

Memorandum of Agreement
Between
City and County of San Francisco
San Francisco Public Utilities Commission
and
National Park Service
Yosemite National Park
for
Comprehensive Management of Watersheds within Yosemite National Park
Supplying the San Francisco Regional Water System

This Memorandum of Agreement (MOA) is hereby entered into by and between the National Park Service (NPS) and the San Francisco Public Utilities Commission (SFPUC), referred to collectively herein as “the Parties.”

ARTICLE I – BACKGROUND AND OBJECTIVES

The Hetch Hetchy watershed is part of the Tuolumne River basin and is located entirely within Yosemite National Park (YNP). The headwaters of the Tuolumne River drain into Hetch Hetchy Reservoir. This watershed provides over 85% of the City and County of San Francisco’s (CCSF) water needs, provides drinking water to 2.6 million residential, commercial and industrial customers served by the SFPUC in the San Francisco Bay Area and is managed by the National Park Service (NPS).

The Hetch Hetchy Supply consists of Hetch Hetchy Reservoir and its watershed. The SFPUC is not required to filter the Hetch Hetchy Supply in part due to:

- The exceptionally high quality water produced by the Hetch Hetchy watershed.
- Ongoing and effective source water protection provided by NPS watershed management.

This combination meets the Federal and the California criteria for filtration avoidance.

The “Upcountry Non-Hetch Hetchy Sources” (UNHHS) are approved water sources that require filtration for the San Francisco Regional Water System (SFRWS). They consist of:

- Cherry Lake and its watershed.
- Lake Eleanor and its watershed.
- Tuolumne River, and its watershed, between O’Shaughnessy Dam and Early Intake Dam.
- Cherry Creek and Eleanor Creek, and their watersheds, from Cherry Lake Dam and Lake Eleanor Dam to the Cherry Creek Diversion Dam.

This MOA includes the management of the Hetch Hetchy Supply watershed and the portions of the Upcountry Standby Sources watersheds that are within YNP.

Under the Raker Act, the grantee (SFPUC) is required to reimburse the Department of Interior (NPS) for the cost of the inspection necessary to secure compliance with the sanitary regulations set forth in section 9(a) of the Act. The text of section 9(a) of the Raker Act is set forth in Appendix A. Per sections 9(q) and (r) of the Raker Act, the SFPUC is also required to reimburse the NPS for the costs of road and trail maintenance and to pay any expenses incurred by the NPS in making investigations or decisions respecting SFPUC's rights, benefits and obligations under the Raker Act.

The SFPUC is required to demonstrate a "watershed control program" that complies with the Federal and the California filtration avoidance regulations. In part, this is through "...written agreements with the landowners within the watershed that it can control all human activities which have an adverse impact on the microbiological quality of the source water." Filtration avoidance regulations are found in Title 40 Code of Federal Regulations (CFR), Part 141, Subpart H (40 CFR §141.71), and in the California Code of Regulations (CCR), Title 22, Section 64652.5(e)(3), (22 CCR § 64652.5). Relevant Title 22 sections are in Appendix B.

The SFPUC and the NPS have a long history of cooperation with the common goal of protecting water quality, environmental resources, and security for essential facilities. A goal of the Source Water Protection Program is for the Hetch Hetchy water supply to maintain its filtration avoidance designation. This Agreement formalizes these cooperative efforts and meets regulatory requirements in 40 CFR §141.71 and 22 CCR § 64652.5 for a "written agreement with the landowner." Another goal is to manage all the SFRWS supply watersheds within YNP to mitigate potential sanitary concerns and meet environmental stewardship objectives.

History of the Agreements include:

- 2005-2010: Agreement developed to meet the filtration avoidance requirement for a "written agreement with the landowner."
- 2010-2015: Agreement expanded to recognize ongoing Environmental Stewardship and Security programs.
- 2015-2016: Agreement extended one year to coincide with the SFPUC two year budget process.
- 2016-2018: Agreement core tasks restructured to align with NPS organizational structure; NPS program management identified as a MOA element. MOA term changed from 5 years to 2 years.

This Agreement serves as the mechanism for:

1. **SOURCE WATER PROTECTION (SWP) PROGRAM:** Watershed controls to preserve the SFRWS watersheds within YNP as high quality drinking water sources and to maintain the filtration avoidance status of the Hetch Hetchy Supply. This includes watershed management for source water protection and reimbursement for

implementation of the Raker Act water quality provisions, along with other source water protection initiatives.

2. ENVIRONMENTAL STEWARDSHIP (ES) PROGRAM: Collaborative efforts to improve environmental stewardship of the Upper Tuolumne River ecosystem that affect, or are affected by, SFPUC facilities and operations within YNP. These efforts will incorporate policies described in the SFPUC Water Enterprise Environmental Stewardship Policy, and will also assist in carrying out stipulations entered into by the SFPUC with the Department of the Interior under provisions of the Raker Act.
3. SECURITY (S) PROGRAM: Providing security for facilities essential to SFPUC operations within the YNP. The Security Program in Appendix E is CONFIDENTIAL and relates to Homeland Security.

SFPUC coordination and funding for the Source Water Protection Program, Environmental Stewardship Program, and the Security Program are provided for through this Agreement.

ARTICLE II – LEGAL AUTHORITY AND POLICY COORDINATION

The Raker Act, 38 Stat. 242 (1913) authorizes the NPS to accept and retain funds to cover costs incurred in administering the Raker Act. NPS is authorized by 54 U.S.C. 101704 to carry out work under reimbursable agreements with any State, local, or tribal government and, without regard to any provision of law or a regulation, may record obligations against accounts receivable from those governments; and shall credit amounts received from those governments to the appropriate account.

Source Water Protection

Source water protection is integral to the SFPUC and is regulated by federal and state laws. This Agreement deals with the application of Raker Act section 9(a) related to recovery of costs for protection of water quality, and SFPUC compliance with Federal and California drinking water quality regulations through a watershed management agreement.

The Raker Act requires reimbursement to the NPS for the cost of the inspections necessary to secure compliance with the sanitary regulations set forth in section 9(a), as well as an annual payment of \$30,000.

The NPS develops and implements additional watershed protection policies and regulations, which are coordinated with the SFPUC. These additional policies and regulations constitute, in combination with the Raker Act's water quality provisions, a watershed control program that meets the filtration avoidance requirements of 40 CFR §141.71 and 22 CCR §64652.5 for the Hetch Hetchy Supply and protects water quality for the SFRWS Upcountry Standby Sources. The watershed control program ensures that high water quality of the SFRWS sources is maintained.

Environmental Stewardship

In June 2006, the SFPUC adopted the Water Enterprise Environmental Stewardship Policy (Appendix C). This policy integrates into the SFPUC's water system planning and operation, including dams and diversions. The policy:

- Establishes a management directive to protect and rehabilitate ecosystems that affect or are affected by SFPUC water system operations, within the context of meeting water supply, power generation, water quality, and minimum instream flow requirements.
- Directs the SFPUC to develop, implement, and monitor instream flow releases such that they mimic, to the extent consistent with the SFPUC mission, existing agreements, and applicable state and federal laws, "...the variation of the seasonal hydrology (e.g., magnitude, timing, duration, and frequency) of their corresponding watersheds in order to sustain the aquatic and riparian ecosystems upon which native fish and wildlife species depend."

In response to the adoption of the Water Enterprise Environmental Stewardship Policy, the SFPUC initiated the Upper Tuolumne River Ecosystem Program with the broad goal of conducting a set of long-term, collaborative, science-based investigations designed to (1) characterize historical and current river ecosystem conditions; (2) assess their relationship to SFPUC operations; and (3) provide recommendations for improving natural ecosystem conditions on a long-term, adaptively managed basis. The study area includes main stem reaches of the Upper Tuolumne River and major tributaries.

Security

The Raker Act granted the CCSF lands and rights-of-way to construct, operate, and maintain water and power (Project) facilities in YNP. NPS has exclusive federal jurisdiction for law enforcement within YNP, including the protection of Project facilities. The State of California and the US Department of Homeland Security (DOHS) have determined that Project facilities are critical infrastructure.

Both the SFPUC and NPS recognize the recreational opportunities available to the public in the vicinity of Project facilities within YNP and the need to maintain reasonable public access. NPS implements a management strategy that provides reasonable security for Project facilities balanced with appropriate public access. The Security Program identifies measures to prevent and respond to attacks on Project facilities within YNP.

ARTICLE III – KEY OFFICIALS

A. Unless otherwise designated, the NPS and the SFPUC designate the following individuals as principal contacts for the work outlined in this Agreement:

1. For the NPS:

- (a) Superintendent: All official correspondence (hardcopy or electronic) should be directed to the Superintendent of Yosemite National Park and copied to the Hetch Hetchy Program Manager.

Superintendent
Yosemite National Park
PO Box 577
Yosemite, CA 95389

- (b) Hetch Hetchy Program Manager: To facilitate implementation of this agreement, the SFPUC funds a full-time NPS Hetch Hetchy Program Manager (HHPM) position. The HHPM is the primary NPS liaison between the NPS and SFPUC for the Source Water Protection and Environmental Stewardship programs.

Hetch Hetchy Program Manager
Office of the Superintendent
Yosemite National Park
PO Box 577
Yosemite, CA 95389

- (c) Security Program Manager: To facilitate implementation of this agreement, NPS designates a Security Program Manager (SPM). The SPM is the primary NPS liaison between the NPS and SFPUC for the Security Program and is the Chief of YNP's Visitor and Resource Protection Division. The SPM shall have appropriate security clearance.

Security Program Manager
Chief Ranger, Division of Visitor and Resource Protection
Yosemite National Park
PO Box 577
Yosemite, CA 95389

2. For the SFPUC:

- a) Hetch Hetchy Water and Power (HHWP) Division Manager and Assistant Division Manager: to facilitate implementation of this agreement, the SFPUC designates the HHWP Division Manager as the manager of this Agreement.

HHWP Division Manager and/or Assistant Division Manager
Hetch Hetchy Water and Power
PO Box 160
Moccasin, CA 95347

- b) HHWP Facilities and Systems Maintenance Manager: to facilitate implementation of this agreement, the SFPUC designates this position as the operational contact for the Security Program.

HHWP Facilities and Systems Maintenance Manager
Hetch Hetchy Water and Power
PO Box 160
Moccasin, CA 95347

- c) SFPUC Emergency Planning Director: To facilitate implementation of this agreement, the SFPUC designates this position to provide administrative oversight and program management for the Security Program.

SFPUC Emergency Planning Director
San Francisco Public Utilities Commission
525 Golden Gate, 10th Floor
San Francisco, CA 94102

- d) Water Quality Division (WQD) Division Director: to facilitate implementation of this agreement, the SFPUC designates this position as the primary contact for the Source Water Quality Protection Program and sanitary surveys

WQD Division Director
SFPUC Water Quality Division
1657 Rollins Rd.
Burlingame, CA 94010

- e) Natural Resources and Lands Management Division (NRLMD) Division Manager: To facilitate implementation of this agreement, the SFPUC designates NRD Manager as the primary contact for the Environmental Stewardship Program.

NRLMD Division Manager
San Francisco Public Utilities Commission
525 Golden Gate, 10th Floor
San Francisco, CA 94102

B. **Coordination Meetings** – The HHWP Division Manager, NPS HHPM and SPM shall have quarterly coordination meetings with relevant SFPUC and NPS staff. Additional meetings shall include, by quarter:

- **July-September:** Budget review in Moccasin.
- **October-December:** Security review in Yosemite.
- **January-March:** Source Water Protection and Sanitary Survey review, and Environmental Stewardship review, in Yosemite.
- **April-June:** Annual review with SFPUC and NPS leadership in Moccasin.

Reviews will cover work performed in the prior calendar year, work planned for the current calendar year, and work proposed for the following calendar year. If program managers or other key staff changes, new staff will attend the meeting and introductions will be made.

C. **Changes in Key Officials** – If the NPS or the SFPUC change staff listed under Article III.A, written notice to the other party must be provided.

ARTICLE IV – STATEMENT OF WORK

A. **Program Elements** - Each program shall include core tasks and, as required, special projects.

1. Core Tasks are continuing elements that are performed each year under this Agreement. Core tasks constitute the principle elements for each program.
2. Special Projects may be performed based on the shared needs of both the SFPUC and NPS. Special projects may be necessary to supplement core tasks to address new, or changed, conditions. Special projects have limited time duration and may include, but are not limited to, studies, infrastructure improvements, contingency reserve funds or funding for equipment. Special projects are jointly developed and funded through the normal budget process.
3. Direct Services are services provided directly by NPS to address unforeseen or extraordinary events, irrespective of whether or not a formal emergency has been declared by either party. This includes, but is not limited to, work to address immediate or imminent hazards on roads or trails within the watershed, sanitary concerns, environmental or archaeological reviews, rentals during an emergency or for coordinated drills/joint training exercises to plan for future emergencies, and security services to address immediate threats or needs. NPS can submit out-of-cycle funding requests under these conditions. Funding will be by mutual agreement.

B. Core Tasks

1. PROGRAM MANAGEMENT

Program Management is a MOA element necessary to achieve MOA program coordination, implementation and administrative support.

a. Office of the Superintendent

i. Hetch Hetchy Program Management

Hetch Hetchy Program Manager

The HHPM serves as the primary NPS liaison to the SFPUC to ensure that the MOA programs are coordinated and successfully implemented and to ensure that the requirements of the Raker Act are being met. The HHPM also manages all aspects of the NPS relationship with the SFPUC. Together, this ensures oversight and management of the MOA programs. The HHPM serves as the single point of contact for the Source Water Protection and Environmental Stewardship programs to ensure effective, timely, ongoing communications and troubleshooting between the NPS and the SFPUC.

- Ensure the timely preparation and submission of annual reports, budgets, invoices, and quarterly reports.
- Work with project managers in the NPS and SFPUC to initiate, coordinate, and fulfill compliance requirements, and to monitor SFPUC's compliance with the Raker Act and associated stipulations.
- Coordinate quarterly, annual, and other meetings as needed.
- Coordinate special project completion.
- Interact frequently with SFPUC staff and NPS management and staff in all divisions.
- Ensure the timeliness and quality of work performed under each program.
- Provide annual and quarterly program reviews to the SFPUC.
- Coordinate responses to watershed sanitary survey concerns and recommendations.

b. Administrative Division

i. Multiple Branches

Administrative Support

Park level administrative overhead costs necessary to support overall functioning of programs are provided. Areas of administrative support include, but are not limited to, Human Resources, Information Technology, Budget and Finance, and Contracting, as well as other administrative activities.

Administrative support will be calculated as 5% of the total core task and special project budget and included to determine the total annual MOA budget.

2. SOURCE WATER PROTECTION

A goal of the Source Water Protection Program is to maintain filtration avoidance designation (or unfiltered status) for the Hetch Hetchy Supply. Another goal is to manage the affected watersheds (Hetch Hetchy Supply and Upcountry Standby Sources) within YNP to protect water quality and mitigate potential sanitary concerns. This includes the following SFPUC and NPS activities:

- i. NPS Watershed Patrols and Enforcement of Regulations – Sufficient NPS patrols are conducted to enforce regulations designed to mitigate and/or prevent water contamination.
- ii. NPS Visitor Education – On site and off site visitor education and information programs are conducted so that national park visitors to the Hetch Hetchy watershed understand applicable regulations and practice limited impact wilderness use techniques in order to prevent degradation of drinking water quality. Visitors are informed that the watershed is a source of drinking water for the San Francisco Bay Area and of their important role in protecting the drinking water supply from microbiological contamination.
- iii. NPS Facilities – Facilities within the Hetch Hetchy watershed, including trails, are constructed, operated and maintained to mitigate and/or prevent water contamination.
- iv. Sources of Contamination – Collaborative efforts between the NPS and the SFPUC to identify potential sources of drinking water contamination and actions to eliminate or mitigate the sources.

The following NPS core tasks are continuing elements of the Source Water Protection Program. These are listed by NPS Division and Branch assigned to complete each task.

- a. Business and Revenue Management Division
 - i. Fee Management Branch

Hetch Hetchy Entrance Station

Visitor Contact – Depending on weather, the entrance station will be open and staffed from April through October. Staff at the Hetch Hetchy Entrance Station will conduct normal operations such as collecting fees, providing general information regarding the park, educating visitors on the

park rules and regulations, and issuing Wilderness permits. In addition, NPS staff shall:

- Inform park visitors, especially hikers receiving a wilderness permit, that the Hetch Hetchy Reservoir is part of the larger Hetch Hetchy watershed and serves as a drinking water source, and the importance of protecting water quality.
- Explain all wilderness regulations and protocols when issuing wilderness permits, especially those designed to protect water quality.

Patrol Coverage – NPS watershed patrols will concentrate on preventing microbiological contamination to water by conducting activities such as:

- Educating visitors to properly dispose of human waste, to not camp too close to water, that swimming and bathing are prohibited in Hetch Hetchy Reservoir and in tributaries within one mile of the reservoir (e.g., Rancheria), and about proper washing of dishes and clothing.
- Preventing stock users from tying or tethering stock too close to water.
- Preventing other unauthorized or illegal activities.

ii. Concessions Branch

Concessionaire facilities are constructed, operated and maintained to mitigate and/or prevent water contamination. Manure will be appropriately managed and removed from concessioner corrals during, and at the end of, each season.

b. Facilities Management Division

i. Buildings and Grounds Branch

Seasonal Building and Grounds Maintenance

The public restrooms at O'Shaughnessy Dam and the Hetch Hetchy Backpackers Campground will be cleaned, garbage and litter collected, and horse manure removed from the top of O'Shaughnessy Dam daily during the heavy-use recreation season.

Adequate toilet facilities will be maintained along the CA-120 corridor within the Hetch Hetchy watershed to mitigate sanitary concerns. Toilet facilities may include temporary portable toilets, such as those provided at Cathedral Lakes and Mammoth View parking areas. Toilet facilities may change as the NPS implements the Tuolumne River Plan. Toilet facilities will be maintained and operated to prevent watershed contamination.

ii. Utilities Branch

Utilities

Wastewater Treatment – Costs will be shared for the collection, treatment, monitoring, and disposal of wastewater in the Hetch Hetchy watershed and for laboratory testing related to water quality. This will be achieved through the operation and maintenance of the Tuolumne Meadows Wastewater Treatment Plant and Wastewater Collection System, and wastewater collection and treatment at Glen Aulin High Sierra Camp. Wastewater facilities will be operated to prevent watershed contamination.

iii. Roads and Trails Branch

Trails

Trails are maintained in the watershed to minimize erosion and sedimentation. Water bars and other erosion control structures will be installed and maintained to NPS standards. Planning for trail work will consider sanitary survey recommendations.

Corrals will be managed to minimize contamination to watercourses. The O'Shaughnessy Corral will be maintained in coordination with Visitor and Resource Protection. Manure will be appropriately managed and removed from all corrals during, and at the end of, each season.

c. Interpretation Division

i. Interpretation

Interpretation

Water quality protection will be an integral part of internal and external programs designed to provide education to watershed visitors. Program examples include interpretive walks, ranger talks, informal ranger roving, school programs, campground contacts, and evening programs. Interpretive rangers at Tuolumne Meadows and Big Oak Flat Visitor Centers will inform visitors that they are in, or will be entering, a watershed. Where appropriate, water quality protection messaging for the Hetch Hetchy watershed will be included in exhibits, waysides, and publications.

Water quality protection education occurs during contacts with visitors. Appropriate signage, displays and brochures will contain current water quality protection messages targeting public use. Interpretative staff training will include watershed awareness and water quality protection components.

d. Resource Management and Science Division

i. Physical Science and Landscape Ecology Branch

Stream Gauging Stations

The NPS will work with the SFPUC to maintain a real-time river gauge on the Tuolumne River at the Tioga Road bridge in Tuolumne Meadows. Upon mutual agreement between the NPS and SFPUC, and based on funding availability, maintenance collaboration on additional gauges may also occur, such as gauges on Falls Creek above Wapama Falls and on the Lyell Fork below Maclure Creek. Components of the project include stream discharge measurements to maintain rating curves; annual reports of daily and hourly flow data as well as rating curve shifts; and, where feasible, real-time transmission of flow, temperature, and turbidity data via California Data Exchange Commission (CDEC) website.

Snow Pillow Monitoring Stations

The NPS will work with the SFPUC to upgrade and maintain hydrometeorological instrumentation to achieve the mutual goals of improved data quality and continuity as well as wilderness protection. Existing sites are Slide Canyon, Lower Kibbie Ridge, Paradise Meadow, Dana Meadow, Tuolumne Meadows, White Wolf, and Gin Flat. Components of the work include systematic station upgrades to a uniform operating platform, instrument repair/replacement, and quality assurance and control of data.

Water Quality Monitoring

The water quality impacts of potential pollution sources in the Hetch Hetchy watershed will be monitored and evaluated. Depending on location and monitoring interest, potential analytes may include, but are not limited to, nutrients (total dissolved nitrogen, nitrate + nitrite, total phosphorous and total dissolved phosphorous), *E. coli* (plus total coliform bacteria), total petroleum hydrocarbons, total organic carbon and UV254. Results will guide development and implementation of measures to improve and protect water quality

ii. Vegetation and Restoration Branch

Wilderness Restoration

Monitoring and restoration activities will be undertaken to prevent contaminants and erosion-generated materials from entering Hetch Hetchy watershed water courses. Examples include removing inappropriate campsites, mitigating stock use impacts, removing trash and charcoal near water sources, restoring rutted meadows and braided trails, and restoring natural hydrological processes.

iii. Visitor Use and Social Sciences Branch

Visitor Use and Impact Monitoring Program (VUIMP)

Long-term monitoring of Tuolumne River specific indicators of watershed condition is conducted by the park's VUIMP to support water quality protection. Monitored indicators that directly relate to water quality protection include assessment of streambank stability along meadow reaches of the Tuolumne River, bare meadow soil assessments and meadow habitat fragmentation assessment. Work consists of primary and secondary data collection and analysis of impacts and causality. As necessary, results help guide proactive management decisions that protect meadow integrity, reduce soil loss and limit further compaction, erosion and sloughing of riverbanks.

e. Visitor and Resource Protection Division

i. Mather District

Upper Watershed Protection – Tuolumne Subdistrict and Crane Flat Subdistrict (White Wolf Area)

Patrol and enforcement in White Wolf, Tuolumne Meadows and Wilderness areas. Patrols and visitor contacts emphasize watershed water quality protection through the prevention of:

- Improper disposal of human waste
- Camping too close to water
- Stock groups tying or tethering too close to water
- Improper washing of dishes, clothes, etc.
- Other unauthorized or illegal activities

Lower Watershed Protection – Canyon Ranch Subdistrict

Patrol and enforcement in Canyon Ranch (Hetch Hetchy and Lake Eleanor) front country and Wilderness areas. Patrols and visitor contacts emphasize watershed water quality protection through the prevention of:

- Improper disposal of human waste
- Camping too close to water
- Swimming and bathing in Hetch Hetchy Reservoir and the tributaries within one mile of the reservoir (e.g., Rancheria)
- Stock groups tying or tethering too close to water
- Improper washing of dishes, clothes, etc.
- Other unauthorized or illegal activities

Responsibilities also include staffing of the Hetch Hetchy Entrance Station from November through March. Additionally, the O'Shaughnessy Corral, in coordination with Roads and Trails, is managed to minimize contamination to watercourses. Manure is appropriately managed and removed from all corrals during, and at the end of each season.

The Canyon Ranch Subdistrict provides a commissioned Lake Eleanor ranger. This ranger supervises the seasonal operation of the Cherry Lake contact station, with support from the SFPUC and the Stanislaus National Forest. The station is staffed with available personnel during projected peak periods of wilderness and watershed entries to maximize educational contacts.

ii. Fire and Aviation Management Branch

Fire Management

The program reduces hazardous fuels, reduces risks to infrastructure and human communities, increases safety for employees and visitors, and improves the health of the watershed by creating fire-resilient landscapes and restoring fire-adapted ecosystems. When appropriate and feasible, fuel reduction will be undertaken to help protect infrastructure around the O'Shaughnessy compound, the access road from the entrance station, and other SFPUC assets within YNP. Adhering to the YNP Fire Management Plan, wildland fire will be managed to uphold wilderness character and improve ecosystem health in order to reduce potential severity of future wildland fire events and promote natural, fire-adapted ecosystems, which in turn supports long-term watershed water quality through long-term reduction of potential sediment runoff.

Aviation Manager

A dedicated Park Aviation Manager provides for a significantly enhanced degree of safety for NPS personnel, a reduction in airspace conflicts and a greater degree of protection of the Hetch Hetchy Watershed. CCSF provides up to 38% of the position's funding based on the percentage of total YNP acreage that comprises the Hetch Hetchy Watershed.

The Aviation Manager serves as the single point of contact for all aviation planning, resolves aviation issues, and provides communication between managers and aviation assets. This includes daily interaction and communication with all NPS divisions and partners that utilize aviation resources. The Aviation Officer significantly reduces potential for aviation mishaps and resulting hazardous material contamination of the watershed.

iv. Wilderness Management Branch

Wilderness Operations

Commissioned wilderness rangers protect water quality within YNP Wilderness by educating visitors and enforcing compliance with YNP regulations. Similar to Visitor and Resource Protection, patrols emphasize watershed water quality protection through the prevention of:

- Improper disposal of human waste
- Camping too close to water
- Stock groups tying or tethering too close to water
- Improper washing of dishes, clothes, etc.
- Other unauthorized or illegal activities
- Swimming and bathing in Hetch Hetchy Reservoir and the tributaries within one mile of the reservoir (e.g., Rancheria)

Additional water quality protection responsibilities include:

- Monitoring of group camping size limits
- Monitor and report on use and impacts to park resources
- Contact and educate overnight visitors.

Wilderness ranger training includes a water quality protection component.

Wilderness Education

Water quality protection will be an integral part of all internal and external programs designed to provide education to wilderness users. Water quality protection education occurs during contacts with visitors in the field, at wilderness centers, interpretive programs, and during outreach programs (e.g., Wildlink). Appropriate signage, displays and brochures will contain current water quality protection messages targeting public use. Wilderness Education staff training will include a water quality protection component.

NPS implements a Wilderness Permit system to:

- Provide a required point of contact for visitor education
- Control numbers of people in the watershed.
- Enforce trailhead quotas to keep overnight usage within appropriate limits.
- Collect and analyze data to track types of use and trends within the wilderness.

The permit system includes a reservation component which is used to send pre-trip information to watershed users. Day hikers also use Wilderness Centers for trip planning and information, and receive water quality messages. Signs at trailheads leading into the Hetch Hetchy watershed

will inform visitors that they are entering a drinking water supply watershed and provide water quality protection messaging.

When obtaining the mandatory Wilderness Permit, at least one group member must sign the permit acknowledging that they will be responsible for their party's behavior. This group member(s) are presented with watershed and water quality displays, briefed on regulations pertinent to campsite selection, human waste disposal, proper campfire use, pack stock regulations, and protection of vegetation and soils through proper trail and campsite use.

Non-commissioned wilderness rangers protect water quality within YNP Wilderness by educating visitors on YNP regulations and water quality protection. Patrols protect watershed water quality by monitoring activities similar to those emphasized by Wilderness Operations (but without enforcement capabilities).

3. ENVIRONMENTAL STEWARDSHIP

Environmental stewardship programs are collaborative and cooperative efforts between the SFPUC and NPS to manage water quality and the environmental resources for the Tuolumne River watershed within the YNP boundary to protect these resources for future generations. The goal of the Environmental Stewardship Program is to implement and support regulatory and policy requirements and initiatives. The NPS and SFPUC will collaborate to work within the Upper Tuolumne River in areas that affect or are affected by the Hetch Hetchy Project. Basic work includes efforts to describe management goals for the Poopenaut Valley ecosystem and assistance with inventory and monitoring of species in the Tuolumne River corridor.

Raker Act Stipulations

Stipulations entered into by the U.S. Department of the Interior (DOI) and the CCSF under the Raker Act include provisions for minimum instream flows for the two primary Hetch Hetchy Project dams (Eleanor and O'Shaughnessy). The 1987 stipulation relating to Kirkwood Powerhouse Unit No. 3 includes provisions on volumes of water to be released in addition to minimum flows. The specific schedules for releasing these volumes of water (over and above the minimum flows) were to be based on recommendations from US Fish and Wildlife Service (USFWS). However, final resolution was not reached with USFWS on these specific schedules.

NPS and SFPUC started river research and an ecosystem-based instream flow study in 2006. This was done as part of the Upper Tuolumne River Ecosystem Project, in collaboration with work conducted by the NPS. SFPUC funded the NPS portion of the work through the 2005-2010 and 2010-2015 Hetch Hetchy Watershed Protection

Agreements respectively, and the 2015-2016 Agreement extension. The NPS portion of this work may continue to be funded via the 2016-2018 Agreement, as needed and determined by the SFPUC.

The following core tasks are continuing elements of the Environmental Stewardship Program.

1. Resource Management and Science Division

i. Physical Sciences and Landscape Ecology Branch

Looking Downstream

The NPS Looking Downstream Project focuses on understanding and developing ecosystem management guidance for the Poopenaut Valley area, three miles downstream from O'Shaughnessy Dam on the Tuolumne River in YNP. The project supports the goals and/or requirements of the Water System Improvement Program's Programmatic Environmental Impact Report, the Water Enterprise Environmental Stewardship Policy, and the 1987 Stipulation associated with the approval of the SFPUC's third unit at the Kirkwood Powerhouse by the Department of the Interior under the Raker Act.

ii. Vegetation and Restoration Branch

Invasive Plant Management Invasive non-native plant species in the Hetch Hetchy and Lake Eleanor watersheds (e.g., Himalayan Blackberry, velvet grass, dandelions, etc.) have infested the riparian areas and meadows along the Tuolumne River and Eleanor Creek. Invasive non-native plant species can exclude virtually all native plants and associated wildlife. YNP, using appropriate herbicides and techniques, can spray herbicide to treat invasive species. Reduction and potential elimination of invasive plant species protects the ecosystem health of hundreds of valuable meadow and riparian habitat acres.

iii. Wildlife Management Branch

Amphibian and Reptile Studies

The NPS Amphibian Survey project directly assists the SFPUC and U.S. Forest Service in conducting ongoing monitoring of amphibian and reptile populations within the reach of the Tuolumne River between O'Shaughnessy Dam and Cherry Creek. NPS provides knowledgeable biologists to assist with field surveys, habitat mapping, and report writing and review. The results from this project will be used in implementing the Water Enterprise Environmental Stewardship Policy and the 1987 Stipulation.

4. SECURITY

Operational and program management aspects and core tasks for the Security program are in CONFIDENTIAL Appendix E. The initial Security Program budget is in Appendix D. Appendix E and the following listed documents are not available for public review for Homeland Security reasons and are exempt from disclosure under the Freedom of Information Act.

- Security Program Annual Work Plan
- Security Program Quarterly reports

C. **Special Projects**

One time projects may be designated in the future, based on the shared needs of both the SFPUC and NPS for any of the programs and the availability of SFPUC funding for such programs.

1. Source Water Protection - Special projects are intended to address or mitigate specific issues. Generally, these issues are identified in the SFPUC watershed sanitary survey updates.
2. Environmental Stewardship - One time projects may be designated based on the shared needs of both the SFPUC and NPS, and recommendations from current studies.
3. Security - Special projects for the Security Program are CONFIDENTIAL. Details for Security Program special projects are not available for public review for Homeland Security reasons and are exempt from disclosure under the Freedom of Information Act.

D. Reports - The HHPM and SPM submit quarterly reports for each program to the SFPUC. The Security report may be forwarded to the Department of Homeland Security (DHS) by the SFPUC. These quarterly reports track annual work plan implementation, spending, and coordination for each program.

NPS Annual Reports for the Source Water Protection and Environmental Stewardship programs contain the following sections:

Summary	Highlights from the current reporting year and recommendations for the following year.
Program Description	<ul style="list-style-type: none"> • Mission • Description of the program and its objectives. • Policy changes or issues unique to the reporting year. • List of the year's core tasks and special projects.
Implementation	The work actually performed including results as they relate to stated objectives.
Analysis	An evaluation of overall program effectiveness including work performed and major deviations from work plans (what and why).

Each program is reported separately. All reports for the Security Program shall be CONFIDENTIAL, Homeland Security related, and shall not be available for public review. The Security Program reports are exempt from disclosure under the Freedom of Information Act.

The SFPUC understands it may have access to non-public security-related information that NPS determines is confidential. The SFPUC agrees that all such information potentially confidential shall be held in confidence, subject to all state and federal freedom of information laws and the San Francisco Administrative Code section 67.24(e), and except as required to perform and fulfill the requirements of this agreement. In the event that any third party seeks information from the CCSF, the SFPUC shall promptly notify NPS of such request. NPS may then approve release of information in writing or seek any appropriate relief in refusing such request.

- E. **Calendar** - Each program (Source Water Protection, Environmental Stewardship, and Security), as well as the program management element, shall be planned, reported, reviewed, budgeted, and invoiced separately.

Calendar years (January 1 to December 31) shall be used for implementation and reporting. This coincides with regulatory reporting requirements. Annual budget requests, work plans, budgeting, and payments on invoices shall be based on the SFPUC's fiscal year (July 1 through June 30).

Quarterly reports for each program are due to the SFPUC January 15, April 15, July 15, and October 15 of each year. The NPS Program Managers and HHWP Division Manager (or designee) meet in Yosemite National Park in March and November, and in Moccasin in May and August for program coordination.

Date	Task
January 15	HHPM and SPM provide quarterly program reports to the SFPUC.
February 15	HHPM provides annual reports for the SWP and ES programs to the SFPUC. The reports cover the work performed during the prior calendar year.
March	Quarterly coordination meeting in YNP to discuss the Source Water Protection program, Environmental Stewardship program, and the sanitary surveys occurs in Yosemite. HHPM coordinates the program reviews; SFPUC coordinates the Sanitary Survey Review.
April 15	HHPM and SPM provide quarterly program reports to the SFPUC.
May	Quarterly coordination meeting and the annual SFPUC-NPS communication meeting in Moccasin.
July 1	NPS invoices the SFPUC for the <u>current</u> (i.e. new) fiscal year for each of the three programs plus the program management element outlined in this Agreement. This is for the final work plan funded by the SFPUC. Each core task and special project will be invoiced annually, at the start of the SFPUC fiscal year, for the full year work plan as a lump sum. The only exception will be funds for Direct Services to address unforeseen or extraordinary events, which will be invoiced as needed and after written concurrence from the HHWP Division Manager. SFPUC payment is due to the NPS for the <u>current</u> fiscal year by August 1.
July 15	HHPM and SPM provide quarterly program reports to the SFPUC.
August	Quarterly coordination meeting and, on odd-numbered years, budget review meeting in Moccasin.
September 1	On odd-numbered years, the HHPM and SPM provide the preliminary budget proposal for each program for the <u>following</u> two SFPUC fiscal years by September 1.

September 30	NPS and SFPUC meet as required in September to review proposed new core tasks or special projects, review changes to existing core tasks or special projects, and agree on the final NPS budget proposals to SFPUC. SFPUC provides final comments on preliminary budget proposals for each program to NPS by September 30.
October-December	Quarterly coordination meeting and Security meeting in Yosemite
October 15	In odd-numbered years, the NPS provides the final budget for the <u>following</u> two fiscal years for each program to the SFPUC by October 15. HHPM and SPM provide quarterly program reports to the SFPUC.
November	Quarterly coordination meeting and Security meeting in Yosemite.

ARTICLE V – NPS BUDGET REQUEST

The biennial NPS budget requests cover work to be performed during the following two SFPUC fiscal years. The SFPUC fiscal year starts July 1 and ends June 30. A separate budget request shall be made for each program and for each fiscal year. Each request shall contain individual submittals for each program element (core task or special project). Typical submittal components include:

1. Description
 - SFPUC Program Identification (i.e. SWP, ES, S, or All)
 - Type of proposal: core task or special project
 - Title of core task or special project
 - Division & Branch
 - Start and finish date
 - Program Manager
 - Requester
2. Statement of Work
3. Justification
4. NPS Personnel Services
5. NPS Contract Services
6. Equipment, Material, and Other Costs
7. Total Funding Requested
8. YNP Superintendent Approval

Additional information and justification may also be included, such as more detailed scope, objective(s), and existing and desired equipment and staffing levels, which may help in determining funding priorities.

NPS submits a preliminary budget request for each core task or special project to the SFPUC for review and comment. After resolving comments, the NPS then submits a final budget request for each program (refer to section 5.4, September 1 - October 15). The first and second year

baseline budgets for core tasks under this Agreement are in Appendix D, which lists the requested fiscal year 2016-2017 and 2017-2018 budgets. Each two-year budget requires approval by the SFPUC as outlined in Article IV.E, Article IX, and this Section.

The total agreement cost shall not exceed \$12,326,507 (twelve million three hundred twenty six thousand five hundred seven) for the two-year term. Significant capital improvement projects, unanticipated projects, or other incurred costs may also be developed and entered into during this time period under separate written agreements.

Each of the three programs, as well as program management element, is budgeted separately. The Security Program activities are CONFIDENTIAL, Homeland Security related, and shall not be available for public review. Consequently, Appendix E shall not be available for public review and is exempt from the Freedom of Information Act.

ARTICLE VI - INDEMNIFICATION

A. The NPS Agrees:

To cooperate in the submission of claims pursuant to Title 28 of the United States Code, the Federal Tort Claims Act, against the United States for personal injuries or property damage resulting from the negligent or wrongful act or omission of any employee of the United States that results from, arises out of, or relates to the activities of the NPS or its employees under this MOA.

B. The SFPUC Agrees:

The CCSF shall indemnify, defend, and hold harmless the United States and the National Park Service, and their officers, employees, and agents from and against all claims, suits, actions, losses, damages, liabilities, costs and expenses that result from, arise out of, or relate to the activities of the SFPUC or its employees, contractors, or subcontractors under this MOA.

ARTICLE VII – TERM OF AGREEMENT

This MOA shall become effective on the date of the last signature and extend through July 1, 2018. If signed after July 1, 2016, the agreement will be retroactive to July 1, 2016.

The NPS shall have three months beyond the end date of July 1, 2018 of the MOA to reconcile all expenditures incurred on or before June 30, 2018. No additional funds are authorized to be spent or received, nor expenses incurred, after June 30, 2018. The three month reconciliation grace period, with an end date of October 1, 2018, allows for full reconciliation of expenditures incurred before July 1, 2018.

ARTICLE VIII – MODIFICATION AND TERMINATION

As mutually agreed upon in writing, this Agreement may be revised to address new or changed conditions; the addition or modification of core tasks and special projects; status changes for special projects; regulatory considerations; and funding changes. Any core tasks that are discontinued during this Agreement will be funded through the end of the current SFPUC fiscal year plus one (1) additional SFPUC fiscal year, except as the SFPUC and NPS mutually agree.

ARTICLE IX – GENERAL PROVISIONS

- A. Nothing herein shall or shall be construed to obligate the National Park Service to expend or involve the United States of America in any contract or other obligation for the future payment of money in excess of appropriations authorized by law and administratively allotted and allocated for the purposes contemplated in this MOA.
- B. **Fiscal Limitations:** THIS SECTION SUPERSEDES ANY CONFLICTING PROVISION OF THIS MOA. This MOA is subject to the fiscal provisions of the San Francisco charter and the budget decisions of its Mayor and Board of Supervisors. No SFPUC funds will be available hereunder until prior written authorization certified by the CCSF's Controller. The Controller cannot authorize payments unless funds have been certified as available in the budget or in a supplemental appropriation. This MOA shall automatically terminate, without liability to the CCSF, if funds are not properly appropriated by the Mayor and Board of Supervisors or certified by the Controller. The SFPUC's obligations hereunder shall never exceed the amount certified by the Controller for the purpose and period stated in such certification. The SFPUC, its employees and officers are not authorized to request services, materials, equipment or supplies that are beyond the scope of those expressly described herein, unless this MOA is amended in writing and approved as required by law. The SFPUC, its employees and officers are not authorized to offer or promise any additional funding that would exceed the maximum amount that may be appropriated for FY 2016-17 and 2017-18 specified in Appendix D. Such additional funding requires lawful approval and certification by the Controller. Without such lawful approval and certification, the SFPUC shall not be required to provide such additional funding. The foregoing fiscal limitations do not relieve the CCSF of its obligations under the Raker Act to pay all costs that the CCSF is required to pay under Section 9 of the Raker Act.
- C. No member of or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of the MOA or to any benefit that may arise out of it.
- D. This Agreement was not executed for the benefit of any entity or person who is not a party hereto, and neither this agreement, nor any interest therein, may be assigned without the prior consent of the non-assigning party.
- E. This Agreement does not give rise to third party contract rights and cannot be enforced by third parties.
- F. This Agreement shall not be construed or implied that either the CCSF or the NPS, by entering into this Agreement, intends to abrogate their obligations and duties to comply with all applicable provisions of the regulations promulgated under the National Environmental Policy Act of 1969, the California Environmental Quality Act, or any other applicable law.

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ARTICLE X - AUTHORIZING SIGNATURES



Don L. Neubacher, Superintendent, Yosemite National Park

7/24/16
Date



Harlan L. Kelly, Jr., General Manager,
San Francisco Public Utilities Commission

7/22/16
Date

Authorized by SFPUC Resolution No. 16-0089

5-10-16
Date

Approved as to form:


7/15/16
Deputy City Attorney

APPENDIX A

Raker Act Water Quality Provisions

The passage of the Raker Act by the US Congress on December 19, 1913 established the Hetch Hetchy Water and Power Project. The Raker Act granted water and power resource rights-of-way over federal lands in YNP and Stanislaus National Forest to the CCSF. Since construction of O'Shaughnessy Dam at Hetch Hetchy and completion of the 149-mile Hetch Hetchy water delivery system in 1934, Sierra Nevada water has been providing a year-round supply of high quality potable water to San Francisco and neighboring communities.

Section 9 (a) of the Raker Act requires the following water quality protections:

...the following sanitary regulations shall be made effective within the watershed above and around said reservoir sites so used by said grantee:

First. No human excrement, garbage, or other refuse shall be placed in the waters of any reservoir or stream or within three hundred feet thereof.

Second. All sewage from permanent camps and hotels within the watershed shall be filtered by natural percolation through porous earth or otherwise adequately purified or destroyed.

Third. No person shall bathe, wash clothes or cooking utensils, or water stock in, or in any way pollute, the water within the limits of the Hetch Hetchy Reservoir or any reservoir constructed by the said grantee under the provisions of this grant, or in the streams leading thereto, within one mile of said reservoir; or, with reference to the Hetch Hetchy Reservoir, in the waters from the reservoir or waters entering the river between it and the "Early intake" of the aqueduct, pending the completion of the aqueduct between "Early intake" and the Hetch Hetchy Dam site.

Fourth. The cost of the inspection necessary to secure compliance with the sanitary regulations made a part of these conditions, which inspection shall be under the direction of the Secretary of the Interior, shall be defrayed by the said grantee.

Fifth. If at any time the sanitary regulations provided for herein shall be deemed by said grantee insufficient to protect the purity of the water supply, then the said grantee shall install a filtration plant or provide other means to guard the purity of the water. No other sanitary rules or restrictions shall be demanded by or granted to the said grantee as to the use of the watershed by campers, tourists, or the occupants of hotels and cottages...

NPS Agreement Number: MYOESS001

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Since the passage of the Raker Act, other watershed protection criteria have been established for drinking water by state and federal agencies. This Agreement encompasses implementation of the water quality provisions of the Raker Act, pursuant to the fourth item (above), along with additional water quality, resource protection and security initiatives by YNP that will be funded by the SFPUC.

APPENDIX B

Filtration Avoidance Regulations

Source Water Protection – Selected Filtration Avoidance Regulatory Requirements

Source water protection requirements of the following CFR and CCR sections are met by demonstrating an effective watershed control program that minimizes the potential for contamination by microbial pathogens. The NPS and SFPUC cooperate to maintain an effective management program for water source, and standby water source, watersheds within the YNP. This is documented through sanitary survey updates performed by the SFPUC.

The SFPUC was granted filtration avoidance for the Hetch Hetchy water supply by the Environmental Protection Agency on October 29, 1993. This is covered under Title 40 Code of Federal Regulations (CFR), Part 141, Subpart H, Section 141.71.

The San Francisco Regional Water System (SFRWS) is permitted under Title 22 of the California Code of Regulations (CCR): System No. 3810001, Permit Number 02-04-04P-3810001. The California Department of Health Services (CDPH) regulations pertaining to filtration avoidance criteria are listed in Title 22 Sections 64652.5.

Section 64652.5. Criteria for Avoiding Filtration.

(a) A supplier that uses an approved surface water shall meet all of the requirements of this section to avoid the necessity of providing filtration. ...

(c) The approved surface water quality monitored pursuant to subsection (b) shall meet the following criteria:

(1) The fecal coliform concentration shall be equal to or less than 20/100 ml, or the total coliform concentration shall be equal to or less than 100/100 ml, in representative samples of the approved surface water in at least 90 percent of the measurements made for the six previous months that the system served unfiltered approved surface water to the public on an ongoing basis. If a system measures both fecal and total coliforms, the fecal coliform criterion, not the total coliform criterion, in this paragraph shall be met.

(2) The turbidity level shall not exceed 5 NTU in representative samples ...

(e) The supplier shall maintain a watershed control program which minimizes the potential for contamination by Giardia lamblia cysts and viruses in the source water. The adequacy of a program to limit potential contamination by Giardia lamblia cysts and viruses shall be determined by: the comprehensiveness of the watershed review; the effectiveness of the supplier's program to monitor and control detrimental activities occurring in the watershed; and the extent to which the water system has maximized land ownership and/or controlled land use within the watershed. At a minimum, the watershed control program shall: (1) Characterize the watershed hydrology and land ownership; (2) Identify watershed characteristics and activities which may have an adverse effect on water quality; (3) Monitor the occurrence of activities which may have an adverse effect on water quality. The supplier shall demonstrate through ownership and/or written agreements with landowners within the watershed that it can control all human activities which may have an adverse impact on the microbiological quality of the water. The supplier shall submit an annual report to the Department that identifies any special concerns about the watershed and how they are being handled; describes activities in the watershed that affect water quality; and projects what adverse activities are expected to occur in the future and how the public water system expects to address them; and (4) Monitor the presence of Giardia lamblia cysts in the approved surface water whenever agricultural grazing, water oriented recreation, or point source domestic wastewater discharges occur on the watershed.

(f) The water system shall be subject to an annual on-site inspection to assess the watershed control program and disinfection treatment process. Either the Department or a party approved by the Department shall conduct the on-site inspection. The inspection shall be conducted by competent individuals who have a sound understanding of public health principles and waterborne diseases, such as sanitary engineers, civil engineers, environmental health specialists, or technicians who have experience and knowledge about the operation and maintenance of a public water system. A report of the on-site inspection summarizing all findings shall be prepared every calendar year and submitted to the Department, if not conducted by the Department, by December 31 of that year. The on-site inspection shall be comprehensive to enable the Department to determine whether the watershed control program and disinfection treatment process are adequately designed and maintained. The on-site inspection shall include:

- (1) A review of the effectiveness of the watershed control program;*
- (2) A review of the physical condition of the source intake and how well it is protected;*
- (3) A review of the supplier's equipment maintenance program to ensure there is low probability for failure of the disinfection process;*
- (4) An inspection of the disinfection equipment for physical deterioration;*
- (5) A review of operating procedures;*
- (6) A review of data records to ensure that all required tests are being conducted and recorded and disinfection is effectively practiced; and*
- (7) Identification of any improvements which are needed in the equipment, system maintenance and operation, or data collection...*

APPENDIX C

SFPUC Water Enterprise Environmental Stewardship Policy

The mission of the San Francisco Public Utilities Commission (SFPUC) is to serve San Francisco and its Bay Area customers with reliable, high quality, and affordable water and wastewater treatment while maximizing benefits from power operations and responsibly managing the resources—human, physical, and natural—entrusted to its care.

The purpose of the Water Enterprise Environmental Stewardship Policy is to establish long-term management direction for SFPUC-owned lands and natural resources affected by operation of the SFPUC water system within the Tuolumne River, Alameda Creek (Bay Area), and Peninsula (Bay Area) watersheds. Environmental stewardship is a fundamental component of the Water Enterprise mission, and a responsibility of all Water Enterprise employees.

The SFPUC is committed to responsible natural resources management that protects and restores viable populations of native species and maintains the integrity of the ecosystems that support them for current and future generations. The SFPUC strives to become a leader in science-based and collaborative environmental stewardship in order to continue providing high-quality and reliable water supplies to San Francisco residents and SFPUC customers.

Watershed Management

The SFPUC will proactively manage the watersheds under its responsibility in a manner that maintains the integrity of the natural resources, restores habitats for native species, and enhances ecosystem function. The SFPUC believes that partnership and collaboration with agencies, communities and other stakeholders in the watersheds are the best way to maximize investment in environmental stewardship.

To the extent practicable, the SFPUC will ensure that all operations of the SFPUC water system (including water diversion, storage and transport), construction and maintenance of infrastructure, land management policies and practices, purchase and sale of watershed lands, and lease agreements for watershed lands protect and restore native species and the ecosystems that support them. In cases where the SFPUC has limited control, but where impacts of its operations exist, the SFPUC will work with responsible parties to improve ecosystem health.

It is the policy of the SFPUC to operate the SFPUC water system in a manner that protects and restores native fish and wildlife downstream of SFPUC dams and water diversions, within SFPUC reservoirs, and on SFPUC watershed lands. Releases from SFPUC reservoirs will (consistent with the SFPUC mission described above, existing agreements, and applicable state and federal laws), mimic the variation of the seasonal hydrology (e.g., magnitude, timing, duration, and frequency) of their corresponding watersheds in order to sustain the aquatic and riparian ecosystems upon which these native fish and wildlife species depend.

The SFPUC will actively monitor the health of the terrestrial and aquatic habitats both under SFPUC ownership and affected by SFPUC operations in order to continually improve ecosystem health. Relevant performance measures and indicators will be used to evaluate the effectiveness of implementation efforts under this policy.

Other SFPUC Lands

Rights of way and properties in urban surroundings under SFPUC management will be managed in a manner that protects and restores habitat value where available, and encourages community participation in decisions that significantly interrupt or alter current land use in these parcels.

Public Involvement

The SFPUC believes that public engagement is key to ensuring successful environmental stewardship. To that end, SFPUC will:

- Solicit input and collaboration on its plans and implementation from all interested and affected parties, including local, state, and federal agencies, non-governmental organizations, and members of the public.
- Encourage development of recreational uses that are compatible with protection and restoration of natural resources, and water quality and water supply reliability goals.
- Include communities and stakeholders in monitoring, restoration and other stewardship activities to the extent possible.
- Provide information and reports to the public that track activities related to implementation of this policy.

Implementation Strategy

The Environmental Stewardship Policy will be integrated into SFPUC Water Enterprise planning and decision-making processes and also directly implemented through a number of efforts. Below are examples of areas for integration and specific activities that will further the goals of this policy.

- Implementation and updating of the existing Alameda and Peninsula Watershed Management Plans.
- Development of Habitat Conservation Plans for the Alameda and Peninsula Watersheds.
- Development and implementation of the Watershed and Environmental Improvement Program, which will cover the Tuolumne River, Alameda Creek, and Peninsula watersheds.
- Development of the Lake Merced Watershed Plan.
- Active participation in local forums, including coordination with Yosemite National Park Service and Stanislaus National Forest in the Tuolumne River watershed, the Tuolumne River Technical Advisory Committee, the Alameda Creek Fisheries Restoration Workgroup, the Pilarcitos Creek Restoration Workgroup, and the Lake Merced Task Force.
- Integration of the policy into the Water System Improvement Program and individual infrastructure projects (i.e., repair and replacement programs).

- Ensure that the policy guides development of project descriptions, alternatives and mitigation for all SFPUC projects during the environmental review process under CEQA and/or NEPA.
- Seek support for and encourage all employees to integrate environmental stewardship into daily operations through communication and training.

APPENDIX D

Hetch Hetchy Memorandum of Agreement Six-year Core Task Funding

Funding is based on YNP's budget request to the SFPUC for FY 2016-17 and 2017-2018.

Program	YNP	MOA Section	Core Task	2016-17 (Year 1)	2017-18 (Year 2)	Totals
Source Water Protection	BRM	IV.B.2.a.i	HH Entrance Station	\$166,021	\$166,021	
Source Water Protection	FM	IV.B.2.b.i	Seasonal B&G Maintenance	\$82,736	\$82,736	
Source Water Protection	FM	IV.B.2.b.ii	Utilities	\$188,685	\$188,685	
Source Water Protection	FM	IV.B.2.b.iii	Trails	\$747,611	\$747,611	
Source Water Protection	INTERP	IV.B.2.c.i	Interpretation	\$270,202	\$270,202	
Source Water Protection	RMS	IV.B.2.d.i	Stream Gauging Stations	\$8,907	\$8,907	
Source Water Protection	RMS	IV.B.2.d.i	Snow Pillow Monitoring Stations	\$56,454	\$51,912	
Source Water Protection	RMS	IV.B.2.d.i	Water Quality Monitoring	\$68,416	\$68,416	
Source Water Protection	RMS	IV.B.2.d.ii	Wilderness Restoration	\$116,148	\$116,148	
Source Water Protection	RMS	IV.B.2.d.iii	Visitor Use and Impact Monitoring Program	\$98,445	\$98,445	
Source Water Protection	PROT	IV.B.2.e.i	Upper Watershed Protection	\$1,011,670	\$1,011,670	
Source Water Protection	PROT	IV.B.2.e.i	Lower Watershed Protection	\$767,756	\$767,756	
Source Water Protection	PROT	IV.B.2.e.ii	Fire Protection	\$26,447	\$26,447	
Source Water Protection	PROT	IV.B.2.e.ii	Aviation Officer	\$53,217	\$53,217	
Source Water Protection	PROT	IV.B.2.e.iii	Wilderness Operations	\$947,720	\$947,720	
Source Water Protection	PROT	IV.B.2.e.iii	Wilderness Education	\$197,759	\$197,759	
Environmental Stewardship	RMS	IV.B.3.a.i	Looking Downstream	\$167,974	\$167,974	
Environmental Stewardship	RMS	IV.B.3.a.ii	Invasive Plant Management	\$92,120	\$93,720	
Environmental Stewardship	RMS	IV.B.3.a.iii	Amphibian Survey	\$62,952	\$60,999	
Security	PROT	IV.B.4	Security	\$748,566	\$748,566	
All	SUPT	IV.B.1.a.i	Program Manager	\$169,394	\$169,394	
All	ADMIN	IV.B.1.b.i	Administrative Support			
All	SUPT		Raker Act	\$30,000	\$30,000	
			Core Task Total	\$6,079,200	\$6,074,305	\$12,153,505
Special Project: Source Water Protection - Portable Toilets on Tioga Road			Special Project Total	\$36,501	\$36,501	\$73,002
Core Task and Special Projects (Not to Exceed)				\$6,115,701	\$6,110,806	\$12,226,507
Direct Services (contingency for unforeseen events)				\$50,000	\$50,000	\$100,000
Total				\$6,165,701	\$6,160,806	\$12,326,507
Agreement Not To Exceed Amount						\$12,326,507

APPENDIX E - CONFIDENTIAL