

AGENDA

**REGULAR MEETING OF THE BOARD OF COMMISSIONERS
VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY (VWRA)
Victorville City Hall – Conference Room “D”, 14343 Civic Drive, Victorville, CA
92392
Phone: (760) 246-8638**

MEETING DATE: Thursday, August 17, 2017 **TIME: 8:00 AM (Closed Session)**
8:30 AM (Regular Session)

CALL TO ORDER

PUBLIC COMMENTS – CLOSED SESSION AGENDA

CLOSED SESSION

CLOSED SESSION: During the course of conducting the business set forth on this agenda as a regular meeting of the Board, the Chair may convene the Board in closed session to consider matters of pending real estate negotiations, pending or potential litigation, or personnel matters, pursuant to Government Code Sections 54956.8, 54956.9, 54957 or 54957.6, as noted. Reports relating to (a) purchase and sale of real property; (b) matters of pending or potential litigation; or (c) employment actions, or which are exempt from public disclosure under the California Public Records Act, may be reviewed by the Board during a permitted closed session and are not available for public inspection. At such time the Board takes final action on any of these subjects, the minutes will reflect all required disclosures of information.

CONFERENCE WITH LEGAL COUNSEL-POTENTIAL LITIGATION (Gov. Code Sec. 54956.9(d) (2)):

- 1. Threatened or Pending Litigation – Flow Diversion**
- 2. Threatened or Pending Litigation- Upper Narrows Project**

CONFERENCE WITH LEGAL COUNSEL—EXISTING LITIGATION- (Gov. Code Sec. 54956.9 (1)(D)):

- 3. Valles v. VWRA et al, Case No. 5:15-CV-02297**

CONFERENCE WITH LEGAL COUNSEL-REAL PROPERTY NEGOTIATOR (Govt. Code Sec. 54956.8)

- 4. Agency Negotiators: Logan Olds, General Manager; Piero Dallarda, Best Best Krieger
Negotiating Party/Parties: City of Adelanto and G. Michael Milhiser
Under Negotiation: Real Property**

REGULAR SESSION

CALL TO ORDER & PLEDGE OF ALLEGIANCE

REPORT FROM CLOSED SESSION

PUBLIC COMMENTS – REGULAR SESSION AGENDA

ANNOUNCEMENTS AND CORRESPONDENCE:

- 5. Possible conflict of interest issues**
- 6. OIG Report: New Orleans**
- 7. Article: Want to Cut Your Carbon Footprint?**
- 8. Article: The Most Indestructible Animal on Earth**
- 9. Award: 2017 Better Project Award**

CONSENT CALENDAR:

- 10. Approve July 2017 Disbursement Registers**
- 11. Approve Minutes from the July 20, 2017 Regular Meeting**
- 12. Recommendation to Approve Professional Services for Larry Walker & Associates for Assistance with NPDES Permit Renewal**
- 13. Recommendation to Approve Amendment of Professional Services for Larry Walker & Associates for 2017 Regulatory Assistance**

ACTION & DISCUSSION ITEMS:

- 14. Recommendation to Award Professional Service Agreement to Biogas Engineering for Media Replacement**
- 15. Recommendation to Award Engineering Services for Desert Knolls Wash**

STAFF/PROFESSIONAL SERVICES REPORTS:

- 16. Financial and Investment Report –July 2017**

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- 17. Operations & Maintenance Report – July 2017**
- 18. Environmental Compliance Department Reports – July 2017**
- 19. Septage Receiving Facility Reports – July 2017**
- 20. Safety & Communications Report – July 2017**
- 21. Construction Report – July 2017**

NEXT VVWRA BOARD MEETING:

Thursday, September 21, 2017– Regular Meeting of the Board of Commissioners

FUTURE AGENDA ITEMS

Leave Policy

COMMISSIONER COMMENTS

ADJOURNMENT

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Agenda Posting: In accordance with the requirements of California Government Code Section 54954.2, this agenda has been posted in the main lobby of the Authority's Administrative offices not less than 72 hours prior to the meeting date and time above. All written materials relating to each agenda item are available for public inspection in the office of the Board Secretary.

Items Not Posted: In the event any matter not listed on this agenda is proposed to be submitted to the Board for discussion and/or action, it will be done in compliance with Section 54954.2(b) as an emergency item or because there is a need to take immediate action, which came to the attention of the Board subsequent to the posting of the agenda, or as set forth on a supplemental agenda posted in the manner as above, not less than 72 hours prior to the meeting date.

Public Comments: Any member of the public may address the Board of Commissioners on specific agenda items or matters of general interest. As determined by the Chair, speakers may be deferred until the specific item is taken for discussion and remarks may be limited to five minutes. Persons desiring to submit paperwork to the Board of Commissioners shall provide a copy of any paperwork to the Board Secretary for the official record.

Matters of Interest addressed by a member of the public and not listed on this agenda cannot have action taken by the Board of Commissioners except as authorized by Section 54954.2(b). If you wish to speak, please complete a Speaker's Form (located at the table in the lobby outside of the Board Room) and give it to the Board Secretary prior to the start of the meeting.

If any individual wishes to challenge an action of the Commission in court, he or she may be limited to raising those issues that were raised at the public hearing pertaining to the Commission's actions, or in any written correspondence delivered to the Commission on or prior to the public hearing.

Consent Calendar: All matters placed on the Consent Calendar are considered as not requiring discussion or further explanation and unless any particular item is requested to be removed from the Consent Calendar by a Commissioner, staff member or member of the public in attendance, there will be no separate discussion of these items. All items on the Consent Calendar will be enacted by one action approving all motions, and casting a unanimous ballot for resolutions included on the consent calendar. All items removed from the Consent Calendar shall be considered in the regular order of business.

The Chair will determine if any items are to be deleted from the Consent Calendar.

Items Continued: Items may be continued from this meeting without further notice to a Committee or Board meeting held within five (5) days of this meeting per Government Code Section 54954.2(b)(3).

Meeting Adjournment: This meeting may be adjourned to a later time and items of business from this agenda may be considered at the later meeting by Order of Adjournment and Notice in accordance with Government Code Section 54955 (posted within 24 hours).

Accommodations for the Disabled: In compliance with the Americans with Disabilities Act (ADA), the Board of Commissioners Meeting Room is wheelchair accessible. If you require any special disability related accommodations, please contact the Victor Valley Wastewater Reclamation Authority Board Secretary's office at 760-246-2892 at least 72 hours prior to the scheduled meeting. Requests must specify the nature of the disability and the type of accommodation requested.

OFFICE OF INSPECTOR GENERAL

FEMA Should Disallow \$2.04 Billion Approved for New Orleans Infrastructure Repairs



Homeland
Security

**July 24, 2017
OIG-17-97-D**



DHS OIG HIGHLIGHTS

FEMA Should Disallow \$2.04 Billion Approved for New Orleans Infrastructure Repairs

July 24, 2017

Why We Did This Audit

The Federal Emergency Management Agency (FEMA) awarded the City of New Orleans (City) and the Sewer & Water Board of New Orleans (S&W Board) \$785 million to repair damages to infrastructure. FEMA approved an additional \$1.25 billion to the City and the S&W Board to complete infrastructure repairs.

What We Recommend

FEMA should disallow \$2.04 billion—the initial award of \$785 million, plus the additional \$1.25 billion award.

For Further Information:

Contact our Office of Public Affairs at (202) 254-4100, or email us at DHS-OIG.OfficePublicAffairs@oig.dhs.gov

What We Found

FEMA should not have awarded the City and S&W Board the initial \$785 million, or the additional \$1.25 billion to complete the repairs to damaged infrastructure, because the damages were not eligible for Federal disaster assistance funding. Even though FEMA attributed the damages to the water distribution system directly to Hurricanes Katrina and Rita in 2005, we concluded that FEMA did not have sufficient documentation to support its decision. In fact, evidence shows that the infrastructure was old and in poor condition even before the hurricanes.

Eligibility for FEMA funding requires that damages be the direct result of the declared disaster, and it is the applicant's responsibility to show that the damages are disaster-related.

FEMA's Response

FEMA disagreed with our conclusions and did not concur with our recommendations.



OFFICE OF INSPECTOR GENERAL

Department of Homeland Security

Washington, DC 20528 / www.oig.dhs.gov

July 24, 2017

MEMORANDUM FOR: Tony Robinson
Regional Administrator – Region VI
Federal Emergency Management Agency

John E. McCoy II

FROM: John E. McCoy II
Acting Assistant Inspector General
Office of Emergency Management Oversight

SUBJECT: *FEMA Should Disallow \$2.04 Billion Approved for New Orleans Infrastructure Repairs*
Audit Report Number OIG-17-97-D

We audited the eligibility of Federal Emergency Management Agency (FEMA) funds awarded to the City of New Orleans (City) and the Sewerage and Water Board of New Orleans (S&W Board) under Hurricanes Katrina and Rita, which occurred in August and September 2005, respectively.¹ The awards provided 100 percent FEMA funding for eligible infrastructure repairs. The objective of this audit was to determine whether the additional work to complete infrastructure repairs estimated at \$1.25 billion is eligible under applicable Federal statutes and regulations and the Public Assistance Program.

Background

On August 29, 2005, and September 24, 2005, the President declared major disasters in Louisiana for damages from Hurricanes Katrina and Rita, respectively. The hurricanes caused levees to breach, flooding portions of the City and surrounding parishes. In 2006, FEMA began approving projects and cost estimates for the S&W Board to repair sewer and water systems and the City to repair the streets associated with the water system repairs, collectively known as infrastructure repairs. As of December 2015, FEMA had approved \$784.9 million in infrastructure related projects. Table 1 shows the approved funding and expenditures as of January 2016.

¹ A letter entitled “*Charging of Costs Between Hurricanes Katrina and Rita*,” September 29, 2005, “Permanent Work,” states, “If the Parish was declared for both Katrina and Rita, and the claimed damages can be attributed to a specific event, projects should be submitted under that disaster declaration. If the damages cannot be attributed to a specific event, such as a single facility being damaged by both storms without inspection between the storms, projects will be submitted under the Katrina declaration.” Therefore, FEMA submitted projects for both entities involved in this audit under Katrina.



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**Table 1: Approved Funding and Expenditures for
New Orleans Infrastructure Projects**

Applicant	Approved Funding (in millions)	Expenditures as of January 2016 (in millions)
City of New Orleans	\$409.2	\$42.0
Sewer and Water Board of New Orleans	\$375.7	\$51.3
Totals	\$784.9	\$93.3

Source: City of New Orleans and the Sewer & Water Board of New Orleans

In 2013, 8 years after the disaster, FEMA, the State of Louisiana Governor's Office of Homeland Security and Emergency Preparedness, the City, and the S&W Board began meeting to negotiate a project to complete the City's infrastructure repairs. In March 2015, the City and the S&W Board, in a "Joint Infrastructure Recovery Request" (Recovery Request), proposed to FEMA an additional \$2.03 billion. In December 2015, FEMA concluded that an additional \$1.25 billion was eligible, and in July 2016, approved two fixed-cost estimate alternative procedures projects to complete the infrastructure repairs. Table 2 illustrates these funding obligations and proposals.

Table 2: Total Obligated and Proposed Funding (in millions)

Applicant	Prior Funding	Proposed Additional Funding (New Orleans and S&W Board Request)	Additional FEMA-Approved Funding	Prior Funding Plus Additional FEMA-Approved Funding
City	\$ 409	\$ 1,810	\$ 1,121	\$ 1,530
S&W Board	376	219	129	505
Total	\$785	\$2,029	\$1,250	\$2,035

Source: FEMA

Following the disasters, the pressure in the water system dropped and the amount of water leaking from the system increased². FEMA committed to restore the water distribution system back to pre-Katrina levels, and one of the

² These changes were included in a 2008 study conducted by the National Infrastructure Support Technical Assistance Consultants (NISTAC), an engineering firm that was retained by FEMA to conduct studies of the S&W Board water distribution system.



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immediate actions was to address the known leaks in the system. Between 2007 and 2009, the S&W Board was able to restore the pressure in the water system to near pre-Katrina levels. Nevertheless, the amount of water leaking from the system continued to be above the pre-Katrina level. As a result, the City, S&W Board, and FEMA began to discuss an alternative approach that would require more aggressive repair and replacement activities. These discussions led to the Recovery Request.

During our audit, we met with FEMA officials several times between January 12, 2016 and May 24, 2016 to discuss the issues surrounding the additional \$1.25 billion proposed for completing the infrastructure repairs and expressed our concerns that the majority of infrastructure damages may have preceded Hurricanes Katrina and Rita. However, on July 20, 2016, FEMA officials awarded an additional \$1.25 billion to the City and the S&W Board to complete repairs to the infrastructure.

Results of Audit

Although FEMA attributed the damages to the water distribution system directly to the disasters, we concluded that FEMA did not have sufficient evidence to support its decision. The demonstration of direct cause is necessary for work to be considered eligible for Federal disaster assistance funding, as required by the *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (Stafford Act) and FEMA's own policies. As a result, FEMA should not have awarded the initial \$785 million, or the additional \$1.25 billion to complete the repairs.

In most cases, it is the applicant's responsibility to provide evidence showing direct cause and it is FEMA's responsibility to determine eligibility. However, this did not occur because FEMA was working directly with the sub-grantees to repair leaks and return the water distribution system to its pre-Katrina functionality. While some damages, such as water lines disrupted by uprooted trees, can be directly attributable to the disaster, these types of damages have already been repaired, and paid for by FEMA, as a result of the efforts of the S&W Board to address water losses by repairing leaks in the water system. Nevertheless, the broad scope of work covered by the FEMA award, which we question, functionally replaces the infrastructure of an aging and poorly maintained system of sewer, water, and roads. This massive investment – representing almost \$5,200 for every man, woman, and child in New Orleans – while perhaps sorely needed, is not eligible for a FEMA disaster grant because there is no evidence that the damage was caused as a direct result of the storms.



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Criteria for Work To Be Eligible for Federal Disaster Assistance Funding

The *Stafford Act* provides the statutory authority for Federal disaster response activities and for FEMA's disaster assistance programs for a community's recovery. FEMA's emergency and disaster assistance programs are implemented at 44 Code of Federal Regulations (CFR) Part 206.

Section 406 of the *Stafford Act* authorizes the President to "make contributions ... to a State or local government for the repair, restoration, reconstruction, or replacement of a public facility damaged or destroyed by a major disaster... ."

The general eligibility of a scope of work is addressed in 44 CFR § 206.223 (a) (1): "an item of work must: ... [b]e required as the result of the emergency or major disaster event...."

FEMA guidance further develops the criteria for eligibility of a scope of work. FEMA 322 Public Assistance Guide (PA Guide) states that "work must be required as a direct result of the declared disaster ... Damage that results from a cause other than the designated event, or from pre-disaster damage is not eligible." Furthermore, the PA Guide states that "where damage can be attributed to the disaster instead of lack of maintenance, repairs are eligible. It is the applicant's responsibility to show that the damage is disaster related."

Poor Condition of Infrastructure Before the Disasters

Water, Wastewater and Drainage Systems

New Orleans' water, wastewater and drainage systems were very old and in poor condition prior to Hurricanes Katrina and Rita. In 2003, 30 percent of the water mains were close to 100 years old, about one third were between 40 and 100 years old, and only a third were newer than 40 years. After the hurricanes passed through New Orleans, the S&W Board retained an engineering firm to prepare a report identifying the capital needs of the S&W Board assets over the near, medium and long terms. The report, titled *Report on Current and Future Capital Needs 2006* (December 2006)((2006 Capital Needs report), identified the water, wastewater and drainage systems, along with power generators, as the primary assets of the S&W Board. The report recognized that "these systems...represent billions of dollars of infrastructure, some of it over a century old."



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As we discuss below, the water system was leaking badly prior to Katrina, with “unaccounted for water,” a rough barometer of the health of the system, at 3 ½ times the national average. This is further evidence of an aged system on the cusp of failure.

The 2006 Capital Needs report contemplated that the bulk of the funds needed to rebuild the sewer and water system would have to come from a source other than FEMA, estimating that FEMA-eligible repairs would total only approximately \$272 million, which the report estimated to be 90 percent of all the hurricane damage costs that are identified as potential FEMA projects.

We requested maintenance records and other documentation that might provide evidence of pre-disaster conditions, but most of the documentation provided was related to a 1998 lawsuit with the Environment Protection Agency for recurring violations of discharging pollutants into the Mississippi River, and did not satisfy our request. Upon further follow-up by the Office of Inspector General (OIG) for information, the S&W Board claimed that its records were destroyed during Hurricane Katrina. FEMA staff claimed that S&W Board gave them access to an electronic work order system, and they conducted an extensive review of work orders from 2003 and 2004. However, FEMA did not document the review, prepare any documentation to support their analysis and conclusions, or prepare a report. Nor could they tell us the backlog of work orders. As a result, we are unable to review the work to determine the accuracy or completeness of the information or determine what steps were taken to verify the reliability of the data. Furthermore, there is no documentation available to establish the pre-disaster condition of the water distribution systems. We are additionally troubled by the S&W Board’s representations that the records were destroyed in the storm, which is contradicted by FEMA personnel recounting their access to an electronic work order system.

The lack of auditable records is significant. According to the PA Guide, damages that are the result of deferred maintenance are not eligible, and the PA Guide further advises FEMA staff to review pre-disaster maintenance records to determine whether the asset in question was properly maintained.

In fact, FEMA has denied claims based on the lack of maintenance records. Following Hurricane Irene in 2011, the Village of Waterford, New York, concluded that several streets were inundated with flood waters for several days, causing damage that should be eligible for FEMA funding. In assessing the claim, FEMA repeatedly requested street maintenance records, which the village never



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produced. FEMA concluded that the lack of records, in conjunction with interviews of local residents, indicated a lack of pre-disaster maintenance. As a result, FEMA denied the village's appeal for eligibility of the street damage because of the lack of pre-disaster maintenance records and the fact that the village could not provide evidence that the storm caused the damage. FEMA ruled that damage caused by deferred maintenance is not eligible for funding because it did not meet the criterion of being disaster-related. This ruling was upheld on appeal.

Pre-disaster Annual Reports Show S&W Board Recognition of an Aging System

The S&W Board, in the years before the storm, recognized that the aging sewer and water systems would require a significant infusion of capital. In the transmittal letter to the Comprehensive Annual Financial Report (CAFR) for the year ended December 31, 2004, the Executive Director and the Utility Financial Administrator reported to the president and members of the S&W Board that the S&W board had developed a water system model that predicted "capital improvements needed over the next 40 years at 3.4 billion dollars." This amount compares closely with details in the 2006 Capital Needs report, which identifies a Distribution System Rehabilitation Program, valued at \$3.2 billion over 25 years. Clearly, the S&W Board identified the need to address its aging assets even before the disasters.

A review of the Management's Discussion and Analysis section of the CAFRs show that the S&W Board had established a 5-year capital improvement program before the disasters in 2005 (see table 3). We noted this program budget beginning with the 2002 CAFR, which is the first CAFR available on the S&W Board website.

The S&W Board reported a 5-year capital improvement program budget of \$1.9 billion in the 2004 and 2005 CAFRs. This amount corresponds very closely with the \$1.89 billion identified as needed in the near term in the 2006 Capital Needs report.



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Table 3: S&W Board 5-year Capital Improvement Program Budgets

CAFR	Total	Water	Sewer	Drainage
	(\$ in Billions)	(\$ in Millions)		
2002	\$1.2	\$274.9	\$406.2	\$515.7
2003	1.6	484.6	528.8	586.6
2004	1.9 ³	510.6	851.1	614.9
2005	1.9	426.0	738.1	736.7
2006	2.0	404.0	825.2	802.3

Source: Comprehensive Annual Financial Reports posted on the S&W Board website

In the years before the storm, the S&W Board recognized that its systems required major repairs or replacement. New Orleans' systems were reaching a failure point as a result of age and would have to be replaced.

FEMA's Position – Katrina Was the Cause of Damages

FEMA concluded that the damages to the water distribution system were directly caused by the disaster and that the repairs are eligible for Federal disaster assistance. FEMA attributed the damages to the water distribution system to a phenomenon known as “water hammer” and pointed to key metrics that showed the water distribution system was more efficient before the disasters than after the disasters.

Water Hammer Effect

Water hammer occurs when there is a sudden change in water direction or velocity. When this happens, shock waves, or pressure fluctuations, are created and travel back and forward through the system. These fluctuations can be severe enough to damage pipes, fittings, valves, and water mains.

The pumps at the water treatment facility stopped pumping water into the system when the power to the City of New Orleans went out, and the S&W Board's backup power supplies were inoperable as a result of the disaster. FEMA staff explained that the power failure dramatically reduced the pressure into the water distribution system and caused water hammer. Yet, FEMA did not conduct a

³ The amounts for 2004 that are allocated to the major individual components of the capital improvement program, when added together, exceed the totals reported.



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study to establish where the water hammer occurred or identify the specific damage caused by water hammer.

Furthermore, during our review, FEMA's own subject matter expert for sewerage and water systems told the audit team there was no logical way to know exactly what storm caused what leaks in the system. A similar opinion was documented in a report prepared for the S&W Board in 2006: "To date, the S&WB [S&W Board] has not identified a single major source of the leakage ... [and] it is difficult to determine the location of specific leaks caused by Hurricane Katrina."

Key Metric of the Water Distribution System – Water Pressure in the System

Prior to Hurricane Katrina, water was pumped into the water distribution system at a pressure of between 68 and 69 pounds per square inch (psi). The engineering firm that FEMA retained to conduct studies of the S&W Board water distribution system, National Infrastructure Support Technical Assistance Consultants (NISTAC) reported in a March 2010 study that the "pressures were as high as 72 psi in January 2005 but they were in the 68 to 69 psi range in August 2005 before Katrina."

NISTAC reported that the pressure entering the distribution system at the water treatment plant ranged from 60 to 65 psi for the first few years following Katrina. It was not until 2011 that the pressure reached a level similar to pre-disaster levels.

NISTAC evaluated the water consumption, plant discharge volume and plant discharge pressure for the period from April 1, 2011 through October 31, 2011. The findings indicate that the Sewerage and Water Board of New Orleans (S&WBNO) has restored water pressure leaving the plant to its pre-disaster levels, averaging slightly more than 70 pounds per square inch (PSI) over the study period and, achieving levels similar to those found pre-disaster. Water production from the plant varied from month to month, as did consumption. This yielded a variation in UFW ranging from 93 to 101 million gallons per day (MGD), with an average of 98 MGD. The daily average production.

Source: 2011 NISTAC study

In 2007, the S&W Board established a program that focused on identifying and repairing leaks. As a result, the repairs through this program, as well as other FEMA-funded projects, helped return the system pressure to the pre-disaster levels.



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Another Key Metric - Unaccounted For Water

Unaccounted For Water (UFW) is the difference between the amount of water pumped into the system and the amount of water that is consumed or used. The consumed water is typically measured by water meters. Generally, the difference is the result of public use, such as water fountains, schools, water used to fight fires, and waste or leaks.

Before Hurricane Katrina, UFW averaged about 60 million gallons a day. In other words, more than 50 percent of the water that was pumped into the system was either leaking out or was used for unbilled public purposes. To give a sense of the poor condition of the New Orleans system prior to Katrina, the national average water loss in audited water systems was 16 percent. A NISTAC study released in November 2011 said that S&W Board “staff reported that line breaks ... continue to be a problem.” It concluded, however, that this was not surprising, given the age of the system.

The S&WBNO continues to make repairs to the distribution system. Their staff reported that line breaks in the system itself continue to be a problem. This is not surprising given the age of the system (almost 30 percent of the mains were close to 100-years old in 2003 and only one third was less than 40-years old according to a 2006 S&WBNO report).

The most likely cause of the increased UFW is related to the pressure increase and continued problems with line breaks within the distribution system. It is likely that the increased pressure is also causing additional line breaks in pipe segments that were borderline prior to the pressure increases. Other possible major sources for increased UFW include water used for major fires. However, NISTAC has seen no indication that such fires were significant factors.

Source: 2011 NISTAC study

Taking into account that the water pressure had decreased and the UFW had increased following Hurricane Katrina, FEMA reasoned that this was sufficient evidence to conclude the disaster had caused damage to the water distribution system. Aside from these system metrics, FEMA did not have any concrete evidence that proved that Hurricane Katrina directly caused specific damages.

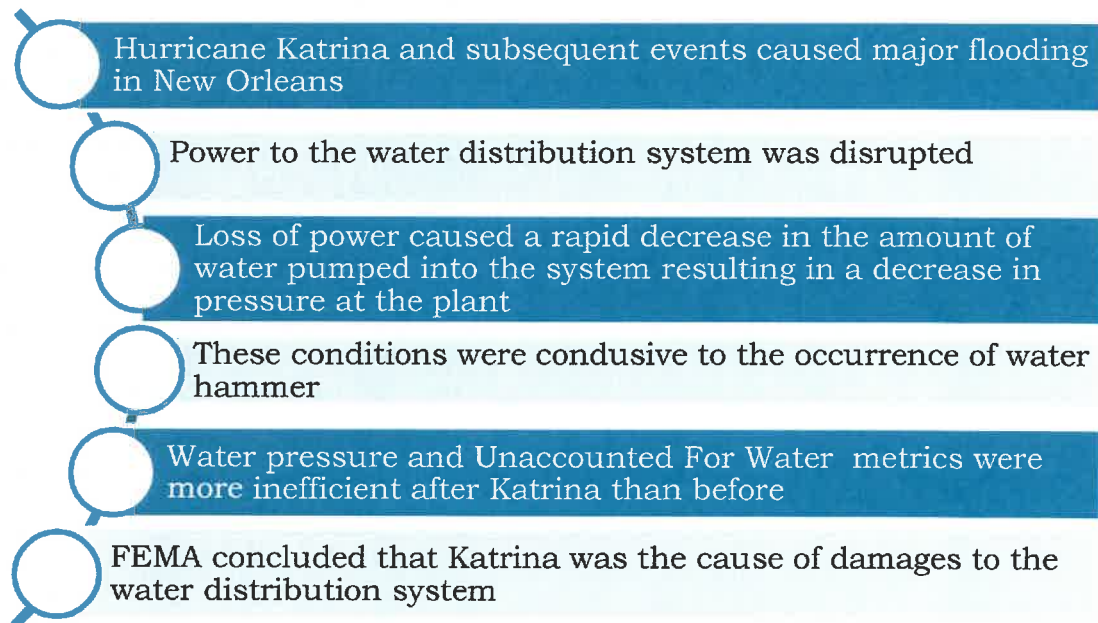


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FEMA Concluded that Hurricane Katrina Caused Damages to the Water Distribution System

FEMA concluded that the damages to the water distribution system were directly caused by the disaster by relying on the scientific phenomenon of water hammer, combined with the evidence that the post-disaster system metrics were more inefficient than the pre-disaster data. As a result, FEMA further concluded that the damages are eligible for Federal disaster assistance.

Figure 1. FEMA's Assumptions of the Sequence of Events Leading to Conclude that Katrina Caused the Damages to the Water Distribution System



Source: Prepared by DHS OIG

We believe FEMA used circular logic to conclude that Katrina directly caused damages to the water distribution system. Specifically:

- even though FEMA relies on the post-disaster water system metrics to conclude that Katrina damaged the system, it is unable to identify specific damages that are attributable to the storm; and



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- FEMA concluded that water hammer occurred because conditions in the water system were favorable to the occurrence; however, it is unable to tie specific damages in the water system to water hammer.

FEMA bases its conclusion on two undocumented conditions as cornerstones to its argument that the damages were the direct cause of Katrina. However, it did not take into account other factors such as the poor condition of the infrastructure before the disaster and prior storms that may have impacted the infrastructure. Considering the amount of taxpayer funds at stake, we believe FEMA should be particularly diligent to ensure that its decision-making is accurate and that its conclusions can be validated. Since FEMA is unable to provide evidence to support the underlying foundation of its position, subsequent conclusions are unsupported. As a result, FEMA cannot prove that the system-wide damages are eligible for disaster assistance.

Pre-Disaster Roads Were Old and In Need Of Repair

Roads and Pavement

A private, nonprofit, independent research organization, the Bureau of Governmental Research (BGR), conducted a review of the New Orleans roadway infrastructure. The report entitled, "*Street Smarts - Maintaining and Managing New Orleans' Road Network*," issued in October 2008, noted deficiencies in the condition of the roadways in New Orleans and identified actions that could be taken to address the declining infrastructure.

The report highlighted the results of a New Orleans street survey completed in 2004:

- 32 percent of the City's streets needed major rehabilitation or total reconstruction, and
- Another 34 percent needed immediate maintenance.

The 2008 Street Smarts report also noted the significant lack of maintenance for the New Orleans street system. New Orleans was spending only about \$3 million per year for road maintenance when its own Department of Public Works estimated that the annual maintenance budget should be in the range of \$40 to \$45 million per year. Baton Rouge, a similar size road system, spends \$26 million per year – or about nine times that of New Orleans.



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Similarly, an engineering study by Burns Cooley Dennis (BCD), commissioned by NISTAC, FEMA's technical assistance contractors, noted that, in 2005, 62 percent of the roads in the New Orleans Road-Year-Database were older than their 20-year design life. Therefore, at the time of Hurricane Katrina, only 38 percent of the roads were within their 20-year design life. By 2015, only 21 percent of the roads in the New Orleans Road-Year-Database were within their design life.

City Conducts a Study of the Roads – 10 Years after the Disaster

Additionally, the City retained an engineering and consulting firm, Stantec, to conduct a study to assess the extent of the damages to the City of New Orleans pavements caused by Hurricane Katrina. This report, issued in February 2016, expressed concerns that, because of the flooding and the heavy traffic of large, heavy vehicles associated with the recovery operations, the roads may have damages that have not yet been identified. However, the FEMA engineering firm discounted this study, finding that "data provided to date has caused more questions than provided answers." Moreover, BCD concluded that it was a "major concern" that Stantec did not know the pavement conditions pre-Katrina and only had road data from 2015, 10 years after the storms, a period which represents half of a road's design life.

BCD concluded in its Pavement Study:

"Given the high water table in the City, the lack of pavement maintenance, the number of pavements past their design life, the poor condition of the pavements, and the lack of pre-storm pavement condition data, it is BCD's opinion that the identification of undetected damage caused specifically by Hurricane Katrina cannot be determined a decade after the storm."

Pre-Disaster Maintenance Records Not Available

OIG requested maintenance records and other documentation to establish the condition of the roads and pavements prior to the hurricanes, as FEMA typically requests to determine eligibility. However, as with the sewer and water maintenance records, the City claimed that its records were destroyed during Hurricane Katrina. As a result, we have no basis to form an opinion on the pre-disaster condition of the roads.



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Conclusion

Neither the City nor the S&W Board provided evidence that the disasters were the direct cause of the infrastructure damages. Furthermore, since FEMA worked directly with the S&W Board to return the water distribution system to its pre-disaster condition, it was unable to independently evaluate or validate the documentation that demonstrated the damages were directly caused by the hurricanes. FEMA ultimately concluded that the damages were caused by the hurricanes, citing conditions favorable to the occurrence of a physics phenomenon and post-disaster system metrics as evidence, even though it was unable to identify damages directly caused by water hammer or the direct causes of the changes in the system metrics following the disasters.

The criterion for work to be eligible for Federal disaster assistance is that the damages must be a direct result of the declared event. We concluded that FEMA and the sub-grantees failed to meet the criteria required for eligibility.

Therefore, FEMA should deobligate the initial award of \$785 million and deobligate the additional \$1.25 billion awarded to the applicants to complete the pre-existing damaged infrastructure repairs not directly caused by the storms.

Recommendations

We recommend that the Regional Administrator, FEMA Region VI:

Recommendation #1: Disallow as ineligible the additional \$1.25 billion (Federal share \$1.25 billion) awarded to the City and the S&W Board to complete the infrastructure repairs unless the City and S&W Board provide credible evidence that Hurricane Katrina and/or Hurricane Rita caused the damage.

Recommendation #2: Disallow as ineligible \$784.9 million awarded to the City and S&W Board for infrastructure repairs, unless the applicants provide credible evidence that Hurricane Katrina and/or Hurricane Rita caused the damage.



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Discussion with Management and Audit Follow-up

We discussed the results of our audit with City, S&W Board, Louisiana, and FEMA officials during our audit. We also briefed FEMA officials of our findings and recommendations on May 24, 2016. In August 2016, we learned that FEMA obligated an additional \$1.25 billion for the City and S&W Board to complete infrastructure repairs, on July 20, 2016. We revised our earlier draft report accordingly and provided it to FEMA officials on August 18, 2016. FEMA Region VI officials responded on September 17, 2016. In its response, FEMA disagreed with our findings and recommendations.

On April 27, 2017, we met with FEMA officials to understand FEMA's eligibility determinations. As a result of our discussions, we revised the draft report to incorporate information shared by FEMA and provided a revised draft to FEMA on June 9, 2017. FEMA provided technical comments and we incorporated those comments into the report as necessary. We met again with FEMA officials on July 6, 2017 to address questions raised by FEMA. On July 20, 2017, FEMA provided management comments to our draft report, which is included as appendix C to this report.

FEMA Response

FEMA did not agree with our conclusions and did not concur with our recommendations.

OIG Analysis and Conclusion

Although FEMA reported that damages to the water distribution system and roads were eligible for disaster assistance, our review of the documentation provided did not indicate that the S&W Board, the City or FEMA showed that the damages were the direct result of Katrina and/or Rita. This causation is crucial in determining the eligibility of damages for disaster assistance under the *Stafford Act*. As a result, we concluded that the damages are ineligible and FEMA should: recover the initial funding provided to the S&W Board and the City for repairs to the water distribution system and related roads; and deobligate the funding awarded to the S&W Board and the City under the Joint Infrastructure Recovery Request.



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We are concerned that FEMA did not appear to consider the pre-storm condition of the water distribution system - fragile and aging - with a third of the system close to 100 years old and another third more than 40 years old. As we stated earlier in our report, before Hurricane Katrina, the UFW averaged about 60 million gallons a day. In other words, more than 50 percent of the water pumped into the system was either leaking out or was used for unbilled public purposes. To give a sense of the poor condition of the New Orleans system prior to Katrina, the national average water loss in audited water systems was 16 percent.

The poor condition of the system was further echoed by a NISTAC study released in November 2011 that reported to the S&W Board "staff reported that line breaks ... continue to be a problem." The study concluded, that this was not surprising, given the age of the system.

Coincidentally, the pre-storm condition of the roads and pavements was in a similar state of disrepair - two-thirds of the City streets needed immediate maintenance, major rehabilitation or total reconstruction. It is not surprising that neither the S&W Board nor the City offered any documentation to establish the pre-storm condition of its assets.

Furthermore, FEMA did not provide evidence that it:

- established or considered the pre-storm conditions of the water distribution system or the roads and pavements in its eligibility determination, or
- documented the steps it took to reach its eligibility decision.

In its management response to our draft report, which is attached as appendix C, FEMA asserted that it documented in its project work sheets as well as the additional funding requests that the repairs were required as a direct result of the declared disaster. However, we determined that the project worksheets and FEMA's Joint Infrastructure Recovery Request report dated May 3, 2006 did not support how FEMA reached its eligibility decision. FEMA asserted that it "gathered, reviewed, and considered available information to discern the pre-disaster condition of the New Orleans infrastructure to identify disaster-related damage and eligible repair work", but failed to explain in detail what evidence it used to make its decision.



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In its response, FEMA claimed it “consulted with its professional engineering staff and other subject matter experts (SME) who specialize in engineering, utilities, pavements, soils, and construction, to independently assess and review the New Orleans infrastructure damage” but failed to document the details of how it reached its decision.

As part of our review, we reviewed and analyzed engineering reports and studies FEMA commissioned on the water and sewer systems. None of these reports directly attributed the damages to Katrina, and FEMA’s own engineering staff told us that it was not possible to attribute specific damages to Katrina. FEMA’s roads and pavement experts pointed out there were no records to establish the pre-storm condition of the roads and that two thirds of the roads and pavements were in a state of disrepair before Katrina. In our opinion, none of the facts established by FEMA’s “professional engineering staff and other subject matter experts ... who specialize in engineering, utilities, pavements, soils, and construction...” support FEMA’s position.

In its response, FEMA noted, “Regardless of its age, the New Orleans infrastructure was functioning to serve a population of 445,000 prior to Hurricane Katrina.” While the statement regarding service to the population may be true, FEMA downplays the importance of the age of the system. More importantly, FEMA ignores the efficiency of the system by neglecting to address the fact that prior to Hurricane Katrina, the water system’s unaccounted for water volume represented more than half of its contents on a daily basis and was in dire need of repair. Furthermore, prior to the storm, the S&W Board in its 5-Year Capital Improvement Plan, a part of its Consolidated Annual Financial Report recognized that its systems were reaching a failure point as a result of age and would require major repairs or replacement.

Although FEMA responded that it documented that the repairs were required as a direct result of the declared disaster, FEMA did not explain how it reached these conclusions. FEMA’s failure to adequately support its decision that ultimately requires taxpayers to fund a \$2 billion project raises questions of sufficiency of oversight, adequacy of policies and procedures, and adherence to processes.

In contrast to FEMA’s grant approval process, the Department of Homeland Security (DHS) acquisitions undergo a more stringent review and approval process. All major acquisitions exceeding \$300 million must follow a formal acquisitions review process, which culminates in a series of Acquisition Review Board reviews. Additionally, DHS’ Under Secretary for Management, who serves



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as the Chief Acquisitions Officer is responsible for ongoing decision making. This process provides a consistent method to evaluate an acquisition's progress and status at critical points in the acquisition lifecycle. By the time an acquisition completes the second phase of the Acquisition Lifecycle Framework, two Acquisition Decision Events have been conducted.

At a comparable phase in the FEMA public assistance process for the projects under examination in this audit, the documented project approvals were made by a mix of FEMA operational personnel and FEMA contractors. The final signoff of the \$2.04 billion was approved by the FEMA Region VI Administrator and a FEMA contractor approved the project worksheet. It is apparent that FEMA's oversight of the project approval process pales in comparison to DHS' Acquisition Review Board process. This is of significant concern given that the disaster relief fund averages more than \$10 billion per year, and FEMA grants comprise a large portion of those funds.

It is imperative that FEMA follows its own policies and procedures regarding eligibility and fully documents all decisions regarding eligibility determinations. Considering the significant consequences of failing to follow policies and procedures and neglecting to document on-going actions and decisions, we strongly encourage FEMA to revisit eligibility determinations for sewer and drainage damages to ensure that those decisions are supported by clear evidence to demonstrate causation so that disaster relief funds are not awarded for ineligible work.



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Appendix A
Objective, Scope, and Methodology

We audited the eligibility of \$2.04 billion in FEMA funds awarded to the City and the S&W Board under Hurricanes Katrina (Disaster Declaration 1603) and Rita (Disaster Declaration 1607), Public Assistance Identification Numbers 071-55000-00 and 071-06A69-00. This amount includes the initial award of \$784.9 million plus the additional award of \$1.25 billion. The objective of this audit was to determine whether the additional work to complete infrastructure repairs estimated at \$1.25 billion is eligible under applicable Federal statutes and regulations and the Public Assistance Program.

To accomplish our objective, we interviewed FEMA, Louisiana, City, and S&W Board officials; and reviewed and gained an understanding of the City's and the S&W Board's cost estimates to complete infrastructure repairs. We did not assess the adequacy of the City's and the S&W Board's internal controls applicable to their grant activities because it was not necessary to accomplish our audit objective. Except as noted otherwise, our audit covered the period of August 29, 2005, to May 24, 2016.

We conducted this performance audit between January and May 2016 pursuant to the *Inspector General Act of 1978*, as amended, and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based upon our audit objective. To conduct this audit, we applied the statutes, regulations, and FEMA guidelines in effect at the time of the disaster.



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Appendix B
Potential Monetary Benefits

Table 2: Summary of Potential Monetary Benefits (\$ in billions)

Type of Potential Monetary Benefit	Amount	Federal Share
Questioned Cost - Ineligible	\$2.035	\$2.035
Questioned Cost - Unsupported	0.0	0.0
Funds Put to Better Use	0.0	0.0
Totals	\$2.035	\$2.035

Source: OIG analysis of report findings



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Department of Homeland Security

Appendix C
FEMA's Response to Report


U.S. Department of Homeland Security
FEMA Region 6
800 N. Loop 288
Denton, TX 76209



FEMA

July 19, 2017

MEMORANDUM FOR: John E. McCoy II
Acting Assistant Inspector General
Office of Emergency Management Oversight

FROM: 
George A. Robinson
Regional Administrator

SUBJECT: Management's Response to OIG Draft Report: "FEMA Should Disallow \$2.04 Billion Approved for New Orleans Infrastructure Repairs" (Project No. G-16-015)

Thank you for the opportunity to review and comment on this draft report. The Federal Emergency Management Agency (FEMA) appreciates the work of the Office of Inspector General (OIG) in planning and conducting its review and issuing this report.

FEMA agrees with OIG that the criterion for work to be eligible for Federal disaster assistance is that the damage directly resulted from the declared disaster. FEMA respectfully disagrees with OIG's conclusion that FEMA, the City of New Orleans (City), and the Sewerage and Water Board of New Orleans (S&W Board) have not provided evidence that the disasters were the direct cause of the infrastructure damage at issue in this audit. FEMA non-concurs with the following two OIG recommendations:

Recommendation #1: Disallow as ineligible the additional \$1.25 billion (Federal share \$1.25 billion) awarded to the City and the S&W Board to complete the infrastructure repairs unless the City and S&W Board provide credible evidence that Hurricanes Katrina and/or Rita caused the damage.

Recommendation #2: Disallow as ineligible \$784.9 million awarded to the City and S&W Board for infrastructure repairs, unless the applicants provide credible evidence that Hurricanes Katrina and/or Rita caused the damage.

The fundamental issue raised by OIG is causation. While FEMA acknowledges the complexity and level of challenge associated with determining which repair costs were eligible, it disagrees that causation was not established. In determining disaster related damage, FEMA documented in the infrastructure Project Worksheets (PWs) for the City and the S&W Board, as well as the \$1.25 billion in additional funding, that the repairs were required as a direct result of the declared disaster pursuant to Title 44 of the Code of Federal Regulations (C.F.R.) § 206.223(a)(1).¹

¹ The C.F.R. in effect at the time of Hurricane Katrina and applicable to Disaster 1603-LA is dated October 1, 2004.



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Management's Response to OIG Draft Report: "FEMA Should Disallow \$2.04 Billion Approved for New Orleans Infrastructure Repairs" (Project No. G-16-015)

July 19, 2017

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To make those determinations, FEMA gathered, reviewed, and considered available information to discern the pre-disaster condition of the New Orleans infrastructure to identify disaster-related damage and eligible repair work. FEMA assessed the damage attributed to Hurricane Katrina and determined how much of the claimed damage was eligible damage not associated with pre-existing conditions or ineligible post-disaster activities. The assessments included: site visits and reviews of technical documentation based on numerous site inspections performed by roadway engineers and experts; pre- and post-Katrina aerial imagery; pre- and post-Katrina closed-circuit television inspections of sanitary sewer lines; pre- and post-Katrina water loss; repair maintenance history records; debris collection data; flood maps; and consultations with roadway design specialists. In carrying out this process, FEMA consulted with its professional engineering staff and other subject matter experts (SMEs) who specialize in engineering, utilities, pavements, soils, and construction, to independently assess and review the New Orleans infrastructure damage.

From 2005 through 2013 FEMA identified and originally scoped damage to the system representing approximately 20 percent of the total sewer and water infrastructure. FEMA determined the damage to be directly attributable to Hurricane Katrina with an estimated cost of \$784.9 million. Based on the identified damage, FEMA engaged SMEs in May 2015 to review codes and standards to determine repair methodologies and then developed an estimate of \$1.25 billion to complete the New Orleans infrastructure repairs: \$1.121 billion for the City to repair streets² and \$129 million for the S&W Board to repair sewer and water systems. These repairs are necessary to restore the eligible facilities to their pre-disaster design, function, and capacity with current applicable codes and standards as required by 44 C.F.R. § 206.201(g) and 44 C.F.R. § 206.201(h). Accordingly, the repairs approved by FEMA are eligible costs pursuant to applicable law, regulation, and policy.

FEMA notes that based upon the same review process, FEMA PWs also document ineligible scope of work. FEMA denied over \$1 billion in funding requested by the City and S&W Board. The largest FEMA denial was associated with a loss of life study that sought FEMA funding for 3-inches of asphalt overlay of flooded asphalt streets and 8 percent of flooded concrete streets for approximately \$1.498 billion. FEMA also denied nearly \$100 million requested for storm drain replacements.

Throughout the audit process, FEMA provided OIG in-depth documentation and access to its experts to explain the Agency's conclusion that Hurricane Katrina caused eligible damage to the New Orleans infrastructure. Regardless of its age, the New Orleans infrastructure was functioning to serve a population of 445,000 prior to Hurricane Katrina.³ This infrastructure was damaged by Hurricane Katrina and FEMA appropriately limited the approved funding to

² The eligible work to repair the sewer and water systems requires the S&W Board to trench and excavate City streets. Approximately 90 percent of the \$1.121 billion FEMA approved for the City was for street repairs that are a result of the eligible sewer and water repair work. The decision to approve this repair work is consistent with established codes and standards, which include design, material, and application.

³ As of 2015, the population was still not at pre-Katrina levels – only 390,000 residents.



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Management's Response to OIG Draft Report: "FEMA Should Disallow \$2.04 Billion Approved for New Orleans Infrastructure Repairs" (Project No. G-16-015)

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Katrina-related disaster damage. FEMA believes accepting the OIG recommendations would result in an unjustified de-obligation of funding for eligible City infrastructure projects.

Reflective of such, FEMA notes the OIG's draft report focuses on City roads and the S&W Board water distribution system without discussing the S&W Board sewer or the City's drainage systems, both of which are also included within the project. OIG recommends the full recoupment of infrastructure and road repair funding but does not address in its draft report the aggregate scope of its recommendation, which includes funding for sanitary sewer, storm drainage and associated road work.

FEMA employed significant professional engineering and other specialized expertise to assess the damage and documentation associated with the infrastructure for the City and S&W Board. FEMA met several times with OIG to discuss reports and documentation FEMA used to determine eligibility. FEMA made its SMEs available to OIG to answer any questions regarding the technical findings that helped inform the eligibility determinations. FEMA is confident in its eligibility determination and believes it was reached as a result of due diligence by the Agency.

Again, thank you for the opportunity to review and comment on this draft report. Technical comments were provided previously under separate cover. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.



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Department of Homeland Security

Appendix D
Report Distribution List

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Department of Homeland Security
Office of Inspector General, Mail Stop 0305
Attention: Hotline
245 Murray Drive, SW
Washington, DC 20528-0305

Want to Cut Your Carbon Footprint? Get Liquefied When You're Dead

By [Lesley McClurg](#) July 24, 2017

You may not equate death with climate change, but disposing of human remains leaves a fairly hefty [carbon footprint](#).

Supporters of a California bill allowing dead bodies to be dissolved in a hot chemical bath are hoping to overcome the 'ick factor.'

"Cremation is really what people hold up as the environmentally friendly option," says [Caitlin Doughty](#), a mortician in Los Angeles. "It's better than the whole rigmarole of formaldehyde and chemicals and big caskets that go into the more traditional funeral industry, but it still releases mercury into the air, and it uses a whole ton of natural gas."

Plus, Doughty says, cemeteries monopolize land, an increasingly precious resource as the population grows.

Hence the growing popularity of a green alternative, known as water cremation, bio-cremation or flameless cremation. Basically, the body is dissolved in a hot chemical bath, leaving a sterile solution that can be flushed down the drain. The carbon footprint of this process is just a quarter of traditional fire cremation because it uses so much less energy; and only a sixth of a burial because it doesn't require the materials for concrete headstones, mahogany caskets or the chemicals used in embalming.

State lawmakers are considering a [bill](#) that would legalize water cremation. In the last decade, two previous efforts have failed, although the process has been approved in 14 other states, including neighboring Nevada. This year, a third attempt is gaining momentum in California, progressing further in the Legislature than the previous bills.

Not an Acid Bath

There's only one place in California where bodies are currently dissolved — legally, at least. That would be a chilly lab at UCLA, where cadavers that have outlived their usefulness at the medical school end up. The room smells a little like shellfish, which I think might be the smell of melted flesh. But the guy in charge, Dean Fisher, laughs at that notion.

‘This just leaves us questioning. Why did part of grandma go to the waste treatment plant?’ *Ned Dolejsi, Catholic Church spokesman*

Fisher, the head of the university’s [Donated Body Program](#), explains that I’m sniffing potassium hydroxide, a base, and the chemical of choice for liquefying bodies, because it catalyzes the hydrogen in water to more rapidly attack the chemical bonds between molecules in the body. (The process is technically called *alkaline hydrolysis*.)

“So, it’s not an acid at all,” said Fisher. “Some people say this is an acid bath, and they’re wrong.”

Potassium hydroxide is found in the Earth’s crust — and in many household cleaning products. It’s the same chemical that breaks down or composts organic matter in dirt.

“So, like, if you were to bury a body in soil, all we’re doing is we’re speeding that up,” says Fisher. “We’re adding heat to that.”



UCLA’s Dean Fisher opens an alkaline hydrolysis machine that can dissolve bodies. (*Lesley McClurg/KQED*)

A Whirlpool for the Dead

That heat is applied inside a shiny stainless-steel chamber, about the size of a large van. The front of the machine has a circular hatch, modeled after a submarine door. The hatch leads to a

dark tunnel where cadavers are heated to 302 degrees and then bathed in 270 gallons of liquid for three to four hours. That's about twice as long as the time required for a fire cremation.

The cost varies widely in the U.S., depending on location, but typically, funeral homes charge \$150-\$500 more for a water cremation than for one done with flames.

What's usually left at the end of the process is a tray scattered with clean white bones, and maybe some items of medical hardware. Fisher shows me an example when he opens the door, revealing the remains of a dissolved male body.

"There's a pacemaker in there," says Fisher. "There's a couple of prosthetics. It looks like he's had a hip replacement, and it looks like he's had a knee replacement, also."

Some of the metal in these parts can be recycled, and everything left over is sterile. Nothing organic survives during a water cremation. No bacteria — not even a strand of DNA.

The bones will be pulverized into a white powder that can be placed in an urn, just like the ashes in a traditional cremation.



The pulverized bones from a water cremation ready to be placed inside an urn. (*Lesley McClurg/KQED*)

From a cupboard nearby, Fisher holds up a tooth with a mercury filling. The silver molar demonstrates part of why water is more eco-friendly than flame. When you burn a body, the toxic mercury in dental fillings vaporizes and escapes into the air.

Ick Factor

But water cremation proved a tough sell the last two times legalization was tried in California. There's an inherent ick factor: You're reducing loved ones to a chemical broth that swirls down the drain.

"This just leaves us questioning," said Ned Dolejsi, the executive director of the [California Catholic Conference](#). "Why did part of grandma go to the waste treatment plant?" He says water cremation isn't inherently wrong, but it also doesn't treat life — or death — with dignity and respect.

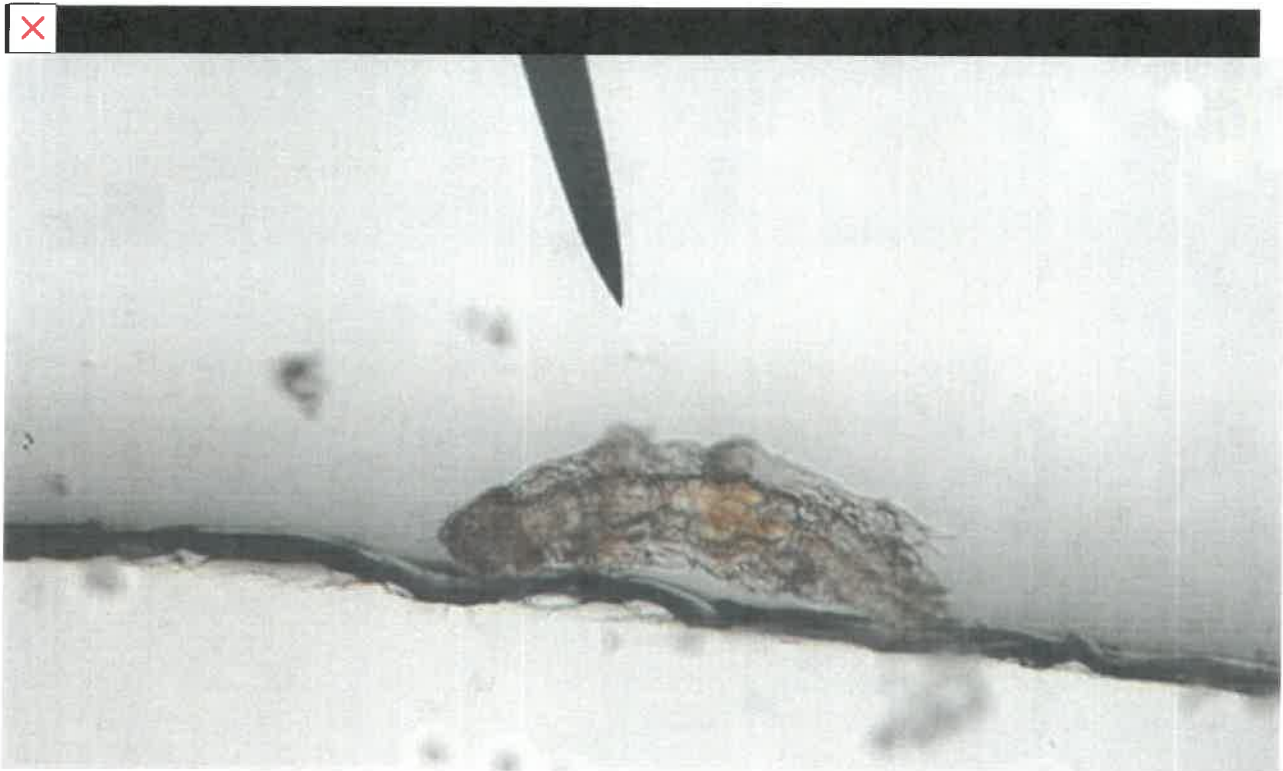
The California Funeral Director's Association, which originally opposed the bill, now supports it, after some changes the group wanted were approved. This is the first time the organization has supported water cremation.

The proposed bill sailed through the Assembly in June. Now it's before the Senate.

If it passes, Californians could choose to dissolve loved ones by 2020.

These 'Indestructible' Animals Would Survive a Planet-Wide Apocalypse

Even the most catastrophic astrophysical events couldn't wipe out the hardy tardigrade, researchers report.



SEE THE MOST "INDESTRUCTIBLE" ANIMAL ON EARTH

By Casey Smith

PUBLISHED JULY 14, 2017

The world's most robust animals may very well survive until the sun stops shining.

Also known as water bears, tardigrades are tiny water-dwelling creatures famed for their resiliency. The eight-legged invertebrates can survive for up to 30 years without food or water and can endure wild temperature extremes, radiation exposure, and even the vacuum of space.

"Tardigrades are extremely hardy animals," says Thomas Boothby, a tardigrade researcher at the University of North Carolina. "Scientists are still trying to work out how they survive these extremes."

At a minimum, all of Earth's oceans would have to boil away to completely wipe out all life on the planet. Although Boothby said tardigrades are only known to survive high temperatures when dry — and those species living in the sea would likely die before the waters boiled — tardigrades are still expected to avoid extinction until our sun swells up and becomes a red giant roughly six billion years from now, according to researchers who investigated the effects of various doomsday scenarios.

Astrophysical events such as asteroid strikes and supernova explosions have been fingered as the causes of past mass extinctions on Earth. Such violent cataclysms could easily wipe out humans: We belong to a sensitive species, and subtle changes in the environment impact us dramatically, notes study co-author Rafael Alves Batista of the University of Oxford.

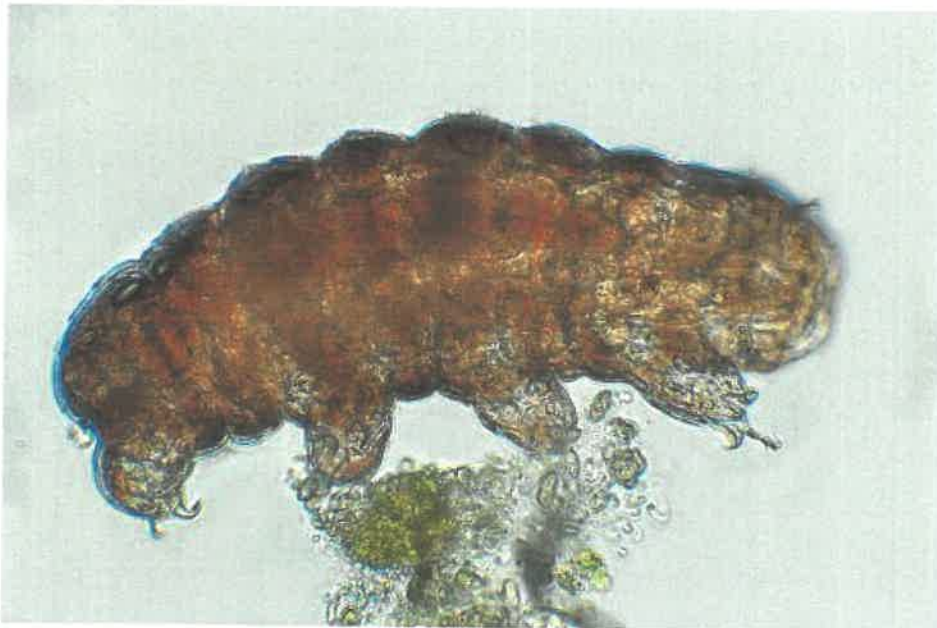
Intrigued by the resilience of tardigrades, Alves Batista and his colleagues wanted to explore the effects of potential astrophysical catastrophes on more than just human life. (Read "What the World's Toughest Animal Is Really Made Of.")

"It's an exciting time to be asking questions about life in the rest of the galaxy or universe," says study co-author David Sloan, also at Oxford.

In the past few years, for instance, astronomers have found thousands of planets beyond our solar system, including some that may be habitable. (Read "Seven Alien 'Earths' Found Orbiting Nearby Star.")

Closer to home, Jupiter's moon Europa and Saturn's moon Enceladus likely have subsurface oceans with volcanic vents that may have the right conditions to host life-forms not unlike tardigrades.

"We don't know how life starts on a planet, but since we've seen mass extinctions on Earth, we wanted to know if there are any astrophysical factors that could completely kill off all life on a planet once it gets started."



A magnified view of a tardigrade, also known as a water bear.

According to their research, here are all the ways *not* to kill a tardigrade.

ASTEROID IMPACTS

A large asteroid is the likely cause of the extinction event 66 million years ago that wiped out approximately 75 percent of species on the planet, including non-avian dinosaurs. (Read "Here's What Happened the Day the Dinosaurs Died.")

Today, astronomers know of only a dozen asteroids and dwarf planets with enough mass to boil Earth's oceans if they collided with our planet. And none of these objects are expected to ever intersect Earth's orbit.

There are asteroids out there that do pose collision risks and are large enough to trigger an "impact winter," blotting out sunlight and causing temperatures to drop. This would be catastrophic for many life-forms on the surface, but tardigrades would have a refuge.

"Tardigrades can live around volcanic vents at the bottom of the ocean, which means they have a huge shield against the kind of events that would be catastrophic for humans," Sloan says.

SUPERNOVAE

The explosive deaths of massive stars, known as supernovae, can send debris and damaging radiation flying outward at high speeds. But to boil our oceans, a supernova would need to happen a mere 0.14 light-years away from Earth, the researchers found.

Luckily, the closest star to the sun—Proxima Centauri—is more than four light-years away. And it's not even the right kind of star to go supernova, Sloan says. (Read "How to See a Star Explode in 2022.")

This puts Earth in a fortunate position, the researchers determined, where it's highly unlikely a massive star will explode close enough to us to kill all forms of life within the sun's lifetime.

GAMMA-RAY BURSTS

Gamma-ray bursts are even more powerful than supernovae, but they also happen too far away from Earth to be considered a practical threat, the researchers say.

To boil the world's oceans, a burst would need to happen less than 40 light-years away. Also, the rate of gamma-ray bursts is so low that it's highly unlikely the beam from one would hit Earth in the next few billion years.

ENDURING ALIENS

In essence, the researchers say, only the death of the sun will ultimately lead to the total extinction of life on Earth, including tardigrades.

“It seems that life, once it gets going, is hard to wipe out entirely,” Sloan says. “Huge numbers of species, or even entire genera, may become extinct, but life as a whole will go on.”

And that’s an encouraging message for scientists seeking signs of life beyond our planetary shores.

“Tardigrades are as close to indestructible as it gets on Earth,” Alves Batista says, “but it’s possible that there are other resilient species examples elsewhere in the universe.”



Department of Energy

Washington, DC 20585

Mr. Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority
20111 Shay Road
Victorville, CA 92394

Dear Mr. Olds:

Congratulations to you and the Victor Valley Wastewater Reclamation Authority (VWVRA) team for winning a 2017 Better Project award. We are pleased to recognize the great leadership that VWVRA is showing in energy efficiency and the Better Plants program, especially given the number of high-quality applications we received.

The Better Project award honors partners for outstanding accomplishments in implementing industrial energy efficiency projects at individual facilities. Specifically, VWVRA is being recognized for installing a 1.6 MW CHP system fueled by on-site produced biogas that has achieved \$473,000 in annual energy cost savings. Our team will be in touch about further publicizing your good work.

We've enclosed a certificate, which we hope you will display proudly. Thank you for leading the way on energy efficiency. Together with over 190 other Better Plants partners, your efforts are helping to cut energy waste, grow jobs, reduce air pollution, and improve the competitiveness of the U.S. industrial sector. I extend my congratulations again on Victor Valley Wastewater Reclamation Authority's award and look forward to continuing and expanding our partnership.

Sincerely,

A handwritten signature in black ink, appearing to read "Eli Levine".

Eli Levine
Better Buildings, Better Plants Program Lead



Printed with soy ink on recycled paper



Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California

20111 Shay Rd. Victorville, CA 92394
 Telephone: (760) 246-8638
 Fax: (760) 948-9897

DATE: August 8, 2017
TO: Logan Olds
 General Manager
FROM: Angela Valles
 Director of Finance
SUBJECT: Cash Disbursements Register

A handwritten signature in blue ink, appearing to be "AV", is written next to the "FROM:" field.

RECOMMENDED ACTION

It is recommended that the Board of Commissioners approve the cash disbursements and payroll register for the Victor Valley Wastewater Reclamation Authority.

BACKGROUND

The Cash Disbursements Register totals represented below are for the month of JULY 2017, check numbers 120952- 121018 and ACH's.

<i>Accounts Payable</i>			
<i>Checks</i>	<i>EFT's</i>	<i>Payroll</i>	<i>Total</i>
\$192,960.76	\$527,466.04	\$587,603.84	\$1,308,030.64

Victor Valley Reclamation Authority
Cash Disbursement Register
From 7/1/17 Through 7/31/17

10

Check Number	Check Date	Effective Date	Fund Code	Vendor Name	Transaction Description	Check Amount
120979	7/19/2017	7/19/2017	07	2G Energy Inc.	2G Turbo Service	10,257.62
120979	7/19/2017	7/19/2017	07	2G Energy Inc.	2G Turbo Service	(10,257.62)
120979	7/19/2017	7/19/2017	07	2G Energy Inc.	2G Turbo Service	16,054.15
120979	7/19/2017	7/19/2017	07	2G Energy Inc.	2G Turbo Service	(16,054.15)
120952	7/13/2017	7/13/2017	07	Abacus Imt, Inc.	Unstable Unit	2,515.15
120980	7/19/2017	7/19/2017	01	Acorn Media	Global Industrial Relacement Pump	354.13
120953	7/13/2017	7/13/2017	01	Aicpa	AICPA Member 01564530	395.00
120981	7/19/2017	7/19/2017	01	Airgas Usa, Llc	Nitrogen Cylinders	69.85
120954	7/13/2017	7/13/2017	01	Applied Industrial Technologies	Brown Bear Bearings	117.62
120982	7/19/2017	7/19/2017	01	Applied Industrial Technologies	KOYO Bearings	92.10
120983	7/19/2017	7/19/2017	01	Atmospheric Analysis And Consulting, Inc	Analysis and Reporting	1,865.00
121004	7/27/2017	7/27/2017	01	Atmospheric Analysis And Consulting, Inc	Gas Scrubber Analysis	1,890.00
121005	7/27/2017	7/27/2017	01	Beck Oil, Inc.	Diesel	1,851.06
120984	7/19/2017	7/19/2017	01	Big Bear Electric, Inc.	Emergency Labor	720.00
121006	7/27/2017	7/27/2017	01	Big Bear Electric, Inc.	Materials	9,752.43
121006	7/27/2017	7/27/2017	01	Big Bear Electric, Inc.	Demolition out Old Ferric Room in prep for MicroGrid	2,000.00
121006	7/27/2017	7/27/2017	01	Big Bear Electric, Inc.	Completion Primary 1-8 Air Flow Meter Temp Power	10,232.57
121007	7/27/2017	7/27/2017	01	Blackline Safety Corp	Loner M6 Lease	210.00
120955	7/13/2017	7/13/2017	01	Brithinee Electric	Install new VVWRA provided 50H Powerflex 700 VFD	11,010.51
120955	7/13/2017	7/13/2017	01	Brithinee Electric	Service Labor	450.00
121008	7/27/2017	7/27/2017	01	Caltrol, Inc.	Plates for Acuator Mounting	646.50
121001	7/19/2017	7/19/2017	01	Cintas Corporation	First Aid Supplies	271.57
120956	7/13/2017	7/13/2017	01	City Employees Associates	June Supervisor Association Dues	50.00
121009	7/27/2017	7/27/2017	01	City Employees Associates	Supervisors Association Dues	50.00
120986	7/19/2017	7/19/2017	01	County Of San Bernardino	Ground Water Permit	1,093.00
120957	7/13/2017	7/13/2017	01	Cp Lab Safety	Nitrile Gloves	359.00
120987	7/19/2017	7/19/2017	01	Csma	Workers Comp	18,200.00
120988	7/19/2017	7/19/2017	01	Csrma	Property Insurance	37,110.96
120958	7/13/2017	7/13/2017	01	Daily Press	Acct# 137291 Newspaper Renewal	410.80
120959	7/13/2017	7/13/2017	01	Daily Press	General Operator Position	85.50
121003	7/26/2017	7/26/2017	01	Dan Sentman	Retiree Health Benefit Allowance	225.63
120989	7/19/2017	7/19/2017	01	Davis Electric, Inc	Emergency Labor for Backwash pumps/Gen hookup	617.52
120989	7/19/2017	7/19/2017	01	Davis Electric, Inc	Emergency Labor for Backwash pumps/Gen hookup	1,075.33
121002	7/26/2017	7/26/2017	01	Donna Anthony	Retiree Health Benefit Allowance	443.00
120990	7/19/2017	7/19/2017	01	Express Line Stripping Inc.	FOG Striping	600.00
120960	7/13/2017	7/13/2017	01	Extreme Powder Coating	Square Tube Powder Coating	320.00
120961	7/13/2017	7/13/2017	01	Flyers Energy, Llc	Gasoline	941.71
120991	7/19/2017	7/19/2017	01	Flyers Energy, Llc	Gasoline	710.49
120962	7/13/2017	7/13/2017	01	G.A. Osborne Pipe & Supply	Plumbing Parts	291.23
120992	7/19/2017	7/19/2017	01	G.A. Osborne Pipe & Supply	Plumbing Parts	54.30
120992	7/19/2017	7/19/2017	01	G.A. Osborne Pipe & Supply	Plumbing Parts	905.60
120993	7/19/2017	7/19/2017	01	Ge Zenith Controls Inc	Emergency Service Commission	20,950.00
120963	7/13/2017	7/13/2017	01	Hi-Desert Communications	Site Rent	100.00
120994	7/19/2017	7/19/2017	01	Hose And Fitting Supply	PVC Hose	512.41
120964	7/13/2017	7/13/2017	01	Industrial Hearing & Pulmonary Managem	Audiometric/Pulmonary Function Testing	1,845.00
121010	7/27/2017	7/27/2017	01	Industrial Rubber & Supply, Llc	Suction Hoses	1,445.14
120995	7/19/2017	7/19/2017	01	James N. Kennedy	Commissioner Stipend	100.00
120996	7/19/2017	7/19/2017	01	Konica Minolta Business Solutions	Printer Charges	2,494.83
121011	7/27/2017	7/27/2017	01	Luhdorff And Scalmanini Consulting Engi	Subregionals Semi-Annual Ground Monitoring	4,427.50
120965	7/13/2017	7/13/2017	01	Napa Victorville	Battery	162.61
120965	7/13/2017	7/13/2017	01	Napa Victorville	Filters and Batteries	1,536.62
120966	7/13/2017	7/13/2017	01	Orkin	Pest Control	381.53
120967	7/13/2017	7/13/2017	01	Parkhouse Tire Inc.	Brown Bear Tires	3,995.08
120998	7/19/2017	7/19/2017	01	Pete'S Road Service, Inc.	Front End Loader Tires	3,823.47
120968	7/13/2017	7/13/2017	01	Prudential Overall Supply	Uniform Service	440.05
120968	7/13/2017	7/13/2017	01	Prudential Overall Supply	Uniform Service	442.61
120999	7/19/2017	7/19/2017	01	Prudential Overall Supply	Uniform Service	442.61
121012	7/27/2017	7/27/2017	01	Prudential Overall Supply	Uniform Service	442.61
120969	7/13/2017	7/13/2017	01	Quill Corporation	Office Supplies	75.40
120969	7/13/2017	7/13/2017	01	Quill Corporation	Office Supplies	772.63
120969	7/13/2017	7/13/2017	01	Quill Corporation	Office Supplies	77.52
120970	7/13/2017	7/13/2017	01	Robertson'S Ready Mix, Ltd	3sk Slurry	498.88
121013	7/27/2017	7/27/2017	01	Robertson'S Ready Mix, Ltd	Concrete	493.50
120985	7/19/2017	7/19/2017	01	Russell Blewett	Commissioner Stipend	100.00
120997	7/19/2017	7/19/2017	01	Scott Nassif	Commissioner Stipend	100.00
121014	7/27/2017	7/27/2017	01	Southern Counties Lubricants	Rando HD 100	1,945.93
121014	7/27/2017	7/27/2017	01	Southern Counties Lubricants	Chevron 5200 Low Ash	8,001.68
121015	7/27/2017	7/27/2017	01	Sparkletts Drinking Water	Bottled Water	1,107.30

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120971	7/13/2017	7/13/2017	01	Teledyne Isco C/O Mrc Technologies	Pump Tubing	553.84
120972	7/13/2017	7/13/2017	01	Thurlow'S Heating & A/C Inc.	MCC Service	285.00
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Ground Condensor Fan Motor	733.41
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Lab HVAC	6,373.34
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Insufficient Filters	1,999.00
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Shorted Comp Contractor	460.81
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Inspected RTUs	190.00
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Time Delay Relay Shorted	665.54
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Degreased Condensor	306.55
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Condensor Fan Motor Seized	190.00
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Thermo Stat Re Mount	496.55
121016	7/27/2017	7/27/2017	01	Thurlow'S Heating & A/C Inc.	Lockout Control Failed	570.00
121000	7/19/2017	7/19/2017	01	Town & Country Tire	Venture Van Tires	428.24
120973	7/13/2017	7/13/2017	01	Transcat	Meter Tester	1,045.16
120974	7/13/2017	7/13/2017	01	Uline, Inc.	Cantilever	134.15
120975	7/13/2017	7/13/2017	01	Underground Service Alert Of Southern C	Dig Alert Monitoring	85.50
120976	7/13/2017	7/13/2017	01	United Rentals Northwest, Inc	Front End Loader Training	1,417.50
120976	7/13/2017	7/13/2017	01	United Rentals Northwest, Inc	UNIT000 Credit 147822202-001	(405.00)
121017	7/27/2017	7/27/2017	01	Victor Valley Personnel Services Inc.	MIS Temp Labor	1,952.25
121017	7/27/2017	7/27/2017	01	Victor Valley Personnel Services Inc.	MIS Temp Labor	2,451.00
120977	7/13/2017	7/13/2017	01	Virtual Graffiti Inc.	Barracuda Message Archiver 3 Years	4,955.52
121018	7/27/2017	7/27/2017	01	Yale Chase Equipment And Services	JCB Parts	789.72
121018	7/27/2017	7/27/2017	01	Yale Chase Equipment And Services	JCB Hose and Compressor	2,184.21
120978	7/13/2017	7/13/2017	01	Yellow Pages United	Directory Listing	396.00
Total Checks						192,960.76
2622833-1	7/12/2017	7/12/2017	07	2G Energy Inc.	2G Turbo Service	10,257.62
2622833-1	7/12/2017	7/12/2017	07	2G Energy Inc.	2G Turbo Service	(10,257.62)
2622833-1	7/12/2017	7/12/2017	07	2G Energy Inc.	2G Turbo Service	16,054.15
2622833-1	7/12/2017	7/12/2017	07	2G Energy Inc.	2G Turbo Service	(16,054.15)
2622833-2	7/12/2017	7/12/2017	01	A.D.S. Corp.	Flow Monitoring	8,333.28
2622833-3	7/12/2017	7/12/2017	01	Advanced Systems	Fleet Vehicle Wash	325.00
2699097-1	7/27/2017	7/27/2017	01	Advanced Systems	Fleet Vehicle Wash	365.00
2699097-9	7/27/2017	7/27/2017	09	Aecom	CM Services Nanticoke Bypass	18,649.50
2699097-9	7/27/2017	7/27/2017	09	Aecom	CM Services for Nanticoke Bypass	27,787.40
2699097-9	7/27/2017	7/27/2017	09	Aecom	Upper Narrows Pipeline Replacement	5,168.00
2622833-4	7/12/2017	7/12/2017	01	All Covered	Cisco Configuration	800.00
2622833-4	7/12/2017	7/12/2017	01	All Covered	Cisco Configuration	400.00
2622833-4	7/12/2017	7/12/2017	01	All Covered	Cisco Configuration	700.00
2622833-4	7/12/2017	7/12/2017	01	All Covered	Cisco Configuration	204.73
2622833-4	7/12/2017	7/12/2017	01	All Covered	Cisco Configuration	1,064.09
2622833-4	7/12/2017	7/12/2017	01	All Covered	Cisco Configuration	4,438.15
2622833-4	7/12/2017	7/12/2017	01	All Covered	Cisco Configuration	5,670.00
2622833-5	7/12/2017	7/12/2017	01	Alliant Insurance Services	Master Crime Renewal	950.00
2622833-5	7/12/2017	7/12/2017	01	Alliant Insurance Services	Physical Damage- Renewal	3,516.00
2648549-1	7/19/2017	7/19/2017	01	Allmax Software, Inc.	Reports	750.00
2648549-2	7/19/2017	7/19/2017	01	American Express	American Express Charges	2,769.34
2672940-6	7/25/2017	7/25/2017	01	Andrew Gyurcsik	Retiree Health Benefit Allowance	443.00
2622833-6	7/12/2017	7/12/2017	01	Applied Maintenance Supplies & Solution	Maintenance Consumables	575.16
2622833-6	7/12/2017	7/12/2017	01	Applied Maintenance Supplies & Solution	Maintenance Consumables	52.88
2699097-2	7/27/2017	7/27/2017	01	Applied Maintenance Supplies & Solution	Maintenance Consumables	636.38
2648549-3	7/19/2017	7/19/2017	01	Best, Best & Krieger, L.L.P.	General Retainer	11,207.08
2648549-3	7/19/2017	7/19/2017	01	Best, Best & Krieger, L.L.P.	Labor Matters	7,681.75
2648549-3	7/19/2017	7/19/2017	01	Best, Best & Krieger, L.L.P.	Projects	18.61
2648549-3	7/19/2017	7/19/2017	01	Best, Best & Krieger, L.L.P.	Contract Review	1,827.00
2648549-3	7/19/2017	7/19/2017	01	Best, Best & Krieger, L.L.P.	Evaluation of Victorville Project	7,024.50
2648549-3	7/19/2017	7/19/2017	01	Best, Best & Krieger, L.L.P.	Lahontan Regional Water Quality Control Board	378.00
2648549-3	7/19/2017	7/19/2017	01	Best, Best & Krieger, L.L.P.	FEMA Audit	7,116.00
2672940-1	7/25/2017	7/25/2017	01	Billings, Richard	Retiree Health Benefit Allowance	398.73
2648549-4	7/19/2017	7/19/2017	01	Biogas Engineering	Engine 4 & 5 Assessment	1,967.50
2622833-8	7/12/2017	7/12/2017	01	Biogas Power Systems- Mojave, Llc	C124 Biogas Power Generation Project	64,546.00
2622833-9	7/12/2017	7/12/2017	01	Brenntag Pacific, Inc	Ferric Chloride Delivery	4,878.92
2699097-3	7/27/2017	7/27/2017	01	Brenntag Pacific, Inc	Ferric Chloride	4,960.57
2622833-10	7/12/2017	7/12/2017	01	Bsk Associates	Walmart Annual Sampling	742.00
2622833-10	7/12/2017	7/12/2017	01	Bsk Associates	FBOP George Annual Sample	822.00
2622833-10	7/12/2017	7/12/2017	01	Bsk Associates	CalPortland Annual Sampling	465.00
2622833-10	7/12/2017	7/12/2017	01	Bsk Associates	COVV IWWT Annual Sample	1,199.00

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2622833-10	7/12/2017	7/12/2017	01	Bsk Associates	COVV IWWTP	690.00
2648549-5	7/19/2017	7/19/2017	01	C.S. Amsco	DeZurik Valves	6,478.52
071217 CHAR	7/13/2017	7/13/2017	01	Charter Communications	Telephone Charges	99.58
071217 CHAR001	7/13/2017	7/13/2017	01	Charter Communications	Telephone Charges	3,226.61
641518178	7/25/2017	7/25/2017	01	City Of Victorville / Sanitation	Trash Service	3,155.30
641708686	7/28/2017	7/28/2017	01	City Of Victorville / Sanitation	Trash Service	1,693.00
2699097-4	7/27/2017	7/27/2017	01	D.K.F. Solutions Inc.	MISO Monthly	350.00
2648549-6	7/19/2017	7/19/2017	01	E.S. Babcock & Sons, Inc.	June 2017 Lab Sampling	19,960.00
2699097-5	7/27/2017	7/27/2017	01	Elogger Inc.	10 Pack of License Users	3,000.00
2648549-7	7/19/2017	7/19/2017	07	Esi Power Systems, Inc	Generator Docking Station	17,538.07
2622833-12	7/12/2017	7/12/2017	01	Evoqua Water Technologies Lic	Bioxide Delivery	8,671.81
2622833-11	7/12/2017	7/12/2017	01	Fedak & Brown Llp	Audit Services	5,520.00
58937763	7/28/2017	7/28/2017	01	Frontier	Acct# 760 246-8178-122106-5	219.97
58937997	7/28/2017	7/28/2017	01	Frontier	Acct #760-247-4698-121382-5	220.69
2672940-5	7/25/2017	7/25/2017	01	Gillette, Randy	Retiree Health Benefit Allowance	443.00
2622833-13	7/12/2017	7/12/2017	01	Grainger	Lockout Station	431.00
2622833-13	7/12/2017	7/12/2017	01	Grainger	Open PO	16.52
2622833-13	7/12/2017	7/12/2017	01	Grainger	Universal Thermostat	148.66
2622833-13	7/12/2017	7/12/2017	01	Grainger	Paking Seal	157.63
2622833-13	7/12/2017	7/12/2017	01	Grainger	SDS	40.60
2648549-8	7/19/2017	7/19/2017	01	Grainger	Fixed Ladder	1,447.99
2648549-8	7/19/2017	7/19/2017	01	Grainger	Full Body Harness	1,022.12
2648549-8	7/19/2017	7/19/2017	01	Grainger	Thermostat Guard	165.19
2648549-8	7/19/2017	7/19/2017	01	Grainger	Auto Drain Valve	301.53
2648549-8	7/19/2017	7/19/2017	01	Grainger	Protobal Fall Arrest Pole	6,184.77
2622833-14	7/12/2017	7/12/2017	01	Hach Company	PVC Tubing	2,064.65
29054980	7/25/2017	7/25/2017	01	Hesperia Water District	Water Usage at Hesperia Subregional	1,365.19
29125994	7/28/2017	7/28/2017	01	Hesperia Water District	Water Usage at Hesperia Subregional	296.71
2622833-15	7/12/2017	7/12/2017	01	Ilink Business Management	Janitorial Services	2,569.76
2622833-15	7/12/2017	7/12/2017	01	Ilink Business Management	Janitorial Services	2,569.76
2622833-16	7/12/2017	7/12/2017	01	Johnson Power Systems	Generator 1000KW	14,181.25
2622833-16	7/12/2017	7/12/2017	07	Johnson Power Systems	Generator 1000KW	4,457.60
2622833-16	7/12/2017	7/12/2017	07	Johnson Power Systems	Emergency Generator	11,181.25
746253	7/25/2017	7/25/2017	01	Konica Minolta Business Solutions	Big Printer Lease	351.02
746253	7/25/2017	7/25/2017	01	Konica Minolta Business Solutions	Individual Printers Lease	662.95
2672940-13	7/25/2017	7/25/2017	01	L. Christina Nalian	Retiree Health Benefit Allowance	443.00
2699097-6	7/27/2017	7/27/2017	01	Larry Walker Associates	2017 Regulatory Assistance	1,612.50
2699098	7/27/2017	7/27/2017	01	Latif Laari	ESRI Training Mileage	162.64
2672940-12	7/25/2017	7/25/2017	01	Lillie Montgomery	Retiree Health Benefit Allowance	443.00
91000018809368	7/13/2017	7/13/2017	01	Lincoln Financial Group	Life and Disability Insurance	2,942.66
91000018809369	7/13/2017	7/13/2017	01	Lincoln Financial Group	Life and Disability Insurance	104.66
91000018817554	7/28/2017	7/28/2017	01	Lincoln Financial Group	Life and Disability Insurance August 17	2,942.66
91000018817554	7/28/2017	7/28/2017	01	Lincoln Financial Group	Life and Disability Insurance August 2017	104.66
2622833-17	7/12/2017	7/12/2017	01	Lucity, Inc.	Contact Connection Program	12,802.25
2672940-11	7/25/2017	7/25/2017	01	Mark Mcgee	Retiree Health Benefit Allowance	443.00
2648549-9	7/19/2017	7/19/2017	01	Mcgrath Rentcorp	Admin Office Lease	3,658.12
2672940-14	7/25/2017	7/25/2017	01	Nave, Patrick	Retiree Health Benefit Allowance	443.00
2672940-9	7/25/2017	7/25/2017	01	Olin Keniston	Retiree Health Benefit Allowance	261.76
2672940-8	7/25/2017	7/25/2017	01	Patricia J Johnson	Retiree Health Benefit Allowance	172.48
2622833-18	7/12/2017	7/12/2017	01	Protection One	Protection One Monitoring	530.95
2622833-19	7/12/2017	7/12/2017	07	Quinn Company	Cylinder Heads	31,234.70
2672940-10	7/25/2017	7/25/2017	01	Randy Main	Retiree Health Benefit Allowance	443.00
2648549-10	7/19/2017	7/19/2017	01	Rineco Chemical Industries, Inc.	Hazardous Waste Services	137.50
2648549-10	7/19/2017	7/19/2017	01	Rineco Chemical Industries, Inc.	Hazardous Waste Services	808.50
2672940-2	7/25/2017	7/25/2017	01	Roy Dagnino	Retiree Health Benefit Allowance	443.00
2699097-7	7/27/2017	7/27/2017	01	Schafer Consulting	Finance Software Consulting	8,927.30
2622833-7	7/12/2017	7/12/2017	01	Solenis Llc	Praestol	6,908.93
82380696861879	7/13/2017	7/13/2017	01	Southern California Edison	Electricity	61,779.71
83204268102059	7/25/2017	7/25/2017	01	Southern California Edison	Electricity Chargea	1,340.38
83950026112059	7/25/2017	7/25/2017	01	Southern California Edison	Hesperia Subregional Electricity	8,836.10
83977752892054	7/25/2017	7/25/2017	01	Southern California Edison	Apple Valley Subregional Electricity	178.57
071217SOUT	7/13/2017	7/13/2017	01	Southwest Gas Company	Natural Gas	1,004.44
072417SWG	7/25/2017	7/25/2017	01	Southwest Gas Company	Hesperia Subregional Natural Gas	51.36
07242017SWG	7/25/2017	7/25/2017	01	Southwest Gas Company	Hesperia Subregional Natural Gas	84.70
2699097-8	7/27/2017	7/27/2017	01	Spruce Consulting Group, Llc	Review of Organizational Structure	2,375.00
2672940-4	7/25/2017	7/25/2017	01	Terrie Gossard Flint	Retiree Health Benefit Allowance	261.76
2672940-7	7/25/2017	7/25/2017	01	Thomas Hinejosa	Retiree Health Benefit Allowance	443.00
2672940-3	7/25/2017	7/25/2017	01	Tim Davis	Retiree Health Benefit Allowance	443.00

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2622833-20	7/12/2017	7/12/2017	01	U.S.A. Bluebook	USAB000 Credit 299602	(30.29)
2622833-20	7/12/2017	7/12/2017	01	U.S.A. Bluebook	1W System Flow Meter Turbine Replacement	713.13
00000615V7V297	7/28/2017	7/28/2017	01	Ups	Express Shipping	251.66
071217UPS	7/13/2017	7/13/2017	01	Ups	Express Shipping	4.38
071217UPS	7/13/2017	7/13/2017	01	Ups	Express Shipping	51.68
072417UPS	7/25/2017	7/25/2017	01	Ups	Express Shipping	35.06
072417UPS	7/25/2017	7/25/2017	01	Ups	Express Shipping	254.25
2622833-21	7/12/2017	7/12/2017	01	Valley Power Systems, Inc.	Troubleshoot Generator Failure	10,367.50
2622833-21	7/12/2017	7/12/2017	01	Valley Power Systems, Inc.	Antifreeze and Valve Adjustment	2,185.00
2622833-21	7/12/2017	7/12/2017	07	Valley Power Systems, Inc.	Troubleshoot Generator Failure	2,163.44
BV000000115577	7/13/2017	7/13/2017	01	Verizon Wireless	Telephone Charges	1,846.41
BV000011684229	7/28/2017	7/28/2017	01	Verizon Wireless	Wireless Telephone Charges	152.04
BV000011684271	7/28/2017	7/28/2017	01	Verizon Wireless	Wireless Telephone Charges	1,901.71
2622833-23	7/12/2017	7/12/2017	01	Victor Valley Wastewater Employees Assc	Employee Association Dues	600.00
2699097-10	7/27/2017	7/27/2017	01	Victor Valley Wastewater Employees Assc	Employee Association Dues	587.50
2622833-22	7/12/2017	7/12/2017	01	Vision Internet Providers	Web Hosting	243.10
2648549-11	7/19/2017	7/19/2017	01	West Coast Safety Supply	Instrumentation	1,989.07
2648549-11	7/19/2017	7/19/2017	01	West Coast Safety Supply	Instrumentation	(1,989.07)
2655022	7/24/2017	7/24/2017	01	West Coast Safety Supply	Instrumentation	1,989.07
2622833-24	7/12/2017	7/12/2017	07	Xylem Water Solutions	UV Channel #2 Wipers	28,090.62
2699097-11	7/27/2017	7/27/2017	07	Xylem Water Solutions	UV Lamp Cables	3,578.22

Total ACH and EFT 527,466.04

Total ACH and Checks 720,426.80

Payroll-July 2017 587,603.84

Total Disbursement - July 2017 1,308,030.64

APPROVED
Chitobong 08-09-17

**MINUTES OF A REGULAR MEETING
REGULAR MEETING OF THE BOARD OF COMMISSIONERS
VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY (VWVRA)
July 20, 2017**

CALL TO ORDER: Chair Jim Cox called the meeting to order at 8:04 am; in Conference Room D at Victorville City Hall, located at 14343 Civic Drive, Victorville California, with the following members present:

**CITY OF VICTORVILLE
HESPERIA WATER DISTRICT
ORO GRANDE (CSA 42) AND
SPRING VALLEY LAKE (CSA 64)
TOWN OF APPLE VALLEY**

**Jim Cox, Alternate Chair
Russell Blewett, Vice Chair
Jeff Rigney, Secretary**

Art Bishop, Alternate Treasurer

VWVRA Staff and Legal Counsel:

**Logan Olds, General Manager
Piero Dallarda, Legal Counsel (BB&K)
Angela Valles, Director of Finance
David Wylie, Communications & Safety Officer
Robert Coromina, Director of Administration
Eugene Davis, Acting Director of Operations**

**Kristi Casteel, Secretary to GM/Board
Alton Anderson, Construction Manager
Chieko Keagy, Accounting Supervisor
Robert Townsend, EC Inspector
Ryan Love, Lead Operator
Marcos Avila, Lead Mechanic**

Others Present:

**Nils Bentsen, City of Hesperia
Carl Coleman, MWA
Walter Linn, Rep for Congressman Cook
Brian Gengler, City of Victorville**

**Frank Robinson, Town of Apple Valley
Greg Snyder, Town of Apple Valley
Doug Robertson, City of Victorville**

CLOSED SESSION

PUBLIC COMMENTS- CLOSED SESSION AGENDA

Chair Cox asked if there were any comments from the public regarding any item on the Closed Session Agenda. Hearing none, he called for a motion to enter into Closed Session.

Commissioner Blewett made a motion to enter into Closed Session, which was seconded by Commissioner Bishop

Chair Cox: Yes

VVWRA Regular Meeting Minutes
Thursday July 20, 2017
Page 2

Commissioner Blewett: Yes

Commissioner Rigney: Yes

Commissioner Bishop: Yes

REGULAR SESSION

CALL TO ORDER & PLEDGE OF ALLEGIANCE

Chair Cox called the meeting to order at 9:31 am.

REPORT FROM CLOSED SESSION

Nothing to report

PUBLIC COMMENTS- REGULAR SESSION AGENDA

NONE

ANNOUNCEMENTS AND CORRESPONDENCE:

- 5. Possible conflict of interest issues**

- 6. General Managers Report** – Manager Olds gave a brief update on the electrical issues going on at the plant. Various pieces of equipment are being tested. General Electric, Valley Power and Davis Electric are all onsite. The temp tap is being installed to enable a third generator. General Electric is working on the switch gear and Valley Power is working on the generator to ensure that it works with the switch gear.

CONSENT CALENDAR:

- 7. Approve June 2017 Disbursement Registers**
- 8. Approve Minutes from the June 15, 2017 Regular Meeting**
- 9. Recommendation to Approve Lease to Own Brown Bear Sludge Aerator**

VVWRA Regular Meeting Minutes**Thursday July 20, 2017****Page 3**

Commissioner Rigney asked if legal counsel had reviewed this staff recommendation. Manager Olds stated yes, this is the first agenda that staff wrote all the staff recommendations and it was just missed when Manager Olds was reviewing the staff recommendation.

Commissioner Rigney made a motion to approve the consent calendar, seconded by Commissioner Bishop and approved by roll call vote.

Chair Cox: Yes

Commissioner Blewett: Yes

Commissioner Rigney: Yes

Commissioner Bishop: Yes

ACTION & DISCUSSION ITEMS:**10. Recommendation to issue RFP for Conversion & Integration to SCADA Ignition Software**

Robert Coromina stated that this SCADA (Supervisory Control and Data Acquisition) package will better serve VVWRA. This software is to control the plant and gather data to allow operations staff to analyze what is going on with the plant via trending. The current package VVWRA is using is Wonder Ware. They are the Microsoft for the SCADA industry and as such charge accordingly. Their licensing fees are extremely costly and VVWRA is limited with what it can do with the software because the set-up is older. Staff researched the market and found Ignition software. It is better suited for what VVWRA needs at the plant now and moving forward. The software is very cost effective and it is a one-time licensing fee.

Commissioner Bishop made a motion to approve the Recommendation, seconded by Commissioner Blewett

Chair Cox: Yes

Commissioner Blewett: Yes

Commissioner Rigney: Yes

Commissioner Bishop: Yes

11. Recommendation to Approve Release of Bid for FY 2017-2018 Coating Project

Commissioner Blewett made a motion to approve the Recommendation, seconded by Commissioner Rigney

VVWRA Regular Meeting Minutes**Thursday July 20, 2017****Page 4**

Chair Cox: Yes

Commissioner Blewett: Yes

Commissioner Rigney: Yes

Commissioner Bishop: Yes

12. Resolution 2017-12: Amend and Approve 2017 CEQA Guidelines

Commissioner Rigney made a motion to approve the Recommendation, seconded by Commissioner Blewett

Chair Cox: Yes

Commissioner Blewett: Yes

Commissioner Rigney: Yes

Commissioner Bishop: Yes

13. Election of Officers

Commissioner Rigney made a motion to approve the Recommendation, seconded by Commissioner Bishop

Chair Cox: Yes

Commissioner Blewett: Yes

Commissioner Rigney: Yes

Commissioner Bishop: Yes


STAFF/PROFESSIONAL SERVICES REPORTS:**14. Financial and Investment Report –June 2017****15. Operations & Maintenance Report – June 2017****16. Environmental Compliance Department Reports – June 2017****17. Septage Receiving Facility Reports – June 2017**

VVWRA Regular Meeting Minutes**Thursday July 20, 2017****Page 5****18. Safety & Communications Report – June 2017****19. Construction Report – June 2017****NEXT VVWRA BOARD MEETING:****Thursday, August 17, 2017– Regular Meeting of the Board of Commissioners****FUTURE AGENDA ITEMS****VVWRA NPDES Permit Renewal (September)****Recommendation to Award Engineering Services for Desert Knolls Wash (September)****Leave Policy****COMMISSIONER COMMENTS****ADJOURNMENT****APPROVAL:****DATE:** _____
Approved by VVWRA Board**BY:** _____
Jeff Rigney, Secretary
VVWRA Board of Commissioners



VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
Report/Recommendation to the Board of Commissioners

17 August 2017

FROM: Logan Olds, General Manager 
TO: Board of Commissioners
SUBJECT: NPDES Permit Renewal

RECOMMENDATION

It is recommended that the Board of Commissioners authorize the General Manager to retain the professional services of Larry Walker and Associates (LWA) to assist VVWRA with the negotiations with Lahontan Region Water Quality Control Board (LRWQCB) for the renewal of its federal National Pollutant Discharge Elimination System (NPDES) permit in an amount not to exceed \$66,690.00, sixty six thousand, six hundred and ninety dollars.

REVIEW BY OTHERS

This recommendation was reviewed by Piero Dallarda, Legal Counsel.

BACKGROUND INFORMATION

VVWRA's existing NPDES permit expires on 5 September 2018. A Report of Waste Discharge (ROWD) must be filed with LRWQCB by 9 March 2018. It typically requires three to four months to prepare the ROWD. Due to the number of significant changes in the operation of the wastewater treatment plant since the last ROWD was presented in 2011 and changes in regulations, staff would like to begin the process early to ensure VVWRA is fully prepared.

Larry Walker and Associates (LWA) has been assisting VVWRA for many years and was instrumental in assisting staff with the negotiations to reduce the nitrogen requirements that were proposed by Lahontan in 2007 and in 2012. If the nitrogen levels initially proposed by LRWQCB had been included in the NPDES permit VVWRA would have been required to build tens of millions of dollars in new infrastructure. In addition LWA has written the following reports required by Lahontan during the last ten years:

1. Anti-degradation studies for surface and groundwater
2. Groundwater nitrate analysis
3. Mojave River Characterization Study
4. Cumulative Impact Analysis
5. Report of Waste Discharge (ROWD) for the Subregional Water Reclamation Plants

- 6. Master Water Reclamation permit
- 7. Assistance and preparation of the following annual reports:
 - a. NPDES - federal
 - b. Biosolids - federal
 - c. Waste Discharge Requirement (WDR) – state
 - i. Recycled Water, Victorville, Apple Valley & Hesperia
 - ii. Percolation ponds and drying beds

LWA’s reputation in the industry is also worth noting. LWA is very knowledgeable about VVWRA water quality and well qualified to conduct the negotiations on VVWRA’s behalf to protect the Member Agencies from over regulation and its associated expense. This would be a professional services contract and given the background, it would be futile to go through an RFP process.

FINANCIAL IMPACT

This is a FY 17-18 budgeted item.

Finance Approval:

Fund 01 or 07	
Accounting Code (String) example: 01-xx-xxx-xxxx (project code if any)	01-03-300-8135
Transfer Needed due to Insufficient Budget	
If Transfer, from Which Account String or Reserve	
Budgeted Amount Where Money Comes from	
Budget Remaining after the Recommendation	
Outside Funding Source if applicable	\$
Original Contract Amount	\$66,690.00
Change Order	
Contract after Change	\$

Fund 09	
Accounting Code (String) example: 09-xx-xxx-xxxx (<u>mandatory</u> project code)	
Transfer Needed due to Insufficient Budget	
If Transfer, from Which Account String or Reserve	
Budgeted Amount Where Money Comes from	
Budget Remaining after the Recommendation	
Outside Funding Source	\$
Original Contract Amount	\$
Change Order	
Contract after Change	\$

RELATED IMPACTS

None



July 10, 2017

Mr. Logan Olds
 General Manager
 Victor Valley Wastewater Reclamation Authority
 20111 Shay Road
 Victorville CA 92394

**Subject: Scope of Work for NPDES Permit Assistance for the VVWRA
 Regional Wastewater Treatment Plant**

Dear Logan:

We have prepared a scope of work to assist VVWRA with the renewal of the NPDES permit for the Regional Wastewater Treatment Plant (RWWTP). The RWWTP NPDES permit is due to expire in September 5, 2018 and a Report of Waste Discharge for the permit renewal will be due to the Regional Board on March 9, 2018. Larry Walker Associates (LWA) would be pleased to assist VVWRA in the preparation and submittal of the Report of Waste Discharge (ROWD) and associated documents, review of the Draft Permit and the Tentative Order and negotiation needed to renew the NPDES permit. This work effort will be conducted according to the tasks described under the Scope of Work. An estimated budget and schedule are also provided.

Scope of Work

Task 1 – Review and Summarize Data

Before preparing the Report of Waste Discharge, LWA will review the applicable and available facility data for the period spanning September 2014 through September 2017 or the time period recommended by the Regional Board as appropriate. LWA will determine the sufficiency of these data sets and will augment these data with earlier data if necessary to provide the Regional Board with information for preparation of the administrative draft permit. In addition, LWA will review and summarize available receiving water quality and flow data for use in the Reasonable Potential Analysis and Effluent Limit Derivation (Task 3) and for inclusion as needed in the ROWD.

Task 2– Reasonable Potential Analysis and Effluent Limit Derivation

Utilizing the data provided to LWA under task 2, LWA will conduct an updated reasonable potential analysis for the RWWTP to determine which pollutants in VVWRA’s discharge may have a “reasonable potential” to cause or contribute to a

violation of water quality objectives. LWA's reasonable potential analysis will be consistent with the State's Implementation Policy for the Control of Toxic Pollutants (SIP), the Lahontan Basin Plan, precedent-setting orders adopted by the State Water Resources Control Board and other criteria used by the Lahontan Regional Water Quality Control Board. LWA will inform VVWRA of the results of its updated reasonable potential analysis to assist in identifying potential issues of concern. LWA will also prepare an independent projection of effluent limits for those pollutants identified as having a "reasonable potential." This information will be used in the preparation of the ROWD. In addition, LWA will evaluate the assumptions used by the Regional Board staff in its analysis of reasonable potential and in its development of effluent limits during their preparation of an administrative draft permit. This information will be used in the preparation of comments on the administrative draft permit.

Task 3 – Preparation of Report of Waste Discharge

LWA will complete the EPA and State of California ROWD required forms with assistance for VVWRA staff as needed using the previous ROWDs submitted by VVWRA as a starting point. The effluent and receiving water data described in Task 2 will be used to complete the ROWD forms. Facility descriptions will be incorporated into the ROWD forms or appendices to the forms, as appropriate. The above information will be assembled for submittal to the Regional Board. If necessary, LWA will conduct one meeting with Regional Board staff to discuss the ROWD and related information. Additional information will be prepared for submittal as needed to address comments generated by Regional Board staff.

Task 4-Prepare Supplemental Information

For issues that are identified by the reasonable potential analysis and effluent limits calculations or through discussions with Regional Board staff, memos describing approaches for addressing these issues will be prepared. An example of supplemental information could be documentation supporting a watershed permit approach or other topics associated with the current permit. The budget for this task is based on preparing three brief memorandums.

Task 5- Review and Comment on Administrative Draft Permit

LWA will review and assess the compliance ramifications (risk, cost, etc.) and major policy/legal issues of the administrative draft permit. LWA will provide written comments on the administrative draft permit to VVWRA staff and assist in the preparation of VVWRA's comment letter to the Regional Board.

Task 6- Review and Comment on Tentative Order

LWA will review and assess the compliance ramifications of the Tentative Order (public draft of the proposed NPDES permit). LWA will provide written comments on the Tentative Order to VVWRA staff and assist in the preparation of VVWRA's comment letter and technical responses to Regional Board staff.

Task 7 - Attend meetings with Regional Board staff on the proposed permit

LWA will attend two (2) meetings with Regional Board staff, as follows: one meeting after receipt of the administrative draft permit, and one meeting after receipt of the Tentative Order. If needed, LWA will attend a meeting with Regional Board staff prior to submittal of ROWD to discuss any identified issues. LWA will assist VVWRA staff in the preparation for these meetings, including the development of meeting materials, agendas, technical arguments, etc.

Task 8 – Prepare for and attend Regional Board hearing

Prior to the Regional Board hearing on the VVWRA’s permit, LWA will work with VVWRA and its representatives to prepare a hearing presentation. LWA will also attend the hearing and provide assistance and expertise to VVWRA as needed.

Task 9 – Project Management

LWA will prepare summary information regarding budget and schedule and conduct other tasks pertaining to management and administration of the contract. In addition, LWA will coordinate with VVWRA staff regarding permit renewal strategies and other project elements.

Budget and Schedule

The above tasks will be conducted for a cost not to exceed \$67,000 on a time and materials basis according to our standard billing rates, which are attached. Our billing rates typically change on July 1st of each year. A cost breakdown by task is shown below.

VVWRA Regional Wastewater Treatment Plant NDPEs Permit Renewal and Regulatory Assistance (2017-2018)
Larry Walker Associates, Inc.
Cost Estimate

Task No.	Task Description	LWA Hours				Labor Costs	Direct Costs(1)	LWA Costs
		Associate \$250	Project Engineer \$195	Contract Admin. \$150	Total Hours			
1	Review and Summarize Data	4	32		36	\$7,240		\$7,240
2	RPA/ Effluent limits	4	20		24	\$4,900		\$4,900
3	Prepare ROWD	6	32		38	\$7,740		\$7,740
4	Prepare supplemental information	16	40		56	\$11,800		\$11,800
5	Review and Comment on Administrative Draft	12	32		44	\$9,240		\$9,240
6	Review and Comment on Tentative Order	8	24		32	\$6,680		\$6,680
7	Attend meetings with Regional Board	24	8		32	\$7,560	\$1,200	\$8,760
8	Prepare for and Attend RB hearing	10	4		14	\$3,280	\$500	\$3,780
9	Project Management	16		16	32	\$6,400	\$150	\$6,550
TOTAL FOR ALL TASKS		100	192	16	308	\$64,840	\$1,850	\$66,690

(1) Direct costs include conference calls, travel and printing.

Assuming a Notice to Proceed by September 1, 2017 and that data and other documents are provided by VVWRA in a timely manner, LWA has the staff and resources available to complete the ROWD to allow submittal by March 9, 2018. LWA will be prepared to review and comment on the Administrative Draft and Tentative Order (Tasks 7 and 8) when each becomes available. Timing with respect to the supplemental information will be dependent on the nature of the information to be prepared and any deadline imposed by Regional Board staff for submittal of this information.

Again, we thank you for the opportunity to provide this proposal for services and look forward to the opportunity to continue to work with you on this important project. Please contact me if you have any questions or suggested changes to the scope, budget or schedule presented herein.

Sincerely,

A handwritten signature in blue ink, appearing to read "Betsy Elzufon". The signature is written in a cursive style with a horizontal line above the first part of the name.

Betsy Elzufon
Associate

LARRY WALKER ASSOCIATES

Rate Schedule Effective July 1, 2017 – June 30, 2018

PERSONNEL	Rate \$/Hour	REIMBURSABLE COSTS	
<i>Administrative</i>	\$ 85	Travel:	
<i>Contract Administrator</i>	\$150	Local mileage	Current IRS rate
<i>Project Staff I-C</i>	\$110	Transportation	Actual expense
<i>Project Staff I-B</i>	\$140	Auto rental	Actual commercial rate
<i>Project Staff I-A</i>	\$165	Fares	Actual expense
<i>Project Staff II-B</i>	\$175	Room	Actual expense
<i>Project Staff II-A</i>	\$195	Subsistence ⁽¹⁾	\$48 per day
<i>Senior Staff</i>	\$225	The rate for each meal as follows: ⁽¹⁾	
<i>Associate</i>	\$250	Breakfast	\$ 9
<i>Vice President</i>	\$275 - \$285	Lunch	\$13
<i>President</i>	\$300	Dinner	\$21
		Incidentals	\$ 5
		Report Reproduction and Copying:	
		Actual expense	
		Black and white copy, in-house	\$0.08
		Color copy, in-house	\$0.89
		Binding, in-house	\$1.95
		Special Postage and Express Mail:	
		Actual expense	
		Other Direct Costs:	
		Actual expense	
		Daily Equipment Rental Rates:	
		Single parameter meters & equipment	\$ 30
		Digital Flow Meter	\$ 60
		Multi-parameter field meters & sondes	\$100
		Dye/tracer mapping or residence time	\$200
		Multi-parameter continuous remote sensing	\$ 40
		Subcontractors:	
		Actual expense plus 10% fee	

Note: ⁽¹⁾ Charged when overnight lodging is required.

Revised 5/05/17



VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
Report/Recommendation to the Board of Commissioners

17 August 2017

FROM: Logan Olds, General Manager *LO*
TO: Board of Commissioners
SUBJECT: Amendment for 2017 Regulatory Assistance

RECOMMENDATION

It is recommended that the Board of Commissioners authorize the General Manager to increase the existing 2017 Regulatory Assistance professional service contract with Larry Walker and Associates by an amount not to exceed \$8,000.00 eight thousand dollars for a revised total of \$50,000.00.

REVIEW BY OTHERS

This recommendation was reviewed by Piero Dallarda, Legal Counsel; Eugene Davis, Operations and Maintenance Supervisor.

BACKGROUND INFORMATION

Please refer to the attached Staff Recommendation from 16 February 2017. It is now necessary to prepare and submit the Sampling and Analysis Plans (SAP's) for the Hesperia and Apple Valley Subregionals. These reports provide the necessary detail for Lahontan Regional Water Quality Control Board (LRWQCB) to prepare the self-monitoring and certification program through the state California Integrated Water Quality System (CIWQS) computer system. The SAP's are required to be submitted prior to VWRA discharging effluent (recycled water) from the Apple Valley and Hesperia subregional water reclamation plants. Staff has prepared the initial drafts of the documents however further detail is required to ensure the document meets the regulatory standard required by LRWQCB.

FINANCIAL IMPACT

This is a FY 17-18 Budgeted Expense

Finance Approval:

Fund 01 or 07	
Accounting Code (String) example: 01-xx-xxx-xxxx (project code if any)	01-02-300-8130
Transfer Needed due to Insufficient Budget	Y [] N [X]
If Transfer, from Which Account String or Reserve	
Budgeted Amount Where Money Comes from	
Budget Remaining after the Recommendation	
Outside Funding Source if applicable	\$
Original Contract Amount	\$42,000.00
Change Order	Y [X] N []
Contract after Change	\$50,000.00

Fund 09	
Accounting Code (String) example: 09-xx-xxx-xxxx (mandatory project code)	
Transfer Needed due to Insufficient Budget	Y [] N []
If Transfer, from Which Account String or Reserve	
Budgeted Amount Where Money Comes from	
Budget Remaining after the Recommendation	
Outside Funding Source	\$
Original Contract Amount	\$
Change Order	Y [] N []
Contract after Change	\$

RELATED IMPACTS

Compliance with Apple Valley and Hesperia Waste Discharge Requirement (WDR) permits.



August 7, 2017

Mr. Logan Olds
 General Manager
 Victor Valley Wastewater Reclamation Authority
 20111 Shay Road
 Victorville, CA 92394

Scope of Services Amendment– 2017 Regulatory Assistance

Dear Logan:

In February 2017, Larry Walker Associates was authorized to assist VVWRA with implementation of its permit requirements including:

- Facilitating Recycled Water Program Implementation under the Statewide General Order
- Preparing annual reports required by VVWRA's permits including R6V-2012-0058, R6V-2013-0004, R6V-2013-0005, R6V-2013-0038, and R6V-2003-028)
- General Regulatory Assistance

In June 2017, VVWRA requested that LWA assist with the preparation of the Sampling and Analysis Plans required by the WDR/WRRs for the Subregional Facilities (Orders R6V-2013-0003 & R6V-2013-0004). These are in addition to the annual reports that were included in the original scope of work.

The scope of work and budget to prepare the SAPs is provided below.

SCOPE OF WORK

LWA will prepare the SAP for the Apple Valley Sub-Regional Water Reclamation Plant and the SAP for the Hesperia Sub-Regional Water Reclamation Plant as required by Orders R6V-2013-004 and R6V-2013-005 respectively. Each SAP will include a detailed description of procedures and techniques required for:

1. Sample collection, sample locations, including purging techniques, sampling equipment, and decontamination of sampling equipment;
2. Groundwater well purging methods;
3. Groundwater well sample collection methods;
4. Sample preservation and shipment;
5. Analytical methods and procedures;
6. Chain of custody control; and
7. Quality assurance/quality control (QA/QC).

LWA will prepare a draft SAP to be reviewed by VVWRA staff. A final version of each SAP will be prepared for submittal to the Regional Board incorporating comments by VVWRA. In addition, LWA will prepare a summary of the SAP with respect to daily, weekly, monthly quarterly and annual tasks to facilitate use by operations staff.

BUDGET AND SCHEDULE

LWA will prepare the SAPs and operations summary for a cost not to exceed \$10,000 on a time and materials basis according to our standard billing rates which are attached. The authorized budget for the previous scope was \$42,000 of which \$40,000 had been expended through June 30, 2017. Therefore, LWA requests an amendment to the current budget of \$8,000 for a total of \$50,000.

The SAPs can be completed and submitted to the Regional Board by September 30, 2017.

Thank you for the opportunity to provide this proposal for services. Please feel free to contact me at betsye@lwa.com or (530) 753-6400 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Betsy Elzufon".

Betsy Elzufon
Associate

LARRY WALKER ASSOCIATES

Rate Schedule Effective July 1, 2017 – June 30, 2018

PERSONNEL	Rate \$/Hour	REIMBURSABLE COSTS	
<i>Administrative</i>	\$ 85	Travel:	
<i>Contract Administrator</i>	\$150	Local mileage	Current IRS rate
<i>Project Staff I-C</i>	\$110	Transportation	Actual expense
<i>Project Staff I-B</i>	\$140	Auto rental	Actual commercial rate
<i>Project Staff I-A</i>	\$165	Fares	Actual expense
<i>Project Staff II-B</i>	\$175	Room	Actual expense
<i>Project Staff II-A</i>	\$195	Subsistence ⁽¹⁾	\$48 per day
<i>Senior Staff</i>	\$225	The rate for each meal as follows: ⁽¹⁾	
<i>Associate</i>	\$250	Breakfast	\$ 9
<i>Vice President</i>	\$275 - \$285	Lunch	\$13
<i>President</i>	\$300	Dinner	\$21
		Incidentals	\$ 5
		Report Reproduction and Copying:	
		Actual expense	
		Black and white copy, in-house	\$0.08
		Color copy, in-house	\$0.89
		Binding, in-house	\$1.95
		Special Postage and Express Mail:	
		Actual expense	
		Other Direct Costs:	
		Actual expense	
		Daily Equipment Rental Rates:	
		Single parameter meters & equipment	\$ 30
		Digital Flow Meter	\$ 60
		Multi-parameter field meters & sondes	\$100
		Dye/tracer mapping or residence time	\$200
		Multi-parameter continuous remote sensing	\$ 40
		Subcontractors:	
		Actual expense plus 10% fee	

Note: ⁽¹⁾ Charged when overnight lodging is required.

Revised 5/05/17



VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
Report/Recommendation to the Board of Commissioners

16 February 2017

FROM: Logan Olds, General Manager

TO: Board of Commissioners

SUBJECT: Larry Walker and Associates, 2017 Regulatory Assistance

RECOMMENDATION

It is recommended that the Board of Commissioners authorize the General Manager to engage Larry Walker and Associates in a professional service agreement for the purpose of providing regulatory assistance in an amount not to exceed \$42,000.00

REVIEW BY OTHERS

This recommendation was reviewed by Piero Dallarda, Legal Counsel.

BACKGROUND INFORMATION

The loss of VVWRA's Director of Operations created an issue with the preparation of the annual reports to Lahontan Regional Water Quality Control Board and Region 9 EPA. Staff intends to assist in the preparation of the annual reports listed in the attached scope of work so that this function may be performed in house in 2018. Currently staff is trained in the submission of monthly and quarterly water quality reports. The annual reports require additional effort to prepare as well as their submittal electronically in the correct formatting.

FINANCIAL IMPACT

The cost of this professional service will be funded by a transfer from the budgeted personnel expense for Director of Operations to Regulatory Consulting account 8135.

Finance Approval:

Fund 01 or 07	
Accounting Code (String) example: 01-xx-xxx-xxxx (project code if any)	01-03-300-8135
Transfer Needed due to Insufficient Budget	Y [X] N []
If Transfer, from Which Account String or Reserve	01-03-300-5000

Fund 09	
Accounting Code (String) example: 09-xx-xxx-xxxx (<u>mandatory</u> project code)	
Transfer Needed due to Insufficient Budget	Y [] N []
If Transfer, from Which Account String or Reserve	

Budgeted Amount Where Money Comes from	
Budget Remaining after the Recommendation	
Outside Funding Source if applicable	\$
Original Contract Amount	\$42,000.00
Change Order	Y[] N[]
Contract after Change	\$

Budgeted Amount Where Money Comes from	
Budget Remaining after the Recommendation	
Outside Funding Source	\$
Original Contract Amount	\$
Change Order	Y[] N[]
Contract after Change	\$

RELATED IMPACTS

The ability to submit the required annual reports on time and accurately.



VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
Report/Recommendation to the Board of Commissioners

August 17, 2017

FROM: Marcos Avila Maintenance Mechanic Lead *MA*

TO: Logan Olds, General Manager

SUBJECT: Biogas Engineering gas conditioning media replacement.

RECOMMENDATION

It is recommended that the Board of Commissioners authorize a professional service contract with Biogas Engineering to provide media replacement services for the gas conditioning system in an amount not to exceed \$51,300.00, fifty one thousand three hundred dollars.

REVIEW BY OTHERS

This recommendation was reviewed by Eugene Davis Director of Operations, Ryan Love Operations Lead, and Piero Dallarda, Legal Counsel.

BACKGROUND INFORMATION

The existing professional service agreement with VVWRA's current media provider has expired. VVWRA staff wishes to enter in to a new professional service agreement with Biogas Engineering due to the desire to reduce the time periods between media change out and to reduce the overall cost by increasing the longevity of the media.

The gas conditioning system is designed to remove hydrogen sulfide, organic sulfur compounds and siloxanes to enable the use of 100% digester gas to fuel gas engine-driven blowers and other energy recovery uses while meeting air quality emission requirements and minimizing deposit of silicon dioxide in the combustion and exhaust chambers of internal combustion engines .

The gas conditioning system has two vessels that utilize specialized iron sponge media for sulfur removal. The current iron sponge media that we have utilized since startup in 2013 has lasted an average of 3 to 6 months with an average gas flow of 360 SCFM.

There are also an additional two vessels with carbon media for absorption and removal of siloxanes. VVWRA currently uses Cabbot RB4 media for the siloxane vessels. Biogas Engineering has recommended a change to Cabbot BG1 activated carbon based media as an alternative hydrogen sulfide media replacement due to its anticipated longer lifespan. The

longevity of Cabbot BG1 is anticipated to be between 18-24 months versus the 3-6 months with Cabbot RB4 media. The lifespan of the recommended media will drastically reduce the media change out frequency and thus potentially significantly reduce media cost.

FINANCIAL IMPACT

This is a FY 17-18 Budgeted Expense.

Finance Approval:

Fund 01 or 07	
Accounting Code (String) example: 01-xx-xxx-xxxx (project code if any)	01-02-152-6165-9999
Transfer Needed due to Insufficient Budget	Y[] N[X]
If Transfer, from Which Account String or Reserve	NA
Budgeted Amount Where Money Comes from	01-02-152-6165-999
Budget Remaining after the Recommendation	\$83,700
Outside Funding Source if applicable	NA
Original Contract Amount	\$51,300
Change Order	Y[] N[X]
Contract after Change	NA

Fund 09	
Accounting Code (String) example: 09-xx-xxx-xxxx (<u>mandatory</u> project code)	
Transfer Needed due to Insufficient Budget	Y[] N[X]
If Transfer, from Which Account String or Reserve	NA
Budgeted Amount Where Money Comes from	NA
Budget Remaining after the Recommendation	NA
Outside Funding Source	NA
Original Contract Amount	NA
Change Order	Y[] N[X]
Contract after Change	NA

RELATED IMPACTS

- Reduce media change out frequency
- Longer media life.
- Less equipment down time.
- Consistent H2S results



August 1, 2017

Marcos Avila
Victor Valley Wastewater Reclamation Authority
20111 Shay Rd.
Victorville, CA 92394

Subject: Proposal to Replace Existing Media in Existing Hydrogen Sulfide and Siloxane Removal Vessels at Victor Valley Reclamation Authority (VVWRA) Facility.

Dear Mr. Avila,

The VVWRA owns and operates a waste water treatment plant (WWTP) located at 20111 Shay Road, Victorville, CA-92394. The digester gas (DG) produced at the WWTP is used to fuel the engines which generates electricity to supply power for the WWTP. Prior to sending the DG for power generation, hydrogen sulfide (H₂S) and Siloxane are removed from the DG using scavenger based media in the existing vessels at the WWTP.

The VVWRA asked Biogas Engineering (Biogas) to recommend the replacement of existing media used in H₂S vessel (iron sponge) and Siloxane vessel. Biogas Engineering was provided following information, which was used for the evaluation and recommendation of new media:

Existing H₂S Vessel

Vessel Size – 8'-0" diameter and 8'-0" high fiber glass vessel
Operating Pressure – 0.4 psig vacuum
Inlet Temp – 65-85°F
Raw DG flow (average) – 282 scfm
Inlet H₂S (average) – 55 ppmv
Outlet H₂S (average) – 0 ppmv (desired)
CH₄ – 65.3%
O₂ – 0.2%
N₂ – 0.7%
CO – <0.1%
CO₂ – 33.9%

Based on the above listed conditions, we recommend Cabbot BG1 activated carbon based media, which will require change out in 18-24 months.

Existing Siloxane Vessel

Vessel Size – 4'-6" diameter and 8'-0" high steel vessel
Operating Pressure – 4 psig
Inlet Temp – 65-85°F
Raw DG flow (average) – 282 scfm
Inlet Siloxane – per March 2017 testing results

Outlet Siloxane – 0 ppmv (desired)

We recommend using Cabbot RB4 media for this vessel based on the above listed information. It is our understanding that this media will perform better in existing conditions and will remove Siloxane to parts per billion level (ppb levels).

Provided below is the scope of work to remove the existing media from the existing vessel and replace it with the new media.

SCOPE OF WORK

Following activities are included in the scope of work:

1. Removal of existing media from one Siloxane media vessel and one H₂S media vessel.
2. Testing of media as required by the EPA to establish that media is non hazardous and will be acceptable to a landfill for disposal. Please note that this proposal does not cover the cost of the media disposal if the media is hazardous.
3. Storage of media on site until we obtain the lab results to establish that media is non hazardous.
4. Supply and install the recommended media in one 8'-0" dia.- 8'-0" high H₂S vessel and Siloxane media in one 4'-6" dia. and 8'-0" high vessel.
5. Prepare long term monitoring and testing plan for the H₂S and Siloxane vessels.

Please note that Biogas Engineering staff scope of work is limited to media selection, we propose that existing H₂S and Siloxane vessel operating conditions shall be reevaluated in the preview of the vessel rated capacity and adjusted shall be made to the operating conditions as necessary for the safety of the equipment and personnel.

PROJECT FEE

We propose a lump sum fee of **\$51,300** to perform the above listed work. Biogas will need 2-3 week of lead time for the order and delivery of the media.

CLOSING

We sincerely thank VWVRA for providing us another opportunity to assist you. We have enjoyed working with your staff in the past and look forward to assisting you again on this project. If you have any questions, please contact the undersigned.

Sincerely,



Arnold Ramirez, PE
Sr. Project Manager
Cell: (909) 942-0751
BIOGAS ENGINEERING



Gautam Arora, PE
President
Cell: (909) 286-9900
BIOGAS ENGINEERING



VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
Report/Recommendation to the Board of Commissioners

August 17, 2017

FROM: Alton Anderson, Construction Manager

TO: Logan Olds, General Manager AA

SUBJECT: Recommendation to approve the award of a Professional Services Agreement for Design Services in the amount of \$184,960.00 for the Desert Knolls Wash Interceptor Project to Carollo Engineers

RECOMMENDATION

It is recommended that the Board of Commissioners approve the award of a Professional Services Agreement for Design Services for the Desert Knolls Wash Interceptor Sewer Project (“Project”) to Carollo Engineers (“Carollo”) in the amount of \$184,960.00 pursuant with their proposal dated June 29, 2017 and in accordance with Government Code Section 4526.

REVIEW BY OTHERS

This recommendation was prepared by Alton Anderson, Construction Manager and reviewed by Logan Olds, General Manager, and by Piero Dallarda, Attorney for VVWRA as well as the Engineering Committee including; Tim Millington County of San Bernardino, Brian Gengler, City of Victorville, Greg Snyder, Town of Apple Valley and David Burkett, City of Hesperia.

BACKGROUND INFORMATION

The Desert Knolls Wash Interceptor Project is a critical project in the Town of Apple Valley. The location of this portion of the VVWRA Interceptors has been a noted project of concern for relocation for several years. On December 24, 2016 this became an urgent project. Storm events exposed and “lifted” a portion of the pipeline creating a possibility for spilling raw sewage. As previously presented to the Board, emergency action was taken to stabilize the area and prevent immediate damage, but the urgency of the replacement remains.

San Bernardino County is also planning a project to install control structures to mitigate future erosion in this area. The VVWRA interceptor crosses the channel in two locations and is within the area of the County’s project over a large reach. The proposed project will move our interceptor out of this work area.

The Board was updated on this matter in January and in February approved the release of a Request For Proposal (“RFP”) for Design Services for the Project. Staff met with County officials to review their project and with Lewis Center personnel to identify their concerns. The RFP included information developed from these meetings.

The RFP spelled out five major items for the Project:

1. Interceptor relocation outside eroding area
2. Mitigate odors in this area
3. Flow measurement
4. Grit removal
5. Method of cleaning the inverted siphon under the Mojave River

Due to the complexity of the Project, VVWRA solicited proposals for Design Services. The RFP was released May 22nd and proposals received on June 29th.

The schedule for this RFP is:

Request for Proposals released	May 22, 2017
Mandatory Pre-Proposal Meeting	June 5, 2017
Submission of Proposals	June 29, 2017
Recommendation to Engineering Committee	August 8, 2017
Recommendation to Award	August 17, 2017

Three highly qualified firms submitted proposals: Dudek, IEC, and Carollo Engineers. Dudek and Carollo are familiar with and are currently working on VVWRA projects. IEC is working with several cities and other agencies in the area.

The proposals were reviewed by Alton Anderson, Construction Manager. On August 8th a summary of the review and a copy of the proposals was sent to the VVWRA Engineering Committee for their concurrence in the selection. The committee, Tim Millington, Greg Snyder, Brian Gengler, and David Burkett, agreed and gave their concensus to support the staff recommendation to the Board.

VVWRA Staff formalized the review of the proposals and ranked them based on the following scoring criteria:

30%	Project understanding
25%	Project Approach
25%	Qualifications & Experience
10%	References
10%	Level of Effort

In addition to the foregoing criteria, the RFP provided for the award of bonus points for excellent work presented. Carollo received 2 bonus points and Dudek received 1 bonus point.

The following table summarizes the scoring of the proposals.

DESIGN SERVICES EVALUATION SCORING

Firm	Weighted Score
Carollo	96.7
Dudek	90.9
IEC	88

Following evaluation of the technical proposals, Staff reviewed the cost proposals submitted by the proposers. IEC was the highest cost, with Carollo mid range and Dudek being the lowest cost. To help evaluate the cost proposals Staff reviewed the hours each firm projected would be spent on Design Services for the Project and the rate sheets presented by each firm. The number of hours assigned is a useful tool to determine if the proposal reflects the work anticipated by Staff. Based on the foregoing, the following are the anticipated hours for each of the proposers.

Dudek	498 hours
Carollo	845 hours
IEC	698 hours

Carollo listed the highest number of hours but the actual cost falls between the other proposals. Staff considers the hours and costs by Carollo to be reasonable for this project. Considering the ranking and the costs together Staff and the Engineering Committee recommend that Carollo be awarded the Design of the Desert Knolls Wash Interceptor Project.

Government Code section 4526 provides that contracts for design services be awarded on the basis of demonstrated competence and qualifications necessary for the satisfactory performance of the services required and at a fair and reasonable price to the public agency.

Based on Staff's evaluation of the technical proposals and cost proposals and following successful negotiations with Carollo as the highest ranked proposer, Staff recommends the the Board of Commissioners award Carollo the contract for Design Services for the Project in the amount of \$184,960.00 – the contract will have a 12 month term covering the design and bidding phases of the Project. Carollo has demonstrated that it has the competence and professional qualifications necessary for the satisfactory performance of Design Services for the Project. Further Carollo's cost proposal is a fair and reasonable price for the level of service proposed.

FINANCIAL IMPACT

This is a FY 17-18 Budgeted Capital Expense.

Finance Approval:

Fund 01 or 07	
Accounting Code (String) example: 01-xx-xxx-xxxx (project code if any)	
Transfer Needed due to Insufficient Budget	Y [] N []
If Transfer, from Which Account String or Reserve	
Budgeted Amount Where Money Comes from	
Budget Remaining after the Recommendation	
Outside Funding Source if applicable	\$
Original Contract Amount	\$
Change Order	Y [] N []
Contract after Change	

Fund 09	
Accounting Code (String) example: 09-xx-xxx-xxxx (<u>mandatory</u> project code)	09-19-20-9025 09-19-20-9000
Transfer Needed due to Insufficient Budget	Y [x] N []
If Transfer, from Which Account String or Reserve	Capital Reserve
Budgeted Amount Where Money Comes from	\$240,000
Budget Remaining after the Recommendation	
Outside Funding Source	
Original Contract Amount	
Change Order	Y [] N [x]
Contract after Change	\$184,960.00

The fiscal impact is a total of \$184,960.00 over the 12 month term of the contract. The impact to the VVWRA FY 17/18 Budget will be \$184,960.00 to Budget Account 09-19-20-9025/9000.

RELATED IMPACTS

None

Proposal Evaluation Summary
Desert Knolls Wash Interceptor
Engineering Design Services

Proposal Category	Weight	Raw Score			Weighted Scores		
		Dudek	IEC	Carollo	Dudek	IEC	Carollo
Project Understanding	30%	90	86	98	27	25.8	29.4
Project Approach	25%	88	86	96	22	21.5	24
Qualifications & Experience	25%	94	90	96	23.5	22.5	24
References	10%	94	90	95	9.4	9	9.5
Level of Effort	10%	90	92	98	9	9.2	9.8
	100%				90.9	88	96.7

Firm	Score
Dudek	90.9
IEC	88
Carollo	96.7



Victor Valley Wastewater
Reclamation Authority

Desert Knolls Wash Interceptor Design



TECHNICAL PROPOSAL

JUNE 2017



carollo
Engineers...Working Wonders With Water®



3150 Bristol Street, Suite 500, Costa Mesa, California 92626
P. 714.593.5100 F. 714.593.5101

June 29, 2017

Mr. Alton Anderson, Construction Manager
Victor Valley Wastewater Reclamation Authority
20111 Shay Road
Victorville, California 92394

Subject: Proposal to Provide Professional Engineering Services - Desert Knolls Wash Interceptor Design

Dear Mr. Anderson:

In order to ensure that the objectives of the Desert Knolls Wash Interceptor Design project are successfully met, it is critical that Victor Valley Wastewater Reclamation Authority's (VWVRA's) consulting engineer have a comprehensive understanding of the various challenges that must be addressed during the project. Carollo Engineers is in the unique position of having been involved in the South Apple Valley Interceptor Preliminary Assessment. No other engineering firm can offer this depth of understanding of the project, and provide continuity of services from previous work. Our proposal provides a detailed understanding of the project, and an approach to the key challenges that must be addressed for successful implementation.

The Carollo team has been strategically assembled to be a responsive and streamlined extension of VWVRA staff, facilitating rapid mobilization and the ability to initiate and produce results. Our team possesses recent experience that is directly applicable to this project, as specified in the RFP. Our team offers the following benefits to VWVRA:

- **A local firm with a proven track record of providing engineering design services.** Our Southern California offices have successfully provided design services on similar projects to many local municipalities and agencies, including VWVRA; Long Beach Water District; the cities of San Diego, Santa Paula, Oxnard, Simi Valley, Los Angeles, Thousand Oaks, Oceanside, and Santa Barbara; as well as the Orange County Sanitation District and Eastern Municipal Water District, among others.
- **Expertise in water, sewer, and recycled water infrastructure projects.** Our team members have years of experience in water, sewer, and recycled water infrastructure design and construction management, including pipelines, pump stations, storage facilities, and other related project elements.

Our proposal demonstrates the high level of commitment, understanding, and expertise that we bring to VWVRA, and we look forward to working with you on this important endeavor.

Sincerely,

CAROLLO ENGINEERS, INC.

Andrew Gilmore, PE
Principal-in-Charge

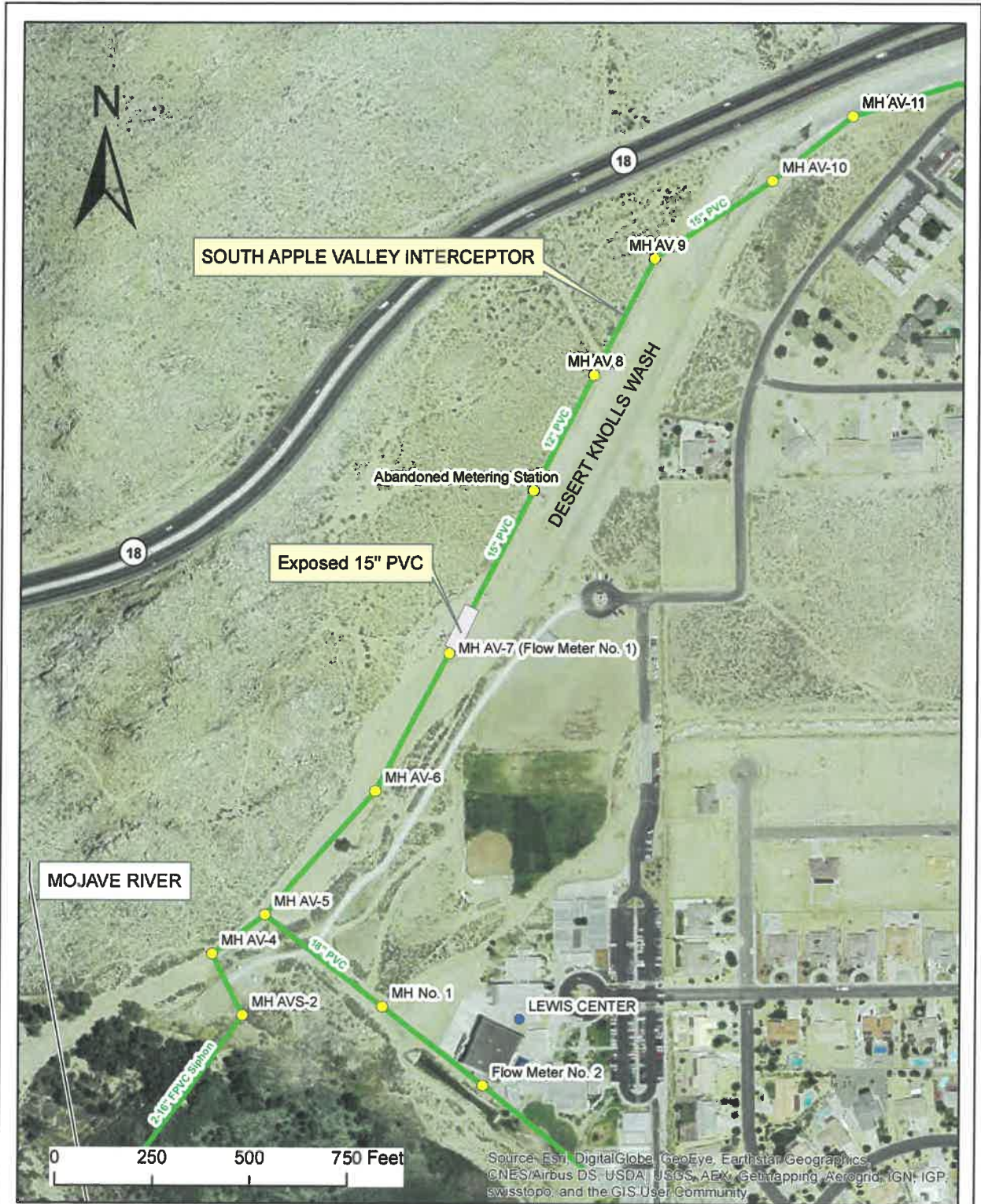
Yazdan (Yaz) T. Emrani, PE, QSD
Project Manager



TABLE OF CONTENTS

- Executive Summary
- Business Organization
- Project Team
- Approach to the Scope of Work
- Schedule
- Prior Experience
- Binding Proposal and Litigation
- Other Information
- Appendix
 - Resumes
 - Insurance Requirements

FIGURE 1



SITE MAP
SHOWING EXPOSED INTERCEPTOR
 FIGURE 1.2



VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
 SOUTH APPLE VALLEY INTERCEPTOR RELOCATION



APPROACH TO THE SCOPE OF WORK

Project Overview

The alignment defined in the assessment (see Figures 2 and 3) is located outside the jurisdictional boundaries for the US Army Corps of Engineers and the Lahonton Regional Water Quality Control Board (USACE-RWQCB), which will minimize environmental impacts and permits. The assessment identifies crossing future improvements such as a soccer field, baseball diamond, and softball diamond that are related to the Lewis Center for Educational Research. Coordination will also be required with the San Bernardino County Flood Control District for the proposed Desert Knolls Channel Improvement Plan Phase III project. During the Assessment project, Mr. Erwin Forgerson was instrumental in providing coordination and data for the Assessment and will continue in that capacity for the design. The existing abandoned sewer pipes will be required to be removed during the Phase III Project.

Permits

The California Environmental Quality Act (CEQA) would likely require an Initial Study/Mitigated Negative Declaration (IS/MND) due to site issues related to Native Americans and the Lewis Center. An IS/MND takes a minimum of 90 days and includes a 30-day public review period. Jericho Systems is in the process of completing the IS/MND, which includes the following studies:

- Cultural Resources/AB-52 Consultation.
- Biological Resources.
- Air Quality/Green House Gas (for construction).

Jericho Systems has completed the Cultural Resources and Biological Resources studies. In order to finalize the analysis, a complete 60 percent level set of plans defining the alignment, project description, and project scenario is required.

Based on the most recent archaeological site record, the area in question for this project is within Locus 1, which appears to contain considerable data potential related to chronology, settlement subsistence

strategies, lithic technology, site formation processes, inter- and intra-site variability, and mortuary practices. The site is situated within the Area of Potential Effect (APE) and avoidance is recommended. Since avoidance is not a feasible option, Phase II testing is recommended.

During construction, archaeological monitoring may be required. We have included Begay-Taylor Archaeological Survey on our team to provide design guidance, if necessary.

During construction, there will not be any flow issues with the South Apple Valley interceptor being bypassed. The new line will be complete before any switch of flow is made. Flow through plugs will be used during the switch from the existing sewer interceptor to the new interceptor.

In addition to the environmental permits required, an encroachment permit will be required from San Bernardino County for the abandonment of the existing pipe and the new sanitary sewer pipe. By abandoning the existing pipeline in place and moving the alignment out of the wash, it would be removed from the Clean Water Act jurisdiction. Therefore, there will be no need for USACE, California Fish and Game, or RWQCB permits. The new alignment may also require an encroachment permit from County of San Bernardino and City of Apple Valley.

Right-of-Way

The proposed sewer will be located in property owned by the High Desert Partnership in Academic Excellence (western portion) and the San Bernardino Flood Control District (eastern portion). For the location of the odor control facility located at Tao Road and Highway 18, there are private property owners, including the Bailey Claude Living Trust and property owned by the Apple Valley Fire District of San Bernardino County. Carollo will work with Cornerstone Right-of-Way LLC and provide CAD information at the completion of the 60 percent design, or sooner if applicable, for property acquisition.



PROPOSED PIPELINE ALIGNMENT - 1 OF 2
FIGURE 1.5
VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
SOUTH APPLE VALLEY INTERCEPTOR RELOCATION

FIGURE 2

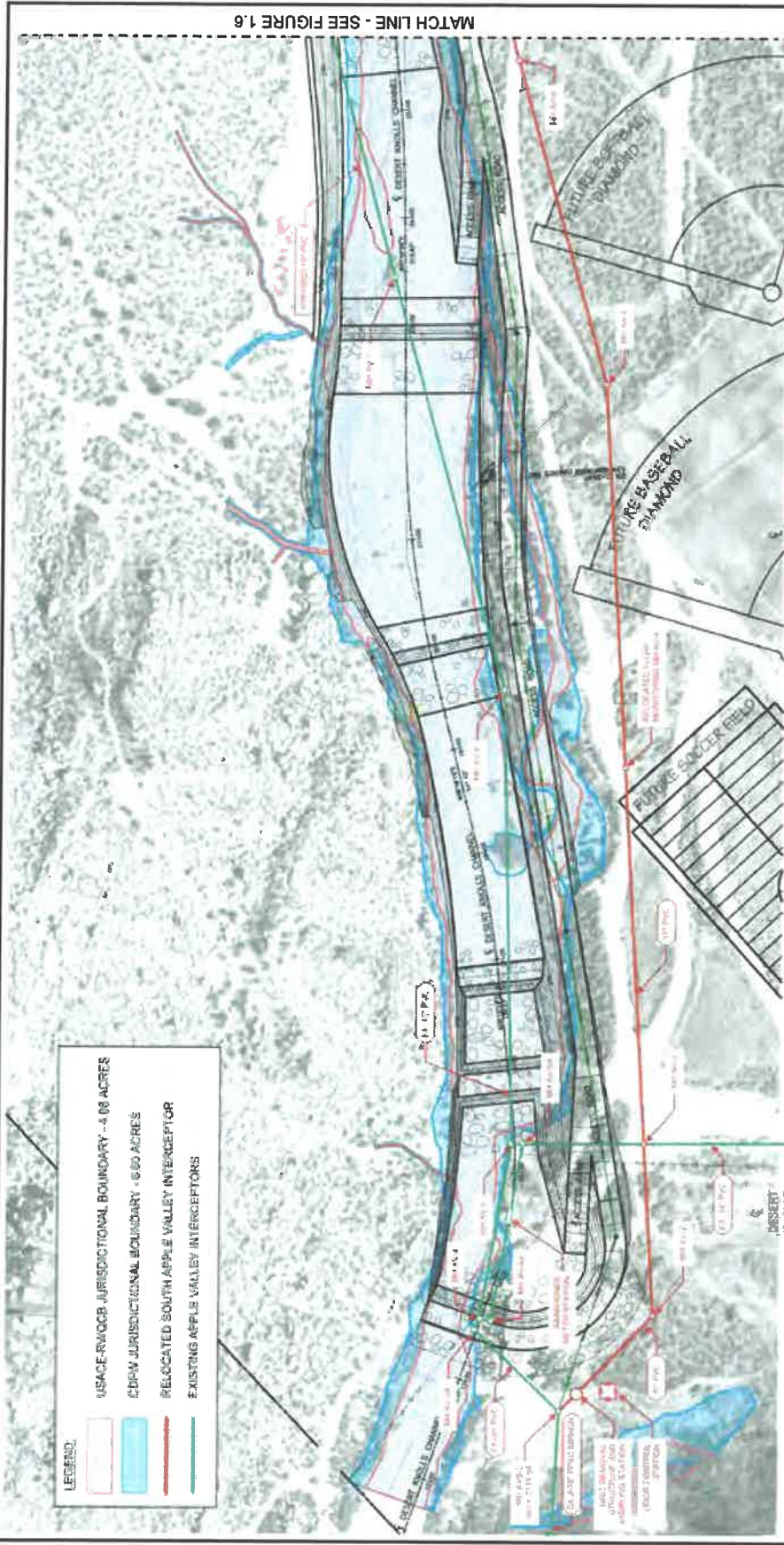
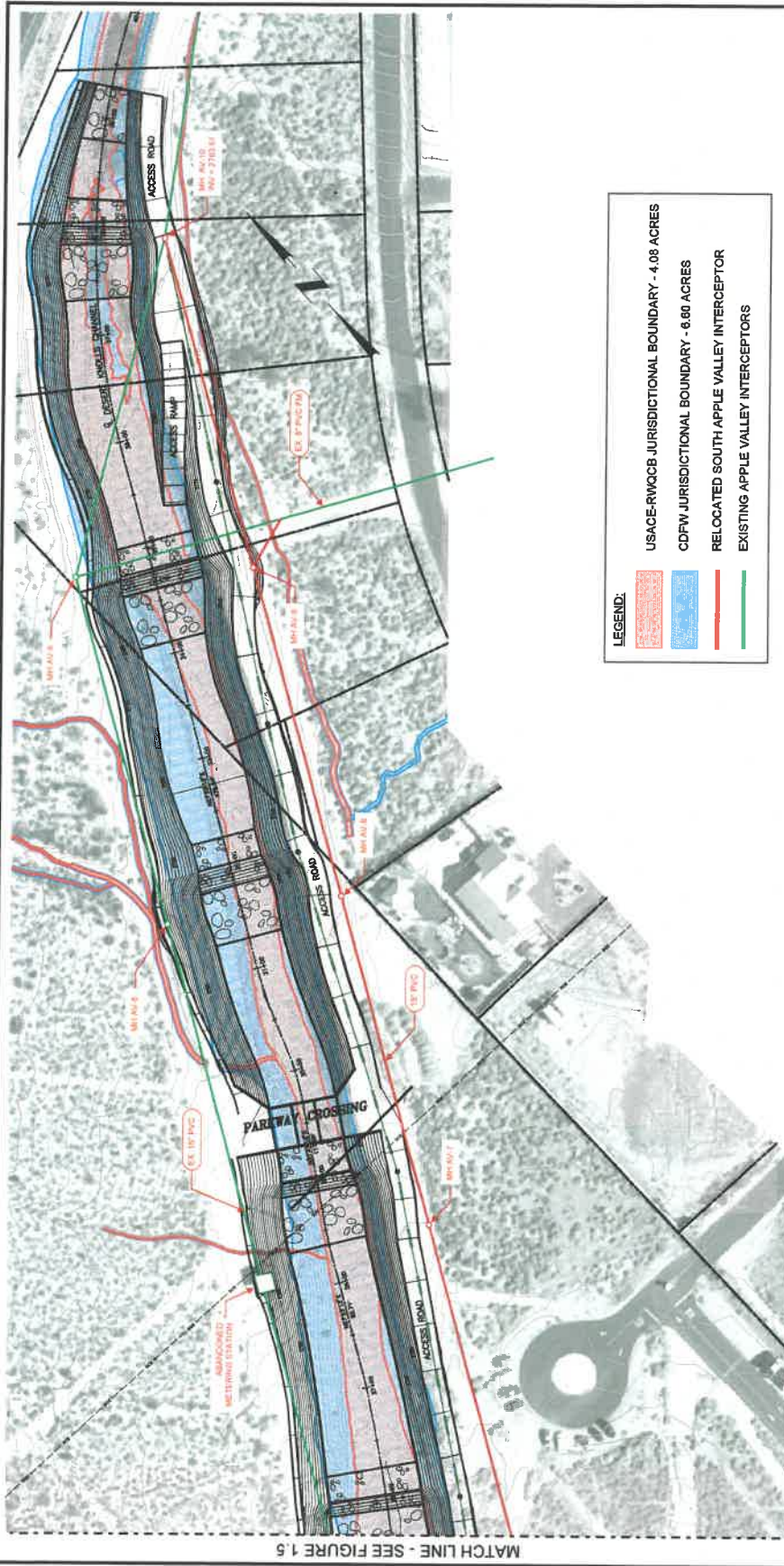




FIGURE 3



PROPOSED PIPELINE ALIGNMENT - 2 OF 2
FIGURE 1.6

VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
SOUTH APPLE VALLEY INTERCEPTOR RELOCATION



Monthly Progress Reports

We will prepare monthly project progress reports to keep VVWRA informed regarding progress, issues, and financial status. The monthly progress reports will include:

- **Scope Report.** A progress report of accomplishments, problems encountered or anticipated, project decision log, and work scheduled for the next reporting period.
- **Cost Report.** Contains information on the current period and accumulated expenditures to date, the approved not-to-exceed fee, the estimated cost of completion, and a comparison of the latter two to show any variation. This will include design or task percent complete versus project area as tracked by task order.
- **Schedule Report.** A report confirming actual progress to planned performance. The report will include a description of known or possible impacts on the schedule, and a presentation of deliverable submittal dates.
- **Invoices.** A summary of labor expenditures, direct costs, and billed subconsultant charges. Invoices transmitted separately from the progress reports will be organized so that the billing categories correspond with the scope of work tasks.

SCHEDULE

We have developed a proposed project schedule (shown in Exhibit 2 in the Schedule section) based on our extensive understanding of the project scope. The schedule assumes the nine scope of work items presented in the RFP and a notice-to-proceed date of August 25, 2017. It is anticipated that the design for the entire project can be accomplished in five months. Additional time is estimated for bid phase services.

SCOPE OF WORK

The following presents an outline of the proposed scope of work for this project and corresponds directly with the tasks identified in your RFP. The outline is provided due to limited page space, but a full comprehensive scope can be provided at VVWRA's request.

Task 1 - Project Management

- Task 1.1 - Project Management.
- Task 1.2 - Coordination with VVWRA and other Agencies.
- Task 1.3 - Work Plan and Schedule.

Task 2 - Project Meetings

- Task 2.1 - Project Kick-Off.

- Task 2.2 - Mid-Project Meeting (Combine with Review Meeting).
- Task 2.3 - Two VVWRA Board Meetings (not included in schedule - as proposed by VVWRA).
- Task 2.4 - VVWRA Engineering Committee Meetings (not included in schedule - as proposed by VVWRD).

Task 3 - Permit Review

- Task 3.1 - VVWRA Permit Review.

Task 4 - Utility Research

- Task 4.1 - Utility Research.

Task 5 - Preliminary Site Visit

- Task 5.1 - Conduct Site Visit.

Task 6 - Constraints, Technical Challenges, Conditions of Special Note

- Task 6.1 - Prepare Preliminary Design Report.

Task 7 - Design Submittal and Review

- Task 7.1 - Topographic Survey and Aerial Mapping.
- Task 7.2 - Prepare 60 Percent Construction Documents.
 - Task 7.2.1 - Prepare Plans.
 - Task 7.2.2 - Prepare Specifications.
 - Task 7.2.3 - Prepare Cost Estimate.
 - Task 7.2.4 - Utility, Right-of-Way, and Permit Coordination.
- Task 7.3 - VVWRA Review and Review Meeting.
 - Task 7.3.1 - VVWRA Review.
 - Task 7.3.2 - Review Meeting.

Task 8 - "Nearly Final" Submittal

- Task 8.1 - Prepare "Nearly Final" Construction Documents.
 - Task 8.1.1 - Prepare Plans.
 - Task 8.1.2 - Prepare Specifications.
 - Task 8.1.3 - Prepare Cost Estimate.
 - Task 8.1.4 - Utility, Right-of-Way, and Permit Coordination.
- Task 8.2 - VVWRA Review and Review Meeting.
 - Task 8.2.1 - VVWRA Review.
 - Task 8.2.2 - Review Meeting.

Task 9 - Final Submittal

- Task 9.1 - Submit Final Design.
 - Task 9.1.1 - Submit Plans, Specifications, and Cost Estimate.
 - Task 9.1.2 - Submit Executed Permits.
- Task 9.2 - Bid Phase Services (not included in fee).

Services and Capabilities

Our Native American Services Group specializes in providing customized, cost-effective, and innovative services.



WORKING WITH TRIBES

- Native American services group provides local, dedicated experts and cultural training to all project team members.
- Practice discretion and preserve confidentiality regarding sensitive matters and information.
- Seek input from stakeholders, community elders, tribal members, and utility staff to understand project drivers and goals, and promote community insight and approval.
- Respect cultural values and traditions, and incorporate cultural or sacred components into planning, design, and construction.
- Support of Native American communities through involvement with economic development and community planning committees.



REGULATORY EXPERTISE

- Established relationships with the U.S. Bureau of Reclamation (USBR), U.S. Department of Agriculture (USDA), U.S. Environmental Protection Agency (EPA), Bureau of Indian Affairs (BIA), and Indian Health Services (IHS) to efficiently expedite projects and obtain funding when possible.

TECHNICAL SERVICES AND REGULATORY EXPERTISE

- Water supply, planning, and management.
- Water and wastewater treatment and infrastructure.
- Water reuse, recycling, and recharge design.
- Research and treatability evaluations.
- Alternative energy solutions.
- Integrated planning and business solutions.
- Construction management with start-up and training services.
- Permitting support and regulatory compliance assurance.
- Wetlands planning/restoration including native riparian restoration.



Native American Project Experience

Native American communities continue to face significant water challenges, but are also poised to play a leading role in the management of water resources throughout the United States. We work with tribes to deliver effective water management solutions that allow their communities to thrive today and for generations to come. Tribal projects represent some of our most respected and rewarding work. Below is a sampling of our recent projects.

Ak-Chin Indian Community



Carollo has worked with Ak-Chin on several projects including feasibility and rate studies, integrated master planning, facility upgrades, and Ak-Chin's award winning 0.6-mgd Water Reclamation Facility and 2-mgd Surface Water Treatment Plant. Collectively, these capital improvements have supported development including hotel/casino expansion and Ak-Chin's Mutitainment Center enterprise by providing reliable water/wastewater service and reusing water throughout the community. Carollo has been privileged to remain a trusted advisor to Ak-Chin, providing on-call services, and participating in community events and cultural celebrations.

Pascua-Yaqui Tribe



The Pascua Yaqui Tribe has worked diligently to establish a strong base for economic development and a high quality of living for its members. As part of this effort, Carollo has completed projects that help water and wastewater infrastructure meet current needs, provide opportunity for continued economic and community expansion, and maximize reuse opportunities throughout the New Pascua.

Projects have consisted of:

- Integrated water and wastewater preliminary engineering report/feasibility study, including O&M organization and development
- Design of a 0.5-mgd MBR Water Reclamation Facility that produces Class A+ Effluent
- Influent Force Main Construction Administration and Inspection Services

Navajo Nation



The Navajo Nation retained the Carollo Engineers- WH Pacific team to conduct eight cost firming investigations, including a pilot water treatment plant study at Halchita, Utah, to support future Mexican Hat to Katenta Water Project feasibility level studies. Carollo led efforts for the pilot study, San Juan River pipeline crossing, and addressing the surface-groundwater interface chemistry. Carollo worked closely with the NTUA operators and staff to complete these efforts.

Yavapai-Apache Nation



Carollo worked with the Yavapai-Apache Nation to evaluate future wastewater treatment options for the Nation's Middle Verde community. The project team coordinated with Tribal Council, community members, operations staff, and other tribal departments to define the Nation's water resource goals. Carollo's Blue Plan-it® modeling tool was used to compare capabilities, costs, and site layouts for several treatment technologies. The resulting Planning Phase Report outlines Middle Verde's water resource portfolio and effluent management approach, and recommends a water reclamation treatment method, including a preliminary process flow, cost estimate, and site layout.



White Mountain Apache Tribe (WMAT)



The WMAT is designing a new water delivery system including a dam, water treatment plant, and 60-mile distribution system to serve the combined communities of Whiteriver, Fort Apache, Canyon Day, Cedar Creek, Carrizo, and Cibique. Carollo collaborated closely with the Tribal Utility Authority (TUA), IHS, and USBR to lead efforts addressing raw and treated water quality, hydraulics, capital costs, operation and maintenance costs, permitting, and land suitability and availability through:

- Water Treatment Plant Siting/Routing and Pilot Study
- Preliminary Design of the 14.5-mgd Water Treatment Plant

Carollo is also working with the TUA, EPA, and private entities to investigate wastewater treatment and regulatory compliance options at several existing wastewater treatment facilities. This includes data collection, system upgrades recommendations, and a multi-phased Preliminary Engineering Report.

Salt River Pima-Maricopa Indian Community (SRPMIC)



SRPMIC has continuously been proactive in managing and upgrading their community-wide water supply to reliably satisfy current and future water demands.

Carollo has assisted in creating a reliable potable water system and fire flow supply through the following projects:

- Well, storage, and distribution system upgrades
 - Water model/master plan update
 - Design, permitting, and engineering services during construction, treatment, storage, and distribution components
- Fire flow capacity improvements design, construction administration, and startup:
 - Water storage reservoir and booster pump station design/construction
 - Well upgrades and new well installation
 - Arsenic treatment and disinfection

Fort Yuma Quechan Indians



The Quechan Indian Tribe, through the Economic Development Administration and IHS, hired Carollo to complete a Preliminary Engineering Report (PER) to investigate wastewater treatment options for the Fort Yuma Indian Reservation in Winterhaven, California. The PER was completed according to USDA PER format to support future project funding from IHS or the USDA.

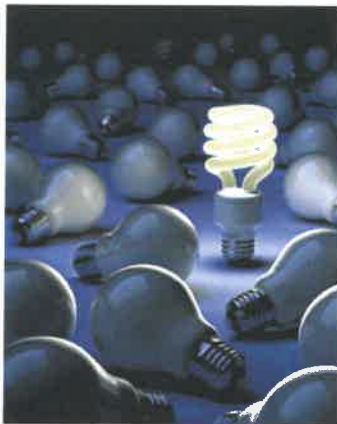
Trusted Water Experts for Reliable Solutions

Carollo provides an experienced and skilled planning, design, construction support, start-up, and commissioning team, ready to be your trusted advisor. Our top priority is to understand your needs and project goals, and deliver solutions serving your community's best interests. For each project, we assemble a multidisciplinary team to collaborate with staff and project stakeholders to provide quality, responsive solutions for your water, wastewater, and water resource needs.



UNPARALLELED EXPERTISE

Water is our focus, our business, our passion. Unlike our competitors, **water is all we do**. Our staff includes civil, structural, electrical, mechanical, environmental, and instrumentation and control engineers, as well as scientists, planners, architects, CAD designers, and construction managers – all experts dedicated to water. This singular focus allows us to provide your project with the best and brightest water professionals who share your goals for protecting water supplies, delivering clean water to your community, and maintaining effective water management.



INNOVATIVE, VALUE-ADDED SOLUTIONS

Carollo's Research Group supports projects with cutting-edge treatment technologies, improved operations practices, and insights on major trends in the water and wastewater industry. Our Sustainability Group rounds out our services with strategies that integrate sustainable principles into all we do.

Our trained problem-solvers are here to both assist your community in today's challenges and help you face any obstacles that may arise in the future. **We are industry leaders** in developing creative and cost-effective solutions to complex water problems. Helping our clients develop practical, useful, and flexible plans to meet their goals and objectives is our mission.



SUPERIOR SERVICE AND PERFORMANCE

Engineering News Record consistently ranks Carollo among the nation's top 20 design and environmental engineering firms. More importantly, **many of our Native American projects are award winning** due to our inclusive project development approach, and high quality, innovative and flexible solutions. We bring this level of service and performance to every project — day in and day out.



CERTIFICATE OF LIABILITY INSURANCE

15
DATE (MM/DD/YYYY)
6/16/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Risk Strategies Company 2040 Main Street, Suite 450 Irvine, CA 92614 www.risk-strategies.com CA DOI License No. 0F06675	CONTACT NAME: Risk Strategies Company PHONE (A/C, No, Ext): 949-242-9240 FAX (A/C, No): E-MAIL ADDRESS: syoung@risk-strategies.com
	INSURER(S) AFFORDING COVERAGE NAIC # INSURER A: Massachusetts Bay Insurance Company 22306 INSURER B: INSURER C: Continental Casualty Company 20443 INSURER D: INSURER E: INSURER F:

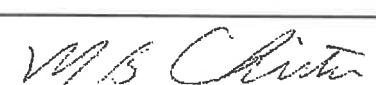
COVERAGES **CERTIFICATE NUMBER:** 36194370 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Deductible \$0 GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	<input checked="" type="checkbox"/>	ZDF8944892	12/31/2016	12/31/2017	EACH OCCURRENCE \$ \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ \$1,000,000 MED EXP (Any one person) \$ \$25,000 PERSONAL & ADV INJURY \$ \$1,000,000 GENERAL AGGREGATE \$ \$2,000,000 PRODUCTS - COMP/OP AGG \$ \$2,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY <input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$	<input checked="" type="checkbox"/>	ADFA486963	12/31/2016	12/31/2017	COMBINED SINGLE LIMIT (Ea accident) \$ \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ Ded: Comp/Collision \$ \$1,000 EACH OCCURRENCE \$ AGGREGATE \$ \$
A	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y <input checked="" type="checkbox"/> N N/A If yes, describe under DESCRIPTION OF OPERATIONS below	<input checked="" type="checkbox"/>	WDF8957499	12/31/2016	12/31/2017	<input checked="" type="checkbox"/> PER STATUTE <input checked="" type="checkbox"/> OTH-ER Deductible: \$0 E.L. EACH ACCIDENT \$ \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$ \$1,000,000 E.L. DISEASE - POLICY LIMIT \$ \$1,000,000
C	<input checked="" type="checkbox"/> Professional Liability Unlimited Prior Acts		AEH288354410	7/4/2016	7/4/2017	Each Claim: \$1,000,000 Aggregate: \$1,000,000 Deductible: \$400,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Projects as on file with the insured including but not limited to: Desert Knolls Wash Interceptor Design. Carollo Project #: Not yet assigned. Victor Valley Wastewater Reclamation Authority, its members, directors, officers, and employees are included as additional insureds on a primary & non-contributory basis with respects to General & Auto Liability. Waiver of Subrogation is included with respects to Workers' Compensation.

CERTIFICATE HOLDER Victor Valley Wastewater Reclamation Authority 20111 Shay Road Victorville CA 92394	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE  Michael Christian

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Victor Valley Wastewater Reclamation Authority



Financial and Cash Report

July 2017

Victor Valley Wastewater Reclamation Authority
CASH AND RESERVE SUMMARY
 July 31, 2017

G/L Account	Description	Balance
1000	DCB Checking Account	\$ 1,113,000
1030	DCB Sweep Account	1,453,125
1075	Cal TRUST by Wells Fargo	3,066,843
1070	LAIF	1,526,262
	Total Cash	\$ 7,159,230

\$65 mil Max

Reserves:	Current Balance	Restricted	Assigned	Not Assigned
Targeted Capital Reserve	\$ -	\$ -	\$ -	\$ -
O&M Reserve: 10% of Prior Year Budgeted Operating Expenses	-	-	1,081,523	-
R&R Reserve: 1% of Land Improvements/Plants/Interceptors PY CAFR	1,270,006	-	1,670,006	-
Reserve for SRF Payments (P& I) - Operating	2,819,883	2,819,883	-	-
Reserve for SRF Payments (P& I) - Capital	2,431,926	2,431,926	-	-
Available for O&M	637,415	-	-	-
Total Cash	\$ 7,159,230	\$ 5,251,809	\$ 2,751,529	\$ -

Note 1: ACCUMULATION FOR SRF LOAN PAYMENTS:

	9.5 MGD, 11.0 MGD, NAVI, Phase III-A	Upper Narrows Replacement	Nanticoke Bypass	Sub-Regional Apple Valley	Sub-Regional Hesperia	Total
Reserve for SRF Payments (P& I) - Operating	\$ 782,104	257,745	178,764	640,818	960,452	2,819,883
Reserve for SRF Payments (P& I) - Capital	1,348,576	-	59,588	409,703	614,059	2,431,926
	\$ 2,130,680	257,745	238,352	1,050,521	1,574,511	5,251,809
		2,388,425				

Note 2: PROJECTS AND FUNDING:

a. Construction and Change Orders for Sub-Regional Plants	Bureau of Reclamation - Title 16 Grant	Dept. of Water Resources - Proposition 84 Grant	SWRCB SRF Loan - Hesperia	SWRCB SRF Loan - Apple Valley	SWRCB - Proposition One Grant - A.V.	SWRCB - Water Recycling Prop 13 Grant - A.V.	Total
Completion (or Termination) Dates	05/31/16	12/31/17	06/30/17	06/30/17	06/30/17	03/31/17	
Agreement Amounts	\$ 3,242,523	\$ 3,000,000	\$ 35,442,795	\$ 22,537,632	\$ 8,135,648	\$ 4,000,000	\$ 76,358,598
Claimed	(3,242,523)	(3,000,000)	(30,967,649)	(17,802,433)	(6,858,465)	(3,550,167)	(65,421,237)
Grant and Loan Balance Remaining	\$ -	\$ -	\$ 4,475,146	\$ 4,735,199	\$ 1,277,183	\$ 449,833	\$ 10,937,361

b. Planning and Design for Sub-Regional Plants	Bureau of Reclamation - Title 16 Grant	Dept. of Water Resources - Proposition 84 Grant	SWRCB SRF Loan - Hesperia	SWRCB SRF Loan - Apple Valley	SWRCB - Proposition One Grant - A.V.	SWRCB - Water Recycling Prop 13 Grant - A.V.	Total
Completion (or Termination) Dates	05/31/16	not applicable	06/30/17	06/30/17	06/30/17	not applicable	
Agreement Amounts	\$ 1,607,477	\$ -	\$ 5,107,160	\$ 4,535,127	\$ 1,046,193	\$ -	\$ 12,295,957
Claimed	(1,607,477)	-	(3,134,436)	(4,428,465)	(1,175,407)	-	(10,345,784)
Grant and Loan Balance Remaining	\$ -	\$ -	\$ 1,972,724	\$ 132,272	\$ (129,214)	\$ -	\$ 1,950,173

c. Upper Narrows Emergency

*FEMA/Cal OES PW 1136 Revised Grant Limit - Completion 12/27/15	\$	7,954,740
Eligible Cost Incurred 12/26/10 - 11/06/16		(7,750,326)
Grant Balance Remaining	\$	204,414
Funding Received or To Be Received:		
FEMA (Claims x .90 x .7500)	\$ 5,231,470	
Cal OES (Claims x .90 x .1875)	1,307,868	6,539,338
VVWRA Share:		
VVWRA (Claims x .0625)	484,395	484,395
10% Retention to Be Received upon Completion:		
(Claim - VVWRA portion) x .10	726,593	726,593
	\$	7,750,326

d. Upper Narrows Replacement

*FEMA/Cal OES PW 828 Grant Limit - Completion 12/27/15	\$	33,124,002
Eligible Costs Incurred 04/01/11 - 08/31/16		(33,124,002)
Grant Balance Remaining	\$	-
Funding Received or Expected to Receive:		
FEMA (Claims x .90 x .7500)	\$ 22,358,701	
Cal OES (Claims x .90 x .1875)	5,589,675	27,948,377
VVWRA Share:		
VVWRA (Claims x .0625)	2,070,250	2,070,250
10% Retention to Be Received upon Completion:		
(Claim - VVWRA portion) x .10	3,105,375	3,105,375
	\$	33,124,002
	Incurred	Claimed
		Remaining

* SRF Loan

Construction	1,655,130	(1,655,130)	-
Change Orders	1,825,000	(1,825,000)	-
Soft Costs	806,250	(806,250)	-
	4,286,380	(4,286,380)	-

Victor Valley Wastewater Reclamation Authority
Flow Study
For the Month Ended June 30, 2017

Measured by ADS	Percentage of Total %	June Monthly MG
VSD 1 (less North Apple Valley)	5.8508%	20.2620
VSD 2	13.2493%	45.8840
VSD 3	27.0001%	93.5050
VSD 4	7.0555%	24.4340
VSD 5	0.6191%	2.1440
VSD 6	6.8271%	23.6430
VSD Total	60.6019%	209.8720
Apple Valley 01	10.2023%	35.3320
Apple Valley 02	5.7073%	19.7650
Apple Valley North	0.1068%	0.3700
Apple Total	16.0164%	55.4670
Hesperia	18.0663%	62.5660
CSA 64 SVL	4.7492%	16.4470
CSA 42 Oro Grande	0.5663%	1.9610
CSA Total	5.3155%	18.4080
Total Apportioned Flow	100.0001%	346.3130
Mojave Narrows Regional Park		0.1000
Total Study Flow		346.4130

Subregional Water Reclamation Plant Projects
7/31/2017
Hesperia

Costs Incurred Up to 7/31/2017

		Expended to Date	Contract Amount	Total Remaining
Planning/Design/Construction Management				
	Planning	895,080	624,264	(270,816)
	(Carollo/HDR) Design	3,106,096	3,580,792	474,696
	(MWH) Construction Management	2,225,564	1,479,914	(745,650)
	(Carollo/HDR) Engineering Services During Construction	1,293,795	1,687,052	393,257
	Sub-Total	7,520,535	7,372,022	(148,513)
Construction				
	Construction	32,331,596	33,220,000	888,404
		Expended to Date	Contract Amount	
			SRF Loan	Lyles
Change Order (Contingency)				
	Planning/Design/Construction Management	-	1,111,398	-
	Construction - Cascade Drilling	463,231	383,334	-
	Construction - Lyles	64,525	728,063	500,000
	Sub-Total	527,756	2,222,795	500,000
Total		40,379,887	43,314,817	2,934,930

Eligible for Reimbursements

		Claimed	Contract Amount	Total Remaining
	Title 16	2,445,244	2,460,369	15,125
	Proposition 84-HES Construction Cost	2,227,586	1,512,522	(715,064)
	Total Grants	4,672,830	3,972,891	(699,939)
	<i>% of Total Project</i>		9%	
	SRF-HES Planning/Design/Construction Management	3,134,436	7,329,955	4,195,519
	SRF-HES Construction Cost	32,572,621	33,220,000	647,379
Total		40,379,887	44,522,846	4,142,959

Claims Made as of 7/31/2017

		Requested	Contract Amount	Total Remaining
	Title 16	2,445,244	2,460,369	15,125
	Proposition 84-HES Construction Cost	2,227,586	1,512,522	(715,064)
	Total Grants	4,672,830	3,972,891	(699,939)
	SRF-HES Planning/Design/Construction Management	3,134,436	7,329,955	4,195,519
	SRF-HES Construction Cost	30,967,649	33,220,000	2,252,351
Total		38,774,915	44,522,846	5,747,931

Subregional Water Reclamation Plant Projects

7/31/2017

Apple Valley

Costs Incurred Up to 7/31/2017

		Expended to Date	Contract Amount	Total Remaining
Planning/Design/Construction Management				
	Planning	1,278,710	970,271	(308,439)
	(Carollo/HDR) Design	2,552,681	3,117,326	564,645
	(MWH) Construction Management	1,778,676	1,455,410	(323,266)
	(Carollo/HDR) Engineering Services During Construction	1,489,664	1,610,418	120,754
	Sub-Total	7,099,731	7,153,425	53,694
Construction				
	Construction	29,816,312	32,670,000	2,853,688
		Expended to Date	Contract Amount	
			SRF Loan	Lyles
Change Order (Contingency)				
	Planning/Design/Construction Management	-	1,001,640	-
	Construction - Cascade Drilling	252,951	376,986	-
	Construction - Lyles	274,291	624,654	500,000
	Sub-Total	527,242	2,003,280	500,000
Total		37,443,285	42,326,705	5,410,662

Eligible for Reimbursements

		Claimed	Contract Amount	Total Remaining
	Title 16	2,404,756	2,419,631	14,875
	Proposition 13 - Recycling Grant	3,456,708	4,000,000	543,292
	Proposition 84-AV Construction Cost	772,414	1,487,478	715,064
	Proposition 01-AV Planning/Design/Construction Management	1,175,407	1,046,193	(129,214)
	Proposition 01-AV Construction Cost	6,643,272	8,135,648	1,492,376
	Total Grants	14,452,557	17,088,950	2,636,393
	<i>% of Total Project</i>		39%	
	SRF-AV Planning/Design/Construction Management	4,428,465	4,535,127	106,662
	SRF-AV Construction Cost	18,562,263	22,537,632	3,975,369
Total		37,443,285	44,161,709	6,718,424

Claims Made as of 7/31/2017

		Requested	Contract Amount	Total Remaining
	Title 16	2,404,756	2,419,631	14,875
	Proposition 13 - Recycling Grant	3,550,167	4,000,000	449,833
	Proposition 84-AV Construction Cost	772,414	1,487,478	715,064
	Proposition 01-AV Planning/Design/Construction Management	1,175,407	1,046,193	(129,214)
	Proposition 01-AV Construction Cost	6,858,465	8,135,648	1,277,183
	Total Grants	14,761,209	17,088,950	2,327,741
	SRF-AV Planning/Design/Construction Management	4,428,465	4,535,127 *	106,662
	SRF-AV Construction Cost	17,802,433	22,537,632	4,735,199
Total		36,992,107	44,161,709	7,169,602

*Note: Proposition 01 grant of \$9.2M reduces AV SRF loan to \$4.5M.

Nanticoke Interceptor

7/31/2017

Costs Incurred Up to 7/31/2017

		Expended to Date	Contract Amount	Total Remaining
Planning/Design/Construction Management				
	Planning		342,397	342,397
	Design		101,524	101,524
	Construction Management	432,951	407,373	(25,578)
	Engineering Services During Construction			-
	Sub-Total	432,951	851,294	418,343
Construction				
	Construction - Christensen Brothers GE Inc.	3,192,465	3,207,896	15,431
		Expended to Date	Contract Amount	
			SRF Loan	
Change Order (Contingency)				
	Planning/Design/Construction Management			-
	Construction	660,951	400,000	(260,951)
	Sub-Total	660,951	400,000	(260,951)
Total		4,286,367	4,459,190	172,823

Eligible for Reimbursements

	Claimed	Contract Amount	Total Remaining
SRF-Planning/Design/Construction Management	432,951	851,294	418,343
SRF-Construction Cost	3,410,129	3,607,896	197,767
Total	3,843,080	4,459,190	616,110

Claims Made as of 7/31/2017

	Requested	Contract Amount	Total Remaining
SRF-Planning/Design/Construction Management	432,951	851,294	418,343
SRF-Construction Cost	3,410,129	3,607,896	197,767
Total	3,843,080	4,459,190	616,110

VVWRA
Upper Narrows Interceptor and Emergency Projects
7/31/2017

Upper Narrows Interceptor and Emergency Projects
7/31/2017

Upper Narrows Interceptor (E004)

<u>Planning/Design/Construction Management</u>		Expended to Date	Contract Amount	Total Remaining
Planning		449,368	277,990	(171,378)
(Tetra Tech) Design		737,952	783,481	45,529
(URS/AECOM) Construction Management		1,642,759	993,673	(649,086)
(TetraTech) Engineering Services During Construction		531,269	348,290	(182,979)
Total		3,361,348	2,403,434	(957,914)
<u>Construction</u>		Expended to Date	Contract Amount	Total Remaining
Construction - J.W. Fowler		26,136,908	26,482,075	345,167
Construction - AV Construction		1,525,267	863,371	(661,896)
<u>Contingency</u>		Expended to Date	Contract Amount	Total Remaining
(Tetra Tech) Design		-	-	-
(URS/AECOM) Construction Management		271,346	325,612	54,266
(TetraTech) Engineering Services During Construction		-	-	-
Construction - J.W. Fowler		3,536,620	3,536,620	-
Construction - AV Construction		214,287	214,287	-
Total		35,045,776	33,825,399	(1,220,377)

Claimed to Date

FEMA/CalOES	27,948,377	29,811,603	1,863,226
FEMA/CalOES 10% Retention	3,105,375	3,312,400	207,025
UNR SRF Loan	3,515,952		
Total	34,569,704	33,124,003	2,070,251

Upper Narrows Emergency (E003)

Spent to Date 7/31/2017

<u>Planning/Design/Construction Management</u>	Expended to Date
Materials	811,401
Rented Equipment	3,226,387
Contracts	3,899,051
Force Account OT	42,805
Force Equipment	274,341
Total	8,253,985

Received to Date

FEMA/CalOES	6,539,338
FEMA/CalOES 10% Retention	726,593
Total Grants to Date	7,265,931
VVWRA 6.25% Unreimbursable Cost	484,395
Total	7,750,326

Victor Valley Wastewater Reclamation Authority
Statement of Net Position
July 31, 2017

<i>Assets and Deferred Outflows of Resources</i>	2017
Current assets:	
Cash and cash equivalents	\$ 12,963,404
Interest receivable	2,679
Accounts receivable	3,069,894
Receivable from FEMA Grants	4,913,969
Accounts receivable - Other	3,042
Allowance for Doubtful Accounts	(48,990)
Materials and supplies inventory	86,516
Prepaid expenses and other deposits	169,746
Total current assets	21,160,260
Fixed assets:	
Capital assets not being depreciated	83,429,927
Capital assets being depreciated	84,023,450
Total capital assets	167,453,377
Total assets	188,613,637
Deferred outflows of resources	
Deferred outflows of resources - pension	\$ 1,160,894
Total	189,774,531
<i>Liabilities, Deferred Inflows of Resources, and Net Position</i>	
Current liabilities:	
Accounts payable and accrued expenses	\$ 226,935
Accrued interest on long-term debt	52,498
Long-term liabilities - due within one year:	
Compensated absences	48,647
Loans payables	1,849,149
Other payables	5,965,970
Total current liabilities	8,143,199
Non-current liabilities:	
Long-term liabilities - due in more than one year:	
Compensated absences	268,652
Other post employment benefits payable	1,332,084
Loans payable	77,588,894
Net Pension Liability	4,169,063
Other payables	21,663
Total non-current liabilities:	83,380,356
Total liabilities	91,523,555
Deferred inflows of resources	
Deferred inflows of resources - pension	441,731
Net position:	
Net position as of 6/30/17	95,491,998
Restricted for SRF loan covenant	2,626,778
Decrease in net position FY 18	(72,668)
Total net position	\$ 97,809,245
Total	189,774,531

Victor Valley Wastewater Reclamation Authority
Revenues and Expenses
Operations and Maintenance
For the Month Ended July 31, 2017

	Actual July 2017	YTD Actual FY 17-18	Approved Budget FY 17-18
REVENUES			
User Charges	\$ 1,121,930	\$ 1,121,930	\$ 13,661,700
Sludge Flow Charge	11,297	11,297	137,074
High Strength Waste Surcharges	-	-	25,000
ADM FOG Tipping Fee Revenue	25,934	25,934	205,000
Septage Receiving Facility Charges	69,150	69,150	609,000
Reclaimed Water Sales	3,113	3,113	44,000
Potable Well Water Sales	52	52	650
Leased Property Income	50	50	600
Interest	-	-	-
Pretreatment Fees	5,500	5,500	51,200
Finance Charge	-	-	-
Grant - FEMA/Cal-EMA			747,034
Grant - Proposition 1			458,297
Grant- Water Recycling			246,466
Sale of Assets, Scrap, & Misc Income	-	-	-
Total REVENUES	\$ 1,237,026	\$ 1,237,026	\$ 16,186,021
EXPENSES			
Personnel	\$ 603,534	\$ 603,534	\$ 4,086,603
Maintenance	23,441	23,441	2,919,360
Operations	113,709	113,709	3,066,985
Administrative	49,940	49,940	2,270,884
Construction	-	-	2,389,065
Total EXPENSES	\$ 790,624	\$ 790,624	\$ 14,732,897
Revenues over Expenses before Depreciation, Debt Service and Transfers	\$ 446,402	\$ 446,402	\$ 1,453,124
Depreciation Expense	(527,011)	(527,011)	-
DEBT SERVICE			
SRF Interest	-	-	361,138
FUND TRANSFERS IN			
Salary/Benefits Charge from Capital	\$ 8,712	\$ 8,712	-
Admin Charge from Capital	3,311	3,311	-
Total FUND TRANSFERS IN	\$ 12,023	\$ 12,023	\$ -
FUND TRANSFERS OUT			
Transfer to Repairs and Replacements Fund	-	-	247,500
Inter-fund loan payment to Capital	1,638	1,638	-
Total FUND TRANSFERS OUT	\$ 1,638	\$ 1,638	\$ 247,500
Excess Revenues Over Expenses	\$ (70,224)	\$ (70,224)	\$ 844,486

Victor Valley Wastewater Reclamation Authority
Revenues and Expenditures
Repairs and Replacement
For the Month Ended July 31, 2017

	Actual July 2017	YTD Actual FY 17-18	Approved Budget FY 17-18
REVENUES			
R&R Revenues	\$ -	\$ -	\$ -
Total REVENUES	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
OTHER FINANCING SOURCES			
SRF Loan Funding	\$ -	\$ -	\$ -
CAPITAL EXPENSES			
Personnel	\$ -	\$ -	\$ -
Maintenance	-	-	242,500
Operations	-	-	-
Administrative	-	-	5,000
Construction	-	-	-
Total CAPITAL EXPENSES	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 247,500</u>
Revenues over Expenses before Debt Service and Transfers	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (247,500)</u>
DEBT SERVICE			
SRF Interest	\$ -	\$ -	\$ -
FUND TRANSFERS IN			
Transfer from Operations and Maintenance Fund	\$ -	\$ -	\$ 247,500
Interfund Loan Payment from O&M	-	-	-
Total FUND TRANSFERS IN	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 247,500</u>
FUND TRANSFERS OUT			
Salary/Benefits Charge to O & M	\$ -	\$ -	\$ -
Admin Charge to O & M	-	-	-
Total FUND TRANSFERS OUT	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Excess Revenues Over Expenses	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

Accrual Basis

Victor Valley Wastewater Reclamation Authority
Revenues and Expenditures
CAPITAL
For the Month Ended July 31, 2017

	Actual July 2017	YTD Actual FY 17-18	Approved Budget FY 17-18
REVENUES			
Connection Fees	\$ -	-	\$ 878,900
Title 16 Grant - Subregional	-	-	-
Grant- Water Recycling	-	-	157,577
Sale of Assets, Scrap, & Misc Income	-	-	-
Interest	4,275	4,275	38,000
Proposition 1 Grant	-	-	293,010
Proposition 84 Grant	-	-	-
FMV Adjustment	1,612	1,612	-
Grant - FEMA/Cal-EMA	-	-	3,105,375
Total REVENUES	<u>\$ 5,887</u>	<u>\$ 5,887</u>	<u>\$ 4,472,862</u>
CAPITAL EXPENSES			
Personnel	\$ -	-	\$ 416,716
Maintenance	-	-	40,000
Operations	-	-	170
Administrative	(2,054)	(2,054)	140,000
Construction	-	-	2,482,435
Total CAPITAL EXPENSES	<u>\$ (2,054)</u>	<u>\$ (2,054)</u>	<u>\$ 3,079,321</u>
Revenues over Expenses before Debt Service and Transfers	<u>\$ 7,941</u>	<u>\$ 7,941</u>	<u>\$ 1,393,541</u>
DEBT SERVICE			
SRF Interest	\$ -	-	\$ 209,281
	<u> </u>	<u> </u>	<u>209,281</u>
FUND TRANSFERS IN			
Capital Recovery - Septage from O&M	\$ -	-	-
Interfund Loan Payment from O&M	1,638	1,638	-
Total FUND TRANSFERS IN	<u>\$ 1,638</u>	<u>\$ 1,638</u>	<u>\$ -</u>
FUND TRANSFERS OUT			
Salary/Benefits Charge to O & M	\$ 8,712	\$ 8,712	\$ -
Admin Charge to O & M	3,311	3,311	-
Total FUND TRANSFERS OUT	<u>\$ 12,023</u>	<u>\$ 12,023</u>	<u>\$ -</u>
Excess Revenues Over Expenses	<u>\$ (2,444)</u>	<u>\$ (2,444)</u>	<u>\$ 1,184,260</u>

Accrual Basis

VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
SRF LOAN SUMMARY
 July 31, 2017

Existing	Existing	Existing	Existing	In Progress	In Progress	In Progress	In Progress	In Progress	Total Agreed
9.5 MGD	11 MGD	North Apple	Phase IIIA	UN	Nanticoke	Hesperia	Apple Valley		SRF Loans
Capital	Expansion	Valley	Regulatory	Replacement	Pump Station	Subregional	Subregional		
Improvements	Interceptor	Upgrades	Project	Bypass					
\$ 4,069,859.00	\$ 11,430,726.00	\$ 4,084,688.00	\$ 18,581,561.00	\$ 4,286,380.00	\$ 4,459,190.00	\$ 40,658,809.92	\$ 27,129,023.47	\$ 114,700,237.39	
2.60%	* 0.00%	2.50%	2.70%	1.90%	1.90%	1.00%	1.00%	Varies	
n/a	1,905,159.00	-	-	-	-	-	-	1,905,159.00	
Local Forgiveness	n/a	n/a	3,000,000.00	n/a	n/a	n/a	n/a	3,000,000.00	
SRF Amount Borrowed	9,525,567.00	4,084,688.00	15,717,667.66	4,286,380.00	4,459,190.00	40,658,809.92	27,129,023.47	109,931,185.05	
Annual Payment Amount	265,049.56	579,869.96	1,027,609.73	259,234.79	238,350.61	1,574,511.25	1,050,520.94	5,253,297.89	
Annual Payment Due Date	September 15	February 13	June 30	December 31	30-Jun	June 30	June 30	Varies	
Loan Term (years)	20	20	20	20	20	30	30	Varies	
Years remaining	4	8	17	19	20	30	30	Varies	
DEBT SERVICE									
Loan Outstanding Balance	755,525.18	1,639,101.83	12,538,025.97	3,381,438.77	4,459,190.00	40,658,809.92	27,129,023.47	93,308,289.55	
Principal Paid to Date	3,314,333.82	6,778,392.59	3,179,641.69	904,941.23	-	-	-	16,622,895.50	
Interest Paid to Date	1,134,570.35	1,752,983.59	910,377.48	46,613.07	-	-	-	5,745,176.32	
First Payment Date	Sept. 15, 2000	Feb. 13, 2005	June 30, 2013	Dec. 31, 2016	Jun 30, 2018	February 28 2019	February 28 2019	Varies	
Final Payment Date	Sept. 15, 2019	Feb. 13, 2024	June 30, 2032	Dec. 31, 2035	Jun. 30, 2037	February 28, 2048	February 28, 2048	Varies	
Effective interest rate	2.544%	2.499%	2.700%	1.900%	1.900%	1.00%	1.00%	Varies	

* An imputed interest rate is 1.707% per annum.

Victor Valley Wastewater Reclamation Authority



Operations and Maintenance Report

July 2017

VWRA O&M Monthly Report – July 2017

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**Victor Valley Wastewater Reclamation Authority
Operations and Maintenance Report
July 2017**

TO: Logan Olds, General Manager
FROM: Operations & Maintenance Staff
SUBJECT: OPERATIONS/MAINTENANCE REPORT
DATE: August 8 , 2017

The following information details the operation of the Victor Valley Wastewater Reclamation Authority Facility. Included in this report is pertinent information regarding flows, process control information, process sampling, permit requirements, operations activities, and facility maintenance activities. This report is based on O&M activities for July 2017.

	Total	Average
Effluent to Mojave	217.52	7.0168
Effluent to Ponds	104.601	3.3742
		Limit
Biochemical Oxygen Demand (BOD)		10 mg/l
Effluent to Mojave	<3.38	
Percent Removal	>99.045	
		Limit
Total Suspended Solids (TSS)		10 mg/l
Effluent to Mojave	<2.1	
Percent Removal	>99.368	
		Limit
Turbidity		2.0 ntu
30 Day Average	0.41	

Major Operations Activities

Headworks

The Headworks area operated as intended throughout the months with normal equipment maintenance performed on a weekly basis.

Primary Treatment

Overall removal efficiency of the primary clarifiers was 40.48% removal of influent BOD and 66.55% removal of TSS. Typical operating parameters are 25 to 35 percent removal of BOD and 50 to 60 percent removal of TSS. The primary sludge concentration averaged 2.24% total solids at 80,114.6 gallons per day.

Primary clarifiers: #2, #3, #4, #5, #6, #7, #8 are currently online and continue to treat all incoming flow. Primary #1 remained offline for the month. With one clarifier off line, the remaining 7 primary clarifiers are capable of treating peak flows up to 27 MGD.

The digester gas conditioning system remains online. The system will prevent premature wear and tear on engines #2 & #3 by removing siloxanes by the addition of ferric chloride. The system increases fuel pressure to the blower gas system, allowing for more output from the blower engine. Digester #4 and 5 gas is mixed and sent to the gas conditioning system. This all but eliminates the use of Natural gas to run engines #2 and #3.

Staff continues to add ADM/ Grease to Daft #3 from Primaries and truck deliveries where it is then feed it to Digesters #4 and #5. This operation is assisting in additional grease removal from the primary clarifiers and increased gas production in the anaerobic digesters.

Secondary Process

Secondary Clarifiers #1 thru #6 are currently offline, not needed at this time.

Aeration basins #1 thru 12 have been retrofitted with the new Aquarius diffusers and are currently performing very well reducing the RPM's on the Piller blower. Currently basins #1-6 and 7-12 are online.

Waukesha Blower #2 is supplying air to basins #1-6, mixed liquor channel and aerated grit chamber. Piller #6 is supplying air to AB's #7-12.

Staff continues to monitor the solids under aeration and SVI to compare against the SRT Master Control Program. The SRT Master program is performing well. The secondary process has been performing well as a result of the SRT Master Control Program. Weekly Nitrogen studies performed by VVWRA staff produced results below regulatory requirements.

Thioguard was not used during the month.

Secondary turbidity averaged 1.20 (NTU) during the month of July 2017
The 30 minute settleometer test averaged 141.0 mL/L.
The average "pop time" of the MLSS was >101min.

Percolation Ponds

South percolation ponds #8, #11, #12 and #13 were used and rotated during the month. Percolation Ponds #7 and #10 are offline in preparation for maintenance. All Percolation Pond freeboard level requirements have been met during the month. All ponds are being rotated on a daily basis. Percolation Pond #6 remains off line and drained to minimal levels. No flow seepage has been observed. The north percolation ponds were used sparingly during the month.

Tertiary Filters

Aqua Diamond Filters #1 and #2 were utilized for the month of July. Filter Effluent average Turbidity of 0.49 NTU.

Solids

Digester #1 was drained on 8/19/16 and is offline. Digester #2 and #3 remain off line, drained and clean.

Staff has been operating Digester #4 and #5 at predetermined sludge levels which is controlled by the SCADA system.

VVWRA received 646,088 gallons of ADM (Anaerobically Digestible Material) and FOG (Fats Oil and Grease). Total is comprised of 570,428 gallons of ADM and 75,660 gallons of FOG.

A Total 26,955,063 cf/day of gas was created by digesters #4 and 5 for the month of July 2017.

That is an average gas production of 869,518cf/day.

Digester #4 averaged 438,183cf/day.

Digester #5 averaged 431,335cf/day.

Digester Volatile Acid/Alkalinity averaged 0.015 for the month.

Ultra Violet Disinfection (UV)

The UV system is currently operating via two channel mode since 12/22/2017.

Monthly UV intensity probe and flow meter calibration checks were performed.

Permit Continuous Monitoring Requirements and Permit Violations

All permit required, continuous monitoring equipment was on-line, in calibration and working properly during the month.

Date of last reportable incident: March 10, 2015

Days since last reportable incident: 839 days

Discharge Sampling

All required samples during the month of July 2017 were collected and processed as scheduled.

Miscellaneous

Apple Valley Pump Station wet well was cleaned out once in July 2017. Grease removed was transferred to facility scum wet well. AVPS grease was pumped to the anaerobic

Digesters #4 and #5. As of July 19, 2017 AVPS is offline and there is no longer the need to clean this wet well.

Maintenance Activities**CMMS Work Order Activity****VVWRA KPI Report**8/4/2017
4:04 PM

7/1/2017 - 7/31/2017

KPI	Count	Percent
Planned Work Total	155	
Planned Work Completed	145	93.55%
Planned Work Completed On-Time	119	76.77%
Planned Work Incomplete	10	6.45%
Planned Work Completed Late	23	18.06%
Total Work Completed	611	
Reactive Work Completed	111	18.17%
PM Work Completed	423	69.23%

Safety

1. Monthly Vehicle Safety Inspections completed.
2. Monthly gas tech monitor inspections completed.
3. Eyewash safety showers inspected.
4. Front loader refresher
5. Fire extinguisher training
6. Monthly SCBA inspections.
7. Hazardous storage area inspection.
8. Spill kit inspections.

 VVWRA O&M Monthly Report – July 2017

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9. Boom and scissor lift refresher.

Preliminary Process

1. Aqua Guard pre-treatment screen inspected and serviced.
2. Headwork's Conveyor Belt Lube & Inspect.
3. Grit pump 1-4 repacks.
4. Quarterly septage EQ cleaning
5. EQ #1 basin aerator repairs and lube.

Primary Process

1. All PH and conductivity probes cleaned and calibrated.
2. Influent PH and conductivity probe calibrations complete.
3. Primary sludge pumps 1-8 repacks
4. Primary #2 Shear pin replacement.

Secondary Process

1. Piller blowers 1 & 6 weekly inspections complete.
2. Service Air compressors inspection and service completed.
3. Waukesha engines inspections.
4. Piller #1 and #6 Filters Replacement.
5. Waukesha engine #3 lube meter replacement.

Tertiary

1. Monthly gear box and platform drive wheel service complete
2. Filter #1 & #2 monthly platform gear box PM's comp
3. Filter #1 & #2 monthly backwash wasting pumps oil checks complete
4. All PH and conductivity probes cleaned and calibrated.

Ultra Violet Disinfection (UV)

1. PH and conductivity probes cleaned and calibrated
2. UVT probe calibrated
3. UV Compliance sample pumps foot valve cleaning.
4. UV MCC filter cleaning.

Treatment Disposal

1. DAFT #1 and #2 Air Compressors 1&2 PM services complete.
2. Drying bed #1 repair.
3. Mixing pumps 4, 5,6 gearbox oil changes.
4. Drying bed #2,7,11 repairs

VVWRA O&M Monthly Report – July 2017

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5. Sludge lagoon pump#1 repack completed.

Miscellaneous Plant

1. Serviced Air Handling units for Blower Buildings completed.
2. Reclaim water station MCC AC repair.
3. Emergency generator #1 oil change and leak repair

Plant Equipment

G/CHP 1&2

1. Monthly UREA refill completed CHP #1 & #2
2. CHP #1 Oil change.

3. CHP1 & 2 differential pressure readings taken within normal range, Gas DP pressure collected within normal range
4. Monthly gas samples collected.

Gas Conditioning Skid

1. Blowers #1 & #2 inspections complete.
2. Monthly gas sampling collected.
3. Gas chiller condenser cleaned

OGPS

1. Monthly Generator Test completed

AVPS

1. Wetwell Grease pump out and taken offline.
2. Monthly Generator test completed.
3. Station taken offline

OTOE PS

1. Pump #2 drag.
2. Fall protection installation.
3. LOTO station installation.

OFFROAD EQUIPMENT

1. Brown Bear weekly PM's completed.
2. JCB front loader weekly PM's complete.
3. JCB AC repairs and seat replacement.
4. Brown bear auger repairs.

FLEET

1. Monthly fleet inspections completed pumps, vehicles, hose reel trailer, light towers.

Victor Valley Wastewater Reclamation Authority



Environmental Compliance Department Report

July 2017

VWRA Environmental Compliance Department
Industrial Pretreatment Program

I. Interceptors Operation and Maintenance:

1. Interceptors cleaning & CCTV:

- ✓ In July 2017 cleaning of Hesperia & CSA64 Interceptors have been completed 17848ft

2. Interceptors Inspections:

The following interceptors were visually inspected for signs of damage, vandalism and evidence of sanitary sewer overflows:

- ✓ South Apple Valley & North Apple Valley.
- ✓ Schedule 1, 2, 3 & 4
- ✓ UNE Bypass HDPE pipe
- ✓ Hesperia I Ave and Santa Fe.
- ✓ CSA 64
- ✓ Adelanto
- ✓ SCLA1

3. Damage and repair summary:

- ✓ No Damage reported

4. Sanitary sewer overflows (SSO) summary:

- ✓ Date of last reportable SSO: November 18th 2016

5. Interceptors maintenance budget remaining:

- ✓ The fiscal year 2016-2017 Interceptor sewer maintenance amount remaining for sewer cleaning and inspection services is \$62287

6. Dig Alert Underground tickets processed:

- ✓ A total of One hundred and nine (109) USA Tickets were received and processed in July 2017.

7. Flow monitoring Studies:

- ✓ A flow monitoring study by ADS Environmental is continuing.

II. Industrial pretreatment Activities:

- 1. New Business Questionnaires and permits applications evaluated:**
 - ✓ Three (3) New Business Questionnaires were processed in the month of July 2017.
 - ✓ Zero (0) New Business Inspections were conducted in the month of July 2017.
- 2. New permits issued:**
 - ✓ Zero (0) New Class II permit were issued in the month of July 2017.
- 3. Permit renewals issued:**
 - ✓ Four (4) Class III permit renewals were issued in the month of July 2017.
- 4. Work Orders:**
 - ✓ 62 Work Orders were completed in July 2017
- 5. Monthly revenues collected and invoices issued:**
 - ✓ Revenues: \$2,300
 - ✓ Invoiced: \$5,000
- 6. Lucity CMMS Software implementation:**
 - ✓ The implementation of Lucity CMMS software for the industrial pretreatment program and the operations and maintenance of interceptors including GIS is ongoing.

III. Industrial Pretreatment Activities (continued)

1. Current enforcement actions:

- ✓ Zero (0) Notice of Violation was issued in July 2017.

2. Current active industrial pretreatment permits:

- ✓ The current number of VVWRA’s industrial wastewater discharge permits is 433, they are comprised as follows:

1	Class I	Categorical Industrial User
10	Class II	Non-Categorical Significant Industrial User
418	Class III	Non-Significant Industrial User
2	Class IV	Zero Discharge Industrial User
9	Class V	Sanitary Waste Haulers

- ✓ The permitted establishments include:

20	Automotive Service Facility
13	Bakery
1	Brewery/Winery
21	Car Wash/Truck Wash/Bus Wash
4	Coffee Shop
9	Dry Cleaner
299	FSE
22	Grocery Store
3	Hospital
1	Medical
3	Misc. Food
3	Misc. Industrial
8	Other
1	Photographic
1	Print Shop
1	Prison
4	School
4	Water Retail
9	Waste Haulers

- ✓ Permitted businesses are distributed among member entities as follows: 171 in Victorville, 123 in Apple Valley, 123 in Hesperia and 1 in Oro Grande.

Victor Valley Wastewater Reclamation Authority



Environmental Compliance Department

Septage/FOG/ADM Monthly Report

July 2017

1. Septage/FOG/ADM receiving invoices and payments monthly report:

Payments and Invoices period: July 1st thru July 30th – Septage rate per Gallon: \$ 0.0936
FOG/ADM rate per Gallon: \$ 0.04

Receiving invoices

ID No	Septage Hauler	Invoice Date	Total Gallons	Invoice Amount
ABS000	Absolute Pumping	7/29/2017	39,702	\$3,430.25
ALP000	Alpha Omega Septic Service	7/29/2017	215,818	\$16,795.77
BUR000	Burns Septic	7/29/2017	156,000	\$11,232.00
HON001	Honest Johns Septic Service, Inc	7/29/2017	84,738	\$5,753.97
ROT001	T.R. Stewart Corp. dba Roto Rooter	7/29/2017	74,400	\$6,035.33
USA000	USA Septic	7/29/2017	76,900	\$6,542.64
ALP000	Alpha Omega Septic Service (Nutro)	7/29/2017	75,660	\$4,263.52
COW000	Co-West Commodities	7/29/2017	215,000	\$9,600.00
LIQ000	Liquid Environmental Solutions of CA	7/29/2017	0	\$0
SMC000	SMC Grease Specialist, Inc.	7/29/2017	324,500	\$12,980.00
WES004	West Valley MRF, LLC Burrtec Waste Industries, Inc.	7/29/2017	0	\$0
HIT000	Hitt Plumbing	7/29/2017	96,180	\$7,073.35
Grand Totals			1,358,898	\$83,706.83

Septage/FOG/ADM receiving payments:

ID No	Business Name	Payments Received
ABS000	Absolute Pumping	\$6,840.01
ALP000	Alpha Omega Septic Service	\$0
BUR000	Burns Septic	\$8,611.20
HON001	Honest Johns Septic Service, Inc	\$6,595.80
ROT001	T.R. Stewart Corp. dba Roto Rooter	\$6,963.90
USA000	USA Septic	\$7,497.36
ALP000	Alpha Omega Septic Service (Nutro)	\$0
COW000	Co-West Commodities	\$8,000.00
LIQ000	Liquid Environmental Solutions of CA	\$0
SMC000	SMC Grease Specialist, Inc.	\$11,600.00
WES004	West Valley MRF, LLC Burrtec Waste Industries, Inc.	\$0
HIT000	Hitt Plumbing	\$0
Grand Total		\$56,244.27



Safety & Communications Report



Cleaning FOG daft



July 2017



Safety

STAFF SAFETY TAILGATE/ORIENTATION

- July 6---Electric Cart Safety



- July 13--workplace violence policy



- July 20--electrical safety



- July 31-- Behavioral safety





Safety

SAFETY POLICY REVIEWS/ REVISIONS

- developing employee communication policy

SAFETY EVENTS/ TRAINING

- Front end loader refresher
- Scissor and boom lift refresher

UNSAFE CONDITIONS REPORTED/RESOLVED

- acid wash railing installed
- Strip and bollard installed at FOG station
- Fall protection installed at Otoe Pump Station

DATE OF LAST REPORTABLE ILLNESS/INJURY:
DEC 11TH, 2014

DAYS SINCE LAST REPORTABLE ILLNESS/INJURY:
927 DAYS



Safety

NEXT MONTH'S SCHEDULE OF STAFF TRAINING/SAFETY EVENTS :

- Safety Tailgates will be conducted at the Thursday weekly staff briefings.
- Safety Tailgates will be conducted at the monthly Administrative staff meetings.
- Confined space training

Communications

- Prepped for So Cal Water Conference in August

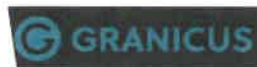




Communications

ACTIVITIES

- Continued work on updating new website including work on internal pages
- Maintained current website and social media sites including Facebook & Twitter.
- Attended PR Coalition meeting



MEDIA COVERAGE

- VV Temp Agency CEO alleges shoddy record keeping--The Sun 7-14-17
- Federal claims tossed, but Valles' attorney unruffled--Daily Press 7-25-17



Victor Valley Wastewater Reclamation Authority



CONSTRUCTION DEPARTMENT REPORT

July 2017

SubRegionals TOAV Change Order Summary

July 2017

Bids Opened – November 7, 2014

Contractor: W.M. Lyles Co., Temecula, CA

Notice To Proceed Date:	2/27/2015
Original Contract Days:	821
Original Contract Completion Date:	6/7/2017
Additional Contract Days:	
Revised Contract Completion Date:	
Original Contract Amount:	\$32,670,000.00
Revised Contract Amount:	\$33,395,504.93
Change Order Value to Original:	2.221%

Change Order #	Change Order Date	Change Amount	Contract Amount
1	July 16, 2015	0	-
2	Feb 18, 2016	\$288,062.22	\$32,958,062.22
3	Feb 18, 2016	(\$48,730.95)	\$32,621,269.05
4	April 26, 2016	\$205,409.03	\$33,114,740.30
5	Dec 8, 2016	\$230,957.75	\$33,345,698.05
6	May 18, 2017	\$49,806.88	\$33,395,504.93
Net Change		\$725,504.93	\$33,395,504.93

Note: CO #1 was only to incorporate the proper Davis-Bacon wage listing

Processed Pay Requests

Lyles Total to Date	\$28,973,446.17
MWH Total to Date	\$1,698,100.01

SubRegionals HESP Change Order Summary

July 2016

Bids Opened – November 7, 2014

Contractor: W.M. Lyles Co., Temecula, CA

Notice To Proceed Date:	2/27/2015
Original Contract Days:	821
Original Contract Completion Date:	6/7/2017
Additional Contract Days:	
Revised Contract Completion Date:	
Original Contract Amount:	\$33,220,000.00
Revised Contract Amount:	\$33,928,198.21
Change Order Value to Original:	2.132%

Change Order #	Change Order Date	Change Amount	Contract Amount
1	July 16, 2015	0	-
2	Feb 18, 2016	(\$82,532.28)	\$33,137,467.72
3	April 26, 2016	\$201,010.27	\$33,338,477.99
4	Dec 8, 2016	\$154,027.13	\$33,492,505.12
5	May 18, 2017	\$435,693.09	\$33,928,198.21
Net Change		\$708,198.21	\$33,928,198.21

Note: CO #1 was only to incorporate the proper Davis-Bacon wage listing

Processed Pay Requests

Lyles Total to Date	\$32,309,360.82
MWH Total to Date	\$1,733,106.00

*Nanticoke Bypass**Change Order Summary*

July 2017

Bids Opened – September 24, 2015

Contractor: Christensen Brothers

Notice To Proceed Date:	4/4/2016
Original Contract Days:	270
Original Contract Completion Date:	12/30/2016
Additional Contract Days:	147
Revised Contract Completion Date:	5/26/2017
Original Contract Amount:	\$3,207,896.00
Revised Contract Amount:	\$3,868,847.05
Change Order Value to Original:	20.60%

Change Order #	Change Order Date	Change Amount	Contract Amount
1	Dec 8, 2016	\$454,252.60	\$3,207,896.00
2	May 18, 2017	\$206,698.45	\$3,868,847.05
Net Change		\$660,951.05	\$3,868,847.05

Processed Pay Requests

CB Total to Date	\$3,660,745.34
AECOM to Date	\$472,373.00

Monthly Construction Department Report July 2017

SUMMARY OF WORK:

Subregional WRPs

- Continuing construction on Hesperia WRP
- Work with CM reviewing possible change orders
- Continuing equipment testing and Staff training
- Weekly progress meeting with CM and Contractor
- Receiving submittals and RFI's
- Continuing construction at Apple Valley WRP
- Continuing on Hesperia Lift Station
- Met with consultant on electronic O&M
- Continuing Staff training on Hesperia WRP
- Started 8 hour functional testing at Hesperia WRP and Lift Station

Laboratory Building

- Put on Hold

Westside Plant Spill Containment

- Design agreement with Michael Baker International

Digesters 4 & 5 Supernatant Line

- Put on Hold

Oro Grande Crossing the Mojave River

- Continuing environmental clearance

Nanticoke Pump Station Bypass Sewer

- Working at Otoe LS
- Completed agreement with Town on transfer of Otoe Lift Station
- Notice to Re-mobilize given June 14
- Completed piping work

UPCOMING WORK IN August:

Subregionals

- Continue Apple Valley WRP construction
- Continue Hesperia WRP construction
- Coordinate SCE work to sites
- Hesperia equipment startup, 8-hour test, 7-day test
- Seed WRP for operations testing with wastewater

Laboratory Building

- On Hold

Westside Plant Spill Containment

- Continue design

Digesters 4 & 5 Supernatant Line

- On Hold

Ossum Wash

- Hold for FY 17/18

Oro Grande Crossing the Mojave River

- Complete design and prepare for bid

Nanticoke Pump Station Bypass Sewer

- Complete pipe installation
- Complete construction at Otoe Lift Station
- Complete manhole epoxy coating
- Final paving
- Complete construction
- Prepare final change order
- Complete project close out