
- b) A monthly water usage allocation shall be established by the Executive Director/Administrator, or his/her designee, for each wholesale customer. The wholesale customer's water usage baseline will be computed on the average water usage by month for the last five (5) year period as shown in the example given below. If the wholesale water customer's billing history is less than five (5) years, the monthly average for the period for which there is a record shall be used for any monthly period for which no billing history exists.





**Example Calculation of Monthly Allocation for a Hypothetical Wholesale Water Customer**

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	SUM	AVE	Allocation Percentage	Monthly Allocation
Oct	133	137	146	148	156	720	144	70%	101
Nov	115	122	133	133	147	650	130	70%	91
Dec	130	150	146	149	159	734	147	70%	103
Jan	130	167	168	157	187	809	162	70%	113
Feb	160	152	179	183	171	845	169	70%	118
Mar	226	184	172	215	249	1,046	209	70%	145
Apr	235	274	232	314	246	1,301	260	70%	182
May	222	203	206	337	309	1,277	255	70%	179
Jun	199	160	196	229	198	982	196	70%	137
Jul	165	172	197	165	185	884	177	70%	124
Aug	139	142	149	153	162	745	149	70%	104
Sep	142	143	150	156	165	756	151	70%	106
TOT	1,996	2003	2,074	2,339	2,334		2,149		1,503

- c) The Executive Director/Administrator shall provide notice, by certified mail, to each wholesale customer informing them of their monthly water usage allocations and shall notify the City of Corpus Christi and the Executive Director of the Texas Commission on Environmental Quality upon initiation of pro rata water allocation.
- d) The Executive Director/Administrator shall provide notice, by certified mail, to each wholesale customer informing them of their monthly water usage allocations and shall notify the City of Corpus Christi and the Executive Director of the Texas Commission on Environmental Quality upon initiation of pro rata water allocation.
- e) Upon request of the customer or at the initiative of the Executive Director/Administrator, the allocation may be reduced or increased if, (1) the designated period does not accurately reflect the wholesale customer's normal water usage; (2) the customer agrees to transfer part of its allocation to another wholesale customer; or (3) other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A customer may appeal an allocation established hereunder to the Board of Directors of the South Texas Water Authority.

**Section X: Enforcement**

During any period when pro rata allocation of available water supplies is in effect, South Texas Water Authority shall pay surcharges according to the City of Corpus Christi's Drought Contingency Plan, Sections 16.9 (Pro Rata Water Allocation) and 16.10 (Pro Rata Surcharges and Enforcement) which reads as follows:

*In the event that the triggering criteria specified in Section 16. 7 of the [City of Corpus Christi 's] Plan for Stage 3 have been met, the City of Corpus Christi City Manager, or designee, is hereby authorized to implement allocation of water supplies on a pro rata*



*basis to raw water and treated wholesale customers in accordance with the Texas Water Code §11.039. The initiation of pro rata allocation preparations shall begin during Stage 2. A provision will be included in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code §11.039.*

- 1. A raw water or wholesale treated water customer's monthly allocation shall be a percentage of the customer's water usage baseline. The percentage will be set by resolution of the City Council based on the City Manager's assessment of the severity of the water shortage condition and the need to curtail water diversions and deliveries, and may be adjusted periodically by resolution of the City Council as conditions warrant. Once pro rata allocation is in effect, water diversions by or deliveries to each raw water or wholesale treated water customer shall be limited to the allocation established for each month.*
- 2. A monthly water usage allocation shall be established by the City Manager, or the City Manager's designee, for each raw water or wholesale treated water customer. The raw water or wholesale treated water customer's water usage baseline will be computed on the average water usage by month for the previous five-year period. If the raw water or wholesale treated water customer's billing history is less than five (5) years, the monthly average for the period for which there is a record shall be used for any monthly period for which no billing history exists.*
- 3. The City Manager shall provide notice, by certified mail, to each raw water or wholesale treated water customer informing them of their monthly water usage allocations and shall notify the news media and the Executive Director of the Texas Commission on Environmental Quality upon initiation of pro rata water allocation.*
- 4. Upon request of the raw water or wholesale treated water customer or at the initiative of the City Manager, the allocation may be reduced or increased if:
  - a. The designated period does not accurately reflect the raw water or wholesale heated water customer's normal water usage;*
  - b. The customer agrees to transfer part of its allocation to another raw water or wholesale treated water customer; or*
  - c. Other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A customer may appeal the allocation established under this section to the City Council of the City of Corpus Christi.**

*During any period when pro rata allocation of available water supplies is in effect, wholesale customers shall pay the following surcharges on excess water diversions:*



- *2.0 times the normal water rate per unit in excess of the monthly allocation up through 5 percent above the monthly allocation.*
- *2.5 times the normal water rate in excess of the monthly allocation from 5 percent through 10 percent above the monthly allocation.*
- *3.0 times the normal water rate in excess of the monthly allocation from 10 percent through 15 percent above the monthly allocation.*
- *3.5 times the normal water rate more than 15 percent above the monthly allocation.*

Any surcharges assessed against South Texas Water Authority by the City of Corpus Christi will be charged on a pro rata basis to the Authority's wholesale customers that have exceeded their monthly allocation calculated in accordance with Section IX.

## Section XI: Variances

The Executive Director/Administrator, or his/her designee, may, in writing, grant a temporary variance to the pro rata water allocation policies provided by this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety and if one or more of the following conditions are met:

- a) Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
- b) Alternative methods can be implemented which will achieve the same level of reduction in water use.

Wholesale customers requesting an exemption from the provisions of this Plan shall file a petition for variance with the Executive Director/Administrator within five (5) days after pro rata allocation has been invoked. All petitions for variances shall be reviewed by the Board of Directors, and shall include the following:

- a) Name and address of the petitioner(s).
- b) Detailed statement with supporting data and information as to how the pro rata allocation of water under the policies and procedures established in the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Plan.
- c) Description of the relief requested.
- d) Period of time for which the variance is sought.
- e) Alternative measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- f) Other pertinent information.



Variations granted by the Board of Directors shall be subject to restrictions placed on the South Texas Water Authority by the City of Corpus Christi and the following conditions, unless waived or modified by the Board of Directors or its designee:

- a) Variations granted shall include a timetable for compliance.
- b) Variations granted shall expire when the Plan is no longer in effect, unless the petitioner has failed to meet specified requirements.

No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.

## Section XII: Severability

It is hereby declared to be the intention of the Board of Directors that the sections, paragraphs, sentences, clauses, and phrases of this Plan are severable and, if any phrases, clause, sentence, paragraph, or section of this Plan shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Plan, since the same would not have been enacted by the Board of Directors without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section.

## Appendix A

SOUTH TEXAS WATER AUTHORITY

Resolution 24-07

RESOLUTION OF THE BOARD OF DIRECTORS ADOPTING AN UPDATED WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN FOR THE SOUTH TEXAS WATER AUTHORITY.

WHEREAS, the Board recognizes that the importance of water and its availability to the South Texas Water Authority and to its wholesale water customers; and

WHEREAS, the Board recognizes that water resources are not a limitless resource and are subject to depletion during periods of extended drought;

WHEREAS, the South Texas Water Authority recognizes that natural limitations due to drought conditions and other acts of God cannot guarantee an uninterrupted water supply for all purposes; and

WHEREAS, the Texas Commission on Environmental Quality requires wholesale suppliers in Texas to prepare a Water Conservation and Drought Contingency Plan; and

WHEREAS, the Texas Water Code Section 11.039 authorizes water suppliers to distribute available water supplies on a pro rata basis during times of water supply shortage; and

WHEREAS, as authorized under law, and in the best interests of the customers of the South Texas Water Authority, the Board deems it expedient and necessary to establish certain rules and policies for the orderly and efficient management of limited water supplies on an ongoing basis as well as during drought and other water supply emergencies.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SOUTH TEXAS WATER AUTHORITY:

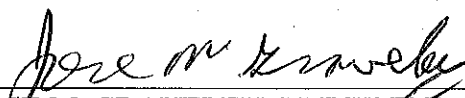
SECTION 1. That the Amended Water Conservation and Drought Contingency Plan is attached hereto as Exhibit "A" and hereby adopted as the official policy of the South Texas Water Authority.

SECTION 2. That the Executive Director is hereby directed to implement, administer, and enforce the Water Conservation and Drought Contingency Plan.

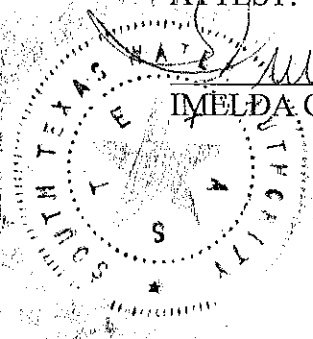
SECTION 3. That this resolution shall take effect immediately upon its passage.

Duly adopted by the Board of Directors of the South Texas Water Authority on this 27th day of February, 2024.

ATTEST:

  
\_\_\_\_\_  
JOSE M. GRAVELEY, PRESIDENT

  
\_\_\_\_\_  
IMELDA GARZA, SECRETARY/TREASURER



## Appendix B

August 9, 2024

Coastal Bend Regional Water Planning Group  
c/o Nueces River Authority  
Natural Resources Center, Suite 3100  
6300 Ocean Drive  
Corpus Christi, Texas 78412

Dear Chairman:

The South Texas Water Authority Board of Directors met on February 27, 2024 and approved an updated and amended Water Conservation and Drought Contingency Plan. A copy of the Plan and approving resolution are enclosed.

Please contact me if I can provide any additional information.

Sincerely,



John Marez

JM/fdl  
Enclosures



## Appendix C

<b>Five Year Avg FY 19 - FY 23</b>	<b>Kingsville GALLONS USAGE</b>	<b>Bishop GALLONS USAGE</b>	<b>Driscoll GALLONS USAGE</b>	<b>Agua Dulce GALLONS USAGE</b>	<b>N. W. S. C. GALLONS USAGE</b>	<b>R. W. S. C. GALLONS USAGE</b>	<b>NWC&amp;ID #5 GALLONS USAGE</b>	<b>TOTAL GALLON</b>
Oct-22	12,924,000	4,251,000	2,476,000	2,699,320	12,652,310	10,186,000	1,667,660	<b>46,856,290</b>
Nov-22	10,712,000	4,582,000	2,245,000	2,002,810	9,848,100	9,698,000	1,520,720	<b>40,608,630</b>
Dec-22	9,411,000	6,340,000	2,720,000	2,463,430	11,848,450	10,342,000	1,950,980	<b>45,075,860</b>
Jan-23	9,226,000	7,651,000	2,350,000	2,185,978	9,856,830	8,459,000	1,808,240	<b>41,537,048</b>
Feb-23	8,937,000	6,485,000	2,316,000	2,093,407	9,270,670	8,681,000	1,547,200	<b>39,330,277</b>
Mar-23	13,730,000	7,820,000	3,158,000	2,456,020	12,274,190	10,162,000	2,056,090	<b>51,656,300</b>
Apr-23	15,644,000	4,868,000	2,468,000	2,639,710	11,542,520	7,466,000	1,829,596	<b>46,457,826</b>
May-23	17,737,000	4,352,000	2,403,000	2,284,654	11,317,850	9,117,000	1,688,000	<b>48,899,504</b>
Jun-23	18,293,000	9,079,000	2,752,000	2,933,555	13,695,540	12,932,000	1,781,210	<b>61,466,305</b>
Jul-23	14,950,000	11,564,000	3,187,000	3,431,044	14,994,780	14,445,000	2,332,240	<b>64,904,064</b>
Aug-23	18,958,000	7,702,000	3,527,000	3,185,116	14,327,660	12,637,000	1,840,530	<b>62,177,306</b>
Sep-23	<u>9,171,000</u>	<u>7,974,000</u>	<u>2,713,000</u>	<u>2,798,542</u>	<u>11,462,380</u>	<u>11,797,000</u>	<u>1,531,770</u>	<u>47,447,692</u>
	159,693,000	82,668,000	32,315,000	31,173,586	143,091,280	125,922,000	<b>21,554,236</b>	<b>596,417,102</b>