Graham Hill Water Treatment Plant Upgrades – Status Update

Surf City Saves
Water For Our Future

Graham Hill Water Treatment Plant Upgrades – Status Update

- HISTORY OF GHWTP
- NEED FOR UPGRADES
- REGULATORY COMPLIANCE
- RECENT EFFORTS
- SCHEDULE

Surf City Saves
Water For Our Future

HISTORY OF GRAHAM HILL WATER TREATMENT PLANT

- THE GRAHAM HILL WATER TREATMENT PLANT (GHWTP) IS A CONVENTIONAL TREATMENT PLANT THAT WAS COMMISSIONED IN 1960 AS A 12 MILLION GALLON PER DAY (MGD) PLANT.
- 1968 - CAPACITY AT GHWTP WAS INCREASED FROM A NOMINAL 12 MGD TO 24 MGD.
- 1986 - GHWTP WAS “MODERNIZED” AND UPGRADED TO RESTORE THE NOMINAL 24 MGD CAPACITY AND IMPROVE WATER QUALITY.
- NO MAJOR UPGRADE OR REHABILITATION SINCE 1986

Surf City Saves
Water For Our Future

NEED FOR UPGRADES

- NEED CONTINUES TO BE THE SAME SINCE 2002: UPGRADES DRIVEN BY <u>REGULATORY</u> AND <u>RELIABILITY</u> CONCERNS
  - From a regulatory standpoint we want to consistently comply with the Long Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfectants and Disinfection Byproducts rule. Both regulations required water systems to be in compliance by October 1, 2012.
    - Currently the City of Santa Cruz Water System is in compliance with these regulations.
  - From a reliability standpoint we want to ensure the ability to treat water to meet 2030 demand projections and address some of the concerns with aging equipment and infrastructure.

Surf City Saves
Water For Our Future

REGULATORY COMPLIANCE

- DISSINFECTION BY-PRODUCTS (DBPs) CONTINUE TO BE THE MAJOR REGULATORY CONCERN. SPECIFICALLY, TRIHALOMETHANES (THMs) AND HALOACETIC ACIDS (HAAs)
  - Regulatory THM Maximum Contaminant Level (MCL) = 80 µg/L
    - Current highest Quarterly THM LRAA level in regulatory sampling station is 69.1 µg/L; which is equal to 86% of regulatory limit. Last year the highest was 68.6 µg/L or about 85% of regulatory limit.
    - Four sampling stations in the system currently have concentration over 60 µg/L or 75% of regulatory limit; last year only one station was over 70%.
  - Regulatory HAAs MCL = 60 µg/L
    - Current highest Quarterly HAA LRAA level in regulatory sampling station is 31.2 µg/L; which is equal to 52% of regulatory limit. Last year the highest was 42.4 µg/L or about 70% of regulatory limit.
    - Two sampling stations in the system currently have concentrations over 50% of regulatory limit; similar to last year.

Surf City Saves
Water For Our Future

RECENT EFFORTS

- REFOCUSED THE GHWTP UPGRADES PROJECT TO LOOK AT THE WATER SYSTEM AS A WHOLE.
  - Previous work focused on changing the treatment process at GHWTP to address regulatory concerns in limited areas of the distribution system, while omitting operation changes at GHWTP and the Distribution System.
- PRIORITIZED CHANGES AND IMPROVEMENTS TO THE GHWTP RESULTING IN THE FOLLOWING INDIVIDUAL PROJECTS.
  - Water quality data review for discussion with the California Department of Public Health (CDPH) in support of reducing or rescind their requirement that GHWTP provide an additional log removal for Giardia and Viruses
  - Pilot Study to reduce THM concentration in recycled - **Complete**
  - Filter Rehabilitation and Upgrades
  - Finished Water Tank structural evaluation and improvements
  - Chemical System Improvements (Sodium Hypochlorite system installation)
  - Physical replacement of flocculator mixers
  - Sedimentation Basin Improvements

Surf City Saves
Water For Our Future

SCHEDULE

- FEBRUARY 2013 – Finalized contract for engineering design services for filter rehabilitation and upgrades
- SUMMER 2013 – Release request for proposals for engineering services to perform a structural evaluation of the concrete water tanks and sedimentation basins at the GHWTP
- DECEMBER 2013 – Finalize design of filter rehabilitation and upgrades
- JANUARY 2014 – Filter rehabilitation and upgrades construction contract out to bid

Surf City Saves
Water For Our Future

QUESTIONS?

Contact:
Isidro Rivera
Associate Civil Engineer
(831) 420-5313
irivera@cityofsantacruz.com

Surf City Saves
Water For Our Future