

**APPENDIX N.1**  
**WATER UTILITY TECHNICAL REPORT**



**1100 EAST FIFTH STREET MIXED-USE PROJECT  
UTILITY INFRASTRUCTURE TECHNICAL REPORT: WATER  
OCTOBER 19, 2020**

**PREPARED BY:**

KPFF Consulting Engineers

700 South Flower Street, Suite 2100

Los Angeles, CA 90017

(213)418-0201

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Exhibit 1- LADWP Water “Service Advisory Request” (SAR) Results

Exhibit 2 – LADWP “Information of Fire Flow Availability Request” (IFFAR) Results

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## **1. INTRODUCTION**

### **1.1. PROJECT DESCRIPTION**

The Project would involve the demolition of the existing warehouses and surface parking lot, and the construction of an up to 249,758-square-foot mixed-use building including up to 220 live/work units, approximately 22,725 square feet of open space for residents, up to 46,548 square feet of commercial uses, and associated parking facilities. Eleven percent of the units (approximately 25 live/work units) would be deed-restricted for Very Low Income households. The proposed building would be up to 110 feet (8 above-ground levels) tall plus three levels of subterranean parking and a lower quarter level for storage. The Project also proposes the ability to implement an increased commercial option that would provide the Project the flexibility to increase the commercial square footage provided by the Project within the same building parameters and, in turn, reduce the overall amount of live/work from 220 live/work units to 200 live/work units.

### **1.2. SCOPE OF WORK**

As a part of the Environmental Impact Report for the Project, the purpose of this report is to analyze the potential impact of the Project to the existing water infrastructure systems.

## **2. REGULATORY FRAMEWORK**

The City of Los Angeles Department of Water and Power (LADWP) is responsible for providing water supply to the City while complying with local, State, and Federal regulations.

Below are the State and Regional water supply regulations:

- California Code of Regulations (CCR), Title 20, Chapter 4, Article 4, Section 1605 establishes water efficiency standards for all new plumbing fixtures and Section 1608 prohibits the sale of fixtures that do not comply with the regulations.
- 2013 California Green Building Standards Code, CCR, Title 24, Part 11, adopted on January 1, 2014 (CALGreen), requires a water use reduction of 20% above the baseline cited in the CALGreen code book. The code applies to family homes, state buildings, health facilities, and commercial buildings.
- California Urban Water Management Planning Act of 1984 requires water suppliers to adopt an Urban Water Management Plan (UWMP).
- Metropolitan Water District (MWD) official reports and policies as outlined in its Regional UWMP, Water Surplus and Drought Management Plan, Water Supply Allocation Plan, and Integrated Resources Plan.

- LADWP’s 2015 UWMP outlines the City’s long-term water resources management strategy. The 2015 UWMP was approved by the LADWP Board of Water and Power Commissioners on June 7, 2016.
- Senate Bill 610 and Senate Bill 221, approved on October 9, 2001, require land use agencies to perform a detailed analysis of available water supply when approving large developments. Historically, public water suppliers (PWS) simply provided a “will serve” letter to developers. SB 610, Public Resources Code (PRC) and Section 10910-10915 of the State Water Code requires lead agencies to request a Water Supply Assessment (WSA) from the local water purveyor prior to project approval. If the projected water demand associated with a proposed development is included in the most recent UWMP, the development is considered to have sufficient water supply per California Water Code Section 10910, and a WSA is not required. All projects that meet any of the following criteria require a WSA:
  - 1) A proposed residential development of more than 500 dwelling units.
  - 2) A proposed shopping center or business establishment of more than 500,000 square feet of floor space or employing more than 1,000 persons
  - 3) A proposed commercial office building of more than 250,000 square feet of floor space or employing more than 1,000 persons
  - 4) A proposed hotel or motel of more than 500 rooms
  - 5) A proposed industrial, manufacturing, or processing plant or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons
  - 6) A mixed use project that falls in one or more of the above-identified categories
  - 7) A project not falling in one of the above-identified categories but that would demand water equal or greater than the amount required by a 500-dwelling unit project.

As this Project does not trigger any of the above thresholds, a WSA is not required for this Project.

### 3. EXISTING CONDITION

The Project Site is 54,009 sq. ft. and is currently occupied by three single story warehouse buildings totaling approximately 35,445 sq. ft., and an at grade concrete parking lot covering the remainder of the Site. LADWP maintains water infrastructure to the Project Site.

#### 3.1. DOMESTIC INFRASTRUCTURE

Based on available record data provided by the City, there is a 6-inch water main in East 5<sup>th</sup> Street and a 6-inch main in Seaton Street. It appears that there are two domestic water meters that serve the existing site.

Water consumption estimates have been prepared based on 120 percent of the City of Los Angeles Bureau of Sanitation (BOS) sewerage generation factors and are summarized in Table 1 below.

Table 1 – Estimated Existing Water Consumption			
Land Use	Units	Consumption Rate (gpd/unit) <sup>(a)</sup>	Total Water Consumption (gpd)
<b>Existing</b>			
Warehouse	35,445 sf	36/KGSF	0
<b>Subtotal Existing</b>			<b>0*</b>
(a) The average daily flow based on 120% of City of Los Angeles BOS sewerage generation factors.			
*As the existing warehouses on-site have been vacant prior to the start of this study, existing wastewater generation is assumed to be zero.			

#### 3.2. FIRE INFRASTRUCTURE

There is existing fire infrastructure serving the Project Site. Based on a water service map provided by the City, there is a 6-inch water main in East 5<sup>th</sup> Street and a 6-inch main in Seaton Street. Exhibit 2 shows the location of six hydrants within the vicinity of the Project.

### 4. SIGNIFICANCE THRESHOLDS

Appendix G of the State of California’s California Environmental Quality Act (CEQA) Guidelines (CEQA Guidelines) provides a set of sample questions that address impacts with regard to water supply. These questions are as follows:

Would the project:

- Require or result in the relocation or construction of new water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities or expansion of existing facilities, the construction or relocation of which would cause significant environmental effects?
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

In the context of the above questions from the Appendix G of the CEQA Guidelines, the City of Los Angeles CEQA Thresholds Guide (*L.A. CEQA Thresholds Guide*) states that the determination of significance with regard to impacts on water shall be made on a case-by-case basis, considering the following factors:

- The total estimated water demand for the project;
- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project buildout;
- The amount by which the project would cause the projected growth in population, housing or employment for the Community Plan area to be exceeded in the year of the project completion; and
- The degree to which scheduled water infrastructure improvements or project design features would reduce or offset service impacts.

Based on these factors, the Project would have a significant impact if the City's water supplies would not adequately serve the Project or water distribution capacity would be inadequate to serve the proposed use after appropriate infrastructure improvements have been installed.

## 5. METHODOLOGY

The methodology for determining the significance of a project as it relates to a project's impact on water supply and distribution infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures (if required). The following has been considered as part of the determination for this Project:

### *Environmental Setting*

- Description of major water infrastructure serving the Project site, including the type of facilities, location and sizes, and any planned improvements.

- Description of the water conditions for the Project area and known improvement plans.

### *Project Impacts*

- Evaluate the Project's water demand, taking into account design or operational features that would reduce or offset water demand.
- Determine what improvements would be needed, if any, to adequately serve the Project.
- Describe the degree to which presently scheduled off-site improvements offset impacts.

This report analyzes the potential impacts of the Project on the existing public water infrastructure by comparing the estimated Project demand with the calculated available capacity of the existing facilities.

The existing and proposed water demand is based upon available site and Project information, and utilizes 120 percent of the BOS sewerage generation factors.

LADWP performed a hydraulic analysis of their water system to determine if adequate fire flow is available to the fire hydrants surrounding the Project Site. LADWP's approach consists of analyzing their water system model near the Project Site. Based on the results, LADWP determines whether they can meet the Project fire hydrant flow needs based on existing infrastructure. See Exhibit 2 for the results of the Information of Fire Flow Availability Request (IFFAR).

In addition, LADWP performed a flow test to determine if available water conveyance exists for future development. LADWP's approach consists of data ranging from available static pressure (meaning how much pressure is available at the source before applying the project's demand), to the available pressure at the maximum demand needed for the project. Based on the results, LADWP determines whether they can meet the project needs based on existing infrastructure. See Exhibit 1 for the results of the Service Advisory Requests (SARs).

## **6. PROJECT IMPACTS**

### **6.1. CONSTRUCTION**

Water demand for construction of the Project would be required for dust control, cleaning of equipment, excavation/export, removal and re-compaction, etc. Based on construction projects of similar size and duration, a conservative estimate of construction water use ranges from 1,000 to 2,000 gallons per day (gpd). While temporary construction water use would be more than the existing water consumption at the Project Site, this estimated construction-period demand is significantly less than the Project's estimated operational demand, which as described below, can be accommodated by the existing infrastructure.



It is therefore anticipated that the existing water infrastructure would similarly meet the limited and temporary water demand associated with construction of the Project. Impacts on the water infrastructure due to construction activity would therefore be less than significant.

The Project will require construction of new, on-site water distribution lines to serve the new building. Construction impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the water distribution lines below surface and would be limited to on-site water distribution, and minor off-site work associated with connections to the public main. Prior to ground disturbance, Project contractors would coordinate with LADWP to identify the locations and depth of all lines. Further, LADWP would be notified in advance of proposed ground disturbance activities to avoid water lines and disruption of water service. Therefore, Project impacts on water infrastructure associated with construction activities would be less than significant.

## **6.2. OPERATION**

### **6.2.1. INFRASTRUCTURE CAPACITY**

When analyzing the Project for infrastructure capacity, the projected demands for both fire suppression and domestic water are considered. Although domestic water demand is the Project's main contributor to water consumption, fire flow demands have a much greater instantaneous impact on infrastructure, and therefore are the primary means for analyzing infrastructure capacity. Nevertheless, conservative analysis for both fire suppression and domestic water flows has been completed by LADWP for the Project. See Exhibits 1 and 2 for the results of the SAR and IFFAR, respectfully, which together demonstrate that adequate water infrastructure capacity exists.

### **6.2.2. FIRE WATER DEMAND**

Based on fire flow standards set forth in Section 57.507.3 of the LAMC, the project falls within the industrial and commercial category, which has a minimum required fire flow of 6,000 gallons per minute (gpm) to a maximum of 9,000 (gpm) from four to six adjacent hydrants flowing simultaneously with a residual pressure of 20 pounds per square inch (psi). Hydrants can typically deliver up to 1,500 gpm which is consistent with this requirement. Therefore, an IFFAR identifying 4 adjacent hydrants was submitted to LADWP to confirm that LADWP's infrastructure is capable of delivering the minimum required flow, while maintaining a minimum pressure of 20 psi. The completed IFFAR is attached as Exhibit 2. Results from the IFFAR show that the minimum requirement of 1,500 gpm from four hydrants flowing simultaneously for a combined flow of 6,000 gpm at greater than 20 psi. Additional analysis in Exhibit 2 shows that, with 6 hydrants flowing simultaneously, LADWP's infrastructure can deliver a total of 8,326 gpm at greater than 20 PSI. LADWP's analyses suggest that adequate fire flow capacity exists in LADWP's system. As the project will incorporate a fire sprinkler suppression system (as discussed below), the required fire flow demand would then be eligible for a reduction of

as much as 50% from the base requirements established. As such, adequate fire flow appears to be available to demonstrate compliance with Section 57.507.3 of the LAMC.

The Project will incorporate a fire sprinkler suppression system to reduce or eliminate the public hydrant demands, which will be subject to Fire Department review and approval during the design and permitting of the Project. Based on Section 94.2020.0 of the LAMC that adopts by reference NFPA 14-2013 including Section 7.10.1.1.5, the maximum allowable fire sprinkler demand for a fully or partially sprinklered building would be 1,250 gpm. As noted, an SAR was submitted to LADWP in order to determine if the existing public water infrastructure could meet the demands of the Project. The approved SAR is attached as Exhibit 1. The SAR for the 6-inch main in Seaton Street shows a static pressure of 75 pounds per square inch and that a flow of up to 1,400 gpm can be delivered to the Project Site with a residual pressure of 60 pounds per square inch, which exceeds the 20 pounds per square inch requirement for the surrounding public hydrants. As shown by the SAR, and through compliance with LAFD and LADWP requirements, the Project's fire flow impacts to water infrastructure would be less than significant.

### **6.2.3. DOMESTIC WATER DEMAND**

Water consumption estimates have been prepared based on 120 percent of the City of LA Bureau of Sanitation sewerage generation factors for commercial categories and are summarized in Table 2 below. The Project proposes to connect to the existing 6-inch main in Seaton Street for the domestic service. There are two types of connections that can be made to the City main. One type of connection is a combo service, which has one connection to the main and splits to serve both fire and domestic. The second type of connection is to have independent connections for fire and domestic. Refer to Exhibit 1 for the approved SAR for Seaton Street. DWP added a note that a combo service would be allowed. In addition, the services will include backflows and be metered separately per City requirements. The approved SAR confirms that sufficient infrastructure capacity is available for the Project. Therefore, the Project's impacts on water supply would be less than significant.

Table 2 – Estimated Proposed Water Consumption				FLEX OPTION	
Land Use	Units	Consumption Rate (gpd/unit) <sup>(a)</sup>	Total Water Consumption (gpd)	Units	Total Sewer Generation(gpd) Under Flex Option
<b>Existing</b>					
Warehouse	35,445 SF	36/KGSF	0*	35,445 SF	0*
<i>Subtotal Existing</i>			<b>0*</b>	-	<b>0*</b>
<b>Proposed</b>					
Apartment: 1 Bedroom	191 DU	185/DU <sup>2</sup>	35,335	173 DU	32,005
Apartment: 3 Bedroom	29 DU	265/DU <sup>2</sup>	7,685	27 DU	7,155
Commercial Use	46,548 SF	60/KGSF	2,793	64,313 SF	3,859
Open Space	22,725 SF	60/KGSF	1,364	22,725 SF	1,364
<i>Subtotal Proposed</i>			<b>47,177</b>		<b>44,383</b>
<i>Net Increase</i>			<b>47,177</b>		<b>44,383</b>
SF = square feet gpd = gallons per day DU = dwelling unit  <sup>1</sup> Average Daily Flow Based on 120% of Generation Rates per Bureau of Sanitation – Sewer Generation Factors for Residential and Commercial Categories. <sup>2</sup> Generation rates provided by the City of Los Angeles to account for Live/Wok  *As the existing warehouses on-site have been vacant prior to the start of this study, existing wastewater generation is assumed to be zero.					

### 6.3. CUMULATIVE IMPACTS

The geographic context for the cumulative impact analysis on water supply is the LADWP service area, which includes the entirety of the City. LADWP, as a public water service provider, is required to prepare and periodically update an Urban Water Management Plan to plan and provide for water supplies to serve existing and projected demands. The 2015 UWMP prepared by LADWP accounts for existing development within the City, as well as projected growth through the year 2040.

Additionally, under the provisions of Senate Bill 610, LADWP is required to prepare a comprehensive water supply assessment for every new development "project" (as defined by Section 10912 of the Water Code) within its service area that reaches certain thresholds. The types of projects that are subject to the requirements of Senate Bill 610 tend to be larger projects that may or may not have been included within the growth projections of the 2015 UWMP. The water supply assessment for projects would evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed.

Furthermore, through LADWP's 2015 UWMP process and the City's Securing L.A.'s Water Supply, the City will meet all new demand for water due to projected population growth to the year of 2040, through a combination of water conservation and water recycling. These plans outline the creation of sustainable sources of water for the City of Los Angeles to reduce dependence on imported supplies. LADWP is planning to achieve these goals by expanding its water conservation program. To increase recycled water use, LADWP is expanding the recycled water distribution system to provide water for irrigation, industrial use, and groundwater recharge.

There are 27 related projects, which consist of residential, schools, retail, restaurants, museums, hotels, offices, gyms, cinemas, and event space. The total increase in water demand for the related projects is approximately 1.67 million gallons per day (mgpd). Combined with the Project, the net increase in water demand is approximately 1.71 mgd. Refer to Exhibit 3 for a breakdown of the related projects and associated water consumption. The 2015 Urban Water Management plan has estimated a water demand of 475 mgd by the year 2025, which means the Project combined with the related projects would account for approximately 0.36 percent of the total daily demand. Based on the above, LADWP would be able to supply the water demands of the Project as well as future growth. Therefore, cumulative impacts on water supply would be less than significant.

Based on the above, it is anticipated that LADWP would be able to supply the water demands of the Project as well as future growth. Therefore, cumulative impacts on water supply would be less than significant.

## **7. LEVEL OF SIGNIFICANCE**

Based on the analysis contained in this report no significant impacts have been identified to water infrastructure for this Project.

**EXHIBIT 1**



# City of Los Angeles

## Los Angeles Department of Water and Power - Water System



SAR NUMBER 61906

**Fire Service Pressure Flow Report**SERVICE NUMBER **624326**

For: 1100 E 5TH ST Approved Date: **8-10-2017**

Proposed Service 6 INCH off of the

6 inch main in SEATON ST on the EAST side approximately

180 feet NORTH of NORTH of PALMETTO ST The System maximum pressure is

97 psi based on street curb elevation of 254 feet above sea level at this location.

The distance from the DWP street main to the property line is 40 feet

**System maximum pressure should be used only for determining class of piping and fittings.**

**Residual Flow/Pressure Table for water system street main at this location**

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	75				
325	74				
470	73				
585	72				
685	71				
775	70				
855	69				
930	68				
995	67				
1065	66				
1125	65				
1185	64				
1240	63				
1295	62				
1350	61				
1400	60				

### Meter Assembly Capacities

Domestic Meters	
1 inch =	56 gpm
1-1/2 inch =	96 gpm
2 inch =	160 gpm
3 inch =	220 gpm
4 inch =	400 gpm
6 inch =	700 gpm
8 inch =	1500 gpm
10 inch =	2500 gpm

Fire Service	
2 inch =	250 gpm
4 inch =	600 gpm
6 inch =	1400 gpm
8 inch =	2500 gpm
10 inch =	5000 gpm

FM Services	
8 inch =	2500 gpm
10 inch =	5000 gpm

These values are subject to change due to changes in system facilities or demands.

Notes: OK to sell combo (6-in FS W/6-in DS)

**This information will be sent to the Department of Building and Safety for plan checking.**

This SAR is valid for one year from 08-10-17. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **CENTRAL (213) 367-1216**

**AIDA FITTON**  
Prepared by

**AIDA FITTON**  
Approved by

**126-216**  
Water Service Map

**EXHIBIT 2**



# City of Los Angeles

## Los Angeles Department of Water and Power - Water System

### INFORMATION OF FIRE FLOW AVAILABILITY

LAFD Fire Flow Requirement 6,000 - 9,000 GPM (4-6 Hydrants)      Water Service Map No. 126-216  
 LAFD Signature: \_\_\_\_\_  
 Date Signed: \_\_\_\_\_

Applicant: Daniel Haefeli  
 Company Name: KPFF Consulting Engineers  
 Address: 700 South Flower Street, Suite 2100, Los Angeles, CA 90017  
 Telephone: 213-418-9179  
 Email Address: daniel.haefeli@kpff.com

	33538 9064	33558 9059	33550 9067
Location:	Northwest corner of Seaton St. and Palmetto St. Intersection	East side of Seaton St., 335 feet north of 5th St. and Seaton St. Intersection	West side of Colyton St., 240 feet south of 5th St. and Colyton St. Intersection
Distance from Nearest Pipe Location (feet):	45 feet	45 feet	45 feet
Hydrant Size:	4D	4D	2 1/2 x 4D
Water Main Size (in):	12 inch	8 inch	8 inch
Static Pressure (psi):	64	62	63
Residual Pressure (psi):	43	34	34
Flow at 20 psi (gpm):	1500	1500	1500

RECEIVED/RP

APR 22 2019

CYNTHIA TAYLOR

APR 23 2019

**NOTE: Data obtained from hydraulic analysis using peak hour.**

Remarks: Run all four (4) hydrants simultaneously (See sheet 2)      ECMR No. W 9019012301

Water Purveyor: Los Angeles Department of Water & Power      Date: 4/24/2019

Signature:       Title: Civil Engr Associate

**Requests must be made by submitting this completed application, along with a \$215.00 check payable to: "Los Angeles Department of Water and Power", and mailed to:**

Los Angeles Department of Water and Power  
 Distribution Engineering Section - Water  
 Attn: Business Arrangements  
 P.O. Box 51111 - Room 1425  
 Los Angeles, CA 90051-5700

\* If you have any questions, please contact us at (213) 367-2130 or visit our web site at <http://www.ladwp.com>.





# City of Los Angeles

## Los Angeles Department of Water and Power - Water System

### INFORMATION OF FIRE FLOW AVAILABILITY

LAFD Fire Flow Requirement: 6,000 - 9,000 GPM (4-6 Hydrants)      Water Service Map No. 126-216  
 LAFD Signature: \_\_\_\_\_  
 Date Signed: \_\_\_\_\_

Applicant: Daniel Haefeli  
 Company Name: KPFF Consulting Engineers  
 Address: 700 South Flower Street, Suite 2100, Los Angeles, CA 90017  
 Telephone: 213-418-9179  
 Email Address: daniel.haefeli@kpff.com

33554

	9063		
Location:	Northeast corner of Alameda St. and E 5th St. Intersection		
Distance from Nearest Pipe Location (feet):	55 feet		
Hydrant Size:	2 1/2 x 4D		
Water Main Size (in):	12 inch		
Static Pressure (psi):	63		
Residual Pressure (psi):	39		
Flow at 20 psi (gpm):	1500		

RECEIVED/RP  
APR 22 2019

CYNTHIA TAYLOR  
APR 23 2019

**NOTE: Data obtained from hydraulic analysis using peak hour.**

Remarks:  
Run all four (4) hydrants simultaneously (See sheet 1)

ECMR No. W20190423001

Water Purveyor: Los Angeles Department of Water & Power      Date: 4/24/2019

Signature:       Title: Civil Engr Associate

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9063  
(4)

9059  
(2)

9067  
(3)

9064  
(1)



# City of Los Angeles

## Los Angeles Department of Water and Power - Water System

### INFORMATION OF FIRE FLOW AVAILABILITY

LAFD Fire Flow Requirement 6,000 - 9,000 GPM (6 Hydrants)      Water Service Map No. 126-216  
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 Date Signed: \_\_\_\_\_

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	<u>33538</u> 9064	<u>33558</u> 9059	<u>33550</u> 9067
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Distance from Nearest Pipe Location (feet):	45 feet	45 feet	45 feet
Hydrant Size:	4D	4D	2 1/2 x 4D
Water Main Size (in):	12 inch	8 inch	8 inch
Static Pressure (psi):	<u>64</u>	<u>62</u>	<u>63</u>
Residual Pressure (psi):	<u>34</u>	<u>22</u>	<u>22</u>
Flow at 20 psi (gpm):	<u>1500</u>	<u>1491</u>	<u>1479</u>

RECEIVED/RP  
APR 01 2019

**NOTE: Data obtained from hydraulic analysis using peak hour.**

Remarks: ECMR No. \_\_\_\_\_  
Run all six (6) hydrants simultaneously (See sheet 1)

Water Purveyor: Los Angeles Department of Water & Power      Date: 4/2/2019

Signature:       Title: Civil Engr Associate

**Requests must be made by submitting this completed application, along with a \$215.00 check payable to:**  
 "Los Angeles Department of Water and Power", and mailed to:  
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checked



# City of Los Angeles

## Los Angeles Department of Water and Power - Water System

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 Telephone: 213-418-9179  
 Email Address: daniel.haefeli@kpff.com

	<u>33546</u> 9058	<u>33542</u> 16326	<u>33554</u> 9063
Location:	Southeast corner of 5th St. and Seaton St. Intersection	East side of Seaton St., 260 feet south of 5th St. and Seaton St. Intersection	Northeast corner of Alameda St. and E 5th St. Intersection
Distance from Nearest Pipe Location (feet):	30 feet	40 feet	55 feet
Hydrant Size:	4D	4D	2 1/2 x 4D
Water Main Size (in):	6 inch	6 inch	12 inch
Static Pressure (psi):	<u>62</u>	<u>63</u>	<u>63</u>
Residual Pressure (psi):	<u>25</u>	<u>25</u>	<u>29</u>
Flow at 20 psi (gpm):	<u>1296</u>	<u>1060</u>	<u>1500</u>

RECEIVED/RP  
APR 01 2019

**NOTE: Data obtained from hydraulic analysis using peak hour.**

Remarks: Run all six (6) hydrants simultaneously (See sheet 2)      **ECMR No.** \_\_\_\_\_

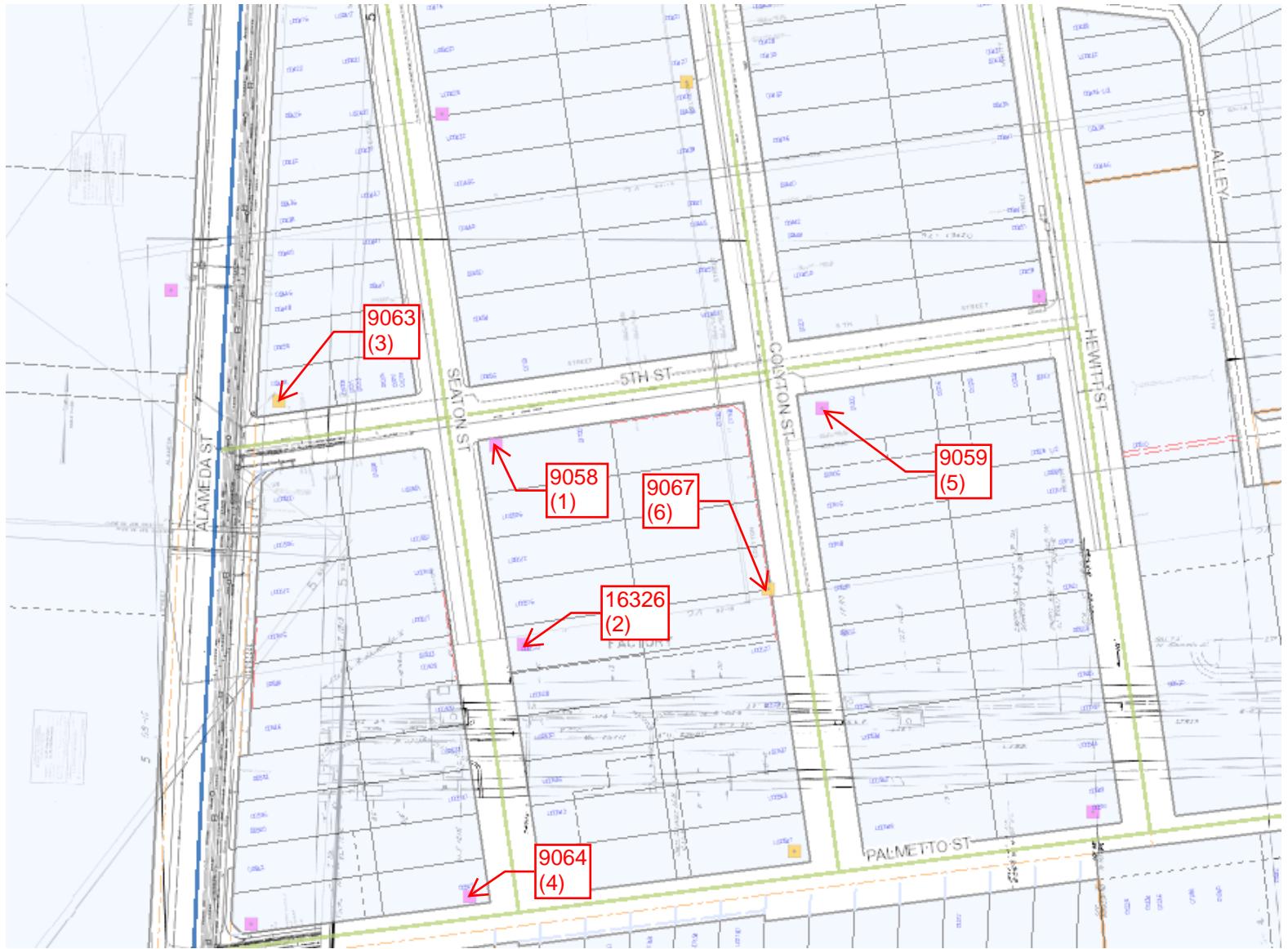
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 P.O. Box 51111 - Room 1425  
 Los Angeles, CA 90051-5700

\* If you have any questions, please contact us at (213) 367-2130 or visit our web site at <http://www.ladwp.com>.

completed



9063  
(3)

9058  
(1)

9067  
(6)

9059  
(5)

16326  
(2)

9064  
(4)

ALAMEDA ST

5TH ST

PALMETTO ST

SEATON ST

COLTON ST

HEWITT ST

ALLEY

**EXHIBIT 3**

Related Projects Water Consumption			
Land Use	Units	Consumption Rate <sup>2</sup> (gpd/unit)	Total Consumption (gpd)
Residential	6,725 DU <sup>1</sup>	180/DU	1,210,500
School	300 Students	14/Student	4,200
Retail	409,175 SF	30/1000 SF	12,275
Restaurant	5,656 Seats <sup>3</sup>	36/Seat	203,616
Museum	42,770 SF	36/1000 SF	1,540
Hotel	693 Rooms	144/Room	99,792
Office	715,548 SF	144/1000 SF	103,039
Warehouse	316,632 SF	36/1000 SF	11,399
Gym	6,378 SF	780/1000 SF	4,975
Cinema	49 Seat	4/Seat	196
Bar	13,831 SF	864/1000SF	11,950
Event Space	8,157 SF	420/1000 SF	3,426
<b>TOTAL</b>			<b>1,666,908</b>
SF = square feet gpd = gallons per day DU = dwelling unit <sup>1</sup> Assumes all units as 2-bedroom units. <sup>2</sup> Consumption Rates Based on 120% of Bureau of Sanitation Sewer Generation Factors for Residential and Commercial Categories. <sup>3</sup> Assumes 30 square feet per seat.			