



**Long Beach Water**

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## **West Coast Basin Well 1 Project**

**BOR-DO-19-F003**

**WaterSMART: Drought Resiliency Project Grants for FY2019  
Funding Group II**

***Prepared For:***

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***March 27, 2019***

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## SECTION 1: TECHNICAL PROPOSAL

### A. Executive Summary

**Date:** March 27, 2019

**City:** Long Beach

**County:** Los Angeles County

**State:** California

**Applicant Name:** Long Beach Water Department

**Project Length of Time:** 21 months

**Estimated Completion Date:** June 2021

**Located on a Federal Facility:** No

The Long Beach Water Department (LBWD) currently receives its potable water supply from two sources: imported water through Metropolitan Water District of Southern California (MWD), and groundwater through its wells located in the Central Groundwater Basin. In order to increase reliability and potable water supplies to the residents and businesses within the City of Long Beach (City), LBWD proposes to construct a production well for the West Coast Groundwater Basin, which underlies the southwest portion of the City. Design documents are substantially complete and funding will accomplish various project activities involving well construction, pipeline and equipping. The proposed project is expected to take approximately 21 months to construct, with an estimated completion date of June 2021. This project will build long-term resilience to drought and reduce the need for emergency response actions by providing the following benefits:

- Implementing a long-term strategy to support and supplement the City's increasing water demands to support the approximately 89,000 active account connections.
- Decreasing LBWD's reliance on more expensive imported water from MWD, who supplies water to 26 member-agencies, including more than 300 cities.
- Helping the Bureau of Reclamation (Reclamation) to decrease its dependence on Reclamation water via the State Water Project (SWP).
- Supporting minority and disadvantage communities by allowing LBWD to use a local and reliable resource which has a lower cost water allowing these residents to enjoy lower cost water bills.
- Supporting the City's Climate Resiliency Assessment Report goals by providing locally supplied resources which have a lower carbon footprint and decrease greenhouse gases.

The proposed well is not located on a Federal facility.

### B. Background Data

LBWD is responsible for managing all water supply within the City of Long Beach and covers a water service area of approximately 50 square miles. According to the 2015 Urban Water Management Plan, LBWD owns, operates, and maintains 31 active groundwater wells; 923 miles of water mains; 6,501 fire hydrants; 33 storage tanks that hold 3.3 MG of potable water;

one (5 pump) booster pump station located at 32<sup>nd</sup> Street and one (11 pump) pump station located at the treatment plant; as well as 750 miles of sanitary sewer lines. This entire infrastructure is used to provide water service to approximately 89,000 active customer accounts, which include: 60,000 single-family homes, 14,800 duplexes, 96,900 apartment and condominium units, 1,100 dedicated landscape irrigation accounts, and 6,600 commercial, industrial and government accounts. Today 12,197 active customer accounts are located in SB 535 Disadvantaged Communities.

Figure 1: Map of Groundwater Basin Boundaries

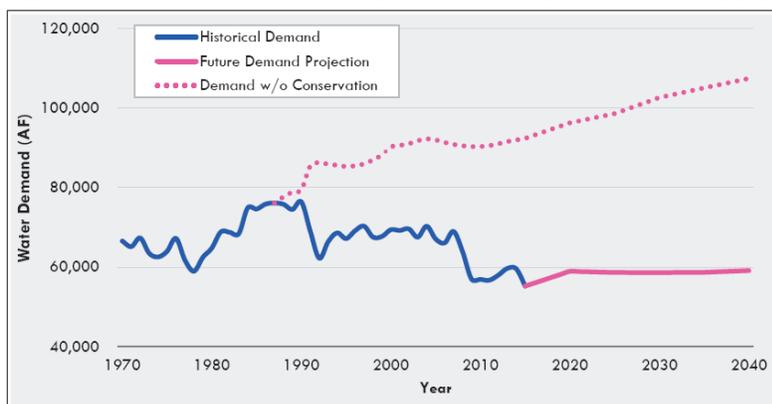


LBWD currently receives its potable water supply from two sources: imported water through the Municipal Water District of Southern California (MWD), and groundwater from the Central Groundwater Basin, which underlies the northwestern portion of the City. MWD imports water to Southern California from the Colorado River and runoff from the western slopes of the northern Sierra Nevada Mountains.

Water conservation also acts as a water supply source for LBWD because it directly offsets the need to purchase imported water. During a water shortage, short-term water conservation measures essentially provide LBWD with an emergency water “supply” to compensate for reductions in wet-water supplies; very similar to purchasing expensive spot-market supplies during water shortages or investing in some other type of shortage-year supplies.

Recycled water also acts as an alternative water supply for LBWD because it directly offsets the need to purchase imported water or pump groundwater. Previously serving just one City park in the 1980s, the recycled water distribution system has expanded its customer base and now supplies more than 120 service connections.

Figure 2: Conservation Reduces Dependence on Imported Water Supply



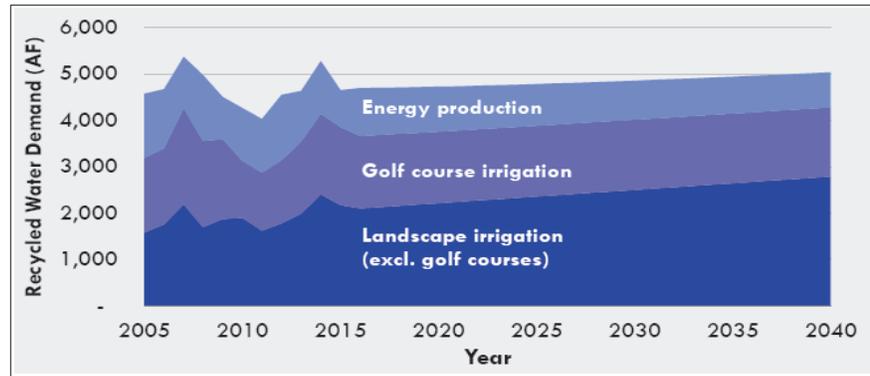
LBWD recycled water customers include public and private irrigation customers, such as parks, schools, golf courses, cemeteries, and nurseries. The recycled water is also used by THUMS, a consortium of oil companies, which uses the recycled water to re-pressurize offshore oil-bearing strata in order to prevent land subsidence. Wastewater is

collected by LBWD and other agencies, delivered to the Long Beach Water Reclamation Facility

owned by the Los Angeles County Sanitation District (LACSD) but operated by LBWD, and then the treated effluent goes through a LBWD pump station and into the LBWD recycled water distribution system. The use of recycled water in 2015 was approximately 4,645 acre-feet per year.

LBWD purchases 46% of the City’s water supply from MWD and supplies 43% of the City’s water from groundwater in the Central Groundwater Basin. The remaining 11% of water used is recycled. According to the LBWD’s 2015 Urban Water Management Plan, the

Figure 3: Increase in Demand for Recycled Water per LBWD’s 2015 UWMP

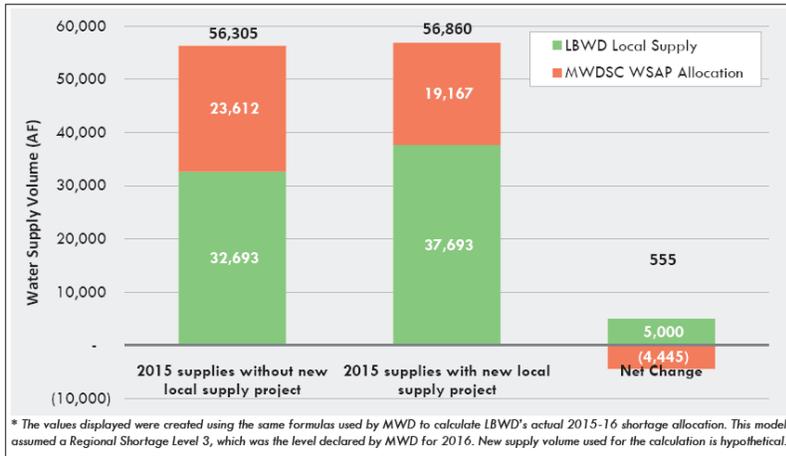


City used 32,693 acre-feet of water from local groundwater production, and 35,100 acre-feet of water delivered from MWD in 2015. The total water usage was 76,983 acre-feet. The most significant factors altering water use between 2015 and 2040 will be the increase in water demand from the multi-family sector and the decrease in water use attributable to water conservation efforts. The multi-family sector is expected to increase from 15,517 acre-feet in 2015 to 20,562 acre-feet in 2040. The total water demand is expected to increase from 55,206 acre-feet in 2015 to 59,106 acre-feet in 2040.

LBWD has rights to pump 0.7 acre-feet per year from the West Coast Basin Aquifer and 32,693 acre-feet per year of groundwater from the Central Basin Aquifer. The LBWD total water demand is currently close to the minimum 100 gallons per capita per day (GPCD) allocation guaranteed in the MWD Water Supply Allocation Plan (WSAP). The MWD WSAP (state law), entitles LBWD to a “preferential right” of MWD supplies in an amount that is greater than LBWD’s projected need for those supplies.

There have been several significant droughts and water shortages in Southern California since the 1970’s. MWD has considered the potential impacts climate change may have on the quantity of imported water it will have available in the future, and LBWD hopes the addition of the West Coast Basin Aquifer production well (i.e. West Coast Basin Well 1) will help to alleviate the City’s reliance on MWD’s water supply. As shown in Figure 4, if LBWD had developed 5,000 acre-feet of new local water supplies prior to MWD’s 2015 shortage allocation, LBWD would have been allocated about 4,445 acre-feet less imported by MWD. The 5,000 acre-feet of new local water supplies would have only provided LBWD with 555 acre-feet of additional reliability (5,000 minus 4,445 acre-feet).

Figure 4: New Supply Development Reliability Gain per MWD WSAP



LBWD has never worked with Reclamation, and the West Coast Basin Well 1 project will be the first experience. Should Reclamation award funds, it would enable LBWD to drill West Coast Basin Well 1, tap into the West Coast Basin Aquifer and further reduce the amount of imported water. This project is part of a long-range plan to increase local water sources and reduce dependence on imported water for our

89,000 active accounts which includes residential, business and industrial customers.

### C. Project Location

The West Coast Basin Well 1 project area is located in the City of Long Beach, California, which is directly adjacent to the City of Carson on the west. The project latitude is {33°46'6"N} and longitude is {118°11'44"W} as shown in figures 1 and 5.

In 2014, a feasibility study of well site locations in the West Coast Basin Aquifer was conducted. The final target area was the 366-acre area bounded by the San Diego (405) Freeway to the north, the Long Beach (710) Freeway to the east, the City of Long Beach boundary on the west.

Figure 5: Location Map



## D. Technical Project Description and Milestones

Construction of the proposed new groundwater production well for the West Coast Basin Aquifer will increase the reliability of the LBWD's water supply and expand its pumping and treatment capacity to obtain LBWD groundwater allotment within the West Coast Basin Aquifer. It will also provide sufficient reserve capacity to participate in conjunctive use programs and enable additional groundwater extractions during a drought or emergency.

The proposed well location, as shown in Figure 5, is of high specific capacity, between 100 to 200 gallons per minute per foot of drawdown or 1,250 acre-feet to 3,400 acre-feet per year. The proposed well location is within a half-mile radius of the Santa Fe Avenue distribution main, and meets all other project constraints. Water quality at a depth of 400-800 feet below ground surface is expected to meet primary and secondary maximum contaminant level (MCLs) with chloramine disinfection.

According to the 2014 Feasibility Study, the Upper San Pedro Aquifer of the West Coast Basin is the preferred aquifer for a production well because it exhibits better groundwater quality.

The West Coast Basin Well 1 will utilize a design-bid-build (DBB) methodology for the construction of the following components:

- **Water Well 1** — The pilot hole for proposed Well 1 was drilled at the project site in mid-2014 to determine water quality parameters and develop the design for the well. MWH, the consultant in this segment of work, observed the construction of the pilot hole and prepared a report recommending the well design. The well was drilled to a depth of 800 feet below ground surface and backfilled to a depth of 30 feet below ground surface. The conductor casing was installed and grouted in place. The well will be completed as part of this project at this location. After the simulation was complete, Well No. 1 was estimated to yield 2,500 gallons per minute (4,032 AFY as the maximum yield).
- Construct a **water treatment** facility (i.e. fluoride and chlorine injection) on LBWD-owned property west of Delta Avenue designed to allow for automatic operation with remote monitoring and supervision. The chemical injection will be designed for a maximum flow of 2,500 gallons per minute and provide treatment for the bacteriological and virus disinfection. No land acquisition is required for the project;
- Install a **booster pump station** to discharge the treated water to the LBWD's distribution system located in Delta Avenue;
- The construction of Well 1 and disinfection facilities (fluoride and chlorine injection) will bring the LBWD's groundwater production capacity from 36,988 to 38,238 acre-feet (i.e. 1,250 acre-feet per year mean) to 36,998 acre-feet to 40,388 acre-feet (i.e. 3,400 acre-feet per year high). The project will also include fluoridation and chlorine injection.

**West Coast Basin Well 1 project is shovel-ready.** Construction will be completed in less than two years of funding. All preliminary work has been completed, including the following:

1. Feasibility Study and Preliminary Design;
2. CEQA – Notice of Exemption was procured in 2014
3. Design of West Coast Basin Well 1 (substantially complete)
4. Design of pipeline connections to existing distribution system (substantially complete)

Please see the proposed detailed Estimated Project Schedule under Evaluation Criterion D: PROJECT IMPLEMENTATION for activities specific to construction of West Coast Basin Well 1.

Please also see Appendix 6: Borehole Data, Discharge and Accessory Pipe Configuration, Gravel Envelope Design, and Well Casing Collapse Calculations.

The overall construction of the West Coast Basin Well 1 will involve layout of the pump, motor, discharge to waste piping, meter valves, chloramine disinfection, wellhead treatment, and well discharge piping and tie-in connection to the existing distribution system. The design includes automation of the facility for remote operation from the LBWD Treatment Plant through radio communication via Supervisory Control and Data Acquisition (SCADA). To house and temperature control the equipment, the design also included provisions for a masonry block building. In addition to regular operation and maintenance, the well will need to be rehabilitated every six years and the pump will need to be replaced every 15 years. Therefore, the equipment will be configured for partial removal to rehabilitate the well. In addition, the project has designs for civil work for underground treated water piping, storm drain piping with grading and drainage, discharge to waste piping, and accommodations for vehicular traffic within the site.

### ***E. Performance Measures***

Well 1 and facilities are designed to allow for automatic operation with remote monitoring and supervision. The new Well 1 will be tied together with the SCADA workstations via a fiber-optic network which supports the other groundwater wells in the LBWD's distribution system.

#### ***Performance Measure for Quantifying Benefits***

The LBWD proposes to use two performance measures to quantify the proposed project's benefits: 1) Total Groundwater Produced; and 2) Total Groundwater Served to Customers.

LBWD will use 2015 data as the baseline, which includes only groundwater from non-project wells in the amount of 36,998 AFY. During project construction, LBWD will gather baseline data and develop a report template to submit with quarterly Program Performance Reports. The first report will include methodology for collecting data and a project status. Upon the first quarter of well production, the Program Performance Reports will commence with data to show both **Total Groundwater Produced** from all LBWD groundwater wells, and **Total Groundwater Served to Customers**. We expect to show an increase in total groundwater produced and served to customers with this project.

- 1) **Total Groundwater Produced:** Historically, the average supply of groundwater to LBWD is 36,998 AFY. The proposed project will be the only well in the West Coast Basin Aquifer. For the sake of this project application, we will measure the total amount of groundwater produced by all LBWD wells both before and after project construction is complete and the wells are in use. We will continue to gather incremental data each quarter during the reporting period to be published in our quarterly Program Performance Reports to the BOR.
- 2) **Total Groundwater Served to Customers:** LBWD will utilize baseline data from 2015 to measure total amount of groundwater served to customers before project implementation, and measure the total amount of groundwater served postconstruction during each quarter of the grant performance period. LBWD will include this data with our quarterly Program Performance Reports to the BOR. Reporting will continue via the Water Replenishment District of Southern California (WRD) and its annual Regional Groundwater Management Report, thus information regarding the viability of the project will be continually documented throughout its useful life.

## F. Evaluation Criteria

### E.1 Evaluation Criterion A — Project Benefits

*How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?*

The proposed project has an expected life of 40-50 years and will make 1,250 AFY mean and up to 3,400 AFY high of groundwater available for potable uses.

*Will the project make additional water supplies available?*

Yes. The project will make additional imported supplies available to both MWD and Reclamation.

*If so, what is the estimated quantity of additional supply the project will provide and how was this estimate calculated?*

The estimated quantity of 1,250 AFY mean and 3,400 AFY high of additional supply were calculated using potential draws from Well 1 using the “forward simulation” methodology, which includes developing a ground water model (i.e., drilling a test hole) and calibrating the model until observed data (i.e., pumping test data) match estimated specific capacity within an acceptable accuracy. For purposes of analysis of the proposed Well 1, the LBWD used forward simulation at a site-specific pilot hole (Well 1 site) to estimate potential yields. MWH observed the construction of a pilot hole, drilled to a depth of 800 feet below ground surface, and backfilled to a depth of 30 feet below ground surface. Conductor casing was installed and grouted into place. After the simulation was complete, Well No. 1 was estimated to yield 2,500 gallons per minute.

*What percentage of the total water supply does the additional water supply represent? How was this estimate calculated?*

LBWD delivers roughly 76,983 AFY of water to approximately 89,000 residents and businesses, for the City. LBWD purchases the majority of its supply (approximately 46%) from MWD. The imported water supplies are sourced from the Colorado Aqueduct and the SWP. LBWD is looking to expand the groundwater pumping supporting the City by installing their first well into the West Coast Basin Aquifer. Based on 2015, LBWD pumps 32,693 AFY and imports 35,100 AFY. If LBWD maximizes the use of proposed project then the groundwater usage will increase from 36,988 AFT to 40,388 AFY, representing 4.4% of LBWD’s total water supply. In addition, imported supplies would decrease by the same 4.4%.

*Table 1: Long Beach Water Department Percentage of Water Supply Comparison*

Long Beach Water Department Percentage of Water Supply Comparison		
Water Supply Sources	% of Average Annual Supply	% of Average Annual Supply Post-Project
Imported Water	45.6	<b>40.4</b>
Local Supply (Groundwater)	42.5	<b>47.7</b>
Recycled Water	11.9	<b>11.9</b>
<b>TOTALS</b>	100	100

*Provide a brief qualitative description of the degree/significance of the benefits associated with the additional water supplies.*

City residents including 12,197 active customer accounts located in SB 535 Disadvantaged Communities will benefit from a local, high-quality water source that is cost-efficient. The significance of this proposed project is to support the LBWD goal of less dependence on imported water. The volatility of our imported water supply (and that of all Southern California) is at an all-time high, and the need for local, high-quality water for potable use is paramount. This project will produce potable, high-quality water that is currently not available to our residents. The locally sourced water will provide a less costly source than that of our imported and recycled water, drawing the overall cost of our water supply down, which translates to more sustainable supplies and rates for customers.

*Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)?*

The proposed project will increase water management efficiency by allowing the LBWD to continue their program of supporting the City with local supplies versus imported water. As mentioned above, supply shortages have forced LBWD to make steep cuts to meet regional water supply goals for the last decade.

*If so, how will the project increase efficiency or operational flexibility?*

The proposed project will allow LBWD to cut back on imported water and use this new, local water during drought years, and bank reserve groundwater from this source during wet years, when the imported water supply is consistent.

*What is the estimated quantity of water that will be better managed as a result of this project? How was this estimate calculated?*

The proposed project will allow up to 3,400 acre-feet to be pumped annually from a locally control groundwater aquifer and eliminate the import of 3,400 AFY from the SWP. The amount to be pumped was based on the pilot groundwater well that was constructed in order to determine the required design requirements.

*What percentage of the total water supply does the water better managed represent? How was this estimate calculated?*

If LBWD maximizes the use of proposed project then the groundwater usage will increase from 36,988 AFT to 40,388 AFY, or a total increase of 3,400 AFY. According to the 2015 UWMP, LBWD delivers a total water supply of approximately 76,983 AFY of water to the roughly 89,000 residents and businesses of the City. A simple mathematical calculation reveals that 3,400 AFY is approximately 4.4% of 76,983 AFY, showing that approximately 4.4% of the total water supply will be better managed with implementation of the proposed project.

*Provide a brief qualitative description of the degree/significance of anticipated water management benefits.*

Good groundwater management will provide a buffer against drought and climate change and contribute to reliable water supplies regardless of weather patterns. The significance of reliable water supplies that buffer our community against drought are numerous. To name a few, the benefits include increased groundwater storage, increased groundwater quality for City residents, conjunctive use opportunities, and less dependence on imported water supplies.

This project will not only benefit LBWD, but it will also benefit the region by reducing the overall imported water and the energy used for pumping and delivery.

*Will the project make new information available to water managers? If so, what is that information and how will it improve water management?*

LBWD is committed to researching and collecting information about the groundwater it will collect from the proposed site, in partnership with the Water Replenishment District of Southern California (WRD), mentioned in more detail further in the application. The water supply quality and quantity data LBWD will collect will include, but not be limited to: groundwater elevation data; groundwater extraction data; surface water supply; total water use; change in groundwater storage; and sustainable yield.

*Will the project have benefits to fish, wildlife, or the environment? If so, please describe those benefits.*

Yes. In 2008, the Fish and Wildlife Service issued a biological opinion which determined that the continued operation of the Central Valley Project (CVP) and State Water Project (a Reclamation

facility) was likely to jeopardize the continued existence of the Delta Smelt, a small fish that lives in the Bay Delta (source of SWP water) and adversely modify its critical habitat. Delta Smelt, among other endangered species, are adversely affected by federal and state exportation of fresh water from the Delta (CVP/SWP). Delta water salinity levels continue to increase, without sufficient fresh water replenishment, thus recent population samples, in an area which typically yielded 50 to 100 smelt fish, now present only six fish, with increased water salinity cited as a major contributing factor. **Reduced reliance on imported water from the SWP will contribute to preserving the Delta Smelt habitat, and help protect other species.**

*If the proposed project provides any of the following components, please provide the applicable additional information:*

*Wells — What is the estimated capacity of the new well(s), and how was the estimate calculated? How much water do you plan to extract through the well(s)? Will the well be used as a primary supply or supplemental supply when there is a lack of surface supplies? Please provide information documenting that proposed well(s) will not adversely impact the aquifer it/they are pumping from (overdraft or land subsidence). At a minimum, this should include aquifer description, information on existing or planned aquifer recharge facilities, a map of the well location and other nearby surface water supplies, and physical descriptions of the proposed well(s) (depth, diameter, casing description, etc.). If available, information should be provided on nearby wells (sizes, capacities, yields, etc.), aquifer test results, and if the area is currently experiencing aquifer overdraft or land subsidence.*

The proposed project includes Well 1, which is new, and is expected to produce a capacity of 2,500 gallons per minute (1,250 AFY mean or 3,400 AFY high). The LBWD plans to use the groundwater as a primary supply. The estimate was calculated using the “forward simulation” methodology as described in detail earlier in the application. LBWD plans to use the new well, which is located in the West Coast Basin Aquifer, and which will be the first well in this aquifer for LBWD.

**Physical Description of Well:** Well No. 1. Depth: 800 feet below ground surface; Diameter: 18-inch casing; Sustainable Well Yield: 2,500 gallons per minute (1,250 AFY mean or 3,400 AFY high).

**West Coast Basin Aquifer Description:** The adjudicated limitations are designed to prevent over-drafting groundwater from the West Coast Basin (Basin) Aquifer. In 1961, the Basin was adjudicated. The adjudication limits the allowable annual extraction of groundwater per water rights holder within West Basin in order to prevent seawater intrusion and an unhealthy groundwater level. As part of the adjudication, the Court appointed the California Department of Water Resources (DWR) to serve as Watermaster to account for all water rights and groundwater extraction amounts per year. Because the adjudicated groundwater production is substantially higher than the natural recharge of the Basin, the California State Legislature in 1959 created the Water Replenishment District of Southern California (WRD) to manage, regulate and replenish the Basin. Each year WRD determines the amount of supplemental recharge that is needed for the Basin based upon annual groundwater extractions and groundwater levels. As part of the recharge and protective duties, WRD procures imported

water and recycled water for the West Coast Basin Barrier Project and Dominguez Gap Barrier Project to prevent seawater intrusion. The Basin is not experiencing overdraft or land subsidence. Please see Appendix 2 for the WRD’s West Coast Basin Map for physical locations of the West Coast Basin Barrier Project and Dominguez Gap Barrier Project – the additional water supplies for this Basin.

**West Coast Basin Aquifer Wells near the Project Site:** In order to evaluate existing wells production capacity in the selected areas in the West Coast Basin the monthly production rate of known active and inactive wells were gathered from the WRD website. Well Identification

Figure 6: Excerpt from MWH Focused Well Study

**Table 2  
Maximum Annual Production of Wells in the  
West Coast Basin near the City of Long Beach**

State ID	Well ID (Map Label)	Maximum Production Rate (AFY)	Record Period	Water Quality <sup>1</sup>	Owner	Status
4S13W15A14	15A14	3,253	2000-2013	G	California Water Service Co.	
4S13W15A11	15A11	1,487	1971-2013	G	California Water Service Co.	
4S13W15F1	15F1	2,795	1978-2013	G	California Water Service Co.	
4S13W16J5	16J5	3,168	1990-2013	-	Atlantic Richfield Company	
4S13W21H5	21H5	1,717	1971-2013	-	Atlantic Richfield Company	Inactive
4S13W22F1	22F1	1,791	1971-2013	-	Atlantic Richfield Company	
4S13W12E10	12E10	305	1971-2013	-	Virginia County Club	
4S13W2G2	2G2	1,241	1991-2013	NG	California Water Service Co.	
4S13W12E1	12E1	40	1991-2013	G	City of Long Beach	
4S13W21J3	21J3	3,102	2009-2013	-	Phillips 66 Company	
4S13W21R1	21R1	1,459	1971-2013	-	Phillips 66 Company	
4S13W21R10	21R10	3,414	1996-2013	-	Phillips 66 Company	
4S13W10C4	10C4	498	2010-2013	-	Rhodia, Inc.	
4S13W9P1	9P1	22	1997-2013	-	Tesoro (Shell Carson Terminal)	
4S13W9D1	9D1	22	1997-2013	-	Tesoro (Shell Carson Terminal)	
4S13W10E5	10E5	42	2006-2013	-	Tesoro (Shell Carson Terminal)	
4S13W10C2	10C2	522	1971-2009	-	Rhodia, Inc.	Destroyed
4S13W15Q1	15Q1	12	1971-2013	-	Desser Tire & Rubber Co., Inc.	
4S13W22F7	22F7	470	1978-2013	-	Tesoro Refining & Marketing Co.	
Maximum		3,414				
Minimum		12				
Median		1,241				
Mean		1,335				

<sup>1</sup> Water quality is indicated by the following and considers only arsenic, chlorine, iron, manganese, and TDS:  
G = MCL is not exceeded for any constituent listed above  
NG = MCL is exceeded for one or more of the constituents listed above  
- = water quality data was not publicly available

(ID) and maximum annual production rate of existing wells are summarized in Table 2 from the MWH Focused Study of Well Site Locations in the West Coast Basin, which appears as Figure 6. The maximum annual production rate among these wells for which records are available is 3,414 AFY. This well, (Well 21R10), is located in the same high-capacity area suggesting that a newly constructed well in the facility could have comparable production rate.

*Please describe the groundwater monitoring plan that will be undertaken and the associated monitoring triggers for mitigation actions.*

As mentioned above, the WRD is the groundwater management agency responsible for managing, regulating, and replenishing the Basin, and is the official Groundwater Level Monitoring Entity for the Basin. WRD is in support of the proposed project to enhance local sustainability. WRD has been monitoring the Central Basin and West Coast Basin for more than 50 years, and produces the Regional Groundwater Monitoring Report annually with comprehensive information from WRD's growing network of aquifer-specific monitoring wells and in-depth water quality analysis. The Regional Groundwater Monitoring Report presents

information on groundwater levels and groundwater quality for the previous water year which runs from October 1 through September 30 of each year.

WRD will continue to update and augment its Regional Groundwater Management Plan (Central Basin and West Coast Basin Aquifers) to best serve the needs of the District, the pumpers, and the public. Some of the possible mitigation activities planned, or which utilize data generated from this program are listed below:

- Continue to maximize recycled water use without exceeding regulatory limits;
- WRD will continue to maximize recycled water use at the West Coast Basin Seawater Intrusion Barrier and will promote maximum permitted recycled water injection at the Dominguez Gap and Alamitos Gap Seawater Intrusion Barriers;
- WRD will continue efforts under its Groundwater Contamination Prevention Program in order to minimize or eliminate threats to groundwater supplies. The Groundwater Contamination Prevention Program includes several ongoing efforts, including the Central Basin and West Coast Basin Groundwater Contamination Forum with key stakeholders that meet regularly and share data on contaminated groundwater sites within WRD's service area.

*Describe how the mitigation actions will respond to or help avoid any significant adverse impacts to third parties that occur due to groundwater pumping.*

The proposed project received a CEQA Notice of Exemption which indicated that there will not be any significant adverse impacts to third parties due to groundwater pumping.

#### **E.1.2. Evaluation Criterion B — Drought Planning and Preparedness**

The LBWD Drought Contingency Plan Resolution is included in Appendix 3. Significant background information for this subject can be found in Chapters 3, 4, 6, 7, and 8 of the 2015 LBWD Urban Water Management Plan, which is available online at <http://www.lbwater.org/UWMP>

*Explain how the applicable plan addresses drought.*

LBWD has a long history of preparing for and addressing drought and its consequences. LBWD's efforts include the development of the comprehensive Urban Water Management Plan (UWMP, 2015). LBWD created and passed a Drought Contingency Plan Resolution which is located in Appendix 3 to support staff to implement projects supporting the UWMP drought contingency projects. Prior to the UWMP, the LBWD worked with MWD and other relevant entities and agencies to develop the 1996 and subsequent 2004 Integrated Resource Plans (IRP) that have made investments in conservation and supply augmentation as a part of its long-term water management strategy, and provided a large portion of information for the UWMP.

The UWMP includes a Contingency Response Plan that implements initiatives to optimize water supply during water shortages or drought conditions. Due to the size of the UWMP we have provided the below link in order to access the document: <http://www.lbwater.org/UWMP>

The objectives of the UWMP Response Plan are to:

- a) prioritize essential uses of available water
- b) avoid irretrievable loss of natural resources
- c) manage current water supplies to meet ongoing and future needs
- d) maximize local municipal water supplies
- e) eliminate water waste city-wide
- f) create equitable demand reduction targets
- g) minimize adverse financial effects

In the event of a water shortage, City Council implements the appropriate water conservation stage by resolution.

*Explain whether the drought plan was developed with input from multiple stakeholders. Was the drought plan developed through a collaborative process?*

As part of the UWMP, the initial resource strategies included a multi-level collaborative process that involved MWD member agencies, retail water agencies, other water and wastewater managers, environmental, business, and community interests. In the fall of 2008, MWD's senior management, Board of Directors, member agency managers, elected officials, and community groups collectively met and discussed strategic direction and regional water solutions at a series of four stakeholder forums; nearly 600 stakeholders participated in the forums. Stakeholder data was directly utilized in the UWMP.

*Does the drought plan include consideration of climate change impacts to water resources or drought?*

Yes. Chapter 6 of the UWMP discusses climate change and MWD's focus as an active and founding member of the Water Utility Climate Alliance (WUCA). "As a major steward of the region's water supply resources, Metropolitan is committed to performing its due diligence with respect to climate change." Overall, MWD and LBWD's planning activities listed in the UWMP strive to support adopted policy principles on climate change by: supporting reasonable, economically viable, and technologically feasible management strategies for reducing impacts on water supply; supporting flexible "no regret" solutions that provide water supply and quality benefits while increasing the ability to manage future climate change impacts; and evaluating staff recommendations regarding climate change and water resources against the California Environmental Quality Act (CEQA) to avoid adverse effects on the environment.

*Describe how your proposed drought resiliency project is supported by an existing drought plan. Does the drought plan identify the proposed project as a potential mitigation or response action? Does the proposed project implement a goal or need identified in the drought plan?*

The proposed drought resiliency project to drill West Coast Basin Well 1 that penetrates the existing West Coast Basin aquifer in southwest City of Long Beach to capture clean potable water for city residents and businesses is supported by the UWMP. Also, the City's Water Resources Plan is currently being developed by the LBWD which will specifically identify the West Coast Basin Well 1 Project. Completion of this Plan is expected this summer.

*Describe how the proposed project is prioritized in the referenced drought plan.*

One of the primary objectives of the UWMP is to "maximize local municipal water supplies." The proposed project will meet this objective by extracting clean potable water from currently high-quality local aquifers in the area. The proposed project will bring the City's groundwater production capacity an additional 3,400 AFY. Moreover, the project will advance the LBWD's goal to move toward more water independence and less reliance in imported water sources.

### **E.1.3. Evaluation Criterion C — Severity of Actual or Potential Drought Impacts Addressed by the Project.**

*What are the ongoing or potential drought impacts to specific sectors in the project area if no action is taken, and how severe are those impacts?*

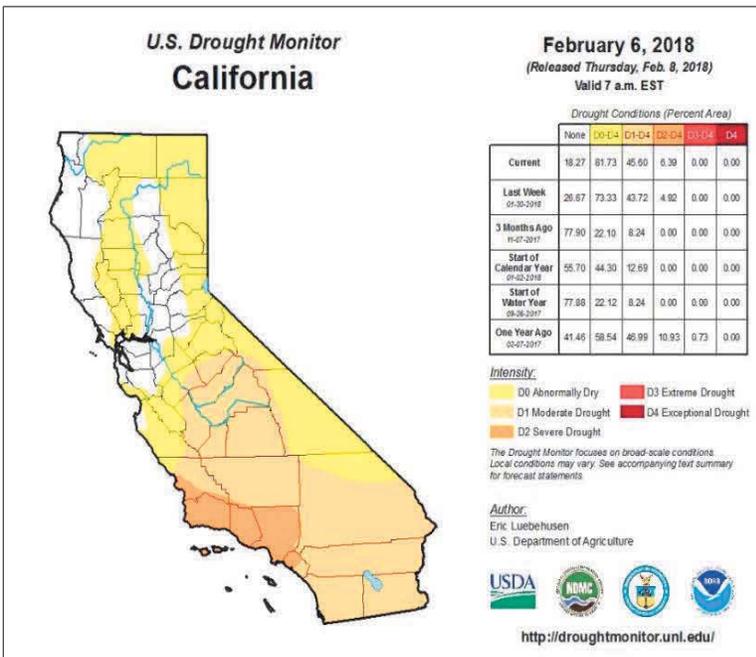
2014 was one of the driest years in California's recorded history, and, faced with record drought conditions in 2015, California Governor Jerry Brown declared a State of Emergency, and announced California's first set of statewide mandatory water restrictions. Having had major ongoing drought in recent years, LBWD has experienced a variety of drought impacts, such as potential shortages of drinking water supplies, increased risk of wildfires, and environmental concerns. Impacts include the following:

**Water Supply Shortage.** As noted throughout this application, 46% of LBWD's potable water is imported from MWD, which draws water from the State Water Project (SWP). The SWP is an enormous water conveyance system, supplying water to agencies throughout California. The water supply available to the SWP is derived directly from the Sierra Nevada snowpack. By the end of 2015, the Sierra Nevada Snowpack held only 8% of its historical average. Southern California is expected to experience an increase in regional demands in the years 2015 through 2035 as a result of population growth. Increased population necessitates increases in water supply demand.

**Increased Risk of Wildfires.** Southern California in December 2017 experienced the largest wildfire ever previously recorded in the State and each decade since the mid-20th century, and the record-setting drought conditions have dried out much of the terrain in all of Los Angeles County, including the City of Long Beach. In extended drought conditions fire behavior can become more extreme, because trees and plants that have been dried out due to drought burn more quickly.

**Economic Impacts.** Wildfires also pose **economic threats** to urban residents, like those in the City of Long Beach. An average 500 homes are destroyed throughout the state each year, with

Figure 7: Map Showing Project in Los Angeles (Orange) Severe Drought Area 2018



Los Angeles County homes posing the highest risk of being destroyed in a wildfire than any other county in the state. A disastrous consequence of water scarcity is the reduced ability to contain and suppress fires, which could intensify the already-extreme fire risk.

The California drought has had a devastating impact on all aspects of the state. The economic impact of the drought to agriculture in California was an estimated \$2.7 billion and 21,000 total job losses in 2015, alone. The loss of hydropower between October 2011 and October 2014 cost Californians approximately

\$1.4 billion, as hydropower in the state was roughly cut in half. This lost hydropower was made up with the purchase and combustion of additional natural gas. The electricity ratepayers spent an additional \$1.7 billion to purchase natural gas over the drought period, which resulted in an additional 13 million tons of CO2 emitted into the air— about a 10% increase in total annual CO2 emissions from California power plants, thus having a detrimental impact on the state’s air quality.

In an L.A. Times editorial published in March 2017, Jay Famiglietti, Senior Water Scientist at the NASA Jet Propulsion Laboratory and a professor of Earth System Science at University of California, Irvine, stated that California had only one year of water stored in its reservoirs. The severe drought has depleted snowpack, lakes and rivers — affecting our water supply and the recreational opportunities and related tourism sectors (lodging, food, retail) that these resources provide.

**Environmental Impacts.** Coastal areas are impacted severely by climate change effecting both the local economy (Port of Long Beach) as well as the massive wildlife along the Los Angeles River. Scientists warn of coastal flooding and mass fish and water-bird extinctions as predicted by the Southern California Audubon Society. Reduced breeding success has been documented for the Willow Flycatcher, Red-tailed Hawk, and waterfowl – evidence that the drought is having a substantial effect on local birds.

The California drought **severely affected forestry** and the **wildlife** that inhabits that **environment**. Of the 85 million acres in California classified as wildlands, nearly 17 million are commercial forest land, approximately half of which are owned by the government. New

research using high-tech tools to measure the moisture in trees found that 120 million trees across nearly every part of California are at risk of dying. The California Department of Forestry and Fire Protection (CAL FIRE), reported 29 million confirmed dead trees. Governor Jerry Brown has issued a state of emergency in California because trees are dying, creating more fuel for wildfires. A census by the U.S. Forest Service found 22 million trees are dead because of the drought, greatly **increasing the risk of wildfire**. CAL FIRE has determined that trees and vegetation play an important role in the vitality of California urban communities, affecting **property values, energy consumption, air quality, noise pollution, and wildlife**.

There is no question that drought has severely affected the LBWD's imported water supplies from the Colorado River and northern California. Drought resiliency for the City can best be provided by becoming less reliant upon imported water. By increasing its groundwater pumping capacity, the proposed West Coast Basin Well 1 Project will accomplish exactly that.

*Describe any projected increases to the severity or duration of drought in the project area resulting from climate change.*

A 2015 study that analyzed multiple levels of atmospheric pressure concluded that climate change worsened California's dry season by up to 20%. Former President Obama issued a Memorandum and Action Plan to communicate impacts of drought. The national Memorandum specifically names California water basins suffering from, or at-risk for drought. Experts predict climate change is expected to increase the frequency, intensity, and duration of droughts. Scientists are comparing Southern California's current drought conditions to similar mega-droughts in the region that occurred 1,000 years ago. Severe water shortages caused major societal disturbances, including human mortality. They warn that drought conditions will be as or more severe than the mega-droughts of the past and cannot be ignored.

#### E.1.4. Evaluation Criterion D — Project Implementation

The proposed project is 100% capable of proceeding into a financial assistance agreement with the Bureau of Reclamation immediately upon notice of award. **The proposed \$750,000 match is immediately available and will be supplemented from the LBWD's Water Enterprise Fund.**

LBWD will manage the project with the assistance of a construction management company and has a proven track record in managing large-scale projects including the existing 31 groundwater wells. The Public Works Department has more than 150 employees to support operating activities and construction projects and has an annual operating budget slightly over \$100 million supporting the 7<sup>th</sup> largest city in California. LBWD desires to serve their customers by obtaining grants and loans to help off-set some of the Water Fund expenditures.

*Describe the implementation plan for the proposed project. Include and estimated project schedule.*

LBWD will be hiring a construction management company to oversee the implementation of this project. The requests for proposals will be issued upon receiving the notice of award. LBWD

will be utilizing one of their current as-needed grant consultants to develop tracking tables at the onset of a new grant award and reviewing all grant contract requirements. This contract is already in place and therefore, not reflected in the below schedule.

*Table 2: Estimated Project Schedule*

No.	High Level Activities/Milestones	Lead	Start/ End Dates
<b>Task #1: Design and Permitting</b>			
1.1	Completed Notice of Exemption	LBWD	09/2014
1.2	Completed design and construction documents	LBWD	09/2019
1.3	Obtain construction permits.	LBWD	9/2019
1.4	Award the contract for construction management	LBWD	<b>Upon Notice of Award - 6/2021</b>
<b>1.5</b>	<b>Advertise Project for construction and Award construction contract</b>	<b>LBWD</b>	<b>Upon Notice of Award - 6/2021</b>
<b>Task #2: Construction</b>			
2.1	Complete well construction including: installation of grouted conductor casing; drill pilot hole; obtain water samples for zone testing and test for water quality; install filter pack; develop well by airlifting and swabbing; obtain further water samples and test for constituents requested by the California Code of Regulations; disinfect well; prepare and submit the well completion report to the California Department of Water Resources.	Contractor	1-2020/ 10-2020
2.2	Install/construct well building (block wall & tile roof).	Contractor	8-2020/ 2-2021
2.3	Install pumps and motors. Install test pump for final development by pumping and surging; measure flow rate and groundwater level; conduct step drawdown and constant rates pumping tests. Install chemical injection system, fluoride injection system and chlorine injection system.	Contractor	12-2020/ 3-2021
2.4	Install piping, including: install Type 316 stainless steel casing, one 2-inch stainless steel sounding tube, and two 3-inch gravel feed tubes (mild steel).	Contractor	6-2020/ 3-2021
2.5	Complete electrical work and instrumentation that includes a new electrical transformer. Utility requirements per Southern CA Edison standards. Take geophysical logs, run caliper, gyroscopic, and	Contractor	6-2020/ 3-2021

	video surveys; provide downhole color video of well casing and screen.		
2.6	Permits from WDD & LACF, Testing and construction closeout	Contractor/ LBWD	3-2021/6-2021
<b>Task #3: Grant Management</b>			
3.1	Grant Award and Fully Executed Grant Agreement.	BOR/LBWD	09/2019
3.2	Grant Administration	LBWD	9/2019-3/2021
3.3	Submit quarterly program performance reports.	LBWD	9/2019 -3/2021
3.4	Submit requests for reimbursement.	LBWD	9/2019 -3/2021
3.5	Submit financial reports including required Federal forms.	LBWD	9/2019 -6/2021
3.6	Complete final report including project evaluation and final payment request.	BOR/LBWD	6/2021
3.7	Project Close-out/Final Payment from BOR	LBWD	6/2021

*Describe any permits that will be required, along with the process for obtaining such permits*  
All work has been completed in accordance with the City of Long Beach, Long Beach Water Department, California Department of Water Resources and State Water Resources Control Board Division of Drinking Water (DDW) and City of Long Beach Department of Public Health. The following permits are required for operation of the well and the process for obtaining the permits has already started:

- Southern California Edison: The site will require new 480-volt 3-phase electric service to operate electric motors for the well pumps for the West Coast Basin Water Well 1 (WCWW) in addition to operation of the building. This work has already started.
- State Water Resources Control Board (SWRCB): A general permit to discharge storm water associated with construction activity is required and will be obtained upon completion of the project
- Los Angeles County Flood Control District (LACFD): A permit is required for tie-in to the storm drain system for the drain line which will be in place by September 2019.
- Los Angeles County Sanitation District (LACSD): A permit from the LACSD will be required for the sewer from the utility building that will be in place by September 2019.

*Identify and describe any engineering or Design Work performed specifically in support of the proposed project*

**West Coast Basin Well 1 project is shovel-ready.** Construction will be completed in less than two years of funding using a DBB approach. Following work has been completed:

1. Feasibility Study and Preliminary Design;
2. CEQA – Notice of Exemption was procured in 2014

3. Design of West Coast Well 1 and pipeline connections to existing distribution system that is substantially complete and will be ready for advertising on September 2019.

*Describe any new policies or administrative actions required to implement the project.*  
No new policies or administrative actions are required to implement the project.

*Describe how the environments compliance estimate was developed. Has the compliance costs been discussed with the local Reclamation office?*

The project has been evaluated for both CEQA and NEPA compliance and it has been determined that the project is a Notice of Exemption for CEQA. The CEQA process has been completed and therefore, no additional funds have been allocated for this phase.

#### E.1.5. Evaluation Criterion E — Nexus to Reclamation

*How is the proposed project connected to a Reclamation project or activity?*

LBWD receives approximately 60% of its water from the Metropolitan Water District of Southern California, which is the designated contractor for the Colorado River Project and the Cal Fed Bay Delta Project (State Water Project). The LBWD's goal is to continue to reduce its dependence on these sources with successful water conservation methods.

*Will the project benefit any tribe(s)?*

The proposed project will not meet trust responsibilities to tribes directly. However, freeing up water from the SWP and Colorado Aqueduct by using local supplies in untapped aquifers through the West Coast Basin Well No. 1 in the City of Long Beach will indirectly allow Reclamation facilities to better meet their responsibilities to tribes.

*Does the applicant receive Reclamation project water?*

Yes. The LBWD receives its water from MWD, which is supplied from the original water sources of the Colorado River Aqueduct and the State Water Project (SWP).

*Is the project on Reclamation project lands or involving Reclamation facilities?*

The project is not on Reclamation lands but will directly benefit Reclamation project facilities and environmental impacts from a long-term, decreased dependence on Reclamation water.

*Is the project in the same basin as a Reclamation project or activity?* No.

*Will the proposed work contribute water to a basin where a Reclamation project is located?*

Yes. The proposed project will decrease dependence on both the State Water Project and the Colorado Aqueduct projects, which means less water will be pulled from these projects' source basins.

#### E.1.6. Evaluation Criterion F — Department of the Interior Priorities

*Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior priorities. Please address those priorities that are*

applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed.

1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt*
  - a. *Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;*

Recent changes in the environment have resulted in extended periods of drought in southern California, including in the LBWD service area. These environmental changes have dramatically affected our imported water supplies, which we share with over 300 other cities, all of whom are faced with the same dilemma: limited imported supply and increasing demand. In fact, LBWD relies on imported water to meet 46% of its demand, which is projected to increase even further in the next two decades.

This project proposes to reduce our reliance on imported water by increasing our use of available local groundwater sources. Implementation of this project will, in effect, conserve approximately 3,400 AF of imported water supplies each year. The West Coast Basin Well 1 Project is an excellent example of using modern engineering science and hydrogeology to better manage our limited water resources in response to changes in the environment.

2. *Restoring trust with local communities*
  - a. *Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;*

LBWD relies on imported water to meet 46% of its demand, this water source is shared with over 300 other cities. This project proposes to construct a new groundwater well, which will reduce our reliance on imported water supplies by approximately 3,400 AF each year. That 3,400 AFY that we would no longer be using is literally a “gift” to our neighbors from LBWD. By giving this gift to our neighbors, we would be building trust and demonstrating how the implementation of the West Coast Basin Well 1 Project has helped us to be a better neighbor.

- b. *Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.*

3. *Modernizing our infrastructure*
  - a. *Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;*
  - b. *Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;*
  - c. *Prioritize DOI infrastructure needs to highlight: 1) Construction of infrastructure; 2) Cyclical maintenance; 3) Deferred maintenance.*

The West Coast Basin Well 1 Project proposes to enhance and modernize the City’s infrastructure through the construction of a brand-new groundwater well that will reduce the City’s reliance on MWD’s imported water supply. The proposed project will also add a new water treatment facility, booster pump station and associated piping to the City’s infrastructure, in keeping with the DOI goal of “Construction of Infrastructure”.

## SECTION 2: PROJECT BUDGET

### **Standard Form 424 Budget Information C**

Submitted separately with all other relevant SF-424 forms.

#### **A. Funding Plan and Letters of Commitment**

*Describe how the non-Reclamation share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.*

As it is demonstrated by the prior efforts on this project to complete the Feasibility Study and design documents, the West Basin Well 1 is a key project for LBWD as its implementation will result in reduced reliance on imported water and cost savings. There has been substantial expenditure to date to complete the preliminary study and design phases and LBWD is eager and committed to complete the construction of this project upon award of this grant funding.

This project has been on LBWD's annual Capital Improvement Program (CIP) for several years, reflecting the expended funding and what will be expended in the subsequent year(s). As shown in the resolution approved on March 21, 2019, LBWD is committed to providing the remaining matching fund to complete this project effective immediately.

*Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. This is a mandatory requirement. Letters of commitment shall identify the following elements:*

*(1) The amount of funding commitment*

The amount of funding commitment from LBWD is all cash contribution in the amount of \$2,140,000. LBWD does not have any other funding partners for this project that will be contributing to the project.

*(2) The date the funds will be available to the applicant*

Over \$925,000 is currently available as part of the FY 2018 CIP and the remaining funds were committed by approval of the resolution on March 21, 2019.

*(3) Any time constraints on the availability of funds*

There is no time constraint on the availability of funding from LBWD for the amount that will be budgeted in each fiscal year.

*(4) Any other contingencies associated with the funding commitment*

There are no other known contingencies with the funding commitments.

*The funding plan must include all project costs, as follows:*

*(1) How you will make your contribution to the cost share requirement, such as monetary and/or*

*in-kind contributions and source funds contributed by the applicant (e.g., reserve account, tax revenue, and/or assessments).*

LBWD will provide its cost share in both monetary and in-kind contributions. The source funds for the contribution are from the Water Fund. The Water Fund revenues are from potable water sales, daily service charges, Leo Vander Lands Water Recycling Facility reimbursement from WRD, rent and easements, Alamitos Barrier Reimbursement from Orange County Water District, grants proceeds, miscellaneous revenue, other services and interest income.

*(2) Describe any in-kind costs incurred before the anticipated project start date that you seek to include as project costs. Include:*

LBWD has completed the Feasibility Study and construction document of the project, however we are NOT including these amounts as part of the project cost since the date for most of the work is prior to July 2018 permissible date for inclusion of prior costs.

*(a) What project expenses have been incurred*

LBWD has expended \$320,000 on the Feasibility Study and the final Plans, Specifications and Opinion of Probable Construction Cost Estimate all performed by a consultant (MWH).

*(b) How they benefitted the project*

They benefitted the project by determining the quality and quantity of the groundwater in the West Coast Basin Aquifer and established the location of the West Coast Basin Well 1.

*(c) The amount of the expense*

The amount of the expense was \$320,000 which does not include any “in-kind” expenses from in-house LBWD staff working on the project.

*(d) The date of cost incurrence*

The Feasibility Study was completed in April 2014 and the final Plans, Specifications and Opinion of Probable Construction Cost Estimate are substantially complete and will be finalized and ready for advertisement when the award notice of this grant application is received.

*(3) Provide the identity and amount of funding to be provided by funding partners, as well as the required letters of commitment.*

Local Cost Share - Funding Partners	Type of Cost Share	Total
LBWD (cash contribution)	Project Construction and Construction Management and Reporting from the Water Funds	\$2,140,000
<b>Total</b>		<b>\$ 2,140,000</b>

*(4) Describe any funding requested or received from other Federal partners. Note: Other sources of Federal funding may not be counted towards your 50 percent cost share unless otherwise allowed by statute.*

No other funding has been received or is anticipated to be received from other federal agencies.

(5) Describe any pending funding requests that have not yet been approved and explain how the project will be affected if such funding is denied.

There are no pending funding requests for this project.

Please include the following chart (table 1) to summarize your non-Federal and other Federal funding sources. Denote in-kind contributions with an asterisk (\*).

Table 3: Summary of non-Federal and Federal Funding

Summary of non-Federal and Federal Funding Sources	
Funding Sources	Funding Amount
<b>Non-Federal Entities</b>	
1. Long Beach Water Department	\$2,140,000
<b>Non-Federal Subtotal:</b>	<b>\$2,140,000</b>
<b>Other Federal Entities</b>	<b>\$0</b>
1. None	\$0
<b>Other Federal Subtotal:</b>	<b>\$0</b>
<b>Requested Reclamation Funding:</b>	<b>\$750,000</b>
<b>Total Project Funding:</b>	<b>\$2,890,000</b>

## B. Budget Proposal

### Budget Proposal

Table 4: Funding Sources for Project

Funding Sources		
Funding sources	Percent of total project cost	Total cost by source
Recipient funding	74%	\$ 2,140,000
Reclamation funding	26%	\$ 750,000
Other Federal funding	0%	\$ 0
<b>Totals</b>	<b>100%</b>	<b>\$ 2,890,000</b>

Table 5: Project Budget

Project Budget				
BUDGET ITEM DESCRIPTION	COMPUTATION		Qty Type (hours/days)	TOTAL COST
	\$/Unit	Quantity		
<b>SALARIES AND WAGES</b>				
N/A				
<b>FRINGE BENEFITS</b>				
N/A				
<b>TRAVEL</b>				
N/A				
<b>EQUIPMENT</b>				
Well Equipment	LS	1		\$240,000
Electrical and SCADA Equipment	LS	1		\$300,000
Chemical Injection System	LS	1		\$530,000
Chlorine Injections System	LS	1		\$70,000
Wellhead Treatment	LS	1		\$500,000
Well Discharge piping to Delta Ave	LF	500		\$95,000
Discharge to Waste Piping	LS	1		\$55,000
<b>SUPPLIES/MATERIALS</b>				
N/A				
<b>CONTRACTUAL/CONSTRUCTION</b>				
Mobilization, de-mobil. and cleanup	LS	1		\$160,000
Permitting Fees	LS	1		\$100,000
Building Improvements	LS	1		\$200,000
Lighting (Inside Building and outside)	LS	1		\$40,000
Sound Barrier	LF	500		\$100,000
Hardscape	CY	125		\$35,000
Fencing	LS	1		\$25,000
Misc. Site Works Improvements	LS	1		\$60,000
Furnish O&M Manual	LS	1		\$10,000
Project Eng./Construction Manager	\$105/hr	3,000	40 hours/wk	\$315,000
<b>OTHER</b>				
Reporting	\$105/hr	524	14.5 hrs/month	\$55,000
<b>TOTAL DIRECT COSTS</b>				<b>\$2,890,000</b>
<b>TOTAL ACTIVITY/PROJECT COSTS</b>				<b>\$2,890,000</b>

## C. Budget Narrative

### Contractual

#### *Project Engineer/Construction Manager*

Through a competitive bid process, a qualified Project Engineer/Construction Manager will be hired to oversee construction of the project on the behalf of LBWD and Reclamation. In the past LBWD staff have provided this service but budget has been allocated to hire a qualified Project Engineer/Construction Manager. Based on the project it was estimated at \$105/hour at 40 hours per week for the duration of the project. Once selected, the Project Engineer/Construction Manager will report directly to Robert Verceles, PE, LBWD Engineering Manager.

#### *Contractor*

Through a competitive bid process, a qualified Contractor will be selected to complete the planned project. LBWD has based the construction effort as outlined in Table 5. The level of effort is estimated at \$2,140,000 which includes approximately \$100,000 in permitting fees.

### Environmental and Regulatory Compliance Costs

*The cost incurred by Reclamation to determine the level of environmental compliance required for the project*

Not Applicable

*The cost incurred by Reclamation, the recipient, or a consultant to prepare any necessary environmental compliance documents or reports*

Not Applicable

*The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant*

Not Applicable

*The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures*

Not Applicable

### Reporting

All reporting requirements will be performed by the Project Engineer/Construction Manager and reviewed by the LBWD's Engineering Manager and counted as part of the cash contribution of \$55,000. The cost is \$130/hour at 20 hours per month for 21 months. Total dollar value for.



### Other Expenses

No other costs are anticipated to fall into this section that are not covered elsewhere.

### Indirect Costs

No indirect costs will be charged or associated with this program.

### Total Costs

The program's total cost is \$2,890,000. The federal cost share amount is \$750,000 (just under 26%) and the non-federal cost share amount is \$2,140,000 (approximately 74%).

## SECTION 3: ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

The project has been evaluated for both CEQA and NEPA compliance and it has been determined that the project is a Notice of Exemption for CEQA. A Notice of Exemption, attached as Appendix 4, has been filed for this project as it falls under the categorical exemptions identified by the State Resources Agency as defined in the CEQA Guidelines (14 CCR Section 15300-15331). It has been determined that the project may have a significant effect on the environment. For CEQA we refer to Article 6. Negative Declaration Process of Sections 15070 to 15075 (Title 14. California Code of Regulations Chapter 3. Guidelines for Implementation of the California Environmental Quality Act):

“A public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when: (a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or; (b) The initial study identifies potentially significant effects, but: (1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and; (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.”

*Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.*

The project is not expected to impact the surrounding environment other than dust during construction.

*Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area?*

There are no known species listed as a Federal threatened or endangered species in the project area.

*Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” If so, please describe and estimate any impacts the proposed project may have.*

There are no wetlands or other surface waters inside the project boundaries.

*When was the water delivery system constructed?*

The water delivery system that will be the focus of the proposed project was constructed in the 1970's and upgraded in the 1980's and 1990's.

*Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.*

The proposed project will not result in any modification of individual features of an irrigation system such as headgates, canals, or flumes.

*Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.*

There are no buildings, structures, or features in the proposed project area that are listed or eligible for listing on the National Register of Historic Places within this project area.

*Are there any known archeological sites in the proposed project area?*

There are no known archeological sites in the proposed project area.

*Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?*

No. In fact, the proposed project will have a highly positive effect on all residents of the City of Long Beach and its surrounding areas including low income, disadvantaged and minority populations. The project will produce a new source of safe drinking water locally, decrease dependence on water imported from the State Water Project (SWP) and Colorado Aqueduct, and replace lost groundwater production.

*Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?*

No, the project will not have any impacts on sacred sites or tribal lands.

*Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?*

The proposed project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

## SECTION 4: REQUIRED PERMITS OR APPROVALS

All work is to be in accordance with the City of Long Beach, Long Beach Water Department, California Department of Water Resources and State Water Resources Control Board Division of Drinking Water (DDW) and City of Long Beach Department of Public Health. Anticipated permits required for the West Coast Basin Water Well No. 1 (WCWW) include the following:

- Southern California Edison. The site will require new 480-volt 3-phase electric service to operate electric motors for the well pumps for the West Coast Basin Water Well 1 in addition to operation of the building.
- State Water Resources Control Board (SWRCB). A general permit to discharge storm water associated with construction activity including clearing, grading, and excavation activities that disturb greater than 1 acre of total land area is required.
- City Plan Checking and Permit Process. When completed, the plans need to be submitted by the selected design-build contractor to the City of Long Beach for plan-check approval.
- Los Angeles County Flood Control District (LACFD). A permit from the LACFD will be required for tie-in to the storm drain system for the drain line which may contain water from the WCWW.
- Los Angeles County Sanitation District (LACSD). A permit from the LACSD will be required for the sewer from the utility building.

## **SECTION 5: LETTERS OF SUPPORT**

Per Reclamation’s application guidelines in Section D.2.2.9. Letters of Support, all statements of support from interested stakeholders are included in Appendix 5.

## SECTION 6: OFFICIAL RESOLUTION

The Board of Water Commissioners of the City of Long Beach approved the following Resolution for pursuit of grant funding for this AMI project on March 21, 2019.

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RESOLUTION NO. WD-1409

A RESOLUTION OF THE BOARD OF WATER COMMISSIONERS OF THE CITY OF LONG BEACH APPROVING THE APPLICATION FOR GRANT FUNDS FROM THE BUREAU OF RECLAMATION THROUGH WATERSMART DROUGHT RESPONSE PROGRAM: DROUGHT RESILIENCY PROJECTS GRANT FOR WEST BASIN WELL

WHEREAS, the United States Department of the Interior Bureau of Reclamation WaterSMART program establishes a framework to provide Federal leadership and assistance to stretch and secure water suppliers for the future; and

WHEREAS, the Board of Water Commissioners of the City of Long Beach desires to submit an application for grant funds from said program; and

WHEREAS, the Bureau of Reclamation has been delegated the responsibility for the administration of this grant program and establishing necessary procedures; and

WHEREAS, said procedures established by the Bureau of Reclamation require the applicant to certify by resolution the identity of the official with legal authority to enter into an agreement; that the appropriate official or governing body has reviewed and supports the application submitted; the capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the application funding plan; and that the applicant will work with the Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement; and

WHEREAS, the applicant will enter into a cooperative agreement or grant agreement with the Bureau of Reclamation to complete the project(s) if awarded grant funds;

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1                   NOW, THEREFORE, the Board of Water Commissioners of the City of Long  
2 Beach resolves as follows:

3                   Section 1.    The Board of Water Commissioners of the City of Long Beach  
4 appoints the General Manager, or his designee, to act as agent with legal authority to enter  
5 into the grant or cooperative agreement, conduct all negotiations, execute and submit all  
6 documents for the Drought Resiliency Projects Grant for West Basin Well including, but not  
7 limited to, applications, agreements, payment requests and any other grant required  
8 correspondence which may be necessary for the completion of the grant program.

9                   Section 2.    Certifies that the Board of Water Commissioners of the City of  
10 Long Beach has reviewed and supports the proposed application.

11                  Section 3.    Certifies that the City of Long Beach has sufficient funds  
12 available to provide the amount of funding specified in the funding plan as matching  
13 funds/in-kind contributions.

14                  Section 4.    Certifies that the City of Long Beach will work with the Bureau  
15 of Reclamation to meet established deadlines for entering into a cooperative agreement.

16                  Section 5.    This Resolution shall take effect immediately upon its adoption  
17 by the Board, and the Secretary to the Board shall certify the vote adopting this Resolution.

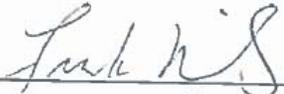
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I hereby certify that this Resolution was adopted by the Board of Water Commissioners of the City of Long Beach at its meeting on March 21, 2019 by the following vote:

Ayes: Commissioners: MARTINEZ; LEVINE; CORDERO  
\_\_\_\_\_  
\_\_\_\_\_  
Noes: Commissioners: NONE  
Absent: Commissioners: SALTZGAVER; SHANNON  
\_\_\_\_\_

  
Secretary  
Board of Water Commissioners

**CERTIFIED AS A TRUE AND CORRECT COPY**  
EXECUTIVE ASSISTANT TO THE BOARD OF WATER COMMISSIONERS  
CITY OF LONG BEACH, CALIFORNIA  
BY:   
DATE: 3/21/2019

## APPENDIX 1: Proof of SAM Registration

**Use the SAM Status Tracker Now**

Check registration status by typing in a DUNS Number.  
DUNS Number  Plus 4 (Optional)

Or, check registration status by typing in a CAGE Code.  
CAGE Code

LONG BEACH, CITY OF

**Status: Active**

Your registration was activated on May 18, 2018. It expires on May 08, 2019 which is one year after you submitted it for processing.

						
Core Data	Assertions	Reps & Certs	POCs	Submit	Processing	Active
Completed	Completed	Completed	Completed	Completed	Completed	Completed

The Long Beach Water Department is an agency of the City of Long Beach and will be extending the registration prior to its expiration in May 2019.

## APPENDIX 2: WRD MAP WITH PROJECT AREA





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1 Resolution No. WD-1071"; and

2 WHEREAS, on June 21, 2007, the Board adopted Resolution No. WD-1232  
3 entitled "A Resolution of the Board of Water Commissioners of the City of Long Beach  
4 Amending and Restating the Water Conservation and Water Supply Shortage Plan and  
5 Rescinding Resolution WD-1209"; and

6 WHEREAS, on December 17, 2009, the Board adopted Resolution No.  
7 WD-1266 entitled "A Resolution of the Board of Water Commissioners of the City of Long  
8 Beach Amending and Restating the Water Conservation and Water Supply Shortage  
9 Plan (the "Plan"), and Rescinding Resolution No. WD-1232"; and

10 WHEREAS, on July 7, 2011, the Board adopted Resolution No. WD-1286  
11 entitled "A Resolution of the Board of Water Commissioners of the City of Long Beach  
12 Amending and Restating the Water Conservation and Water Supply Shortage Plan, and  
13 Rescinding Resolution No. WD-1266"; and

14 WHEREAS, the Board wishes to continue to educate, support and enforce  
15 reasonable water conservation at all times not just during periods of imminent shortage or  
16 drought; and

17 WHEREAS, the Board now wishes to amend and restate the Water  
18 Conservation and Water Supply Shortage Plan;

19 NOW, THEREFORE, the Board of Water Commissioners of the City of  
20 Long Beach resolves as follows:

21 Section 1. Scope.

22 There is hereby established a Water Conservation and Water Supply  
23 Shortage Plan ("Plan").

24 Section 2. Objectives.

25 The objectives of the Plan are:

26 A. To prevent water supply shortages through aggressive and effective  
27 water management programs such as conjunctive use, water conservation, water  
28 education and use of reclaimed water;

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- 1           B. To minimize the impact of a water supply shortage on the City's  
2 population and economy;
- 3           C. To provide first for public health and fire protection and other  
4 essential services, then to provide for the economic health of the City, and then to  
5 provide for other uses of water; and
- 6           D. To ensure that water users who conserve water during normal-year  
7 hydrology and wet-year hydrology are not disadvantaged by the Plan during  
8 shortages.

9           Section 3. Notice.

10           When an Imminent Water Supply Shortage, a Stage 1 Water Supply  
11 Shortage, a Stage 2 Water Supply Shortage, or a Stage 3 Water Supply Shortage is  
12 declared by the Board, the Long Beach Water Department ("Department") shall provide  
13 notice to its customers. Said Notice shall include:

- 14           A. The effective date of the declaration;
- 15           B. The Prohibited Use of Water (PUoW) associated with the relevant  
16 supply shortage;
- 17           C. Information about rate increases, if any, resulting from the  
18 declaration; and
- 19           D. The importance of their taking additional voluntary actions to  
20 conserve water.

21           This Notice shall be published pursuant to California Government Codes  
22 Section 6063.

23           The Department will continue to educate its customers for the duration of  
24 the water supply shortage. The Department will communicate effectively with its diverse  
25 customer base.

26           Section 4. Prohibited Uses of Water at All Times.

27           The following uses of water are prohibited at all times:

- 28           A. Permitting the excess use, loss or escape of water through breaks,

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- 1 leaks or other malfunctions in the water user's plumbing or distribution system for  
2 any period of time after such escape of water should have reasonably been  
3 discovered and corrected;
- 4 B. Irrigating landscape with potable water at any time other than the  
5 hours after 4:00 p.m. and before 9:00 a.m. The hours as established shall take  
6 effect after notice of said changes are published in a local newspaper of general  
7 circulation, pursuant to California Government Code Section 6063;
- 8 C. Irrigating landscape or any other use of water in a manner that  
9 results in unreasonable runoff or waste, as determined by the General Manager of  
10 the Long Beach Water Department or the General Manager's designee  
11 (collectively, the "General Manager") (unless otherwise specified by the Board),  
12 where water flows onto adjacent property, non-irrigated areas, private and public  
13 walks, roadways, parking lots or structures;
- 14 D. Irrigating landscape during measurable rainfall in Long Beach, or at  
15 any time within forty-eight (48) hours afterwards, as reported by the National  
16 Weather Service;
- 17 E. Washing driveways, sidewalks, parking areas, patios, other outdoor  
18 impermeable surface areas, kitchens or objects such as kitchen non-skid mats  
19 with a hose unless using a water-conserving pressurized cleaning device as  
20 defined herein. A water-conserving pressurized cleaning device shall discharge  
21 water at a minimum of 1,000 pounds per square inch or rated at using less than  
22 three (3) gallons of water per minute. A simple spray nozzle does not qualify as a  
23 water-conserving pressurized cleaning device;
- 24 F. Washing a vehicle with a hose when the hose does not have a water  
25 shut-off nozzle or device attached to it or allowing a hose to run continuously while  
26 washing a vehicle;
- 27 G. Operating a fountain or other water feature that does not re-circulate  
28 the water;

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1 H. A hotel or motel failing to provide its customers the option of  
2 choosing not to have towels and linens laundered daily and/or failing to  
3 prominently display notice of this option in each bathroom and sleeping room  
4 using clear and easily understood language. The Department shall make suitable  
5 displays available;

6 I. Restaurants and all other commercial, industrial, institutional food  
7 preparation sites using pre-rinse heads having flow-rates greater than 1.5 gallons  
8 of water per minute;

9 J. Operating a commercial laundry system installed after November 3,  
10 2006, that does not recirculate wash and/or rinse water;

11 K. Operating a conveyor type car wash system that does not recirculate  
12 the wash and/or rinse water;

13 L. Installing a single-pass cooling systems in a building requesting a  
14 water connection after November 3, 2006;

15 M. Using potable water, rather than reclaimed water, after the General  
16 Manager has provided to the customer an analysis showing that reclaimed water  
17 is a cost-effective alternative to potable water and the customer has had ninety  
18 (90) days to make the conversion to reclaimed water;

19 N. Irrigating landscape using reclaimed water to the point that the  
20 landscape becomes saturated and irrigation waters flow from the landscape.

21 Section 5. Imminent Water Supply Shortage.

22 A. The Board shall declare an Imminent Water Supply Shortage by  
23 resolution when the Board determines, in its sole discretion, that a declaration will  
24 help to avoid or lessen the impact of an imminent water supply shortage. The type  
25 of event which may prompt the Board to declare an Imminent Water Supply  
26 Shortage may include, among other factors, a finding that its wholesale water  
27 provider calls for extraordinary water conservation.

28 B. In addition to the prohibited uses of water identified in Section 4, the

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1 following uses of water are prohibited during a declared Imminent Water Supply  
2 Shortage:

3 (1) Serving drinking water to any customer in a restaurant or  
4 other public place where food is served, sold, or offered for sale unless  
5 expressly requested by the customer. The Department shall make suitable  
6 displays, alerting customers to this restriction, available to restaurants and  
7 these types of other public places;

8 (2) Irrigating landscape with potable water any day other than  
9 Tuesday, Thursday, or Saturday, except for very short periods of time for  
10 the expressed purpose of adjusting or repairing the irrigation system;

11 (3) Irrigating landscape with potable water for:

12 (i) More than twenty (20) minutes per authorized day if using  
13 stream rotator-type or gear driven sprinkler heads rated at emitting less  
14 than one (1) gallon per minute under recommended operating pressure; or

15 (ii) More than ten (10) minutes per authorized day if using  
16 sprinkler heads rated at emitting one (1) or more gallons of water per  
17 minute under recommended operating pressure;

18 Section 6. Stage 1 Water Supply Shortage.

19 A. The Board may, in its sole discretion, declare by resolution that a  
20 Stage 1 Water Supply Shortage exists and that the actions outlined in this Section  
21 are necessary in order to meet the Objectives of this Plan. The type of event  
22 which may prompt the Board to declare a Stage 1 Water Supply Shortage  
23 includes, among other factors, is a reduced allocation of water by the  
24 Department's wholesale water provider.

25 B. Prohibited Uses of Water in a Stage 1 Water Supply Shortage. In  
26 addition to the prohibited uses of water identified in Sections 4 and 5, the following  
27 uses of water are prohibited during a Stage 1 Water Supply Shortage:

28 (1) Irrigating landscape with potable water any day other than

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1 Tuesday or Saturday, beginning on the first day of October through the end  
2 of the last day of the following March, except for very short periods of time  
3 for the expressed purpose of adjusting or repairing the irrigation system;  
4 (2) Leaving a residential swimming pool and/or spa uncovered  
5 when not in use;  
6 (3) Other prohibited uses as determined by the Board, in its sole  
7 discretion, after notice to customers.  
8 Section 7. Stage 2 Water Supply Shortage.  
9 A. The Board may, in its sole discretion, declare by resolution that a  
10 Stage 2 Water Supply Shortage exists and that the actions outlined in this Section  
11 are necessary in order to meet the Objectives of this Plan.  
12 B. Prohibited Uses of Water in a Stage 2 Water Supply Shortage. In  
13 addition to the prohibited uses of water identified in Sections 4, 5 and 6, the  
14 following uses of water are prohibited during a declared Stage 2 Water Supply  
15 Shortage:  
16 (1) Irrigating landscape with potable water any day other than  
17 Tuesday or Saturday, except for very short periods of time for the  
18 expressed purpose of adjusting or repairing the irrigation system;  
19 (2) Other prohibited uses as determined by the Board, in its sole  
20 discretion, after notice to customers.  
21 Section 8. Stage 3 Water Supply Shortage.  
22 A. The Board may, in its sole discretion, declare by resolution that a  
23 Stage 3 Water Supply Shortage exists and that the actions outlined in this Section  
24 are necessary in order to meet the Objectives of this Plan.  
25 B. Prohibited Uses of Water in a Stage 3 Water Supply Shortage. In  
26 addition to the prohibited uses of water identified in Sections 4, 5, 6 and 7,  
27 additional restrictions or prohibitions on the use of water may be imposed by the  
28 Board at its sole discretion.

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1                   Section 9.    Water Rates.

2                   The Board may adjust water rates during a Board declared Stage 1, Stage  
3 2, or Stage 3 Water Shortage subject to the then current Resolution fixing the Rates and  
4 Charges for Water and Sewer Service. Any increase in rates approved by the Board  
5 shall be subject to a public protest hearing as provided for in the California Constitution  
6 Article XIII.

7                   Section 10.   Sudden Catastrophic Water Supply Shortage.

8                   When the General Manager determines that a sudden event has, or  
9 threatens to, significantly diminish the reliability or quality of the City's water supply, then  
10 the General Manager may declare a Catastrophic Water Supply Shortage and impose  
11 whatever emergency water allocation or conservation actions necessary to protect the  
12 reliability and quality of the City's water supply and in order to meet the Objectives of this  
13 Plan, until the emergency passes or the Board takes other action.

14                   Section 11.   Issuance of a Notice of Violation.

15                   A.    A "Customer" as defined in the Long Beach Water Department  
16 Rules, Regulations, and Charges Governing Potable Water, Reclaimed Water,  
17 Sewer Service and the Water Conservation and Water Supply Shortage Plan  
18 ("Department Rules, Regulations and Charges"), shall be the party in violation of  
19 this Plan when water associated with the Customer's account is used in a  
20 prohibited manner. For each separate and distinct violation of this Plan, the  
21 Customer may be served a Notice of Violation in accordance with the Department  
22 Rules, Regulations and Charges.

23                   B.    Each and every day a violation exists constitutes a separate  
24 and distinct offense.

25                   C.    Warning Letter: Prior to receiving a Notice of Violation, Customer  
26 shall first be served a Warning letter, in accordance with the Department Rules,  
27 Regulations, and Charges.

28                   D.    The amount of the PUoW Charge shall be as established by the City

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1 of Long Beach Board of Water Commissioners by Resolution and listed in the  
2 Department Rules, Regulations, and Charges.

3 Section 12. Reduce or Terminate Water Service.

4 Depending on the severity of the prohibited use of water and the  
5 seriousness of the water supply shortage or imminent water supply shortage, the  
6 General Manager may cause the installation of a flow restriction device or may  
7 have the water service terminated. The General Manager shall give fourteen (14)  
8 days' notice that these actions may be taken unless, in the General Manager's  
9 discretion, the severity of the misuse or the severity of the shortage mandates a  
10 shorter period of time, in which case the number of days for notice shall be at the  
11 General Manager's sole discretion.

12 The Customer shall pay the cost of restricting the flow or terminating the  
13 service and shall pay the cost of re-installing full service, prior to the restoration of full  
14 service.

15 Section 13. Satisfaction of the PUoW.

16 Upon service of a Notice of Violation and PUoW Charge, the  
17 Customer shall do the following:

18 A. Remedy the violation(s) no later than the date as specified on  
19 the Notice. Correcting the violation(s) shall not excuse or discharge  
20 payment of the PUoW Charge.

21 B. Pay the PUoW Charge no later than thirty (30) days from the  
22 date of issuance of the citation as specified on the Notice. Payment of a  
23 PUoW Charge shall not excuse or discharge the failure to correct the  
24 violation(s), nor shall it bar further enforcement action by the Department.  
25 Late charges shall be imposed for PUoW payments made after the payment  
26 due date. The late charge shall be assessed per standard Department  
27 practices, and will be imposed in addition to any outstanding PUoW Charge.

28 Section 14. Appeal of Notice of Violation.

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1 Any recipient of a PUoW Charge may appeal said violation in  
2 accordance with the Water Department Rules, Regulations, and Charges.  
3 Section 15. Hearing Procedure.  
4 The hearing of any appeal of a Notice of Violation shall be conducted in  
5 accordance with the Department Rules, Regulations, and Charges,  
6 Section 16. Dismissal of Notice of Violation.  
7 The General Manager may dismiss a Notice of Violation at any time if it is  
8 determined to have been issued in error or upon good cause.  
9 Section 17. Reservation of Rights.  
10 The rights of the Department shall be cumulative to any other right of the  
11 Department stated in this Plan, the Department Rules, Regulations and Charges, the  
12 Long Beach Municipal Code, or as provided for under State or Federal law.  
13 Section 18. Exceptions.  
14 The prohibited uses of water in this Plan are not applicable to that use of  
15 water necessary, as determined by the General Manager, for public health and safety or  
16 for essential governmental services such as police, fire, and other similar emergency  
17 services.  
18 Section 19. General Provisions.  
19 A. Nothing contained in this Plan shall be construed to require the  
20 Department to curtail the supply of water to any Customer when, in the discretion  
21 of the General Manager, that water is required by that customer to maintain an  
22 adequate level of public health and safety.  
23 B. Any term not defined in this Plan which is defined in the then current  
24 Department Rules, Regulations and Charges shall have the meaning stated  
25 therein.  
26 C. This Plan shall apply to all customers and property receiving water  
27 from the Department wherever situated, and shall also apply to all property and  
28 facilities owned, maintained, operated or under the jurisdiction of the various

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1 officials, boards, departments, bureaus or agencies of the City.  
2 D. If any section, subsection, sentence, clause or phrase in this Plan or  
3 the application of it to any person or circumstances is for any reason held invalid,  
4 the validity of the remainder of this Plan or the application of such provision to  
5 other persons or circumstances shall not be affected. The Board declares that it  
6 would have passed this Plan and each section, subsection, sentence, clause, and  
7 phrase in it irrespective of the fact that one or more sections, subsections,  
8 sentences, clauses, or phrases or the application of them to any person or  
9 circumstances be held invalid.

10 Section 20. Approval of this Resolution.

11 On the effective date of this Resolution all prior Resolutions including  
12 Resolution No. WD-1286 relating to the Water Conservation and Water Supply Shortage  
13 plans of the Long Beach Water Department are hereby rescinded and superseded.

14 The Secretary of the Board of Water Commissioners shall certify to the  
15 passage of this Resolution and cause a copy of the Resolution to be published pursuant  
16 to Government Code Section 6061. This Resolution shall take effect thirty (30) days after  
17 the Secretary's certification.

18 I hereby certify that this Resolution was adopted by the Board of Water  
19 Commissioners of the City of Long Beach at its meeting on June 2, \_\_\_\_\_, 2016  
20 by the following vote:

21 Ayes: Commissioners: SHANNON; CORDERO;

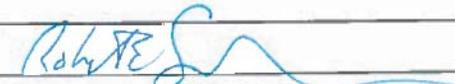
22 SALTZGAVER; MARTINEZ

23 Noes: Commissioners: NONE

24 Absent: Commissioners: LEVINE

25 \_\_\_\_\_

26 \_\_\_\_\_

27 

28 Secretary  
Board of Water Commissioners

## APPENDIX 4: NOTICE OF EXEMPTION FOR CEQA



**Long Beach Water Department**  
 The Standard in Water Conservation &  
 Environmental Stewardship

KEVIN L. WATTIER, General Manager

**TO:** Department of Development Services  
 Planning Bureau  
 333 W. Ocean Blvd, 5<sup>th</sup> Floor  
 Long Beach, CA 90802

**DATE:** September 4, 2014

**ATTN:** Craig Chalfant  
 Planner

**RE:** Categorical Exemption – Water  
 Department Projects

**JOB NO.** EO-3108

**WE ARE SENDING YOU:**

Via City Mail

Attached

Mailed Separately

Plans

Tracing

Specifications

Copy of Letter

COPIES	DESCRIPTION
1	Categorical Exemption Application – EO-3108 West Coast Basin Water Production Well

As Requested

For Approval

Preparation of Agreement

For Your Use

Approved As Noted

Returned for Corrections

Resubmit \_\_\_\_\_ Copies  
 For Approval

Return \_\_\_\_\_ Corrected  
 Prints

Submit \_\_\_\_\_ Copies  
 For Distribution

**NOTE:** Please find the attached application for Categorical Exemption for EO-3108. Included in the application is the Exemption cover sheet, Exemption application, and project map. Should you have questions or require additional information please contact Chris Pincherli at 570-2327.

**SIGNED:**



K. Eric Leung, P.E.  
 Director of Engineering/Chief Engineer

cc: Christopher Pincherli, Senior Program Manager

H:\ACTIVE PROJECTS\EO-3108 West Basin Well Study\2.0 Correspondence\Xmtl to Planning\_Cat Exempt.doc



## NOTICE OF EXEMPTION COVER SHEET

DEPARTMENT OF DEVELOPMENT SERVICES  
PLANNING BUREAU  
333 W. OCEAN BLVD., 5<sup>TH</sup> FLOOR, LONG BEACH, CA 90802

All City departments requesting Categorical Exemptions must submit the following for each request:

1. This Notice of Exemption Cover Sheet: Complete in its entirety and sign.
2. The Notice of Exemption Form: Complete the upper portion with a detailed activity/project description and a signature (required). Planning staff will assign the exemption number.
3. Attach an 8 1/2" x 11" map, plan, or graphic of the project, as applicable.

A completed cover sheet must accompany your Notice of Exemption form. An incomplete cover sheet will be returned to your Department with a request that it be completed and signed.

Please allow **10 working days** for environmental review and sign-off from date of receipt. If you have a special need, Planning staff will do its best to accommodate your request. If there are any issues that arise with your application, a Planner will call you to follow up.

Department Receiving Service: Water  
Contact Person: K. Eric Leung  
Phone Number: (562) 570-2347  
Project Address: 3665 Delta Avenue, Long Beach, CA 90810  
Project Description: Construction and equipment for a new water production well. Also includes connection to existing pipeline in Delta Avenue.

Index Code: WACEWWS

Project/Detail Code: WAT 109

Grant/Detail Code: \_\_\_\_\_

User Code: \_\_\_\_\_

The current cost of a **Categorical Exemption** is as follows:

Preparation & Issuance of Exemption	\$400.00
Department of Development Services Surcharge (9.3%)	\$ 37.20
Los Angeles County Environmental Filing Fee	\$ 75.00

**TOTAL FEE** **\$512.20**

Signature  Date 9/3/14

(signature authorizing Development Services Department to use charge points listed above for this transaction)



## NOTICE of EXEMPTION from CEQA

DEPARTMENT OF DEVELOPMENT SERVICES  
333 W. OCEAN BLVD., 5<sup>TH</sup> FLOOR, LONG BEACH, CA 90802  
(562) 570-6194 FAX: (562) 570-6068  
lbs.longbeach.gov

TO:  Office of Planning & Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

FROM: Department of Development Services  
333 W. Ocean Blvd, 5<sup>th</sup> Floor  
Long Beach, CA 90802

L.A. County Clerk  
Environmental Fillings  
12400 E. Imperial Hwy. 2<sup>nd</sup> Floor, Room 2001  
Norwalk, CA 90650

Categorical Exemption CE- \_\_\_\_\_

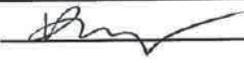
Project Location/Address: 3665 Delta Avenue, Long Beach, CA 90810

Project/Activity Description: Construction and equipment for a new water production well. Also includes connection to existing pipeline in Delta Avenue.

Public Agency Approving Project: **City of Long Beach, Los Angeles County, California**

Applicant Name: Long Beach Water Department / K. Eric Leung

Mailing Address: 1800 E. Wardlow Road, Long Beach, CA 90807

Phone Number: (562) 570-2347 Applicant Signature: 

BELOW THIS LINE FOR STAFF USE ONLY

Application Number: \_\_\_\_\_ Planner's Initials: \_\_\_\_\_

Required Permits: \_\_\_\_\_

THE ABOVE PROJECT HAS BEEN FOUND TO BE EXEMPT FROM CEQA IN ACCORDANCE WITH STATE GUIDELINES SECTION \_\_\_\_\_

Statement of support for this finding: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Contact Phone: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Revised October 2012



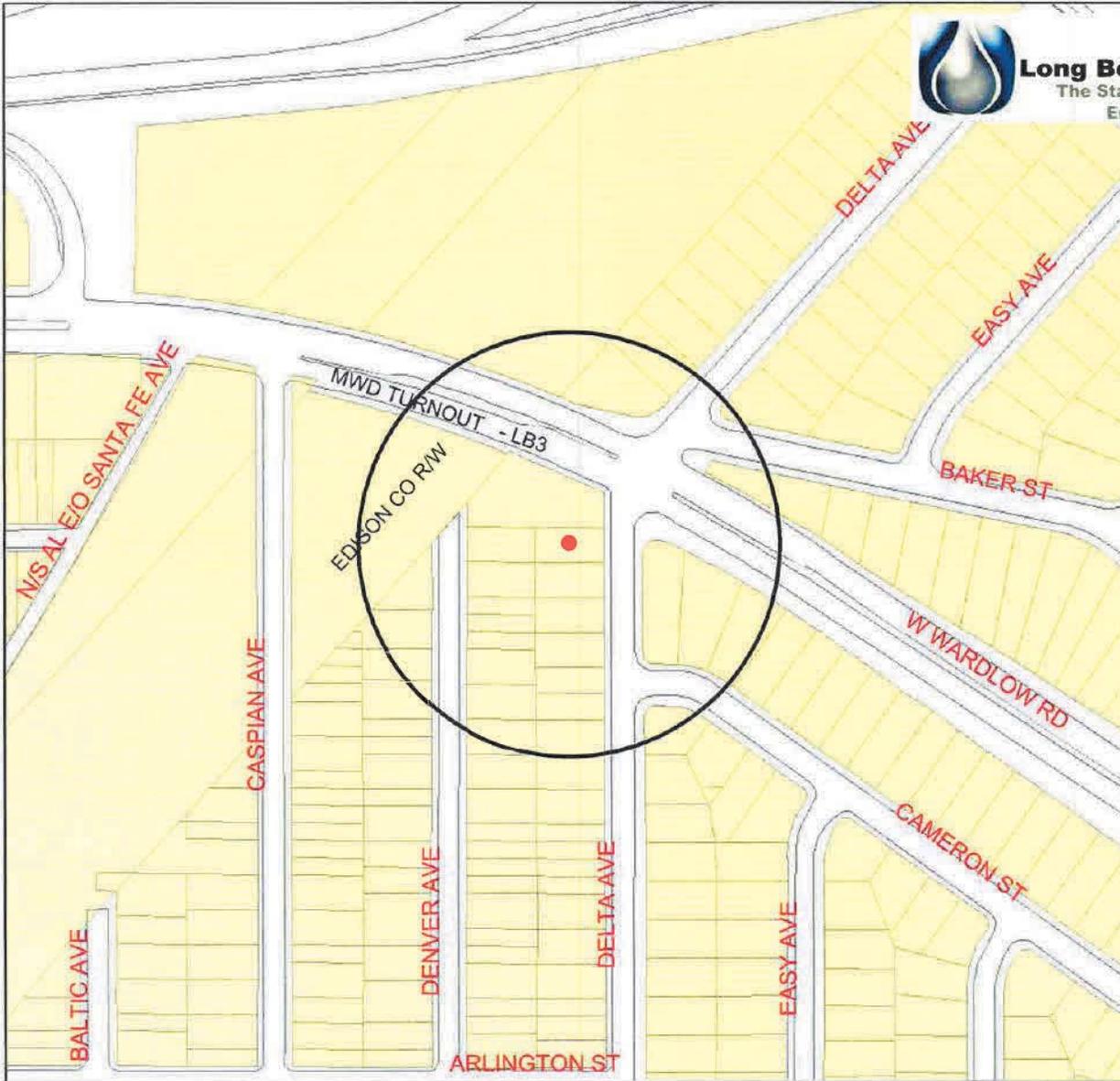
**Long Beach Water Department**  
The Standard in Water Conservation &  
Environmental Stewardship

### WEST COAST BASIN WATER PRODUCTION WELL

Project Map

**LEGEND**

- PROJECT LOCATION
- 300' RADIUS



1 inch = 200 feet



3665 DELTA AVENUE  
WATER PRODUCTION WELL

## APPENDIX 5: LETTERS OF SUPPORT



DIRECTORS  
JOHN D. S. ALLEN, PRESIDENT  
VERA ROBLES DEWITT, VICE PRESIDENT  
WILLARD H. MURRAY, JR., SECRETARY  
ROB KATHERMAN, TREASURER  
SERGIO CALDERON, DIRECTOR

ROBB WHITAKER, P.E., GENERAL MANAGER

March 13, 2019

U.S. Bureau of Reclamation  
Water Resources and Planning Division  
Attn: Mr. Darion Mayhorn  
Mail Code: 84-51000  
P.O. Box 25007  
Denver, CO 80225

Mr. Mayhorn:

Please accept this letter of support for the Long Beach Water Department's grant application for their Wellhead Construction, Equipment and Treatment project at 3665 Delta Ave, Long Beach, CA. The Long Beach Water Department is tasked with providing a clean and reliable supply of drinking water to each of the City's approximately 500,000 residents. The well project at 3665 Delta Ave is one of many capital improvement projects that demonstrate LBWD's commitment to continuing to provide the City of Long Beach with the highest level of infrastructure reliability, efficiency and quality.

The Water Replenishment District (WRD) is the largest groundwater agency in the State of California, managing and protecting local groundwater resources for four million residents in 43 cities throughout Southern Los Angeles County. The 420-square mile service area uses about 250,000 acre-feet of groundwater per year. Today, WRD protects the basins through artificial groundwater replenishment, ensuring that aquifers maintain healthy levels. WRD further protects the basins from seawater intrusion by injecting water into wells along the coastline to keep the ocean from further contaminating the fresh groundwater aquifers. Projects like this will provide valuable remediation and development of groundwater resources. By implementing this project, Long Beach Water will be able to provide locally sourced water to its residents while freeing up more storage space for future groundwater recharge initiatives—a win for both the residents and the basins.

The Water Replenishment District firmly supports this grant application and the efforts of the Long Beach Water Department.

Sincerely,



Robb Whitaker  
General Manager



**MAYOR ROBERT GARCIA**  
CITY OF LONG BEACH

March 6, 2019

Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Ms. Julie Hendricks  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, CO 80225

RE: Letter of Support for Long Beach Water Department Grant Application for West Coast Basin Well 1 Project

Dear Ms. Hendricks:

As Mayor of the City of Long Beach, I am writing in strong support of the Long Beach Water Department's grant application for their West Coast Basin Well 1 Project in Long Beach, California.

As Los Angeles County's second largest city, located on the Southern California coast, Long Beach covers approximately 50 square miles and is home to nearly half a million residents. A major priority for us as a coastal, densely-populated urban center is to address and mitigate the many effects of climate change, particularly on our most vulnerable residents. A reliable and resilient water supply is a top priority for our city.

As the city-owned water utility, the Long Beach Water Department works to maintain a diverse portfolio of drinking water supplies for our community to ensure ongoing reliability and resiliency in the face of the inevitable water shortages caused by extreme weather cycles that are features of California's climate. The Delta Avenue Wellhead Project demonstrates our commitment to continuing to provide Long Beach with the highest level of infrastructure reliability, efficiency, and quality.

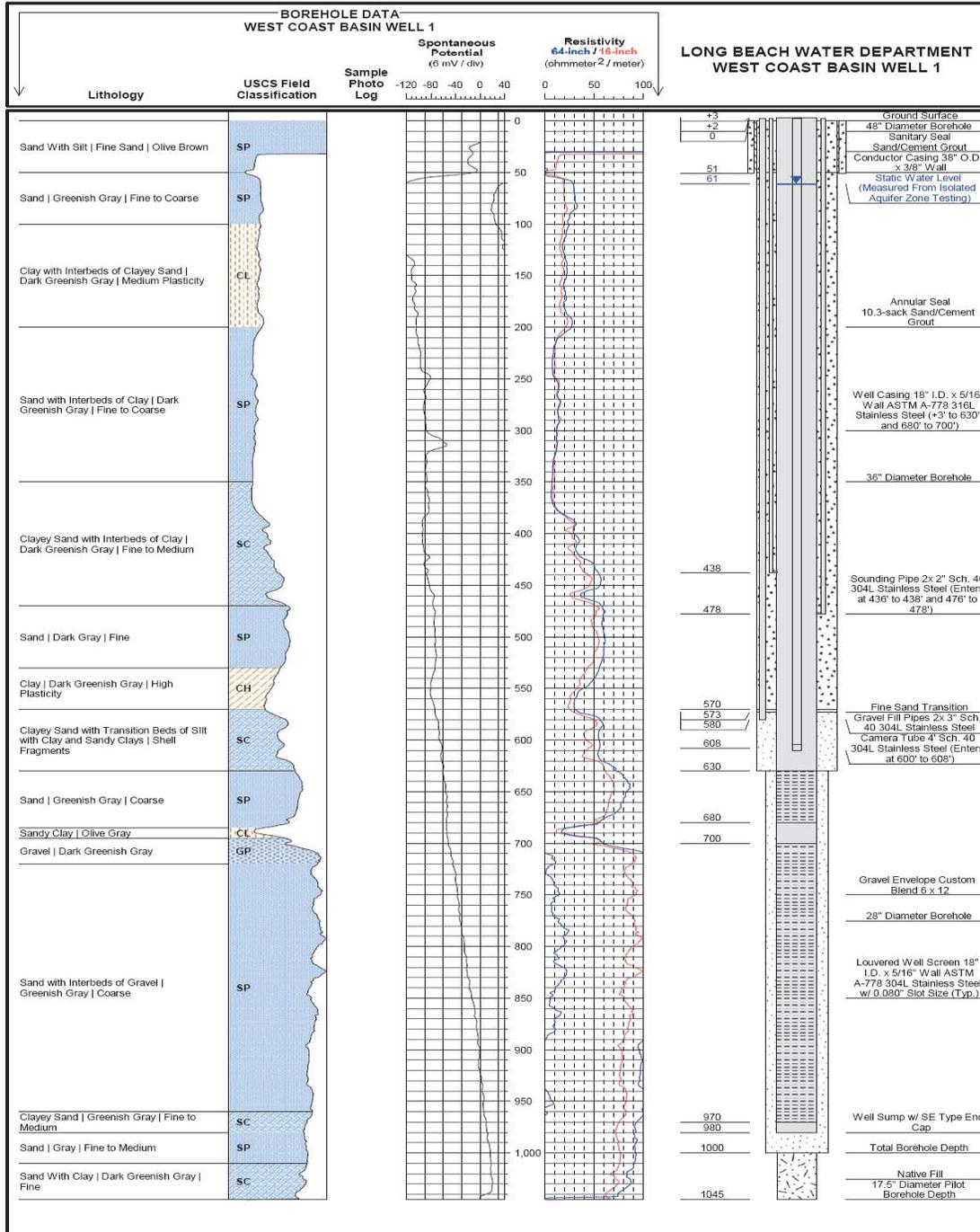
On behalf of the City of Long Beach, please accept this letter of support for this well construction project and the continuing efforts of the Long Beach Water Department.

Sincerely,



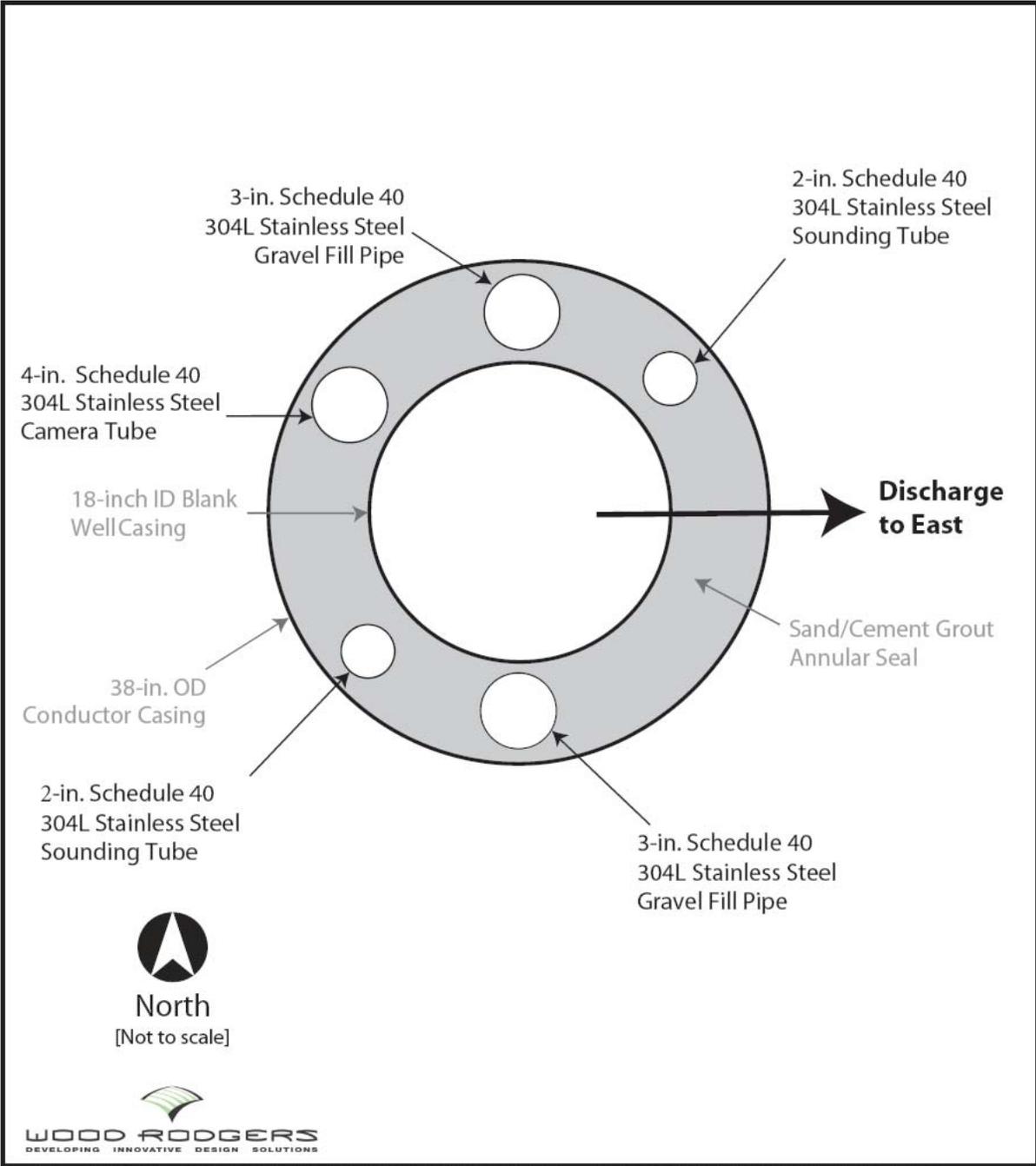
Mayor Robert Garcia  
City of Long Beach

# APPENDIX 6: BOREHOLE DATA, DISCHARGE AND ACCESSORY PIPE CONFIGURATION, GRAVEL ENVELOPE DESIGN, AND WELL CASING COLLAPSE CALCULATIONS



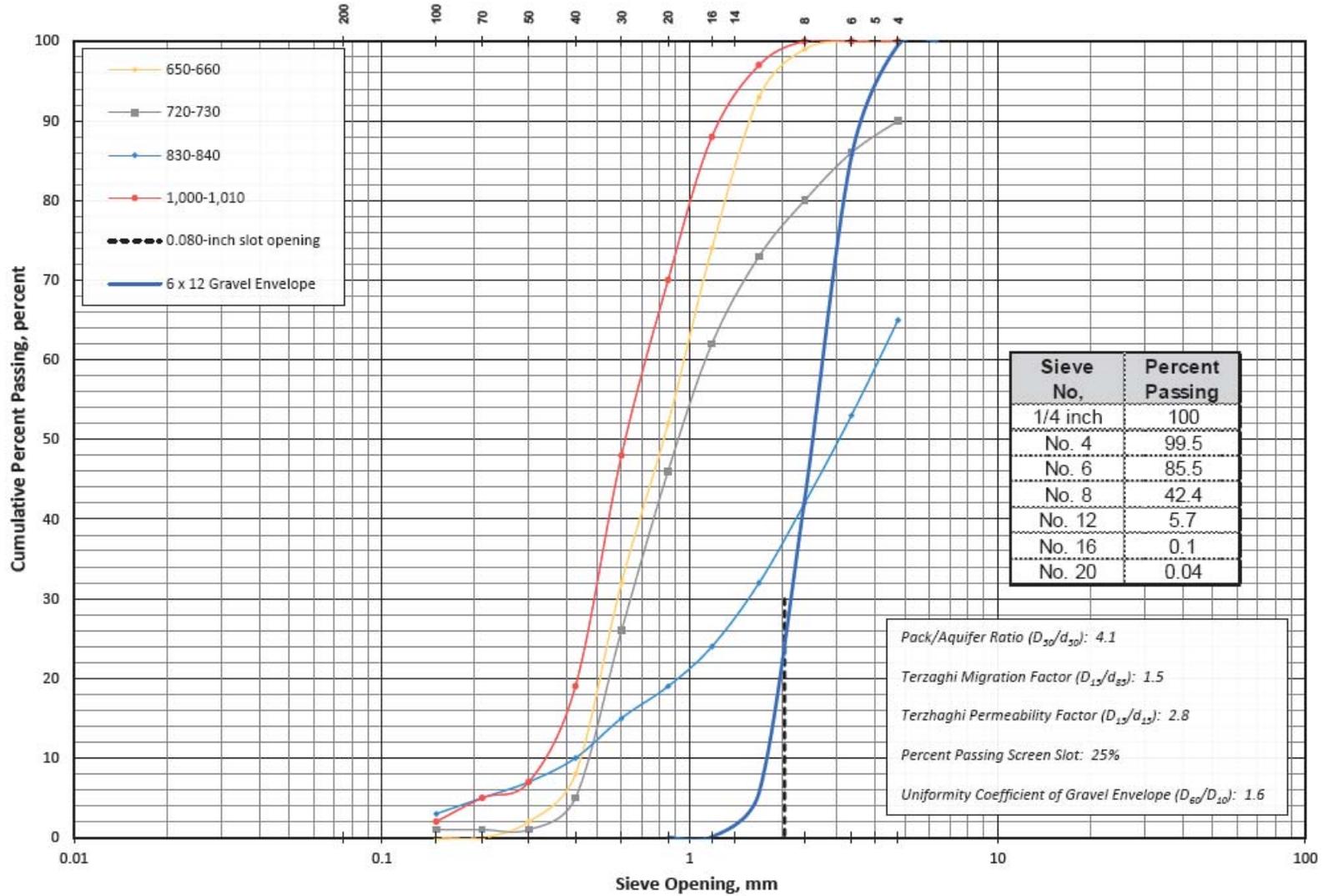
PROJECT NO. 8640.002	PRELIMINARY WELL DESIGN PROFILE FOR <b>LONG BEACH WATER DEPARTMENT WEST COAST BASIN WELL 1</b> LONG BEACH, CALIFORNIA	 <b>WOOD RODGERS</b> ENGINEERING CONSULTING DESIGN 3200 G Street, Suite 100 Bakersfield, CA 93310 Tel: 805.341.7752 Fax: 805.341.7752	DATE: 5/23/17 11:20 SCALE: V, 1" = 80' DRAWN BY: J.SOBOLEW DESIGNED BY: R. KYLE CHECKED BY: R. KYLE	<table border="1"> <tr> <td>NO.</td> <td>DESCRIPTION</td> <td>ENGR. INIT.</td> <td>REV.</td> <td>DATE</td> </tr> <tr> <td>1</td> <td>Well Design</td> <td>JRS</td> <td></td> <td>5/19/2017</td> </tr> </table>	NO.	DESCRIPTION	ENGR. INIT.	REV.	DATE	1	Well Design	JRS		5/19/2017
NO.	DESCRIPTION	ENGR. INIT.	REV.	DATE										
1	Well Design	JRS		5/19/2017										

**Figure 2**  
**Long Beach Water Department**  
**West Coast Basin Well 1**  
*Discharge and Accessory Pipe Configuration*



\\woodrogers-ls01\ProductionData\Tabel\Tabel0640 TRWD\0640 002 TRWD\WCR Well 1\Drawings\20170531 TRWD\WCR Well 1 Well Design - Letter.dwg

Figure 3 - Gravel Envelope Design  
LBWD West Coast Basin Well 1



### WELL CASING COLLAPSE CALCULATIONS

Job No.: 8640.002 Job Name: Long Beach Water Department

Well Name: West Coast Basin Well 1

Prepared By: RJK Date: 5/23/2017

Ellipticity: 0.01

Grout Weight (lb/gal): 17.35

Casing Description	Outside Diameter (inches)	Wall Thickness (inches)	Casing Material	Designed Seal Depth (feet)	Collapse Depth with Eccentricity and Empty Casing (feet)
Conductor Casing	38.000	0.375	Stainless Steel	51	53
Blank Well Casing	18.625	0.313	Stainless Steel	570	215
Camera Tube	4.500	0.237	Stainless Steel	600	2,232
Gravel Tube	3.500	0.216	Stainless Steel	570	2,861
Sounding Tube 1	2.375	0.154	Stainless Steel	436	3,084
Sounding Tube 2	2.375	0.154	Stainless Steel	476	3,084



**WOOD RODGERS**  
 DEVELOPING INNOVATIVE DESIGN SOLUTIONS  
 3301 C Street, Bldg. 100-B Tel: 916.341.7760  
 Sacramento, CA 95816 Fax: 916.341.7767

TABLE 1