



*Dedicated to
Satisfying our Community's
Water Needs*

**AGENDA
MESA WATER DISTRICT
BOARD OF DIRECTORS
Tuesday, January 15, 2019
1965 Placentia Avenue, Costa Mesa, CA 92627
3:30 p.m. Special Board Meeting**

**ENGINEERING AND OPERATIONS COMMITTEE MEETING
Tuesday, January 15, 2019 at 3:30 p.m.**

CALL TO ORDER

PLEDGE OF ALLEGIANCE

PUBLIC COMMENTS

Items Not on the Agenda: Members of the public are invited to address the Board on items which are not on the agenda. Each speaker is limited to three minutes. The Board will set aside 30 minutes for public comments.

Items on the Agenda: 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 three minutes. The Board will set aside 60 minutes for public comments.

CONSENT CALENDAR ITEMS:

Approve all matters under the Consent Calendar by one motion unless a Board member, staff, or a member of the public requests a separate action.

1. Developer Project Status Report
2. Mesa Water and Other Agency Projects Status Report
3. Water Quality Call Report
4. Committee Policy & Resolution Review
5. Water Operations Status Report

ACTION ITEMS:

6. Committee Meeting Dates and Chair Appointment
7. Programmable Logic Controllers and Supervisory Computer System Assessment
8. I-405 Widening Project

PRESENTATION AND DISCUSSION ITEMS:

Items recommended for approval at this meeting may be agendaized for approval at a future Board meeting.

None



REPORTS:

9. Report of the General Manager
10. Directors' Reports and Comments

INFORMATION ITEMS:

11. Plan Check Consulting Services
12. OC-44 Pipeline Rehabilitation Project

In compliance with California law and the Americans with Disabilities Act, if you need disability-related modifications or accommodations, including auxiliary aids or services in order to participate in the meeting, or if you need the agenda provided in an alternative format, please contact the District Secretary at (949) 631-1206. Notification 48 hours prior to the meeting will enable Mesa Water District (Mesa Water) to make reasonable arrangements to accommodate your requests.

Members of the public desiring to make verbal comments utilizing a translator to present their comments into English shall be provided reasonable time accommodations that are consistent with California law.

Agenda materials that are public records, which have been distributed to a majority of the Mesa Water Board of Directors (Board), will be available for public inspection at the District Boardroom, 1965 Placentia Avenue, Costa Mesa, CA and on Mesa Water's website at www.MesaWater.org. If materials are distributed to the Board less than 72 hours prior or during the meeting, the materials will be available at the time of the meeting.

ADJOURNMENT

DEVELOPER PROJECT STATUS REPORT

PROJECT STATUS - DEVELOPER PROJECTS			
FILE NO.	PROJECT ADDRESS	PROJECT DESCRIPTION	PROJECT NOTES/STATUS
MC 2149	1620-1644 Whittier Avenue and 970 16th Street	89 Single Family Homes	Plans received and plan check fees paid 2/2/14. Permit issued on 7/23/15. Pre-con meeting held on 7/27/15. Pipeline installation on 10/21/15. Pressure test and chlorination on 11/5/15. Bac-T testing completed on 11/24/15 and 11/25/15. Waterline tied-in at Whittier, Newhall, and West 16th Street and angle-stops locked on 12/14/15. 4-1" meters installed on model homes on 2/25/16. 1-1.5" irrigation meter and 1-1" domestic meter installed and locked on 4/5/16. Inspected rock base on 7/11/16. Installed 7-1" meters on 7/13/16. Flow-thru tested on 8/25/16 and 9/8/16. Rock base and meters installed on 11/3/16. Flow-thru check on 12/1/16. Flow-thru check on 4/5/17. Meters installed on 8/21/17. Meter box placement on 10/5/17. Meters installed on 4/25/18. Meters installed 6/28/18 and again on 8/13/18. (1/7/19)
MC 2204	1672 Placentia	31 Single Family Homes	Plans received and plan check fees paid on 8/26/15. Plan check picked up by customer on 10/6/15. Second plan check submitted on 2/11/16 and returned on 2/26/16. Mylars submitted, fees paid, and permit issued on 5/5/16. Tee cut-ins on 6/22/16. Pressure Test and Bac-T test on 7/7/16. Water main turned on 7/21/16. Services installed and locked off on 9/6/16. Meter installation on 10/28/16. Backflows tested on 11/16/16. Backflow tested on 12/9/16. Rock base on 2/1/17. Service placement on 2/16/17. Meters installed on 3/28/17. Backflows tested on 3/30/17. Meters installed and locked off on 2/20/18. Awaiting call for backflow testing to complete project. (1/7/19)
MC 2233	1560 Placentia	81 Single Family Homes	Plans received and plan check fees paid on 1/20/16. Request for additional information requested on 1/28/16. Requested information submitted on 2/24/16. Plan check picked up on 4/18/16. Second plan check submitted on 5/18/16. Mylar drawings and fee payment received on 7/5/16. Permit issued on 7/11/16. Mainline installed on 8/24/16. Hydrant laterals installed on 8/25/16. Services installed on 9/1/16. Mainline installed on 9/20/16. Pressure and Bac-T test on 9/28/16. Laterals installed on 9/29/16 and 10/5/16. Mainline charged on 10/17/16. Angle stop adjusted on 12/6/16. Meter and meter box placement on 1/5/17. Services adjusted to grade on 3/2/17. Meter installation on 5/3/17. Site coordination meeting on 7/26/17. Service placement on 9/6/17. Meter box placement on 2/9/18. Meters installed and locked off on 5/21/18, 6/28/18, 7/13/18, 8/8/18, and again on 10/10/18. Concrete pads placed on 10/24/18 and 10/25/18. Meters installed on 12/4/18 and again on 1/7/19. (1/7/19)

DEVELOPER PROJECT STATUS REPORT

PROJECT STATUS - DEVELOPER PROJECTS			
FILE NO.	PROJECT ADDRESS	PROJECT DESCRIPTION	PROJECT NOTES/STATUS
MC 2235	671 W 17th Street	177 Condos	Plans received and plan check fees paid on 1/21/16. Hydraulic model initiated 2/24/16. Second plan check submitted on 3/24/16 and picked up 4/17/16. Mylar drawings and fee payment received on 7/5/16. Permit issued on 7/11/16. Demolition of existing services on 8/16/16. Mainline installation on 12/6/16. Service laterals installed on 1/9/17. Pressure test on 2/6/17. Bac-t test on 2/15/17. Bedding and service line placement on 4/3/17. Meter box placement on 5/8/17. Follow-up site visit on 5/17/17. Service abandonment on 8/30/17. Valve cans raised on 9/22/17. Meter box placement on 10/19/17. Gravel base on 12/5/17. Meter box placement on 2/14/18. Meters installed and locked off on 6/1/18, 7/17/18, on 8/1/18, and again on 9/7/18. Backflow tested on 9/11/18. Meters installed and locked off on 9/18/18, 9/25/18, and again on 10/5/18. Backflow tested on 10/9/18. Meters installed and locked off on 11/27/18, 12/5/18 and again on 12/18/18. (1/7/19)
C003-16-01	788 Center Street	2 Single Family Homes	Plans received and plan check fees paid on 6/28/16. Plans returned on 7/14/16. Fees paid and permit issued on 1/6/17. Pre-con held on 1/16/18. Service installed on 3/8/18. Meters installed and locked on 3/13/18. Awaiting call for backflow testing to complete project. (1/7/19)
C0012-17-02	929 Baker Street	55 Detached Condos	Plans received and plan check fees paid on 9/27/16. Plans picked up on 10/18/16. Plans submitted on 2/22/17. Plans returned on 3/6/17. Fees paid and permit issued on 3/21/17. Precon held on 6/1/17. Services installed on 8/31/17. Mainline turned on 9/14/17. Meters installed and locked on 2/26/18. Awaiting call for backflow testing to complete project. Meters installed and locked on 8/6/18. Backflow tested on 8/24/18. Site check done on 9/25/18, homes are still under construction. Meters installed and locked off on 11/2/18. (1/7/19)
C0014-18-01	1585 MacArthur	Commercial Building	Plans received and plan check fees paid on 3/27/18. Comments returned on 4/5/18. Awaiting resubmittal. Plans approved, final fees paid and permit issued on 8/7/18. Construction inspections are currently in progress with mainlines being excavated on 8/29/18, 9/5/18, 9/6/18. Backflow for fireline installed on 9/12/18. Service abandonments completed on 10/16/18. (1/7/19)
C0027-17-01	231 Flower Street	Meter Upgrade	Plans received and plan check fees paid on 3/23/17. Fees paid and permit issued on 4/21/17. Site visit on 10/30/17, and again on 5/30/18; no progress to report. Site visit on 8/20/18 and 9/25/18 with no activity. (1/7/19)

DEVELOPER PROJECT STATUS REPORT

PROJECT STATUS - DEVELOPER PROJECTS			
FILE NO.	PROJECT ADDRESS	PROJECT DESCRIPTION	PROJECT NOTES/STATUS
C0029-17-01	127 23rd Street	4 Single Family Homes	Plans received and plan check fees paid on 5/12/17. Fees paid and permit issued on 8/3/17. Awaiting call for initial inspections. Service installed on 2/8/18. Meters installed and locked on 2/15/18. Awaiting call for backflow testing to complete project. Spoke to property owner on 10/10/18, construction will be done by the end of 2018 to test flowthru system. (1/7/19)
C0035-18-01	146 18th Street	2 Single Family Homes	Plans received and plan check fees paid on 8/8/17. Fees paid and permit issued on 9/21/17. Meters installed and locked on 10/20/17. Site visit on 1/9/18; Awaiting call for backflow testing to complete project. (1/7/19)
C0037-18-01	2850 Mesa Verde Drive East	11 Single Family Homes	Plans received and plan check fees paid on 8/17/17. Fees paid and permit issued on 10/18/17. Manifold installation on 12/6/17. Meters installed on 12/29/17. Irrigation meter installed on 3/28/18. Backflow test on 4/18/18. Meters placed and locked on 5/31/18. Site visit done to verify progress on 8/20/18. Meters installed on 9/21/18. (1/7/19)
C0039-18-01	172/174 Costa Mesa Street	2 Single Family Homes	Plans received and plan check fees paid on 8/22/17. Fees paid and permit issued on 8/29/17. Awaiting call for initial inspections. Construction to start in February 2019. (1/7/19)
C0041-18-01	160 & 162 E 18th Street	2 Single Family Homes	Plans received and plan check fees paid on 9/27/17. Fees paid and permit issued on 11/2/17. Meters installed and locked on 3/26/18. Meters installed and locked on 6/28/18. Backflow tested on 10/29/18. (1/7/19)
C0042-18-01	335 & 337 16th Place	2 Single Family Homes	Plans received and plan check fees paid on 10/26/17. Final fees paid on 8/8/18. Site visit on 8/20/18; contractor still grading the area. (1/7/19)
C0044-18-01	276 E 19th Street	Meter Upgrade	Plans received and plan check fees paid on 1/21/18. Awaiting final fee payment. (1/7/19)
C0047-18-01	3505 Cadillac Avenue	Commercial Building	Plans received and plan check fees paid on 1/22/18. Fees paid and permit issued on 4/10/18. Services placed on 5/2/18. Thrustblocks placed on 6/6/18. Pressure test performed on 7/9/18. Construction still in progress. (1/7/19)
C0048-18-01	235 Baker	Commercial Building	Plans received and plan check fees paid on 2/15/18. Fees paid and permit issued on 4/13/18. Site visit on 8/20/18 to verify work status; no construction. (1/7/19)

DEVELOPER PROJECT STATUS REPORT

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FILE NO.	PROJECT ADDRESS	PROJECT DESCRIPTION	PROJECT NOTES/STATUS
C0049-18-01	428 E 17th Street	Restaurant	Plans received and plan check fees paid on 1/26/18. Fees paid and permit issued on 5/4/18. Pressure test on 5/25/18. Shutdown for tee cut-in on 6/5/18. One fire service is active, the other is stubbed to property. Awaiting call for fireline pressure test and samples. Water service manifold stubbed to property. Pressure test and Bac-T tests done on 9/7/18, 9/11/18 and again on 9/13/18. Pressure test performed on 10/22/18. (1/7/19)
C0051-18-01	1650 Monrovia	Senior Living Complex	Plans received and plan check fees paid on 2/15/18. Comments returned on 3/12/18. Revised submittal received on 4/24/18. Project to undergo hydraulic model analysis. Second plan check complete. Easements recorded on 8/14/18. Final fees paid on 8/23/18. Precon meeting held on 9/26/18. Fireline excavation and thrustblock placement on 11/27/18. (1/7/19)
C0052-18-01	302 Cabrillo	2 Single Family Homes	Plans received and plan check fees paid on 2/26/18. Fees paid and permit issued on 5/7/18. Awaiting initial calls for inspections. (1/7/19)
C0053-18-01	1908 Tustin	Single Family Home	Plans received and plan check fees paid on 3/8/18. Fees paid and permit issued on 3/13/18. Awaiting initial calls for inspections. (1/7/19)
C0054-18-01	3505 Cadillac Avenue, Unit O-101	Commercial Building	Plans received and plan check fees paid on 5/7/18. Fees paid and permit issued on 5/22/18. Tapping sleeve, and hot tapping done on 5/2/18. Thrustblock placement inspections on 5/2/18, 6/6/18, and 7/9/18. Pressure test done on 7/9/18. Fireline turned on 9/12/18. (1/7/19)
C0056-18-01	2033 Republic Avenue	Single Family Home Service & Meter Upgrade	Plans received and plan check fees paid on 6/19/18. Comments returned for second plan check review on 7/26/18. Awaiting owners next submittal. (1/7/19)
C0058-18-01	585 & 595 Anton Boulevard	Apartment Complex	Plans received and plan check fees paid on 6/8/18. Currently in plan check. Meeting scheduled with owner on 9/12/18 to go over questions they have. Plans approved to perform demolition for grading only at this time; construction plans are being reviewed. Operations is currently working on practice shutdowns for service connection tie-in. (1/7/19)
C0060-19-01	3505 Cadillac Avenue, Unit F-9	Commercial Building New Fire Line	Plans received and plan check fees paid on 7/23/18. Permit issued for major service line and fire systems infrastructure. Final permit will be reviewed when tenant improvements are submitted. Fireline excavation and thrustblock placement on 12/10/18 and 12/14/18. (1/7/19)
C0061-19-01	3033 Bristol Street, Space 2071	Restaurant Expansion	Plans received and plan check fees paid on 8/2/18. Awaiting final payment of fees. (1/7/19)

DEVELOPER PROJECT STATUS REPORT

PROJECT STATUS - DEVELOPER PROJECTS			
FILE NO.	PROJECT ADDRESS	PROJECT DESCRIPTION	PROJECT NOTES/STATUS
C0062-19-01	1591 & 1593 Riverside	Meter Upgrade	Plans received and plan check fees paid on 8/21/18. Currently in plan check. (1/7/19)
C0064-19-01	1975, 1977, 1981, 1985 Placentia Avenue	Commercial Building	Plans received and plan check fees paid on 11/6/18. Currently in plan check. Final plan check fees paid on 1/7/19. (1/7/19)

MESA WATER AND OTHER AGENCY PROJECTS STATUS REPORT
January 2019

Project Title: OC-44 Replacement and Rehabilitation Evaluation and Cathodic Protection Study

File No.: M 2034

Description: Evaluate potential repair and replacement options

Status: The Habitat Mitigation and Monitoring Plan (HMMP) has been updated by Michael Baker (former RBF) to reflect the USACE's process and submitted to Mesa Water for review on 1/8/16. Once the HMMP is revised and approved (1/19/16) it will be forwarded to all agencies, including the Coastal Commission. Draft 1602 Streambed Permit obtained on 12/18/15. Final 1602 Streambed Permit pending CDFW will be issued while HMMP is accepted. U.S. Army Corps of Engineers' 404 permit received on 2/10/16. Revised HMMP sent to CCC for review and approval. Project is pending CCC's approval at an upcoming hearing. On 2/29/16, a meeting with Fletcher Jones Motorcars, City of Newport Beach, MBI (former RBF), and City of Huntington Beach was held to discuss issues associated with proposed construction activities. Traffic Plan prepared and submitted to the City of Newport Beach for approval on 6/29/16. Per request of CCC a dewatering plan was prepared and submitted for approval. Mesa Water staff, MBI and CCC met on 10/6/16 and discussed mitigation conditions. Project approved at CCC Public Hearing on 12/7/16. MBI is working on finalizing the HMMP and construction plans and will submit them to CCC. Staff met with MBI on 5/1/17 and discussed comments after reviewing the draft final HMMP. New proposed mitigation criteria received from CCC on 7/5/17 reducing mitigation requirements from 1.6 acres to 0.66 acres. Coastal Development Permit for Construction is anticipated in December, 2017. The project re-start meeting was held on 9/7/17. On 10/30/17 met with City of Newport Beach and City of HB to discuss permit requirements and project access. Met w/Fletcher Jones, Skender Construction, City of HB, MBI to discuss access to the site and scheduling on November 21, 2017. Reviewing the 100% Design Plans & Specs (received on 11/28/17) along with the Pipeline Design Schedule, Construction Monitoring Treatment Plan (CMTP), and proposal for Natural Resources/Regulatory Services during construction activities. Bid solicitation is scheduled for late January 2018. Project sent out to bid on January 30, 2018. Pre-bid meeting held on 2/15/18. Construction bid solicitation was cancelled due to ongoing coordination issues for the final Coastal Development permit. Project was deferred to FY20. On 8/1/18, Orange County Public Works issued a one-year extension to the previously issued Encroachment Permit. The Caltrans Encroachment Permit extension application is under review as of 8/13/18. The CCC extended the permit a year without hearing. MBI moved forward with the amendment to reduce mitigation. The updated information was forwarded by MBI to CCC in the week of August 6, 2018 and November 2, 2018. Staff held a stakeholder coordination meeting on 1/3/2019. The CCC hearing is expected in February 2019. (1/4/19)

MESA WATER AND OTHER AGENCY PROJECTS STATUS REPORT
January 2019

Project Title: Well Automation and Rehabilitation

File No.: MC 2101

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

Status: Construction activities began at Well 5 on October 3, 2016 with demolition and well rehabilitation beginning in the first week. Video of Well 5 showed scale on the louvers, and potential failure of an unused sounding tube and a small area of the louvers potentially requiring swage patches. Repair completed on November 29, 2016. Well 5 rehabilitation resumed on December 3, 2016. Well 5 chemical facility pad has been constructed and is awaiting a weather forecast of 8 days with no predicted rain to apply the chemical-resistant coatings to the concrete. Well 5 pumping development began on January 4, 2017, and produced fine sand at pumping rates above 1100 gpm. Repairs were made to Well 5, and test pumping performed in February showed acceptable well production over 2500 gpm with manageable sand. Construction is substantially complete at the Well 5 site. A start up planning meeting was held on March 29, 2017. Well 5 is running as needed and producing good quality water. Well 7 rehabilitation is complete, The Well 7 pump was installed the week of August 28, 2017, and Well 7 is operational and good quality water. Construction of the Well 3 chemical facilities was begun in July 2017. The concrete for the Well 3 chemical facilities is cured and coated, and the chemical tanks and canopy are currently being installed. Well 3 rehabilitation is complete and test pumping achieved over 1600 gpm. Construction at Well 9 began in October with relocation of the backup generator and chemical facilities construction. Coating of the Well 9 chemical facilities was completed in December, and the chemical tanks and canopy are installed. Witness testing for the new pumps for Wells 3 and 9 was completed January 2018, and pumps were installed the week of June 4. Construction at Well 3 and Well 9 is substantially complete. Flushing and chlorination of Well 3 and Well 9 were conducted during in July 2018. Well 3 initial startup was on July 17, 2018. Well 9 initial startup was on July 30, 2018. Well 3 and Well 9 have completed their seven-day tests. Work at Well 1 began on August 13, 2018. Well 1 site demolition is complete. The video of Well 1 showed a biofilm. Well 1 has received brushing and airlifting of fill material, as well as acid and chlorine treatment in October 2018. Pumping redevelopment produced 2,300 gallons per minute. The Well 1 chemical facilities are constructed and the chemical tanks are set. The prefabricated electrical building was delivered and set on December 10, 2018, and the well pump was installed on December 11, 2018. Construction is continuing through January 2019, and startup of Well 1 is expected in February 2019. (1/4/19)

MESA WATER AND OTHER AGENCY PROJECTS STATUS REPORT
January 2019

Project Title: Pipeline Testing Program

File No.: MC 2141

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: Extraction of six sections of ACP and two sections of CIP are in process for 2017 destructive testing. ACP samples were sent to WSP Canada for destructive testing. Results were received on August 1, 2017. CIP samples will be sent to McWane Ductile's lab in Ohio for destructive testing. Results were received on June 30, 2017. A Request for Qualifications for consulting services for the Pipeline Integrity Testing Program was released in May 2017. Four Statements of Qualifications were received and a recommendation for contract award to HDR was approved by the E&O Committee on July 20, 2017. ACP test results were received on July 31, 2017. Results have been analyzed, and were presented at the November Committee meeting. Average ACP total useful life is expected to be approximately 142 years. A process for determining when a pipeline has reached the end of its useful life and how much of the pipeline to replace was implemented. One 8" ACP line in Harbor Boulevard from Wilson to 19th Street was recommended for replacement. Kickoff meeting for a close interval survey of the 12" Cast Iron Pipe in 19th Street was held on December 28, 2017, and the Consultant has completed the field work. The report is expected in April 2018. Operations staff has collected four ACP pipe samples during valve replacement projects, and one during an AC mainline repair. The samples have been sent to a laboratory for remaining wall thickness measurements, and the reports show that while they have lost structural thickness, the remaining useful life is still 35 - 53 years. The mainline break sample showed the smallest remaining useful life and shortest total useful life of any AC sample. Additional AC pipe samples from valve replacements are being collected. Echologics performed three miles of non-destructive wall thickness measurements during the week of February 12, 2018. A report of the results was received in March 2018. All non-destructive and destructive test data were added to GIS in April and May 2018. The mainline break map in GIS is currently being updated. A comprehensive review of cathodic protection test stations was performed in April and May 2018. The report and recommendations was received on June 20, 2018, and recommendations are being reviewed. Five AC pipe samples and nine soil samples collected during valve replacements in 2018 were delivered by the contractor and sent to labs for pipe wall thickness measurements and soil corrosivity analysis. Results show that the expected total useful life of AC pipe is approximately 138 years. Two AC pipe samples were collected during valve replacements in November 2018 and sent to the lab for wall thickness measurements. Results are expected in January 2019. Three miles of AC pipe constructed in 1956 have been selected for non-destructive wall thickness measurement, which is scheduled to occur in January 2019. (1/4/19).

MESA WATER AND OTHER AGENCY PROJECTS STATUS REPORT
January 2019

Project Title: Mesa Water Administration Building Improvements & HVAC Replacement/Operation Building Repair Projects

File No.: MC 2171

Description: Evaluate the existing HVAC system, provide recommendations for improved efficiency and operations of the system, provide design, construction management, and construction.

Status: Request for proposals for providing Construction Management during construction was sent out to nine consultants on 8/15/18. Three proposals received on 8/28/18. Held interviews with all three proposers on 9/4/18. Jett Construction Management's (JCM) approach appeared to be the most comprehensive given their proposed project staff and HVAC and roof construction experience. Bid set documents for construction have been finalized and sent out to bid on 9/6/18. Three bids were received on 10/4/18. The lowest responsive bid was approximately \$1M over the Engineer's Estimate. On 10/22/18 Board cancelled the bid and authorized staff to negotiate with lowest bidder. On 10/26/18 RFB for Operations Building Repair Project sent out to bid with the bid opening date 11/5/18. On 11/5/18 staff finalized negotiations with the low bidder (Snyder Langston). On 11/8/18 the Board approved the Administration Building Improvements & HVAC Replacement/Operations Building Repair Projects with Snyder Langston. The contracts with Snyder were signed on 11/13/18 and Notices to Proceed issued on 12/6/18. Projects are in process. (1/4/19)

Project Title: Chandler & Croddy Wells and Pipeline Project

File No.: M18-113

Description: Design, documentation, and permitting for two new wells located on Chandler Avenue and Croddy Way in the City of Santa Ana and the distribution pipeline connecting the wells to Mesa Water's supply system.

Status: Tetra Tech has been contracted to complete the design, documentation, and permitting for the Chandler and Croddy Wells and Pipeline Project. Initial data request sent to Tetra Tech on September 7, 2017. Met with Division of Drinking Water regarding well locations on September 20, 2017. Preliminary hydrological evaluation received on September 29, 2017. Board approved demolition of existing structures and dedicated well facility with option to evaluate long-term lease potential as market conditions dictate at both sites at November 2017 E&O. Butier Engineering has been contracted to provide Construction Management Services. Preliminary Design Report (PDR) for the distribution pipeline was reviewed and returned on March 6, 2018. Well site layouts were presented to the Board in May. DDW waiver for 50-foot control zone is currently being drafted. The revised PDR for the pipeline and the well sites was received in June 2018. A workshop to discuss review comments was held on August 14, 2018. 50% design for the Croddy Pipeline was received and the design review workshop occurred on November 26, 2018. 50% design for the wells is scheduled for submittal in January 2019. (1/4/19)

MESA WATER AND OTHER AGENCY PROJECTS STATUS REPORT
January 2019

Project Title: Santa Ana Pressure Reducing Station Refurbishment Project

File No.: M17-002A

Description: The work will involve replacement of three (3) butterfly valves, one (1) existing pressure relief valve, precast concrete discharge structure, reconfiguring four (4) Cla-Val control valves, general refurbishments to the vault interior, and site work.

Status: Mesa Water has contracted with Michael Baker International to perform the design of the project. The design was completed in late January 2018 and the bid package was sent out to bid on February 8, 2018. Pre-bid meetings and site walk were held on 2/20/18 and 3/6/18, respectively. Three bids were received on March 13, 2018. Staff has recommended that the construction contract be awarded to J.R. Filanc, Inc., as the lowest bidder. E&O Committee recommended awarding contract to J.R. Filanc, Inc. on March 20, 2018 and Board approved it on April 12, 2018. The contract was finalized (5/1/18) and signed on 5/3/18. The kick-off meeting was held on May 21, 2018. Electrical work was completed the week of 10/15/18. Concrete work is scheduled to be completed in the week of 11/12/18. Pipeline shutdown took place between 11/26/18 and 12/1/18. Project is in process. (1/4/19)

Project Title: Meter Technology Evaluation

File No.: MC 2248

Description: The lifespan of a water meter is approximately 15 years. As a meter ages, the accuracy drops off due to wear. In preparation for its annual water meter replacement, staff has been reviewing water meter technology determining what water meter and reading solutions would be the best fit for Mesa Water's aging register technology. With today's technology, there are several types of meters and meter reading solutions available. The most common are as follows: Fixed Network, Automatic Meter Reading (AMR) System, Handheld or Touch Technology, and Advanced Metering Analytics - Cellular Endpoint.

Status: Mesa Water is preparing a Technical Memo which would include information of the existing aging metering technology in comparison with proposed new meter reading solutions. (1/4/19)

Project Title: Reservoirs 1 & 2 Chemical Systems Design

File No.: M18-117

Description: Improve disinfection and mixing in both reservoirs to improve water quality and minimize nitrification.

Status: Final Design Contract awarded to Hazen & Sawyer on February 14, 2018. 50% design report received on July 17, 2018. Design review workshop took place in September 2018. A site visit to Laguna Beach County's El Morro reservoirs occurred on November 8, 2018, to evaluate the Vortex mixing system. Staff met with the designer on December 5, 2018, to incorporate design-for-reliability and design-for-maintainability principals into the mixing system design. (1/4/19)

Water Quality Call Report

December 2018

Date: 12/4/2018
Source: Phone
Address: Not Provided
Description: Customer will be opening a new business in February and will be acquiring some machinery (steam generators & boilers). The water is hard and she wants to know what type of treatment to put in.

Outcome: Assured customer that the water meets state and federal drinking water standards and explained to customer that Mesa Water does not make any recommendations for onsite water treatment. Suggested that the customer to contact the steam generator and boiler manufacturer for their recommendation. Also discussed the Annual Water Quality Report, which customer pulled from online, and went over the hardness values.

Date: 12/13/2018
Source: Phone/Visit
Address: 1930 Church Street
Description: Customer noticed an odor in both the hot and cold water.

Outcome: Sampled water at outside hose bib and the water was clear with no unusual odor. Also sampled water from the kitchen and bath faucets and no odor was present.

Date: 12/18/2018
Source: Phone/Visit
Address: 1845 Placentia
Description: Customer reported black sludge coming out of tub spout and bath faucet.

Outcome: There was a miscommunication between the tenant and the owner. The problem was coming from the drains and not the clean water supply which was clear.



COMMITTEE POLICY & RESOLUTION REVIEW

ENGINEERING & OPERATIONS COMMITTEE

Policy Assignments for 2019

Policy Name	Resolution No.	Date Adopted	Revision Schedule	Last Reviewed
Replacement of Assets Including Pipeline and Well Rehabilitation	1442	03/15/14	Review and update every 3 – 5 years	03/15/14
Rules and Regulations for Water Service	1514	07/12/18	Review and update as needed	07/12/18
Standard Specifications and Standard Drawings		05/03/18	Review and update as needed	05/03/18
Urban Water Management Plan	1477	06/09/16	Review and update as required every 5 years	06/09/16

Water Operations Status Report
July 1, 2018 - December 31, 2018

Operations Department Status Report	Wk Unit	Plan Days	Act Days	Plan Qty	Act Qty	Plan Cost	Actual Cost
01 - HYDRANTS							
WD-0101 - HYDRANT MAINTENANCE	HYDRANTS	85	55	1692	1006	\$34,175	\$19,926
WD-0102 - HYDRANT PAINTING	HYDRANTS	7	0	211	0	\$2,823	\$0
WD-0103 - HYDRANT REPAIR	HYDRANTS	26	10	30	11	\$8,444	\$3,749
Program 01 TOTAL		118	65			\$45,442	\$23,675
02 - VALVES							
WD-0201 - DISTRIBUTION VALVE MAINTENANCE	VALVES	60	58	1203	1095	\$24,708	\$22,251
WD-0202 - NIGHT VALVE MAINTENANCE	VALVES	7	0	82	0	\$2,985	\$0
Program 02 TOTAL		67	58			\$27,693	\$22,251
03 - METERS							
WD-0301 - NEW METER INSTALLATION	METERS	13	13	93	124	\$30,438	\$56,693
WD-0302 - RAISE REPLACE METER BOX	BOXES	6	3	29	6	\$4,772	\$1,348
WD-0303 - METER LEAK INVESTIGATION/REPAIR	INV/REP	20	18	156	118	\$5,778	\$8,282
WD-0305 - ANGLE STOP/BALL VALVE REPLACE	REPLACE	36	39	72	70	\$21,177	\$13,915
WD-0306 - LARGE METER TEST/REPAIR - C	TESTS	12	4	59	11	\$4,863	\$2,195
Program 03 TOTAL		87	77			\$67,028	\$82,433
04 - MAIN LINES							
WD-0401 - MAIN LINE REPAIR	REPAIRS	60	19	10	5	\$27,382	\$8,224
WD-0402 - AIR VAC MAINTENANCE/REPAIR	REPAIRS	13	1	80	2	\$5,009	\$218
WD-0403 - UNIDIRECTIONAL FLUSHING	FEET	0	0	184726	0	\$0	\$0
Program 04 TOTAL		73	20			\$32,391	\$8,442
05 - SERVICE LINES							
WD-0501 - SERVICE LINE REPAIR	REPAIRS	28	30	11	17	\$11,447	\$12,056
Program 05 TOTAL		28	30			\$11,447	\$12,056
06 - CAPITAL							
CAP AV - CAPITAL AIR VACUUM REPLACE	AIR VACS	30	0	5	0	\$12,239	\$0
CAP BI - CAPITAL BYPASS & METER INSTALL	REPLACE	6	1	1	1	\$3,194	\$253
CAP FH - CAPITAL HYDRANT UPGRADE	HYDRANTS	68	57	10	8	\$54,811	\$38,064
CAP LM - CAPITAL LARGE METERS	METERS	30	20	71	63	\$83,350	\$36,159
CAP MV - CAPITAL MAINLINE VALVE REPLACE	VALVES	57	79	10	13	\$42,323	\$38,444
CAP SL - CAPITAL SERVICE LINE REPLACE	SERVICES	19	21	5	4	\$9,428	\$8,098
CAP SM - CAPITAL SMALL METERS	METERS	58	54	729	635	\$69,645	\$74,557
CAP SS - CAPITAL SAMPLE STATION REPLACE	STATIONS	5	13	5	5	\$2,108	\$4,548
Program 06 TOTAL		273	245			\$277,098	\$200,123
TOTAL						\$461,099	\$348,980



*Dedicated to
Satisfying our Community's
Water Needs*

MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: January 15, 2019
SUBJECT: Committee Meeting Dates and Chair Appointment

RECOMMENDATION

Confirm the 2019 Engineering and Operations Committee regular meetings for the third Tuesday of each month, starting at 3:30 p.m., and appoint the Committee Chair.

STRATEGIC PLAN

- Goal #1: Provide a safe, abundant, and reliable water supply.
- Goal #2: Practice perpetual infrastructure renewal and improvement.
- Goal #3: Be financially responsible and transparent.
- Goal #4: Increase public awareness about Mesa Water® and about water.
- Goal #5: Attract and retain skilled employees.
- Goal #6: Provide outstanding customer service.
- Goal #7: Actively participate in regional water issues.

PRIOR BOARD ACTION/DISCUSSION

This item is annually updated at a meeting of the Engineering and Operations (E&O) Committee.

DISCUSSION

Annually, the E&O Committee appoints a Committee Chair and approves the regular meeting date and time. Historically, the E&O committee has met at 3:30 p.m. on the third Tuesday of the month, unless that day falls on a holiday in which case the meeting moves to the following Tuesday.

Following are the proposed 2019 Engineering and Operations Committee Meeting dates:

- January 15
- February 19
- March 19
- April 16
- May 21
- June 18
- July 16
- August 20
- September 17
- October 15
- November 19
- December 17

FINANCIAL IMPACT

None.



ATTACHMENTS

None.



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Water Needs*

MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, PE, Assistant General Manager
DATE: January 15, 2019
SUBJECT: Programmable Logic Controllers and Supervisory Computer System Assessment

RECOMMENDATION

Recommend that the Board of Directors approve a contract with Prime Systems Industrial Automation, Inc. for \$199,200 and a 10% contingency for an amount not to exceed \$219,120 to furnish, install, and integrate new programmable logic controllers at the Mesa Water Reliability Facility, and authorize execution of the contract.

STRATEGIC PLAN

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

PRIOR BOARD ACTION/DISCUSSION

At its June 8, 2017 meeting, the Board of Directors (Board) awarded a contract for a period of five years with two one-year renewable options with an average annual amount of \$92,775 to Prime Systems Industrial Automation, Inc. to provide maintenance and support of the Supervisory Control and Data Acquisition System.

At its October 11, 2018 meeting, the Board awarded a contract to TJC and Associates, Inc. in the amount of \$70,050 and a contingency of \$15,000 for a not to exceed amount of \$85,050 to provide a Programmable Logic Controllers and Supervisory Computer System Assessment.

BACKGROUND

TJC and Associates, Inc. (TJCAA) was retained to perform a District-wide assessment of Mesa Water's Programmable Logic Controllers (PLC) and supervisory control systems. A final report is being prepared and will be presented at a future E&O Committee Meeting. The report will include an inventory of all PLC and supervisory control equipment, life cycle status for each, and short-term and long-term replacement recommendations. Life cycle status classifications are as follows:

- **Active:** The most current equipment for sale.
- **Active Mature:** Equipment is for sale and fully supported even though there are newer models available.
- **End of Life:** The manufacturer has announced a date that the equipment will be discontinued.
- **Discontinued:** The equipment is no longer manufactured or supported by the manufacturer.

An early finding from the District-wide PLC assessment found that the Mesa Water Reliability Facility (MWRWF) operates using four PLCs that were part of the original treatment plant from 2000.

These include the following PLCs:

- PLC 01 (Well 6)

- PLC 05 (Chemical Building)
- PLC 06 (High Lift Pump Station)
- PLC 07 (Electrical Room)

TJCAA found that these four PLCs, along with the PLC for the TomCo carbon dioxide pH control system, have reached the “Discontinued” life cycle status, and are no longer supported by the manufacturer. TJCAA recommended that these PLCs be replaced immediately. The MWRF has experienced three previous operational failures of this equipment, and replacement parts must be acquired on the resale market. Replacement parts are becoming more difficult to obtain as these products continue to age. The parts available for sale are often refurbished rather than new. Two main replacement approaches were identified for consideration:

Option 1 – Swing Arm Adaptor. This approach allows the use of an adaptor module to be placed upon the existing control board. This will provide for new input/output modules to be compatible with the new PLC.

- Advantages:
 - Greatly reduces risk of wiring errors
 - Minimizes MWRF downtime
 - Does not require programming changes
- Challenges
 - Cannot be implemented until swing-arm kit is available, which is currently scheduled for Q1 2019
 - Will look like a retrofit inside the PLC panels

Option 2– Complete Control System Replacement. This approach replaces the entire control system with the new Schneider Electric PLC and Input/Output module. This approach requires rewiring of the existing field wiring modules to the new input/output modules.

- Advantages:
 - Clean installation inside the panel
 - Does not need to wait for swing-arm kit
 - Does not require programming changes
- Challenges
 - Rewiring requires several days of downtime per PLC panel
 - Risk for wiring errors and start-up challenges

Option 1 was determined as the preferred approach to minimize the risk of wiring errors, downtime, and reduced cost.

DISCUSSION

Staff requested a proposal from Prime Systems Industrial Automation, Inc. (Prime Systems) to furnish, install, and integrate the replacement PLCs per Option 1. As Mesa Water’s SCADA integrator, Prime Systems is familiar with MWRF automation. Prime Systems was competitively



selected in 2017 to provide SCADA maintenance and support. Staff recommends that the Board approve a contract with Prime Systems for \$199,200 and a 10% contingency for an amount not to exceed \$219,120 to furnish, install, and integrate new programmable logic controllers at the MWRP, and authorize execution of the contract.

FINANCIAL IMPACT

In Fiscal Year 2019, \$100,000 is budgeted for the MWRP PLC Replacement Study; \$26,420 has been spent to date. Additional funds will come from Cash-on-Hand.

ATTACHMENTS

Attachment A: Prime Systems Industrial Automation, Inc. Quotation for PLC Upgrades at the MWRP



January 3, 2019

Letter: 2019 MWRF PLC Upgrade v1.docx

Karyn Igar
Mesa Water District
1965 Placentia Avenue
P.O. Box 5008
Costa Mesa, CA 92628-5008

Phone: 949-631-1205
FAX: 949-574-1036

Subject: **Mesa Water District**
MWRF PLC Upgrade Quotation
Revision 1: Scope Clarification

Karyn,

Thank you for this opportunity for *Prime Systems Industrial Automation, Inc.* to present the following quotation for the PLC Upgrades at the MWRF.

Prime Systems Industrial Automation, Inc. prides itself on being responsive to our customer's needs. With no formal marketing or sales force, Prime Systems relies completely on customer repeat business and "word of mouth" recommendations. With this marketing strategy, we have continued to grow our customer base and support our existing customers with the high quality work standards they have come to expect from our professional services.

Prime Systems Industrial Automation, Inc. has a proven track record for many installed PLC based control systems, similar to your systems. If there is any interest in seeing one of these installations, or contacting a current client, please let us know.

We appreciate the opportunity to support you in your Control System and Automation needs and we look forward to demonstrating our reputation for quality work done in a timely manner. If there is anything we can do to assist you, please don't hesitate to contact me at our office.

Sincerely,

Marc Smith
President
Prime Systems Industrial Automation, Inc.

Scope of Work:

This quotation is submitted to summarize the cost associated with the PLC Upgrades at the MWRP.

The Mesa Water Reliability Facility (MWRP) is controlled by Schneider Electric's Modicon Quantum PLCs (Concept version) and associated I/O. Schneider Electric has released the **RED Flag Notice** identifying the End of Commercialization for the complete Modicon Quantum PLCs and Quantum I/O.

Schneider Electric defines the product lifecycle and "End of Commercialization" as follow:
"The announcement of the End of Commercialization of a product starts the "phase-out" period, during which the product continues to be available however it is not considered the preferred solution due to the pending obsolescence. Customers are advised to consider modernizing to a more current solution. After the expiration of the phase-out period, products enter the "service" only stage where new products are available until inventory is depleted and on a best effort basis in a repaired or refurbished condition."

Each PLC can be upgraded independently without affecting the other "non" upgraded PLCs. This will allow shorter downtime intervals during which the PLC upgrades can be accomplished.

There are several options for upgrading the PLC hardware:

1. Build and Test a complete back panel with all new components.
 - a. This is the industry standard upgrade path but is more expensive due to all new hardware cost, panel fabrication cost, and testing cost.
2. Perform on-site PLC replacement and rewiring of all I/O modules.
 - a. All PLC replacement and wiring is done on-site so this method requires more down time for installation, wiring, and testing.
3. Perform on-site PLC replacement using Schneider Electric conversion module and wiring
 - a. This method requires the minimal wiring so downtime and testing time are minimal. The conversion kits are expected to be release by Schneider Electric in January 2019.

Based on our November 28, 2018 meeting, Option 3 (above) has been selected by Mesa Water. The quote below is based on labor and materials to upgrade the five (5) PLCs base on Option 3.

Option 3 consists of installing the new Schneider Electric "Quick Wiring Adapter and Swing Arm Assembly" conversion kit. The conversion kit allows for wiring adapters that connect to the existing Quantum I/O module wiring arms and the new Schneider Electric I/O modules. This allows the conversion to be done with no I/O wiring and therefore no I/O checkout is required. As part of this conversion, the exiting Quantum Concept PLC Code will be converted to Unity PLC Code using the new Schneider Electric Unity PLC Programming Software. All PLC code conversion is done automatically using the Unity PLC Programming Software and therefore eliminates potential programming errors.

This estimate does not include replacing and/or upgrading any of the SCADA Software and/or SCADA Computer Hardware which is not require as part of the PLC upgrade.



New M580 PLC and I/O are bolted to the top of the Metal Frame.

Black cables connect the wiring arm adapters (with existing I/O wiring) and the new M580 I/O modules. All cables are manufactured by Schneider Electric which so no I/O wiring is required during installation.

Metal Frame houses the wiring arm adapters (inside) and the new M580 PLC on top. The Metal Frame is bolted to the back panel where the existing Quantum PLC Rack is currently mounted. Black cables connect the wiring arm adapters (with existing I/O wiring) and the new M580 I/O modules.

The project cost is quoted and itemized as follows:

- 1. PLC 1 – Well 6 PLC.....\$30,500**

Prime Systems Industrial Automation, Inc. will purchase, procure, install, and test the Schneider Electric “Quick Wiring Adapter and Swing Arm Assembly” conversion kit. The conversion kit allows for wiring adapters that connect to the existing Quantum I/O modules and the new Schneider Electric I/O modules. This allows the conversion to be done with no I/O wiring and therefore no I/O checkout is required. As part of this conversion, the exiting Quantum Concept PLC Code will be converted to Unity PLC Code using the new Schneider Electric Unity PLC Programming Software.

- 2. PLC 5 – Chemical Building PLC.....\$47,500**

Prime Systems Industrial Automation, Inc. will purchase, procure, install, and test the Schneider Electric “Quick Wiring Adapter and Swing Arm Assembly” conversion kit. The conversion kit allows for wiring adapters that connect to the existing Quantum I/O modules and the new Schneider Electric I/O modules. This allows the conversion to be done with no I/O wiring and therefore no I/O checkout is required. As part of this conversion, the exiting Quantum Concept PLC Code will be converted to Unity PLC Code using the new Schneider Electric Unity PLC Programming Software.

- 3. PLC 6 – High Lift Pump Station PLC.....\$36,200**

Prime Systems Industrial Automation, Inc. will purchase, procure, install, and test the Schneider Electric “Quick Wiring Adapter and Swing Arm Assembly” conversion kit. The conversion kit allows for wiring adapters that connect to the existing Quantum I/O modules and the new Schneider Electric I/O modules. This allows the conversion to be done with no I/O wiring and therefore no I/O checkout is required. As part of this conversion, the exiting Quantum Concept PLC Code will be converted to Unity PLC Code using the new Schneider Electric Unity PLC Programming Software.

- 4. PLC 7 – Electric Room PLC.....\$67,400**

Prime Systems Industrial Automation, Inc. will purchase, procure, install, and test the Schneider Electric “Quick Wiring Adapter and Swing Arm Assembly” conversion kit. The conversion kit allows for wiring adapters that connect to the existing Quantum I/O modules and the new Schneider Electric I/O modules. This allows the conversion to be done with no I/O wiring and therefore no I/O checkout is required. As part of this conversion, the exiting Quantum Concept PLC Code will be converted to Unity PLC Code using the new Schneider Electric Unity PLC Programming Software.

- 5. TomCo PLC.....\$17,600**

Prime Systems Industrial Automation, Inc. will purchase, procure, install, and test the Schneider Electric “Quick Wiring Adapter and Swing Arm Assembly” conversion kit. The conversion kit allows for wiring adapters that connect to the existing Quantum I/O modules and the new Schneider Electric I/O modules. This allows the conversion to be done with no I/O wiring and therefore no I/O checkout is required. As part of this conversion, the exiting Quantum Concept PLC Code will be converted to Unity PLC Code using the new Schneider Electric Unity PLC Programming Software.

Cost includes all Sales Tax and S&H Charges.

Monthly progress billings will be provided based on work completed. All invoices are due and payable on net 30-day terms. This quotation is good for 30 days at which time we will requote as required.

Terms and Conditions:

1. The MWRP will need to be off during the PLC upgrade installation process. This approximate downtime is dependent on which PLC as follows:
 - PLC 1 2 Days
 - PLC 5 3 Days
 - PLC 6 2 Days
 - PLC 7 3 Days
 - TomCo PLC 1 Days
2. This quotation does not include replacing and/or upgrading any of the SCADA Software and/or SCADA Computer Hardware which is not require as part of the PLC upgrade.
3. This quotation does not include upgrading any of the Operator Interface Terminals (OITs). There are several OITs including the one mounted on the TomCo panel and the one in the CIP area.
4. The Schneider Electric "Quick Wiring Adapter and Swing Arm Assembly" conversion kits for the Quantum PLC line are scheduled to be released in January 2019. In the event these kits are delayed, an alternate PLC Upgrade solution will be implemented.
5. Any clarifications, modifications and/or additions to the Scope of Work as detailed above will be evaluated for cost impact. Additional effort will be quoted separately and must be approved prior to *Prime Systems Industrial Automation, Inc.* commencing work.
6. This quotation assumes that all work will be done during normal work hours (no weekend, holidays, or after hours).
7. This quotation assumes that all work days are limited to eight (8) hours. Any work in excess of eight (8) hours per day is considered overtime and is not included in this quotation.
8. *Prime Systems Industrial Automation, Inc.* standard work hours are Monday – Friday 8:00 AM – 5:00 PM. Any work outside these standard work hours is considered overtime/after-hours/weekend/holiday and is billed at the appropriate rate as identified above.

I hope this quotation is responsive to your needs and I look forward to demonstrating our reputation for quality work done in a timely manner. We appreciate the opportunity to work with you on this project and to support you in your automation and control system needs. If you have any questions, please don't hesitate to call me at our office, 951-656-7139.

Sincerely,

Marc Smith
President
Prime Systems Industrial Automation, Inc.



*Dedicated to
Satisfying our Community's
Water Needs*

MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: January 15, 2019
SUBJECT: I-405 Widening Project

RECOMMENDATION

Recommend that the Board of Directors:

- a. Approve a Utility Agreement with Orange County Transportation Authority for \$943,152 and a 10% contingency for an amount not to exceed \$1,037,467 for the relocation of the Fairview Pipeline into the I-405 Overcrossing.
- b. Approve a contract amendment with Tetra Tech, Inc. for \$25,000 for a total amount not to exceed \$50,000 for Professional Engineering Services on the I-405 Widening Project.

STRATEGIC PLAN

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

Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

At its July 19, 2016 meeting, the Engineering and Operations (E&O) Committee received a verbal update on the scope of the I-405 Widening Project and its impacts to the Fairview Road crossing relocation.

At its October 13, 2016 meeting, the Board of Directors (Board) approved the execution of a Preliminary Engineering Agreement with the Orange County Transportation Authority (OCTA), and directed staff to proceed with the OCTA-led approach for the Fairview water main relocation.

At its October 12, 2017 meeting, the Board approved the execution of the Utility Agreement with OCTA for the I-405 Crossing at the Santa Ana River Pipeline Relocation Project.

At its October 16, 2018 meeting, the E&O Committee received an update on the I-405 Widening Project and its effect on Mesa Water District (Mesa Water®) facilities.

BACKGROUND

OCTA, in cooperation with The California Department of Transportation (Caltrans) is widening the San Diego Freeway (I-405) between State Route 73 (SR-73) and Interstate 605 (I-605). This \$1.9 billion project includes adding one regular lane in each direction from Euclid Street to I-605 and two toll lanes in each direction from SR-73 to I-605. The general purpose lane portion of the project is a Measure M (Orange County's half-cent transportation sales tax) project and will be funded by a combination of local, state, and federal funds, with the express lanes financed and primarily paid for by those who choose to pay a toll and use the 405 Express Lanes.

On April 27, 2015, the OCTA Board of Directors voted to utilize Measure M funds and maintain



local control of the project. OCTA is the responsible agency and the project sponsor with Caltrans assuming ownership at project completion. As OCTA is acting on the behalf of Caltrans, all agreements and forms are Caltrans standards. The I-405 Widening Project is a design-build contract.

Impacts to Mesa Water: The I-405 widening project will impact adjacent cities and utility companies including water, power, gas, sanitary sewer, storm drain, and petroleum. OCTA has structured their solicitation for bids to include all wet utilities as part of the widening project and require dry utility relocation by the individual utility companies. Mesa Water has a total of five water mains that cross I-405, connecting the Mesa Water well field to the rest of the distribution system. Based on the current vision for the project, one Mesa Water main is affected as part of the project: the Fairview Road/ I- 405 overcrossing. The Fairview Road crossing is a 12-inch asbestos concrete pipe (ACP) installed in 1966 under the I-405 and east of the existing Fairview Road Bridge. This pipeline is to be relocated into the new overcrossing bridge cell. In a previous design iteration, Mesa Water's 24-inch concrete mortar lined and coated pipe (CMLC), located over the Santa Ana River from Suburbia Park northeast across I-405, was also affected. However, this facility is not affected in the final design.

Prior Rights: In order to receive financial compensation from OCTA's for utility relocation, an agency must provide proof of prior rights. This includes as-built drawings showing a crossing existed before the I-405 was built, easements, or proof that the line was relocated due to a prior Caltrans project within the last ten years. Mesa Water staff completed an exhaustive search of Mesa Water records, as-built drawings, Caltrans records, and City of Costa Mesa records, and worked with a consultant to complete a title search. This research has determined that prior rights were established for the Santa Ana River water main through an easement in Suburbia Park. However, prior rights could not be proven for the Fairview Road water main as it is believed that the line was installed to support the development of the Mesa Water well field after the construction of the I-405 in Orange County. Mesa Water, along with the City of Seal Beach and West Orange County Water Board, is one of three agencies unable to establish prior rights on the seventeen bridge crossings that will be improved.

DISCUSSION

Proposed Relocation: The final design by OCTA's design-builder includes abandoning the existing 12-inch ACP line in place, per CalTrans standards, and constructing a new 12-inch CMLC welded steel pipe within a steel casing in a bridge cell on the west side of the Fairview Road Bridge. Preliminary and final design documents have been reviewed by Mesa Water staff and TetraTech, Inc. (Tetra Tech) who was retained as Mesa Water's design review consultant. Final design approval was provided in November 2018. Construction of the Fairview Bridge portion of the project is expected to start early in Calendar Year 2019. A temporary water line will be constructed as part of the Fairview Bridge Project to provide uninterrupted service for Mesa Water customers. The Fairview Road Bridge construction is expected to be completed by October 2019.

Cost Estimate: OC-405 Partners (Design/Builder) provided a cost estimate of \$943,152 to OCTA for the proposed Fairview Pipeline relocation work. The cost estimate was reviewed by OCTA and



Tetra Tech and found to be valid, and within 1% of TetraTech's cost estimate. The approved cost amount will be billed by OCTA to Mesa Water upon completion of construction, anticipated to occur early in Fiscal Year 2020. Staff recommends that the Board approve a Utility Agreement (see Attachment A) with OCTA for relocation of the Fairview pipeline for \$943,152 and a 10% contingency for an amount not to exceed \$1,037,467.

Engineering Support Services: Tetra Tech was retained via a \$25,000 Sole Source Procurement in April of 2018 to assist Mesa Water in the technical review of OCTA's Design/Builder's design plans. Tetra Tech has done outstanding work ensuring OCTA's Design/Builder's design meets Mesa Water's standards. With the project entering construction, Tetra Tech's assistance with submittal reviews and request for information will be required.

It is estimated that this effort will be approximately \$25,000. Staff recommends that that Board consider amending Tetra Tech's contract for \$25,000 for a total amount not to exceed \$50,000.

LEGAL REVIEW

Mesa Water's Legal Counsel has reviewed the subject Utility Agreement and recommends approval of the agreement.

FINANCIAL IMPACT

In Fiscal Year 2019, no funds are budgeted for the I-405 Widening Project; \$10,457 has been spent to date. Requested funding of \$943,152 will be budgeted in Fiscal Year 2020.

ATTACHMENTS

Attachment A: Orange County Transportation Authority Utility Agreement

**ORANGE COUNTY TRANSPORTATION AUTHORITY
UTILITY AGREEMENT**

DISTRICT 12	COUNTY Orange	ROUTE I-405	POST MILE 9.3-24.2	EA 12-OH1000	PROJECT ID 1200000180
FEDERAL AID NUMBER HPLULN-6071(043)			OWNER'S PLAN NUMBER N/A		
FEDERAL PARTICIPATION On the project <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO On the Utilities <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					

UTILITY AGREEMENT NO. UK061127 **DATE**

The Orange County Transportation Authority (OCTA) in cooperation with the California Department of Transportation ("Caltrans") is proposing to improve Interstate 405 between State Route 73 and Interstate 605. OCTA and Caltrans have entered into Cooperative Agreement Number 12-697 relating to the Project under which Caltrans will provide Project oversight and upon completion of the Project, Caltrans will continue to own and maintain the Interstate 405.

Mesa Water District

Hereinafter referred to as "OWNER", owns and maintains the following **(the "Utility Facilities")**:

- 12-inch asbestos cement pipe in 20-inch steel casing east of Fairview Rd crossing the I-405

within the limits of the OCTA Project which requires **relocation**

to accommodate OCTA's Project.

It is hereby mutually agreed between OCTA and OWNER as follows:

I. WORK TO BE PERFORMED

In accordance with Notice to Owner No. UK061127 dated 01/07/2019, OCTA shall relocate OWNER's Utility Facilities as shown on OCTA's Design-Build Project plans for the improvement of Interstate 405, EA 12-OH1000 which by this reference are made a part hereof. OWNER hereby acknowledges review of OCTA's Design Build project plans for work and agrees to the construction in the manner proposed. Deviations from the plan described above initiated by either OCTA or the OWNER, shall be agreed upon by both parties hereto under a Revised Notice to Owner. Such Revised Notices to Owner, approved by OCTA and agreed to/acknowledged by the OWNER, will constitute an approved revision of the plan described above and are hereby made a part hereof. No work under said deviation shall commence prior to written execution by the OWNER of the Revised Notice to Owner. Changes in the scope of the work will require an amendment to this Agreement in addition to the revised Notice to Owner. OWNER shall have the right to inspect the work during construction. Upon completion of the work by OCTA, OWNER agrees to accept ownership and maintenance of the constructed

UTILITY AGREEMENT NO. UK061127
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facilities and relinquishes to OCTA ownership of the replaced facilities, except in the case of liability determined pursuant to Water Code 7034 or 7035.

II. LIABILITY FOR WORK

The existing facilities are located within the STATE's right of way under permit and will be relocated at OWNER's expense under the provisions of Section (673) of the Streets and Highways Code.

III. PERFORMANCE OF WORK

OWNER shall have access to all phases of the relocation work to be performed by OCTA, as described in Section I above, for the purpose of inspection to ensure that the work is in accordance with the specifications contained in the OCTA's Design Build Contract; however, all questions regarding the work being performed will be directed to OCTA's Resident Engineer for their evaluation and final disposition.

IV. PAYMENT FOR WORK

The OWNER shall pay its share of the actual cost of said work included in the OCTA's Design-Build Contract within 45 days after receipt of OCTA's bill, compiled on the basis of the actual bid price of said contract. The estimated cost to OWNER for the work being performed by OCTA's Design-Build contractor is \$943,152.

In the event actual final relocation costs as established herein are less than the sum of money advanced by OWNER to OCTA, OCTA hereby agrees to refund to OWNER the difference between said actual cost and the sum of money so advanced. In the event that the actual cost of relocation exceeds the amount of money advanced to OCTA, in accordance with the provisions of this Agreement, OWNER hereby agrees to reimburse OCTA said deficient costs upon receipt of an itemized bill as set forth herein.

V. GENERAL CONDITIONS

If OCTA's project which precipitated this Agreement is canceled or modified so as to eliminate the necessity of work by OWNER, OCTA will notify OWNER in writing and OCTA reserves the right to terminate this Agreement by Amendment. The Amendment shall provide mutually acceptable terms and conditions for terminating the Agreement. Such terms will include OCTA's agreement to pay all costs incurred by Owner in its performance of preliminary engineering and study work upon the submissions of invoices.

UTILITY AGREEMENT NO. UK061127
--

OWNER shall submit a Notice of Completion of inspection to OCTA within 30 days of the completion of the work described herein.

It is understood that said highway is a Federal aid highway and accordingly, 23 CFR, Chapter 1, Part 645 is hereby incorporated into this Agreement.

In addition, the provisions of 23 CFR 635.410, Buy America, are also incorporated into this Agreement. The Buy America requirements are further specified in Moving Ahead for Progress in the 21st Century (MAP-21), section 1518; 23 CFR 635.410 requires that all manufacturing processes have occurred in the United States for steel and iron products (including the application of coatings) installed on a project receiving funding from the FHWA.

If, in connection with OWNER's performance of the Work hereunder, OCTA provides to OWNER any materials that are subject to the Buy America Rule, OCTA acknowledges and agrees that OCTA shall be solely responsible for satisfying any and all requirements relative to the Buy America Rule concerning the materials thus provided (including, but not limited to, ensuring and certifying that said materials comply with the requirements of the Buy America Rule).

OCTA further acknowledges that OWNER, in complying with the Buy America Rule, is expressly relying upon the instructions and guidance (collectively, "Guidance") issued by Caltrans and its representatives concerning the Buy America Rule requirements for utility relocations within the State of California. Notwithstanding any provision herein to the contrary, OWNER shall not be deemed in breach of this Agreement for any violations of the Buy America Rule if OWNER's actions are in compliance with the Guidance.

OCTA will indemnify, defend and hold harmless OWNER from and against any and all claims arising out of construction of the Utility Facilities, excepting those claims arising out of OWNER's own active negligence or willful misconduct.

It is expressly understood by the Parties that Owner is not, in executing this Agreement, abandoning any pre-existing right, title or interest it may have in any land or facilities, all such rights, title and interest being expressly reserved.

The terms of this Agreement shall be binding and inure to the benefits of the Parties hereto.

THE ESTIMATED COSTS TO OWNER FOR ITS SHARE OF THE ABOVE DESCRIBED WORK IS **\$943,152.**

Signatures on Following Page

UTILITY AGREEMENT NO.
UK061127

SIGNATURE PAGE
TO
UTILITY AGREEMENT NO.

UK061127

IN WITNESS WHEREOF, the above parties have executed this Agreement on the dates below.

Owner:
MESA WATER DISTRICT

**ORANGE COUNTY
TRANSPORTATION AUTHORITY,
a public entity**

APPROVED

APPROVED

By: _____
Title: _____

By: _____
Jim Beil
Executive Director,
Capital Programs

Date: _____

Date: _____

APPROVED AS TO FORM:

By: _____
Title: _____

By: _____
James M. Donich
General Counsel

Date: _____

Date: _____

REPORTS:

9. REPORT OF THE GENERAL MANAGER:

REPORTS:

10. DIRECTORS' REPORTS AND COMMENTS:



*Dedicated to
Satisfying our Community's
Water Needs*

MEMORANDUM

TO: Engineering & Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: January 15, 2019
SUBJECT: Plan Check Consulting Services

RECOMMENDATION

This item is provided for information only.

STRATEGIC PLAN

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

BACKGROUND

Mesa Water District's (Mesa Water®) Engineering Department oversees plan check review responsibilities for proposed development work implemented throughout its service area. While Mesa Water staff works closely with the City of Costa Mesa's (City) Building Department, Mesa Water's plan check process and requirements are independent of the City's building approval process. Plan check duties generally consist of the following activities:

- Review of proposed development plans and specifications;
- Utility coordination;
- Process plan check permits, cost estimates, service agreements, and payment vouchers;
- Easement review and County of Orange recording coordination;
- Coordination with City of Costa Mesa Building and Fire Departments;
- Fire flow analysis and system pressure inquiries;
- Respond to customer plan check inquiries regarding District standards;
- Coordinate and analyze hydraulic modeling analysis; and
- Oversee construction inspection compliance.

DISCUSSION

Historically, Mesa Water's plan check workload spans between 0.25 full-time equivalent (FTE) to 0.4 FTE. The plan check work load is largely driven by economic conditions and City building policies. Because the plan checking role typically averages approximately 0.32 FTE, it is a challenge to hire a part-time dedicated plan check engineer with the appropriate experience. In order to provide plan check services with the expertise on all of the aforementioned plan check activities, staff recommends hiring a plan check consultant. This approach will provide better customer service to Mesa Water's customers and relieve Mesa Water's Senior Civil Engineer from plan checking to work on a higher project management level overseeing the District's capital improvement program.

Mesa Water District is developing a Request for Proposals for a plan check consultant to review proposed development work. The scope of work will include:



1. **Project Administration:** Meeting attendance with a Mesa Water Project Manager on the status of projects, to address project coordination issues, review upcoming work and review project billings.
2. **Plan Check Activities:** Plan check activities shall include general plan review, site visits, design calculations, utility coordination, easements, plan set review, hydraulic model analysis coordination, and Mesa Water and customer coordination.
3. **Outside Agency Coordination:** Review of proposed Water Development Projects and coordination with outside agencies as requested by Mesa Water. Outside agency coordination may include but not be limited to, the City of Costa Mesa Fire Department, Orange County Health Care Agency, Costa Mesa Sanitary District and other agencies as required.

A recommendation of the plan check consultant will be brought to a future Engineering and Operations Committee meeting for the Board's consideration.

FINANCIAL IMPACT

There is no financial impact at this time.

ATTACHMENTS

None.



*Dedicated to
Satisfying our Community's
Water Needs*

MEMORANDUM

TO: Engineering & Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: January 15, 2019
SUBJECT: OC-44 Pipeline Rehabilitation Project

RECOMMENDATION

This item is provided 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

At its February 12, 2013 meeting, the Board of Directors (Board) awarded a contract to RBF Consulting for the OC-44 Pipeline Rehabilitation/Replacement Evaluation.

At its December 16, 2013 meeting, the Board authorized execution of a contract change order to RBF Consulting for the design of the OC-44 Pipeline Rehabilitation.

At its April 9, 2015 meeting, the Board reviewed and discussed the Initial Study/Mitigated Negative Declaration (IS/MND), conducted a public hearing, and adopted the IS/MND.

At its March 16, 2016 meeting, the Board was updated on the design and permitting requirements associated with the OC-44 Pipeline Rehabilitation.

At its September 19, 2017 meeting, the Board was updated on the mitigation requirements, permitting status and anticipated project schedule.

At its March 8, 2018 meeting, the Board awarded a contract to Dudek Engineering to provide Construction Management Services for the OC-44 Pipeline Rehabilitation Project in the amount of \$253,720 and a 10% contingency for an amount not to exceed \$279,092.

BACKGROUND

The OC-44 Pipeline is jointly owned and operated by Mesa Water District (Mesa Water®) and the City of Huntington Beach. The pipeline, which was originally constructed in the early 1960's, conveys water approximately 8.4 miles from the Metropolitan Water District of Southern California's OC-44 Turnout on the East Orange County Feeder No. 2 in Irvine to its termination near the Costa Mesa/Huntington Beach city boundary. The section of the OC-44 Pipeline in the vicinity of the San Diego Creek has a history of failures and emergency repairs, and environmental constraints in this area make future repairs increasingly challenging and costly. This project will include slip lining approximately 1,800 linear feet of 30" diameter ductal iron pipe inside the existing 42" pipeline where it crosses the San Diego Creek and Bonita Creek. Mesa Water will be soliciting construction bids in early February 2019 to allow for timely procurement of long lead-time materials and equipment. The physical construction phase is scheduled to



begin in September 2019, after the native habitat nesting season. Completion of the project is anticipated in February 2020 with native plant re-vegetation occurring in March and April 2020.

Key project elements include:

- Acquiring all material and equipment necessary for the project prior to the September 2019 construction site mobilization
- Slip-lining the existing 42" line with 30" DIP
- Coordination with various agencies, including County of Orange, City of Newport Beach, Caltrans, and Fletcher Jones Motorcars dealership
- Coordination with regulatory agencies, and delineation of State and Federal jurisdictional limits and habitat assessment
- Coordination with regulatory consultant
- Working near sensitive habitat

FINANCIAL IMPACT

In Fiscal Year 2019, \$80,000 is budgeted for the OC-44 Pipeline Rehabilitation Project; \$19,000 has been spent to date.

ATTACHMENTS

None.