



## NORTH SAN MATEO COUNTY SANITATION DISTRICT

a subsidiary of the City of Daly City

333 – 90<sup>TH</sup> STREET, DALY CITY, CALIFORNIA 94015-1895

(650) 991-8127



### REGULAR MEETING – BOARD OF DIRECTORS

Monday, October 22, 2018 - 6:45 PM  
City Hall Council Chambers – 2<sup>nd</sup> Floor  
333 – 90<sup>th</sup> Street, Daly City, CA 94015

### AGENDA

Persons with disabilities who require auxiliary aids or services in attending or participating in this meeting should call the office of the City Clerk at 991-8078. *We will need **FIVE (5) WORKING DAYS BEFORE ANY FUTURE MEETINGS** to make any necessary accommodations.*

CALL TO ORDER:

ROLL CALL:

APPROVAL OF AGENDA:

CONSENT AGENDA

All items listed on the Consent Agenda are considered to be routine and may be approved by one roll call vote of the Board of Directors. There shall be no separate discussion of the matters on the Consent Agenda unless requested by a member of the Board. If discussion is required, that item will be removed from the Consent Agenda and will be considered separately at the end of the Agenda.

Minutes:

1. Regular Meeting of September 24, 2018

Action Items:

2. Sewer Service Charge Appeals - FY 2018/19
3. Approval of Change Order #5 of Existing Professional Services Agreement with Carollo

***“AVAILABILITY OF PUBLIC RECORDS. All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the City Clerk’s Office, City Hall located at 333 90<sup>th</sup> Street, Daly City, CA during normal business hours, at the same time that the public records are distributed or made available to the legislative body.”***

Engineers to Perform an Economic Analysis of the Proposed Expanded Tertiary Recycled Water Facility

END OF CONSENT AGENDA

PUBLIC APPEARANCES/ORAL COMMUNICATIONS:

NOTE: Speakers are limited to two minutes, unless modified by the Chair. The District cannot take action on any matter raised under this item.

NEW BUSINESS:

4. Vista Grande Drainage Basin Improvement Project - 90% Design Presentation (McMillen Jacobs Associates)

**Staff:**

Piccolotti

**Recommended Action:**

Information Only

5. Approval of Change Order #2 to Existing Professional Services Agreement with McMillen Jacobs Associates to Complete 90% Design for the Vista Grande Drainage Basin Improvement Project

**Staff:**

Piccolotti

**Recommended Action:**

Adopt Resolution

REPORTS:

6. Board of Directors
7. Staff

ADJOURNMENT:

## **REGULAR MEETING - BOARD OF DIRECTORS**

### **MINUTES**

**September 24, 2018**

The Board of Directors of the North San Mateo County Sanitation District convened in a Regular Meeting on September 24, 2018, in the City Council Chamber, City Hall, 333 - 90th Street, Daly City, California.

The meeting was called to order by Chairman Juslyn Manalo at 6:46 p.m.

#### **ROLL CALL:**

Present: Christensen, Guingona, Buenaventura, Manalo

Absent: Sylvester

Staff Present: Interim General Manager Shawwna Maltbie, District Counsel Rose Zimmerman, Director of Water and Wastewater Resources Thomas Piccolotti, Plant and Equipment Maintenance Manager Joshua Cosgrove, and Office Assistant II Gillian Chow as Recording Secretary.

#### **APPROVAL OF AGENDA:**

Motion was made, seconded (Christensen, Guingona) and unanimously approved.

#### **CONSENT AGENDA:**

1. **Minutes of Regular Meeting of September 10, 2018**
2. **Sewer Service Charge Appeals – FY 2017/18**

Motion was made, seconded (Buenaventura/Guingona) and unanimously carried to adopt the Consent Agenda.

#### **NEW BUSINESS:**

None.

#### **REPORTS:**

3. **Board of Directors**

None.

4. **Staff**

None

#### **ADJOURNMENT:**

At 6:48 p.m., call of adjournment of Regular Meeting by Chairman Juslyn Manalo.



## **North San Mateo County Sanitation District**

*a subsidiary of the City of Daly City*

**Meeting Date: October 22, 2018**

**Subject: SEWER SERVICE CHARGE APPEALS - FISCAL YEAR 2018-19**

Recommended Action

Based on staff review, I recommend that the sewer service charge be revised and based on annual water consumption or average yearly consumption excluding the base period.

Westborough Water

Yauki Chuck  
Account # CHU0112

Staff is available to provide any additional information desired by the Chair or Board Members.

Respectfully submitted,

A handwritten signature in black ink that reads "Anthony Tofiga".

Anthony Tofiga  
Utility Billing Supervisor

A handwritten signature in black ink that reads "Lawrence Chiu".

Lawrence Chiu  
Director of Finance and  
Administrative Services

Attachment: Sewer Service Charge Appeal

cc: District General Manager  
City Attorney  
Department of Water and Wastewater Resources

NORTH SAN MATEO COUNTY SANITATION DISTRICT  
SEWER SERVICE CHARGE APPEAL 2018-19  
BOARD MEETING 10/22/18  
WESTBOROUGH WATER DISTRICT

ACCOUNT NO.                    CHU 0112  
CUSTOMER NAME               YAUKI CHUCK  
SERVICE ADDRESS            3738 MYRNA LN, SSF

|                                   |                 |                  |
|-----------------------------------|-----------------|------------------|
| WATER USAGE FOLLOWING BASE PERIOD | BASE PERIOD     | 25               |
| 2 MONTHS AFTER           17       | 2 MONTHS PRIOR  | 19               |
| 4 MONTHS AFTER           20       | 4 MONTHS PRIOR  | 11               |
|                                   | 6 MONTHS PRIOR  | 9                |
|                                   | 8 MONTHS PRIOR  | 9                |
|                                   | 10 MONTHS PRIOR | 8                |
|                                   |                 | <hr/>            |
| <b>ACTUAL ANNUAL USAGE</b>        |                 | <b>81</b>        |
|                                   |                 |                  |
| <b>BASE PERIOD ANNUALIZED</b>     |                 | <b>150</b>       |
|                                   |                 | <hr/>            |
| <b>ANNUAL CREDIT IN UNITS</b>     |                 |                  |
| <b>(MUST BE OVER 15 UNITS)</b>    |                 | <b>69</b>        |
|                                   |                 |                  |
| <b>PERCENTAGE CHANGE</b>          |                 |                  |
| <b>(MUST BE OVER 10%)</b>         |                 | <b>85%</b>       |
|                                   |                 |                  |
| <b>ANNUAL CREDIT IN DOLLARS</b>   |                 | <b>\$ 612.03</b> |
|                                   |                 | <hr/>            |

(Westborough rate   \$ 8.87 per unit)

REASON FOR APPEAL

DURING THE BASE PERIOD, MS. CHUCK HAD A TOILET LEAK.  
WHEN DISCOVERED AND REPAIRED, THE USAGE DROPPED.

STAFF RECOMMENDATION TO BOARD

GRANT ADJUSTMENT - BASED ON ACTUAL ANNUAL CONSUMPTION.



## **North San Mateo County Sanitation District**

*a subsidiary of the City of Daly City*

**Meeting Date: October 22, 2018**

**Subject: Approval of Change Order #5 of Existing Professional Services Agreement with Carollo Engineers to Perform an Economic Analysis of the Proposed Expanded Tertiary Recycled Water Facility**

### **Recommended Action**

Approve Change Order #5 to the existing Professional Services Contract with Carollo Engineers of Walnut Creek, CA in an amount of \$164,000 to conduct an Economic Analysis of the proposed expanded Tertiary Recycled Water Facility at the District's wastewater treatment plant.

### **Background**

Sanitation District Resolution 15-SD-07 was approved on September 14, 2015 authorizing the execution of a Memorandum of Understanding (MOU) with the San Francisco Public Utilities Commission to examine the feasibility of an expanded tertiary recycled water facility at the wastewater treatment plant to service irrigation customers within and around Colma. The MOU established the vehicle in which to engage Carollo Engineers to perform a 30% feasibility design study along with reimbursement of services from San Francisco. The initial \$2,178,000 scope of services contract has been amended with four Change Orders totaling \$218,744 to cover negotiated work on storage tank siting, an expanded filter study, conceptual In-Direct, Direct Potable Reuse, and a modified pipeline alignment along Colma Boulevard.

### **Discussion**

With peak production of 3 million gallons a day and a one million gallons a day annual average priced at between \$1,600 to \$2,900 per acre foot of delivered water, the recycled water project is recognized as being expensive. In order to best determine next steps or whether to proceed at all, agency staff recommends that an economic analysis of the project would be a prudent course of action at this time. In working with consultant staff, Corona Environmental Consulting, LLC, led by Dr. Robert Raucher, was contacted regarding an economic analysis of the project. Their proposal was received and reviewed by Daly City and San Francisco staff and through an iterative process to gain agreement on the proposed work scope. The work intends to develop a benefit-cost-based business case assessment for water reuse by examining benefits provided to participating entities. At issue is identifying benefits not yet identified and whether those benefits outweigh project costs. As an example, the consultant team plans to examine how an anticipated increase in local groundwater, as a potable supply, adds to water supply resiliency in face of drought, seismically vulnerable or regulatory impacted surface water supplies off the Hetch Hetchy Regional System.

The consultant team has identified five tasks in which to assist staff in determining whether a business case can be made for the proposed tertiary expansion project. Dr. Robert Raucher has over

40 years of experience examining the benefits and costs over a broad range of water utility issues. He served as the principal investigator of the WaterReuse Research Foundation project, *Preparing Economic Analysis for Water Recycling Projects*, which in turn served as the primary basis adopted by the State of California water reuse framework developed by the University of California, Davis. Dr. Raucher is also the 2016 recipient of the *Pankaj Parekh Research Innovation Award* from the Water Research Foundation.

Upon Notice to Proceed, it is expected that most of the work will be developed in the fourth quarter of calendar year 2018 and the first quarter of 2019, with project completion slated for March 2019.

**Fiscal Impact**

None to the District. The proposed project cost of \$164,000 would remain a reimbursable expense from the San Francisco Public Utilities Commission, and no new budget is anticipated as there are sufficient funds of \$397,051 in current project savings in which to cover this proposed scope of work.

Staff is available to answer any questions or to provide additional information to the members of the NSMCSD Board.

Respectfully submitted,



Thomas J. Piccolotti, Director  
Department of Water & Wastewater Resources

# **Evaluating Potential Tertiary Recycled Water Facility Expansion at Daly City: Estimating Benefits and Costs, and Aligning Cost Allocation with Beneficiaries**

## **Scope of Work**

September 13, 2018

### **Overview**

This Scope of Work (Scope) is based on our current understanding of the information needed by SFPUC, Daly City, and California Water Service Company (Cal Water) to determine whether a potential expansion of tertiary recycled water facilities at the Daly City Wastewater Treatment Plant (WWTP) makes good business sense for the utilities and communities involved, according to: (1) the benefits and costs each agency will realize, and (2) how the benefit-cost considerations, and related cost allocations across entities, align with each potentially affected Board and Council priorities, and compare to other supply-enhancing options available to them.

This Scope will be conducted under the current Carollo Engineers, Inc. contract with Daly City regarding the Expanded Tertiary Recycled Water Project. It will be conducted by Corona Environmental Consulting, LLC (Corona), Carollo's subconsultant, and specifically led by Dr. Bob Raucher. A brief description of Dr. Raucher's qualifications is contained at the end of this Scope. Corona is headquartered in Massachusetts, and this project will be staffed with water economists and engineers from Corona's Colorado and Bay Area offices.

### **Background and Project Objectives**

Water reuse is an important component of a resilient, diversified water supply portfolio, yet reuse projects can often appear expensive relative to more traditional supply alternatives. One of the keys for properly developing a business case for water reuse projects is to examine the real value (i.e., benefits) provided by a reuse project to the various beneficiaries, as well as the costs incurred and how those costs are allocated across the participating entities. This proposed work effort will develop a benefit-cost-based business case assessment for the tertiary water recycling expansion project proposed for Daly City's wastewater plant.

As part of our economic analysis, we will also address the institutional complexity that arises due to the multi-jurisdictional nature of this project. We will identify whether the total project benefits outweigh costs for the project as a whole; and we also will examine the allocation of costs and distribution of benefits to each institutional entity. For example, each participating entity may need to bear a suitable share of the costs, and the related cost allocation and pricing regimes will then need to align who pays with who benefits. The level and distribution of benefits and costs across partner utilities is an important feature of our proposed work effort. For example, the distribution of costs and benefits provides an indication of the share of the costs that may be borne by SFPUC (which in turn informs SFPUC's decisions about whether the

benefits it may derive justify the expense, and/or if alternative water supply enhancement options may be more cost-effective). This will also be defined for Daly City and Cal Water as well.

This Scope illustrates how we intend to identify, develop and deliver data-based information needed to determine whether the potential expansion of tertiary recycled water facilities at the Daly City WWTP generates benefits and imposes costs for each of the utilities and communities involved. The objective is to help the parties better understand project benefits, and to provide benefit-cost information in a manner that can be used to assess whether the project moves ahead under a basic framework for a fair and suitable agreement amongst all involved parties.

With numerous water sector agencies to be served by the potential project, it is important to consider the financial and other benefits and costs that are important to each concerned party. The Corona team will examine for each agency, how the benefits each party receives compare to their share of the project costs, and how costs can be aligned with who receives the benefits.

The primary objectives of this proposed work effort are to:

- assess whether the various benefits outweigh the costs for each agency and the project as a whole,
- work with individual agencies and communities to identify their site-specific benefits and costs, as well as other applicable boundaries, constraints and opportunities, and
- share insights from other case studies as informational support for the project agencies.

## Scope of Work

The proposed Scope entails the following sequence of tasks:

### **Task 1: Review Existing Materials**

As a first step, subconsultant will review existing materials and conduct interview those familiar with the project impacts and implications to develop a baseline understanding.

The proposed reuse expansion project appears to be relatively expensive (costing between an estimated \$1,600 and \$2,900 per acre foot of delivered nonpotable water) and will deliver a relatively modest quantity of water (3 mgd in peak months, 1 mgd average annual). However, the project may generate a diverse and important array of benefits to the various utilities.

For example, one key potential benefit is providing enhanced resiliency for SFPUC and its wholesale customers by increasing local groundwater availability at the South Westside Groundwater Basin for use in times of drought or other potential limitations on Hetch Hetchy supplies (as may arise due to seismic disruption, regulatory limits, etc.). The value of these enhanced resiliency benefits to SFPUC, and others, make it worth exploring whether the investment's benefits are worth the cost, compared to the status quo baseline (and/or compared to SFPUC's other possible projects for reuse and other water supply-enhancing

options). For Cal Water, a relevant benefit may be a PUC-approved investment in capital infrastructure, enabling the investor-owned utility to establish higher rates and accrue additional revenues and profits.

Subconsultant will review existing materials to develop a working understanding of the proposed project, its potential financial and other important benefits, and the extent to which benefits and costs may be allocated across the beneficiaries and utilities. Materials to be reviewed include, but are not limited to, the Carollo Engineer's (Carollo) feasibility study (30% design effort) and various project memoranda, SFPUC's Westside Basin Groundwater Study, and any notes or additional documents relevant for articulating the project's objectives, potential benefits, and costs. Documents and other information derived from prior interviews with cemetery operators and other relevant parties also will be reviewed. Subconsultant will identify the items to be reviewed early in the process so they can be provided and considered as early as possible.

In addition to reviewing available materials, the Corona team will conduct a series of initial conversations with key personnel from SFPUC, Daly City, Cal Water (and other relevant utility-related parties, if/as relevant). These initial interactions will be made by telephone and e-mail correspondence (and, subsequently, through a series of more structured follow-up interviews; see Task 2). The objective of these initial conversations is to identify the site-specific opportunities, constraints and boundaries for this project for each entity, as well as the potential benefits and costs, and supply alternatives.

Based on the information gathered and reviewed, Subconsultant will develop a Technical Memorandum (TM) compiling the relevant information. The TM will articulate the potentially relevant types of benefits of the project as a whole, as well as the anticipated dispersion of these benefit types and levels across the utilities and end-users.

Benefits to be examined include:

1. An anticipated increased availability of local groundwater as a potable water supply/emergency back-up supply for the SFPUC system (where the added recycled water reduces local groundwater pumping), and associated resiliency values in the face of drought- and seismically-vulnerable and regulator-impacted surface supply yields (e.g., from Hetch Hetchy). Text Box 1 provides additional background on how we will estimate the value of enhanced reliability from locally-available and controlled supply options, which may be a key factor in this analysis).
2. Potential reduced cost and enhanced reliability of utility potable supplies (where recycled water replaces irrigation by potable supplies).
3. Potential cost savings and/or other benefits to Colma area cemeteries and others currently pumping groundwater (and the value of their respective senior water rights).
4. Potential cost savings and reliability enhancements for cemeteries and other irrigators that do not have access to local groundwater.

5. Any net energy savings and associated reductions in air pollutant emissions, including reduced carbon emissions (CO<sub>2e</sub>).
6. Any additional financial or other important benefits as may be identified.

In addition to identifying these types of benefits, the TM will also articulate the legal, financial, cultural and other jurisdictional opportunities, constraints and boundaries. These will be carefully articulated to ensure that the questions of critical concern being asked by each community (e.g. How can we increase the use of recycled water in our community?) are mindfully addressed; easing approval and implementation. The objective of this part of the work is to ensure the analysis developed for each utility entity directly addresses their site-specific needs, and that currently unknown barriers are identified (and are not discovered at the end and derail the project).

The draft TM will be reviewed by Daly City, SFPUC, and Cal Water project managers to ensure that an accurate and suitably comprehensive assessment of the relevant project details and associated potential benefits and costs, and related opportunities, boundaries and constraints has been developed. A revised TM will be developed based on comments received.

#### **Text Box 1: Benefits of a Locally Accessed and Controlled Water Supply Source**

One of the potentially important benefits of the Daly City recycled water expansion project for SFPUC and its wholesale and retail customers is the increased access to local groundwater resources at the South Westside Groundwater Basin (Basin) as a potable water supply. The Basin is an important potable water supply/emergency supply option for SFPUC, in the event that supplies from the Hetch Hetchy system are curtailed due to environmental flow considerations, drought, seismic disruption, or other possible causes. The reuse expansion is expected to provide SFPUC with increased groundwater yields by offsetting approximately 2 mgd of extraction from cemeteries and other entities currently tapping the Basin for irrigation purposes.

By enhancing the availability of a larger potable/back-up supply, SFPUC is purchasing “insurance” against the uncertainty of potentially significant disruptions for its primary water supply sources (e.g., Hetch Hetchy). The beneficial value of the enhanced potable/emergency back-up supply may be valued, in part, by how much the increased supply will reduce the adverse impacts of future water supply shortage(s) on residential and CII customers. The Subconsultant can examine these reliability values using information we developed as part of two research projects we completed for the WaterReuse Research Foundation (now part of The Water Research Foundation). For example, in our research project, *The Value of Water Supply Reliability for Residential Customers*, we conducted focus groups with SFPUC customers, and then deployed an internet-based survey of more than 500 SFPUC customers (as well as 1500 households in other service areas) and derived data-based SFPUC-specific willingness to pay estimates for reducing the likelihood and/or severity of future supply shortages and associated water use restrictions.

## **Task 2: Coordinated Structured Interviews with Relevant Water Agencies**

The Corona team will use the baseline information gathered in Task 1 to develop a series of questions that can be addressed in structured telephone interviews with the key players at each impacted water sector utility (SFPUC, Daly City, Cal Water, and Town of Colma) and up to four (4) cemetery owners/managers. In-person interviews may be held in lieu of telephone interviews, if they can be conveniently scheduled.

The interview questionnaires will be provided to Daly City, SFPUC, and Cal Water for review and refinement, prior to initiation of the interviews. Components of the structured interviews will include discussions identifying:

1. The principle interests, concerns, end uses, and end users of the recycled water for each utility
2. The costs that each agency anticipates it will bear to implement reuse, as well as the potential basis for cost allocations
3. The types and general level of benefits that each utility anticipates for their agency and service area customers
4. The availability of relevant data and documents with which Subconsultant may develop empirical estimates of the monetary value of the applicable benefits
5. The opportunities, constraints and boundaries (e.g. legal, cultural) that have the potential to derail the project or can be used to create support. For example, the State's recent enactment of the Sustainable Ground Water Management Act (SGMA) may have future restrictive implications for current irrigation uses of the Westside Groundwater Basin, thereby enhancing the value of reuse to the relevant parties.
6. Other additional issues, as identified with the agencies and in response to the materials developed in the Task 1 TM.

A summary of the information and insights garnered from the structured interviews will be compiled in a second TM. The TM will be submitted for review by the relevant parties, and then revised based on comments received.

## **Task 3: Developing a Draft Report on Benefits and Costs, and Allocations of Each**

In Task 3, Subconsultant will use the information gathered in Tasks 1 and 2, and the associated feedback from Daly City, SFPUC, Cal Water, and other parties, to develop a project benefit-cost analysis, and cost allocation profile of the project. The team will develop ranges of monetized estimates for benefits and costs, as technically credible. Where monetarized values are not available, the team will provide qualitative descriptors for each benefit using cutting-edge economic and project evaluation best practices. Costs will be provided based on estimates developed by Carollo and other relevant parties, and key uncertainties articulated. The financial capacity of each participating utility also will be examined, to assess the ability of each entity to bear a potential allocated share of the project expense.

Total project benefits and costs will be developed and compared for the project as a whole, as well as for each engaged entity such that the distribution of benefits and beneficiaries are clearly portrayed. The team will provide a draft report articulating the benefit-cost analysis for review by Daly City, SFPUC, and Cal Water. The draft report will serve as the basis for further discussion and revision in subsequent tasks.

#### **Task 4: Providing a Briefing and Facilitated Workshop on the Draft Report's Methods and Findings**

A briefing of the report materials will be presented, as part of an in-person facilitated workshop with Daly City, SFPUC, Cal Water, Carollo, and other agencies/entities as may be deemed appropriate by the clients.

The working session will review the methods and findings with respect to benefits, costs, and communication needs/challenges. Key uncertainties will be discussed and addressed. Additional needs and clarifications or revisions will be determined and discussed.

#### **Task 5: Developing Draft Final Report and Associated Support Materials**

Based on feedback received on the draft report and briefing, a revised report will be developed and provided for additional review and feedback.

#### **Task 6: Developing Final Report**

Carollo and Subconsultant will revise the draft final report based on comments received. A final report will then be submitted. Supplemental materials, such as PowerPoint slides as may be useful, will also be provided.

### **Schedule and Budget**

Notice to Proceed (NTP) and schedule will be determined based on a written NTP from Daly City. Our initial understanding is that most of the work is to be developed in the fourth quarter of calendar year (CY) 2018 and first quarter of CY 2019 (e.g., with the Task 4 workshop to be held in January 2019, and the project completed in March 2019).

The budget for the tasks as outlined above is:

Subconsultant - \$130,000

Carollo Engineers, Inc. - \$34,000 (includes sub mark up and approximately 80 hours effort)

Total - \$164,000

## Qualifications of the Subconsultant (i.e.: Corona Environmental Consulting)

Dr. Robert Raucher will be the technical lead and project manager for this proposed effort. Bob has 40 years of experience examining the benefits and costs of a broad range of water utility issues, with a focus on understanding the benefits and costs of water reuse, desalination, stormwater management, and other nontraditional water supply options. A more detailed overview of Bob's relevant experience is provided in Attachment A, along with bios of other key team members. Dr. Raucher's resume is also provided as a separate document.

Dr. Raucher also has been actively engaged with several California utilities on economic matters, including pioneering work on the economics, cost allocations, and pricing of water reuse, evaluating the diverse benefits and costs of reuse and desalination, and long-term water supply planning under complex climate change and regulatory uncertainties. He served as Principal Investigator of the WateReuse Research Foundation project developing an economic framework for evaluating water reuse, which in turn served as the primary basis adopted in the State of California water reuse framework developed by UC Davis [*Guidelines for Preparing Economic Analysis for Water Recycling Projects* (EATF, April 2011)]. He currently is serving on a UC Davis-led state-funded project examining the affordability impacts of alternative approaches to attain nitrate MCL compliance in small, economically disadvantaged communities in the Central Valley.

Dr. Raucher received the 2016 *Pankaj Parekh Research Innovation Award* for his achievements in applied water sector research, from the Water Research Foundation, in recognition of his contributions to the water supply sector. His abbreviated resume is attached.

Additional information and qualifications for Dr. Raucher, and his team of seasoned water economists and communication experts at Corona, and/or of Corona Environmental Consulting as whole, are provided in Attachment A, and Dr. Raucher's resume. Additional information will be provided upon request. In addition, the section below describes how recent research by the Corona Team will directly apply to addressing the objectives of this proposed work effort.

## Recent Research by the Corona Team that will be used in support of this project

Dr. Raucher and his colleagues at Corona's Water Economics and Planning practice have conducted several projects that will directly apply to the proposed work scope. Examples include:

***An Economic Framework for Water Reuse Projects***, developed for the WateReuse Research Foundation (WRRF), which establishes an economic framework for assessing the full benefits and costs of reuse projects. This foundational project was largely adopted by the State of California in establishing its *Guidelines* for evaluating reuse projects. We will adapt this framework to the Daly City project to assess what types of benefits accrue to which entities, and to assess the monetary value of those benefits to the degree reliably credible.

***The Value of Water Supply Reliability to the Residential Sector***, and a follow-up project examining ***The Value of Water Supply Reliability for the CII Sector***, both for WRRF, provide direct empirical information for the SFPUC service area, and focus on how water reuse generates economic value by reducing the likely frequency and/or severity of future water supply shortages. This information can be directly applied to the Daly City project, where benefits include enhancing an emergency supply for SFPUC, and also increasing the supply reliability for other entities where potable supply demands are converted to reuse.

***Challenges, Practical Approaches, and Opportunities for Pricing Reuse Water***, for the Water Research Foundation, examines how to align who pays with who benefits from reuse, and explores the complex institutional arrangements typical of many California water reuse projects. This work will help us explore cost allocation opportunities for the Daly City project that better align with the “beneficiary pays” principle. It also will help us examine possible contractual, MOU, and other institutional arrangements for the multi-agency Daly City project.

***Evaluating Long- and Short-term Water Sector Planning under Climate Change***, for WRRF, which provides examples and a basis for evaluating how water reuse projects are part of developing a resilient water system as part of an adaptive management approach for climate change. With climate change as a key factor that will influence the need and value of back up supplies, and reducing demands on potable water, this project offers insights of direct relevance to the proposed Daly City project.

***An Economic Analysis of Water Reuse and Desalination Benefits and Costs for El Paso Water Utilities*** (and similar projects for Inland Empire Utilities Agency, Sonoma County, and elsewhere) provides direct experience for how to assess the broad range of reuse benefits and beneficiaries, and how to compare benefits to costs. These projects have been developed for multiple leading-edge water agencies, including those with wholesale-retail and various cost-sharing and Joint Powers agreements as integral parts of their successful reuse programs. This same suite of approaches and insights can be applied to the Daly City recycled water expansion project.

**North San Mateo County Sanitation District***a subsidiary of the City of Daly City***Meeting Date: October 22, 2018**

**Subject: Approval of Change Order #2 to Existing Professional Services Agreement with McMillen Jacobs Associates to Complete 90% Design for the Vista Grande Drainage Basin Improvement Project**

**Recommended Action**

Authorize the execution of Change Order #2 in the amount of \$189,473 to the existing Professional Services Agreement with McMillen Jacobs Associates of Walnut Creek, CA to address increased scope of work to complete 90% design of the Vista Grande Drainage Basin Improvement Project.

**Background**

Sanitation District Resolution 17-SD-04 was adopted by the Board of Directors on March 27, 2017 authorizing Amendment #2 to the existing professional services agreement with McMillen Jacobs Associates to complete 90% design work on the Vista Grande Drainage Basin Improvement Project in the amount of \$2,988,900 bringing total contract award to \$8,226,486 since original authorization of work on June 27, 2011.

**Discussion**

The engineering design team of McMillen Jacobs Associates and Brown and Caldwell has worked through a number of design changes incorporated from design review comments from Daly City staff that have taken place since the 60% design package was submitted. Incorporation of those design changes, in a number of project areas, led to an additional 870 hours above the original 90% design effort incorporating an additional 44 engineered drawings to project plans. Some of the justification, as reviewed by City staff and found appropriate include:

- Project coordination due to project extension of six months.
- Olympic Club south sewer re-location design changes evaluating alternatives to connect to existing available sewer capacity in Westpark neighborhood or new pump station and force main to northern lateral connection to San Francisco.
- Diversion Structure re-design to incorporate passive flow operation instead of active operation. Design modifications eliminated canal gates but added two new weirs designed from additional hydraulic analysis in support of a passive system. Passive hydraulic system was deemed more appropriate by staff than having to require operator input or changing of gates during a storm event.
- Collection Box Sediment Trap modifications to address maintenance and operational issues. Sediment trap will require access for a vacuum truck to clean and specifications were amended to include ramp access. City staff also requested design changes to a removal bar rack away from planned gross screening removal devices to the collection box. Changes to the Collection Box also required changes to Wetlands Cell A.
- Outfall structure was amended to incorporate drawings for lined HDPE pipe for further

reinforcement with an existing HDPE lined pipe section downstream of the Outfall structure toward the ocean.

- Beach Outlet Structure incorporated City staff changes to the concrete apron at the outlet along with addition of a side access hatch/door on the south side.
- Nike Missile Silo backfill and restoration of area to match existing parking lot at Fort Funston has been added to project scope in keeping with a negotiation with National Park Service staff in compiling a Special Use Permit for the Vista Grande Project.

In addition to project management, consultant staff incorporated new design cost estimates, constructability and risk analysis, and support to city staff.

### **Fiscal Impact**

There is sufficient funding in the amount of \$189,473 from Sanitation District Fund Balance to cover the additional 90% design costs as provided by the consultant team bringing the total 90% design contract cost to \$3,178,373.

Staff is available to answer any questions or to provide additional information to the members of the NSMCSD Board.

Respectfully submitted,



Thomas J. Piccolotti,  
Director of Water & Wastewater Resources