AGENDA
MESA WATER DISTRICT
BOARD OF DIRECTORS
Tuesday, May 19, 2015
1965 Placentia Avenue, Costa Mesa, CA 92627
3:30 p.m. Special Board Meeting

ENGINEERING AND OPERATIONS COMMITTEE MEETING
Tuesday, May 19, 2015 at 3:30 p.m.

CALL TO ORDER

PLEDEGE OF ALLEGIANCE

PUBLIC COMMENTS

Non-Agendized Matters: Members of the public are invited to address the Board on matters which are not on the Agenda. Each speaker is limited to three (3) minutes. The Board will set aside thirty (30) minutes for public comments.

Agendized Matters: Members of the public may comment on Agenda items before action is taken, or after the Board has discussed the item. Each speaker is limited to five (5) minutes.

PRESENTATION AND DISCUSSION ITEMS:
Items recommended for approval at this meeting will be agendized for approval at a future Board meeting.

1. Mesa Water Reliability Facility Parking Conceptual Design
2. Well Automation and Rehabilitation Project - Site Aesthetics
3. 2015 Health and Safety Scorecard
4. Emergency Operations
5. Water Supply Reliability Funding Study

ACTION ITEMS:
6. Well 8 Demolition Project Design Services

REPORTS:
7. Developer Project Status Report
8. Mesa Water and Other Agency Projects Status Report
9. Water Quality Call Report
10. Committee Policy & Resolution Review or Development
11. Operations Department Status Report
12. Municipal Water District of Orange County Activities Update
13. Orange County Water District Activities Update
14. Ocean Desalination Projects (no enclosure)
15. Report of the General Manager
16. Directors' Reports and Comments

INFORMATION ITEMS:

17. Well 9 Rehabilitation & Pump Replacement Project Update

ADJOURNMENT
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Engineering and Operations Manager
DATE: May 19, 2015
SUBJECT: Mesa Water Reliability Facility Parking Conceptual Design

RECOMMENDATION

This item is for information only.

STRATEGIC PLAN

Goal #2: Practice perpetual infrastructure renewal and improvement.
Goal #4: Increase public awareness about Mesa Water® and about water.
Goal #6: Provide outstanding customer service.

PRIOR BOARD ACTION/DISCUSSION

The Board awarded the contract to CivilSource, Inc. for the Mesa Water Reliability Facility (MWRF) Parking Design at the February 12, 2015 Board Meeting.

The Board has previously discussed the MWRF Parking Design concept and adopted Option 3 (Gisler Parking Design) at the March 15, 2014 Board Workshop.

BACKGROUND

Parking at the MWRF is currently limited to approximately 20 unofficial spaces that are accommodated using the gravel landscaping that surrounds Mesa Water’s treatment and storage facilities onsite at the MWRF (i.e., High lift reservoir, carbon dioxide storage vessel, chemical handling facilities, electric switchgear, etc.). Spaces are unmarked and require a staff person onsite dedicated to directing traffic flow and ensuring visitors find their way to on-site activities. As a result, Mesa Water® evaluated several options to address parking issues at the MWRF and to propose alternative options for onsite parking.

DISCUSSION

The scope of work of the MWRF Parking Design includes providing professional engineering services to prepare final plans, specifications, permitting, preparing the bid package and cost estimates, and providing bid and construction support services for implementation of the MWRF Parking Project.

Project Design Update: Project design was initiated on February 12, 2015. Several design activities are currently on-going. The following is a summary of these activities:

• Field Survey: Prior to the start of the design a detailed field survey was performed by CivilSource. The purpose of the survey was to collect field measurements and data necessary for the parking design, determine the necessity for relocating the existing utilities and permanent improvements, removal of trees and landscape and evaluate alternative design options to minimize relocations.
• **Permitting Coordination:** Permitting coordination meetings were held with the City of Costa Mesa (City), Southern California Edison (SCE), and other utilities to identify potential conflicts with the proposed parking layout and to obtain project permit requirements for potential relocation efforts. Core issues identified to date include provisions by the City for ensuring replacement of landscaping in median areas throughout the parking layout and the removal of the existing trees. SCE did not identify any permit issues at this time as no SCE facilities are proposed for relocation.

• **Existing Utility Research:** CivilSource has collected and reviewed data for all existing aboveground and underground infrastructure to eliminate potential conflicts and eliminate and/or minimize potential for utility relocations. No major utility conflicts have been found to exist for the proposed parking project. The one potential SCE conflict (i.e. Vault relocation) was resolved by incorporating a landscaping median at this location which meets the City’s requirements for landscaping.

• **30% Concept Design:** CivilSource has commenced with design efforts and prepared the 30% concept design for the proposed parking improvements along Gisler Avenue (Preliminary Parking Plan, Attachment A). Attachment B presents the Aerial Photograph with the parking overlay. The consultant has presented the concept design to Mesa Water staff and the various City of Costa Mesa Permitting Departments. The design is acceptable to the City Engineering and Transportation Departments. Since the proposed parking area extends west and impacts the frontage (landscaping and sidewalk) of the adjacent property, the City has requested that Mesa Water® inform the adjacent property owner (Segerstrom) regarding the proposed project and secure their concurrence.

• **Property Coordination:** Mesa Water® has met with Segerstrom and has secured their verbal concurrence and is awaiting written confirmation of their project support.

**Schedule Update:** The following is an update to the project schedule based on the status of the ongoing design activities:

- 60% Design Completion: June 16, 2015
- 90% Design Completion: July 14, 2015
- 100% Design Completion: August 25, 2015
- Construction Bid/Award: August 27, 2015 - November 16, 2015
- Construction: November 16, 2015 – April 15, 2016

A presentation of the 30% design concept will be provided at the E & O Committee Meeting for the Board’s information.

**FINANCIAL IMPACT**

$14,580 has been expended to date of the Board approved contract amount of $65,830. $75,000 is budgeted in the FY2015 Capital Budget.
ATTACHMENTS

Attachment A: Preliminary Parking Plan
Attachment B: Aerial Photograph with Parking Overlay
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Engineering and Operations Manager
DATE: May 19, 2015
SUBJECT: Well Automation and Rehabilitation Project - Site Aesthetics

RECOMMENDATION

This item is for information only.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

On March 18, 2014, the Board received an information item describing the scope of the well automation and rehabilitation project.

On October 10, 2014, the Board approved a contract with Carollo Engineers for design of the Well Automation and Rehabilitation Project.

DISCUSSION

The Well Automation and Rehabilitation Project has reached its 60% design milestone. As part of the 60% design milestone, the design team is finalizing the aesthetics and functional needs of the proposed chemical handling facilities. The existing chemical handling facilities at each of Mesa Water’s wells are currently housed in portable Tuft sheds that will require significant improvements to ensure proper ventilation, improved chemical delivery abilities, and increased worker safety. As such, the Well Automation and Rehabilitation Project has incorporated the inclusion of permanent chemical handling facilities.

Attachment A shows the graphical design concept, which is based on the functional use and appearance of the chemical facilities at the Mesa Water Reliability Facility (MWRF). The chemical facilities include sodium hypochlorite and aqueous ammonia tanks sized to store 4,000 gallons of each chemical. The tanks are envisioned to be in containment areas and shaded by an awning to provide cooling to extend the life of the sodium hypochlorite, which degrades faster as temperature increases. The chemical facility design considerations and recommendations are described as follows:

1. Tank Sizing Analysis: The tank sizing is based on a 30-year net present value (NPV) analysis of sodium hypochlorite, which accounted for chemical use, chemical costs, rate of degradation, and staff time to attend to the chemical deliveries. Tank sizing of 3,000 gallons to 4,500-gallons was found to be the optimum range, with 4,000 gallons being the optimum standard size. This provides approximately 38 days of hypochlorite storage at Well 1, Mesa Water’s largest producing well. As Aqueous Ammonia does not degrade appreciably with storage time this tank was sized to match the Sodium Hypochlorite tank to minimize delivery cost over the long-term. The tanks are anticipated to be 8 feet in diameter and 12 feet tall. The tanks will be constructed of white...
fiberglass reinforced plastic (FRP).

2. Tank Containment Analysis: The 4,000-gallon tanks require secondary containment in case of a tank rupture to hold the full volume of the tank. Three options for containment areas were considered: completely above ground with tank pedestals, above ground with tanks at grade, and partially below ground. The selected design for the containment areas is completely above ground, with tanks on pedestals. This design mitigates the risks associated with chemical spills by containing any spill above ground in the containment area.

3. Climate Control Analysis: Three options for climate control for the tanks were considered: inside climate controlled buildings, outside under shade awnings, and outside fully exposed. The climate-controlled buildings were evaluated and removed from further consideration due to the long-term costs of air conditioning and necessary mechanical ventilation for cooling and removing chemical vapors. The coastal climate provides a temperature range and natural ventilation conducive to outside storage. The shade awning has the following benefits over the fully-exposed option:

- The shade awning will cool the chemicals by approximately 5 degrees in the hottest part of the year, extending life of the hypochlorite from 43 days to 53 days at the largest producing well.
- The shade awning will also keep the chemical pump skids out of direct sunlight and extend the life of the pump skids by 5 to 7 years.
- The shade awnings will prevent rainwater from collecting in the containment area.

These savings add a net present worth of approximately $800,000 over 30 years for all five well sites.

4. Facility Aesthetics: The shade awnings are an important benefit to the project. In order to allow operations staff access to equipment at the top of the 12-foot high tanks the shade awning will be approximately 15 feet high. The tanks and the shade awning will be visible above the well site perimeter walls. Wells 3, 5, 7, and 9 are in industrial areas and the visibility of the tanks and awning is in context of the surrounding use and functionality. Well 1 borders multi-unit housing on West Keller Avenue north of Mesa Water’s service area, and the shade awning and chemical tanks would be visible from the south-facing windows overlooking Sunflower Boulevard from the second story. The view from Sunflower Boulevard of Well 1 and West Keller Avenue is shown in Attachment B. While the shade awning will be in view from the windows, the windows currently overlook Sunflower Boulevard and the industrial Well 1 site. The change in view may cause concern because it is different, but the view is not appreciably degraded as it is currently an industrial view.

5. Design Recommendation: Comprehensive evaluation of the aforementioned design parameters has been performed and staff will be proceeding on the following recommendations:

- Chemical handling facilities will be housed in open-air concrete containment basins with at grade pedestal supports to ensure safe and efficient chemical handling;
- Implementation of shade awnings, up to a maximum of 15 feet in height, are necessary to ensure extended chemical and pumping equipment useful life and minimize costs;
These recommendations or other direction received by the Board will be incorporated into the Project’s environmental documentation review.

FINANCIAL IMPACT

The chemical facilities design described herein is the most cost-effective design alternative. A net present worth cost savings of approximately $800,000 will be recognized over a 30-year period using the recommended option.

ATTACHMENTS

Attachment A: Recommended chemical facility configuration
Attachment B: Street view of Well 1
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Engineering and Operations Manager
DATE: May 19, 2015
SUBJECT: 2015 Health and Safety Scorecard

RECOMMENDATION

This report is for information only. No action is recommended at this time.

STRATEGIC PLAN

Goal #3: Be financially responsible and transparent.
Goal #5: Attract and retain skilled employees.

DISCUSSION

In 2012 Mesa Water® contracted with Environmental & Occupational Risk Management, Inc. (EORM) to review the existing safety program and provide a gap analysis report. Based on that report, a scope was developed to bring Mesa Water’s safety policies and programs into full compliance with safety and environmental regulations. Through a competitive bidding process, EORM was selected to revise or create 24 required policies and to provide onsite safety support to ensure proper training and program implementation.

Program reviews were completed in 2014 and 2015 to measure the health and progress of the health and safety program. The results from each review were compiled in a program “scorecard” that allows a current and direct comparison of the status of the 24 required programs to the previous years. The intent is to perform a similar review annually to allow for long-term monitoring of success and identification of challenges within the safety program.

The scorecard has two methods of rating; 1) numerical, and 2) color-coded. The numerical rating approach is based on a scale of 0 to 3 and evaluates three main categories of compliance. These categories include a written program and associated policy, staff training, and implementation and integration of training into daily procedures. Due to the importance of implementation and integration of training, this category is weighted at twice the value of the other categories. Scores are based upon observations made by the Safety Coordinator during site visits, as well as staff interviews conducted by the safety auditor. The Safety Coordinator makes unscheduled visits to jobsites at least once per month to gauge the effectiveness of the training programs and identify categories where reinforcement or retraining may be required. The color-coded rating scale is a simplified approach to communicate effectiveness using red to indicate non-compliant; green indicating compliant; and gold indicating the “gold standard”. Both green and gold ratings indicate a level of achievement with effective integration to full integration into daily operations where proper procedures and protections are used routinely. An overall score is also included as a benchmark for each year to gauge the health of Mesa Water’s Environmental, Health and Safety compliance program.
An example of scoring matrix is demonstrated as follows:

<table>
<thead>
<tr>
<th>Key Element</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Illness Prevention Program</td>
<td></td>
</tr>
<tr>
<td>Is there a written compliance program in place?</td>
<td>0 3 3</td>
</tr>
<tr>
<td>Have 90-100% of the affected employees been trained?</td>
<td>0 2 3</td>
</tr>
<tr>
<td>Are the procedures outlined in the program being followed in routine operations?</td>
<td>0 3 3</td>
</tr>
<tr>
<td>Heat Illness Prevention Program</td>
<td>0% 83% 100%</td>
</tr>
</tbody>
</table>

Mesa Water® had several safety and environmental health policies and procedures in place in 2012 and has historically had a low injury incident rate, reflecting staff dedication to a safe work environment. However, many of the policies were not well documented, most pertinent to Mesa Water's work disciplines, or did not meet all of the regulatory requirements, leading to an overall evaluation score of 39% in 2012. Sixteen written programs were updated and 8 new policies or procedures were created and training was provided leading to an improved score of 77% overall in 2014, and 87% in 2015. A copy of the FY2015 Scorecard is attached as Attachment A. The following is a brief summary of areas improved and areas needing further improvement in FY2015:

**Areas with Significant Improvement**

- Arc Flash and Electrical Safety has improved by 33% over last year and is now scored at 100%. Procedures have been fully integrated into daily operations.
- The Overhead Crane Operation Program has improved by 33% over last year and is now scored at 100%. Required inspections were current and documented.
- The Slings and Hoisting Equipment Program has improved by 33% over last year and is now scored at 100%. Inspection forms are current and pre-use inspections are conducted regularly.

**Areas with Further Improvement Needed**

- The Fire Prevention Plan is currently in compliance, but extinguisher training has not been completed yet this year so the current score is 67%. Training has been scheduled for the current quarter.
• The Spill Prevention Control and Countermeasure Plan improved by 17% over last year and is in compliance, but training has not been performed for the recently finalized plan so the current score is 67%. Training will be completed this quarter.
• Fall Protection, currently depicted in red, is in the process of being completed. While the category has improved by 34% over last year, it requires substantial project work to complete and is currently scored at 42%. The Fall Protection Policy is in final revisions along with a design project for installation of fall protection safety barriers throughout Mesa Water’s facilities. Once completed, training will be provided to ensure employees are integrating these fall protection management procedures into their daily work routines. Completion of this work in early FY16 will bring all programs into full compliance.

FINANCIAL IMPACT

Mesa Water’s Safety Program provides a safe working environment that minimizes worker injuries and lost work time. Mesa Water® has expended approximately $147,000 year-to-date on environmental, health, and safety support services. An additional $45,000 year-to-date has been expended towards emergency operations support services.

ATTACHMENTS

Attachment A: FY 2015 Environmental, Health and Safety Scorecard
Attachment B: Safety Program Progress Graphic
<table>
<thead>
<tr>
<th>Key Element</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td>Injury and Illness Prevention Program</td>
<td>50%</td>
</tr>
<tr>
<td>Confined Space Program</td>
<td>50%</td>
</tr>
<tr>
<td>Hazard Communication Program</td>
<td>0%</td>
</tr>
<tr>
<td>Emergency Action Plan</td>
<td>25%</td>
</tr>
<tr>
<td>Control of Hazardous Energy Procedure</td>
<td>0%</td>
</tr>
<tr>
<td>Arc Flash and Electrical Safety Program</td>
<td>0%</td>
</tr>
<tr>
<td>Accident Investigation</td>
<td>58%</td>
</tr>
<tr>
<td>Hazardous Waste and DOT Program</td>
<td>0%</td>
</tr>
<tr>
<td>Heat Illness Prevention Program</td>
<td>0%</td>
</tr>
<tr>
<td>Fall Protection Program</td>
<td>0%</td>
</tr>
<tr>
<td>Fire Prevention Plan</td>
<td>75%</td>
</tr>
<tr>
<td>Forklift Operations</td>
<td>83%</td>
</tr>
<tr>
<td>Overhead Crane Operations</td>
<td>67%</td>
</tr>
<tr>
<td>Slings and Hoisting Equipment</td>
<td>58%</td>
</tr>
<tr>
<td>Key Element</td>
<td>Score 2012</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Bloodborne Pathogens Procedure</td>
<td>0%</td>
</tr>
<tr>
<td>Alcohol and Controlled Substances Program</td>
<td>100%</td>
</tr>
<tr>
<td>Asbestos Containing Materials Program</td>
<td>75%</td>
</tr>
<tr>
<td>Excavation and Trench Safety Program</td>
<td>67%</td>
</tr>
<tr>
<td>Personal Protective Equipment Program</td>
<td>42%</td>
</tr>
<tr>
<td>Physical Inspections of Facilities and Grounds Program</td>
<td>75%</td>
</tr>
<tr>
<td>Respiratory Protection Program</td>
<td>50%</td>
</tr>
<tr>
<td>Hearing Conservation Program</td>
<td>50%</td>
</tr>
<tr>
<td>HMBP</td>
<td>42%</td>
</tr>
<tr>
<td>SPCC</td>
<td>0%</td>
</tr>
<tr>
<td>Overall Score</td>
<td>39%</td>
</tr>
</tbody>
</table>

**Scoring:**

0 – Not Present

1 – Present but needs major revisions – does not meet the regulatory requirements

2 – Present but needs minor changes or improvements

3 – Excellent, requires routine work to support

**Note:** Scoring is weighted, written program and training each account for 25% of the overall score, execution of procedures in routine operations are worth 50% of the overall score.
Safety Program Progress – The Road to Excellence
RECOMMENDATION

This item is for information only.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.

PRIOR BOARD ACTION/DISCUSSION

At the Board Meeting of January 8, 2015, the Board asked for an update on Mesa Water emergency supply capacities.

DISCUSSION

The following is an overview of Mesa Water’s system water demands, water supply & storage capacities, and emergency back-up capabilities and protocols:

Water Demands

Mesa Water® provides approximately 6 billion gallons (~18,500 acre-feet) of water per year to its customers primarily using 5 local groundwater wells pumped directly to the distribution system and 2 deep aquifer groundwater wells which is treated through the Mesa Water Reliability Facility (MWRF). Average daily demands are 17.4 million gallons per day (MGD) with a maximum daily demand of 26.1 MGD.

Water Supply & Storage

Mesa Water wells and MWRF are capable of producing a combined 22.7 MGD of supply. Mesa Water® maintains two distribution system storage reservoirs with a combined maximum storage capacity of approximately 28 million gallons and a combined pumping capacity of 26,000 gallons per minute (gpm). Mesa Water® also has the redundant capacity to provide up to 42 MGD of supply via 4 imported water connections from two separate Metropolitan Water District (MWD) treatment plants and transmission lines and is capable of supplying average and peak daily demands in the event local supplies are unavailable. Mesa Water® also maintains interconnections with neighboring agencies City of Newport Beach (7), City of Santa Ana (4), and Irvine Ranch Water District (5) capable of providing up to 26.1 MGD in the event of a major water supply emergency. Mesa Water® also has 2 interconnections with the City of Huntington Beach with the ability to provide water to Huntington Beach, but due to elevation differences Mesa Water® is unable to receive emergency supplies from Huntington Beach.

Emergency Backup Capabilities

Mesa Water® has a dedicated and robust emergency back-up system that consists of the following equipment to assist in maintaining operations in the event of a power supply emergency.
or natural disaster:

- Wells 3 & 9 have backup diesel generators onsite
- Well 5 is powered by a natural gas engine which contains an emergency backup Liquid Petroleum Gas (LPG) storage tank onsite.
- Reservoirs 1 and 2 are driven by natural gas engines and contain emergency generators capable of running on natural gas or LPG.
- Reservoirs 1 and 2’s emergency generators also have back-up LPG storage tanks onsite.
- Reservoir 1 generators power Mesa Water’s main Administration Building, Operations Building, and the Emergency Operations Center.
- The MWRF has a small diesel generator that is designed to provide enough power to safely shut down the facility.

Details of available emergency power and water supplies are detailed in the table below.

<table>
<thead>
<tr>
<th>Location</th>
<th>Equipment</th>
<th>Flow (gpm/MGD)</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well 3</td>
<td>300 hp diesel genset; 400 gal fuel tank</td>
<td>1400/2.0</td>
<td>26 hrs before refueling needed</td>
</tr>
<tr>
<td>Well 9</td>
<td>300 hp diesel genset; 400 gal</td>
<td>1800/2.6</td>
<td>26 hrs before refueling needed</td>
</tr>
<tr>
<td>Well 5</td>
<td>625 hp natural gas/LPG engine</td>
<td>2800/4.0</td>
<td>Indefinitely on natural gas; 29 hrs on 1150 gal LPG tank without refueling</td>
</tr>
<tr>
<td>Reservoir 1</td>
<td>Three 137 hp natural gas/LPG engines</td>
<td>Up to 7500/10.8</td>
<td>Indefinitely on natural gas; 91 hrs (1 pump); 30 hrs (3 pumps) on 1150 gal LPG tank without refueling</td>
</tr>
<tr>
<td>Reservoir 1</td>
<td>Two 200 hp natural gas/LPG generators</td>
<td>N/A</td>
<td>Indefinitely on natural gas; 29 hrs on 1150 gal LPG tank without refueling (both running; no pumps running) for SCADA control and facility power</td>
</tr>
<tr>
<td>Reservoir 2</td>
<td>Four 369 hp natural gas/LPG engines</td>
<td>Up to 16,800/24.2</td>
<td>Indefinitely on natural gas; 36 hrs (1 pump); 12 hrs (4 pumps) on 1150 gal LPG tank without refueling</td>
</tr>
<tr>
<td>Reservoir 2</td>
<td>64 hp natural gas/LPG generator</td>
<td>N/A</td>
<td>Indefinitely on natural gas; 144 hours on 1150 gal LPG tank without refueling (no pumps running) for SCADA control and facility power</td>
</tr>
<tr>
<td>MWRF</td>
<td>95 hp diesel genset; 180 gal fuel tank</td>
<td>Zero</td>
<td>Provides power to safely shut facility down in the event of power loss.</td>
</tr>
</tbody>
</table>
Emergency Operations Protocol

Mesa Water® has the flexibility to operate with reliable service for a variety of emergency events. The following are operational scenarios and protocols how Mesa Water® could potentially respond to such an emergency:

- **Scenario No. 1 (Loss of Regional Electric Power):** Should Mesa Water® lose complete power to all of its facilities, the following is Mesa Water’s operational protocols and capabilities:

  1. Reservoirs 1 & 2 maintain system pressure set points;
  2. Wells 3 and 9 are turned on (if facility is currently off) and run on back-up power generation;
  3. Well 5 is turned on (if facility is currently off) and run continuously with no limitation
  4. Reservoirs 1 & 2 storage volumes are continuously monitored;
  5. Use of import water is turned on if system pressure falls below 35 psi at the highest elevation in the service area.

Under this scenario, Mesa Water® could maintain average water demands using local groundwater supplies for 40 hours assuming that Reservoirs 1 and 2 are at least 60% full. Should a regional electrical outage exceed 40 hours, Mesa Water’s imported connections can be activated manually onsite or remotely via its Supervisory Control and Data Acquisition (SCADA) system (if power is available on-site) to maintain seamless water supplies and system pressure.

- **Scenario No. 2 (Loss of Regional Electric Power & Natural Gas Supply):** Should Mesa Water® lose complete electrical and natural gas power, the following is Mesa Water’s operational protocols and capabilities:

  1. Reservoirs 1 & 2 maintain system pressure set points;
  2. Wells 3 and 9 are turned on (if facility is currently off) and run on back-up power generation;
  3. Well 5 is turned on (if facility is currently off) and runs on LPG fuel;
  4. Reservoirs 1 & 2 storage volumes are continuously monitored;
  5. Use of import water is brought on if system pressure falls below 35 psi at the highest point in the service area.

Under this scenario, Mesa Water® could maintain average water demands using local groundwater supplies for 36 hours assuming that Reservoirs 1 and 2 are at least 60% full. Should a regional electrical and natural gas outage exceed 36 hours, Mesa Water’s imported connections can be activated manually or remotely via its SCADA system (if power is available on-site) to maintain seamless water supplies and system pressure.

It should be noted that if a large scale disaster were to occur, the use of imported water would have to be closely coordinated with Metropolitan Water District to ensure that sufficient regional supplies were made available to Mesa Water®.
Future Improvements

Mesa Water® is in process of continuing to enhance its emergency back-up capabilities via the design and construction of the following projects:

- **Well Automation Project:** This project will provide remote SCADA control functionality which will allow remote starting and stopping of Mesa Water’s wells. This will be a tremendous benefit in being able to more quickly respond to an emergency event without having to dispatch operations staff to the site. This project is also investigating the possibility of implementing back-up generators at Wells 1 and 7. This project is scheduled for completion in summer 2017.

- **OC-44 Meter Replacements:** The OC-44 Meter Replacement Project will provide new Cla-Val Controllers that will automatically bring on imported water (without operator action) should Mesa Water’s system fall below a critical operations pressure (i.e., 35 psi). This project is scheduled for completion in late summer 2015.

- **New Wells:** Mesa Water® is in the planning process to site two new wells that will provide additional local groundwater capacity that will assist in meeting 115% of local demands. These wells will be equipped with emergency back-up generators and will also investigate the use of natural gas engines.

**FINANCIAL IMPACT**

None.

**ATTACHMENTS**

None.
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Engineering and Operations Manager
DATE: May 19, 2015
SUBJECT: Water Supply Reliability Funding Study

RECOMMENDATION

This item is for information only.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #7: Actively participate in regional water issues.

PRIOR BOARD ACTION/DISCUSSION

On March 21, 2015, the Board discussed local and regional water supply reliability issues and received a presentation on potential funding strategies and cost impacts.

DISCUSSION

Mesa Water® is engaged in the local and regional planning and development of long-term water supply reliability projects to ensure that they are cost effectively implemented in a timely manner. Many of the local and regional water supply reliability projects being considered and evaluated mirror the proposed Orange County Water District’s Long Term Facilities Plan (LTFP).

At the March 21, 2015, Board Workshop, various LTDF Projects and the potential cost impacts of implementation were discussed. A presentation was provided on potential funding options and background requirements that Mesa Water® could consider in implementing the proposed LTDF Projects.

Staff will provide an update on the funding study.

FINANCIAL IMPACT

Funds were budgeted for FY 2015 in the Management Consultants Budget for this work. Approximately $30,000 will be expended in FY 2015. The remaining $25,000 will be expended during FY 2016. A budget request of $25,000 is included in the proposed FY 2016 budget.

ATTACHMENTS

None.
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Engineering and Operations Manager
DATE: May 19, 2015
SUBJECT: Well 8 Demolition Project Design Services

RECOMMENDATION

Recommend that the Board of Directors award a contract to Dudek for professional engineering services for a not-to-exceed amount of $74,510 and authorize the General Manager to execute the contract.

STRATEGIC PLAN

Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

The project was previously presented to the Board as an information item at the April 21, 2015 Engineering and Operations Committee Meeting.

BACKGROUND

Well 8 was drilled in 1990 on a small piece of land owned by the Interinsurance Exchange of the Automobile Club of Southern California (the “Exchange”). The land is located on a triangular-shaped parcel along the north side of South Coast Drive, approximately 2000 feet east of Harbor Boulevard in the City of Costa Mesa. Mesa Water® and the Exchange created a mutually beneficial lease agreement to utilize the land. Well 8 has experienced several water quality challenges (i.e., high color, high iron and manganese levels, increasing total dissolved solids, sanding etc.). The Board approved the concept of demolishing Well 8 as part of the recent adoption of the Master Plan Update.

The facility is currently out of service. The scope of this project will include the removal of the above-ground portions of the well and all onsite facilities at the well facility to the scope and extent acceptable to the Exchange to return the site to its near original condition.

DISCUSSION

Mesa Water® developed a scope of work for professional engineering services to provide a design for the demolition and decommissioning of the well and associated above-ground structures and oversee contractor activities during construction. The design scope of work will include the following elements:

- Removal of mechanical and electrical equipment, and supporting structures
- Convert and secure well to inactive status in accordance with Division of Drinking Water requirements
- Grade site after demolition work is completed and restore site to conditions per requirements of the Exchange
Mesa Water® requested proposals from experienced consulting firms (Consultant) to provide professional support services for the demolition of Well 8. An RFP for professional services for the Well 8 Demolition Project was released on April 8th, 2015.

Proposals were solicited from 14 firms to provide the required scope of work. The firms included: RBF, PACE, GHD, CDMSmith, Butier, MWH, Brown & Caldwell, Lee & Ro, URS, Dudek, Carollo, Hazen & Sawyer, Tetra Tech, and Psomas. Proposals were received from Dudek, Lee & Ro, and Pace.

Proposals were reviewed and evaluated by a selection panel comprised of Mesa Water staff. Each proposal was scored based on qualifications, experience, staff availability, project understanding, and proposal quality. The following table summarizes the selection process evaluation scores:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Proposer</th>
<th>Score</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dudek</td>
<td>4.85</td>
<td>$74,510</td>
</tr>
<tr>
<td>2</td>
<td>PACE</td>
<td>4.0</td>
<td>$108,546</td>
</tr>
<tr>
<td>3</td>
<td>Lee &amp; Ro</td>
<td>3.25</td>
<td>$62,412</td>
</tr>
</tbody>
</table>

Dudek’s Proposal is included as Attachment A. Evaluation of each team’s design approach revealed that while Lee & Ro had the lowest cost for the scope of work, the Selection Committee believed that Dudek provided a more experienced team and more relevant design experience on similar projects that will ultimately yield a cost savings to Mesa Water® in the quality of deliverables received. Dudek’s fee proposal is included as Attachment B. The project duration is expected to span approximately 120 calendar days from the date of project award. Other proposals will be made available for review upon request. Therefore, it is recommended that the Board consider authorizing the General Manager to execute a contract with Dudek for a not-to-exceed amount of $74,510.

FINANCIAL IMPACT

$80,000 will be budgeted in the FY2016 budget for design and $20,000 for construction with the remaining construction costs budgeted in FY2017.

ATTACHMENTS

Attachment A: Consultant Proposal, Dudek
Attachment B: Fee Proposal, Dudek
## Proposal Cover Page

<table>
<thead>
<tr>
<th><strong>Name of Business/Company</strong></th>
<th>Dudek</th>
</tr>
</thead>
</table>
| **Business/Company Address** | 31878 Camino Capistrano  
San Juan Capistrano, CA 92675 |
| **Telephone No.** | 800.450.1818 |
| **Email Address** | bohlund@dudek.com |
| **Website Address** | www.dudek.com |
| **Federal Tax ID No.** | 95-3873865 |
| **Type of Business** | California Corporation |
| **No. of Years in Business** | 35 Years |
| **Name, title, telephone no. and if different, address of person(s) authorized to represent business entity** | Bob Ohlund, PE  
Vice President  
949.632.1767 |
| **Name, title, telephone no. and if different, address of person(s) authorized to sign contracts for the business entity** | Bob Ohlund, PE  
Vice President  
949.632.1767 |
| **Certificate of Insurance showing a minimum of $1M in Professional Liability** | See Appendix C |

Bob Ohlund, Vice President, has the authority to bind the firm and designates Neil Harper as the primary contact and engineering project manager for this contract. If you have any questions or wish to discuss our proposal, please contact Neil Harper at 949.373.8316 or nharper@dudek.com.

Signed:

[Signature]

Vice President
1 Executive Summary Letter

April 30, 2015

Mr. Keenan Bull, Project Manager
Mesa Water District
1965 Placentia Avenue
Costa Mesa, CA 92627

Dear Mr. Bull;

Thank you for inviting Dudek to submit our proposal for the above-referenced project. Our project team has a reputation for identifying creative solutions that maximize the capital investment of our clients. Leading our team is Project Manager Mr. Neil Harper, PE, who has 16 years of experience including well design and demolition. His abilities are complemented by other team members who have worked together on similar assignments for many years. You can be confident that our proposed staff will be responsive to the Mesa Water District’s project needs.

Dudek’s proposal identifies several critical success factors that we believe are key to the success of this project. These are:

• Properly address site drainage and grading by cost effectively replacing the existing catch basin with a perforated corrugated metal pipe inlet, which allows site drainage and inhibits sediment from entering the existing downstream storm drain facilities.

• Utilize as-built drawings and photographs as backgrounds for the demolition drawings. This reduces our engineering fees while providing a more efficient and superior construction document package.

• Acquire the requisite permits and coordinate with project stakeholders at onset of the project.

Dudek will be subcontracting with Moraes/Pham & Associates (MPA) for the electrical engineering portions of this project. Dudek and MPA have worked together on numerous projects over the past 7 years, ensuring a cohesive team. Dudek will also be utilizing Aurora Industrial Hygiene (AIH) to conduct the pre-demolition asbestos survey.

Dudek intends to provide the highest quality, most responsive services to the District. Bob Ohlund, Vice President, has the authority to bind the firm and designates Neil Harper as the primary contact and engineering project manager for this contract. If you have any questions or wish to discuss our proposal, please contact Neil Harper at 949.373.8316 or nharper@dudek.com.

Sincerely,

Bob Ohlund, PE
Vice President

Vice President
2 Project Approach

Understanding

Mesa Water District (District or Mesa Water) would like to demolish their potable water Well No. 8 which is currently out of service. The well consists of a 16-inch steel casing and stainless steel wire wrapped well screen installed within a 28-inch diameter borehole and is 630-ft deep.

Other facilities at the Well No. 8 site consist of the electrical building, ammonia and sodium hypochlorite facilities (sheds, tanks, pumps, piping, panels, etc.), well pump assembly (pump, column piping, discharge head and motor), above grade wellhead piping and valving, below grade 12-inch well discharge piping, onsite drainage facilities consisting of a 36-inch x 36-inch catch basin and 18-inch PVC drain pipe that connect to the 36-inch RCP storm drain piping in South Coast Drive (which drains to the adjacent Greenville Banning Channel (OCFCD facility)), onsite SCE transformer (to be maintained), onsite telephone vault (assumed to be maintained), perimeter block wall, onsite asphalt and concrete pavement, and landscaping.

The District wishes to remove all facilities except for the SCE transformer and the telephone vault (including all below grade conduits regardless of depth) within the subject property. All other facilities will be removed if they are within 3-ft of the finished grade or abandoned in place.

A conceptual site demolition plan is shown in Figure 1 on the following page.

Critical Success Factors

Critical success factors are unique to every project, every client, and represent Dudek’s barometer of how we are performing towards meeting the expectations of our clients. We have identified several critical success factors based on our review of the RFP, prior experience with similar projects, other pertinent information and standards, and our understanding of the project as follows:

1. **Identify permitting agencies and stakeholders requiring permitting, approvals and coordination at the onset of the project.** We have already conducted a significant portion of this work as follows:
   a. Coordination and permitting with several jurisdictional agencies (County of Orange Health Care Agency Environmental Health Division and State of California Division of Drinking Water, Division 08-Santa Ana) will be required to abandon the well.
   b. Coordination is recommended with the Orange County Flood Control whose right-of-way (ROW) for the Greenville Banning Channel adjoins the northerly property line. The existing block wall is situated (including the footing) entirely on the Well No. 8 property and can be removed without disturbing or entering the OCFC ROW. However, it would be prudent and polite to notify the OCFC of the planned work activities.
c. Coordination/approvals with the City of Costa Mesa for an Encroachment Permit will be required if Mesa Water elects to abandon the 12-inch well discharge piping at the 12-inch valve within South Coast Drive instead of behind the property line.

2. **Site grading and drainage design must be addressed properly** to not allow surface drainage to flow off of the site. The current site is predominately paved and the surface drainage flows to a 36-inch by 36-inch catch basin located in the center of the site. Drainage is conveyed from this catch basin by an 18-inch PVC drain pipe that connects to the 36-inch RCP storm drain piping in South Coast Drive (which drains to the adjacent Greenville Banning Channel (OCFCD facility).

3. **Demolition drawings are quite different than construction drawings** because as they generally more simplistic, require limits of demolition, dimensions, quantities, fewer details, and less precise information. In addition, as-built drawings and photographs can frequently be used as backgrounds further reducing per drawing costs. Dudek will utilize the as-built drawings as practical and undertake a cost efficient approach to preparing the demolition drawings which will allow us to reduce our engineering fees while providing a more efficient and superior construction document package.

**Project Approach**

Our approach to undertaking and successfully addressing/resolving each of these critical success factors is detailed in the subsequent project approach.

1. **Identify permitting agencies and stakeholders at the onset of the project**

As noted previously, we have identified and commenced coordination with several permitting agencies. We confirmed with the County of Orange Health Care Agency Environmental Health Division what is required to acquire a well destruction permit. They require a completed permit form (shown in Figure 3), providing to them the existing well log, and a well destruction/abandonment design in accordance with the California Department of Water Resources Bulletins 74-81 and 74-90, Part III, Destruction of Well, Section 23. We anticipate this will involve preparing a well section showing the existing well design, filling the well with Neat Cement, Sand-Cement Grout 10.3, or a similar material, removal of the casing to 11-feet below grade and constructing a 1-foot thick concrete cap over the top of the casing after holes and rebar are installed in the top of the remaining casing per Figure 2.

After the well is destroyed it must be converted to inactive status. Converting the well to inactive status is accomplished by notifying the local representative for the Division of Drinking Water (DDW) which is now (as of July 1, 2014) under purview of the State Water Resources Control Board. We spoke with Oliver Pacifico, District Engineer (See Figure 4) for the DDW District-08 (Orange County), and he confirmed the requirements listed on page 6.
**PROJECT APPROACH**

**FIGURE 3. APPLICATION FOR WELL DESTRUCTION PERMIT**

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</table>

**METHOD OF DESTRUCTION**

I HEREBY AGREE TO COMPLY IN EVERY RESPECT WITH ALL REQUIREMENTS OF THE HEALTH CARE AGENCY AND WITH ALL ORDINANCES AND LAWS OF THE COUNTY OF ORANGE AND OF THE STATE OF CALIFORNIA RELATING TO WELL CONSTRUCTION, RECONSTRUCTION AND DESTRUCTION.

Applicant’s Signature: [signature]

City: [city]

State: [state]

Date: [date]

**FIGURE 4. SWRCB DIVISION OF DRINKING WATER DISTRICT OFFICES**

[Diagram of SWRCB Division of Drinking Water District Offices]

State of California
State Water Resources Control Board
Division of Drinking Water District Offices

<table>
<thead>
<tr>
<th>Headquarters Office</th>
<th>Northern California FOB</th>
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</thead>
<tbody>
<tr>
<td>(916) 149-5577</td>
<td>Bruce Burton (Santa Rosa)</td>
</tr>
<tr>
<td>1001 1st Ave, 28th Floor</td>
<td>1001 1st Ave, 28th Floor</td>
</tr>
<tr>
<td>Sacramento, CA 95814</td>
<td>Sacramento, CA 95814</td>
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<tr>
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<tr>
<td>Region 5: San Bernardino</td>
<td>Region 6: San Diego</td>
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</tbody>
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<table>
<thead>
<tr>
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<th>District 8: Santa Maria</th>
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<tr>
<td>District 7: Palm Springs</td>
<td>District 9: Riverside</td>
</tr>
<tr>
<td>District 10: Costa Mesa</td>
<td>District 11: San Diego</td>
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<tr>
<td>District 12: Santa Monica</td>
<td>District 13: Los Angeles</td>
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<tr>
<td>District 14: Hollywood</td>
<td>District 15: Monterey</td>
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<td>District 16: Metropolis</td>
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<tr>
<td>District 18: San Francis</td>
<td>District 19: Ventura</td>
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<tr>
<td>District 20: San Bernardino</td>
<td>District 21: Santa Cruz</td>
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<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
<th>Address</th>
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<tbody>
<tr>
<td>John Doe</td>
<td>Los Angeles</td>
<td>555 Main St, LA 90001</td>
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<table>
<thead>
<tr>
<th>Contact Information</th>
<th>Address Information</th>
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<tbody>
<tr>
<td>(555) 555-5555</td>
<td>555 Main St, LA 90001</td>
</tr>
</tbody>
</table>

[Contact Information and Address Details for Each District]
I. Prepare letter on behalf of Mesa Water District as follows:
   • Use Mesa Water District Letterhead and Signature for exemption of $126 application fee.
   • Reference Well No. 08 Primary Source Code Number: 3010004-009.
   • Request formal change to “inactive” status and justify reasoning.
   • Include copy of Well Log, Site Map, Timeline for Abandonment, and Well Demolition Report.

II. Submit letter to the attention of Oliver Pacifico - Division of Drinking Water District 08 Engineer.

As noted herein, we also recommend contacting and coordinating with OCFC for the planned demolition work due to the close proximity of their facilities and shared property line. Similarly, if the District elects to disconnect/abandon the 12-inch well discharge pipeline at the transmission main valve, acquisition of an encroachment permit will be needed from the City of Costa Mesa.

2 Site Grading and Drainage Design

As noted previously, the current site is predominately paved and the surface drainage flows to a 36-inch by 36-inch catch basin located in the center of the site. Drainage is conveyed from this catch basin by an 18-inch PVC drainpipe that connects to the 36-inch RCP storm drain piping in South Coast Drive (which drains to the adjacent Greenville Banning Channel (OCFCD facility).

After removing the existing pavement, block walls, and other site surface facilities, a shallow earthen sump will be created, which drains to the existing catch basin. During rain events and without modification, surface runoff will likely transport sediment to the existing catch basin and downstream storm drainage facilities creating an undesirable result.

Instead of abandoning or removing the on-site storm drain facilities and re-grading the site, Dudek proposes to replace the 36-inch-by-36-inch catch basin with a perforated corrugated metal pipe (CMP) riser per County of Orange, OC Public Works Department Standard Plan 1305 as shown in Figure 5, which is a simple and cost effective solution. Furthermore, this approach would reutilize the majority of the existing storm drain facilities, maintaining the current drainage pattern for the site, and will prevent sediment from entering the storm drain piping. This is a cost effective solution.

FIGURE 5. PERFORATED CORRUGATED METAL PIPE (CMP) RISER INLET PLAN
3 Use of as-built backgrounds and photographs for efficient preparation of demolition drawings

Demolition drawings are quite different from new construction drawings, as they typically require limits of demolition, dimensions and quantities, fewer details, and less precise information. In addition, as-built drawings and photographs are frequently used as a background, which further reduces per drawing costs.

Dudek will utilize the as-built drawings as practical and undertake a cost efficient approach to preparing the demolition drawings, which allows us to reduce our engineering fees while providing a more efficient and superior construction document package. An example of this approach is the preliminary electrical site demolition plan shown in Figure 6.
FIGURE 6. PRELIMINARY ELECTRICAL SITE DEMOLITION PLAN

LEGEND

- REMOVE AND LEGALLY DISPOSE OF CONDUIT AND WIRING
- CONDUIT AND WIRING TO REMAIN, PROTECT IN PLACE
- EXISTING TELEPHONE TO REMAIN, PROTECT IN PLACE
- EXISTING ELECTRICAL TO REMAIN, PROTECT IN PLACE
Clarifications and Modifications to the Scope of Work

The District provided a comprehensive scope of work (SOW) in its RFP (Appendix C). Dudek has reviewed the SOW in the RFP and takes no exceptions to the requested SOW outlined. We offer the following clarifications and modifications to augment the District’s defined minimum scope of work.

Task 3 – Preliminary Design

Dudek will provide a preliminary design memorandum (memo) deliverable summarizing our preliminary design activities and the requirements necessary to complete a final construction bid package. The contents of this memo are anticipated to include the following:

1. Project Understanding and Objectives
2. Summary of Preliminary Demolition Design Activities
3. Summary of Permitting/Coordination Activities and Requirements
   a. County of Orange Health Care Agency Environmental Health Division
   b. State of California Division of Drinking Water, Division 08-Santa Ana
   c. Orange County Flood Control
   d. City of Costa Mesa
   e. Southern California Edison (re: removal of conduit and wiring from on-site transformer
   f. Telephone Company (re: on-site Telephone vault)
4. Summary of Pre-Demolition Asbestos Survey
5. Preliminary Demolition Schedule
6. Preliminary Demolition Cost Estimate
7. Appendices
   a. Pre-Demolition Asbestos Survey
   b. Preliminary Design Drawings and Details (30% completion level)
   c. Table of Contents for Specifications
   d. Permit Forms
   e. Draft Letter to State of California Division of Drinking Water, Division 08-Santa Ana

Task 4 – Final Design

We will provide the required construction documents for the demolition of Well No. 8. We propose to utilize the AutoCAD files (provided by Mesa Water), existing as-built drawings, and photographs for basefiles and backgrounds for our drawings to reduce project design costs and our engineering fees.

As an optional service, Dudek will coordinate with the City of Costa Mesa to obtain an encroachment permit, which includes an engineered set of approved traffic control plans and a completed permit package. We have included the fee of this optional service as subtask 4.3 in our fee proposal.
Additional Clarifications

The following Scope of Work clarifications are provided and proposed:

1. The District will provide the topographic survey, background, and basefiles in AutoCAD for our use in developing drawings.

2. As disclosed in the pre-proposal meeting, the irrigation system will be removed, the site will be rough graded, CEQA is not in this SOW, and monitoring wells are to be protected in place.

3. As additionally discussed in the pre-proposal meeting, the base scope of design services includes cutting and capping the waterline behind the property line. An optional service for obtaining a City Encroachment Permit and preparation of a traffic control plan is shown as such in our fee proposal.
3  Project Team

Dudek is pleased to present a team of highly qualified professionals. Dudek will serve as the prime consultant providing overall management and demolition design, and will be responsible for coordinating with District staff. The project team will be comprised of the following key individuals, with staffing functions as indicated in Figure 7. We have assigned Bob Ohlund, PE, as Project Director and Neil Harper, PE, as Project Manager. Biographies for key management staff are provided in Section 4 and resumes for all staff are provided in Appendix A. Our team has successful past working relationships with selected sub-consultants, Moraes/Pham & Associates and Aurora Industrial Hygiene, Inc.

FIGURE 7. PROJECT ORGANIZATION CHART

![Project Organization Chart]

- **PROJECT DIRECTOR**
  - Bob Ohlund, PE

- **PROJECT MANAGER**
  - Neil Harper, PE

- **PROJECT SUPPORT**
  - **PROJECT ENGINEER**
    - Servando Diaz, EIT
  - **WELL DEMOLITION & PERMITTING**
    - Ron Schnabel, PG, CHG
    - Steve Dickey, PG, CEG, CHG
  - **ELECTRICAL ENGINEER**
    - Joe Moraes, PE
    - Moraes, Pham & Associates
  - **ASBESTOS SURVEY**
    - Grace Rinck, CIH
    - Aurora Industrial Hygiene, Inc.
4 Biographical Sketches

Project Director
Bob Ohlund, PE
Bob Ohlund is Vice President of Dudek and has more than 30 years’ engineering consulting experience focused on developing creative and sustainable solutions for public infrastructure. Mr. Ohlund is an expert in water, wastewater, and recycled water resource projects, serving in program management, project management, and construction management roles. His leadership in planning, design and construction of new facilities and rehabilitation of existing facilities has culminated in many successful projects.

As Principal-in-Charge, he will ensure all available resources are being used to complete the delivery the final product. His experience includes

- Project manager for the City of Buena Park Boisserance Park Wellhead Facilities. Scope included design of pump with sodium hypochlorite injection
- Project manager for the City of Buena Park Larwin Park Wellhead Facilities. Scope included design of pump with sodium hypochlorite injection
- Project manager for the Dolphin Ave Wellhead Facilities for City of Newport Beach
- Project Manager for Tamura School Wellhead Facilities for City of Newport Beach

Project Manager
Neil Harper, PE
Neil Harper has more than 16 years of experience in project management, engineering, planning, design, and construction support services for a variety of municipal and public agency projects. His specific areas of practice include water, wastewater, and water reuse systems. Relevant experience includes water distribution and treatment facilities, well facilities, pumping facilities, and reservoirs.

Successful project management is a key attribute of Mr. Harper’s. He has a proven record of communicating regularly with his Client to develop a thorough understanding of the project and the Client’s needs. Tracking project milestones and their relation to the project schedule and budget is a point of focus for Mr. Harper, allowing for on-going knowledge of the project status. His relevant experience includes:

- Construction inspector and City construction representative for the demolition of the City of Seal Beach’s Well 7
• Project manager for the preliminary design and final design for the City of Newport Beach Dolphin Well, Tamura Well, and 16th Street Pump Station Upgrades
• Project engineer for Equipping of Wells 28, 29, and 30 for City of Corona
• Project engineering for Equipping of Wells C, D, E, and H for County of Orange

Well Demolition and Permitting

Steve Dickey, PG, CEG, CHG

Steve Dickey has over 35 years of experience performing groundwater projects. His work has included groundwater supply, contaminant hydrogeology, groundwater construction, engineering geology, and geophysical investigations. His experience includes:

• Engineering geologist for the City of Coachella Well Abandonment for Well Sites #3, #4, and #7. Scope included removal of well pumps and appurtenances, removal of concrete pad, perforating well casings, disposal of well equipment, and site cleanup
• Engineering geologist for Well Abandonment at US Border Patrol. Work consisted of preparing Work Plan for abandonment of one water well, inspection services and report documenting abandonment

Well Demolition and Permitting

Ron Schnabel, PG, CHG

Ron Schnabel has over 35 years of experience as a Geologist, and 15 years as a hydrogeologist. He has used his understanding of geology and hydrogeology to develop clients requiring planning, permitting, design and operational expertise with water banking and artificial groundwater recharge. Mr. Schnabel has been a project manager and key team member on over twenty groundwater banking and recharge projects in California, and for numerous other types of projects. His regulatory experience includes environmental permitting, plans of operation, CEQA, EIR and NEPA compliance and permitting. His relevant experience includes:

• Project manager for design and construction of one production and four monitoring wells for Paradise Valley Groundwater Banking Investigation. Scope included well specifications, obtaining well drilling bids, and drilling contract management services
• Conducted an extensive hydrogeologic study that included drilling and installing eight monitoring wells, designing and constructing a groundwater recharge test basin, and estimating the safe groundwater yield for local groundwater supply
Project Engineer

**Servando Diaz, EIT**

Servando Diaz is a project engineer focused on water, wastewater, and recycled water projects, emphasizing on infrastructure planning and improvements. His project experience includes pipeline, pump stations, treatment facilities, and reservoirs. He has been involved in all stages of the engineering process from conceptual planning, preliminary design, final design, and construction assistance services. His experience includes:

- Project engineer preparing plans and specifications for the Perimeter Booster Pump Station for City of San Bernardino
- Project engineer for design of the upgrades to the 16th Street Pump Station and the water wells at Dolphin and Tamura streets
- Project engineer preparing plans and specification for Recycled Water Extension project for South Coast Water District

Senior Designer

**Clay Sweatland**

Clay Sweatland has over 44 years of designer-level experience as a civil drafter and CADD operator. With the use of AutoCAD and Land Development Desktop software, he has been responsible for the plan preparation of numerous wastewater treatment plants, sewer, and water design. Included in these projects are pipeline plan and profile, pump station and associated detail, traffic control, and right-of-way acquisition drawings. His experience includes:

- Prepared detailed design plans for City of Newport Beach Dolphin Well, Tamura Well, and 16th Street Pump Station Upgrades
- Prepared detailed design and preparation of design plans for the replacement of pumps at 16th Street Pump Station for City of Newport Beach.
- Responsible for detailed design drawings for Perimeter Booster Pump Station Upgrades for San Bernardino Municipal Water District

**EDUCATION**

- United States Army Engineering School, Fort Belvoir, VA
- Carto Graphic Drafting
- Decca Charting
- Reproduction and Civil Engineering
- Grossmont Junior College
- General Education, Architectural Drafting and Design
5 Sub-Consultants

Dudek will be sub-contracting with Moraes/Pham & Associates for electrical engineering and Aurora Industrial Hygiene, Inc. for the pre-demolition asbestos survey. All sub-consultant qualification and contact information is provided below.

Electrical Engineer (Moraes, Pham & Associates)

Joe Moraes, PE

Mr. Moraes is a California registered electrical engineer specializing in the design of electrical and controls systems for water and wastewater facilities, such as reservoirs, pumping stations, sanitary lift stations, PRV stations, wells, and treatment plants. In the past twenty years, he has designed over 300 such projects for 43 southern California municipal end users. With his wealth of experience and continuous design activity, Mr. Moraes maintains proficiency in state of the art solutions for designs involving pumping systems, generators, variable frequency drives, PLC’s, and SCADA systems. Relevant experience includes the following:

- Electrical engineer for City of Newport Beach Dolphin and Tamura Wells
- Electrical engineer for City of Newport Beach 16th Street Pump Station
- Electrical engineer for City of Orange Well #26

Asbestos Survey (Aurora Industrial Hygiene, Inc.)

Grace Rinck, CIH

Ms. Rinck has been practicing industrial hygiene for 22 years. Her experience includes developing compliance programs, writing health and safety programs and specifications, and inspecting and evaluating construction and hazardous material projects. She specializes in training and education on numerous topics including bacterial and fungal contamination, confined space, lead, and asbestos. Public clients include the County of Los Angeles Departments of Public Works, Southern California Metropolitan Water District, and the Housing Authority of the City of Los Angeles. Other relevant experience includes:

- Provides both scheduled and on-call emergency industrial hygiene services to the County of Los Angeles, which includes asbestos training
- Provides industrial hygiene support services for large-scale site remediation and demolition projects for AMEC Geomatrix. Scope includes environmental air monitoring.
- Provided industrial hygiene services for Housing Authority of Los Angeles. Scope includes asbestos and lead specification writing, managing asbestos and lead inspections, and project management for asbestos and lead abatement and stabilization.

EDUCATION
California State University Northridge
MA Education
University of California Los Angeles
BS Chemistry

LICENSES & CERTIFICATIONS
Certified Industrial Hygienist (CIH)

CONTACT INFO
1132 Mission Street, Suite B
South Pasadena, CA 91030
T: 626.403.4104
E: grinck@auroraih.com
6 Project Schedule

The following schedule (shown in Figure 8) illustrates our approach to completing this project and meets the District’s major milestone requirements contained in the RFP which has the project commencing in July of 2015, preliminary design complete within 45 calendar days, the 90 percent design package complete within 90 calendar days, and the final design package complete with 120 calendar days.

7 Engineering Services Fee Proposal

We have prepared a fee proposal in Table 1, which provides a detailed listing of the proposed project costs, listing the labor hours, and associated labor costs by work classification or personnel for each task and subtask. This fee proposal includes a Work Breakdown Structure (WBS) with summary of hours by task and by labor class for the project team members and directly correlates with the Scope of Work contained in Appendix C of the District’s RFP.
# Mesa Water District

**Well No. 8 Demolition**

**DUDEK FEE ESTIMATE**

### Task 1 - Project Management

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Billable Rate</th>
<th>Hrs</th>
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</tr>
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<tr>
<td>1.1</td>
<td>Kickoff Meeting</td>
<td>$250</td>
<td>4</td>
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<td>1.2</td>
<td>Schedule</td>
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<td>$750</td>
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<tr>
<td>1.3</td>
<td>Progress Reports</td>
<td>$190</td>
<td>12</td>
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<tr>
<td>1.4</td>
<td>Project Meetings</td>
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<td>$2,280</td>
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**Subtotal Task 1**

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### Task 2 - Site Investigation

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<tr>
<td>2.1</td>
<td>Review of Existing Facility Dwg (See Task 3.0)</td>
<td>$140</td>
<td>6</td>
<td>2</td>
<td>$1,125</td>
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<td>2.2</td>
<td>Field Investigation and Q/A Session</td>
<td>$120</td>
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<td>$2,340</td>
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**Subtotal Task 2**

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<tr>
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### Task 3 - Preliminary Design

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</tr>
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<tr>
<td>3.0</td>
<td>Review Existing Info, Utility Collection and Prep of Basefiles</td>
<td>$80</td>
<td>2</td>
<td>1</td>
<td>$190</td>
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<tr>
<td>3.1</td>
<td>Site Design</td>
<td>$80</td>
<td>4</td>
<td>8</td>
<td>$340</td>
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<tr>
<td>3.2</td>
<td>Prepare Preliminary Demolition Cost Estimate</td>
<td>$80</td>
<td>12</td>
<td>2</td>
<td>$375</td>
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<tr>
<td>3.3</td>
<td>Pre-Demolition Asbestos Survey &amp; Report</td>
<td>$80</td>
<td>6</td>
<td>1</td>
<td>$520</td>
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<td>3.4</td>
<td>Preliminary Demolition Schedule</td>
<td>$80</td>
<td>2</td>
<td>2</td>
<td>$380</td>
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<td>3.5</td>
<td>Preliminary Design Requirements</td>
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**Subtotal Task 3**

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<tr>
<td>14</td>
<td>2,625</td>
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### Task 4 - Final Design Services

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</tr>
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<tr>
<td>4.1</td>
<td>90% Submittal (Plans, Specs, Cost Est, Schedule)</td>
<td>$250</td>
<td>1</td>
<td>24</td>
<td>$17,450</td>
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<tr>
<td>4.2</td>
<td>Final Submittal (Plans, Specs, Cost Est, Schedule)</td>
<td>$250</td>
<td>8</td>
<td>8</td>
<td>$5,040</td>
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<td>4.3</td>
<td>(Optional) City of Costa Mesa EC Permit Package (see below)</td>
<td>$250</td>
<td>8</td>
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**Subtotal Task 4**

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<td>44</td>
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### Task 5 - Bid Phase Services

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<tr>
<td>5.1</td>
<td>Bid Phase Clarification and Preparation of Addenda (2) (16hrs)</td>
<td>$40</td>
<td>1</td>
<td>2</td>
<td>$190</td>
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<td>5.2</td>
<td>Assist MWD in Conducting Pre-Bid Meeting (4hrs)</td>
<td>$40</td>
<td>4</td>
<td>4</td>
<td>$760</td>
</tr>
<tr>
<td>5.3</td>
<td>Evaluation of Bids and Selection of Bidder (4hrs)</td>
<td>$40</td>
<td>4</td>
<td>4</td>
<td>$760</td>
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<tr>
<td>5.4</td>
<td>Prepare Conformed Plans and Specs</td>
<td>$40</td>
<td>1</td>
<td>2</td>
<td>$160</td>
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**Subtotal Task 5**

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<tr>
<td>8</td>
<td>1,110</td>
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### Task 6 - Construction Phase Services

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<tr>
<td>6.1</td>
<td>Preconstruction Conference</td>
<td>$80</td>
<td>2</td>
<td>2</td>
<td>$320</td>
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<td>6.2</td>
<td>Project Meetings (6 total @ 2 hrs each)</td>
<td>$80</td>
<td>12</td>
<td>2</td>
<td>$2,080</td>
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<tr>
<td>6.3</td>
<td>Indirect Coordination Meetings</td>
<td>$80</td>
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<td>3</td>
<td>$380</td>
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<tr>
<td>6.4</td>
<td>Project Filing System</td>
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<td>$160</td>
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<td>6.5</td>
<td>Project Reporting (4 RFIs/RFCs @ 2 hrs)</td>
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<td>4</td>
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<td>6.6</td>
<td>Submittal Reviews @ 2 hrs + 2 @ 1hr</td>
<td>$80</td>
<td>6</td>
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<td>6.7</td>
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<td>2</td>
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<td>6.8</td>
<td>Project Close-out</td>
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<td>4</td>
<td>4</td>
<td>$760</td>
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<td>6.9</td>
<td>Preparation of Record Drawings</td>
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<td>5</td>
<td>$750</td>
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**Subtotal Task 6**

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<td>29</td>
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### Total Hours and Fee

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<tr>
<td>215</td>
<td>64,480</td>
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**Percent of Hours:**

- Project Management: 23%
- Site Investigation: 9%
- Preliminary Design: 26%
- Final Design Services: 23%
- Bid Phase Services: 16%
- Construction Phase Services: 13%

**Total Hours and Fee with Optional Tasks:**

<table>
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<tr>
<th>Total Hours</th>
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<tbody>
<tr>
<td>221</td>
<td>68,720</td>
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**Percent of Hours with Optional Tasks:**

- Project Management: 21%
- Site Investigation: 9%
- Preliminary Design: 20%
- Final Design Services: 21%
- Bid Phase Services: 19%
- Construction Phase Services: 16%
Neil Harper, PE
Project Manager

Neil Harper has more than 16 years of experience in project management, engineering, planning, design, and construction support services for a variety of municipal and public agency projects. Specific areas of practice include water, wastewater, and water reuse systems. Relevant experience includes water distribution and treatment facilities, pumping facilities, and reservoirs.

Successful project management is a key attribute of Mr. Harper’s. He has proven to communicate regularly with the Client to develop a thorough understanding of the project and the Client’s needs. Tracking project milestones and their relation to the project schedule and budget is a point of focus for Mr. Harper, allowing for on-going knowledge of the project status.

Project Experience

**Well 7 Demolition, City of Seal Beach, Orange County, California.** Construction inspector/City construction representative responsible for demolition of Well 7 and appurtenant well facilities. Work included coordination with County of Orange to obtain Well Destruction Permit, coordination with SCE to remove power feed to facility, removal of well pump/motor and column piping, removal of wellhead facilities to 10-ft BGS, filling of well casing with neat cement, disconnection of well discharge lateral to main transmission pipeline, removal of miscellaneous vaults and electrical panels, and removal of site facilities.

**Dolphin Well, Tamura Well, and 16th Street Pump Station Upgrades, City of Newport Beach, Orange County, California.** Project Manager for preliminary design, final design, and construction support services for upgrades to all three facilities. The work at the Dolphin and Tamura Wells consisted of replacing (4) solid state soft start motor controllers with 18-pulse variable frequency drives (VFD’s) and inverter duty motors. The new VFD’s at each well site were 400-hp and 250-hp respectively and allowed the wells to pump at a constant rate without the use of a pulsed flow control type diaphragm check valve. Work at the 16th street pump station consisted of replacing (2) constant speed, 1,200-RPM, 350-hp vertical turbine booster pumps with (2) variable speed, 1,800-RPM, 300-hp pump assemblies. Additional work at the pump station included replacing the solid state soft start motor controllers with 18-pulse variable frequency drives and replacing the diaphragm type booster pump check valves with slanted disc check valves. The purpose of this project was to reduce energy consumption and was partially paid for with SCE rebates.

**Equipping of Well 28, City of Corona, Riverside County, California.** Project Engineer for design of well, vertical turbine well pump, well head facilities, CMU building, pump to waste system, piping/valving, metering, on-site piping and connection to City’s water distribution system, MCC (including 200-hp VFD), and SCADA/Telemetry.

**Equipping of Well 29, City of Corona, Riverside County, California.** Project Engineer for design of well, vertical turbine well pump, well head facilities, CMU building, pump to waste system, piping/valving,
metering, on-site piping and connection to City’s water distribution system, MCC (including 250-hp VFD), and SCADA/Telemetry.

**Equipping of Well 30, City of Corona, Riverside County, California.** Project Engineer for design of well, vertical turbine well pump, well head facilities, prefabricated well head cover, pump to waste system, piping/valving, metering, on-site piping and connection to City’s water distribution system, MCC (including 250-hp VFD), and SCADA/Telemetry.

**Equipping of Wells C, D, E, and H at Green River Golf Course, Orange County Public Works, Riverside and Orange Counties, California.** Project Engineer for equipping of irrigation wells which included selection of vertical turbine well pump and design of well head facilities, piping/valving, metering, on-site piping and connection to golf course’s water distribution system, MCC (including VFD’s), electric services, and SCADA/Telemetry.

**Equipping of Well 13E, City of Glendora, Los Angeles County, California.** Project Engineer for design vertical turbine well pump, well head facilities, prefabricated well head cover, pump to waste system, piping/valving, metering, on-site piping and connection to City’s water distribution system, MCC (including VFD), 800A electric service, and SCADA/Telemetry.

**Equipping of Bio-monitoring Well, Orange County Water District, City of Anaheim, California.** Project Engineer for design of the bio-monitoring well, which included equipping of the well, design of the polyvinyl chloride carrier and Teflon-lined pipeline between the well and the fish tanks, and power and control facilities.

**Perimeter Booster Pump Station Upgrades, San Bernardino Municipal Water Department, City of San Bernardino, San Bernardino County, California.** Project Manager for preliminary and final design of a 100-hp vertical turbine pump, discharge piping and valving, 100-hp solid state soft starter, 250-kW generator set, and a 600A automatic transfer switch. The 100-hp pump was required to pump to the interim and future hydraulic grades which differed by approximately 25-ft and hydraulic calculations had to be prepared to determine the impacts to the (2) existing pumps for both of the hydraulic scenarios. The project also required enlarging the pump station enclosure to accommodate the generator and consisted of additional concrete block wall, relocating a 10-ft gate and asphalt paving.

**Ontario Potable Water Booster Pump Station, City of Corona, Riverside County, California.** Project Manager for design of 25-million-gallon-per-day (MGD) booster pump station facility, which included six 2,500-gpm, 200-horsepower (hp) vertical turbine pumps (Zone 3 pump station); three 1,250-gpm, 200-hp vertical turbine pumps (Zone 4 pump station); surge and flow metering facilities; facility piping (12 to 30 inch); nitrate blending facilities; nitrate sampling and analyzers; flow control and pressure-reducing valve vault; 750-kilowatt emergency generator set; 3,000 amp electrical service; two motor control centers, which included nine 200-hp variable frequency drives (VFDs); pump station controls, Programmable Logic Controller/Supervisory Control and Data Acquisition (PLC/SCADA) system; fiber optic telemetry; and miscellaneous site upgrades.

**Taylor Booster Pump Station, City of Corona, Riverside County, California.** Project Engineer for design of booster pump station comprised of a 2,100-gpm, 250-hp vertical turbine pump in vault. Project also involved the design of a motor control center and incorporation of extra ventilation for cooling purposes in vault.
Bob Ohlund, PE
Project Director

Bob Ohlund is Vice President of Dudek and has more than 25 years’ engineering consulting experience focused on developing creative and sustainable solutions for public infrastructure. Mr. Ohlund is an expert in water, wastewater, and recycled water resource projects, serving in program management, project management, and construction management roles. His leadership in planning, design and construction of new facilities and rehabilitation of existing facilities has culminated in many successful projects.

Mr. Ohlund served as District manager and quasi-agency staff for Los Alisos Water District and the Santiago Aqueduct Commission. In this role, he worked closely with Board of Directors, management, and operations and maintenance staff and was responsible for master planning, design, and construction implementation of facilities to ensure efficient and effective operations.

Project Experience

**Boisseranc Park Wellhead Facilities, City of Buena Park, California.** Prepared plans and specifications for well site located within a city park. Well designed to pump 3,500 gpm with sodium hypochlorite injection to meet system chlorine residual requirements. Design included 3,000 linear feet of 16-inch DIP discharge main and connection to the City of Buena Park’s distribution system. Shop drawing review was included in the scope of work.

**Larwin Park Wellhead Facilities, City of Buena Park, California.** Prepared plans and specifications for well site located within a city park and required aesthetic site improvements and building architecture to compliment the park’s existing improvements. Well designed to pump 3,200 gpm with sodium hypochlorite injection to meet system chlorine residual requirements. Design included 2,000 linear feet of 16-inch DIP discharge main and connection to the City of Buena Park’s distribution system. Shop drawing review was included in the scope of work.

**Dolphin Avenue Wellhead Facilities, City of Newport Beach, California.** Preliminary design, construction plans and specifications were prepared for two wellhead facilities located at one site in Fountain Valley as a part of the Groundwater Development Project. Extensive coordination was involved to provide for an efficient layout of the facilities in one building enclosure at each site, incorporating an innovative design of one shallow well 80 feet from the second, deep well.

**Tamura School Wellhead Facilities, City of Newport Beach, California.** Preliminary design, construction plans and specifications were prepared for two wellhead facilities located at one site in Fountain Valley as a part of the Groundwater Development Project. Extensive coordination was involved to provide for an efficient layout of the facilities in one building enclosure at each site, incorporating an innovative design of one shallow well 80 feet from a deep well.
Well Rehabilitation Design, City of Fountain Valley, California. As project engineer, prepared the design for the rehabilitation of three domestic water wells. The design included the installation of new vertical turbine pumps, right angle gear drives, and engine drive shafts; piping and valve modifications; and well-casing rehabilitation, including wire brushing, acid treatment, and dual air swabbing.

Well Nos. 2 and 3 Wellhead Facilities, Los Alisos Water District. Design of discharge facilities to pump ground water from the two existing wells up to Los Alisos Water District’s East Reservoir. Well water will be used to augment the reclaimed water irrigation system supply by dropping the well water through an air gap into the reclaimed water reservoir. If needed, the wells can also be used to provide emergency domestic supply. Planning involved evaluation of existing pumping records and coordination of pump tests to determine sizing of new submersible pumps.

Well No. 4 Wellhead Facilities, Los Alisos Water District. Well siting study, design of well drilling, discharge facilities site improvements, pump and motor for this potable water supply. Coordination and preparation of legal descriptions and sketches were provided to aid the District’s acquisition of the property. Permits from the State and local officials were obtained on behalf of the District.

Well No. 35 Wellhead Facilities and Site Improvements, City of Santa Ana, California. Preparation of plans and specifications. This well site is located within a residential development. Site improvements were required to provide all weather use of the site and security. This well is designed to pump 3,000 gpm with chlorine injection to meet system chlorine residual requirements. Construction observation services during the construction of the project are included in the scope of work.

Well No. 37 Wellhead Facilities and Site Improvements, City of Santa Ana, California. Preparation of plans and specifications. This well site is located within a City of Santa Ana park and required aesthetic site improvements and building architecture to compliment the park’s existing improvements. This well is designed to pump 3,000 gpm with chlorine injection to meet system chlorine residual requirements. Construction observation services during the construction of the project are included in the scope of work.

Well No. 38 Wellhead Facilities and Site Improvements, City of Santa Ana, California. Preparation of plans and specifications. This well is located at the City of Santa Ana’s Cambridge Reservoir and Booster Station site. Site improvements were required to extend the existing use of the site. This well is designed to pump 3,000 gpm with chlorine injection to meet system chlorine residual requirements. Construction observation services during the construction of the project are included in the scope of work.

Well No.’s 35, 37, and 38, City of Santa Ana, California. Design of three 2,000 gpm wells located at a City of Santa Ana park, residential lot, and the Cambridge Reservoir site. Chlorine disinfection facilities were included at two of the wells.

16th Street Booster Pump Station Modifications, City of Newport Beach, California. Responsible for the design of the 16th Street domestic water booster pump station and the Dolphin and Tamura domestic water wells modifications. The modifications at the 16th street pump station entailed the preparation of a technical memorandum that investigated how to increase the per pump flow rate from 2,400-gpm to 4,000-gpm using the same pump can. The increased flow rate was accomplished by removing (3) stages off of each (6) stage pump, replacing the 1,200-rpm motor with an 1,800-rpm motor, and replacing the existing solid state soft starter with a VFD. The solid state soft starters and motors were replaced with inverter duty motors and variable frequency drives.
Stephen Dickey, PG, CEG, CHG
Associate Hydrogeologist

Stephen Dickey has over 38 years’ experience performing contaminant hydrogeology, engineering geology, groundwater supply, and geophysical projects for industrial and municipal clients in California, the Southwest and Midwest regions, and Alaska. He has extensive experience supervising exploration drilling operations, well construction, dewatering, and earthwork. His corporate work experience includes positions at Southern California Edison (SCE), ARCO Transportation, and Lockheed.

Project Experience

Water Well Diagnosis and Rehabilitation

- Engineering geologist for the City of Coachella Well Abandonment for Well Sites #3, #4, and #7. Scope included removal of well pumps and appurtenances, removal of concrete pad, perforating well casings, disposal of well equipment, and site cleanup.
- Engineering geologist for Well Abandonment at US Border Patrol. Work consisted of preparing Work Plan for abandonment of one water well, inspection services and report documenting abandonment.
- Evaluation of municipal well pilot hole and zone test data to assist City of Hemet water department technical staff regarding probable well yield and water quality to support go/no-go decision on well completion and design.
- Supervised acid treatment, superchlorination, redevelopment of water supply well at TRW laser test facility in San Clemente.
- Supervised liquid CO2 treatment, acid treatment, and re-development of two remediation treatment plant water supply wells at Lockheed Beaumont rocket test facility.
- Supervised acid treatment, super-chlorination, and re-developement of ranch water supply well, San Pasqual.
- Evaluation of spinner flowmeter, temperature/fluid conductivity, and borehole video logs to determine source of high salinity, high sulfate water affecting deep high capacity municipal supply well, Orange County.
- Geophysical surveys and analysis of water chemistry to evaluate salt water intrusion and possible salt water intrusion affecting wells at Avalon Canyon, Howland’s Landing, and Toyon School, Santa Catalina Island.

Groundwater Related Construction Projects

- Field supervision, logging, aquifer testing, quality assurance for installation of 26 hydraulic relief wells, construction of new access roads, installation of 4,500 tons of riprap stone at Success Dam, Porterville for U.S. Army Corps of Engineers.
- Groundwater modeling to compute transient water pressures in earth-fill dam for rapid drawdown stability analysis, Portal Forebay dam, Huntington Lake area.
- Investigation, aquifer testing, design, construction of deep well dewatering system to suppress water table at fuel oil tank farm at Redondo Generating Station in a shallow aquifer sensitive to tides.
Supervised construction and testing of pilot dewatering wells for SF Airport BART

Extension construction, San Bruno for Griffin Dewatering Corp.

Supervised design, construction of horizontal drain wells to stop rock slope movement during reconstruction of Thompson Dam spillway, Middle Ranch Reservoir, Santa Catalina Island

Member of Independent External Peer Review (IEPR) panel for Rough River Dam Safety Modification Study (DSMS), US Army Corps of Engineers, as expert in groundwater and engineering geology

Investigated source/cause of seepage causing wet floor slab, mold, floor damage, residence in Camarillo

**Water Supply Projects**

- Groundwater supply investigations for several desert basins, including Soda Lake, Johnson Valley, and Ivanpah Valley
- Supervised drilling, construction and testing of three 2500 to 4000 gpm water supply wells for San Gabriel Valley Water Company, CA.
- Supervised drilling, construction, and testing of two 2500 gpm water supply wells for Valley County Water Company, Irwindale, CA.
- Supervised drilling and construction of five 2000 to 4000 gpm water supply wells for Suburban Water Systems in West Covina, Pico Rivera, and La Mirada, CA.
- Supervised drilling, construction, and testing of three 1000+ construction water wells for E. L. Yeager Construction, and for Mattich Construction, Riverside, CA.
- Design and supervision of construction, three golf course irrigation wells, City of Victorville
- Supervised drilling, zone testing, design, construction of 1200 gpm municipal water supply well for City of San Jacinto. Design included evaluation of risk of pumping colored water from deep production zones
- Exploration drilling, design and construction of four water supply wells, Santa Catalina Island
- Hydrogeologic evaluation, well siting, and supervision of installation of horizontal wells in granitic rock for private landowners at Palomar Mountain as well as Sawpit Canyon and Waterman Canyon in the San Bernardino Mountains
- Microgravity and electrical resistivity survey of beach areas in Cambria to delineate subsurface topography of canyons under beach sand for location of desalinization plant seawater intake and brine rejection wells
- Geophysical survey of 16 springs at US Navy China Lake Air Weapons Station to support long-term project to develop groundwater supplies for remote test facilities
Ronald Schnabel, PG, CHG
Senior Hydrogeologist

Ron Schnabel has over 35 years of experience as a Geologist, and 15 years as a Hydrogeologist. He has used his understanding of geology and hydrogeology to develop clients requiring planning, permitting, design and operational expertise with water banking and artificial groundwater recharge. Mr. Schnabel has been a project manager and key team member on over twenty groundwater banking and recharge projects in California, and for numerous other types of projects. His regulatory experience includes environmental permitting, plans of operation, CEQA, EIR and NEPA compliance and permitting. His goal is to use his experience to help further develop clients needing surface water and groundwater related investigations, artificial recharge projects for aquifer storage and recovery, well design, construction and testing. Mr. Schnabel’s experience includes groundwater modeling, GIS, statistics, surface-water-measurement methods, and geophysics.

Project Experience

Paradise Valley Groundwater Banking Investigation, Glorious Land Company, Riverside County, California. Project Manager for the hydrogeological investigation to store and recover imported Colorado River Water in Shavers Valley, Riverside County. Designed and constructed one production and four monitoring wells to obtain baseline groundwater quality data, characterize the groundwater basin, and to provide monitoring wells for Project management. Well work included creating well specifications, obtaining well drilling bids, and drilling contract management services.

Centennial Hydrogeologic Investigation, Centennial Founders, LLC, Los Angeles, California. Conducted a hydrogeologic study to assess the quantity and quality of groundwater with the western Antelope Valley. Performed design and cost estimating for groundwater recharge and recovery facilities consisting of approximately 100 acres of spreading grounds and seven recovery wells. Conducted an extensive hydrogeologic study that included drilling and installing eight monitoring wells, designing and constructing a groundwater recharge test basin, and estimating the safe groundwater yield for local groundwater supply. This investigation was a portion of the water resource assessment study for a major planned community.

Antelope Valley Water Bank, Semitropic Water Storage District, Kern County, California. Designed and constructed three approximately 1,000 foot 24-inch diameter production wells for Antelope Valley Water Bank. Work included design, testing, water quality sampling, and well construction management services.

Groundwater Storage and Recovery Pilot Project in White Wolf Basin, Wheeler Ridge-Maricopa Water Storage District, Kern County, California. Conducted a detailed hydrogeologic investigation for recharging State Water Project water in the White Wolf Basin for groundwater banking. This investigation included the construction of one 1,000-foot production well and four monitoring wells. Responsibilities included well design, construction management and inspection, testing, and obtaining permits.

Monitoring Well Construction, Six Basin Watermaster. Designed and constructed two new monitoring wells in the Six Basins including the monitoring well (MW 2) located on the Caltrans property where Production Well No. 3 is proposed.
Servando Diaz, EIT
Project Engineer

Servando Diaz is a project engineer focused on water, wastewater, and recycled water projects, emphasizing on infrastructure planning and improvements. His project experience includes pipeline, pump stations, treatment facilities, and reservoirs. He has been involved in all stages of the engineering process from conceptual planning, preliminary design, final design, and construction assistance services.

Project Experience

Pump Stations

Perimeter Booster Pump Station Upgrades, City of San Bernardino, San Bernardino County, California. Project Engineer for preliminary and final design of 100-hp vertical turbine pump, discharge piping and valves, 100-hp solid state soft starter, 250-kW generator set, and a 600A automatic transfer switch. Selected Pump was required to pump to the interim and future hydraulic grade which differed by approximately 25-ft and hydraulic calculation were developed to determine the impacts to the two existing pumps for both hydraulic scenarios. The project also required enlarging the pump station enclosure to accommodate the generator and consisted of additional concrete block wall, relocating a 10-ft gate and asphalt paving.

16th Street Pump Station and Dolphin/Tamura Water Wells, City of Newport Beach, Newport Beach, California. Project engineer for design of the upgrades to the 16th St. Pump Station and the water wells at Dolphin and Tamura streets. Improvements included increasing pumping capacity to two (2) of the existing five (5) pumps at the 16th Street Pump Station. Design also included upgrade to the control systems and station upgrades. I assisted in the development of the construction plans and specifications in addition to the Engineer’s estimate.

Santa Maria WWTP Percolation Ponds Expansion, City of Santa Maria, San Barbara County, California. Project engineer for design of a 20-MGD, secondary effluent, variable speed operated, vertical turbine pump station and (2) flow diversion structures which consisted of multiple 24-inch and 20-inch manually operated sluice gates to route flows to the various percolation basins. Due to the low relative static lift and varying water levels within the percolation basins and pumping forebay, a high spot in the pump station discharging piping was required to facilitate proper operation of the pump station under the full range of operating conditions.

North Trumble Recycled Water Storage Ponds, Eastern Municipal Water District, Riverside County, California. Project engineer for design of (9) 150-hp vertical turbine floating pump stations, (5) pressure sustaining, flow control, and flow metering inlet facilities to the (5) ponds, and (5) outlet metering stations. The project entailed multiple connections from the 24-inch inlet piping and 16-inch outlet piping to the 36-inch and 48-inch recycled water transmission mains. Extensive coordination with SCE to provide electrical service for the (9) floating pump stations was also required.
Lift Station 12 Capacity Study, South Coast Water District, Dana Point, California. The District contracted Dudek to provide an independent engineering evaluation for proposed improvements to Lift Station No. 12. Responsibilities included reviewing the existing lift station configuration and capacity and assessing additional City proposed flow diversions. Evaluated the hydraulic system requirements of the sewage lift station.

Lift Station #11 and Dana Point Harbor Recycled Water Conceptual Cost Evaluations, South Coast Water District, City of Dana Point, California. Project Engineer for a conceptual cost evaluation for Lift Station #11 which compared rehabilitation and replacement options to accommodate the planned Harbor development. In addition, a conceptual construction cost estimate was prepared for serving the harbor and adjacent areas with recycled water. The evaluation compared serving this area with RW from the District’s 290 pressure zone versus constructing a pressure reducing station (PRS) and providing RW from the 460 pressure zone.

Related Experience
Sukutan Water Well, Engineers Without Borders, Kenya, Africa. Part of a project team responsible for the design and implementation of a shallow well to supplement the water supply for a rural African community. Project involved the drilling and development of the shallow well facilities. A 6-inch diameter steel shaft was installed at a depth of approximately 265 feet below ground surface. The well construction also included the above ground construction of the well pump pedestal and a concrete livestock water trough with an incorporated elephant deterrent. Coordination and partnership was required with local NGO for successful completion. Permitting was also required with the local Water Authority to tap the aquifer.

Carrot Irrigation, Reservoir, and Pump Station Design, Bolthouse Farms, Cuyama, California. Designed a 13 AC-FT reservoir and pump station for the supply of water for up to 400 Acres of irrigated farmland. Design included calculations and construction drawings of Vertical Turbine pumps and associated fittings. System design also included a detailed drip irrigation system for 400 Acres of seeded carrots. Drip design incorporated sand media filtration, drip tape and pressure regulation.

Training
- Flow Measurement-Pipelines & Canals – Cal Poly ITRC
- 30hr. OSHA Training
- Flood Fight Methods – California Department of Water Resources

Skills
- AutoCAD Civil 3D
- Microsoft Office
- ArcGIS
Clay Sweatland
Senior Designer

Clay Sweatland has over 34 years’ designer-level experience as a civil drafter and CADD operator. With the use of AutoCAD and Land Development Desktop software, he has been responsible for the plan preparation of numerous wastewater treatment plants, sewer, and water design. Included in these projects are pipeline plan and profile, pump station and associated detail, traffic control, and right-of-way acquisition drawings.

**EDUCATION**
- United States Army Engineering School, Fort Belvoir, VA
- Carto Graphic Drafting
- Decca Charting
- Reproduction and Civil Engineering
- Grossmont Junior College
- General Education, Architectural Drafting and Design

**Project Experience**

**Dolphin Well, Tamura Well, and 16th Street Pump Station Upgrades, City of Newport Beach, Orange County, California.** Mr. Sweatland was responsible for the detailed design and preparations of design plans for the upgrades to all three facilities. The work at the Dolphin and Tamura Wells consisted of replacing (4) solid state soft start motor controllers with 18-pulse variable frequency drives (VFD’s) and inverter duty motors. The new VFD’s at each well site were 400-hp and 250-hp respectively and allowed the wells to pump at a constant rate without the use of a pulsed flow control type diaphragm check valve. Work at the 16th street pump station consisted of replacing (2) constant speed, 1,200-RPM, 350-hp vertical turbine booster pumps with (2) variable speed, 1,800-RPM, 300-hp pump assemblies. Additional work at the pump station included replacing the solid state soft start motor controllers with 18-pulse variable frequency drives and replacing the diaphragm type booster pump check valves with slanted disc check valves. The purpose of this project was to reduce energy consumption and was partially paid for with SCE rebates.

**16th Street Pump Station Upgrades, City of Newport Beach, Orange County, California.** Mr. Sweatland was responsible for the detailed design and preparations of design plans for the replacement of (2) constant speed, 1,200-RPM, 350-hp vertical turbine booster pumps with (2) variable speed, 1,800-RPM, 300-hp pump assemblies. Work at the pump station included replacing the solid state soft start motor controllers with 18-pulse variable frequency drives and replacing the diaphragm type booster pump check valves with slanted disc check valves. Offsite work entailed replacement of the (4) more solid state soft start motor controllers with 18-pulse variable frequency drives and inverter duty motors at the Dolphin and Tamura Well sites. The new VFD’s at each well site were 400-hp and 250-hp respectively and allowed the wells to pump at a constant rate without the use of a pulsed flow control type diaphragm check valve. The purpose of this project was to reduce energy consumption and was partially paid for with SCE rebates.

**Perimeter Booster Pump Station Upgrades, San Bernardino Municipal Water Department, City of San Bernardino, San Bernardino County, California.** Mr. Sweatland was responsible for the detailed design and preparations of design plans for the 100-hp vertical turbine pump, discharge piping and valving, 100-hp solid state soft starter, 250-kW generator set, and a 600A automatic transfer switch. The 100-hp pump was required to pump to the interim and future hydraulic grades which differed by approximately 25-ft and hydraulic calculations had to be prepared to determine the impacts to the (2) existing pumps for both of the hydraulic scenarios. The project also required enlarging the pump station enclosure to accommodate the generator and consisted of additional concrete block wall, relocating a 10-ft gate and asphalt paving.
Sampson Avenue Flow Control and Pressure Reducing Stations, City of Corona, Riverside County, California. Mr. Sweatland was responsible for the detailed design and preparations of design plans for the flow control station and a pressure reducing station. The 5,000-gpm flow control station was comprised of 18-inch piping, isolation valves, a flow meter and a motor operated butterfly valve. The 3,000-gpm pressure reducing station utilized 12-inch piping isolation valves, a flow meter and a 10-inch Cla-Val. Both stations were situated on the same site and shared an electrical service and a radio telemetry system.

North Trumble Recycled Water Storage Ponds, Eastern Municipal Water District, Riverside County, California. Mr. Sweatland was responsible for the detailed design and preparations of design plans for the (5) pressure sustaining, flow control, and flow metering inlet facilities to the (5) ponds, (5) outlet metering stations, and (9) 150-hp vertical turbine floating pump stations. The project entailed multiple connections from the 24-inch inlet piping and 16-inch outlet piping to the 36-inch and 48-inch recycled water transmission mains. Extensive coordination with SCE to provide electrical service for the (9) floating pump stations was also required.

City of Corona and LLWD Service Boundary Adjustment Pressure Reducing Stations, City of Corona, Riverside County, California. Mr. Sweatland was responsible for the detailed design and preparations of design plans for the (3) pressure reducing stations to accommodate shifting customers from the City of Corona to Lee Lake Water District. One of the pressure reducing stations functions as an interie between the agencies, and provides reduced pressure water to the new Lee Lake Water District customers. This station also incorporates pump suction and discharge connections to facilitate water being conveyed from the City of Corona into Lee Lake Water District’s higher pressure system.

Ten (10) pressure reducing stations, Padre Dam Municipal Water District - Santee, California

North Trumble Recycled Water Storage Ponds, Eastern Municipal Water District, Riverside County, California. Mr. Sweatland was responsible for the detailed design and preparations of design plans for the (9) 150-hp vertical turbine floating pump stations, (5) pressure sustaining, flow control, and flow metering inlet facilities to the (5) ponds, and (5) outlet metering stations. The project entailed multiple connections from the 24-inch inlet piping and 16-inch outlet piping to the 36-inch and 48-inch recycled water transmission mains. Extensive coordination with SCE to provide electrical service for the (9) floating pump stations was also required.

Santa Maria WWTP Percolation Ponds Expansion, City of Santa Maria, San Barbara County, California. Mr. Sweatland was responsible for the detailed design and preparations of design plans for the 20-MGD, secondary effluent, variable speed operated, vertical turbine pump station and (2) flow diversion structures which consisted of multiple 24-inch and 20-inch manually operated sluice gates to route flows to the various percolation basins. Due to the low relative static lift and varying water levels within the percolation basins and pumping forebay, a high spot in the pump station discharging piping was required to facilitate proper operation of the pump station under the full range of operating conditions.

Ski Land Reclaimed Water Pump Station – Eastern Municipal Water District - Perris, California

Five (5) reclaimed water pump stations - City of Scottsdale, Arizona
Grace M. Rinck, CIH
Vice-President

Ms. Rinck has been practicing industrial hygiene for 22 years. Her experience includes developing compliance programs, writing health and safety programs and specifications, and inspecting and evaluating construction and hazardous material projects. She specializes in training and education, having conducted employee health and safety training on the full spectrum of topics, including but not limited to respiratory protection, proper use of personal protective equipment, substance specific hazard communication, bacterial and fungal contamination, confined space, lead, and asbestos. As a former teacher, she has a reputation of providing in depth training classes that are specific to the client’s needs and has been praised often regarding her outstanding abilities in the classroom. Public clients include the County of Los Angeles Departments of Public Works and Internal Services, Southern California Metropolitan Water District, the Housing Authority of the City of Los Angeles, The Cities of Pasadena, and Los Angeles, and Los Alamitos School District. She was on the advisory board for the Los Angeles Section of the American Indoor Air Quality Council (AmIAQ), a professional corporation devoted to the collection and dissemination of indoor air quality (IAQ) information to its members and promoting awareness and education on IAQ issues, for eight years and is currently serving as secretary for the Southern California – AIHA. Her experience in risk communication has been very helpful in adversarial situations where a client needs someone to disseminate information to employees in both large and small group settings.

**Project Experience**

**Industrial Hygiene Services, Departments of Public Works and Internal Services, County of Los Angeles:** Provides both scheduled and on-call emergency industrial hygiene services to the County of Los Angeles, Department of Public Works since 2000 at County owned and managed facilities throughout the 400 square miles that comprise the County of Los Angeles. Has and continues to provide training in confined space, hearing conservation, respiratory protection, fall protection, construction safety, HAZWOPER and first responder, lead, asbestos, mold, and industrial hygiene. Reviews health and safety procedures and assists the county in developing safe work procedures at both routine – traffic painting, guardrail removal, sewer and water line maintenance to the unusual – well maintenance, downstream dam control painting, flood control bacteria safety protocols, and even drug investigations. Facility inspections have ranged in size from entire dams to sheds. Provides indoor air quality inspections in office buildings, measured a diverse number of environmental hazards, including bacteria, mold, asbestos, lead, heavy metals, pesticides, organic compounds, noise, and non-ionizing radiation. Over the last ten years, Ms. Rinck has reviewed contractor HASPs for construction projects at Big

**Education**  
B.S. Chemistry, UCLA, 1986  
M.A. Education, California State University Northridge, 1988

**Registrations/Licenses**  
CIH, 1994

**Certifications**  
CAC, 1993  
CDPH-Lead, 1997

**Professional Affiliations**  
American Industrial Hygiene Association (AIHA)  
Diplomat, American Academy of Industrial Hygiene (AAIH)  
Secretary, South California Local AIHA
Tujunga, San Gabriel, and San Dimas dams as well as smaller projects like the Blanchard Slope reformation project and construction projects at county maintenance, water works, sewer, flood maintenance and office buildings. Every year, she conducts asbestos training, which includes respiratory fit testing, for the 300+ Internal Services Department tradespersons who maintain the county owned buildings, as well as Department of Public Works Flood, Road, and Maintenance personnel. Client Contacts: Julie Tran, Employee Health and Safety, LACDPW, (626) 458-2157, Maria Beltran, Management Secretary, ISD, (323) 267-3805.

**Industrial Hygiene Services, AMEC Geomatrix, Los Angeles, CA:** Provides industrial hygiene support services for large scale industrial site remediation and demolition projects. Projects have included personnel and environmental air monitoring for pesticides, solvents, particulates and heavy metals, and facility hazardous materials inspections. In December of 2010, Aurora Industrial Hygiene conducted a hazardous materials inspection (asbestos, lead, PCBs, and other hazardous materials (OHM) for over 20 buildings and structures at the Port Authority of Guam located at Apra Harbor as part of the development of a container terminal port. Ms. Rinck was the project manager. Client Contact: Linda Conlan, Principal Geologist, (949) 574-7083.

**Industrial Hygiene Services, Waterstone Environmental, Anaheim, CA:** Responsible for providing as-needed industrial hygiene services and consultation. Services have included both environmental and personnel monitoring during abatement of contaminated soil for projects for LAUSD school expansion and construction projects. Conducted work site, perimeter, hazard zone and personnel monitoring for pesticides, heavy metals, volatile organic compounds and particulates as well as recording environmental conditions for worker safety. Client Contact: Elizabeth Gonzalez, Principal Engineer, (714) 414-1122.

**Industrial Hygiene Services, Housing Authority City of Los Angeles, CA:** Ms. Rinck has been an industrial hygiene consultant under contract with HACLA since 2005. During that time she has assisted the agency by providing a full range of asbestos and lead services, as well as general industrial hygiene. Tasks have included asbestos and lead specification writing, managing asbestos and lead inspections – office buildings, and multi-unit residential, project management for asbestos and lead abatement and lead stabilization oversight and monitoring, personnel exposure assessments as well as writing operations and maintenance plans and providing Housing Authority personnel with training. In 2013, Ms. Rinck provided initial Asbestos Operations and Maintenance Training and respiratory fit testing for over 150 employees. Client Contact: Eric Tellez, Environmental Manager, (213) 494-6421.

**Quantitative Respiratory Fit Testing, Human Performance Institute (HPI), Anaheim, CA:** Responsible for training Aurora personnel and managing the contract. Quantitative fit testing for ½ face and disposable respirators on an as needed basis at Aurora’s South Pasadena office for the State of California Department of Corrections and Rehabilitation. Client Contact: Paul Willem, (949) 661-7590.
Mr. Moraes is a California registered electrical engineer specialized in the design of electrical and controls systems for water and wastewater facilities, such as reservoirs, pumping stations, sanitary lift stations, PRV stations, wells, and treatment plants. In the past twenty years he has designed over 300 such projects for 43 southern California municipal end users. With his wealth of experience and continuous design activity, Mr. Moraes maintains proficiency in state of the art solutions to complex designs involving pumping systems, generators, variable frequency drives, PLC’s, and SCADA systems. Relevant recent pump station and telemetry system project experience includes the following:

City of Newport Beach
- Pump Station Rehabilitation (2009)
- Dolphin and Tamura Wells
- 16th Street Pump Station

City of Orange
- Well #26 (2003)

Irvine Ranch Water District
- PA6 Zone 4/C Pumping Stations (2005)
- 10 Reservoir RMS Additions (2007)
- 9 Reservoir Mixer Additions (2007)

City of Carlsbad
- Poinsettia Sewer Lift Station (1997)
- El Fuerte Sewer Lift Station (2008)

South Coast Water District
- Beach Road and State Park Lift Station Rehabilitation (2007)

City of Oceanside
- Bandstand Lift Station Relocation (1999)
- Mission Avenue Lift Station Relocation (1999)
- North River Road Lift Station Rehabilitation (2000)
- Peacock Hills PRV (2007)

City of San Diego
- Storm Sewer Pump Station ‘N’ Upgrade (1999)
- Sanitary Pump Station #8, 18, 19, 36, 39, 42, 62, 68, and 90 Rehabilitation (2003)
- Point Loma WWTP Sludge Pump #4 Addition (2003)
- Electrical upgrades to 22 sewer lift stations (2007)

Vallecitos Water District
- Electrical Upgrade to Lift Station No. 1 and Lake San Marcos Lift Station (2001)
- Relocate West Lift Station (1995)

Leucadia Water District
- Saxony Pump Station Rehabilitation (1999)
- Leucadia Pump Station Rehabilitation (2005)
- Pump Station Upgrades (2008)

City of Poway
- Old Coach Lift Station (1999)

City of Vista
- Buena Vista Sewer Pump Station Upgrade (1997)
- Buena Creek Sewer Pump Station Upgrade (2000)
- Agua Hedionda Sewer Pump Station Upgrade (2001)

Long Beach Water Department
- Storm Sewer Pump Station Electrical Upgrade (2000)

Ramona Municipal Water District
- San Vicente Wastewater Treatment Plant (2000)

NAVFAC, SW Div.
- Upgrades to Sewage Treatment Plants 1, 2, 3, 9, 11, 12, and 13 (1999)
APPENDIX B
Professional Services Agreement Acceptance Form
Appendix B: Professional Services Agreement Acceptance Form

Firm Name: ________________________________

Address: __________________________________________________________

City ________________________     State ________ Zip Code ______________

Telephone: __________________________     Fax: ________________________

I have reviewed the RFP and Professional Services Agreement in their entirety. Our firm will execute the Professional Services Agreement with no exceptions.

Name of Authorized Representative: ________________________________

Signature of Authorized Representative: ______________________________

Date: ____________

__________________
APPENDIX C

Example of Insurance Certificate
**CERTIFICATE OF LIABILITY INSURANCE**

**DATE (MM/DD/YYYY)**

**9/4/2014**

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFER 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 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**

Michael J Hall & Company
A/E Insurance Services
19660 10th Ave NE
Poulsbo WA 98370

**INSURED**

Dudek
605 3rd Street
Encinitas CA 92024

**COVERAGES**

**CERTIFICATE NUMBER:** 1679572223

**COVERAGE**

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**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES**

(Attach ACORD 101, Additional Remarks Schedule, if more space is required)

**CERTIFICATE HOLDER**

**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**

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## Project Team Roles

### Team Member: Ohlund Harper Diaz Sweatland

### Billable Rate:
- $250
- $190
- $190
- $140
- $140
- $120
- $80

### Task 1 - Project Management

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</tbody>
</table>

### Task 3 - Preliminary Design

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Hours</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Review Existing Info, Utility Collection and Prep of Basefiles</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Site Design</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>Prepare Preliminary Demolition Cost Estimate</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Pre-Demolition Asbestos Survey &amp; Report</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Preliminary Demolition Schedule</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>Preliminary Design Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>Preliminary Design Memorandum</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3.7</td>
<td>Agency Coordination and Permitting</td>
<td>8</td>
<td></td>
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</tbody>
</table>

### Task 4 - Final Design Services

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Hours</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>90% Submittal (Plans, Specs, Cost Est, Schedule)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Final Submittal (Plans, Specs, Cost Est, Schedule)</td>
<td>8</td>
<td></td>
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<tr>
<td>4.3</td>
<td>(Optional) City of Costa Mesa EC Permit Package</td>
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### Task 5 - Bid Phase Services

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Hours</th>
<th>Fee</th>
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</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Bid Phase Clarification and Preparation of Addenda (2) (16hrs)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Assist MWD in Conducting Pre-Bid Meeting (4hrs)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Evaluation of Bids and Selection of Bidder (4hrs)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Prepare Conformed Plans and Specs</td>
<td>1</td>
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### Task 6 - Construction Phase Services

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Hours</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Preconstruction Conference</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>Project Meetings (6 total @ 2 hrs each)</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Indirect Coordination Meetings</td>
<td>2</td>
<td></td>
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<tr>
<td>6.4</td>
<td>Project Filing System</td>
<td>2</td>
<td></td>
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<tr>
<td>6.5</td>
<td>Project Reporting (4 RFIs/RFCCs @ 2 hrs)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6.6</td>
<td>Submittal Reviews (6 @ 2hrs + 2 @ 1hr)</td>
<td>6</td>
<td></td>
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<tr>
<td>6.7</td>
<td>Change Order Review (2 @ 2 hrs each)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6.8</td>
<td>Project Close-out</td>
<td>4</td>
<td></td>
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<tr>
<td>6.9</td>
<td>Preparation of Record Drawings</td>
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### Subtotal Task 1

<table>
<thead>
<tr>
<th>Hours</th>
<th>Fee</th>
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<tbody>
<tr>
<td>32</td>
<td>6,360</td>
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### Subtotal Task 2

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<th>Fee</th>
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<tbody>
<tr>
<td>6</td>
<td>6,125</td>
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### Subtotal Task 3

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<th>Fee</th>
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<tr>
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<td>22,190</td>
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### Subtotal Task 4

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<tr>
<th>Hours</th>
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<td>48</td>
<td>24,240</td>
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### Subtotal Task 5

<table>
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<tr>
<th>Hours</th>
<th>Fee</th>
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<tr>
<td>13</td>
<td>3,310</td>
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### Subtotal Task 6

<table>
<thead>
<tr>
<th>Hours</th>
<th>Fee</th>
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<tbody>
<tr>
<td>29</td>
<td>8,470</td>
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</table>

### Total Hours and Fee

<table>
<thead>
<tr>
<th>Hours</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td>64,400</td>
</tr>
</tbody>
</table>

### Percent of Hours:

- 0% 38% 1% 26% 23% 9% 3% 100%
- 0% 40% 1% 30% 24% 9% 3% 100%

### Mesa Water District

Well No. 8 Demolition

### DUDEK FEE ESTIMATE

### Total Hours and Fee

<table>
<thead>
<tr>
<th>Hours</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td>64,400</td>
</tr>
</tbody>
</table>

### Percent of Hours (with Optional Tasks):

- 0% 40% 1% 30% 24% 9% 3% 100%

### Traffic Control Engineering (TCE)

### Asbestos Survey (Aurora)

### Electrical Engineering (MPA)

### OTHER DIRECT COSTS

### TOTAL FEE

<table>
<thead>
<tr>
<th>Hours</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td>64,400</td>
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</table>

### Percent of Hours (with Optional Tasks):

- 0% 40% 1% 30% 24% 9% 3% 100%
<table>
<thead>
<tr>
<th>FILE NO.</th>
<th>PROJECT ADDRESS</th>
<th>PROJECT DESCRIPTION</th>
<th>PROJECT NOTES/STATUS</th>
</tr>
</thead>
</table>
## PROJECT STATUS - DEVELOPER PROJECTS

<table>
<thead>
<tr>
<th>FILE NO.</th>
<th>PROJECT ADDRESS</th>
<th>PROJECT DESCRIPTION</th>
<th>PROJECT NOTES/STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC 2064</td>
<td>1000 Halyard</td>
<td>Memory Care Facility</td>
<td>Had meeting to discuss project, gave atlas information for the water location. Conducted fire flow test 1/27/14. First plan check complete 4/22/14. Discussed existing easement with engineer and researched records 4/24/14. Easement shown on plans is not a &quot;utility&quot; easement per the engineer. Project site located in Newport Beach. Working with owner to address concerns over proposed wall and gate. Meeting scheduled for 8/12/14 to discuss project with Owner/Contractor. Options presented to the board on 08/28/14. Phil L. and Paul S. met with the City of Newport Beach to discuss potential solutions. Grant of Easement in legal counsels review. Owner is working on preparing exhibits for the Grant of Easement. Irrigation plans submitted with revised site plan on 11/5/14 showing the corrected improvements with easements. Plan check comments issued on 11/13/14. Revised plans received on 11/14/14. Owner set to pay fees and submit signed Water Service Agreement and Application for New Service on 12/1/14 in order to obtain permit. Permit issued 12/8/14. Installed fire line 12/22/14. Project meeting held on 4/10/15 to coordinate next inspections. Service line installed 4/16/15. Installed 1 - 2&quot; meter and 1 - 1&quot; meter 4/27/15. Performed pressure test 5/7/15. (5/7/15)</td>
</tr>
</tbody>
</table>
### PROJECT STATUS - DEVELOPER PROJECTS

<table>
<thead>
<tr>
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<tr>
<td>----------</td>
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</tr>
<tr>
<td>MC 2083</td>
<td>2600 Harbor Blvd.</td>
<td>Orange Coast Cadillac</td>
<td>Plans received on 3/12/14. Initial comments sent to Engineer via email 3/27/14 and official plan check with check prints completed 4/24/14. Revised plans received from Engineer 4/27/14. Revised plans did not address comments. Comments sent back to Engineer 4/29/14. Revised plans received 5/9/14. Notified Engineer that plans need to include fireline improvements in addition to meter and service relocations. Engineer stated that the fireline improvements were still under design and a re-submittal would not be immediate. Awaiting revised plans containing fire line improvements. Checked status with Engineer on 8/7/14. Developer stopped by on 10/7/14 to ask about status and was reminded that Engineer has not yet submitted revised plans. Developer again stopped by on 10/30/14 and was reminded that Engineer is awaiting revised plans. Revised plans submitted 12/4/14. Coordinating with developer on plan check comments. Plans reviewed and ready for permit issuance. Water service agreement application for new service and payment voucher mailed to the developer. Awaiting payment of fees. (5/7/15)</td>
</tr>
<tr>
<td>FILE NO.</td>
<td>PROJECT ADDRESS</td>
<td>PROJECT DESCRIPTION</td>
<td>PROJECT NOTES/STATUS</td>
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</tr>
<tr>
<td>MC 2087</td>
<td>421 Bernard St.</td>
<td>Pacific Gateway Condominiums</td>
<td>Plans reviewed 5/9/14. Mylar and check/payment received 5/15/14. Mylars not signed due to easement concerns. Conference call held with developer to resolve easement and concerns 5/28/14. Easement(s) to be granted. Developer sent hold harmless agreement and Grant of Easement docs on 7/3/14. Fees paid on 07/08/14. Developer discussed revisions to the easement docs with Mesa Water on 7/31/14 and an agreement was reached. Revised Grant of Easement and Hold Harmless docs sent by Developer and were considered for acceptance by committee at September E&amp;O on 09/16/14. The Grant of Easement was accepted at the 11/13/14 Board Meeting. Mylars signed on 11/20/14 and permit issued on 11/25/14. Met with project manager 1/12/15 to work on finalizing the design of project. Revised plans received 2/3/15. Awaiting revised easement exhibits. Installed backflow for fire services on 4/1/15. Revised easements received 3/30/15. Replaced valve and tied in fire hydrant lateral 4/22/15. Installed 3&quot; domestic meter 5/7/15. Easements are being signed by Mesa Water for recording. (5/7/15)</td>
</tr>
<tr>
<td>FILE NO.</td>
<td>PROJECT ADDRESS</td>
<td>PROJECT DESCRIPTION</td>
<td>PROJECT NOTES/STATUS</td>
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</tr>
<tr>
<td>MC 2095</td>
<td>2023-2027 Placentia</td>
<td>36 Condos</td>
<td>Plans received and fees paid on 6/3/14. Plans reviewed and discussed with Phil L and easement proposal denied. Plan revisions emailed to Engineer and discussed over the counter. Engineer inquired about master meter options. Mesa Water indicated that master meter option was not within Board policy. Direction to install meter manifolds sent to Engineer on 7/3/14. Engineer submitted completely revised plans on 8/19/14. 1st plan check comments (1st with complete revised design) issued on 8/21/14. Revised plans received on 9/4/14 and 2nd plan check complete on 09/9/14. Final plans submitted, reviewed, and approved for mylar printing on 09/9/14. Signed/stamped mylars received, forms signed, and fees paid on 10/2/14. Water service agreement signed and permit issued on 10/21/14. USA underground marking on 3/30/15. Awaiting request for inspection. (5/7/15)</td>
</tr>
<tr>
<td>MC 2096</td>
<td>283 E. 19th St</td>
<td>Home Remodel</td>
<td>Plans received and fees paid on 6/4/14. Requested additional information from Engineer on 6/5/14. Engineer sent information on 6/9/14. Plans review and marked up due to the adjustment of meter box to grade and installation of a backflow. Comments emailed to Engineer on 6/9-10/14. Revised plans received on 6/18/14. Final review complete and mylars requested on 6/19/14. Mylars received and fees paid on 6/30/14. Application form received and permit issued on 7/9/14. Awaiting contractor to request inspection. Mesa Water inspected project site on 2/10/15 to ensure no improvements have been made without Mesa Water approval. Mesa Water inspector to revisit site. (5/7/15)</td>
</tr>
<tr>
<td>FILE NO.</td>
<td>PROJECT ADDRESS</td>
<td>PROJECT DESCRIPTION</td>
<td>PROJECT NOTES/STATUS</td>
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<tr>
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</tr>
<tr>
<td>MC 2097</td>
<td>1593 Tustin Ave</td>
<td>Home Remodel</td>
<td>Plan check fees paid on 6/5/14 by Owner for meter upgrade. GIS and Google Map research on 6/10/14 shows that property has two housing units on same lot but is served by one meter. Owner said that he would provide floor plans showing fixture units but awaiting pending Board decision on capacity fees. Called and emailed Owner on 7/17/14 to remind Owner about payment of fees. Also reminded Owner about submittal requirement for floor plans. Checked with Owner again on 10/9/14. Mesa Water inspected project site on 3/10/15 to ensure no improvements have been made without Mesa Water approval. Mesa Water to send a notice of intent to close project. (5/7/15)</td>
</tr>
<tr>
<td>FILE NO.</td>
<td>PROJECT ADDRESS</td>
<td>PROJECT DESCRIPTION</td>
<td>PROJECT NOTES/STATUS</td>
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</tr>
<tr>
<td>MC 2104</td>
<td>55 Fair Dr.</td>
<td>Vanguard University Waterline Relocation</td>
<td>Plans received and fees paid 7/22/14. 1st plan check complete 7/29/14. Plan corrections sent to Engineer on 7/29/14. Revised plans submitted 08/19/14 and comments issued 08/19/14 regarding easement alignment. Check for construction fees, signed Grant of Easement form, and Quitclaim form submitted on 09/11/14. Final plans and easement exhibits received 09/23/14. Easement exhibits checked and comments issued on 09/25/14. Final easement exhibits received on 09/30/14. Grant of Easement and Quitclaim to be presented to Board at E &amp; O Committee meeting on 10/21/14. Board accepted Grant of Easement and Quitclaim at the request of the University representative present at the meeting. Grant of easement and Quitclaim signed on 10/27/14. Precon meeting held on 10/28/14. Relocated and installed water main 11/18/14. Awaiting call for meter installation. (5/7/15)</td>
</tr>
<tr>
<td>MC 2118</td>
<td>220 E. 16th St.</td>
<td>Home Remodel (Complete Remodel)</td>
<td>Plans received and plan check fees paid 08/27/14. Plan check complete 8/28/14. Following plan check, and while awaiting corrected plans, inaccuracies in Mesa Water records were discovered, and inspector was requested to field verify the actual conditions. 2nd set of plans were revised to reflect actual conditions, and plan check finalized on 10/02/14. Mylars received and fees paid on 10/14/14. Permit issued on 10/21/14, and issued inspection checklist on 10/27/14. Mesa Water inspector to check construction status. (5/7/15)</td>
</tr>
<tr>
<td>FILE NO.</td>
<td>PROJECT ADDRESS</td>
<td>PROJECT DESCRIPTION</td>
<td>PROJECT NOTES/STATUS</td>
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</tr>
<tr>
<td>MC 2119</td>
<td>236 E. 16th St.</td>
<td>Home Remodel (Complete Remodel)</td>
<td>Plans received and fees paid 08/27/14. Plan check complete 8/28/14. Following plan check, and while awaiting corrected plans, inaccuracies in Mesa Water records were discovered, and inspector was requested to field verify the actual conditions. 2nd set of plans were revised to reflect actual conditions, and plan check finalized on 10/2/14. Mylars received and fees paid on 10/14/14. Permit issued on 10/21/14, and issued inspection checklist on 10/27/14. Mesa Water inspector reported no activity onsite 5/5/15. (5/7/15)</td>
</tr>
<tr>
<td>MC 2121</td>
<td>268 &amp; 270 Palmer</td>
<td>Two Single Family Homes</td>
<td>Plans received and plan check fees paid 09/30/14 but plans missing a site plan showing improvements. Site plan received on 10/24/14. Plans reviewed and circulated for Dept. signatures on 10/30/14. Plan check comments issued to Developer on 11/13/14. Meeting with developer scheduled for 3/10/15. Second plan check complete, documents are currently in circulation with Mesa Water staff. Performed Site Pre-Survey on 4/10/15 to check for existing services. Third plan check returned to developer 4/23/15. Awaiting delivery of revised plans. (5/7/15)</td>
</tr>
<tr>
<td>MC 2126</td>
<td>573 Victoria</td>
<td>37 New Homes</td>
<td>Plans received and plan check fees paid 10/7/14. Design of improvements found not to be satisfactory, and a meeting was held on 10/23/14 to discuss design alternatives. New meeting held on 2/6/15. Awaiting revised plans from developer. Revised plans submitted 4/6/15. Plans sent back for second revision 4/7/15. Awaiting revised plans from developer. (5/7/15)</td>
</tr>
<tr>
<td>FILE NO.</td>
<td>PROJECT ADDRESS</td>
<td>PROJECT DESCRIPTION</td>
<td>PROJECT NOTES/STATUS</td>
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</tr>
<tr>
<td>MC 2127</td>
<td>1631-1645 Tustin Ave</td>
<td>11 New Homes</td>
<td>Plans received and fees paid on 10/9/14. Plan check complete with all Dept. signatures on 10/23/14 and plan check comments issued to Developer. Revised plans received from Developer on 11/18/14 and comments issued on 11/20/14. Developer picked up revised plans 1/7/15 and will resubmit for finalization. Plans approved 2/9/15. Precon meeting held on 2/11/15. Installed 4 - 2&quot; services on 3/27/15, and 11 - 1&quot; meters and 1 - 3/4&quot; meter on 4/7/15. Construction and inspections in progress. (5/7/15)</td>
</tr>
<tr>
<td>MC 2130</td>
<td>789-795 Paularino</td>
<td>19 New Homes</td>
<td>Plans received and fees paid on 10/17/14. Plans reviewed on 10/28/14 and circulated for Dept. signature. Due to an existing private well nearby and discharge piping on site, staff has asked the Developer to have the well capped and the discharge piping removed prior to issuance of plan check comments. After Developer agreed to cap the well, plan check comments were issued to Developer on 11/20/14. Received revisions from developer on 1/8/15. Plans approved 2/3/15. PreCon meeting held 2/4/15. Installed 6 - 2&quot; services on 2/13/15. Installed 19 - 1&quot; services on 4/28/15. Inspection ongoing as work progresses. (5/4/15)</td>
</tr>
<tr>
<td>MC 2134</td>
<td>2026 Placentia</td>
<td>15 New Homes</td>
<td>Plans received and fees paid on 10/30/14. Plans reviewed on 10/30/14 and circulated for Dept. signatures. Plan check comments issued to Engineer on 11/13/14. Received revised plans 1/6/14. Plan check completed and permit issued 2/9/15. PreCon meeting held 2/11/15. Inspection ongoing as work progresses. Main hot-tap performed on 5/5/15. (5/7/15)</td>
</tr>
<tr>
<td>MC 2143</td>
<td>481 E 17th St</td>
<td>Fast5Express Car Wash (Commercial)</td>
<td>Plans received and plan check fees paid 12/30/14. Developer notified on 1/12/15 that the project will be redesigned and new plans submitted. Additional car wash data requested 1/13/15. Revised plans received 1/28/15. The car wash flow data received 2/3/15. Developer to provide construction cost to finalize payment voucher and water service agreement. Permit issued 3/24/15. Awaiting developer to request inspection. (5/7/15)</td>
</tr>
<tr>
<td>FILE NO.</td>
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</tr>
<tr>
<td>MC 2148</td>
<td>489 E 20th St</td>
<td>Single Family Home</td>
<td>Plans received and plan check fees paid 1/13/15. Revisions sent back to developer on 1/22/15. New plans received on 1/26/15. Final plan check fees paid. Installed 1 - 1&quot; service on 3/26/15, and 1 - 1&quot; meter on 4/8/15. Awaiting request for backflow inspection test. (5/7/15)</td>
</tr>
<tr>
<td>MC 2149</td>
<td>1620-1644 Whittier Ave and 970 16th St</td>
<td>89 Single Family Homes</td>
<td>Plans received and plan check fees paid 2/2/14. Working with developer to receive more information about the floor plans and irrigation as of 2/3/15. Hydraulic model is being performed by RBF. Conceptual Plan Check Completed and returned to customer 4/20/15. Second plan check returned to customer on 5/1/15. Third plan check in process. (5/7/15)</td>
</tr>
<tr>
<td>MC 2151</td>
<td>2070 Maple Ave</td>
<td>6 Single Family Homes</td>
<td>Plans received and plan check fees paid 2/20/14. Permit lapsed, re-opening fees paid on 3/18/15. Installed 2 - 2&quot; services on 3/31/15, and 6 - 1&quot; meters on 4/7/15. Construction and inspections to continue. (5/7/15)</td>
</tr>
<tr>
<td>MC 2152</td>
<td>743 W. 20th St</td>
<td>4 Single Family Homes</td>
<td>Plans received and plan check fees paid 2/20/14. Plan check completed and permit issued 3/24/15. Awaiting developer to request inspection. (5/7/15)</td>
</tr>
<tr>
<td>MC 2161</td>
<td>3333 Bristol St. Space #2620</td>
<td>Dolce and Gabbana</td>
<td>Plans received and plan check fees paid 3/30/15. Capacity and inspection fees paid 4/20/15. Meter delivered for installation on 4/30/15. (5/4/15)</td>
</tr>
<tr>
<td>MC 2162</td>
<td>3150 Harbor Blvd.</td>
<td>Raising Canes Chicken</td>
<td>Plans received and plan check fees paid 3/31/15. Awaiting developer to pay capacity and inspection fees. (5/4/15)</td>
</tr>
<tr>
<td>MC 2165</td>
<td>341 16th Place</td>
<td>2 Single Family Homes</td>
<td>Plans received and plan check fees paid 4/22/15. First plan check completed and returned to developer 4/30/15. Awaiting developer to submit revised plans. (5/4/15)</td>
</tr>
<tr>
<td>MC 2167</td>
<td>1550 Scenic</td>
<td>Tenant Improvement</td>
<td>Plans received and plan check fees paid 4/30/15. Plan check in progress. (5/4/15)</td>
</tr>
<tr>
<td>Project Title:</td>
<td>OC-44 Transmission Main Leak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>File No.:</td>
<td>MC 1977</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Replace damaged section of pipeline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Notice of intent to issue permit was granted by California Coastal Commission on 3/14/13. Staff is working on preparing a plan to monitor the disturbed area. Requested RBF to review the Habitat Restoration Plan and provide recommendations 7/2/14. Working with RBF on developing Permit Application and CEQA documents for OC-44 repair and proposed slip-lining project (see below OC-44 Replacement &amp; Rehabilitation Evaluation &amp; Cathodic Protection Study MC 2034)</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>Project Management Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>File No.:</td>
<td>MC 2043</td>
</tr>
<tr>
<td>Description:</td>
<td>Develop Project Management Guidelines</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>District Engineering Services for East Orange County Water District</th>
</tr>
</thead>
<tbody>
<tr>
<td>File No.:</td>
<td>MC 2051</td>
</tr>
<tr>
<td>Description:</td>
<td>Provide District Engineering services to East Orange County Water District</td>
</tr>
<tr>
<td>Status:</td>
<td>Sent draft RFP for consultant review for Master Plan Update and Feasibility Study for new water treatment plant on 11/6/13. Additional analysis to predict the cost of imported water in progress. RFP release approved by EOCWD Board on March 20, 2014. Final RFP Released May 2, 2014. Interviews of 4 proposers were held on June 5, 2014. Recommendation for the Master Plan and treatment plant study was awarded to Carollo Engineers and approved by EOCWD Engineering Committee on June 17, 2014. Interviews with candidate Project Managers held on September 4, 2014. Assisting EOCWD with 6 MG reservoir seismic analysis. Assisting with review of</td>
</tr>
</tbody>
</table>
customer development projects. Staff supported kickoff of EOCWD Peter’s Canyon Water Treatment Plan Feasibility Study and Master Plan Updates on September 24, 2014, and Master Plan Criteria Selection meeting on October 7, 2014. Scope of the project was changed to include condition assessment and recommendations for Peter’s Canyon Reservoir. Project Workshop and Board Engineering Committee Meetings to review the Basis of Design and the Condition Assessment Plan were held on January 13, 2015. The draft Reservoir Evaluation, and Water System Condition Assessment where received on January 30, 2015. A workshop to review these documents and the Treatment Technology Evaluation was held on February 13, 2015 to prepare for Engineering Committee Meeting held on March 10, 2015.

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>MWRF Finished Water Quality Polishing Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>File No.:</td>
<td>MC 2039</td>
</tr>
<tr>
<td>Description:</td>
<td>Enhance finished water quality water at the MWRF via Pilot Scale test</td>
</tr>
</tbody>
</table>
Project Title: OC-44 Replacement & Rehabilitation Evaluation & Cathodic Protection Study

File No.: MC 2034

Description: Evaluate potential repair and replacement options

Status: Contract awarded to RBF Consulting 2/12/13. Kick-off meeting held on 2/21/13. TM 1, 2 & 3 reviewed by Mesa Water® & City of Huntington Beach. Revised TM 1 & 3 submitted 6/12/13. Final study report due 7/31/13. Staff requested RBF to perform hydraulic modeling and habitat assessment to supplement original SOW. A meeting with MWDOC, MET and RBF to analyze possible new service connections on the OC Feeder held on 6/25/13. Workshop to discuss TM’s held on 7/2/13. Meeting to discuss PDR, permitting, work plan and design concerns held on 7/16/13. Draft PDR & final design scope proposal received 8/6/13. Hydraulic studies “Evaluation of MWD Water Supply Facilities” and “Analysis of Emergency Supply from OC-44 and OCF” received 8/8/13. Staff reviewed the PDR and Hydraulic Study reports and submitted comments to RBF 9/12/13. Received proposal for design of OC-44 Pipeline Rehabilitation Project 9/24/13. Proposal approved by E&O Committee 11/19/13 and by Board on 12/12/13. Staff prepared change order to RBF. Kick-off meeting held on 01/22/14. Project on progress. Outreach coordination meetings with project stakeholders took place on 2/14/2014. RBF is working with City of Newport Beach, County of Orange, and Irvine Company on receiving permits for surveying and geotechnical boring work. Orange County Health Care Permit issued 3/24/2014. Geotechnical boring conducted on 3/28/14. The county of Orange permit was issued April 7, 2014. Biological and Topographic Survey started in mid-April and will continue through the end of July. Scour analysis completed on May 29, 2014. Jurisdictional Delineation completed on 6/30/2014. Project progress meeting with RBF and City of Huntington Beach held on 7/2/14 to review environmental assessment and predesign requirements. The design of the pipeline rehabilitation started on 7/8/2014. 60% plans and specifications submitted for review 9/8/2014. Staff is coordinating with City of Huntington Beach and finalizing review of the design package. Initial Study and Mitigated Negative Declaration submitted 11/2/14. Staff is reviewing the submittal (11/6/14). 60% review meeting with City of Huntington Beach and RBF held on 12/1/14. Design in progress. 90% design submittal expected received on 2/5/15. Mitigated Negative Declaration will be brought to Board at future E & O Committee for consideration of approval. Notice of Intent (NOI) posted at County Clerk and State Clearinghouse on 1/29/15. Initial Study/Mitigated Negative Declaration (IS/MND) posted on Mesa Water® website and distributed to agencies/parties identified on distribution list on 1/29/15. Permit applications submitted to the regulatory agencies, legal notice posted in the Daily Pilot, and hard copy of IS/MND posted at front counter on 1/29/15 for public review. The review period concluded 2/27/15. Three comment letters received. Prepared written responses to the comments and held public hearing at the Board Meeting on 4/9/15. 90% design submittal comments sent back to RBF on 3/26/15. 100% design package expected to be submitted on 5/20/15. Project in
### Project Title: Well Automation and Rehabilitation

**File No.:**

**Description:** Rehabilitate all clear water wells and add remote control SCADA capabilities

**Status:** Design: RFP for Design Services released on 7/1/2014. Pre-proposal meeting held on 7/9/2014. 6 proposals received on 7/28/2014; interviewed 3 shortlisted firms on 8/6/2014. Recommendation to award contract to Carollo Engineers approved by E&O on 8/19/2014; Board approval requested on 9/11/2014. Project kickoff meeting held on 10/1/2014. Draft Permit plan received for review on 11/3/14. Well Standardization workshop held on 11/21/14 to align on site layouts, chemical tank sizing, and instrumentation. Draft Preliminary Design Report received on 1/12/2015, and reviewed in workshops on January 21, 2015 and February 3, 2015, and March 3, 2015. 60% received on April 13, 2015. Meeting to resolve review comments scheduled for April 27, 2015.

Construction Management (CM) Services: Released and RFP for CM services on December 30, 2014 Preproposal meeting held on January 12, 2015. Four (4) proposals were received on January 26, 2015. Three proposers were interviewed on February 4, 2015, and the recommended Contract with RBF was approved by the Board on March 12, 2015. 60% design received on April 13, 2015. General 60% Design Review workshop held on April 27, 2015 and electrical/instrumentation review workshop held on May 11, 2015. Working on optimizing construction sequence.

### Project Title: Well 9 Evaluation- Change Order 1 to Well Automation and Rehabilitation project

**File No.:**

**Description:** Comprehensive cost/benefit evaluation and planning for Well 9

**Status:** Change Order 1 to Well Automation and Rehabilitation Project issued on 10/23/14 to provide comprehensive evaluation and recommendations for Well 9. Kickoff held on 10/24/14. OCWD provided requested aquifer information on 11/3/14. Evaluation recommended rehabilitation of existing Well 9 and placement of pump at 300’ below ground to account for predicted aquifer drawdown levels at 500,000 AF overdraft. Design of rehabilitation and pump specification are in process. Change Order 2 issued to Carollo on 12/15/14 for Well 9 Design scope. Draft Well Rehabilitation design package and pump procurement design package were received on January 16, 2015. Draft combined Request for Bid (RFB) for well rehabilitation, pump procurement, and pump installation was received on February 3, 2015. The RFP was released to six recommended contractors on February 24, 2015. A job walk was held on March 5 with four contractors. Bid opening is held on March 16, 2015. Three bids were received. A
contract was awarded to General Pump, the low bidder, on March 30, 2015. Pre-construction meeting was held on March 27, 2015. Well video to diagnose camera port damage conducted on April 1, 2015, and viewed on April 5, 2015. Well screens cleaned May 1-May 11, 2015. Well redevelopment and pumping tests planned for May 25-June 4, 2015. Well 9 progress report provided at May 19, 2015 E&O Committee meeting.

Project Title: Two New Wells

File No.: 

Description: New wells and real estate services to identify and acquire property

Status: Change Order to Well Rehabilitation and Automation approved at January 20, 2015 E&O to retain Carollo and subconsultant Geotechnical Consultants Inc. (GTC) to provide typical well site layout and hydrogeological investigation to identify promising locations for two new 2,000-gpm clear wells. Met with Real Estate Professionals on February 2, 2015, to discuss scope of work for well site property identification and acquisition. Met with OCWD Chief Hydrogeologist on March 24, 2015, to identify study area for new well sites. Gave Notice to Proceed to Real Estate company on May 4, 2015, and provided consultant report on preferred well site property characteristics.

Project Title: MWRF Parking Project

File No.: MC 2052

Description: Conduct parking layout design

Status: Parking study prepared by Onward Engineering in November 2013. The Board approved alternative # 3 Parking Along the MWRF Frontage on Gisler Ave. on 3/15/2014. RFP for the parking design in consultants’ review (11/6/14). RFP sent out to consultants 11/25/14. Proposals due 12/19/14. Interview with three consultants held on 1/7/15. Recommendation brought to January E & O for consideration of approval and will be brought to the Board on 2/12/15 for approval. Project approved 2/12/15. Kick-off meeting held on 2/19/15. Design in progress. 30% design submittal submitted 3/23/15. Staff met with C.J. Segerstrom and discussed concept and details of the proposed parking layout. Segerstrom verbally approved the project. City of Costa Mesa approved the concept and currently consultant is evaluating the landscape requirements with the City of Costa Mesa. Project in progress (5/7/15).
Project Title: OC 44 Import Stations Flow Meter Replacement  
File No.: MC 2088  
Description: Provide design for replacement of Flow Meters in the OC 44 Import Turnouts No. TO-2, TO-4, and TO-5  
Status: Task Order No. RBF-3 for preparing construction drawings, technical specifications, and bid documents for the flow meter replacements in the import turnouts No. TO-2, TO-4, and TO-5 issued to RBF Consulting on July 23, 2014. 75% plans and specifications submitted for review 10/7/2014. Staff is reviewing the submittal (10/9/2014). The review comments returned back to the consultant 11/4/14. Design of new pressure gauges, pressure transmitters, and related improvements were added to the scope in December 2014. Design in progress. 90% design package submitted for review on 2/20/15. Working with consultant and CLA-VAL on reviewing the design (3/6/15). 100% design submitted on 3/10/15. The comments to the 100% design sent back to the designer 4/30/15. Awaiting the final design package (5/7/15).  

Project Title: Reservoir 1 and 2 and Well 5 Improvements  
File No.: MC 2111  
Description: Installation of gas flow meters at Reservoir 1, Reservoir 2, and Well 5  
Status: Staff prepared Scope of Work and sent a request for quote to on-call Engineering consultant (As-Needed Design Consultant) to provide:  
1. Design and specifications for installation of gas meters for Res 1, Res 2, and Well 5,  
2. Evaluation and design of Res 1 Air Vent Covers and Roof Membrane, and design for replacement of Res 1 silencers. Request for quote sent out 3/5/15. Brady Engineers selected for the project. Kickoff meeting held on 4/7/15.  

Project Title: Pipeline Testing Program  
File No.: MC 2112  
Description: Implement Resolution No. 1442 Replacement of Assets to annually perform non-destructive testing of 1% of the distribution system, and destructive testing of segments that are shown to have less than 70% of original wall thickness by non-destructive testing.  
Status: Identifying segments for FY 2015 non-destructive testing and arranging for excavation and removal of segments that tested below 70% remaining wall thickness in FY2014 non-destructive testing. Released a Request for Proposal for a consultant to administer the program and develop standard operating processes on February 6, 2015. Three proposals were received on February 26, 2015, and interviews conducted
on March 4, 2015. A contract with RBF was approved by the Board on April 9, 2015. Kickoff meeting held on April 21, 2015.

| Project Title: Fall Protection Implementation |
| File No.: | |
| Description: | Implement recommendations from Fall Protection evaluation. |
| Status: | Developing project schedule and recommendations for procurement. Identifying qualified contractors for design-build for construction of guardrails and access gates. Developing scope of services. Job walk conducted on March 25, 2015, with Versatile Fall Protection to identify options for closing the fall protection audit findings. Initial recommendations and cost estimate received on April 8, 2015. Continuing to evaluate feasibility and cost of options, as well as options for project delivery. |

| Project Title: Other Agency Project Coordination |
| File No.: | |
| Description: | Median construction in Placentia Ave. between Wilson St. and Adams Ave. |
| Status: | Mesa Water 16” main runs 5’ East of the street center line. Staff is coordinating with designer and City on design of necessary protection and root barrier for the water main. 85% design plans received on (12/22/14). Plan review in progress 1/8/15. Plan review comments sent to the City 2/6/15. Staff continues coordinating with the City and City Designer. (5/7/15). |

<p>| Project Title: Other Agency Project Coordination |
| File No.: | |
| Description: | Water main relocation in New Hampshire Ave. due to Greenville-Banning Channel Improvements by County of Orange. |
| Status: | Relocation of 12” water main is required due to enlarged box culvert on Greenville-Banning Channel. Task Order No. RBF-2 issued to RBF Consulting on June 24, 2014 for design of the relocation. Staff is coordinating with County of Orange and RBF. Design in progress. Hydraulic analysis received from RBF 9/12/14 indicated that taking the New Hampshire pipeline out of service during construction of the Greenville-Banning Channel will have no adverse impacts on the distribution system (8/9/14). Staff is working with OCFCD on finalizing the cooperative agreement. E&amp;O Committee approved the agreement 11/18/14. Pipeline relocation design package submitted to Mesa Water® on 1/31/15. Staff is coordinating with OCFCD and consultant to address final comments. Plans and specifications for the pipeline relocation completed 3/3/15 and forwarded to OCFCD on 3/5/15 (5/7/15). Waiting for |</p>
<table>
<thead>
<tr>
<th>Project Title: Other Agency Project Coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description: Water main relocation due to proposed improvements at the Performing Arts Center.</td>
</tr>
<tr>
<td>Status: Mesa Water staff is coordinating with Pacific Arts Center and RBF (designer) on relocation of 12” water main. Coordination meeting with Performing Arts Center and RBF held on 8/5/2014. Additional information regarding the proposed type of trees and root barrier submitted on August 28, 2014. Staff reviewed the submittal and provided comments (9/8/14). Re-revised submittal received on 10/6/14. Staff is reviewing the submittal and coordinating with RBF and Performing Arts Center (11/6/14). Project on hold due to C.J. Segerstrom’s review until March/April 2015. (5/7/15).</td>
</tr>
</tbody>
</table>
Water Quality Call Report
April 2015

Date: 4/13/2015
Source: Phone/Visit
Address: 327 W. Wilson
Description: Customer was concerned about the taste of the water from her sink filter unit. She went out and purchased a new unit but the taste is still not good like in the past.

Outcome: Staff went out to check chlorine residuals, pH, and taste the water before the filter and after the filter. Readings are within normal range. Customer acknowledges that she takes many medications which can alter her taste buds.

Date: 4/13/2015
Source: Phone
Address: 1550 Superior Ave.
Description: Customer wants to know the TDS level for his treatment device with resin.

Outcome: Showed the customer how to view the latest WQ Report at mesawater.org and explained where he could find the TDS data in both charts.

Date: 4/20/2015
Source: Phone
Address: 
Description: Customer concerned about levels of glyphosate and wonders why it's not in the CCR.

Outcome: Database shows Mesa Water® has been testing glyphosate since the 1990s and there are no detections so glyphosate is not reported in the CCR.
Date: 4/28/2015
Source: Phone
Address: 
Description: Customer inquired about the vending machine in front of the district office and wants to know what is filtered out because the water tastes good.
Outcome: Informed customer that the vending machine uses carbon filter to reduce chlorine and UV light to provide disinfection. Per customer's request, provided customer with a link to the state's website on Residential Treatment Devices.
<table>
<thead>
<tr>
<th>Policy Name</th>
<th>Resolution</th>
<th>Date Adopted</th>
<th>Revision Schedule</th>
<th>Next Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rules and Regulations for Water Services (will include review of meter capacity charges and easement procedures)</td>
<td>Resolution No. 1452</td>
<td>10/09/14</td>
<td>Review and update as needed</td>
<td></td>
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<tr>
<td>Standard Specifications and Drawings</td>
<td>Resolution No. 1449</td>
<td>08/14/14</td>
<td>Review and update as needed</td>
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</table>
## Water Operations Status Report

**July 1, 2014 - April 30, 2015**

<table>
<thead>
<tr>
<th>Program</th>
<th>Operations</th>
<th>Wk Unit</th>
<th>Plan Days</th>
<th>Act Days</th>
<th>Plan Qty</th>
<th>Act Qty</th>
<th>Plan Cost</th>
<th>Actual Cost</th>
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<tbody>
<tr>
<td>01 - HYDRANTS</td>
<td>HYDRANTS</td>
<td>140</td>
<td>84</td>
<td>2808</td>
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<tr>
<td>102 - HYDRANT PAINTING</td>
<td>HYDRANTS</td>
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<td><strong>Program 01 TOTAL</strong></td>
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<td>02 - VALVES</td>
<td>VALVES</td>
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<tr>
<td>203 - REPLACE VALVE BOX</td>
<td>BOXES</td>
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<td>25</td>
<td>5</td>
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<tr>
<td><strong>Program 02 TOTAL</strong></td>
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<td>03 - METERS</td>
<td>METERS</td>
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<td>13</td>
<td>42</td>
<td>143</td>
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<tr>
<td>301 - NEW METER INSTALLATION</td>
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<td>INV/REP</td>
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<td><strong>Program 03 TOTAL</strong></td>
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<td>04 - MAIN LINES</td>
<td>REPAIRS</td>
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<td>30</td>
<td>10</td>
<td>14</td>
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<tr>
<td>402 - AIR VAC MAINTENANCE/REPAIR</td>
<td>AIR VACS</td>
<td>13</td>
<td>4</td>
<td>66</td>
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<td>404 - DEAD END FLUSHING</td>
<td>LOCATIONS</td>
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<td><strong>Program 04 TOTAL</strong></td>
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<td><strong>Program 05 TOTAL</strong></td>
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RECOMMENDATION

This report is for information only. No action is recommended at this time.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #3: Be financially responsible and transparent.

PRIOR BOARD ACTION/DISCUSSION

None.

DISCUSSION

This report on Municipal Water District of Orange County (MWDOC) issues is intended to brief the Committee and Board on activities relevant to Mesa Water District (Mesa Water). The first section, “On-Going Issues,” is a status update on current studies, reports, and/or policy work groups that staff are involved with. The second section, “Last Month’s Issues,” is a report on noteworthy items that were covered at the last month’s MWDOC Board and Committee meetings. The last section, “Upcoming Issues,” is a preview of new and forthcoming issues important to Mesa Water. This format is intended to keep the Committee and Board informed about current and future items at MWDOC in order to provide direction to staff and its MWDOC representatives in a timely manner, if required.

ON-GOING ISSUES

**MWDOC Water Supply Allocation:** Facing one of the worst droughts in California’s history, the Board of Directors of the Municipal Water District of Orange County (MWDOC) voted to activate its Water Supply Allocation Plan (Plan) at Level 3. This equates to a roughly 15% reduction in imported water use throughout Orange County. The Plan will go into effect July 1, 2015 and continue through June 30, 2016 unless drought conditions improve.

On April 14, 2015 the Metropolitan Water District’s Board of Directors took action to limit water deliveries to water suppliers throughout Southern California, including MWDOC. The Board implemented the Water Supply Allocation Plan at Level 3. This equates to a roughly 15% reduction in imported water supplies.

MWDOC has held three meetings with Orange County member agencies working to develop a consistent message to address pending regulations. The consensus of the group is to focus on reducing outdoor irrigation with 18 of the member agencies have stated that they will be going to 2 days per week outdoor irrigation effective June 1, 2015.
A Public Information Officer meeting was held to discuss marketing messaging in detail on Wednesday, May 6, 2015 from 2:00 pm to 3:30 pm.

LAST MONTH’S ISSUES

• General Manager’s Report, April 2015: MWDOC drafted a letter to the State Water Board concerning the approach they are using for the emergency regulations. MWDOC suggested a credit for indirect potable usage be provided.

UPCOMING ISSUES

• Drought Allocation
• SWRCB Restrictions
• MWDOC 2015-16 Budget

FINANCIAL IMPACT

There is no financial impact.

ATTACHMENTS

None.
RECOMMENDATION

This report is for information only. No action is recommended at this time.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #3: Be financially responsible and transparent.

PRIOR BOARD ACTION/DISCUSSION

None.

DISCUSSION

This report on Orange County Water District (OCWD) issues is intended to brief the Committee and Board on activities relevant to Mesa Consolidated Water District (Mesa Water). The first section, “On-Going Issues,” is a status update on current studies, reports, and/or policy work groups that staff are involved with. The second section, “Last Month’s Issues,” is a report on noteworthy items that were covered at the last month’s OCWD Board and Committee meetings. The last section, “Upcoming Issues,” is a preview of new and forthcoming issues important to Mesa Water. This format is intended to keep the Committee and Board informed about current and future items at OCWD in order to provide direction to staff and its OCWD representatives in a timely manner, if required.

ON-GOING ISSUES

Arundo Control in the Prado Basin Following the April 2015 Highway Fire: In April 2015, the Highway Fire burned about 1,000 acres of habitat in the Prado Basin including roughly 321 acres of Arundo. The Arundo has already begun to re-sprout and will invade additional acreage of the burn area if not treated. Most of the habitat values in the burn area have been lost and there will be little conflicts with nesting birds if treatment commences now. Jumping on spraying the regrowing Arundo now will take advantage of fire-induced access and the reduced Arundo biomass resulting in significant cost savings.

The Arundo control efforts have been supported by a diverse constituency because of the multiple benefits eventually realized. Arundo has caused major damage to bridges during floods, it renders water ways impenetrable, carries fire storms, destroys wildlife habitat, reduces water quality, interferes with flood control and endangered species recovery, and litters the beaches.

Arundo control provides a minimum water yield of 6.5 acft of water per year for every acre of Arundo eradicated since Arundo consumes significantly more water than native vegetation. Due to the time-critical nature of this effort, a Request for Proposals for spraying was issued and
three bids were received on May 11, 2015. The Board voted to agendize for the May 20th Board meeting to approve the agreement with ACS Habitat Management, the lowest responsive bidder, for spraying of Arundo donax in the Prado Basin burn area over a five-year period, for an amount not to exceed $889,000.

**Grand Jury Report – Increasing Water Recycling: A Win-Win for Orange County:** John Kennedy mentioned that the OCWD is in receipt of the Grand Jury Report-Increasing Water Recycling: A Win-Win for Orange County. The report states that the Grand Jury is in favor of recycling 100% of the waste water produced in Orange County. The Board is already working with the Orange County Sanitation District on a feasibility study for the final phase of GWRS which will assist the District in achieving those goals. The District will draft a response to the Grand Jury and present it to the Board for approval in July.

**Annual Santa Ana River Watermaster Report:** The Santa Ana River Watermaster, is a committee of a 5 member organization representing four agencies (Inland Empire, San Bernardino, Western Municipal and Orange County Water District) stemming from litigation in 1969. The organization monitors flows to ensure that obligations are being met and that these agencies are receiving the average annual adjusted base flow 42,000 afy. If we are in receipt of more flow a credit exists and builds over time. The current credit is 3,474,674 which reduce the adjusted base flow to 34,000 afy. For the FY 2013-14 the Santa Ana River flows were 69,784 afy and the obligation was met.

**LAST MONTH’S ISSUES**

**Public Hearing To Consider Fiscal Year 2015-16 Replenishment Assessments, Basin Equity Assessment, Basin Production Percentage and Production Limitation:** The Board voted unanimously to adopt the following resolutions for Fiscal Year 2015-16:

- Basin Accumulated Overdraft at 432,000 AF
- Basin Pumping Percentage – 70%
- Replenishment Assessment - $322 AF
- Basin Equity Assessment - $587 AF

**Proposed Fiscal Year 2015-16 Budget:** The Board voted to approve the Fiscal Year 2015-16 with the following actions:

1. Reduction in MWD firm untreated water purchases from 65,000AF to 55,000 AF;
2. Reduction in commercial paper debt principal payment of $1,000,000;
3. $73,000 has been taken out of the general fund - $60,000 reduction for interagency SAWPA (Santa Ana Watershed Project Authority) member contribution, $20,000 reduction in professional engineering services, and a $7,000 increase in WEROC (Water Emergency Response of Orange County) contribution; and
4. $30,000 reduction in the New Equipment budget – Cisco networking hardware.
Poseidon Resources Project Status: John Kennedy stated that the Citizens Advisory Committee is scheduled to have their last meeting on April 30, 2015 and the Board will meet on May 14th to discuss the Term Sheet.

OCWD Expected Allocation: The expected allocation for OCWD is at the Level 3 (51,255 AF). If the region conserves as expected there could be further water available for purchase.

UPCOMING ISSUES

- Water Supply
- SWP Allocations
- Term Sheet Negotiation with Poseidon

FINANCIAL IMPACT

There is no financial impact.

ATTACHMENTS

None.
There are no support materials for this item.
REPORTS AND INFORMATION ITEMS:

15. REPORT OF THE GENERAL MANAGER:
REPORTS AND INFORMATION ITEMS:

16. DIRECTORS' REPORTS AND COMMENTS:
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Engineering and Operations Manager
DATE: May 19, 2015
SUBJECT: Well 9 Rehabilitation & Pump Replacement Project Update

RECOMMENDATION

This item is for information only.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

On October 9, 2014, the Board received a presentation detailing the failure of the pump at Well 9.

On November 18, 2014, the E&O Committee received a presentation on the findings of the Well 9 evaluation, and recommendation to rehabilitate the well and replace the pump. The E&O Committee directed Staff to implement the recommendation with the aim of bring Well 9 back on line for peak summer demand.

On February 17, 2015, the E&O Committee received an information item summarizing the status of the procurement process for Well 9 Rehabilitation and Pump Replacement.

On March 30, 2015, the Board received notification via email from the General Manager that a contract had been executed with General Pump for Well 9 Rehabilitation and Pump Replacement.

DISCUSSION

Well Rehabilitation

General Pump mobilized on April 1, 2015 to begin additional video surveys needed to assess an obstruction in the camera tube and how to clear it. Well rehabilitation has begun with the well screen brushing to remove loose material and treated with acid to dissolve the calcium build up. Videos performed after cleaning shows the cleaning to be successful. The well is currently being chlorinated. Redevelopment and test pumping is scheduled for May 26 - June 5 to access the expected production of the well.

Pump Fabrication

The new pump design submittal has been received and accepted. National Pump has begun fabrication in its Arizona facility. The new pump uses 18 stages of 10” diameter bowls and impellers to produce 1,750 gallons per minute at 74% efficiency. The pump installation is anticipated in August 2015.
**Schedule**
Staff is working closely with Mesa Water's Design Team, Construction Managers, and Contractor to ensure that Well 9 is rehabilitated and placed back into service as quickly as possible. The following is an updated schedule of coming events based on current equipment fabrication and testing requirements:

- Rehabilitation Pumping Test: May 2015
- Pump Installation: August 2015
- Pump Performance Testing: August 2015

Staff will provide a presentation of the well rehabilitation activities at the upcoming Engineering & Operations Committee meeting.

**FINANCIAL IMPACT**

The Well 9 Rehabilitation & Pump Replacement Project contract was executed by the General Manager on March 30, 2015, for $258,000. The Board was notified of the contract on the same day. No invoices have been received to date.

**ATTACHMENTS**

None.