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RETAIL WATER SHORTAGE ALLOCATION PLAN

December 11, 2001

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I. Introduction

A. Purpose and Need for Retail Water Shortage Allocation Plan

The intent of the Retail Water Shortage Allocation Plan (Plan) is to provide the San Francisco Public Utilities Commission (SFPUC) with a guidance tool to be used for allocating water amongst the City and County San Francisco retail customers (“retail customers”) in the event of a water shortage due to drought. Additionally, the Plan provides retail customers with a framework for understanding how the SFPUC intends to allocate water resources during times of water shortage due to drought. The expectation is that this Plan can help retail customers better anticipate how their individual water supply will be affected during a drought.

The need for this Plan has come about as a result of a series of actions and experiences including the SFPUC’s adoption of the Interim Water Shortage Allocation Plan and the drought of 1987-1992. At the time of the 1987-1992 drought, the SFPUC, in the absence of a drought plan, reacted to the drought by adopting a short-term approach for allocating water resources amongst both retail and wholesale customers. This Plan in combination with the Interim Water Shortage Allocation Plan puts in place a long-term plan for responding to levels of water shortage due drought. The following sections describe these actions and experiences in more detail.

1. *Interim Water Shortage Allocation Plan*

In October 2000, the SFPUC adopted an Interim Water Shortage Allocation Plan (IWSAP) that provides a method and process by which the SFPUC intends to allocate water resources between its collective retail customers and wholesale customers during system-wide water shortages of up to 20 percent resulting from drought. The IWSAP was subsequently adopted by all 29 wholesale customers between October 2000 and June 2001 thereby officially activating the allocation method and process outlined in the IWASP.

The allocation method adopted in the IWSAP relies on a percentage decrease of inside and outside water use and provides a notification schedule for informing customers of an upcoming drought. The IWSAP also outlines a structure for water transfers between the retail and wholesale customers. Finally, the IWSAP identifies an enforcement process for ensuring that the allocations are adhered to through the application of excess use charges.

This Retail Plan is consistent with the IWSAP in its methodology, schedule and enforcement process.

2. *Past Drought Experience*

The SFPUC, along with the entire State of California, experienced a significant drought from 1987 to 1992. During this time the SFPUC experienced system-wide shortages of 25 to nearly 45 percent. In response to the drought, the SFPUC instituted mandatory rationing which required retail customers to reduce indoor and outdoor consumption based on specified allocations for those use types. As the drought progressed, SFPUC

retail customers were required to reduce total consumption by 14 percent, up to approximately 32 percent. If customers consumed beyond their allotted amount they were faced with excess use charges. For the most part, customers were able to reduce their indoor use through installation of water-conserving devices such as low-flow toilets, showerheads and faucet aerators.

The Customer Service Bureau of the SFPUC created a short-term rationing unit to implement the drought program. The rationing unit's primary responsibility was to enforce mandatory rationing and manage the allocation and appeal process. Throughout the drought, the rationing unit received 131,000 requests for modified allocations. In general, allocations were modified on the basis of increased occupancy, medical exemptions, allowances for past conservation, increased business, and other miscellaneous reasons. Modifications were based on a per capita allotment.

The rationing unit also performed audits on those customers who consumed water beyond their allocations. This was done in an effort to identify the presence of leaks or other system failures that resulted in excess use.

B. Long-term Conservation Programs and Existing Demand Reduction Policies/Ordinances

1. Long-term Conservation Programs

In 1986, prior to the 1987-1992 drought, the SFPUC established a long-term conservation program. A conservation administrator was hired to implement the program. The programs, at that time, included public information and education; a conservation device retrofit program; landscape water audit program; and a low-use landscaping program. During the drought the long-term conservation program continued.

In 1991, the SFPUC elevated its long-term conservation program when it became a signatory to the *Memorandum of Understanding Regarding Urban Water Conservation in California*. This MOU outlined water-conserving Best Management Practices (BMPs) that all signatories agreed to implement. Today's BMPs include:

- Interior and Exterior Water Audits and Incentive for Single Family Residential and Multi-family Residential Customers
- Residential Plumbing Retrofit
- System Water Audits, Leak Detection and Repair
- Metering with Commodity rates for all New Connections and Retrofit of Existing Connections
- Large Landscape Conservation Programs and Incentives
- Horizontal Axis Washer Rebate Programs
- Public Information
- School Education Programs
- Commercial, Industrial and Institutional Water Conservation
- Wholesale Agency Assistance Programs
- Conservation Pricing
- Conservation Coordinator
- Water Waste Prohibition

- Residential Ultra Low Flush Toilet Replacement Programs

Through the implementation of the long-term conservation program, the SFPUC retail residential customers have reduced their per capita per day (pcpd) demand by 12 gallons. That is, prior to the 1987-1992 drought per capita residential demand was at 73 gallons per capita per day (gpcpd) while current demand is at 61 gpcd. Approximately 95 percent of SFPUC retail customers have signed affidavits confirming that they have installed water-conserving devices in their homes to eliminate water waste. Such devices include low flush toilets, faucet aerators and low flow showerheads.

2. Existing Demand Reduction Policies/Ordinances

In addition to the long-term conservation programs in place, the SFPUC and Board of Supervisors have implemented several demand reduction policies and ordinances that encourage the reduction of potable water use. These policies and ordinances range from requiring installation of conservation devices at the time of residential resale to development of groundwater and recycled water sources. The following summarizes measures adopted through 2001.

Water Conservation Ordinances

*Ordinance 392-90: Water Conservation Fixtures in New and Renovated Buildings*¹. This ordinance changed San Francisco plumbing codes to require all new buildings (and all buildings in which the water drainage system is substantially altered modified or renovated) to install/retrofit toilets and urinals with fixtures using no more than 1.6 gallons per flush and 1 gallon per flush, respectively.

*Ordinance 185-91 and Ordinance 346-91: Plumbing Fixture Retrofit in Multi-family Residential Buildings and Single-Family Residential Buildings*². Collectively these ordinances require water conservation device retrofits within multi-family and single-family residential buildings upon sale, transfer of title, or major improvement to a dwelling. The ordinance also required all applicable fixtures within multi-family residential units to be retrofitted within three years subsequent to the effective date of the ordinances (by the end of 1994).

Retrofit requirements include:

- Installation of Showerheads with a capacity not exceeding 2.5 gallons per minute;
- Installation of aerators attached to sinks and basins where possible; and
- Installation of flush reducers, flow restrictors, volume reducers, or toilets with a capacity not exceeding 3.5 gallons per flush.

*Ordinance 359-91: Plumbing Fixture Retrofit of Commercial Buildings, including Tourist Hotels and Motels*³. This ordinance required the same plumbing retrofit requirements for commercial buildings, including tourist hotels and motels as was required for single and multi-family residential buildings. Compliance of this ordinance was also required by 1994.

¹ San Francisco Plumbing Code sections 905 and 1001.1

² San Francisco Housing Code, Chapter 12A, Section 12A01-12A14

³ San Francisco Building Code, Chapter 53B, Sections 53B01-53B15

*Ordinance 92-91(as amended by Ordinance 192-00): Water Use for Landscaping in New Developments*⁴. This ordinance requires particular water-conserving landscape strategies be employed for any new commercial, governmental or residential (two or more units) building on a lot exceeding 3,500 square feet or with a landscaping area of more than 1,000 square feet. The specific requirements of the ordinance include:

- Total area devoted to turf grass; decorative water use and water intensive planting must be limited to 15% of the parcel area. The limitation does not apply to children's play areas, public recreation areas or other such areas;
- Strips of turf less than 8 feet wide are prohibited;
- Water intensive plants must be grouped together and must be irrigated on a separate cycle from turf grass;
- Slopes exceeding 10% adjacent to the hardscape cannot consist of turf grass;
- All large areas must have separately metered irrigation systems;
- Valves and circuits shall be separated based on water use and must be set to operate between 5 p.m. and 10 a.m.; and
- A soil analysis must be done on the soil used for the landscape. A report specifying how the soil deficiencies will be meet must accompany the application for the meter.

*Ordinance 148-99: Plumbing Retrofit of Municipal Buildings*⁵. This ordinance requires all municipal buildings to replace their water-inefficient toilets with 1.6 gallons per flush toilets and showerheads with 1.5 gallons per minute showerheads by June 6, 2005.

Recycled Water Ordinances

*Ordinances 390-91 and 391-91(as amended by Ordinance 393-94): Mandatory Use of Reclaimed Water*⁶. These ordinances require the development of a Recycled Water Master Plan including the designation of recycled (or reclaimed) water use areas within San Francisco and requires the installation of dual plumbing systems within the recycled water use areas for the following situations:

- New or remodeled buildings and all subdivisions (except condominium conversions) with a total area of 40,000 square feet or more; and
- New and existing irrigated areas of 1,000 square feet or more.

*Ordinance 175-91: Mandatory Use of Non-Potable Water for Soil Compaction and Dust Control*⁷. This ordinance requires the use of non-potable water for soil compaction and dust control during construction and demolition projects.

⁴ San Francisco Administrative Code, Chapter 63, 63-63.11

⁵ San Francisco Administrative Code, Chapter 82, Section 4.

⁶ San Francisco Public Works Code, Article 22, Sections 1200-1210

⁷ San Francisco Public Works Code, Article 21, Sections 1100-1107

Water Waste Prohibitions

The Customer Service Bureau currently enforces several water waste prohibitions through a complaint/inspection process. The following prohibitions are subject to that process:

- Water waste, including but not limited to, any flooding or runoff into the street or gutters is prohibited;
- Hoses used for any purpose must have positive shut-off valves;
- Restaurants shall serve water to customers only upon request; and
- Water used for all cooling purposes and commercial car washes must be recycled.

3. *Relationship between Future Demand Reductions and Existing Long-term Conservation Programs*

The SFPUC retail customers are facing a hardened demand as a result of long-term conservation programs and installation of water-conserving devices during the 1987-92 drought. As a result of these factors, residential demand has been reduced by 12 gallons per capita per day (gpcpd) since pre-drought demand levels. In addition, approximately 95 percent of residential customers have signed affidavits attesting to the fact that they have installed low-flush toilets, faucet aerators and low-flow showerheads. Furthermore, the SFPUC's consistent implementation of BMPs for water conservation, as identified above, has resulted in hardened demand for commercial, industrial and institutional customers.

This hardened demand means that reducing demand during future droughts will be challenging. As mentioned previously, during the 1987-92 drought there was an opportunity to reduce demand by installing low-flush toilets, faucet aerators and low-flow showerheads. That opportunity has been significantly reduced. This means that during the next drought demand reduction will most likely come from changing the frequency in which water-consuming devices are used. For example, reducing the number of times the toilet is flushed or running the washing machine less frequently.

Despite the challenge, there is a need for the SFPUC to adopt a plan to be implemented during droughts that will result in reducing water delivery from the SFPUC reservoir system. This includes adopting a water shortage allocation plan, the principal objective of this Retail Plan.

C. Components of the Plan

The Retail Plan consists of two primary sections: (1) Declaring a water shortage and (2) Allocation method and process. The former section describes the process for identifying and declaring a water shortage due to drought. The latter section describes the process of allocating water amongst retail customers during a drought, the process of appealing those allocations and enforcement of allocations.

II. Process for Declaring Shortage

A. Timing and Assessment of Water System Conditions

The SFPUC water supply system relies on precipitation and snowmelt stored in its reservoirs from one year to the next. It is this “carry-over” storage that the SFPUC relies on to be able to meet wholesale and retail demand. Because of the importance of “carry-over” storage, the water supply condition of the SFPUC system is constantly monitored and evaluated. Look-ahead forecasts are updated as a year’s hydrology and operations change. Generally in early winter of any year, SFPUC staff can begin providing a forecast of water supply conditions for the upcoming year based on known and anticipated winter and spring precipitation and snowpack. The annual precipitation, snowmelt, and “carry-over” storage together constitute the SFPUC’s reservoir storage condition. Using data for each of these factors, SFPUC staff is able to determine whether the reservoir system will be capable of serving full deliveries to the SFPUC customers.

Consistent with the Interim Water Shortage Allocation Plan, if the SFPUC reservoir system appears incapable of meeting system-wide demand due to drought, the SFPUC is expected to declare a water shortage by March 31 of that drought year. The General Manager, or designee, is responsible for declaring such a shortage.

B. Delivery Reduction Levels

To aid in balancing the SFPUC supplies with demands during drought, the SFPUC has developed a general protocol that links anticipated total⁸ reservoir storage conditions to suggested delivery reductions. The SFPUC total reservoir system has the capacity to store up to 1,627,000 acre-feet. In relation to this storage capacity and a current system-wide demand of 260 million gallons per day (mgd), when it appears the total system storage will not reach above approximately 1,000,000 acre-feet at the end of the spring-summer snowmelt, the SFPUC may begin to evaluate whether the reservoir system will be capable of serving full deliveries to its customers.⁹ If the reservoir system is determined incapable of serving full deliveries to SFPUC customers, the SFPUC may impose a level of delivery reduction. As anticipated reservoir storage becomes more depleted during drought, a greater level of delivery reduction may be required. There are three stages of water delivery reduction that correspond to the SFPUC protocol. The three stages are:

- (1) Stage 1 – requires system-wide demand reduction of 5 to 10 percent. This stage results in a voluntary rationing request of customers. At this stage, it is likely that retail water customers will be alerted to the status of water supply conditions and reminded of water use prohibitions as well as informed of any incentives and programs available to reduce water demand (i.e. acceleration of long-term conservation programs such as toilet rebate programs, leak detection audits, and the like)

⁸ “total reservoir storage” includes all system reservoirs (Lloyd, Eleanor, Hetch Hetchy, San Anotonio, Calaveras, Crystal Springs, Pilarcitos, and San Andreas) and the water bank at New Don Pedro Reservoir.

⁹ This reduction point is subject to change as total system-wide demand increases over time.

- (2) Stage 2 – requires system-wide demand reduction of 11 to 20 percent. This stage results in mandatory rationing programs. In addition to implementing Stage 1 actions, all customers will receive an allocation of water. Any use beyond that allocation will become subject to excess use charges, installation of flow restrictor devices or shut-off of water. The latter two consequences may also be imposed if water waste prohibitions are violated.
- (3) Stage 3 – requires system-wide demand reduction of 20 percent or greater. This stage results in mandatory rationing programs and results in the same actions identified under Stage 2 with further reduced allocations.

C. Initiation of Delivery Reduction Program

Prior to the initiation of any of water delivery reductions, whether it be initial implementation of reduced delivery or increasing the severity of water shortage, the SFPUC will outline the water supply situation, proposed water use reduction objectives, alternatives to water use reductions, methods to calculate water use allocations and adjustments, compliance methodology and enforcement measures, and budget considerations at a regularly scheduled Commission meeting for public input. The meeting will be advertised and the public will be invited to comment on the SFPUC's intent to reduce deliveries in accordance with the requirements of California Water Code Section 6066 of the Government Code.

Revenue and Expenditure Impacts During Water Shortages. The SFPUC uses a uniform volume charge. As a result, as sales decrease revenues are lost on a per unit basis. Because the marginal cost of water production is miniscule, as production is reduced the cost of service remains the same. Therefore, during a water shortage, as occurred during the 1987-92 drought, the SFPUC may need to raise water rates to make up for lost revenue due to less water use. The SFPUC retail rates, however, are frozen until 2006 due to Proposition H. As a result, retail rates cannot be adjusted to make up for revenue shortfalls unless voters repeal the Proposition or the Mayor declares an emergency as provided for in the City's Charter. The SFPUC does maintain an unappropriated fund balance that can be used to offset the effects of revenue shortfall. Budget considerations will be discussed at the time a drought is declared and revisited as the drought progresses.

III. Allocation Method and Process

A. Types of Allocation Methods

In the event of a mandatory rationing program, the SFPUC must adopt a system for allocating water amongst its retail customers. During the 1987-1992 drought four allocation methods were considered. They were the inside/outside or seasonal allocation method, the per capita allocation method, the uniform allocation method, and the percentage allocation method. The following provides a description of each method and potential advantages or disadvantages of applying each method.

Inside/Outside allocation method. The Inside/Outside method, also referred to as seasonal method, applies a percent reduction to both indoor and outdoor use. To determine an individual's allocation, a base year is used and reductions are made to both inside and outside usage. Winter usage is identified as typically reflecting inside use. The average of the winter months (November, December, January, February) of the base year is used as the baseline for determining inside use for all 12 months. Usage in excess of the baseline is considered outside use. The monthly or bi-monthly inside/outside allocation is a composite of the inside use and the outside use reduced by their respective percentages. This method distributes water equitably and has been proven effective in achieving prior system-wide consumption goals. However, because this method reduces water allocations for all customers regardless of their current use, there is concern that water users consuming very low amounts of water will be affected disproportionately.

Per capita allocation method. The per capita allocation method applies a fixed amount of daily water for each resident. The allocation method requires that each residential occupant receives a fixed daily amount of water. To implement this method a census of the service area is required. Conducting a census is highly time consuming and the response to the survey is often statistically low and inaccurate. The method does not allow for differences in dwelling type, existing landscaping needs or special individual circumstances. A per capita allocation would prove unworkable with commercial and industrial customers and would require a different method for determining allocations.

Uniform allocation method. The uniform allocation method applies a fixed daily amount per dwelling unit for all residential customers. This method does not distribute water equitably to all customers, especially since it does not take into considerations the number of individuals living in the dwelling unit. As in the per capita plan, this method would prove unworkable for commercial and industrial customers.

Percentage allocation method. The method requires water allocation to be based on a straight percent reduction of past use. As an example to achieve a specified reduction goal, all customers would be allotted a percentage of the amount used in each billing period in the base year. The method requires a much greater reduction in inside use and could cause hardship on residential and commercial customers.

B. Preferred Allocation Method: Inside/Outside Method

During the 1987-92 drought the Inside/Outside method was implemented because it was found to be the most fair and reasonable method amongst the alternatives. At that time for those customers that appealed their allocations a per capita allocation was applied to the account.¹⁰

The Inside/Outside method will be applied to allocating water amongst retail customers during a water shortage due to drought. The allocation method will be applied to all accounts using more than 3 units of water per two-month billing period. A percentage reduction of inside and outside use will be applied to all accounts using more than 3 units of water during a two-month billing period. The appropriate percentage reductions to inside and outside use will be determined by the General Manager, or designee. The per capita allocation method will be used for customers who appeal their allotments. The formula will be similar in structure to that used during the 1987-92 drought. The General Manager, or designee, will determine at the time of the drought the number of gallons per capita per day to be used for the per capita method.

C. Allocation Process

As discussed previously, if the SFPUC anticipates that the reservoir system will be incapable of serving full deliveries to its customers, the SFPUC will announce a drought by March 31st. Consistent with the Interim Water Shortage Allocation Plan, the SFPUC will inform its retail customers of a water shortage by March 31st. The SFPUC will determine water allocations for each retail customer account using the Inside/Outside allocation method. Average winter and summer use factored into the Inside/Outside methodology will be based on water use for each retail customer from the previous year. For drought periods covering consecutive years, allocations will be based on water use for the last year prior to the drought declaration. The SFPUC will provide water use allocations to all retail customers by May 1st of the drought year. The water use allocations will become effective July 1st.

D. Appeal Process

On or before May 1st, retail customers will be notified of their reduced water allocations. Each retail customer will have the opportunity to appeal the allocation based on increased occupancy, medical exemptions, increased business, or other miscellaneous reasons. The SFPUC will provide retail customers with instructions on how to file appeals at the time the customers are notified of the water use allocations. The SFPUC will also inform customers of the methodology to be used in modifying allocations if they are granted.

¹⁰ For illustration purposes the following describes how the per capita method was applied to appeals. The per capita allocation was calculated based on the number of occupants and a formula of 63 gpcpd for the first occupant, 55 gpcpd for the second occupant and 50 gpcpd for each additional occupant with a maximum total of 498 gpd per dwelling unit. As the 1987-92 drought worsened, the per capita allocation was based on the number of occupants and a formula of 50 gpcpd and a maximum total of 300 gpd for single family residences. It is important to note that at the time of the drought the average residential use was 74 gpcpd. Current average demand is 61 gpcpd.

E. Enforcement

The primary methods of enforcing mandatory rationing include excess use charges; installation of flow restrictors and/or shut-off of water.

During the 1987-92 drought excess use charges were applied as follows:

- If a customer consumed up to 10% over their allotment they would be charged 2 times the normal rate;
- If a customer consumed 10.01% to 20% over their allotment they would be charged 8 times the normal rate; and
- If a customer consumed 20.01% or over their allotment they would be charged 10 times the normal rate.

In the event of mandatory rationing, the SFPUC will impose excess use charges similar to those described above. The General Manager, or designee, will inform retail customers of the multiplier rate that will be applied for determining excess use charges. The SFPUC will also offer an audit at the first run-over of the allocation to determine if there are any leaks. In some cases, excess use charges may be reversed if leaks are found and repaired immediately.

In the event that water is used in excess of the customer's specified allotment, the SFPUC could, after one written warning, install a flow restrictor on the customer's service line. The customer may be charged to install and remove the flow restrictor, as was done in the 1987-92 drought. The General Manager, or designee, will determine the relevant charge at the time of the drought. If a customer continues to consume water in excess of its allotment, the SFPUC has the authority to discontinue the customer's water service and require the customer to bear the cost for the re-connection of water service.

The Landlord Pass-through Ordinance¹¹ allows landlords to pass up to 50 percent of excess use charges on to their tenants under the following conditions:

- (a) the landlord must provide written certification that permanently-installed retrofit devices to reduce water use in toilet flushing or low-flow toilets (1.6 gallons per flush), low flow showerheads (no more than 2.5 gallons per minute), and faucet aerators (where installation is physically feasible);
- (b) the landlord provides written certification that there are no none plumbing leaks in the building and that any reported leaks have been fixed; and
- (c) the landlord provides a copy of the water bill for the period in which the penalty was charged.

Under mandatory rationing, the SFPUC will also specify waste water prohibitions that if violated may result in installation of a flow restrictor and shut-off of water, if the violation continues.

¹¹ San Francisco Administrative Code Section 37.3

All or some of the following water waste prohibitions may be enforced during a drought. The General Manager, or designee, will declare and inform customers of all water waste prohibitions at the time of a drought.

Water Waste Prohibitions

- Water waste, including but not limited to, any flooding or runoff into the street or gutters, shall be prohibited.
- Hoses shall not be used to clean sidewalks, driveways, patios, plazas, homes, businesses, parking lots, roofs, awnings or other hard surfaces areas.
- Hoses used for any purpose shall have positive shutoff valves.
- Restaurants shall serve water to customers only upon request.
- Potable water shall not to be used to clean, fill or maintain levels in decorative fountains.
- Use of additional water shall not be allowed for new landscaping or expansion of existing facilities unless low water use landscaping designs and irrigation systems are employed.
- Water service connections for new construction shall be granted only if water saving fixtures or devices are incorporated into the plumbing system.
- Use of potable water for consolidation of backfill, dust control or other non-essential construction purposes shall be prohibited.
- Irrigation of lawns, play fields, parks, golf courses, cemeteries, and landscaping of any type with potable water shall be reduced by at least the amount specified for outside use in the adopted rationing plan.
- Verified water waste as determined by the Water Department would serve as prima facie evidence that the allocation assigned to the water account is excessive; therefore, the allocation shall be subject to review and possible reduction, including termination of service.
- Water used for all cooling purposes shall be recycled.
- The use of groundwater and/or reclaimed water for irrigation of golf courses, median strips, and similar turf areas shall be strongly encouraged.
- The use of groundwater and/or reclaimed water for street sweepers/washers shall be strongly encouraged.

- The washing of all automobiles, motorcycles, RVS, trucks, transit vehicles, trailers, boats, trains and airplanes shall be prohibited outside of a commercial washing facility.
- Exceptions to the above use restriction will apply to windows on all vehicles and such commercial or safety vehicles requiring cleaning for health and safety reasons.
- Water used for all cooling purposes or for commercial car washes shall be recycled.
- The use of potable water on golf courses shall be limited to the irrigation of putting greens. The use of groundwater and reclaimed water shall be permitted when approved by the Department of Health.
- The filling of new swimming pools, spas, hot tubs or the draining and refilling of existing pools, etc., shall be prohibited; topping off shall be allowed to the extent that the designated allocation is not exceeded.
- The irrigation of median strips with potable water shall be prohibited. The use of groundwater and reclaimed water shall be permitted when approved by the Department of Health.
- The use of potable water for street sweepers/washers shall be prohibited. The use of groundwater and reclaimed water shall be permitted when approved by the Department of Health.

INTERIM WATER SHORTAGE ALLOCATION PLAN

This Interim Water Shortage Allocation Plan (“Plan”) describes the method for allocating water between the San Francisco Public Utilities Commission (“SFPUC”) and the Suburban Purchasers collectively during shortages caused by drought. The Plan implements a method for allocating water among the individual Suburban Purchasers which has been adopted by the Suburban Purchasers. The Plan includes provisions for transfers, banking, and excess use charges. The Plan applies only when the SFPUC determines that a system-wide water shortage due to drought exists, and all references to “shortages” and “water shortages” are to be so understood. This Plan is adopted pursuant to Section 7.03(a) of the 1984 Settlement Agreement and Master Water Sales Contract (“Master Contract”).

SECTION 1. SHORTAGE CONDITIONS

1.1. Projected Available SFPUC Water Supply. The SFPUC shall make an annual determination as to whether or not a shortage condition exists. The determination of projected available water supply shall consider, among other things, stored water, projected runoff, water acquired by the SFPUC from non-SFPUC sources, inactive storage, reservoir losses, allowance for carryover storage, and water bank balances, if any, described in Section 3.

1.2 Projected SFPUC Purchases. The SFPUC will utilize purchase data, including volumes of water purchased by the Suburban Purchasers and by Direct City Water Users (as those terms are used in the Master Contract) in the year immediately prior to the drought, along with other available relevant information, as a basis for determining projected system-wide water purchases from the SFPUC for the upcoming year.

1.3. Shortage Conditions. The SFPUC will compare the available water supply (Section 1.1) with projected system-wide water purchases (Section 1.2). A shortage condition exists if the SFPUC determines that the projected available water supply is less than projected system-wide water purchases in the upcoming Supply Year (defined as the period from July 1 through June 30). When a shortage condition exists, SFPUC will determine whether voluntary or mandatory actions will be required to reduce purchases of SFPUC water to required levels.

1.3.1 Voluntary Response. If the SFPUC determines that voluntary actions will be sufficient to accomplish the necessary reduction in water use throughout its service area, the SFPUC and the Suburban Purchasers will make good faith efforts to reduce their water purchases to stay within their annual shortage allocations and associated monthly water use budgets. The SFPUC will not impose excess use charges during periods of voluntary rationing, but may suspend the prospective accumulation of water bank credits, or impose a ceiling on further accumulation of bank credits, consistent with Section 3.2.1 of this Plan.

1.3.2 Mandatory Response. If the SFPUC determines that mandatory actions will be required to accomplish the necessary reduction in water use in the SFPUC service area, the SFPUC may implement excess use charges as set forth in Section 4 of this Plan.

1.4. Period of Shortage. A shortage period commences when the SFPUC determines that a water shortage exists, as set forth in a declaration of water shortage emergency issued by the SFPUC pursuant to California Water Code Sections 350 et seq. Termination of the water shortage emergency will be declared by resolution of the SFPUC.

SECTION 2. SHORTAGE ALLOCATIONS

2.1. Annual Allocations between the SFPUC and the Suburban Purchasers. The annual water supply available during shortages will be allocated between the SFPUC and the collective Suburban Purchasers as follows:

Level of System Wide Reduction in Water Use Required	Share of Available Water	
	SFPUC Share	Suburban Purchasers Share
5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

The water allocated to the SFPUC shall correspond to the total allocation for all Direct City Water Users as defined in Section 4.01 of the Master Contract.

2.2 Annual Allocations among the Suburban Purchasers. The annual water supply allocated to the Suburban Purchasers collectively during system wide shortages of 20 percent or less will be apportioned among them based on a methodology adopted by all of the Suburban Purchasers, which shall supersede the provisions of Section 7.03(b) of the Master Contract, as contemplated in Section 7.03(a) of the Master Contract. In any year for which the methodology must be applied, the Bay Area Water Users Association (“BAWUA”) will calculate each Suburban Purchaser’s individual percentage share of the amount of water allocated to the Suburban Purchasers collectively pursuant to Section 2.1. Following the declaration or reconfirmation of a water shortage emergency by the SFPUC, BAWUA will deliver to the SFPUC General Manager a list, signed by the President of BAWUA’s Board of Directors and its General Manager, showing each Suburban Purchaser together with its percentage share and stating that the list has been prepared in accordance with the methodology adopted by the Suburban Purchasers. The SFPUC shall allocate water to each Suburban Purchaser, as specified in the list. The shortage allocations so established may be transferred as provided in Section 2.5 of this Plan.

The methodology adopted by the Suburban Purchasers utilizes the rolling average of each individual Suburban Purchaser’s purchases from the SFPUC during the three immediately preceding Supply Years. The SFPUC agrees to provide BAWUA by November 1 of each year a list showing the amount of water purchased by each Suburban Purchaser during the immediately preceding Supply Year. The list will be prepared using Customer Service Bureau report MGT440 (or comparable official record in use at the time), adjusted as required for any reporting

errors or omissions, and will be transmitted by the SFPUC General Manager or his designee.

2.3. Limited Applicability of Plan to System Wide Shortages Greater Than Twenty

Percent. The allocations of water between the SFPUC and the Suburban Purchasers collectively, provided for in Section 2.1, apply only to shortages of 20 percent or less. The SFPUC and Suburban Purchasers recognize the possibility of a drought occurring which could create system-wide shortages greater than 20 percent despite actions taken by the SFPUC aimed at reducing the probability and severity of water shortages in the SFPUC service area. If the SFPUC determines that a system wide water shortage greater than 20 percent exists, the SFPUC and the Suburban Purchasers agree to meet within 10 days and discuss whether a change is required to the allocation set forth in Section 2.1 in order to mitigate undue hardships that might otherwise be experienced by individual Suburban Purchasers or Direct City Water Users. Following these discussions, the water allocation set forth in Section 2.1 of this Plan, or a modified version thereof, may be adopted by mutual written consent of the SFPUC and the Suburban Purchasers. If the SFPUC and Suburban Purchasers meet and cannot agree on an appropriate allocation within 30 days of the SFPUC's determination of water shortage greater than 20 percent, then (1) the provisions of Section 7.03(b) of the Master Contract will apply, unless (2) all of the Suburban Purchasers direct in writing that an allocation methodology agreed to by them be used to apportion the water to be made available to the Suburban Purchasers collectively, in lieu of the provisions of Section 7.03(b).

The provisions of this Plan relating to transfers (in Section 2.5), banking (in Section 3), and excess use charges (in Section 4) shall continue to apply during system-wide shortages greater than 20 percent.

2.4. Monthly Water Budgets. Within 10 days after adopting a declaration of water shortage emergency, the SFPUC will determine the amount of water allocated to the Suburban Purchasers collectively pursuant to Section 2.1. The SFPUC General Manager, using the percentages shown on the list delivered by BAWUA pursuant to Section 2.2, will calculate each Suburban Purchaser's individual annual allocation. The SFPUC General Manager, or his designee, will then provide each Suburban Purchaser with a proposed schedule of monthly water budgets based on the pattern of monthly water purchases during the Supply Year immediately preceding the declaration of shortage (the "Default Schedule"). Each Suburban Purchaser may, within two weeks of receiving its Default Schedule, provide the SFPUC with an alternative monthly water budget that reschedules its annual shortage allocation over the course of the succeeding Supply Year. If a Suburban Purchaser does not deliver an alternative monthly water budget to the SFPUC within two weeks of its receipt of the Default Schedule, then its monthly budget for the ensuing Supply Year shall be the Default Schedule proposed by the SFPUC.

Monthly water budgets will be derived from annual allocations for purposes of accounting for excess use. Monthly water budgets shall be adjusted during the year to account for transfers of shortage allocation under Section 2.5 and transfers of banked water under Section 3.4.

2.5. Transfers of Shortage Allocations. Voluntary transfers of shortage allocations between the SFPUC and any Suburban Purchasers, and between any Suburban Purchasers, will be permitted using the same procedure as that for transfers of banked water set forth in Section 3.4. The

SFPUC and the Bay Area Water Users Association (BAWUA) shall be notified of each transfer. Transfers of shortage allocations shall be deemed to be emergency transfers described in Sections 7.05 and 7.07(a) of the Master Contract and shall become effective on the third business day after notice of the transfer has been delivered to the SFPUC. Transfers of shortage allocations shall be in compliance with Section 7.05 of the Master Contract. The transferring parties will meet with the SFPUC, if requested, to discuss any effect the transfer may have on its operations.

SECTION 3. SHORTAGE WATER BANKING

3.1. Water Bank Accounts. The SFPUC shall create a water bank account for itself and each Suburban Purchaser during shortages in conjunction with its resale customer billing process. Bank accounts will account for amounts of water that are either saved or used in excess of the shortage allocation for each agency; the accounts are not used for tracking billings and payments. When a shortage period is in effect (as defined in Section 1.4), the following provisions for bank credits, debits, and transfers shall be in force. A statement of bank balance for each Suburban Purchaser will be included with the SFPUC's monthly water bills.

3.2. Bank Account Credits. Each month, monthly purchases will be compared to the monthly budget for that month. Any unused shortage allocation by an agency will be credited to that agency's water bank account. Credits will accumulate during the entire shortage period, subject to potential restrictions imposed pursuant to Section 3.2.1. Credits remaining at the end of the shortage period will be zeroed out; no financial or other credit shall be granted for banked water.

3.2.1. Maximum Balances. The SFPUC may suspend the prospective accumulation of credits in all accounts. Alternatively, the SFPUC may impose a ceiling on further accumulation of credits in water bank balances based on a uniform ratio of the bank balance to the annual water allocation. In making a decision to suspend the prospective accumulation of water bank credits, the SFPUC shall consider the available water supply as set forth in Section 1.1 of this Plan and other reasonable, relevant factors.

3.3. Account Debits. Each month, monthly purchases will be compared to the budget for that month. Purchases in excess of monthly budgets will be debited against an agency's water bank account. Bank debits remaining at the end of the fiscal year will be subject to excess use charges (see Section 4).

3.4. Transfers of Banked Water. In addition to the transfers of shortage allocations provided for in Section 2.5, voluntary transfers of banked water will also be permitted between the SFPUC and any Suburban Purchaser, and among the Suburban Purchasers. The volume of transferred water will be credited to the transferee's water bank account and debited against the transferor's water bank account. The transferring parties must notify the SFPUC and BAWUA of each transfer in writing (so that adjustments can be made to bank accounts), and will meet with the SFPUC, if requested, to discuss any affect the transfer may have on SFPUC operations. Transfers of banked water shall be deemed to be emergency transfers described in Sections 7.05 and 7.07(a) of the Master Contract and shall become effective on the third business day after notice of the transfer has been delivered to the SFPUC. If the SFPUC incurs extraordinary costs in implementing transfers, it will give written notice to the transferring parties within ten (10)

business days after receipt of notice of the transfer. Extraordinary costs means additional costs directly attributable to accommodating transfers and which are not incurred in non-drought years nor simply as a result of the shortage condition itself. Extraordinary costs shall be calculated in accordance with the procedures in the Master Contract and shall be subject to the disclosure and auditing requirements in the Master Contract. In the case of transfers between Suburban Purchasers, such extraordinary costs shall be considered to be expenses chargeable solely to individual Suburban Purchasers and shall be borne equally by the parties to the transfer. In the case of transfers between the SFPUC and a Suburban Purchaser, the SFPUC's share of any extraordinary transfer costs shall not be added to the Suburban Revenue Requirement.

3.4.1. Transfer Limitations. The agency transferring banked water will be allowed to transfer no more than the accumulated balance in its bank. Transfers of estimated prospective banked credits and the "overdrafting" of accounts shall not be permitted. The price of transfer water originally derived from the SFPUC system is to be determined by the transferring parties and is not specified herein. Transfers of banked water shall be in compliance with Section 7.05 of the Master Contract.

SECTION 4. WHOLESALE EXCESS USE CHARGES

4.1. Amount of Excess Use Charges. Monthly excess use charges shall be determined by the SFPUC at the time of the declared water shortage consistent with the calendar in Section 6 and in accordance with Section 5.03 of the Master Contract. The excess use charges will be in the form of multipliers applied to the rate in effect at the time the excess use occurs. The same excess use charge multipliers shall apply to the Suburban Purchasers and all Direct City Water Users. The excess use charge multipliers apply only to the charges for water delivered at the rate in effect at the time the excess use occurred.

4.2 Monitoring Suburban Water Use. During periods of voluntary rationing, water usage greater than a customer's allocation (as determined in Section 2) will be indicated on each SFPUC monthly water bill. During periods of mandatory rationing, monthly and cumulative water usage greater than a Suburban Purchaser's shortage allocation and the associated excess use charges will be indicated on each SFPUC monthly water bill.

4.3. Suburban Excess Use Charge Payments. An annual reconciliation will be made of monthly excess use charges according to the calendar in Section 6. Annual excess use charges will be calculated by comparing total annual purchases for each Suburban Purchaser with its annual shortage allocation (as adjusted for transfers of shortage allocations and banked water, if any). Excess use charge payments by those Suburban Purchasers with net excess use will be paid according to the calendar in Section 6. The SFPUC and the Suburban Purchasers have discussed the possibility of dedicating excess use charges paid by Suburban Purchasers toward the purchase of water from the State Drought Water Bank or other willing sellers in order to provide additional water to the Suburban Purchasers. The parties may continue discussions of this concept in order to develop the accounting and operational details of such a program. However, unless and until the SFPUC and the Suburban Purchasers agree in writing to an amendment of the Plan to implement such a program, excess use charges paid by the Suburban Purchasers constitute "revenues received from the Suburban Purchasers for the sale of water" for purposes of Section 5.07 of the Master Contract.

SECTION 5. GENERAL PROVISIONS GOVERNING WATER SHORTAGE ALLOCATION PLAN

5.1. Construction of Terms. This Plan is for the sole benefit of the parties and shall not be construed as granting rights to any person other than the parties or imposing obligations on a party to any person other than another party.

5.2. Governing Law. This Plan is made under and shall be governed by the laws of the State of California.

5.3. Effect on Master Contract. This Plan describes the method for allocating water between the SFPUC and the collective Suburban Purchasers during system-wide water shortages of 20 percent or less. This Plan also provides for the SFPUC to allocate water among the Suburban Purchasers in accordance with directions provided by the Suburban Purchasers through BAWUA under Section 2.2, and to implement a program by which such allocations may be voluntarily transferred among the Suburban Purchasers. The provisions of this Plan are intended to implement Section 7.03(a) of the Master Contract and do not affect, change or modify any other section, term or condition of the Master Contract.

5.4. Role of Suburban Advisory Group. Section 8.04 of the Master Contract identifies the Suburban Advisory Group as a forum for ensuring that the Suburban Purchasers are informed of matters affecting the SFPUC water system. Regularly scheduled meetings of the Suburban Advisory Group will be used to ensure that the important information concerning potential water shortages is provided to the Suburban Purchasers for consideration and examination. The parties agree to meet upon request up to two times per month in order to keep the SFPUC and the Suburban Advisory Group (or a subset of that group) informed of the status of the available water supply and measures under consideration to alleviate shortage conditions affecting the SFPUC water system.

5.5. Inapplicability of Plan to Allocation of SFPUC System Water During Non-Shortage Periods and to Water Wheeling. The SFPUC's agreement in this Plan to a respective share of SFPUC system water during years of shortage shall not be construed to provide a basis for the allocation of water between the SFPUC and the Suburban Purchasers when no water shortage emergency exists. Nor shall this Plan provide any precedent for the transfer, banking, determination of available capacity, or rate to be charged for water proposed to be wheeled through the SFPUC system from non-SFPUC sources by any person or entity under Water Code Section 1810 et seq.

5.6. Termination. This Plan shall expire on June 30, 2009. The SFPUC and the Suburban Purchasers can mutually agree to revise or terminate this Plan prior to that date due to changes in the water delivery capability of the SFPUC system, the acquisition of new water supplies, and other factors affecting the availability of water from the SFPUC system during times of shortage.

SECTION 6. ALLOCATION CALENDAR

6.1. Annual Schedule. The annual schedule for the shortage allocation process is shown below. This schedule may be changed by the SFPUC to facilitate implementation.

6.1.1

In All Years	Target Dates
1. SFPUC delivers list of annual purchases by each Suburban Purchaser during the immediately preceding Supply Year	November 1
2. SFPUC meets with the Suburban Advisory Group and presents water supply forecast for the following Supply Year	January 1-30
3. SFPUC issues initial estimate of available water supply	February 1
4. SFPUC announces potential first year of drought (if applicable)	February 1
5. SFPUC and Suburban Advisory Group meet upon request to exchange information concerning water availability and projected system-wide purchases	February 1-May 31
6. SFPUC issues revised estimate of available water supply, and confirms continued potential shortage conditions, if applicable	March 1
7. SFPUC issues final estimate of available water supply	March 15
8. SFPUC determines amount of water available to Suburban Purchasers collectively	March 15
 In Drought Years	
	Target Dates
9. SFPUC formally declares the existence of water shortage emergency (or end of water shortage emergency, if applicable) under Water Code Sections 350 et. seq.	March 15-31
10. SFPUC declares the need for a voluntary or mandatory response	March 15-31
11. BAWUA submits calculation to SFPUC of individual Suburban Purchasers' percentage shares of water allocated to Suburban Purchasers collectively	March 15- 31
12. SFPUC determines individual shortage allocations, based on BAWUA's submittal of individual agency percentage shares to SFPUC, and monthly water budgets (Default Schedule)	March 25—April 10
13. Suburban Purchasers submit alternative monthly water budgets (optional)	April 8-April 24
14. Final drought shortage allocations are issued for the Supply Year beginning July 1 through June 30	May 1
15. Monthly water budgets become effective	July 1
16. Excess use charges indicated on monthly Suburban bills	July 1 (of the beginning year) through June 30 (of the succeeding year)
17. Excess use charges paid by Suburban Purchasers for prior year	July of the succeeding year

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INTERIM WATER SHORTAGE ALLOCATION PLAN AMONG SUBURBAN PURCHASERS

This Interim Water Shortage Allocation Plan ("Tier Two Plan") describes the method for allocating the water made available by the San Francisco Public Utilities Commission ("SFPUC"), during shortages caused by drought, among the Suburban Purchasers. This Plan applies only when the SFPUC determines that a system-wide water shortage due to drought exists, and all references to "shortages" and "water shortages" are to be so understood. This Plan is adopted pursuant to Section 7.03(a) of the 1984 Settlement Agreement and Master Water Sales Contract between the City and County of San Francisco and the Suburban Purchasers ("Master Contract").

SECTION 1. APPLICABILITY AND INTEGRATION

Section 1.1 Applicability. This Tier Two Plan applies when, and only when, the SFPUC determines that a system-wide water shortage of 20 percent or less exists, as set forth in a declaration of water shortage emergency adopted by the SFPUC pursuant to California Water Code Sections 350 *et seq.* This Tier Two Plan applies only to water acquired and distributed by the SFPUC to the Suburban Purchasers and has no effect on water obtained by a Suburban Purchaser from any source other than the SFPUC.

Section 1.2 Integration with SFPUC Interim Water Shortage Allocation Plan (Tier One Plan). The SFPUC has adopted an Interim Water Shortage Allocation Plan (Tier One Plan) which, among other things, (a) provides for the allocation by the SFPUC of water between Direct City Water Users (e.g., retail water customers within the City and County of San Francisco) and the Suburban Purchasers collectively during system-wide water shortages of 20 percent or less, (b) contemplates the adoption by the Suburban Purchasers of this Tier Two Plan for allocation of the water made available to Suburban Purchasers collectively among the 29 individual Suburban Purchasers, (c) commits the SFPUC to implement this Tier Two Plan, and (d) provides for the transfer of both "banked" water and shortage allocations between and among the Suburban Purchasers and commits the SFPUC to implement such transfers.

This Tier Two Plan is intended to be integrated with the Tier One Plan described in this Section 1.2. Both Plans becoming operative only if both have been approved by all 29 Suburban Purchasers. Terms used in this Tier Two Plan are intended to have the same meaning as such terms have in the Tier One Plan.

SECTION 2. ALLOCATION OF WATER AMONG SUBURBAN PURCHASERS

Section 2.1 Annual Allocations Among the Suburban Purchasers. The annual water supply allocated by the SFPUC to the Suburban Purchasers collectively during system-wide shortages of 20 percent or less shall be apportioned among them based on the methodology described in this Section 2.

Section 2.2 Methodology for Allocating Water Among Suburban Purchasers. The water made available to the Suburban Purchasers collectively will be allocated among them in

proportion to each Suburban Purchaser's allocation factor, adjusted as described in Section 2.2.4 below.

Section 2.2.1 Step One: Determination of Allocation Basis for Each Suburban Purchaser.

Each Suburban Purchaser's Allocation Basis is an amount, expressed in millions of gallons per day (mgd), which in turn is the arithmetic average of three components. Two of these components are fixed as of the date this Tier Two Plan is adopted; the third component is variable and will be determined when a shortage has been declared by the SFPUC.

The first component is (i) the greater of a Suburban Purchaser's Supply Assurance provided for in the Master Contract or its average purchases from SFPUC during three fiscal years 1996-97, 1997-98, and 1998-99, or (ii) in the case of Hayward and Estero Municipal Improvement District, their projected purchases from SFPUC in FY 2010-11 as reported in the 1998-99 Annual Survey published by BAWUA, or (iii) in the case of San Jose and Santa Clara, the limits on purchases from SFPUC set forth on Exhibit M to the Master Contract. The amount of this first component for each Suburban Purchaser is shown on Attachment A-1.

The second component is the average of each Suburban Purchaser's purchases from SFPUC during the fiscal years 1996-97, 1997-98, and 1998-99. The amount of this second component for each Suburban Purchaser is shown on Attachment A-2.

The third component is the average of each Suburban Purchaser's purchases from SFPUC during the three fiscal years immediately preceding the declaration of water shortage emergency by the SFPUC.

Section 2.2.2 Step Two: Determination of Allocation Factor for Each Suburban

Purchaser. Each Suburban Purchaser's Allocation Factor is a percentage derived from a fraction, the numerator of which is the particular Suburban Purchaser's Allocation Basis (in mgd) as calculated in Step One and the denominator of which is the sum (in mgd) of all Suburban Purchasers' Allocation Bases.

Section 2.2.3 Step Three: Determination of Initial Shortage Allocation for Each Suburban

Purchaser. The initial shortage allocation for each Suburban Purchaser is determined by multiplying the amount of water available to the Suburban Purchasers collectively (determined pursuant to Section 2.1 of the Tier One Plan) by the Suburban Purchaser's Allocation Factor (i.e., the percentage calculated pursuant to Section 2.2.2).

Section 2.2.4 Step Four: Determination of Final Shortage Allocation for Each Suburban

Purchaser. Once the initial shortage allocations are determined, the percentage reductions from each Suburban Purchaser's purchases from the SFPUC in the fiscal year immediately preceding the declaration of water shortage emergency will be calculated as a fraction, the numerator of which is the Suburban Purchaser's initial shortage allocation (determined pursuant to Section 2.2.3), and the denominator of which is the amount purchased from the SFPUC during such fiscal year. The result, as a percentage carried to two places to the right of the decimal, will be subtracted from 100%; the result is the Suburban Purchaser's percentage reduction.

The percentage reductions for San Jose and Santa Clara will be compared to the highest percentage reduction of the other Suburban Purchasers. If both San Jose's and Santa Clara's percentage reduction is larger than the highest percentage reduction among other Suburban Purchasers, the initial shortage allocations established under Section 2.2.3 will become the final

shortage allocations. If either San Jose's percentage reduction or Santa Clara's percentage reduction, or both, is smaller than the highest percentage reduction of other Suburban Purchasers, the shortage allocation (in mgd) of San Jose or Santa Clara, or both, will be reduced so that the percentage reduction of each is no smaller than that of the otherwise highest percentage reduction.

The amount of shortage allocation (in mgd) removed from San Jose and/or Santa Clara will be reallocated among the remaining Suburban Purchasers in proportion to the initial shortage allocation of each calculated as a fraction the numerator of which is the individual initial shortage allocation and the denominator of which is the sum of the initial shortage allocation for the remaining Suburban Purchasers (not including San Jose and Santa Clara).

After such reallocation, the resulting amounts will be the final shortage allocation for each Suburban Purchaser.

Section 2.2.5 Example Calculation. Attachment A-3 presents a sample of the calculations involved in Steps One through Four, using the values from Attachments A-1 and A-2 and recent water use data for the other values. It is presented for illustrative purposes only and does not supersede the foregoing provisions of this Section 2.2. In the event of any inconsistency between this Section 2.2 and Attachment A-3, the text of this section will govern.

Section 2.3 Calculation of Individual Suburban Purchaser's Allocations: Directions to SFPUC. The Tier One Plan contemplates that in any year in which the methodology described above must be applied, the Bay Area Water Users Association ("BAWUA") will calculate each Suburban Purchaser's individual percentage share of the amount of water made available to the Suburban Purchasers collectively, following the methodology described above. The Tier One Plan requires SFPUC to allocate water to each Suburban Purchaser in accordance with calculations delivered to it by BAWUA.

The Tier One Plan requires that each year, the SFPUC will provide to BAWUA by November 1 a list showing the amount of water purchased by each Suburban Purchaser during the immediately preceding Supply Year. The list will be prepared using Customer Service Bureau report MGT 440 (or comparable official record in use at the time), adjusted as required for any reporting errors or omissions, and will be signed by the SFPUC General Manager.

Each Suburban Purchaser authorizes BAWUA to perform the calculations required, using water sales data furnished to it by the General Manager of the SFPUC, and to deliver a list of individual Suburban Purchasers' percentage shares so calculated to SFPUC as contemplated by the SFPUC Plan. Neither BAWUA nor any officer or employee of BAWUA shall be liable to any Suburban Purchaser for any such calculations made in good faith, even if incorrect.

SECTION 3. GENERAL PROVISIONS

Section 3.1 Construction of Terms. This Tier Two Plan is for the sole benefit of the parties and shall not be construed as granting rights to any person other than the parties or imposing obligations on a party to any person other than another party.

Section 3.2 Governing Law. This Tier Two Plan is made under and shall be governed by the laws of the State of California.

Section 3.3 **Effect on Master Contract.** This Tier Two Plan describes the method for allocating water from the SFPUC among the Suburban Purchasers during system-wide water shortages of 20 percent or less declared by the SFPUC. The provisions of this Tier Two Plan, and the Tier One Plan with which it is intended to be integrated, are intended to implement Section 7.03(a) of the Master Contract. Both the Tier One and Tier Two Plans constitute the water conservation plan contemplated by Section 7.03(a) and supersede the provisions of Section 7.03(b). The Plans do not affect, change or modify any other section, term or condition of the Master Contract.

Section 3.4 **Amendment.** This Tier Two Plan may be amended only by written agreement of all Suburban Purchasers.

Section 3.5 **Termination.** This Tier Two Plan shall expire on June 30, 2009. It may be terminated prior to that date only by the written agreement of all Suburban Purchasers.

ATTACHMENT A-1

The amount of the first component for each Suburban Purchaser is shown below.

<u>Suburban Purchasers</u>	<u>First Fixed Component (mgd)</u>
ACWD	13.76
Belmont	3.89
Brisbane	0.46
Burlingame	5.23
Coastside	2.18
Cordilleras	0.01
CWS Total	35.39
Daly City	4.49
East Palo Alto	2.18
Estero	7.23
Guadalupe	0.52
Hayward	24.00
Hillsborough	4.09
Los Trancos	0.11
Menlo Park	4.24
Millbrae	3.15
Milpitas	9.23
Mountain View	13.46
North Coast	3.84
Palo Alto	17.07
Purissima Hills	1.85
Redwood City	10.93
San Bruno	3.25
Skyline	0.18
Stanford	3.03
Sunnyvale	12.58
Westborough	1.32
San José	2.68
Santa Clara	6.57

ATTACHMENT A-2

The amount of the second component for each Suburban Purchaser is shown below.

<u>Suburban Purchasers</u>	<u>Second Fixed Component (mgd)</u>
ACWD	11.95
Belmont	3.26
Brisbane	0.30
Burlingame	4.68
Coastside	1.35
Cordilleras	0.01
CWS Total	33.42
Daly City	4.49
East Palo Alto	2.10
Estero	5.45
Guadalupe	0.27
Hayward	17.56
Hillsborough	3.60
Los Trancos	0.10
Menlo Park	3.43
Millbrae	2.64
Milpitas	6.80
Mountain View	10.36
North Coast	3.29
Palo Alto	12.96
Purissima Hills	1.85
Redwood City	10.92
San Bruno	2.01
Skyline	0.16
Stanford	2.58
Sunnyvale	10.73
Westborough	0.98
San José	4.10
Santa Clara	4.72

ATTACHMENT A-3

Sample Calculation

Attachment A-3 San Jose Calculation

23.6% Average Suburban Reduction from FY 98-99 Purchases
(Units in million gallons per day unless otherwise noted)

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13)

Suburban Purchasers	Allocation Basis			Unadjusted Allocations			Allocations Adj. for Santa Clara & San José			Final Individual Share	
	First Fixed Component	Second Fixed Component	Variable Component	Allocation Factors	Initial Shortage Allocation	FY 98-99 Purchases	Initial Purchase Cutback	Subtotal Allocation Factors	Adjusted Shortage Allocation		Adjusted Purchase Cutback
ACWD	13.76	11.95	11.95	7.12%	9.16	11.96	-2.80	7.50%	9.18	-2.78	7.13%
Belmont	3.89	3.26	3.26	1.97%	2.53	3.35	-0.81	2.07%	2.54	-0.81	1.97%
Brisbane	0.46	0.30	0.30	0.20%	0.26	0.34	-0.08	0.21%	0.26	-0.08	0.20%
Burlingame	5.23	4.68	4.68	2.76%	3.55	4.65	-1.10	2.91%	3.56	-1.09	2.76%
Coastside	2.18	1.35	1.35	0.92%	1.19	1.48	-0.29	0.97%	1.19	-0.29	0.92%
Cordilleras	0.01	0.01	0.01	0.00%	0.00	0.01	0.00	0.00%	0.00	0.00	0.00%
CWS Total	35.39	33.42	33.42	19.32%	24.87	33.45	-8.58	20.36%	24.93	-8.52	19.37%
Daly City	4.49	4.49	4.49	2.55%	3.28	4.55	-1.27	2.69%	3.29	-1.26	2.55%
East Palo Alto	2.18	2.10	2.10	1.21%	1.55	2.07	-0.52	1.27%	1.55	-0.52	1.21%
Estero	7.23	5.45	5.45	3.43%	4.41	5.57	-1.15	3.61%	4.42	-1.14	3.44%
Guadalupe	0.52	0.27	0.27	0.20%	0.26	0.28	-0.02	0.21%	0.26	-0.02	0.20%
Hayward	24.00	17.56	17.56	11.18%	14.39	17.77	-3.38	11.77%	14.42	-3.35	11.20%
Hillsborough	4.09	3.60	3.60	2.13%	2.75	3.39	-0.64	2.25%	2.75	-0.63	2.14%
Los Trancos	0.11	0.10	0.10	0.06%	0.07	0.10	-0.03	0.06%	0.07	-0.03	0.06%
Menlo Park	4.24	3.43	3.43	2.10%	2.70	3.39	-0.69	2.21%	2.71	-0.69	2.10%
Millbrae	3.15	2.64	2.64	1.59%	2.05	2.63	-0.58	1.68%	2.06	-0.57	1.60%
Milpitas	9.23	6.80	6.80	4.31%	5.55	6.80	-1.24	4.55%	5.57	-1.23	4.32%
Mountain Vie	13.46	10.36	10.36	6.46%	8.32	10.25	-1.93	6.81%	8.34	-1.91	6.48%
North Coast	3.84	3.29	3.29	1.97%	2.54	3.34	-0.80	2.07%	2.54	-0.80	1.97%
Palo Alto	17.07	12.96	12.96	8.13%	10.46	13.04	-2.58	8.56%	10.49	-2.56	8.15%
Purissima Hills	1.85	1.85	1.85	1.05%	1.35	1.93	-0.59	1.10%	1.35	-0.58	1.05%
Redwood City	10.93	10.92	10.92	6.19%	7.97	11.42	-3.45	6.52%	7.99	-3.43	6.21%
San Bruno	3.25	2.01	2.01	1.37%	1.77	2.47	-0.71	1.45%	1.77	-0.70	1.37%
Skyline	0.18	0.16	0.16	0.09%	0.12	0.16	-0.04	0.10%	0.12	-0.04	0.10%
Stanford	3.03	2.58	2.58	1.55%	1.99	2.56	-0.57	1.63%	2.00	-0.57	1.55%
Sunnyvale	12.58	10.73	10.73	6.43%	8.28	11.22	-2.94	6.78%	8.30	-2.92	6.45%
Westborough	1.32	0.98	0.98	0.62%	0.80	1.00	-0.20	0.65%	0.80	-0.20	0.62%
Subtotal	187.67	157.23	157.23	100.00%	122.19	159.17	-36.98	100.00%	122.47	-36.71	100.00%
San José	2.68	4.10	4.10	2.06%	2.65	4.13	-1.48	2.06%	2.65	-1.48	2.06%
Santa Clara	6.57	4.72	4.72	3.03%	3.90	5.20	-1.30	3.03%	3.62	-1.58	2.81%
Total	196.92	166.06	166.06	100.00%	128.73	168.50	-39.77	100.00%	128.73	-39.77	100.00%

Derivation of the Santa Clara/San José adjustment:

- Largest permanent customer cutback: -30.37%
- Adjusted Santa Clara shortage allocation: 3.62 (Applying largest permanent customer cutback)
- Santa Clara adjustment: -0.28 (Difference between initial and adjusted alloc.)
- Adjusted San José shortage allocation: 2.87 (Applying largest permanent customer cutback)
- San José adjustment: 0.00 (Difference between initial and adjusted alloc.)
- Total Adjustment: -0.28 (2b + 3b)

Attachment A-3. Suburban Shortage Allocations

Assumptions and Column Notes

23.6% shortage for the Suburban Purchasers compared to FY 1998-99 purchases.

Column notes:

The Allocation Basis is used for calculating Allocation Factors and is the average of the following three components: Allocation Basis. The greater of either the Supply Assurance values or the three-year average of SFPUC purchases for FYs 1996-97, 1997-98, and 1998-99, with certain exceptions.

1. First Fixed Component: The greater of either the Supply Assurance values or the three-year average of SFPUC purchases for FYs 1996-97, 1997-98, and 1998-99, with certain exceptions.
 - a. Daly City's and Purissima Hill's values are based on their three-year averages, which is greater than their Supply Assurance values.
 - b. Hayward's and Estero's values are based on their 2010-11 projected purchases, as reported in the BAWUA 1997-98 Annual Survey.
 - c. San José's and Santa Clara's values are based on their individual water supply contracts with the SFPUC.
2. Second Fixed Component: The average of SFPUC purchases for FYs 1996-97, 1997-98, and 1998-99.
3. Variable Component: The rolling three-year average, updated annually, beginning with FYs 1996-97, 1997-98, and 1998-99.
4. Average: The average of columns 1, 2, and 3.

Unadjusted Allocations. The initial shortage allocations in column 6 are adjusted for Santa Clara and San José in columns 10 through 13.

5. Allocation Factors: The ratio of each Suburban Purchaser's column 4 average to the column 4 total.
6. Initial Shortage Allocation: The product of each Suburban Purchaser's column 5 Allocation Factor times the column 6 total, which represents the assumed available water supply.
7. FY 1998-99 Purchases: The most recent year's purchases to which the Shortage Allocation can be compared to determine the effective cutback.
8. Purchase Cutback: Column 6 minus column 7, in mgd.
9. Purchase Cutback: The ratio of column 8 to column 7, in percent.

Allocations Adjusted for Santa Clara and San José. This adjustment is made so that Santa Clara's and San José's cutbacks are at least as great as the highest cutback by the permanent customers. In this example, there is no adjustment required for San José because the formula results in an unadjusted cutback that is already greater than the highest cutback by a permanent customer.

10. Subtotal Allocation Factors: The ratio of each permanent Suburban Purchaser's column 4 average to the column 4 subtotal.
11. Adjusted Shortage Allocation: The product of each Suburban Purchaser's column 10 Subtotal Allocation Factor times the Column 11 subtotal.
 - a. The column 11 subtotal is the sum of the column 6 subtotal plus the Santa Clara adjustment, 3.48.
 - b. The Santa Clara adjustment is the difference between its column 6 Initial Shortage Allocation, 3.72, and its Adjusted Shortage Allocation, 3.48.
 - c. Santa Clara's Adjusted Shortage Allocation is the product of its column 4 average and the largest Purchase Cutback, 33.53%, received by the permanent Suburban Purchasers.
12. Adjusted Purchase Cutback: Column 11 minus column 7, in mgd.
13. Adjusted Purchase Cutback: The ratio of column 12 to column 7, in percent.

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