Suburban Water Systems
A SouthWest Water Company

SUBURBAN WATER SYSTEMS

Whittier System

2025 Public Health Goal Report

Pursuant to Section 116355 of the California Health and Safety Code

JUNE 2025

STETSON ENGINEERS INC.

MainSanGabrielBasin WATERMASTER

2025 Public Health Goal (PHG) Report

Suburban Water Systems

Whittier System

1.0 Introduction

Under the Calderon-Sher Safe Drinking Water Act of 1996 public water systems in California serving greater than 10,000 connections must prepare a report containing information on 1) detection of any contaminant in drinking water at a level exceeding a Public Health Goal (PHG), 2) estimate of costs to remove detected contaminants to below the PHG using Best Available Technology (BAT), and 3) health risks for each contaminant exceeding a PHG. This report must be made available to the public every three years. The initial PHGs report was due on July 1, 1998, and subsequent reports are due every three years thereafter.

The 2025 PHG Report has been prepared to address the requirements set forth in Section 116470 of the California Health and Safety Code. It is based on water quality analyses during calendar years 2022, 2023, and 2024 or, if certain analyses were not performed during those years, the most recent data available. The 2025 PHG Report has been designed to be as informative as possible, without unnecessary duplication of information contained in the Consumer Confidence Report, which is posted to the Suburban Water Systems (SWS) website by July 1 of each year.

There are no regulations explaining requirements for the preparation of PHG reports. A workgroup of the Association of California Water Agencies (ACWA) Water Quality Committee has prepared suggested guidelines for water utilities to use in preparing PHG reports. The ACWA guidelines were used in the preparation of the 2025 PHG Report. These guidelines include tables of cost estimates for BAT. The State of California (State) provides ACWA with numerical health risks and category of health risk information for contaminants with PHGs. This health risk information is appended to the ACWA guidelines.

2.0 California Drinking Water Regulatory Process

California Health and Safety Code Section 116365 requires the State to develop a PHG for every contaminant with a primary drinking water standard or for any contaminant the State is proposing to regulate with a primary drinking water standard. A PHG is the level that poses no

known or anticipated adverse health effects with an adequate margin of safety or poses no significant risk to human health. The process of establishing a PHG is a risk assessment based strictly on human health considerations. PHGs are recommended targets and are not required to be met by any public water system.

The State office designated to develop PHGs is the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA). OEHHA submits the PHG to the State Water Resources Control Board, Division of Drinking Water (DDW) for use in revising or developing a Maximum Contaminant Level (MCL) in drinking water. The MCL is the highest level of a contaminant that is allowed in drinking water. State MCLs cannot be less stringent than federal MCLs and must be as close as is technically and economically feasible to the PHGs. DDW is required to take treatment technologies and cost of compliance into account when setting an MCL. Each MCL is reviewed at least once every five years.

Two radiological contaminants (gross alpha particle activity and gross beta particle activity) have MCLs but do not yet have designated PHGs. For these contaminants, the Maximum Contaminant Level Goal (MCLG), the federal U.S. Environmental Protection Agency (USEPA) equivalent of PHGs, is used in the 2025 PHG Report.

3.0 Identification of Contaminants

Section 116470(b)(1) of the Health and Safety Code requires public water systems serving more than 10,000 connections to identify each contaminant detected in drinking water that exceeded the applicable PHG. Section 116470(f) requires the MCLG to be used for comparison if there is no applicable PHG.

Suburban Water Systems (SWS) Whittier System has approximately 18,056 service connections. From 2022 to 2024, SWS water supplies included local groundwater from SWS wells in the Main San Gabriel Basin, purchased treated groundwater water from California Domestic Water Company (CDWC), and purchased water from the City of Whittier. The following constituents were detected at one or more locations within the drinking water system at levels that exceeded the applicable PHGs or MCLGs.

- **Arsenic** – naturally occurring in local groundwater and purchased groundwater from the City of Whittier.
- **Gross Alpha Particle Activity** (gross alpha) - naturally occurring in purchased groundwater from CDWC.
- **Hexavalent Chromium** – naturally occurring in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier.

- **Perchlorate** – a result of industrial contamination in purchased groundwater from CDWC.
- **Perfluorooctanesulfonic acid** (PFOS) – a result of industrial contamination in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier.
- **Perfluorooctanoic acid** (PFOA) – a result of industrial contamination in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier.
- **Tetrachloroethylene (PCE)** – a result of industrial contamination in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier.
- **Trichloroethylene (TCE)** – a result of industrial contamination in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier.
- **Uranium** – naturally occurring in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier.

The accompanying table shows the applicable PHG (or MCLG) and MCL for each contaminant identified above. The table includes the maximum, minimum, and average concentrations of each contaminant which exceeds a PHG or MCLG in drinking water supplied by SWS in calendar years 2022 to 2024.

4.0 Numerical Public Health Risks

Section 116470(b)(2) of the Health and Safety Code requires disclosure of the numerical public health risk, determined by OEHHA, associated with the MCLs, PHGs and MCLGs. Available numerical health risks developed by OEHHA for the contaminants identified above are shown on the accompanying table. Only numerical risks associated with cancer-causing chemicals have been quantified by OEHHA.

Arsenic – OEHHA has determined the health risk associated with the PHG is one excess case of cancer in a million people and the risk associated with the MCL is 2.5 excess cases of cancer in 1,000 people over a 70-year lifetime exposure.

Gross Alpha – OEHHA has not established a PHG. USEPA has established an MCLG of 0. USEPA has determined the risk associated with the MCL is 1 excess case of cancer in 1,000 people exposed over a 70-year lifetime for the most potent alpha emitter.

Hexavalent Chromium – OEHHA has determined the health risk associated with the PHG is 1 excess case of cancer in a million people and the risk associated with the MCL is 5 excess cases of cancer in 10,000 people exposed over a 70-year lifetime.

Perchlorate – OEHHA has not established a numerical health risk for perchlorate because PHGs for non-carcinogenic chemicals in drinking water are set at a concentration at which no known or anticipated adverse health risks will occur, with an adequate margin of safety.

PFOS – OEHHA has determined the health risk associated with the PHG is 1 excess case of cancer in a million people. There is no California MCL for PFOS; therefore, the risk information associated with the MCL is not available/applicable.

PFOA – OEHHA has determined the health risk associated with the PHG is 1 excess case of cancer in a million people. There is no California MCL for PFOA; therefore, the risk information associated with the MCL is not available/applicable.

PCE – OEHHA has determined the health risk associated with the PHG is one excess case of cancer in a million people and the risk associated with the MCL is 8 excess cases of cancer in 100,000 people over a 70-year lifetime exposure.

TCE – OEHHA has determined the health risk associated with the PHG is one excess case of cancer in a million people and the risk associated with the MCL is 3 excess cases of cancer in a million people over a 70-year lifetime exposure.

Uranium – OEHHA has determined the health risk associated with the PHG is one excess case of cancer in a million people and the risk associated with the MCL is 5 excess cases of cancer in 100,000 people over a 70-year lifetime exposure.

5.0 Identification of Risk Categories

Section 116470(b)(3) of the Health and Safety Code requires identification of the category of risk to public health associated with exposure to the contaminant in drinking water, including a brief, plainly worded description of those terms. The risk categories and definitions for the contaminants identified above are shown on the accompanying table.

6.0 Description of Best Available Technology

Section 116470(b)(4) of the Health and Safety Code requires a description of the BAT, if any is available on a commercial basis, to remove or reduce the concentrations of the contaminants identified above. The BATs are shown on the accompanying table.

7.0 Costs of Using Best Available Technologies and Intended Actions

Section 116470(b)(5) of the Health and Safety Code requires an estimate of the aggregate cost and cost per customer of utilizing the BATs identified to reduce the concentration of a contaminant to a level at or below the PHG or MCLG. In addition, Section 116470(b)(6) requires a brief description of any actions the water purveyor intends to take to reduce the concentration of the contaminant and the basis for that decision.

Arsenic – The BATs for removal of arsenic in water for large water systems are: activated alumina, coagulation/filtration, lime softening, ion exchange, and reverse osmosis. Arsenic was detected above the PHG in local groundwater and in groundwater purchased from the City of Whittier. SWS is in compliance with the MCL for arsenic. The PHG for arsenic established by OEHHA is 0.004 microgram per liter (µg/l). Because the Detection Limit for purposes of Reporting (DLR) for arsenic is 2 µg/l, treating arsenic to below the PHG level means treating arsenic to below the DLR of 2 µg/l. There are numerous factors that may influence the actual cost of reducing arsenic levels to the PHG. The estimated cost to reduce arsenic levels in drinking water below the PHG level using ion exchange was calculated. Achieving the water quality goal for arsenic could cost approximately $1,850,000 per year, or $103 per service connection per year.

Gross Alpha and Uranium – The only BAT for the removal of gross alpha in water for large water systems is reverse osmosis, which can also remove uranium, if detected. Gross alpha was detected above the MCLG in purchased groundwater from CDWC. Uranium was detected above the PHG in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier. The cost of providing treatment using reverse osmosis to reduce gross alpha levels to the MCLG of 0 picoCurie per liter (pCi/l) (and consequently uranium to below the PHG of 0.43 pCi/l) was calculated. Because the DLR for gross alpha is 3 pCi/l, treating gross alpha to 0 pCi/l means treating it to below the DLR of 3 pCi/l (and uranium to below the DLR 1 pCi/l). Achieving the water quality goal for gross alpha could range from $5,420,000 to $46,400,000 per year, or between $300 and $2,570 per service connection per year.

Hexavalent Chromium – The BATs for removal of hexavalent chromium in water for large water systems are: ion exchange, reduction/coagulation/filtration, and reverse osmosis.

Hexavalent chromium was detected above the PHG in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier. SWS is in compliance with the MCL for hexavalent chromium. The estimated cost to reduce hexavalent chromium levels in the groundwater to below the PHG of 0.02 µg/l using reduction/coagulation/filtration was calculated. Because the DLR for hexavalent chromium is 0.1 µg/l, treating hexavalent chromium to below the PHG level means treating hexavalent chromium to below the DLR of 0.1 µg/l. There are numerous factors that may influence the actual cost of reducing hexavalent chromium levels to the PHG. Achieving the water quality goal for hexavalent chromium could be approximately $5,850,000 to $36,500,000 per year, or between $324 and $2,020 per service connection per year.

Perchlorate – The BATs for removal of perchlorate in water for large water systems are ion exchange and biological fluidized bed reactor. Perchlorate was detected above the PHG in purchased groundwater from CDWC. SWS is in compliance with the MCL for perchlorate. The estimated cost to reduce perchlorate levels in the groundwater to below the PHG of 1 µg/l using ion exchange was calculated. Because the DLR for perchlorate is 1 µg/l, treating perchlorate to below the PHG level means treating perchlorate to below the DLR of 1 µg/l. There are numerous factors that may influence the actual cost of reducing perchlorate levels to the PHG. Achieving the water quality goal for perchlorate could be approximately $1,370,000 to $3,000,000 per year, or between $76 and $166 per service connection per year.

PFOS and PFOA – The BATs for removal of PFOS and PFOA in water for large water systems are: granular activated carbon (GAC), ion exchange, and reverse osmosis. PFOS and PFOA were detected above their respective PHGs in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier. SWS is in compliance with the State requirements for PFOS and PFOA. Currently, SWS has an approved blending plan to reduce the levels of PFOS and PFOA detected in the local groundwater. The estimated cost to reduce PFOS and PFOA levels in the groundwater to below their respective PHGs of 1 nanogram per liter (ng/l) and 0.007 ng/l using GAC was calculated. Because the DDW Consumer Confidence Report Detection Level (CCRDL) for PFOS and PFOA is 4 ng/l, treating PFOS and PFOA to below their respective PHG levels means treating PFOS and PFOA to below the CCRDL of 4 ng/l. There are numerous factors that may influence the actual cost of reducing PFOS and PFOA levels to their respective PHGs. Achieving the water quality goal for PFOS and PFOA could be approximately $1,860,000 to $15,600,000 per year, or between $103 and $866 per service connection per year.

PCE and TCE – The BATs for removing PCE and TCE are GAC and packed tower aeration (PTA). PCE and TCE were detected in local groundwater, purchased groundwater from CDWC, and purchased groundwater from the City of Whittier. The cost of providing GAC and PTA to

remove PCE and TCE in the water to the PHG was calculated. It should be pointed out that these are theoretical calculations and rough cost estimates. Achieving the PHGs for PCE and TCE using a GAC system could range from $1,760,000 to $14,800,000 per year, or between $98 and $821 per service connection per year. Achieving the PHG for PCE and TCE using PTA could range from $1,860,000 to $6,940,000 per year, or between $103 and $385 per service connection per year.

All Contaminants – In addition, a cost estimate to treat all water produced or purchased by SWS using ion exchange, PTA, and reverse osmosis to remove all the contaminants detected above the PHGs or MCLG was calculated. All contaminants listed in the accompanying table may be removed to non-detectable levels using ion exchange, PTA, and reverse osmosis. As shown on the accompanying table, achieving the water quality goals for all contaminants using ion exchange, PTA, and reverse osmosis could range from $8,640,000 to $58,300,000 per year, or between $479 and $3,120 per service connection per year.

For additional information, please contact Ms. Nina Wester, Water Quality Manager, at (626) 543-2640, or write to Suburban Water Systems, 1325 North Grand Avenue, Suite 100 Covina, California 91724.

J:\1205\1205-16\PHG2025\SWS\SWS - Whittier\SWS-W_2025 PHG_Final text.doc

2025 PUBLIC HEALTH GOAL REPORT
SUBURBAN WATER SYSTEMS - WHITTIER SYSTEM

PARAMETER	UNITS OF MEASUREMENT	PHG OR (MCLG)*	MCL	DLR OR (CCRDL)	CONCENTRATION GROUNDWATER AVERAGE	CONCENTRATION GROUNDWATER RANGE	CATEGORY OF RISK	CANCER RISK AT PHG OR MCLG	CANCER RISK AT MCL	BEST AVAILABLE TECHNOLOGIES	AGGREGATE COST PER YEAR	COST PER SERVICE CONNECTION PER YEAR
INORGANIC CHEMICALS												
Arsenic	µg/l	0.004	10	2	ND	ND - 3.8	C	1×10^{-6}	2.5×10^{-3}	AA,C/F,E,IE,LS,O/F,RO	$1,850,000 (a)	$103 (a)
Hexavalent Chromium	µg/l	0.02	10	0.1	1.2	0.9 - 3.4	C	1×10^{-6}	5×10^{-4}	IE, R/C/F, RO	$5,850,000 - $36,500,000 (b)	$324 - $2,020 (b)
Perchlorate	µg/l	1	6	1	ND	ND - 2.3	E	NA	NA	BFBR, IE	$1,370,000 - $3,000,000 (c)	$76 - $166 (c)
ORGANIC CHEMICALS												
Perfluorooctanesulfonic Acid (PFOS)	ng/l	1	4 **	(4)	13	ND - 18 ***	C	1×10^{-6}	(d)	GAC, IE, RO	$1,860,000 - $15,600,000 (e)	$103 - $866 (e)
Perfluorooctanoic Acid (PFOA)	ng/l	0.007	4 **	(4)	6.5	ND - 9.2 ***	C	1×10^{-6}	(d)	GAC, IE, RO	--	--
Tetrachloroethylene (PCE)	µg/l	0.06	5	0.5	ND	ND - 1.1	C	1×10^{-6}	8×10^{-5}	GAC	$1,760,000 - $14,800,000 (f)	$98 - $821 (f)
										PTA	$1,860,000 - $6,940,000 (g)	$103 - $385 (g)
Trichloroethylene (TCE)	µg/l	1.7	5	0.5	ND	ND - 2.7	C	1×10^{-6}	3×10^{-6}	GAC,PTA	--	--
RADIOLOGICAL												
Gross Alpha Particle Activity	pCi/l	(0)	15	3	ND	ND - 3.8	C	0	1×10^{-3}	RO	$5,420,000 - $46,400,000 (h)	$300 - $2,570 (h)
Uranium	pCi/l	0.43	20	1	2	1.2 - 3.2	C	1×10^{-6}	5×10^{-5}	C/F, IE, LS, RO	--	--
ALL CONTAMINANTS	--	--	--	--	--	--	--	--	--	IE, PTA, RO	$8,640,000 - $56,300,000 (i)	$479 - $3,120 (i)

* MCLGs are shown in parentheses. MCLGs are provided only when no applicable PHG exists.

** Federal MCL

*** Range of detections reported before the effective Federal MCL compliance date of April 26, 2029.

RISK CATEGORIES
C (Carcinogen) = A substance that is capable of producing cancer.
E (Endocrine Toxicity and Developmental Toxicity) = A substance that can affect the thyroid or cause neurodevelopmental deficits.

NOTES
CCRDL = Consumer Confidence Report Detection Limit
DLR = Detection Limit for Purposes of Reporting
MCL = Maximum Contaminant Level
MCLG = Maximum Contaminant Level Goal
µg/l = micrograms per liter or parts per billion
ng/l = nanograms per liter or parts per trillion
NA = Not Applicable
ND = Not Detected
pCi/l = picoCuries per liter
PHG = Public Health Goal

(a) Estimate cost to remove arsenic using IE.
(b) Estimated cost to remove hexavalent chromium using R/C/F.
(c) Estimated cost to remove perchlorate using IE.
(d) Not applicable. Cancer risk cannot be calulated.
(e) Estimated cost to remove PFOS and PFOA using GAC.
(f) Estimated cost to remove PCE and TCE using GAC.
(g) Estimated cost to remove PCE and TCE using PTA.
(h) Estimated cost to remove gross alpha particle activity using RO, which also removes uranium.
(i) Assuming treating the entire production by IE, PTA, and RO, which can remove all contaminants listed in the above table to below the detectable levels.

TREATMENT TECHNOLOGIES
AA = Activated Alumina
BFBR = Biological Fluidized Bed Reactor
C/F = Coagulation/Filtration
E = Electrodialysis
GAC = Granular Activated Carbon
IE = Ion Exchange
LS = Lime Softening
O/F = Oxidation/Filtration
PTA = Packed Tower Aeration
R/C/F = Reduction/Coagulation/Filtration
RO = Reverse Osmosis