H. Utilities, Water Supply

Utility Report-Plaza at the Glen Project, Development Resources Consultants

MWD and LADWP Plans and Programs to Secure Future Water Supplies

UTILITY REPORT

FOR

THE PLAZA AT THE GLEN

LOCATED AT

NEC VICTORY BOULEVARD & ETHEL AVENUE

NORTH HOLLYWOOD, CALIFORNIA

Prepared for

DASHER LAWLESS, INC.
6023 Hazeltine Ave.
Los Angeles, CA 91401
(818) 989-1282
Michael O'Bryan

Prepared By:

DEVELOPMENT RESOURCE CONSULTANTS, INC.
160 N. Riverview Drive, Suite 100
Anaheim, CA 92808
(714) 685-6860
Brandon Willnecker P.E., Principal

Project No. 08-720

September 24, 2008

TABLE OF CONTENTS

SECTION 1

Narrative

Introduction
Project Description
Existing Improvements
Project Contacts
Proposed Improvements
Related Projects

Introduction

This Utility Report has been prepared for The Plaza project, located on the northeast corner of Victory Boulevard and Ethel Avenue, in the city of North Hollywood, County of Los Angeles, State of California. The report reflects Development Resource Consultants, Inc. (DRC's) findings and recommendations as a result of site visit investigations, agency research for existing improvement plans, and conversations with applicable agency staff. Information provided will include the existing land use, physical site features, topographic characteristics, wet and dry utility service availability, and anticipated improvements. Due to the preliminary nature of this report, the information presented and recommended herein is for informational and planning purposes only. Actual conditions and requirements may vary during the project planning and final engineering process.

In addition to the proposed project, this report will analyze possible future developments adjacent to the project identified as the Additional Area and EIR identified Related Projects. The Add Area constitutes a possible redevelopment project located east of The Plaza. See Section 2 for exhibits outlining the possible Add Area project. The Additional Area will be analyzed as a separate development for impacts to the existing utility infrastructure as well as the cumulative impacts of The Plaza and the Additional Area. The Related Projects are a collection of many projects, approximately 91 projects, in various stages of development located within the general project area. These projects have been identified to be Related Projects in the traffic study prepared for The Plaza. An exhibit from the traffic study and list of these Related Projects are included in Section 2. The Related Projects will be analyzed to estimate potential impacts to the existing utility infrastructure and to identify if these impacts will be cumulative with the utility impacts caused by The Plaza development.

Project Description

Existing Site Conditions

The existing site is bounded by Victory Boulevard to the South, the Tujunga Wash Channel to the West, residential tracts to the North, and a church to the East. The project site is located in Flood Zone "C" as shown on the Flood Insurance Rate Map 060137 0039C, dated 12/02/1980. The site slopes southwesterly (approximately 9 feet of vertical difference across the site) to two main catch basins which discharge into the Tujunga Wash Channel through two 12" storm drain laterals on the southwest side of the site.

The Add Area is located on approximately 9.25 acres of land east of the proposed project. The Add Area is currently developed with a church, schools, storage facility, and retail. The existing developments currently surface drain towards Coldwater Canyon and ultimately flows west into a public catch basin in Victory Blvd, which discharges directly into the Tujunga Wash.

Proposed Site Conditions

The future development will be a mixed use center that includes restaurants, residential condominiums, office space, retail, hotel and an entertainment component known as The Plaza. Future development will also include the construction of paved and landscaped areas, and underground wet and dry utilities. Future development will comply with City of Los Angeles standards and specifications for construction, engineering design criteria, zoning, and drainage design criteria.

For the purpose of this report, the Add Area will be analyzed as mixed use, multi level buildings including residential, commercial offices, and retail. The existing church and parish school will be assumed to remain. Section 2 contains an exhibit illustrating the Add Area as well as a breakdown of hypothetical uses used to quantify the proposed impacts of this area. Three alternative site plans are also proposed within this report. These site plan exhibits can be found in Section 2.

The Related Projects, as identified in the EIR report, represent other projects in development with the City of Los Angeles that have been determined to have cumulative impacts with The Plaza on the existing infrastructure. These projects are comprised of residential, retail, and office developments of varying sizes. A map illustrating these Related Projects and a list of the proposed type of development, are included in Section 2.

Existing Improvements

Storm Drain

The existing site utilizes the Tujunga Wash Channel for drainage. There are no storm drain facilities in Victory Boulevard. The site is primarily characterized by sheet flow and gutters which convey the runoff into two separate catch basins along the westerly boundary of the site. Runoff is then discharged into the Tujunga Wash Channel through 12" storm drain laterals. Hydraulic data and design criteria for the Tujunga Wash were obtained from the County of Los Angeles. The channel is owned, operated, and maintained by the Los Angeles County Flood Control District.

The existing Add Area is designed to sheet flow in a south-east direction, off-site and into the public right-of-way in Coldwater Canyon and Victory Blvd. The public streets convey the runoff west, into the Tujunga Wash via a 15' wide catch basin located on Victory Blvd adjacent to the bridge.

Sewer

There is an existing 8" sewer main located in Victory Boulevard running east and west approximately 20 feet south of the center. The 8" sewer in Victory Boulevard has an average depth of 15 feet below existing grade and flows westerly per drawing D-10397. A dedicated public 8" sewer main extends northerly from Victory Boulevard into the project site per drawing D-25744. The existing sewage generated by the site has been estimated using two separate methodologies. The first methodology is based upon the existing uses and Los Angeles CEQA generation rates. By this "use methodology", the existing center is estimated to produce 47,267 Gallons per Day (GPD) of sewage. The second method of calculation is based upon the existing site water bills and reducing the water demand by 28% to produce the existing sewage generation. The "billing methodology" produces an existing sewage generation of 46,094 GPD. Tables illustrating building square footages, use, and sewage generation rates for all sewer generation shown in this report are located in Section 5.

In the existing condition, the sewage generated in the Add Area flows into 10" public sewer mains located in Morse Ave, Hamlin St, and Coldwater Canyon Ave, and an 8" public main located in Victory Blvd. The combined flow continues to flow south in Coldwater Canyon Ave and ultimately heads east as a part of the City of LA public sewer network. The existing Add Area is estimated to produce 16,993 GPD.

Water

There is an existing 16" LADWP water main in Victory Boulevard 26 feet south of the center line (per Water Service Map 180-159 and 180-162). An existing on-site 10" private fire main services the existing commercial center. Based upon the "use methodology", the existing center is estimated to consume 60,502 GPD. Using the "billing methodology", the estimated domestic water

demand of the existing center is 59,000 Gallons per Day (GPD). Water use rates are based upon the 2007 average monthly billing for the existing center.

Service for the Add Area is provided from public water mains located adjacent to the project area. LADWP records show 6" service lines in Morse Ave and Hamlin St, an 8" service main in Coldwater Canyon Ave, and a 16" main in Victory Blvd. In addition to these service mains, a 66" trunk main is located in Coldwater Canyon Ave. The existing Add Area is estimated to produce 21,751 GPD.

Gas

The gas service provider for the project is The Southern California Gas Company. An existing 4" steel medium pressure gas line is running east and west along Victory Boulevard, approximately 24' north of the center line. The estimated gas consumption of the existing center is 14,626 Cubic Feet of Natural Gas per Day (CFD), or 609 Cubic Feet of Natural Gas per Hour (CFH). Gas estimates are based upon existing use, building square footages, and the South Coast Air Quality Management District, 1993 CEQA Air Quality Handbook standard generation rates. Tables illustrating building square footages, use, and gas generation rates for all gas generation shown in this report are located in Section 5.

The Add Area is serviced off of Southern California Gas Company gas lines located in Morse Ave, Hamlin St, Coldwater Canyon Ave, and Victory Blvd. The gas demand for the existing developments in the Add Area is estimated to be 10,048 CFD (419 CFH).

Telephone

The telephone provider for the project site is AT&T. There is a telephone conduit system running east and west along the property frontage on Victory Boulevard, approximately 3 feet behind existing curb and under the sidewalk.

In addition to the AT&T facilities located in Victory Blvd, AT&T facilities run north and south along Coldwater Canyon Ave along the Add Area frontage. These facilities are located on the west side of Coldwater Canyon Ave behind curb face, under sidewalk.

CATV

Cable television (CATV) services are provided by Time Warner Cable. Existing CATV lines run east and west via overhead lines on power poles along the Victory Boulevard frontage of the property.

The existing Time Warner Cable facilities branch off from the lines in Victory Blvd and run approximately 200' north on Coldwater Canyon Ave. These facilities run overhead along the existing poles located on the east side of Coldwater Canyon Ave.

Power

The electric service provider for the site is L.A. Department of Water and Power (LADWP). An existing overhead system runs east and west along the frontage of the property. The current on-site electric facilities are provided from this overhead system to an on-site riser pole, which feeds an underground distribution system servicing multiple buildings on-site. The existing demand for the existing shopping center is estimated to be 5,609 Kilowatt Hours per Day (KWHD). Electrical estimates are based upon existing use, building square footages, and the South Coast Air Quality Management District, 1993 CEQA Air Quality Handbook standard generation rates. Tables illustrating building square footages, use, and electrical generation rates for all electrical generation shown in this report are located in Section 5.

The Add Area is serviced from L.A. Department of Water and Power overhead lines located on Victory Blvd and Coldwater Canyon Ave. Additionally, an existing run of overhead lines and power poles enter the Add Area from Coldwater Canyon Ave through an existing alley. The estimated demand for the existing Add Area is 3,217 KWHD.

Project Contacts

City of Los Angeles

Watershed Protection Division
201 N. Figueroa Street – 3rd Floor
Los Angeles, CA 90012
Contact: Majid Sadeghi, PE
(213) 485-3982

Department of Public Works (Bureau of Engineering)
Valley District - Waste Water Section
6262 Van Nuys Boulevard – Suite 351 (Braude Building)
Los Angeles, CA 91401
Contact: Michael Patonai, Senior Civil Engineer
(818) 374-4606

Department of Public Works (Bureau of Engineering)
Valley District – Private Development Division
6262 Van Nuys Boulevard – Suite 351 (Braude Building)
Los Angeles, CA 91401
Contact: Ali Nahass, Supervisor
(818) 374-4626

Department of Water and Power
East Valley District – Water Distribution Engineering
111 North Hope Street
Los Angeles, CA 90012-2607
Contact: Luis Nuno, PE
(213) 367-4211

County of Los Angeles

Department of Public Works
Hydraulic Analysis Unit – Design Division
900 South Fremont Avenue – 6th Floor
Alhambra, CA 91803-1331
Contact: George Aintablian
(626) 458-7959

Southern California Gas Company

16645 Saticoy Street
Van Nuys, CA 91406
Contact: Howard Rodner
(818) 701-2534

AT&T
16201 Raymer Street
Van Nuys, CA 91406
Contact: Asbury Ellis
(818) 373-5939

Time Warner Cable
9410 Jordan Avenue
Chatsworth, CA 91311
Contact: Hale Coughlin
(818) 407-3152

Los Angeles Department of Power and Water (LADWP) - Power
7501 Tyrone Avenue
Van Nuys, CA 91405
Contact: Sirlord Morse
(818) 771-4086

Proposed Improvements

Storm Drain

Development of the project property is subject to the rules and regulations of the governing agencies. Hydrology and water quality treatment will comply with City of L.A. and County of L.A. standards. Post developed runoff rates are not to exceed pre-developed runoff rates for equivalent storm events. The discharge points for the entire project property are located on the westerly boundary of the site. The proposed storm drain system will tie into the existing 12" laterals which discharge into the Tujunga Wash Channel. Design and sizing for the entire storm drain system will occur at the site specific engineering phase of the development and is not estimated in this report. A Preliminary Hydrology and SUSMP report have been prepared for The Plaza and is included in the EIR.

The Add Area will be required to conform to City of L.A. and County of L.A. standards for water treatment and discharge. The anticipated drainage design of the Add Area will utilize the existing flow pattern of discharging into the public right-of-way along the property frontage. The future design of the Add Area will need to be coordinated with the necessary agencies at time of final design. Construction impacts of the Add Area would be considered as accumulative with The Plaza. However, each project is responsible for mitigating impacts to downstream areas and any impacts to the existing infrastructure would be negligible.

Sewer

An 8" sewer main with lift stations is proposed for the site. Connection will occur to the existing 8" VCP sewer line in Victory Boulevard. The City of L.A. Bureau of Sanitation has provided sewer capacity findings and recommendations and is included as part of the Sewer Will Serve Letter located in Section 4. The anticipated demand for The Plaza development is 431,650 GPD, a 384,383 GPD increase over existing levels. The Bureau of Sanitation has determined that the existing sewer infrastructure can convey 454,980 GPD. Upon finalization of building plans and fixture counts, the Bureau of Sanitation will need to recalculate sewer capacity of the existing infrastructure.

The anticipated Add Area design is to discharge into existing service laterals located in Morse Ave, Hamlin St, Coldwater Canyon Ave, and Victory Blvd. The expected discharge rate of the Add Area is 75,060 GPD, an approximate increase of 58,067 GPD over existing discharge rates. The impacts

to the public infrastructure immediately adjacent to the site are considered to not be accumulative with The Plaza as the public sewer system serving The Plaza drains southwest and the sewers serving the Add Area flow southeast. Impacts due to the Add Area on the existing local infrastructure and the public system as a whole will need to be analyzed with The City of L.A. Bureau of Sanitation during design of the Add Area.

The anticipated demand for Alternate 1 is 143,333 GPD, a 96,066 GPD increase over existing levels. The anticipated demand for Alternate 2 is 244,925 GPD, a 197,658 GPD increase over existing levels. The anticipated demand for Alternate 3 is 174,500 GPD, a 127,233 GPD increase over existing levels.

Water

The project site will propose an on-site water main which will connect to the existing 16" water line in Victory Boulevard. LADWP has issued a Will Serve letter. The impacts of The Plaza on the existing public water infrastructure will be addressed in the Water Supply Assessment Report (WSA) included in the EIR. The estimated domestic water demand of The Plaza is 549,512 GPD, an approximate increase of 489,010 GPD over existing domestic demand. In addition to the domestic demand, The Plaza will deliver on-site fire hydrant flow in accordance with fire department requirements. The Los Angeles Fire Department has issued a minimum fire hydrant demand/flow of 4,000 GPM. A detailed analysis of preliminary on-site fire hydrant flow is included in the Fire Flow Analysis located within the EIR. The existing facilities are sufficiently sized to deliver the required on-site fire hydrant flows.

The anticipated design of the Add Area is to connect to the existing water mains located in Victory Blvd and Coldwater Canyon Ave. The estimated domestic demand of the Add Area is 92,437 GPD, an approximate increase of 70,686 GPD. The anticipated fire flow requirement for the Add Area is 4,000 GPM. The increased domestic demand of the Add Area is considered accumulative with the impacts of The Plaza with respect to the public water infrastructure. The impacts of the Add Area on the LADWP system will be analyzed with LADWP in the design phase of the project.

The anticipated demand for Alternate 1 is 170,466 GPD, a 109,964 GPD increase over existing levels. The anticipated demand for Alternate 2 is 313,504 GPD, a 253,002 GPD increase over existing levels. The anticipated demand for Alternate 3 is 220,360 GPD, a 159,858 GPD increase over existing levels.

Gas

The Southern California Gas Company has issued a Will Serve letter for this project. Existing on-site gas lines and meters will need to be abandoned and removed prior to site demolition. The proposed on-site facilities will be served off the 4" gas main in Victory Boulevard. The estimated gas consumption of The Plaza is 142,300 CFD (5,929 CFH), an approximate increase of 127,674 CFD (5,320 CFH). In initial review with The Southern California Gas Company, it is not anticipated that any upsize of existing facilities will be required. A final determination of capacity will be made by The Southern California Gas Company in final plan design.

The anticipated design of the Add Area will be to connect to the existing gas lines located in Victory Blvd and Coldwater Canyon Ave. The estimated gas consumption of the Add Area is 44,949 CFD (1,873 CFH), an approximate increase of 34,901 CFD (1,454 CFH). The increase demand due to the Add Area is considered accumulative with the impacts due to The Plaza. The impacts of the Add Area on the existing infrastructure and the gas system as a whole would be determined by The Southern California Gas Company at time of design.

The estimated gas consumption of Alternate 1 is 80,768 CFD (3,365 CFH), an approximate increase of 66,142 CFD (2,756 CFH). The estimated gas consumption of Alternate 2 is 60,831 CFD (2,535 CFH), an approximate increase of 46,205 CFD (1,925 CFH). The estimated gas consumption of Alternate 3 is 99,845 CFD (4,160 CFH), an approximate increase of 85,219 CFD (3,551 CFH).

Telephone

AT&T has issued a Will Serve letter for this project. All underground telephone facilities serving the project site will need to be removed prior to site demolition. All on-site telephone service to proposed buildings will be serviced from the existing underground telephone system located in the sidewalk on the north side of Victory Boulevard.

The anticipated design of the Add Area is to bring AT&T telephone service off of existing facilities located on Victory Blvd and Coldwater Canyon Ave. Design of the Add Area services will be coordinated with AT&T during the design of the project. The affects of the Add Area on the existing infrastructure will be accumulative with the impacts of The Plaza.

CATV

Time Warner Cable has issued a Will Serve letter for this project. Any existing on-site CATV facilities will need to be removed prior to site demolition. Proposed street improvement and conditions of approval may require the existing overhead CATV lines to be removed from the poles and converted to an underground conduit system in sidewalk along frontage of the property. On-site CATV service will be provided from the Time Warner Cable system in Victory Boulevard.

The anticipated design of the Add Area is to bring Time Warner CATV service off of existing facilities located on Victory Blvd and Coldwater Canyon Ave. Design of the Add Area services will be coordinated with AT&T during the design of the project. The affects of the Add Area on the existing infrastructure will be accumulative with the impacts of The Plaza.

Power

LADWP has issued a Will Serve letter for this project. LADWP will require a removal work order for all existing on-site electric facilities, including but not limited to meters, transformer, vault and poles. Proposed street improvements and conditions of approval may require the conversion of the overhead lines on Victory Boulevard to an underground conduit system, which would include vaults and/or transformer in sidewalk or landscape area along the frontage of the property. This conversion would also require removal of three power poles. The overhead electric line providing service to the south side of Victory Boulevard will require either boring or cutting and trenching Victory Boulevard to a riser on the service pole. On-site electric service will be provided from the LADWP mainline system in Victory Boulevard, whether from the existing overhead or converted underground LADWP facilities. The estimated electrical demand for The Plaza is 48,541 KWHD, an approximate increase of 42,932 KWHD. The impacts of The Plaza on the capacity of the existing facilities adjacent to the project and the capacity of the power grid will be analyzed by LADWP. LADWP does not anticipate any upsizing of existing facilities will be necessary based upon preliminary review.

The anticipated design of the Add Area is to provide power service from existing overhead electrical lines located on Victory Blvd and Coldwater Canyon Ave. The anticipated electrical demand for the Add Area is 11,994 KWHD, an increase of approximately 8,777 KWHD. The impacts of the Add Area on the existing infrastructure are considered accumulative with the impacts of The Plaza. LADWP will need to be consulted during the design of the Add Area to determine if the existing infrastructure has the necessary capacity to service the project.

The anticipated electrical demand for the Alternate 1 is 9,800 KWHD, an increase of approximately 4,191 KWHD. The anticipated electrical demand for the Alternate 2 is 24,466 KWHD, an increase of approximately 18,857 KWHD. The anticipated electrical demand for the Alternate 3 is 29,986 KWHD, an increase of approximately 24,377 KWHD.

Related Projects

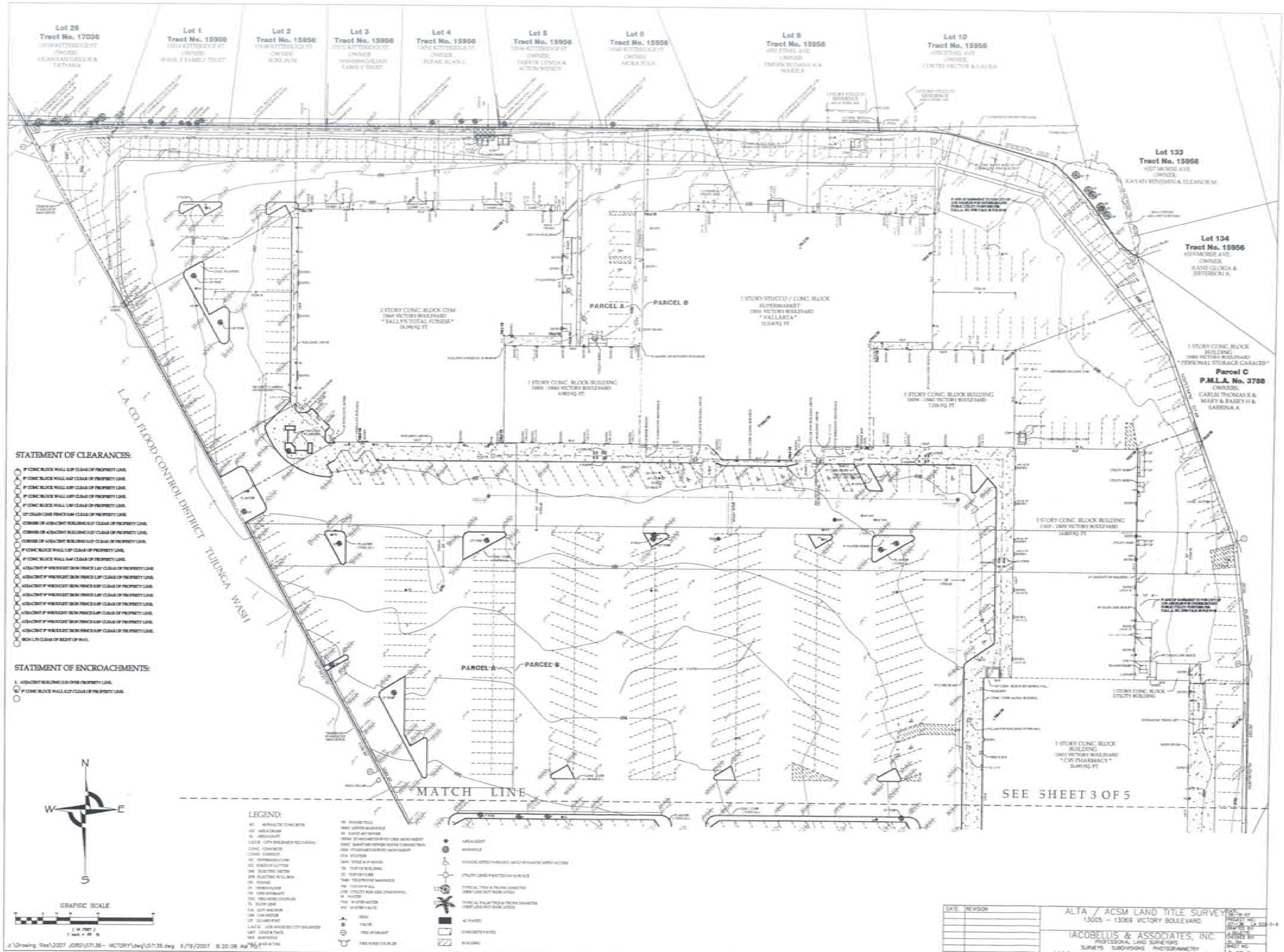
The impacts on the existing utilities due to the development of the Related Projects will be cumulative to The Plaza development in two ways. The first impact that will be addressed is the capacity of the distribution system servicing The Plaza. This includes the distribution mains located in the public right-of-way that conveys the utility service to each project. The increased demands of each of these projects on the distribution system are tabularized in Section 5. For the purpose of this report, these projects are assumed to be developments of undeveloped land. Therefore, any demand generated by these projects will be categorized as an increase in demand for the system. Each utility's governing agency will make the determination whether the Related Projects will necessitate increasing the capacity of the distribution system.

The second impact the Related Projects will have on the utility infrastructure is an increase in demand in the entire system. The governing utility agency will need to analyze the entire utility infrastructure for the region in order to properly determine the impacts of all development upon the system. This will include the utility provider examining each development for conformance with the general/master plan for the area. It is the responsibility of each governing utility agency to determine the impacts of development on their service network and provide service as regulations require.

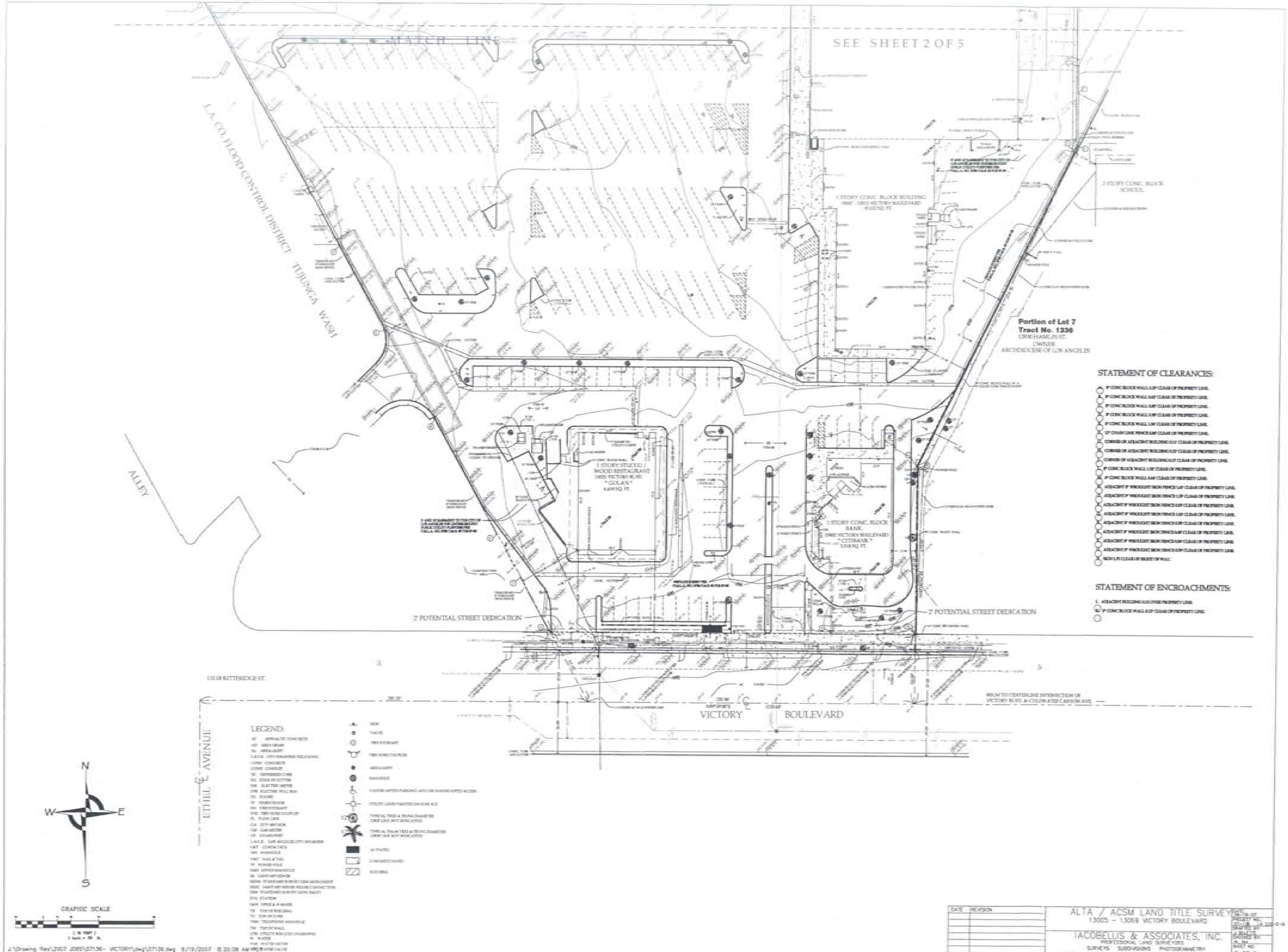
SECTION 2

Site Plans

Existing Site ALTA
Proposed Site Plan
Additional Area (Possible Future) Exhibit
Related Project Map and List
Proposed Site Plan Alternate 1 for The Plaza
Proposed Site Plan Alternate 2 for The Plaza
Proposed Site Plan Alternate 3 for The Plaza



Lot 26
Tract No. 17036
Lot 1
Tract No. 15956
Lot 2
Tract No. 15956
Lot 3
Tract No. 15956
Lot 4
Tract No. 15956
Lot 5
Tract No. 15956
Lot 6
Tract No. 15956
Lot 9
Tract No. 15956
Lot 10
Tract No. 15956
Lot 133
Tract No. 15956
Lot 134
Tract No. 15956
Parcel C
P.M.L.A. No. 3788
PARCEL A
PARCEL B
L.A. CO. FLOOD CONTROL DISTRICT TUJUNGA WASH
STATEMENT OF CLEARANCES:
STATEMENT OF ENCROACHMENTS:
MATCH LINE
SEE SHEET 3 OF 5
LEGEND:
GRAPHIC SCALE
N
S
W
E
ALTA / ACSM LAND TITLE SURVEY
13005 - 13069 VICTORY BOULEVARD
IACOBELLIS & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS
SURVEYS SUBDIVISIONS PHOTOGRAMMETRY
DATE
REVISION



MATCH LINE
SEE SHEET 2 OF 5
L.A. CO. FLOOD CONTROL DISTRICT
TUJUNGA WASH
ALLEY
1 STORY CONC. BLOCK BUILDING
2 STORY CONC. BLOCK SCHOOL
Portion of Lot 7
Tract No. 1336
12950 HAMLIN ST.
OWNER
ARCHDIOCESE OF LOS ANGELES
2 STORY STUCCO / WOOD RESTAURANT
"GOLAN"
1 STORY CONC. BLOCK BANK
"CITIBANK"
2' POTENTIAL STREET DEDICATION
2' POTENTIAL STREET DEDICATION
STATEMENT OF CLEARANCES:
STATEMENT OF ENCROACHMENTS:
VICTORY BOULEVARD
ETHEL AVENUE
LEGEND:
N
E
S
W
GRAPHIC SCALE
ALTA / ACSM LAND TITLE SURVEY
13005 - 13069 VICTORY BOULEVARD
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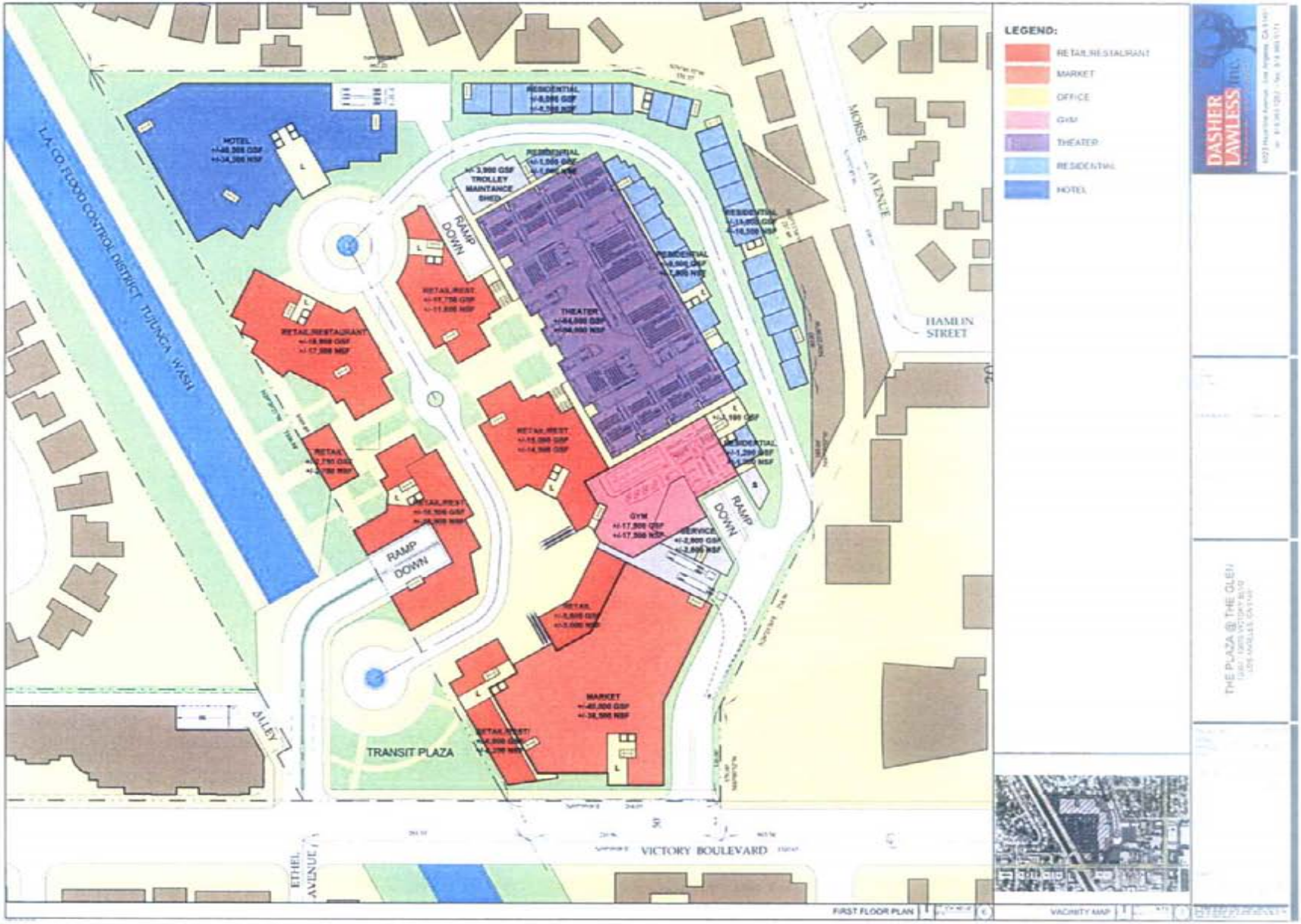
THE PLAZA

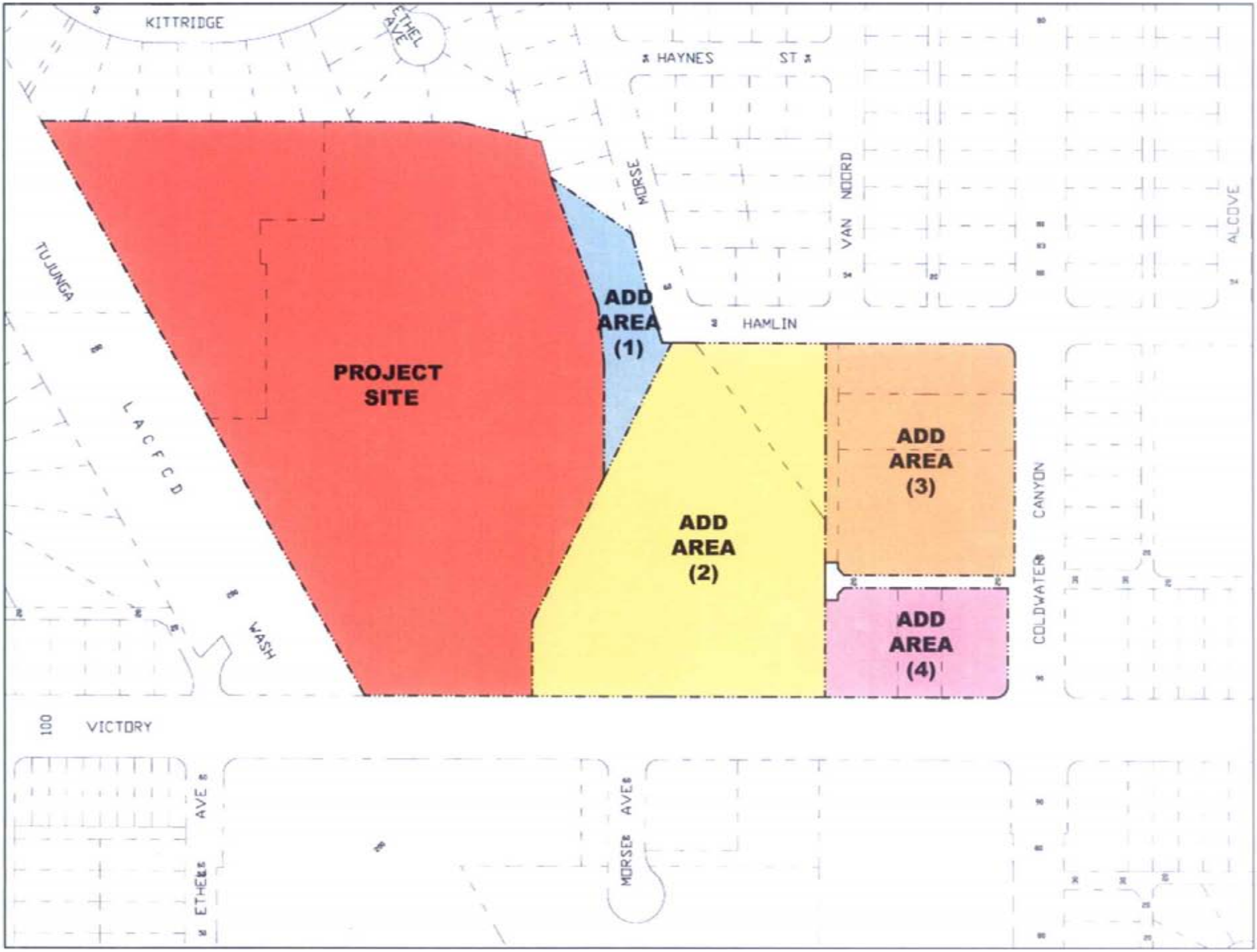


DESIGN GROUP INC

RSA at Valley Glen

DASHER LAWLESS Inc.

ADDITIONAL AREA EXHIBIT



E.I.R. PROJECT AREA

E.I.R. PROJECT AREA	
November 6, 2007	
Project Site:	
Address:	13007-13075 Victory Blvd.
Site Area:	12.2 (net) acres +/- 533,174 nsf
(E) Use:	152,000sf - Commercial Shopping Center
General Plan:	Neighborhood Office Commercial
Proposed General Plan:	Community Commercial
Zoning:	[Q]C2-1vl
Proposed Zoning:	[Q]C2-2
Proposed Use:	Mixed Use: 1.3 million sf
	Retail, Office, Movie Theater, Gym, Market, Condominiums, and Hotel
Add Area (1):	
Address:	13005 Victory Blvd.
Site Area:	0.72 (net) acres +/- 31,607 nsf
(E) Use:	(Self Storage) Personal Storage Garages 18,414sf
General Plan:	Neighborhood Office Commercial
Proposed General Plan:	Community Commercial
Zoning:	[Q]C2-1vl
Proposed Zoning:	[Q]C2-1vl - Density Restricted to 1 unit per 800 sf site area
Hypothetical Use:	Multi Family: 39 Units +/-54,000gsf - 4 stories
Add Area (2):	
Address:	13001 Victory Blvd. 12930 Hamlin St.
Site Area:	4.88 (net) acres +/- 212,581 nsf
(E) Use:	(House of Worship) St. Jane Frances de Chantal Catholic Church 18,356sf
(E) Use:	(Private School) St. Jane Frances de Chantal Parish School (K-6) 20,255sf
General Plan:	Neighborhood Office Commercial
Proposed General Plan:	Community Commercial
Zoning:	[Q]C1-1vl, R1-1, R3-1
Proposed Zoning:	[Q]C2-1L
Note:	This church and school have been established for 60 yrs. There is no anticpated change of use.
Add Area (3):	
Address:	6455 Coldwater Canyon
Site Area:	2.52 (net) acres +/- 110,111 nsf
(E) Use:	(Private School) Summit View School (K-12) 43,026sf
General Plan:	Neighborhood Office Commercial
Proposed General Plan:	Community Commercial
Zoning:	[Q]C1-1vl, [Q]P-1vl
Proposed Zoning:	[Q]C2-1L
Reasonable Use:	Mixed Use: 5 stories
	Retail: 21,000 gf
	Office: 112,000 gsf

Add Area (4):	
Address:	12901-12929 Victory Blvd.
Site Area:	1.13 (net) acres +/- 49,320 nsf
(E) Use:	(Commercial Shopping Center / Fast Food) - Mc Donalds 4,792 - Misc Retailers 5,766
General Plan:	Neighborhood Office Commercial
Proposed General Plan:	Community Commercial
Zoning:	[Q]C1-1vl
Proposed Zoning:	[Q]C2-1L
Reasonable Use:	Mixed Use: 5 stories
	Retail: 36,000 gf
	Office: 56,000 gsf
	Residential: 168,000 gsf - 143 Units

RELATED PROJECT MAP AND LIST

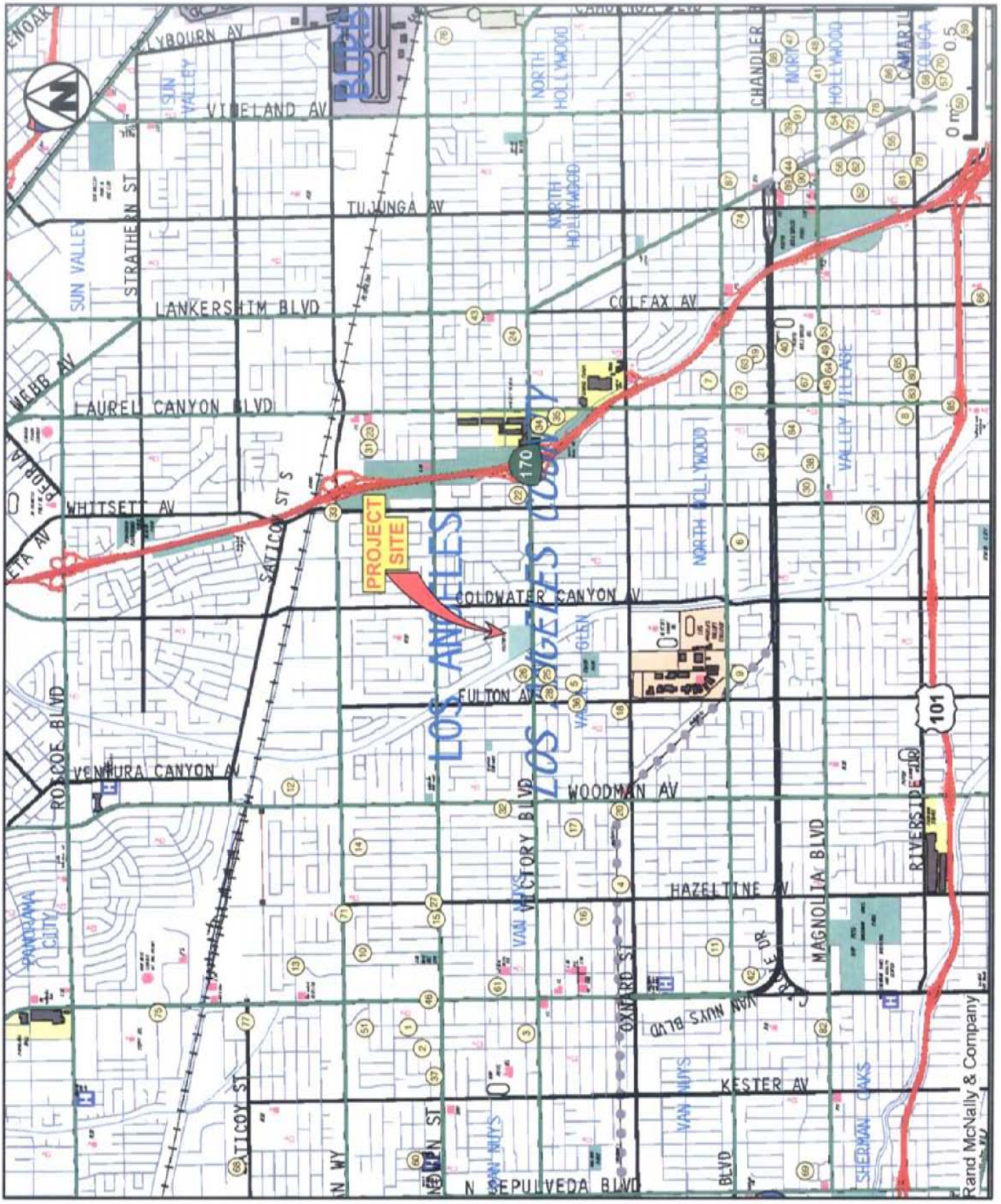


FIGURE 10

4/08

RELATED PROJECT LOCATIONS

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

Table 9
Related Projects Descriptions

No.	Location	Project
1	6906 N Vesper Ave	24 Condos
2	14803 W Vanowen St	16 Condos
3	14612 W Gilmore St	16 Condos
4	5632 N Hazeltine Ave	26 Condos
5	6250 N Fulton Ave	16 Condos
6	12626 W Burbank Blvd	24 Condo Conv
7	11941 W Burbank Blvd	19 Condos
8	5229 N Laurel Canyon Blvd	40 Student addition
9	13130 W Burbank Blvd	12 Apts destroyed; 10 Classrooms
10	7137N Tyrone Ave	225 Charter School 6-8 Grade
11	14343 W Burbank Blvd	15 Condos
12	7346 N Woodman Ave	61 Condos
13	14322 W Valerio St	44 Condos
14	13850 Sherman Way	18 Condos
15	14117 W Vanowen ST	118 Condos
16	14121 W Erwin St	4 Condos
17	6244 N Matilija Ave	3 Single Family Dwellings
18	6047 N Fulton Ave	50 Students
19	5401 N MORELLA Ave	10 Condos
20	13719 W Oxnard St	37 Condos
21	5430 N Bellingham Ave	21 Condos
22	12425 W Victory Blvd	54 Condos
23	12132 W Hart St	18 Condos
24	11828 W HAMLIN St	5 Condos
25	13148 Victory Blvd	9 Condos
26	Victory Blvd Mix Use 13115 W Victory Blvd	90,000 sf office 20,000 sf retail 10,000 restaurant 110 Apartments
27	6853 N Hazeltine Ave	18 Condos
28	13224 W Victory Blvd	6 Condos
29	4915 N Whitsett	20 Apartments
30	5254 N Wilkinson	6 Apartment
31	12200 W Hart St	3 Single Family Dwellings
32	6909 N Woodman	10 Condos
33	7214 Whitsett Av	upgrade gas station
34	Valley Plaza Shop Center	775,000 sf Retail
35	Laurel Plaza	742 Condos
36	6250 N Fulton Ave	20 Condos
37	14803 W Vanowen St	16 Condos

Table 9 continued
Related Projects Descriptions

No.	Location	Project
38	5258 N Corteen Pl	10 Condos
39	11025 W Weddington St	940 Condos
40	11860 W Chandler Blvd	31 Condos
41	10812 W Magnolia Blvd	31 Condos
42	14412 W Killion St	45 Condos
43	11709 W Kittridge St	140 Condos 16,000 sf Retail
44	11135 W Weddington St	292 Condos
45	12014 W Magnolia Blvd	12 Condos
46	6818 N Van Nuys Blvd	96 Condos
47	5325 N Cartwright Ave	15 Condos
48	5226 N Cartwright Ave	15 Condos
49	11936 W Magnolia Blvd	44 Condos
50	10850 W Riverside Dr	56 Condos 11,325 sf Retail
51	14604 W Gault St	16 Condos
52	5053 N Bakman Ave	31 Condos
53	11945 W Magnolia Blvd	36 Apartments 97 Condos
54	11016 W Hartsook St	60 Condos
55	11146 W Huston Ave	14 Condos
56	5051 N Fair Ave	24 Condos
57	10826 W Kling St	12 Condos
58	10800 W Blix St	9 Condos
59	10601 W Riverside Dr	13,327 sf Retail 82 Condos
60	6940 N Sepulveda Blvd	98 Apartments
61	14422 W Haynes St	25 Apartments
62	5031 N Fair Ave	308 Apartments
63	11947 W Albers St	121 Condos
64	11935 W Magnolia Blvd	78 Condos
65	11925 W Kling St	36 Condos
66	4545 N Colfax Ave	12 Condos
67	5253 N Ben Ave	17 Condos
68	15159 W Saticoy St	164 Condos
69	5300 Sepulveda Blvd	26 Condos
70	10740 W Kling St	13 Condos
71	13850 Sherman Way	18 Condos

Table 9 continued
Related Projects Descriptions

No.	Location	Project
72	11003 W Otsego St	48 Condos
73	12005 W Albers St	123 Condos
74	11433 W Albers St	38 Condos
75	7847 N Sepulveda Blvd	50 Condos
76	6736 N Clybourn Ave	104 Condos
77	14649 W Saticoy St	30 Student Day Care
78	4904 N Vineland	58 Condos
79	11212 Camarillo St	28 Condos
80	11957 W Riverside Dr	18 Condos
81	11274 W La Maida St	12 Condos
82	14637 W Magnolia Blvd	18 Condos
83	11935 W Riverside Dr	18 Condos
84	5305 N Bellingham Ave	12 Condos
85	5056 N Laurel Canyon Blvd	12 Condos
86	10858 W Peach Grove St	10 Condos
87	11342 W Burbank Blvd	64 Room Hotel
88	5357 N Denny Ave	24 Condos
89	NoHo Art Wave	1,000,000 sf office
		157,000 Retail
		200 apartments
90	NoHo Commons	1,100 seats Theater
		100,000 office
		150 apartments
91	NoHo Artwalk	915 Condos
		32,500 retail

To evaluate future traffic conditions with the related projects, estimates of the peak hour trips generated by the projects have been calculated by applying ITE traffic generating rates. The potential traffic increases from the growth and related projects are shown in Appendix E with figures 11 and 12 illustrating the future without project traffic volume in the study area for the morning and afternoon, respectively.

ALTERNATE 1

SUMMARY:
RESIDENTIAL APTS., 20% AFFORDABLE
650 UNITS: 792,000 SF

RETAIL/RESTAURANT:
EXISTING PAD BUILDING TO REMAIN:
8,000 SF

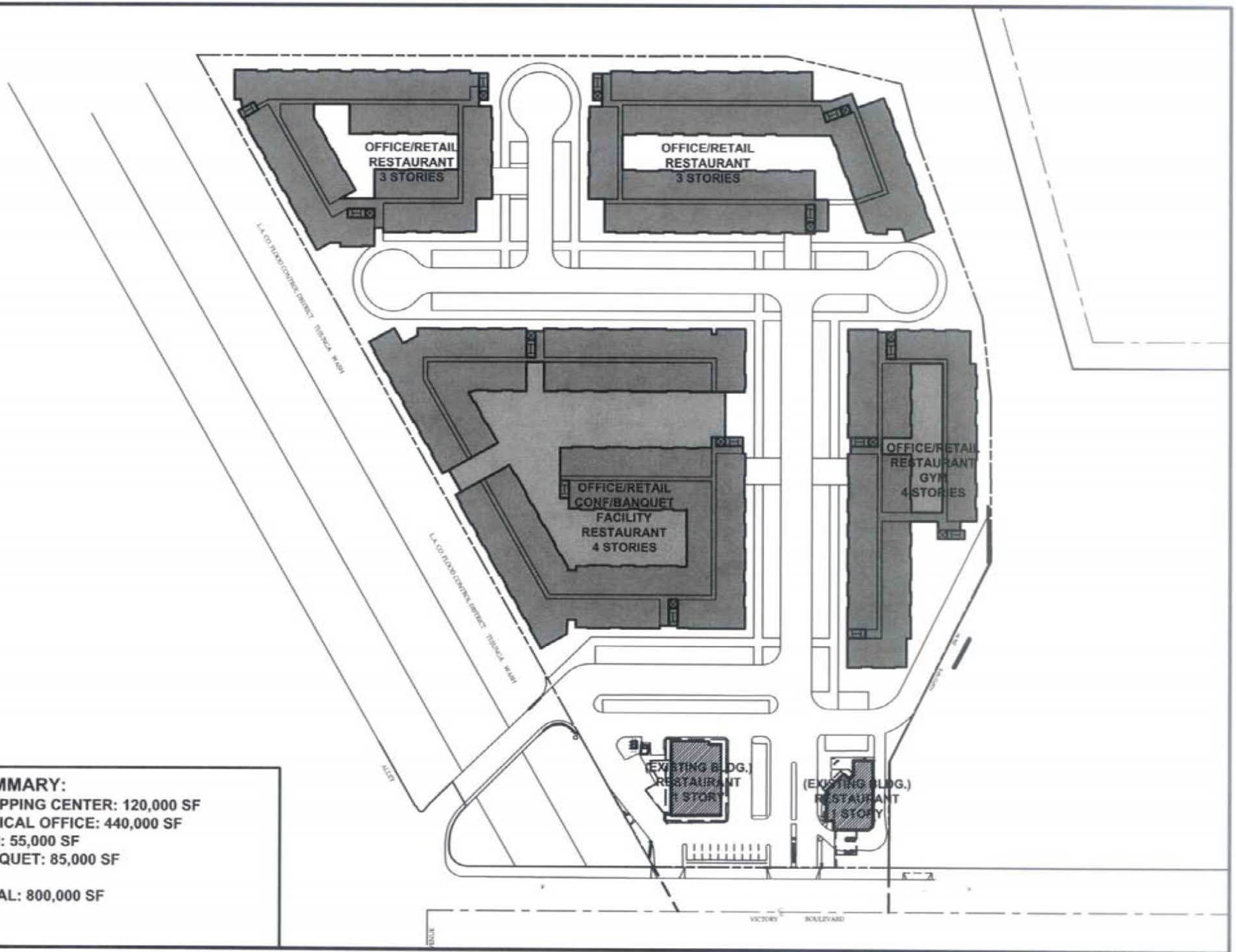
TOTAL: 800,000 SF

ALTERNATE STUDY - 1

N.T.S.

1

ALTERNATE 2



SUMMARY:
SHOPPING CENTER: 120,000 SF
MEDICAL OFFICE: 440,000 SF
GYM: 55,000 SF
BANQUET: 85,000 SF

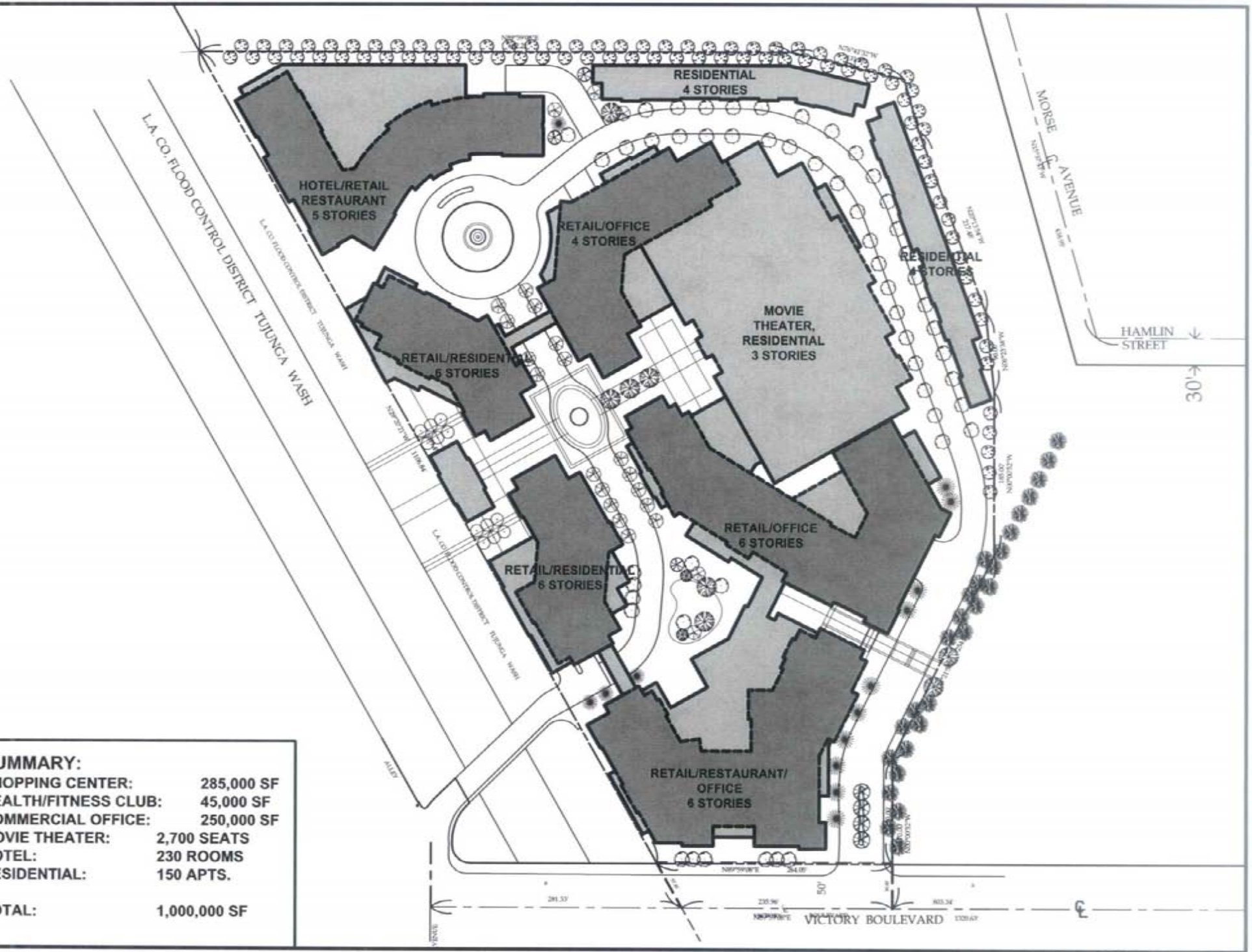
TOTAL: 800,000 SF

ALTERNATE STUDY - 2

N.T.S.

2

ALTERNATE 3



SUMMARY:

SHOPPING CENTER:	285,000 SF
HEALTH/FITNESS CLUB:	45,000 SF
COMMERCIAL OFFICE:	250,000 SF
MOVIE THEATER:	2,700 SEATS
HOTEL:	230 ROOMS
RESIDENTIAL:	150 APTS.
TOTAL:	1,000,000 SF

ALTERNATE STUDY - 3

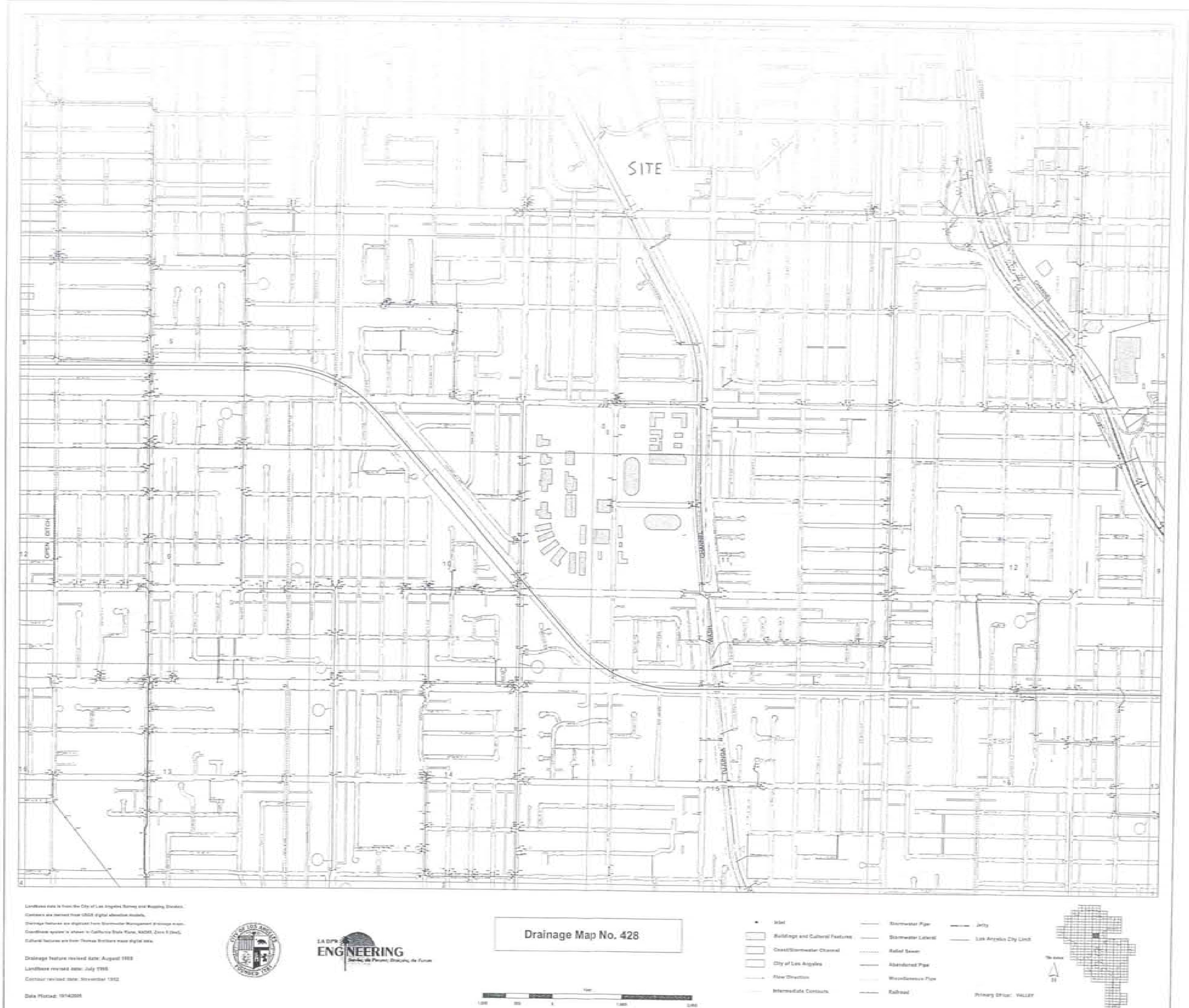
N.T.S.

3

SECTION 3

Existing Facility Maps & Exhibits

Storm Drain Atlas Map
Sewer Atlas Map
Sewer Plans D-10397 & D-25744
Water Service Map 180-159 & 180-162
Gas Exhibit
Telephone Exhibit
CATV Exhibit
Power Exhibit



Drainage Map No. 428

Drainage feature revised date: August 1993

Landbase revised date: July 1995

Contour revised date: November 1992

1808157

1808165

SITE

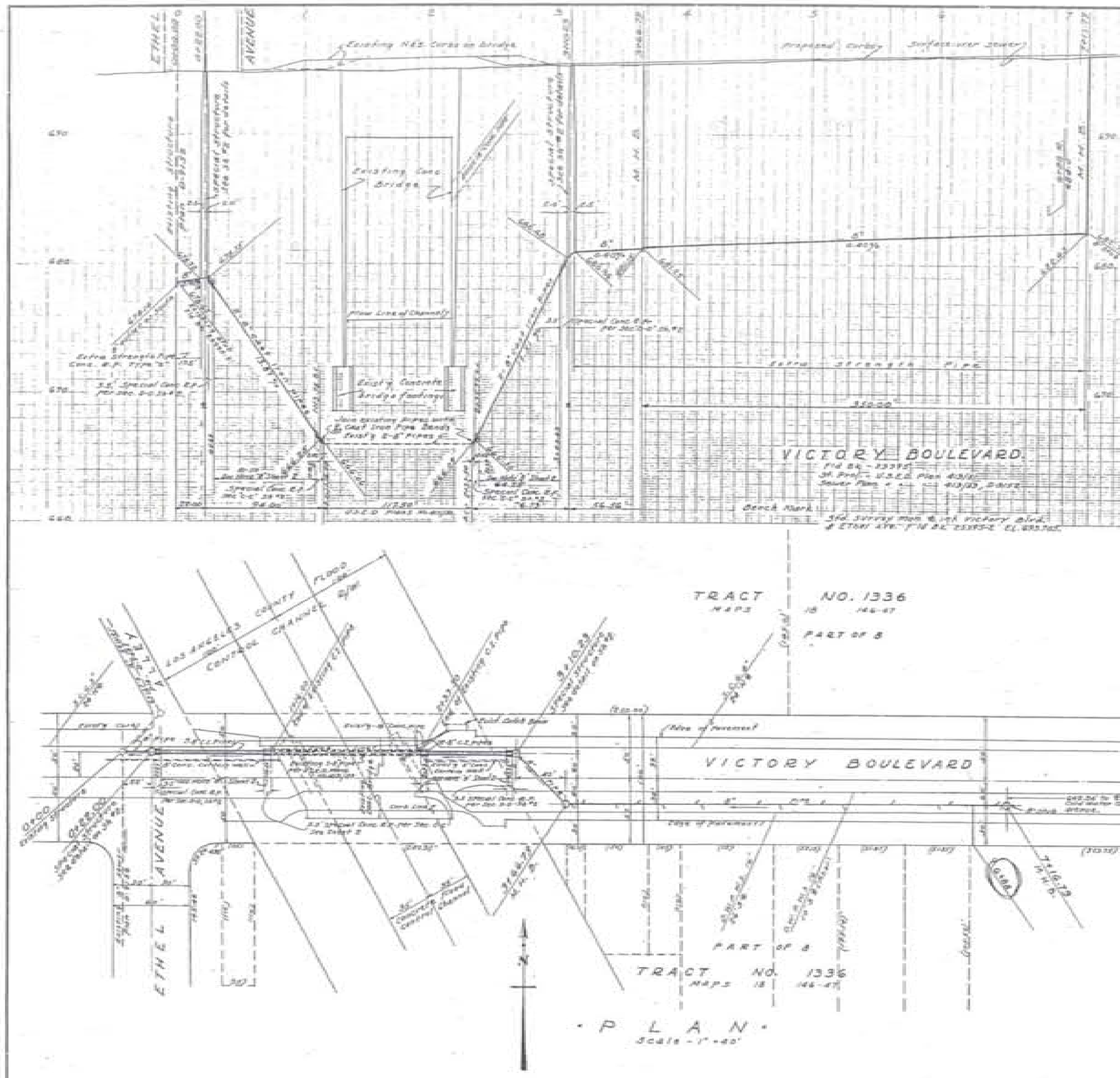
1775181

1778181

Feet

VALLEY DISTRICT SEWER WYE MAP

1808161



STANDARD PLANS TO BE USED ON THIS PROJECT.

M.H.B.	STANDARD PLAN	B-2925
CONCRETE REINFORCEMENT	" "	B-2914
M.H.F.B.C.	" "	B-2855
PIPE LAYING	" "	B-3221
SPECIFICATIONS	" "	B-3459
ABBREVIATIONS	" "	B-3495

- LEGEND -

ALL C.I. PIPE SHALL CONFORM WITH SEC. 45 OF SPEC. 171 - ALL C-I PIPE JOINTS SHALL BE LEAD JOINTS AS PER SEC. 88 & 2120

SCHEDULE OF TRENCH RESURFACING

STATION	TO STATION	LENGTH	CLASS
0+00	1+16	116	AC-4
2+34	7+17	483	AC-6
H.C. AT 6+83		3'	[illegible]

PLAN AND PROFILE OF SEWER IN VICTORY BOULEVARD

FROM 500 FEET EAST OF ETHEL AVENUE TO ETHEL AVENUE.

CITY OF LOS ANGELES
LLOYD ALDRICH CITY ENGINEER

DATUM NOTE

REFERENCES

NOTICE TO CONTRACTORS

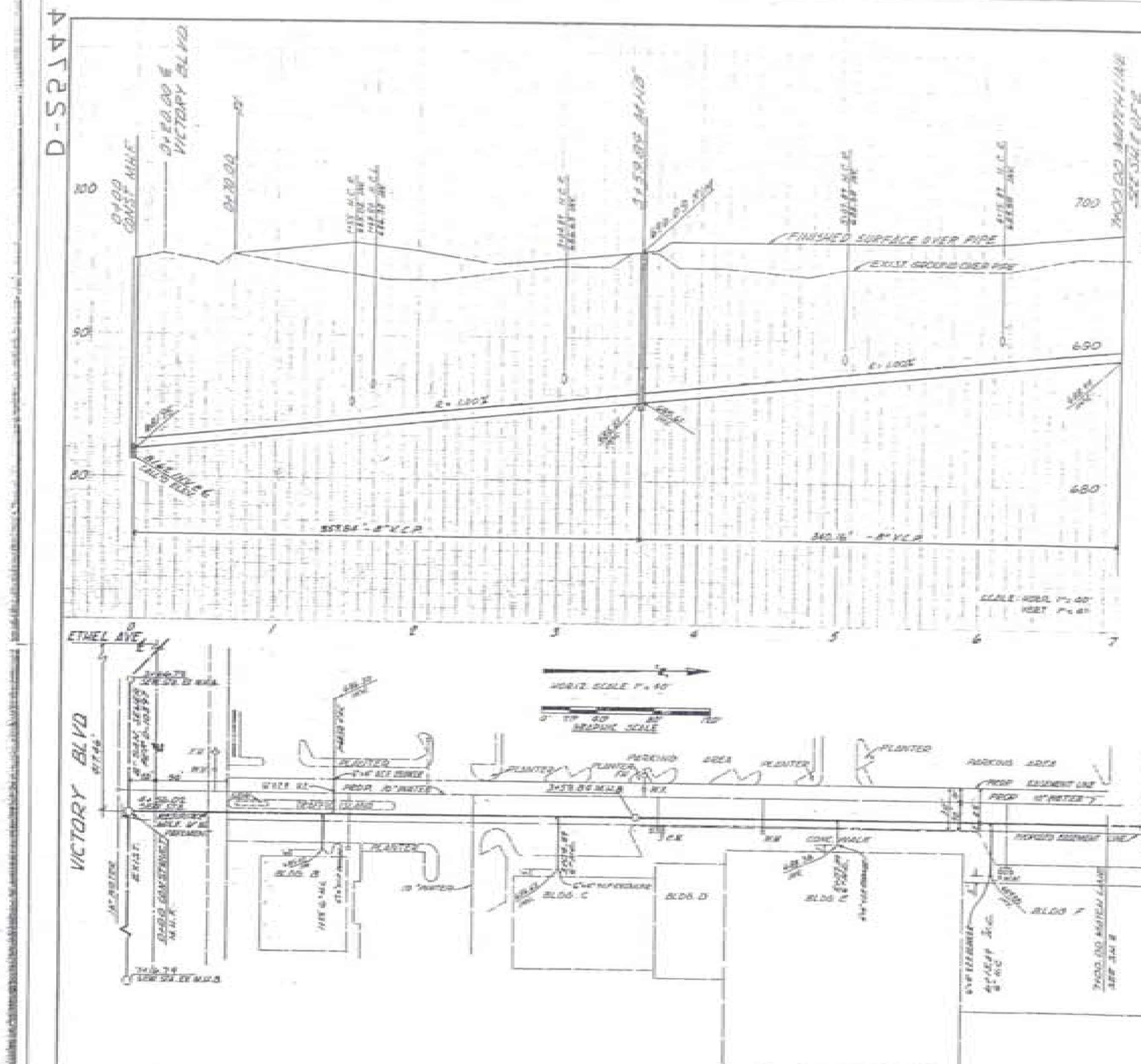
VICTORY BOULEVARD, FROM 500 FEET EAST OF TO ETHEL AVENUE - AC 36604

APPROVALS

SHEET NO. 1 OF 2 SHEETS

D-10397

D10397



NOTICE TO CONTRACTORS

SPECIFICATIONS — ALL WORK SHALL CONFORM TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 19__ EDITION, 19__ AND 19__ SUPPLEMENTS, AND STANDARD PLAN S-610-7.

ALL WORK SHOWN ON THIS PLAN IS SUBJECT TO INSPECTION DURING CONSTRUCTION. CALL 782-4125 X-235 24 HOURS PRIOR TO COMMENCING ANY WORK.

UNLESS OTHERWISE SHOWN ON THE PLANS, PRECAST CONCRETE MANHOLES MAY BE USED WITH THE FOLLOWING OPTIONS:

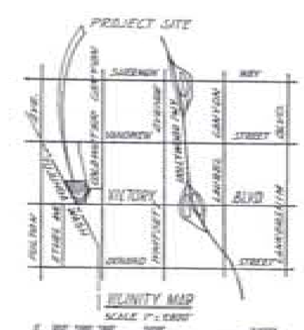
1. CONSTRUCT BASE PER SECTION B-B IN STANDARD PLAN NO. S 143-0 OR
2. USE A PRECAST OUTLET BASE, OR
3. CAST MONOLITHICALLY IN PLACE THAT PORTION BELOW MORTAR LEVELING BED.

THIS IMPROVEMENT CONSISTS OF WORK CALLED FOR ONLY ON THIS PLAN

TRAFFIC LANE REQUIREMENTS:
VICTORY BLVD. – TWO LANES IN EACH DIRECTION AT ALL TIMES.

INDEX TO SHEETS

SHT. NO.	PLANS OF	FROM	TO
1	TITLE SHEET		
	SEWER		
1	VICTORY PLAZA PRIVATE DRIVE (AT 417.46' E/O EITHEL AVE.)	VICTORY BLVD.	700' N/O VICTORY BLVD.
2	VICTORY PLAZA PRIVATE DRIVE (AT 700' N/O VICTORY BLVD.)	STA. 7+00.00	STA. 10+60.18



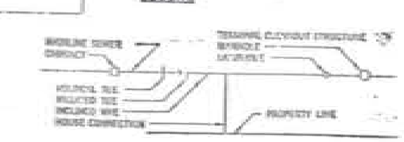
VICINITY MAP
SCALE 1" = 1800'

GRAPHIC SCALE

STANDARD PLANS: THE FOLLOWING STANDARD PLANS LISTED BY NUMBER AND TITLE ARE INCLUDED IN AND MADE A PART OF THESE PLANS

NOTICE TO CONTRACTORS (COMP)	S-610-7
SEWER MANHOLES GENERAL	S-140-0
CONC. MANHOLES (PRECAST)	S-143-0
MANHOLE FRAME & COVER	S-?
TYPE "B" HOUSE CONNECTION	B-3691
TRENCHES AND BEDDING	S-251-1

LEGEND



VOL. IMP.
ETHEL AVE. AND VICTORY BOULEVARD I.D.
~~DESIGN PERMIT BD-8468~~ CONST. PERMIT B-6506

CITY OF LOS ANGELES
DONALD C. TILLMAN, CITY ENGINEER

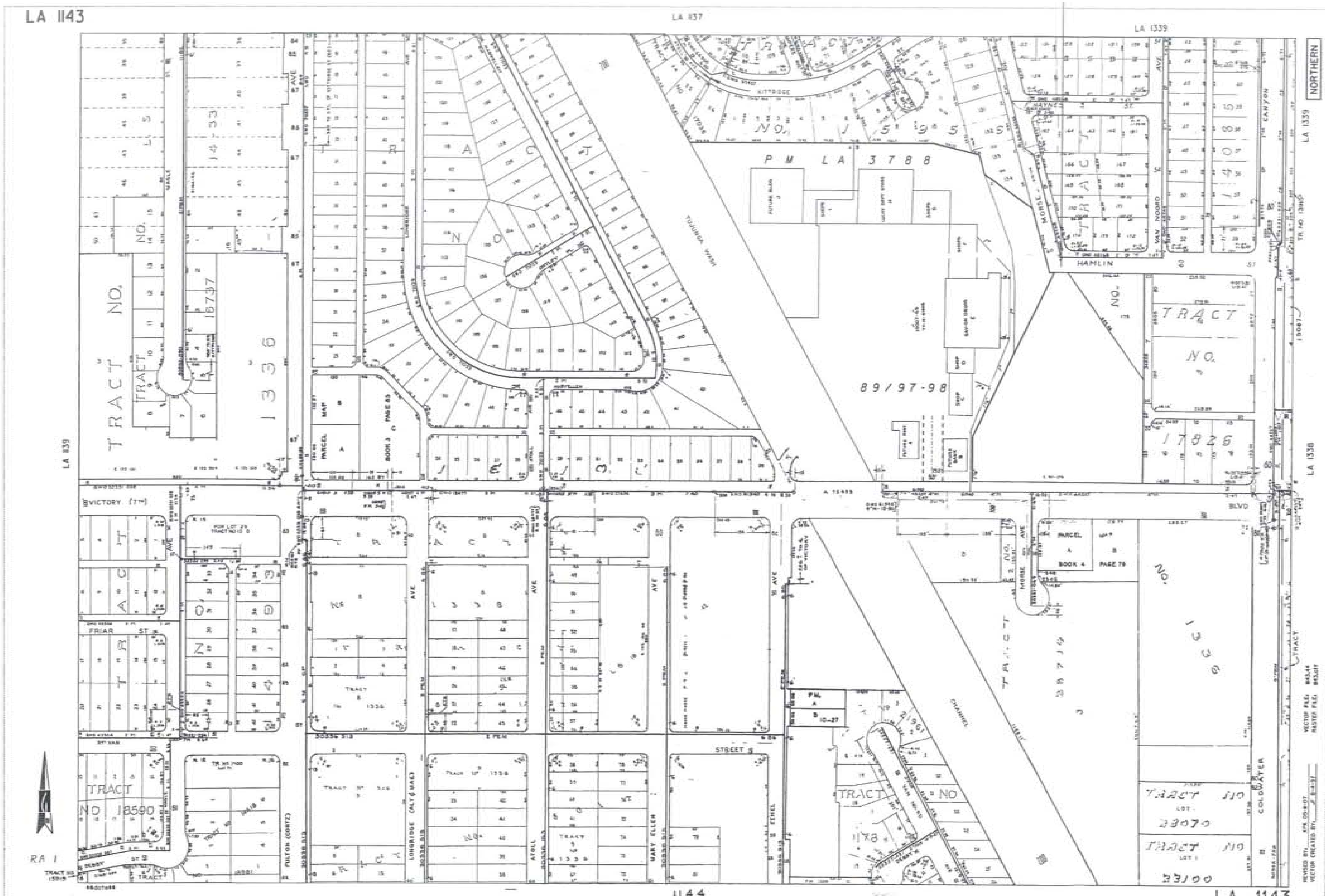
APPROVALS	ENGINEER	DATE
BRIDGE & STRUCT.		
SEWER		
ST. & PRKG.		
STORM DRAIN		
ST. LIGHTING		
TRAFFIC		
SURVEY		

DATE 5-18-77
DEPUTY CITY ENGINEER
APPROVED
CITY ENGINEER

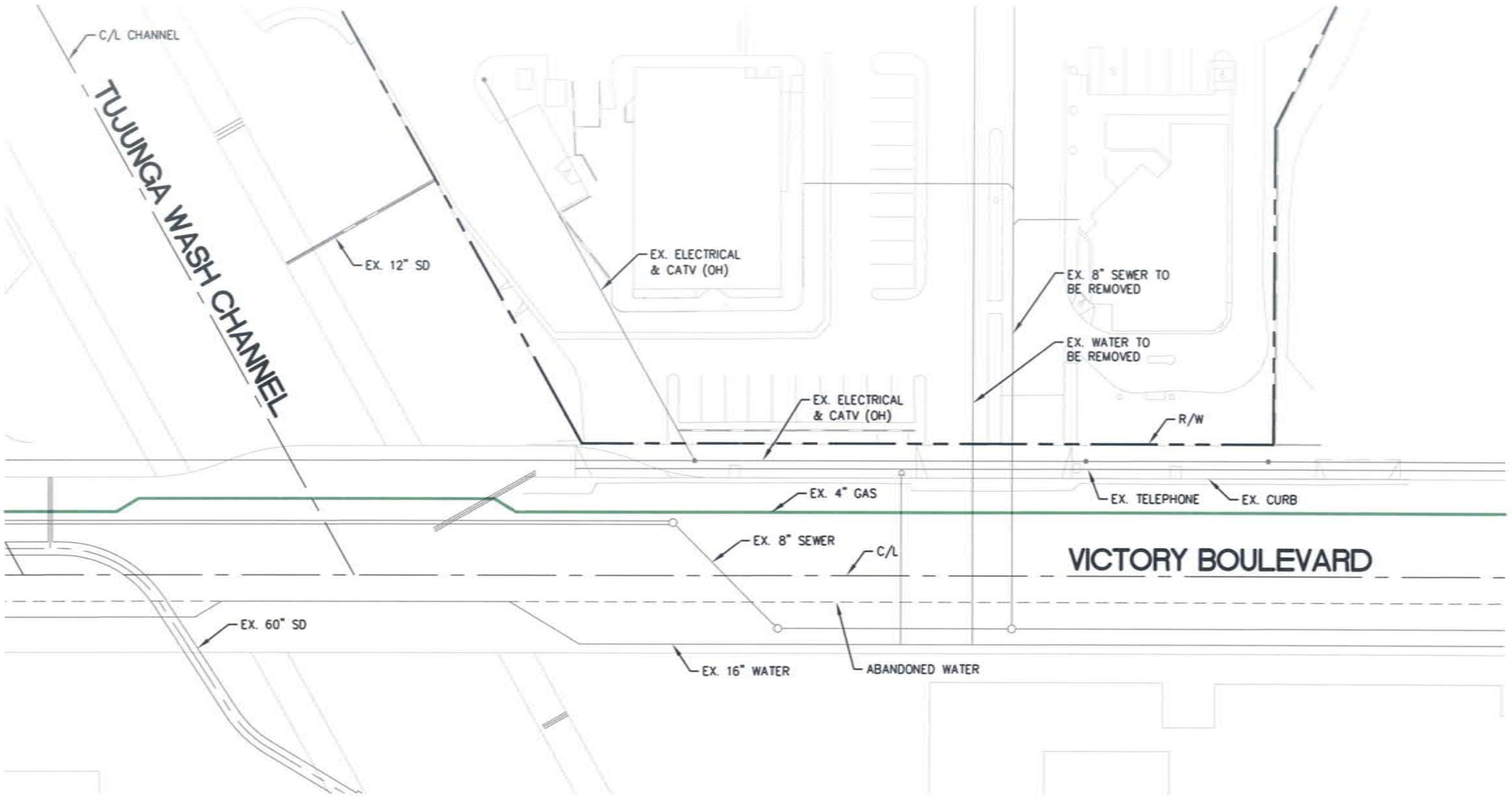
L.A.C.E. INDEX | SHEET 1 OF 2 SHEETS | INDEX NUMBER D-25744

D-25744

CERTIFICATE
I hereby certify that this is a true and accurate copy of the official city record described there, made in accordance with Section 436 of the Charter of the City of Los Angeles, and Section 34090.5 of the Government Code.
Date
Rex E. Layton, City Clerk
By



LA 1143
LA 1137
LA 1339
NORTHERN
LA 1139
LA 1338
KITTRIDGE
P M LA 3788
TUJUNGA WASH
89/97-98
HAMLIN
VAN NOORD
MORSE
TRACT NO. 1336
TRACT NO 17826
VICTORY
BLVD
FRIAR ST
PARCEL MAP BOOK 4 PAGE 79
TRACT NO 18590
FULTON (GORTZ)
LONGRIDGE (ALT & MAR)
ATOLL
MARY ELLEN
ETHEL
STREET
CHANNEL
COLDWATER
TRACT NO LOT 23079
TRACT NO LOT 1 23100
1144
LA 1143



WILL SERVE LETTERS

GAS – OBTAINED FROM SOUTHERN CALIFORNIA GAS COMPANY.

LEGEND

EX. GAS

N

SCALE: 1"=40'

THE PLAZA AT THE GLEN

DRY UTILITIES - GAS

NORTH HOLLYWOOD, CALIFORNIA

DRC
Development Resource Consultants, Inc.
Civil Engineering/Land Surveying/Land Planning
160 N. Riverview Drive, Ste. 100
Anaheim Hills, California 92808
(714) 685-6860

C/L CHANNEL

TUJUNGA WASH CHANNEL

EX. 12" SD

EX. ELECTRICAL & CATV (OH)

EX. 8" SEWER TO BE REMOVED

EX. WATER TO BE REMOVED

EX. ELECTRICAL & CATV (OH)

R/W

EX. 4" GAS

EX. TELEPHONE

EX. CURB

EX. 8" SEWER

C/L

VICTORY BOULEVARD

EX. 60" SD

EX. 16" WATER

ABANDONED WATER

WILL SERVE LETTERS

TELEPHONE – OBTAINED FROM AT&T.

LEGEND

EX. TELEPHONE

N

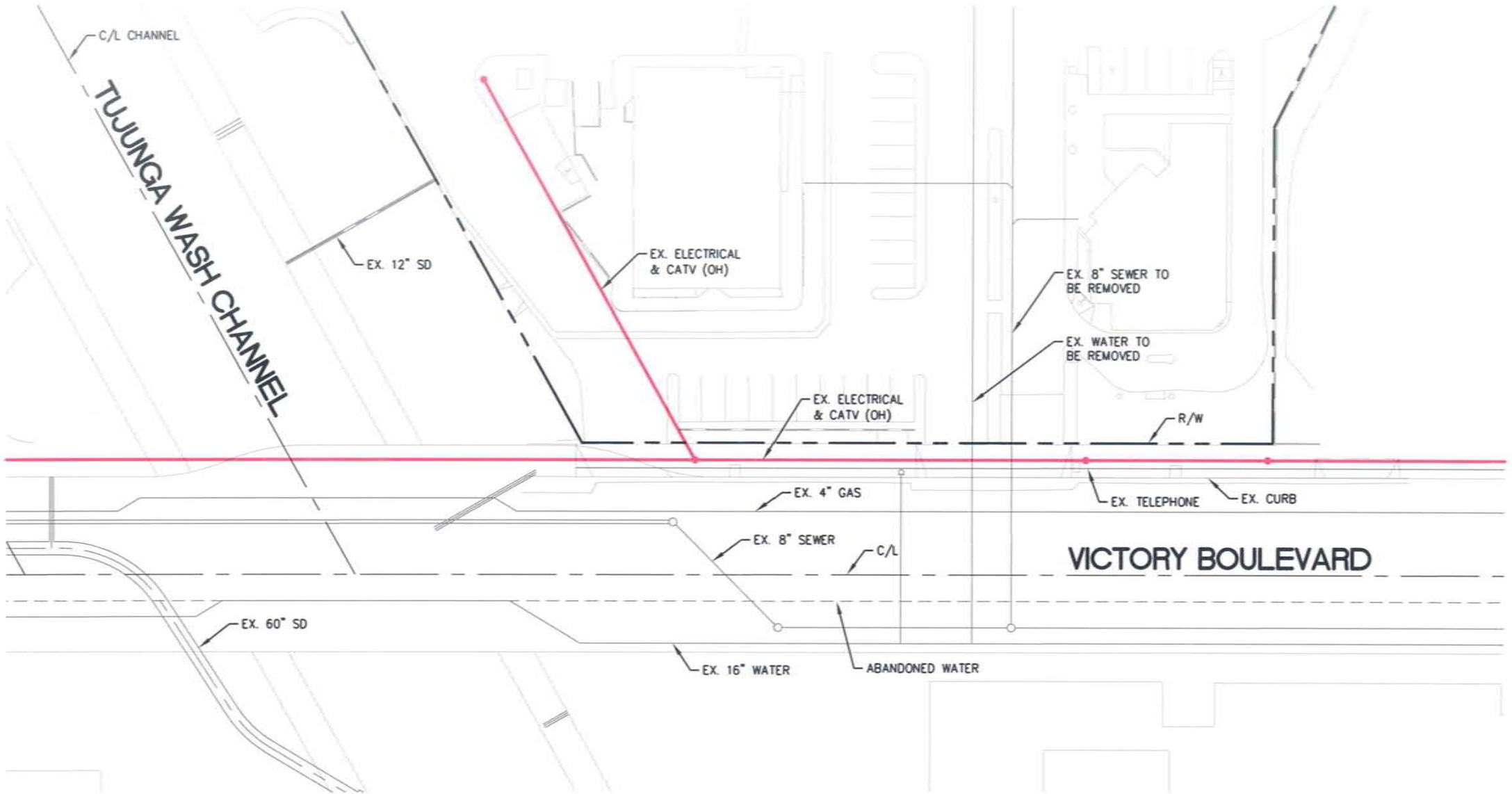
SCALE: 1"=40'

THE PLAZA AT THE GLEN

DRY UTILITIES - TELEPHONE

NORTH HOLLYWOOD, CALIFORNIA

DRC
Development Resource Consultants, Inc.
Civil Engineering/Land Surveying/Land Planning
160 N. Riverview Drive, Ste. 100
Anaheim Hills, California 92808
(714) 685-6860



WILL SERVE LETTERS

CATV – PENDING FROM TIME WARNER CABLE. IN PROCESS.

LEGEND

EX. CATV

N

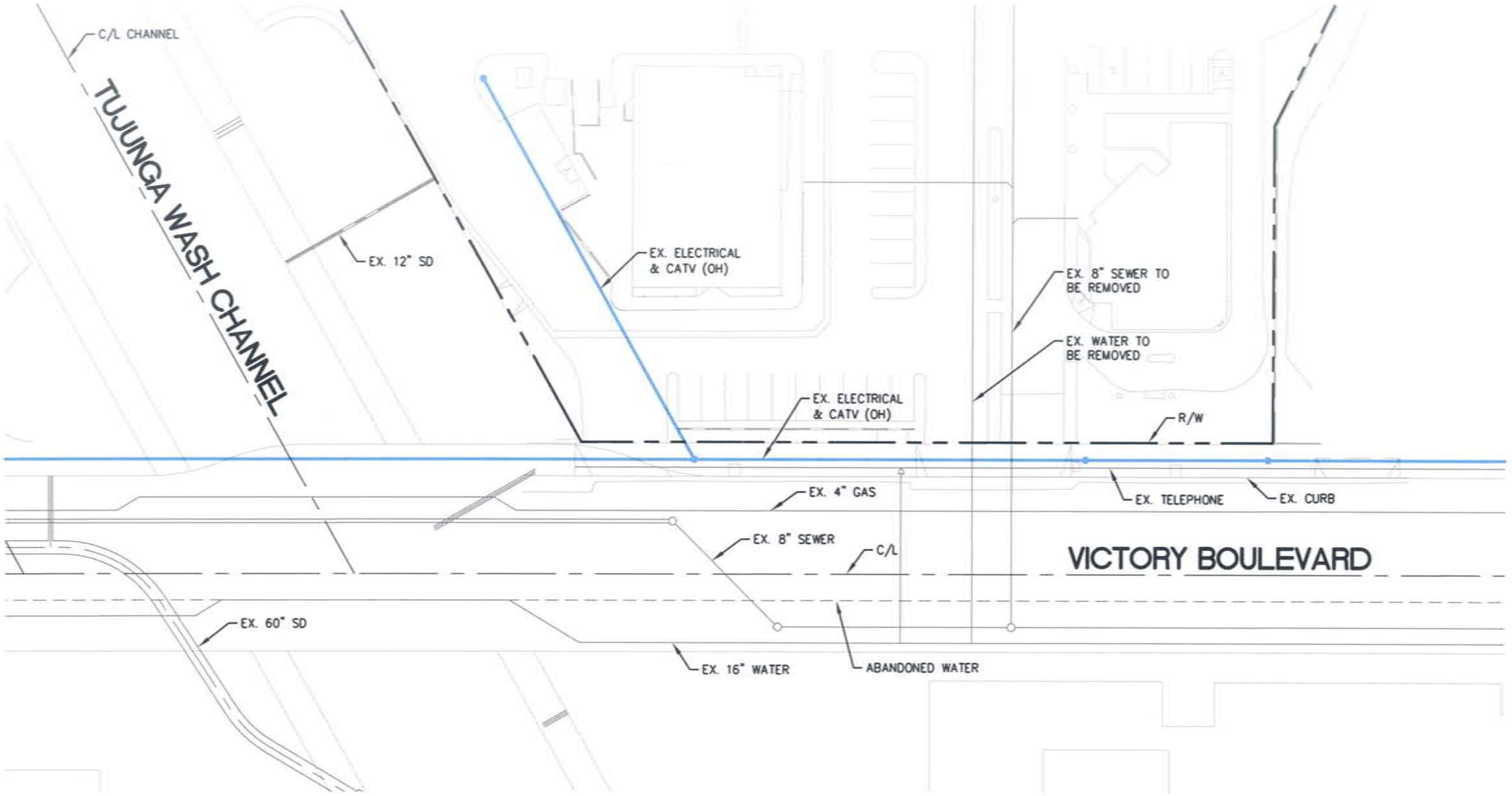
SCALE: 1"=40'

THE PLAZA AT THE GLEN

DRY UTILITIES - CATV

NORTH HOLLYWOOD, CALIFORNIA

DRC
Development Resource Consultants, Inc.
Civil Engineering/Land Surveying/Land Planning
160 N. Riverview Drive, Ste. 100
Anaheim Hills, California 92808
(714) 685-6860



WILL SERVE LETTERS

ELECTRIC – OBTAINED FROM LADWP.

LEGEND

EX. ELECTRIC (OH)

N

SCALE: 1"=40'

THE PLAZA AT THE GLEN

DRY UTILITIES - ELECTRIC

NORTH HOLLYWOOD, CALIFORNIA

DRC
Development Resource Consultants, Inc.
Civil Engineering/Land Surveying/Land Planning
160 N. Riverview Drive, Ste. 100
Anaheim Hills, California 92808
(714) 685-6860

SECTION 4

Will Serve Letters
Gas
Telephone
CATV
Power
Sewer

Southern California Gas Company
A Sempra Energy company

The Southern California Gas Company
North Region - Technical Services
9400 Oakdale Avenue, Chatsworth, CA 91311-6511

March 14, 2008

Development Resource Consultants, Inc.
8175 East Kaiser Blvd.
Anaheim Hills, CA 92808
Attn: Christina Lovell

SUBJECT: *Victory Blvd./Fulton Ave. (Job# 08-725)*
GAS CO. ATLAS: *LA 1137 & 1143.*

This letter is not to be interpreted as a contractual commitment to serve this proposed project, but only as an information service. Its intent is to notify you that Southern California Gas Company has adequate natural gas supply and facilities to supply this proposed project.

Service would be in accordance with our policies and extension rules on file with the California Public Utilities Commission at the time contractual arrangements are made. The availability of natural gas service is based upon conditions of gas supply and by regulatory agencies. As a public utility, Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. Our ability to serve can be affected by actions of federal regulatory agencies. Should these agencies take any action, which affects gas supply or the condition under which service is available, gas service will be provided in accordance with the revised conditions.

This letter is also provided without considering any conditions or non-utility laws and regulations (such as environmental regulations), which could affect construction of a main and/or service extension, i.e., if hazardous wastes were encountered in the process of installing the line. The regulations can only be determined around the time contractual arrangements are made and construction has begun.

Contact our New Business Project Manager, Kurt Ederer, (818) 701-2530 or visit our web site www.socalgas.com for information on current energy efficiency programs, gas equipment or to find out how to get your line extension started. It may require up to 90 days to process your application for the installation of gas lines in your project.

Sincerely,

Henry Brigges

Henry Brigges

Henry C. Brigges
Planning Associate
Office –818-701-4504
E-Mail -HBrigges@semprautilities.com

FAX –818-701-3380

www.socalgas.com

at&t

March 25, 2008

Development Resource Consultants, Inc.
8175 East Kaiser Blvd
Anaheim Hills, CA 92808

Attention: Ms. Christina Lovell,

This letter serves notice that AT&T-California will be the telephone communications provider for the commercial & residential project proposed for the location:

13103 -13225 Victory Blvd. Valley Glen, CA. 91401

One Primary Demarcation Terminal for each contiguous property will be provided as the Minimum Point of Entry (M.P.O.E.) locations, at no charge to the customer. However, the developer is required to meet telco standards in providing any necessary infrastructure (conduit, grounding, backboard, etc) to facilitate AT&T's work of placing cable from the property line, to the demarcation locations.

Any additional Secondary telco demarcation terminal on contiguous property, if the customer requests, can be provided by AT&T-California and will be billed to the customer.

Please call me on 818-373-5939 if you have any questions regarding this project.

Sincerely,

A. Ellis
AT&T B.I.C. Engineer

TIME WARNER CABLE
Construction

June 26, 2008

Christina Lovell
Development Resource Consultants, Inc.
8175 East Kaiser Blvd.
Anaheim Hills, CA 92808

RE: Villas at the Glen

Dear Christina,

This is a letter of notification that the above address is within our franchise area. Time Warner Cable has existing aerial plant within the project area. Included is a map outlining the location of our existing facilities.

We would be able to provide service to your project and would like to be a part of the joint trench plans along with the other utilities.

If you have any questions or if you need additional information, please call me at (818) 407-3152.

Sincerely,

Hale Coughlin
Area Construction Manager

Enclosure

cc: File
Bob Rothgery
Bill Compton

9410 Jordan Avenue, Chatsworth, CA 91311-5813 Fax 818.882.2541

City of Los Angeles
Department of Water & Power

VALLEY SERVICE PLANNING
7501 Tyrone Avenue, Van Nuys, CA 91405 (818) 771-4100 - *FAX*: (818) 771-4066

Chester Miller
District Engineer

June 24, 2008

Daser Lawless
c/o Amy Pryor
160 North Riverview Drive, Suite 100
Anaheim hills, CA 92808

Dear Mr. Lawless:

Vicinity of Victory Blvd. and Fulton Ave.

This is in response to your letter dated 6/24/08 regarding electric service for the proposed project at the above address.

Electric service is available and will be provided in accordance with the Department of Water and Power Rules and Regulations. The estimated power requirement for this proposed project is part of the total load growth forecast for the City and has been taken into account in the planned growth of the power system.

If you have any questions regarding this matter, please call Sirlord Morse at (818) 771-4086.

Sincerely,

Chester Miller

CHESTER MILLER
District Engineer
Valley Service Planning

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
PUBLIC WORKS

BUREAU OF
ENGINEERING

GARY LEE MOORE, P.E.
CITY ENGINEER

1149 S. BROADWAY, SUITE 700
LOS ANGELES, CA 90015-2213

http://eng.lacity.org

August 6, 2008

Paris Borovilos
Development Resource Consultants, Inc.
160 N. Riverview Dr. Suite 100
Anaheim Hills, CA 92808

Dear Mr. Borovilos:

SUBJECT: **13005-13069 VICTORY BOULEVARD, LOS ANGELES, CA 91606**
"WILL SERVE" LETTER

In reference to your letter dated June 13, 2008, regarding the availability of the sewer and fees related to the proposed 150 units condo, 45,000 sq. ft. health club, 550,000 sq. ft. office buildings, 140,000 sq. ft. retail, 150 rooms hotel, 1,400 seats restaurant, 2,700 seats movie theater and 45,000 sq. ft. supermarket, we are providing the following information.

The proposed development is adjacent to the existing 8 inch sewers in easements north of Victory Blvd. as shown on attached map.

As per the recommendations of Bureau of Sanitation, distribute the excess generated estimate flows of 65,648 gpd to sewers to M.H. 428-03-212, 65,648 gpd to sewers to M.H. 428-03-214 and 87,530 gpd to sewers to M.H. 428-03-211. Based on the recommended excess flow distribution the existing sewers have sufficient capacity and "Will Serve" the proposed development upon payment of the Sewerage Facilities Charges (SFC) and procurement of house sewer connection permit(s).

The SFC is based on two components, the SFC rates and the sewer generation factor for the proposed development. The SFC rate is $650 per dwelling units for 3 bedroom condo, $767 per 1000 gross sq. ft. for gym, $2,455 per 1000 gross sq. ft. for health club, $426 per room for hotel, $449 per 1000 gross sq. ft. for office building, $246 per 1000 gross sq. ft. for retail, $91 per seat for indoor restaurant, $1,513 per 1000 gross sq. ft. for take out restaurant and $12 per seat for cinema theater. The sewer generation factor is estimated to be 218,825 gpd. SFC credits will be given for previous use of the property. The actual SFC will be determined by conditions shown on submitted building plans. In addition to the cost of the SFC, the basic cost of the permit to install one house sewer connection is estimated to be $239.80.

You are advised that the January 17, 1994 earthquake damaged many public and private wastewater facilities in the San Fernando Valley. If planning to use an existing house connection lateral, it is recommended that its condition be thoroughly investigated by closed circuit television (CCTV) prior to approval to reconnect. Installation of a new house connection lateral may be necessary.

You may obtain the house sewer connection permit, provide building plans and pay fees at the Bureau of Engineering Public Counter located at the Braude Building, 6262 Van Nuys Boulevard, Suite 251, Van Nuys, CA 91401, or via the internet at http://eng.lacity.org/spermits. Please note that even though the Department of Building and Safety originates and finally issues the overriding building permit, the Bureau of Engineering will not approve issuing the building permit until the SFC has been calculated and the remaining non-refundable credit determined. The sewer connection permit can be secured at that time or at a later date.

If you have any questions in regards to this project, please contact Sayed Shah at (818) 374-4652 or Mary Marcus at (818) 374-4650.

Sincerely,

Matt Laan
Acting Valley District Engineer

MM:sa (048)
H:\Common\Public Counter\Will Serve Letters\13005 – 13069 Victory Blvd.

Encl.

CC: Bert Moklebust
Jon Delkhaste
Mary Marcus

In: 9/24/08

16-1139-0908
refer to 16-1127-0908
15-1078-0608

City of Los Angeles
Bureau of Engineering

Sewer Availability Request

To: Bureau of Sanitation
The following request is submitted to you on behalf of the applicant requesting to connect to the public sewer system. Please verify that capacity exists at the requested location for the proposed developments shown below. The results are good for 180 days from the date of sewer capacity approval from the Bureau of Sanitation.

Job Address: 13005 to 13069 Victory Blvd

Engineering District: Valley
Date Submitted: ~~9/4/08~~ 9/25/08 Request Will Serve Letter: ID: 048
Applicant: Development Resource Consultants, Inc. Attn: Paris Borovilos Phone: 714 685 6860
Fax: 714 685 6801 S-Map: S428-03 V
Address: 160 N. Riverside Dr.
City: Anaheim Hills State CA Zip: 92808 Wye Map: 180-161-3V
Email: BPA No.

SIMMS Map - Maintenance Hole Locations

	Street Name	U/S MH	D/S MH	Diameter	
1.	Easement	428 03 213V	42803 212V	V8 inch	S:0.01 (E15)
2.	Easement	428 03 212V	42803 214V	V8 inch	S:0.01 (E15)
3.	Easement / Victory Blvd	428 03 214V	428 03 211V	V8 inch	S:0.01 (E15)

Proposed Project Description: Mixed use retail / commercial / residential center
SAR for this project was originally submitted on 6/25/08, fee paid for <250K gpd flow.

	Proposed Use Description	Quantity	Flow
1.	See attached sheets		GPD
2.			GPD
3.			GPD
4.			GPD

PROPOSED TOTAL FLOW: ~~404,010~~ GPD 454,980
EXISTING TOTAL FLOW: 16,776 GPD

Remarks: Cancel previous SAR and reapprove for ~~Excess Total Generated Flow = 387,235 GPD = 269 GPM~~ 438,205 gpd. Split the flow 30% (131462 gpd) to ~~MH 428-03-212~~, 438,205 ≈ 304.3 GPM
30% (131462 gpd) to MH 428-03-214 and 40% (175,282 gpd) to MH 428-03-211

Note: Results are good for 180 days from date of approval by the Bureau of Sanitation

CAPACITY AVAILABLE: ☑ YES ☐ NO

Date Approved: Namhee Kwon 9/29/2008 (NK)
Ravona Lau 10/2/08 (RL)

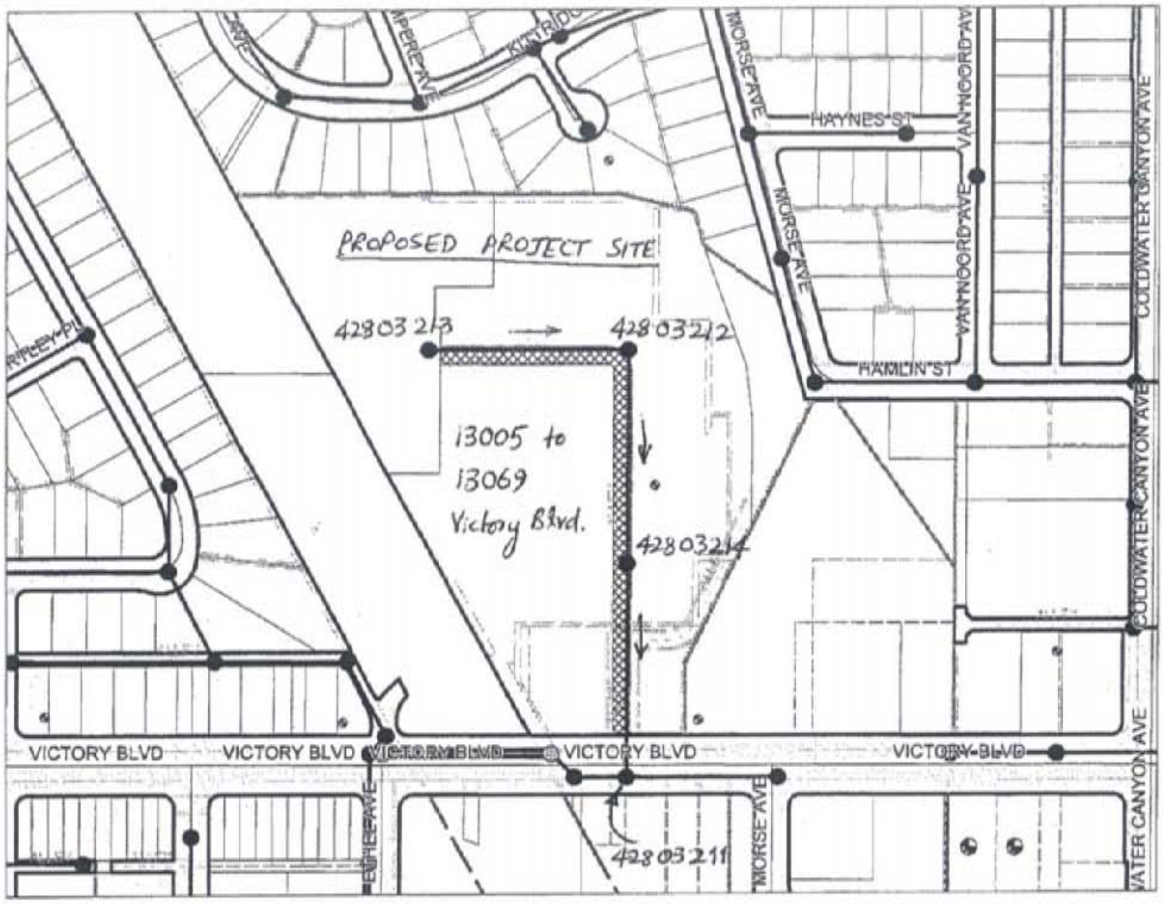
Approved by: A. Diem 10.7.08
Bureau of Sanitation
Phone: 323-342-6206
Fax: 323-342-6210

Submitted by: Mary Marcus
~~Sayed Shah~~ (VD)
Bureau of Engineering
District: Valley
Phone: (818) 374 4652 4650
Fax: (818) 374 4617

(A)

NavigateLA

Sewer Information
Freeways and Streets
Landbase
Boundaries



SCALE 1 : 3,686

200 0 200 400 600
FEET

SECTION 5

Demand Calculations

The Plaza
Add Area
Related Projects
Alternate 1
Alternate 2
Alternate 3

THE PLAZA

Land Use	Generation Factor[1]	Total Demand (GPD)
Proposed Plaza - Water Consumption		
185,000 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	14,800
115,000 sq.ft. Restaurant	25 Gal/Day/Seat (7,666 seats)[2,3]	191,650
200,000 sq.ft. Common Area	0.08 Gal/Day/Sq.Ft.	16,000
500,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	90,000
50,000 sq.ft. Medical Office	0.25 Gal/Day/Sq.Ft.	12,500
68,500 sq.ft. Theatre	4 Gal/Day/Seat (2,700 seats)	10,800
45,000 sq.ft. Gym	0.80 Gal/Day/Sq.Ft.	36,000
151,500 sq.ft. Hotel	130 Gal/Day/Room (230 rooms)	29,900
200,000 sq.ft. Residential	200 Gal/Day/Unit (150 units)[4]	30,000
Sub Total Residential		**30,000**
Sub Total Commercial		**401,650**
Total Residential (30,000 x 118.0% Residential Water Consumption Factor)[5]		**35,400**
Total Commercial (401,650 x 128.0% Non-Residential Water Consumption Factor)[5]		**514,112**
Total		**549,512**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Restaurant generation factor based upon anticipated average types of restaurant uses.

[4] Residential generation factor based upon anticipated number of 2-bedroom and 3-bedroom condo units.

[5] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

Land Use	Generation Factor[1]	Total Demand (GPD)
Proposed Plaza - Sewer Consumption		
185,000 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	14,800
115,000 sq.ft. Restaurant	25 Gal/Day/Seat (7,666 seats)[2,3]	191,650
200,000 sq.ft. Common Area	0.08 Gal/Day/Sq.Ft.	16,000
500,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	90,000
50,000 sq.ft. Medical Office	0.25 Gal/Day/Sq.Ft.	12,500
68,500 sq.ft. Theatre	4 Gal/Day/Seat (2,700 seats)	10,800
45,000 sq.ft. Gym	0.80 Gal/Day/Sq.Ft.	36,000
151,500 sq.ft. Hotel	130 Gal/Day/Room (230 rooms)	29,900
200,000 sq.ft. Residential	200 Gal/Day/Unit (150 units)[4]	30,000
Total		**431,650**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Restaurant generation factor based upon anticipated average types of restaurant uses.

[4] Residential generation factor based upon anticipated number of 2-bedroom and 3-bedroom condo units.

Land Use	Generation Factor[1]	Total Demand (CFD)
Proposed Plaza - Gas Consumption		
185,000 sq.ft. Retail	0.097 Cu.Ft./Day/Sq.Ft.	17,945
115,000 sq.ft. Restaurant	0.097 Cu.Ft./Day/Sq.Ft.	11,155
200,000 sq.ft. Common Area	0.097 Cu.Ft./Day/Sq.Ft.	19,400
500,000 sq.ft. Office	0.067 Cu.Ft./Day/Sq.Ft.	33,500
50,000 sq.ft. Medical Office	0.097 Cu.Ft./Day/Sq.Ft.	4,850
68,500 sq.ft. Theatre	0.097 Cu.Ft./Day/Sq.Ft.	6,645
45,000 sq.ft. Gym	0.097 Cu.Ft./Day/Sq.Ft.	4,365
151,500 sq.ft. Hotel	0.160 Cu.Ft./Day/Sq.Ft.	24,240
200,000 sq.ft. Residential	0.101 Cu.Ft./Day/Sq.Ft.	20,200
Total		**142,300**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

Land Use	Generation Factor[1]	Total Demand (KWHD)
Proposed Plaza - Electricity Consumption		
185,000 sq.ft. Retail	0.037 KW Hr./Day/Sq.Ft.	6,845
115,000 sq.ft. Restaurant	0.037 KW Hr./Day/Sq.Ft.	4,255
200,000 sq.ft. Common Area	0.037 KW Hr./Day/Sq.Ft.	7,400
500,000 sq.ft. Office	0.035 KW Hr./Day/Sq.Ft.	17,500
50,000 sq.ft. Medical Office	0.037 KW Hr./Day/Sq.Ft.	1,850
68,500 sq.ft. Theatre	0.037 KW Hr./Day/Sq.Ft.	2,535
45,000 sq.ft. Gym	0.037 KW Hr./Day/Sq.Ft.	1,665
151,500 sq.ft. Hotel	0.027 KW Hr./Day/Sq.Ft.	4,091
200,000 sq.ft. Residential	0.012 KW Hr./Day/Sq.Ft.	2,400
Total		**48,541**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

Land Use	Generation Factor[1]	Total Demand (GPD)
Existing Site - Water Consumption (Use Methodology)		
41,141 sq.ft. Health Club	0.80 Gal/Day/Sq.Ft.	32,913
32,000 sq.ft. Market	0.02 Gal/Day/Sq.Ft.	640
31,117 sq.ft. Drug Store	0.08 Gal/Day/Sq.Ft.	2,489
4,524 sq.ft. Restaurant	25 Gal/Day/Seat (302 seats)[2]	7,550
3,324 sq.ft. Bank	0.15 Gal/Day/Sq.Ft.	499
39,700 sq.ft. Other[4]	0.08 Gal/Day/Sq.Ft.	3,176
Sub Total		**47,267**
Total (47,267 x 128.0% Non-Residential Water Consumption Factor)[3]		**60,502**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

[4] Various commercial and retail uses ranging in size from 780 sq.ft. to 4,524 sq.ft.

Land Use	Generation Factor[1]	Total Demand (GPD)
Existing Site - Water Consumption (Billing Methodology)		
151,806 sq.ft. Shopping Center	0.38865 Gal/Day/Sq.Ft.	59,000
Total		**59,000**

[1] Consumption Rate based on City of Los Angeles DWP average water consumption for 2007 as outlined on monthly billing.

Land Use	Generation Factor[1]	Total Demand (GPD)
Existing Site - Sewer Consumption (Use Methodology)		
41,141 sq.ft. Health Club	0.80 Gal/Day/Sq.Ft.	32,913
32,000 sq.ft. Market	0.02 Gal/Day/Sq.Ft.	640
31,117 sq.ft. Drug Store	0.08 Gal/Day/Sq.Ft.	2,489
4,524 sq.ft. Restaurant	25 Gal/Day/Seat (302 seats)[2]	7,550
3,324 sq.ft. Bank	0.15 Gal/Day/Sq.Ft.	499
39,700 sq.ft. Other[3]	0.08 Gal/Day/Sq.Ft.	3,176
Total		**47,267**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Various commercial and retail uses ranging in size from 780 sq.ft. to 4,524 sq.ft.

Land Use	Generation Factor[1]	Total Demand (GPD)
Existing Site - Sewer Consumption (Billing Methodology)		
151,806 sq.ft. Shopping Center	0.38865 Gal/Day/Sq.Ft.	59,000
Sub Total		**59,000**
Total (59,000 / 128.0% Non-Residential Sewer Consumption Factor)[2]		**46,094**

[1] Consumption Rate based on City of Los Angeles DWP average water consumption for 2007 as outlined on monthly billing.

[2] Sewer consumption determined by decreasing water generation rates by the water consumption factor of 28% for non-residential use.

Land Use	Generation Factor[1]	Total Demand (CFD)
Existing Site - Gas Consumption		
41,141 sq.ft. Health Club	0.097 Cu.Ft./Day/Sq.Ft.	3,991
32,000 sq.ft. Market	0.097 Cu.Ft./Day/Sq.Ft.	3,104
31,117 sq.ft. Drug Store	0.097 Cu.Ft./Day/Sq.Ft.	3,018
4,524 sq.ft. Restaurant	0.097 Cu.Ft./Day/Sq.Ft.	439
3,324 sq.ft. Bank	0.067 Cu.Ft./Day/Sq.Ft.	223
39,700 sq.ft. Other[2]	0.097 Cu.Ft./Day/Sq.Ft.	3,851
Total		**14,626**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

[2] Various commercial and retail uses ranging in size from 780 sq.ft. to 4,524 sq.ft.

Land Use	Generation Factor[1]	Total Demand (KWHD)
Existing Site - Electricity Consumption		
41,141 sq.ft. Health Club	0.037 KW Hr./Day/Sq.Ft.	1,522
32,000 sq.ft. Market	0.037 KW Hr./Day/Sq.Ft.	1,184
31,117 sq.ft. Drug Store	0.037 KW Hr./Day/Sq.Ft.	1,151
4,524 sq.ft. Restaurant	0.037 KW Hr./Day/Sq.Ft.	167
3,324 sq.ft. Bank	0.035 KW Hr./Day/Sq.Ft.	116
39,700 sq.ft. Other[2]	0.037 KW Hr./Day/Sq.Ft.	1,469
Total		**5,609**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

[2] Various commercial and retail uses ranging in size from 780 sq.ft. to 4,524 sq.ft.

ADDITIONAL AREA

Land Use	Generation Factor[1]	Total Demand (GPD)
Proposed Add Area - Water Consumption		
57,000 sq.ft. Shopping Center	0.08 Gal/Day/Sq.Ft.	4,560
18,350 sq.ft. Church	0.10 Gal/Day/Sq.Ft.[2]	1,835
168,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	30,240
20,250 sq.ft. School	0.10 Gal/Day/Sq.Ft.[2]	2,025
222,000 sq.ft. Residential	200 Gal/Day/Unit (182 units)	36,400
Sub Total Residential		**36,400**
Sub Total Commercial		**38,660**
Total Residential (36,400 x 118.0% Residential Water Consumption Factor)[3]		**42,952**
Total Commercial (38,660 x 128.0% Non-Residential Water Consumption Factor)[3]		**49,485**
Total		**92,437**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] Commercial generation factors were used for worst case scenario.

[3] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

Land Use	Generation Factor[1]	Total Demand (GPD)
Proposed Add Area - Sewer Consumption		
57,000 sq.ft. Shopping Center	0.08 Gal/Day/Sq.Ft.	4,560
18,350 sq.ft. Church	0.10 Gal/Day/Sq.Ft.[2]	1,835
168,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	30,240
20,250 sq.ft. School	0.10 Gal/Day/Sq.Ft.[2]	2,025
222,000 sq.ft. Residential	200 Gal/Day/Unit (182 units)	36,400
Total		**75,060**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] Commercial generation factors were used for worst case scenario.

Land Use	Generation Factor[1]	Total Demand (CFD)
Proposed Add Area - Gas Consumption		
57,000 sq.ft. Shopping Center	0.097 Cu.Ft./Day/Sq.Ft.	5,529
18,350 sq.ft. Church	0.097 Cu.Ft./Day/Sq.Ft.	1,780
168,000 sq.ft. Office	0.067 Cu.Ft./Day/Sq.Ft.	11,256
20,250 sq.ft. School	0.097 Cu.Ft./Day/Sq.Ft.	1,964
222,000 sq.ft. Residential	0.110 Cu.Ft./Day/Sq.Ft.	24,420
Total		**44,949**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

Land Use	Generation Factor[1]	Total Demand (CFD)
Proposed Add Area - Electricity Consumption		
57,000 sq.ft. Shopping Center	0.037 KW Hr./Day/Sq.Ft.	2,109
18,350 sq.ft. Church	0.029 KW Hr./Day/Sq.Ft.	532
168,000 sq.ft. Office	0.035 KW Hr./Day/Sq.Ft.	5,880
20,250 sq.ft. School	0.029 KW Hr./Day/Sq.Ft.	587
222,000 sq.ft. Residential	0.013 KW Hr./Day/Sq.Ft.	2,886
Total		**11,994**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

Land Use	Generation Factor[1]	Total Demand (GPD)
Existing Add Area - Water Consumption		
5,766 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	461
4,792 sq.ft. Restaurant	25 Gal/Day/Seat (320 seats)[2]	8,000
18,356 sq.ft. Church	0.10 Gal/Day/Sq.Ft.[3]	1,836
18,414 sq.ft. Warehouse	0.02 Gal/Day/Sq.Ft.	368
63,281 sq.ft. School	0.10 Gal/Day/Sq.Ft.[3]	6,328
Sub Total		**16,993**
Total (16,993 x 128.0% Non-Residential Water Consumption Factor)[4]		**21,751**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Commercial generation factors were used for worst case scenario.

[4] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

Land Use	Generation Factor[1]	Total Demand (GPD)
Existing Add Area - Sewer Consumption		
5,766 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	461
4,792 sq.ft. Restaurant	25 Gal/Day/Seat (320 seats)[2]	8,000
18,356 sq.ft. Church	0.10 Gal/Day/Sq.Ft.[3]	1,836
18,414 sq.ft. Warehouse	0.02 Gal/Day/Sq.Ft.	368
63,281 sq.ft. School	0.10 Gal/Day/Sq.Ft.[3]	6,328
Total		**16,993** [4]

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Commercial generation factors were used for worst case scenario.

[4] Assumes there is currently sufficient capacity.

Land Use	Generation Factor[1]	Total Demand (CFD)
Existing Add Area - Gas Consumption		
5,766 sq.ft. Retail	0.097 Cu.Ft./Day/Sq.Ft.	559
4,792 sq.ft. Restaurant	0.097 Cu.Ft./Day/Sq.Ft.	465
18,356 sq.ft. Church	0.097 Cu.Ft./Day/Sq.Ft.[2]	1,781
18,414 sq.ft. Warehouse	0.060 Cu.Ft./Day/Sq.Ft.	1,105
63,281 sq.ft. School	0.097 Cu.Ft./Day/Sq.Ft.[2]	6,138
Total		**10,048**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

[2] Commercial generation factors were used for worst case scenario.

Land Use	Generation Factor[1]	Total Demand (KWHD)
Existing Add Area - Electricity Consumption		
5,766 sq.ft. Retail	0.037 KW Hr./Day/Sq.Ft.	213
4,792 sq.ft. Restaurant	0.037 KW Hr./Day/Sq.Ft.	177
18,356 sq.ft. Church	0.029 KW Hr./Day/Sq.Ft.	532
18,414 sq.ft. Warehouse	0.025 KW Hr./Day/Sq.Ft.	460
63,281 sq.ft. School	0.029 KW Hr./Day/Sq.Ft.	1,835
Total		**3,217**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

[2] Commercial generation factors were used for worst case scenario.

RELATED PROJECTS

Land Use	Generation Factor[1]	Total Demand (GPD)
Proposed Related Area - Water Consumption		
1,025,152 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	82,012
10,000 sq.ft. Restaurant	25 Gal/Day/Seat (667 seats)[2]	16,675
1,190,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	214,200
44,800 sq.ft. Hotel[3]	130 Gal/Day/Room (64 rooms)	8,320
27,500 sq.ft. Theater[4]	4 Gal/Day/Seat (1,100 seats)	4,400
54,500 sq.ft. School[5]	0.10 Gal/Day/Sq.Ft.[6]	5,450
7,630,800 sq.ft. Residential[7]	200 Gal/Day/Unit (6,359 units)	1,271,800
Sub Total Residential		**1,271,800**
Sub Total Commercial		**331,057**
Total Residential (1,271,800 x 118.0% Residential Water Consumption Factor)[8]		**1,500,724**
Total Commercial (331,057 x 128.0% Non-Residential Water Consumption Factor)[8]		**423,753**
Total		**1,924,477**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] 700 sq.ft./room used for determining square footage for Hotel.

[4] 25 sq.ft./seat used for determining square footage for Theater.

[5] 100 sq.ft./student and 20 students/room used for determining square footage for School.

[6] Commercial generation factors were used for worst case scenario.

[7] 1,200 sq.ft./unit used for determining square footage for Residential.

[8] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

Land Use	Generation Factor[1]	Total Demand (GPD)
Proposed Related Area - Sewer Consumption		
1,025,152 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	82,012
10,000 sq.ft. Restaurant	25 Gal/Day/Seat (667 seats)[2]	16,675
1,190,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	214,200
44,800 sq.ft. Hotel[3]	130 Gal/Day/Room (64 rooms)	8,320
27,500 sq.ft. Theater[4]	4 Gal/Day/Seat (1,100 seats)	4,400
54,500 sq.ft. School[5]	0.10 Gal/Day/Sq.Ft.[6]	5,450
7,630,800 sq.ft. Residential[7]	200 Gal/Day/Unit (6,359 units)	1,271,800
Total		**1,602,857**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] 700 sq.ft./room used for determining square footage for Hotel.

[4] 25 sq.ft./seat used for determining square footage for Theater.

[5] 100 sq.ft./student and 20 students/room used for determining square footage for School.

[6] Commercial generation factors were used for worst case scenario.

[7] 1,200 sq.ft./unit used for determining square footage for Residential.

Land Use	Generation Factor[1]	Total Demand (CFD)
Proposed Related Area - Gas Consumption		
1,025,152 sq.ft. Retail	0.097 Cu.Ft./Day/Sq.Ft.	99,440
10,000 sq.ft. Restaurant	0.097 Cu.Ft./Day/Sq.Ft.	970
1,190,000 sq.ft. Office	0.067 Cu.Ft./Day/Sq.Ft.	79,730
44,800 sq.ft. Hotel[2]	0.160 Cu.Ft./Day/Sq.Ft.	7,168
27,500 sq.ft. Theater[3]	0.097 Cu.Ft./Day/Sq.Ft.	2,668
54,500 sq.ft. School[4]	0.097 Cu.Ft./Day/Sq.Ft.	5,287
7,630,800 sq.ft. Residential[5]	0.101 Cu.Ft./Day/Sq.Ft.	770,711
Total		**965,974**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

[2] 700 sq.ft./room used for determining square footage for Hotel.

[3] 25 sq.ft./seat used for determining square footage for Theater.

[4] 100 sq.ft./student and 20 students/room used for determining square footage for School.

[5] 1,200 sq.ft./unit used for determining square footage for Residential.

Land Use	Generation Factor[1]	Total Demand (KWHD)
Proposed Related Area - Electricity Consumption		
1,025,152 sq.ft. Retail	0.037 KW Hr./Day/Sq.Ft.	37,931
10,000 sq.ft. Restaurant	0.037 KW Hr./Day/Sq.Ft.	370
1,190,000 sq.ft. Office	0.035 KW Hr./Day/Sq.Ft.	41,650
44,800 sq.ft. Hotel[2]	0.027 KW Hr./Day/Sq.Ft.	1,210
27,500 sq.ft. Theater[3]	0.037 KW Hr./Day/Sq.Ft.	1,018
54,500 sq.ft. School[4]	0.029 KW Hr./Day/Sq.Ft.	1,581
7,630,800 sq.ft. Residential[5]	0.012 KW Hr./Day/Sq.Ft.	91,570
Total		**175,330**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality Management District CEQA Air Quality Handbook.

[2] 700 sq.ft./room used for determining square footage for Hotel.

[3] 25 sq.ft./seat used for determining square footage for Theater.

[4] 100 sq.ft./student and 20 students/room used for determining square footage for School.

[5] 1,200 sq.ft./unit used for determining square footage for Residential.

ALTERNATE 1

Land Use	Generation Factor[1]	Total Demand (GPD)
Alternate 1 - Water Consumption		
792,000 sq.ft. Prop. Residential	200 Gal/Day/Unit (650 units)	130,000
8,000 sq.ft. Ex. Restaurant	25 Gal/Day/Seat (533 seats)[2]	13,333
Sub Total Residential		**130,000**
Sub Total Commercial		**13,333**
Total Residential (130,000 x 118.0% Residential Water Consumption Factor)[3]		**153,400**
Total Commercial (13,333 x 128.0% Non-Residential Water Consumption Factor)[3]		**17,066**
Total		**170,466**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

Land Use	Generation Factor[1]	Total Demand (GPD)
Alternate 1 - Sewer Consumption		
792,000 sq.ft. Prop. Residential	200 Gal/Day/Unit (650 units)	130,000
8,000 sq.ft. Ex. Restaurant	25 Gal/Day/Seat (533 seats)[2]	13,333
Total		**143,333**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

Land Use	Generation Factor[1]	Total Demand (CFD)
Alternate 1 - Gas Consumption		
792,000 sq.ft. Prop. Residential	0.101 Cu.Ft./Day/Sq.Ft.	79,992
8,000 sq.ft. Ex. Restaurant	0.097Cu.Ft./Day/Sq.Ft.	776
Total		**80,768**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality District CEQA Air Quality handbook.

Land Use	Generation Factor[1]	Total Demand (KWHD)
Alternate 1 - Electricity Consumption		
792,000 sq.ft. Prop. Residential	0.012 KW Hr./Day/Sq.Ft.	9,504
8,000 sq.ft. Ex. Restaurant	0.037 KW Hr./Day/Sq.Ft.	296
Total		**9,800**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality District CEQA Air Quality handbook.

ALTERNATE 2

Land Use	Generation Factor[1]	Total Demand (GPD)
Alternate 2 - Water Consumption		
120,000 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	9,600
440,000 sq.ft. Medical Office	0.25 Gal/Day/Sq.Ft.	110,000
55,000 sq.ft. Gym	0.80 Gal/Day/Sq.Ft.	44,000
85,000 sq.ft. Banquet Room	0.80 Gal/Day/Sq.Ft.	68,000
8,000 sq.ft. Ex. Restaurant	25 Gal/Day/Seat (533 seats)[2]	13,325
Sub Total		**244,925**
Total (244,925 x 128.0% Non-Residential Water Consumption Factor)[3]		**313,504**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

[3] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

Land Use	Generation Factor[1]	Total Demand (GPD)
Alternate 2 - Sewer Consumption		
120,000 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	9,600
440,000 sq.ft. Medical Office	0.25 Gal/Day/Sq.Ft.	110,000
55,000 sq.ft. Gym	0.80 Gal/Day/Sq.Ft.	44,000
85,000 sq.ft. Banquet Room	0.80 Gal/Day/Sq.Ft.	68,000
8,000 sq.ft. Ex. Restaurant	25 Gal/Day/Seat (533 seats)[2]	13,325
Total		**244,925**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] 15 sq.ft./seat used for determining seat count.

Land Use	Generation Factor[1]	Total Demand (CFD)
Alternate 2 - Gas Consumption		
120,000 sq.ft. Retail	0.097 Cu.Ft./Day/Sq.Ft.	11,640
440,000 sq.ft. Medical Office	0.067 Cu.Ft./Day/Sq.Ft.	29,480
55,000 sq.ft. Gym	0.097 Cu.Ft./Day/Sq.Ft.	5,335
85,000 sq.ft. Banquet Room	0.160 Cu.Ft./Day/Sq.Ft.	13,600
8,000 sq.ft. Ex. Restaurant	0.097 Cu.Ft./Day/Sq.Ft.	776
Total		**60,831**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality District CEQA Air Quality handbook.

Land Use	Generation Factor[1]	Total Demand (KWHD)
Alternate 2 - Electricity Consumption		
120,000 sq.ft. Retail	0.037 KW Hr./Day/Sq.Ft.	4,440
440,000 sq.ft. Medical Office	0.035 KW Hr./Day/Sq.Ft.	15,400
55,000 sq.ft. Gym	0.037 KW Hr./Day/Sq.Ft.	2,035
85,000 sq.ft. Banquet Room	0.027 KW Hr./Day/Sq.Ft.	2,295
8,000 sq.ft. Ex. Restaurant	0.037 KW Hr./Day/Sq.Ft.	296
Total		**24,466**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality District CEQA Air Quality handbook.

ALTERNATE 3

Land Use	Generation Factor[1]	Total Demand (GPD)
Alternate 3 - Water Consumption		
285,000 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	22,800
45,000 sq.ft. Health/Fitness Club	0.80 Gal/Day/Sf.Ft.	36,000
250,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	45,000
68,500 sq.ft. Movie Theatre	4 Gal/Day/Seat (2,700 seats)	10,800
151,500 sq.ft. Hotel	130 Gal/Day/Room (230 rooms)	29,900
200,000 sq.ft. Residential	200/Gal/Day/Unit (150 units)	30,000
Sub Total Residential		**30,000**
Sub Total Commercial		**144,500**
Total Residential (30,000 x 118.0% Residential Water Consumption Factor)[2]		**35,400**
Total Commercial (144,500 x 128.0% Non-Residential Water Consumption Factor)[2]		**184,960**
Total		**220,360**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

[2] Water Consumption determined by increasing sewer generation rates by the appropriate water consumption factor (Residential: 18%, Non-Residential: 28%).

Land Use	Generation Factor[1]	Total Demand (GPD)
Alternate 3 - Sewer Consumption		
285,000 sq.ft. Retail	0.08 Gal/Day/Sq.Ft.	22,800
45,000 sq.ft. Health/Fitness Club	0.80 Gal/Day/Sf.Ft.	36,000
250,000 sq.ft. Office	0.18 Gal/Day/Sq.Ft.	45,000
68,500 sq.ft. Movie Theatre	4 Gal/Day/Seat (2,700 seats)	10,800
151,500 sq.ft. Hotel	130 Gal/Day/Room (230 rooms)	29,900
200,000 sq.ft. Residential	200/Gal/Day/Unit (150 units)	30,000
Total		**174,500**

[1] Generation factors are based on units of measurement found in the 2006 Los Angeles CEQA Threshold Guidelines, Exhibit M.2-12, Sewage Generation Factor.

Land Use	Generation Factor[1]	Total Demand (CFD)
Alternate 3 - Gas Consumption		
285,000 sq.ft. Retail	0.097 Cu.Ft./Day/Sq.Ft.	27,645
45,000 sq.ft. Health/Fitness Club	0.097 Cu.Ft./Day/Sq.Ft.	4,365
250,000 sq.ft. Office	0.067 Cu.Ft./Day/Sq.Ft.	16,750
68,500 sq.ft. Movie Theatre	0.097 Cu.Ft./Day/Sq.Ft.	6,645
151,500 sq.ft. Hotel	0.160 Cu.Ft./Day/Sq.Ft.	24,240
200,000 sq.ft. Residential	0.101 Cu.Ft./Day/Sq.Ft.	20,200
Total		**99,845**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality District CEQA Air Quality handbook.

Land Use	Generation Factor[1]	Total Demand (KWHD)
Alternate 3 - Electricity Consumption		
285,000 sq.ft. Retail	0.037 KW Hr./Day/Sq.Ft.	10,545
45,000 sq.ft. Health/Fitness Club	0.037 KW Hr./Day/Sq.Ft.	1,665
250,000 sq.ft. Office	0.035 KW Hr./Day/Sq.Ft.	8,750
68,500 sq.ft. Movie Theatre	0.037 KW Hr./Day/Sq.Ft.	2,535
151,500 sq.ft. Hotel	0.027 KW Hr./Day/Sq.Ft.	4,091
200,000 sq.ft. Residential	0.012 KW Hr./Day/Sq.Ft.	2,400
Total		**29,986**

[1] Quantities are based on units of measurement found in the 1993 South Coast Air Quality District CEQA Air Quality handbook.

WATER SUPPLY ANALYSIS
MWD AND LADWP PLANS AND PROGRAMS TO SECURE FUTURE WATER SUPPLIES

Metropolitan Water District of Southern California (MWD)

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. As one of 26 member agencies, LADWP purchases water from MWD to supplement LADWP supplies from local groundwater, recycling, and the Los Angeles Aqueduct (LAA). MWD imports its water supplies from Northern California through the State Water Project's (SWP) California Aqueduct, operated by the California Department of Water Resources (DWR), and from the Colorado River through MWD's own Colorado River Aqueduct. Each of these sources is described below, along with efforts by MWD to diversify its sources of supply and increase storage of water within its service area to enhance the reliability of its two main sources.

MWD supplies water to its member agencies with the following conditions. If supplies exist, each agency gets what they demand and pay rates accordingly. If supplies are short, the WSAP allocates supply according to a formula.

All 26-member agencies have preferential rights to purchase water from MWD. Pursuant to Section 135 of the MWD Act:

> Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purposes, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense.

This is known as preferential rights. Under the preferential rights system, Los Angeles is entitled to approximately 20.97 percent of MWD's water as of June 30, 2007.

LADWP has worked with MWD in developing a framework for allocating water supplies during periods of shortage as well as surplus. MWD has a Water Surplus and Drought Management Plan that provides such a framework. LADWP intends to work within the framework established through the Water Surplus and Management Plan in acquiring its drought supplies from MWD in the future.

Even during shortages, MWD expects that it will be able to meet its member agencies' long-term needs through a combination of actions, including water transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination. Additionally, MWD has more than approximately 3.8 AF of storage capacity available in reservoirs and banking/transfer programs.

Overview of MWD Water Supplies

Based on the water supply planning requirements imposed on its member agencies and ultimate customers, such as the requirements to adopt urban water management plans, water supply assessments and written verifications, MWD has adopted a series of official reports on the state of its water supplies. As described below, MWD has consistently stated that its water supplies are fully reliable to meet the demands of its customers, in all hydrologic conditions through at least 2030.

In March 2003, MWD published a document entitled the *Report on Metropolitan Water Supplies: A Blueprint for Water Reliability* (Blueprint Report). The objective of the Blueprint Report was to provide member agencies, retail water utilities, cities and counties within the MWD service area with information that may assist in their preparation of urban water management plans, water supply assessments and written verifications. The Blueprint Report stated that the approach taken to evaluate water supplies and demands was consistent with MWD's 2000 Regional UWMP. MWD utilized SCAG's regional growth forecast in calculating regional water demands for its service area, which was the same method used by DWP in its 2005 UWMP. Thus, MWD considered the water demands of the DWP in the Blueprint Report.

The Blueprint Report fully discusses MWD's historical and projected deliveries of Colorado River and SWP water. The conclusion of the Blueprint Report and supplemental information published by MWD, such as its Integrated Resources Plan Update and annual Implementation Reports, is that with its current water supply portfolio and planned actions, MWD will have sufficient water to deliver to DWP to meet all of the water demands in the DWP service area, for the next 20 years.

By comparing total projected water demands and conservatively estimating water supplies over the next 20 years, MWD has found that if its supply programs were implemented under its Integrated Resource Plan "[b]ased on water supplies that are currently available, Metropolitan already has in place the existing capability to…[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) over the next 20 years" in average,

wet, multiple dry- and single dry years.[1] In multiple dry years, MWD reports that it will "[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) even under the repeat of the worst multiple-year drought event over the next 15 years,"[2] while in a single dry-year it can "[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) even under the repeat of the worst single-year drought event over the next 15 years."[3] MWD's additional reserve supplies will provide a "'margin of safety to guard against uncertainties in demand projections and risks in fully implementing all supply programs under development."[4]

Table III shows MWD's projected supply and demand under normal, dry and multiple-dry years. DWP has provided significant input to MWD in developing this analysis, which includes the City of Los Angeles' projected water requirements from MWD. In fact, MWD's projections are 6 to 16 percent higher than member agencies projections. This difference indicates that MWD's supplies provide a level of margin of safety or flexibility to accommodate potential delays to planned projects.

Table III
Metropolitan Water District Supply and Demand Forecast

	Normal Year				Single-Dry Year				Multiple-Dry Year			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Current Supplies												
Colorado River	0.695	0.222	0.719	0.707	0.721	0.833	0.833	0.833	0.721	0.833	0.833	0.833
California Aqueduct	1.781	1.783	1.724	1.715	0.997	0.997	0.822	0.822	1.290	1.376	1.146	1.120
In-Basin Storage	-	-	-	-	0.730	0.790	0.788	0.758	0.455	0.532	0.530	0.513
Supplies Under Development												
Colorado River	0.322	0.229	0.261	0.350	0.209	0.231	0.417	0.417	0.167	0.417	0.417	0.417
California Aqueduct	0.020	0.065	0.220	0.220	0.020	0.195	0.390	0.390	0.020	0.195	0.390	0.390
In-Basin Storage	-	-	-	-	-	0.089	0.200	0.200	-	0.089	0.200	0.200
Supply	**2.818**	**2.812**	**2.924**	**2.995**	**2.678**	**3.135**	**3.450**	**3.420**	**2.654**	**3.442**	**3.517**	**3.473**
Demand	**1.970**	**1.887**	**2.055**	**2.274**	**2.189**	**2.096**	**2.267**	**2.488**	**2.245**	**2.176**	**2.321**	**2.534**
Potential Reserve	**0.848**	**0.926**	**0.889**	**0.721**	**0.506**	**1.039**	**1.184**	**0.932**	**0.603**	**1.266**	**1.196**	**0.939**

Notes: Figures are from the Blueprint Report.

Units are in million AF per year

Supply represents expected supply capability for resource programs.

Demand is based on SCAG 98 RTP, SABDAG 1998 forecasts and member agency projections of local supplies.

[1] *Report on Metropolitan Water Supplies: A Blueprint for Water Reliability*, March 2003, (Blueprint Report), p. 24-25.
[2] *Id.*
[3] *Id*. at 25.
[4] *Id.* at 23.

The findings of this water supply assessment were developed based on MWD's stated ability to reliably provide water to DWP. Furthermore, based on MWD's current long-term water resources outlook, DWP presently does not anticipate the need to formally invoke preferential rights over the next 20 years.
Based on the Blueprint Report, MWD anticipates the following future water supplies:

Colorado River Aqueduct Deliveries:

Available by 2005:
- Basic Apportionment (Priority 4)
- IID/MWD Conservation Program
- Priority 5 Apportionment
- Coachella & All-American Canal Lining Projects
- Off Aqueduct Storage
  - Hayfield Storage Program
  - Central Arizona Banking Demonstration Program

Under Development:
- IID/MWD Conservation Program (Including Coachella Option)
- Interim Surplus Guidelines
- IID/SDCWA Transfer
- PVID Land Management Program
- Off-Aqueduct Storage/Transfer Programs
  - Lower Coachella Valley Groundwater Storage Program
  - Chuckwalla Storage Program
  - Central Arizona Banking Program

California Aqueduct Deliveries:

Available by 2005:
- SWP Deliveries
- San Luis Reservoir Carryover Storage
- Advance Delivery with Coachella Valley WD and Desert WA
- Semi tropic Water Banking and Exchange Program
- Arvin-Edison Water Management Program
- San Bernardino Valley MWD Program
- Kern Delta WD Program
- Market Transfer Options

Under Development:
- Delta Improvements (CALFED Implementation)
- Additional Transfers/Storage (San Bernardino Conjunctive Use Program, Westside Valley Transfers, and Eastside Valley Transfers)

In-Basin Storage Deliveries:

Available by 2005:
- MWD Surface Storage (DVL, Lakes Matthews and Skinner)
- Flexible Storage in Castaic Lake and Lake Perris
- Groundwater Conjunctive Use Programs
  - Long-Term Seasonal Storage Programs
  - North Las Posas Storage Program

Under Development: Groundwater Conjunctive Use Programs:
- Raymond Basin Storage Programs
- Proposition 13 Storage Programs
- Additional Programs

Summaries of MWD's individual supplies, along with the challenges facing each supply, are presented below. These sections also include specific actions that MWD is taking to meet each of the challenges facing its water supplies. Over the past several decades, MWD has demonstrated that it can adapt to continuous change and address uncertainties in supply by developing a diverse portfolio, setting supply targets, monitoring its progress on a regular basis, and adapting its strategy to meet its targets.

The Colorado River

MWD diverts water from the Colorado River at Lake Havasu on the California/Arizona border and conveys it across the Mojave Desert via the agency's Colorado River Aqueduct to Lake Mathews near Riverside. From there, MWD pumps the water into its feeder pipeline distribution system for delivery to its member agencies throughout southern California.

MWD possesses the right to divert water from the Colorado River pursuant to a contract with the U.S. Secretary of the Interior under Section 5 of the federal Boulder Canyon Project Act.[5] MWD's is entitled to a 550,000 AFY base apportionment of Colorado River water, along with the Colorado River supply projects that MWD is implementing to maximize the reliability of Colorado River supplies. A Quantification Settlement Agreement (QSA) and other related agreements were approved on October 10, 2003. These agreements address the supplies of all California users of Colorado River water, including MWD. Signing of the QSA and related agreements has allowed the implementation of various Colorado River supply projects. MWD described the QSA and related agreements and their impact on the reliability of MWD's supplies in its 2006 Integrated Water Resources Plan Implementation Report.[6]

According to MWD, it is expected that its fourth priority apportionment of 550,000 AFY of Colorado River water will be available every year for the next 20 years. This supply is "expected to be available during all year types, including wet, average, single dry-year, and multiple dry-year weather."[7]

Current challenges facing MWD's Colorado River supply include risk of continued drought in the Colorado River Basin and pending litigation that may threaten implementation of part or all of the QSA. MWD has been aggressively preparing

[5] 45 Stat. 1057 (December 21, 1928).
[6] MWD, *2006 Integrated Water Resources Plan Implementation Report* at 1-2 to 1-10 (October 10, 2006).
[7] *Id*.

for these two risks to its Colorado River supply for many years.[8] Its responses to these challenges are described in detail below.

The Colorado River Basin has experienced below-normal runoff in recent years. During 2006, Lake Mead was at its lowest level in 41 years.[9] As a result, the U.S. Bureau of Reclamation has proposed shortage guidelines that would introduce new operating and accounting procedures to address the ability of MWD and others to store water in Lake Mead. Despite the challenges of recent Colorado River Basin hydrology, however, MWD "does not anticipate adverse water supply impacts resulting from the implementation of [the] shortage guidelines because California's 4.4 million acre-foot apportionment has a higher priority than a portion of Arizona and Nevada's apportionments during shortage conditions."[10]

Programs that will help to implement the QSA and meet Colorado River water supply targets and that are currently in operation, close to completion or in progress include: the Imperial Irrigation District ("IID") and MWD water conservation and transfer program; the Coachella and All-American Canal lining projects; the IID and San Diego County Water Authority (SDCWA) water transfer; the Palo Verde Irrigation District land management and crop rotation program; and the Interim Surplus Guidelines adopted by the U.S. Secretary of the Interior.[11] MWD is actively working to implement several of these QSA-related programs. In addition, MWD is participating in the "Intentionally Created Surplus" program to store water in Lake Mead for withdrawal during dry years. During 2006 and 2007, MWD stored 50,000 AF of water in Lake Mead that it had saved under the Palo Verde Irrigation District Land Management and Crop Rotation Program.[12] Collectively, these programs are expected to maintain the reliability of MWD's Colorado River supplies.

MWD's fourth priority apportionment of Colorado River water has been delivered to MWD every year since 1939, in all hydrologic year types.[13] By existing contract, this supply "will continue to be available in perpetuity" due to California's senior rights on the Colorado River.[14] MWD has affirmed that "[t]he historical record for available Colorado River water indicates that Metropolitan's fourth priority supply has been available in every year and can reasonably be expected to be available over the next 20 years."[15] Thus, according to MWD, its Colorado River supply is secure through at least 2025. Pursuant to the analysis in more recent MWD assessments of its water supplies and this WSA, there are no substantial challenges that are currently predicted to arise between 2025 and

[8] *Id* at 25.
[9] MWD, *2006 Integrated Water Resources Plan Implementation Report*, at 12 (October 10, 2006).
[10] *Id* at 13.
[11] *Id* at 11. *See also* 66 Fed. Reg. 7772-7782 (January 25, 2001).
[12] *Id*.
[13] MWD's 2005 UWMP at A.3-2.
[14] *Id*.
[15] *Id*.

2030. Therefore, the same reliability that MWD declared through 2025 is also applicable through 2030.

The second challenge to MWD's Colorado River supplies is the pending litigation concerning the QSA and related agreements. That litigation has taken two forms: (1) a series of lawsuits against the lining of the All-American Canal; and (2) a series of lawsuits which challenge the IID/SDCWA transfer. The All-American Canal litigation has been litigated and resolved in favor of the QSA parties thus, increasing the certainty of MWD's Colorado River supplies.[16]

Several lawsuits against the IID/SDCWA transfer were brought by the County of Imperial, various landowners within IID and environmental advocacy groups, and have been consolidated in Sacramento County Superior Court. In two of those lawsuits, the County of Imperial sued the State Water Resources Control Board (SWRCB), IID and SDCWA regarding the legitimacy of the QSA approvals. In November 2004, the Superior Court dismissed those cases with prejudice on the ground that the County had failed to name MWD and the Coachella Valley Water District as necessary and indispensable parties to the actions on a timely basis. The County appealed that decision and the Court of Appeal affirmed the dismissal in 2007, which lifted a stay on the other QSA cases.[17] In addition, several demurrers have been filed and sustained in the consolidated cases, reducing the number of causes of action pending in the litigation.[18] The water transfer challengers have filed motions for preliminary injunction, which have been opposed by MWD and the other QSA parties.[19]

While all significant issues in the QSA litigations have been resolved in favor of MWD and the other QSA parties to date, including the entire All-American Canal case, it is impossible to predict with absolute certainty how the remaining litigation will be resolved. MWD is actively involved in the litigation and plans to defend the QSA fully to prevent any impacts to its Colorado River supplies.

Consistent with the QSA, MWD has developed a number of water supply programs to supplement its basic apportionment of Colorado River water, including agricultural water transfers and storage programs. Current programs

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[16] On April 6, 2007, the U.S. Court of Appeals for the Ninth Circuit dismissed the challenge to the lining of the All- American Canal and lifted the court-imposed injunction that for a period of time halted construction. The ruling allowed IID to commence work on the project to conserve water lost by seepage from the existing earthen canal. See *Consejo de Desarrollo Economico de Mexicali, A.C. v. United States*, 482 F.3d 1157 (2007).

[17] *County of Imperial v. Superior Court*, 152 Cal.App.4th 13 (2007).

[18] October 10, 2007 Order by Judge Candee in *Imperial Irrigation District v. All Persons Interested in Any of the Following Contracts. Imperial County Case No*. ECU01649 (Sacramento County Case No. 04CS00875) filed November 5, 2003.

[19] See Notice of Motion and Motion of Putative Class Representatives for Preliminary Injunction or Other Immediate Provisional Relief, Case No. 4353 (Filed October 15, 2007); POWER's and James Albert Abatti's Combined Joinder in the Putative Class Representatives' Motion for Preliminary Injunction or Other Immediate Provisional Relief; Additional Points and Authorities in Support of Preliminary Injunction Based on CEQA, Case No. 4353 (Filed October 16, 2007).

will provide MWD with approximately 1.13 million AF by 2020. Proposed programs could add another 300,000 AFY. Table IV summarizes MWD's Colorado River Aqueduct supply by 2020.

To further ensure reliability of Colorado River supplies, on April 8, 2008, MWD's Board of Directors authorized $28.7 million to join agencies in Arizona and Nevada in funding construction of a new reservoir that will save up to 228 billion gallons of water per year. In return for its funding, Metropolitan will receive 100,000 acre-feet of water, including up to 34,000 acre-feet in 2008 that will be created though construction and operation of the Drop 2 Reservoir, adjacent to the All American Canal in Imperial County.[20] This water could be fully recovered within three years, and any portion of the water not recovered remains in MWD's credit account through 2036 and would not be reduced because of reservoir evaporation loss or spill.

Based on the foregoing, MWD expects that it will continue to be able to provide a reliable water supply via the Colorado Aqueduct. In reaching this conclusion, MWD has taken into consideration various hydrologic conditions that may occur in the Colorado River Basin as well as the competing rights and priorities to use the water.

TABLE IV
MWD's Colorado River Aqueduct Supplies: 2020-2030

Supply Source	Description	Project Status	Annual Deliveries (AFY)
Basic Apportionment	MWD's basic apportionment of Colorado River water.	Current	550,000
IID/MWD Conservation	Imperial Irrigation District (IID) and MWD are parties to a long-term water conservation and transfer agreement. Pursuant to the agreement, MWD pays the costs of water conservation measures in exchange for conserved water.	Current	85,000
Coachella & All American Canal Lining Projects	The Coachella Canal Lining Project was completed in December 2006, when 26,000 AFY of conserved water began flowing to project beneficiaries. The All-American Canal Lining Project began construction in June 2007. This project will be completed in 2010 and will conserve 67,700 AFY of water.	Current	78,000

[20] See *Metropolitan Partners with Arizona, Nevada to Fund Construction of a New Reservoir, Add to Colorado River Flexibility*, MWD News Release, April 8, 2008, available at http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2008-04/Drop%202%20Reservoir.pdf.

Supply Source	Description	Project Status	Annual Deliveries (AFY)
Basic Apportionment	MWD's basic apportionment of Colorado River water.	Current	550,000
IID/MWD Conservation	Imperial Irrigation District (IID) and MWD are parties to a long-term water conservation and transfer agreement. Pursuant to the agreement, MWD pays the costs of water conservation measures in exchange for conserved water.	Current	85,000
Coachella & All American Canal Lining Projects	The Coachella Canal Lining Project was completed in December 2006, when 26,000 AFY of conserved water began flowing to project beneficiaries. The All-American Canal Lining Project began construction in June 2007. This project will be completed in 2010 and will conserve 67,700 AFY of water.	Current	78,000
SDCWA/IID Transfer & MWD/SDCWA Exchange	San Diego County Water Authority (SDCWA) and IID are parties to a water transfer agreement, pursuant to which, beginning in 2003, IID began making transfers to SDWCA. The transfer volumes will increase in accordance with an annual build-up schedule, reaching 100,000 AFY by 2013 and stabilizing at 200,000 AFY in 2023. The water transferred to SDCWA is made available to MWD via an exchange agreement.	Current	200,000 Maximum in 2023
PVID Land Management Program	Palo Verde Irrigation District (PVID) and MWD are joint participants in a long-term land management, crop rotation, and water supply program. Pursuant to the program, participating farmers in PVID are paid to reduce their water use. The water savings are made available to MWD.	Current	111,000
Subtotal			**1,024,000**
Hayfield Groundwater Storage	MWD authorized the Hayfield Groundwater Storage project in April 1999. It is estimated that the Hayfield aquifer can hold up to 500,000 AF of additional water.	Under Development	150,000
Lower Coachella Storage Program	MWD has identified the Lower Coachella Groundwater Basin as a feasible location for conjunctive use storage. It has the potential to provide up to 500,000 AF of storage capacity.	Under Development	150,000
Chuckwalla Storage Program	MWD is investigating the Chuckwalla Groundwater Basin as a possible location for off-stream storage of CRA supplies. It is estimated that the basin could hold up to 500,000 AF of water.	Under Development	150,000

Sources: LADWP, *Urban Water Management Plan* (2005), at 3-32; MWD, *Regional Urban Water Management Plan* (2005), at A.3-1 through A.310; SDCWA, *Fact Sheet re QSA* (August 2007).

State Water Project (SWP)

MWD possesses a contract with DWR that entitles it to water from the SWP.[21] MWD's share of the total SWP supply is approximately 46 percent.[22] This supply is diverted from the Feather River at Lake Oroville, released and conveyed through the Sacramento-San Joaquin River Delta (Delta) and rediverted at the Harvey O. Banks Delta Pumping Plant for conveyance through the California Aqueduct to Southern California and MWD. MWD described and analyzed the reliability of its SWP supplies in the Blueprint Report.[23] MWD estimated the availability of SWP supplies "according to the historical record of hydrologic conditions, existing system capabilities, requests of the state water contractors and SWP contract provisions for allocating Table A, Article 21 and other SWP deliveries to each contractor."[24] MWD estimated that in 2025, it will have 794,700 AF available in multiple dry years, 418,000 AF in a single dry year, 1,523,300 AF in an average year and 1,741,000 AF in a wet year.[25]

Following the Blueprint Report, SWP supplies have been challenged through environmental litigation concerning the Delta. In addition, MWD has acknowledged that conveyance of water through the Delta can present challenges for SWP supplies due to water quality and environmental issues that can affect pumping operations. Risks to this supply also include potential levee failure. Actions being taken by DWR and MWD to avoid or mitigate these risks are described below.

Environmental Litigation

Specific threats to the SWP include litigation concerning the Delta. In 2007, two courts ruled that California's major water delivery systems, the SWP and the Central Valley Project (CVP), were violating state and federal environmental laws regarding a threatened fish species, the Delta smelt. First, Alameda County Superior Court Judge Roesch concluded that the SWP had failed to obtain a permit required under the California Endangered Species Act (CESA) that would provide protections for Delta smelt, salmon, and steelhead from the effects of water pumping for activities at the Harvey O. Banks Delta Pumping Plant in

[21] See Contract Between the State of California Department of Water Resources and the Metropolitan Water District of Southern California For a Water Supply (November 4, 1960), as amended through Amendment No. 28, available at http://www.swpao.water.ca.gov/wsc/pdfs/MWDSC_O_C.pdf.

[22] MWD, *2006 Integrated Water Resources Plan Implementation Report*, at 14 (October 10, 2006).

[23] Blueprint Report at 11.

[24] *Id* at 11.

[25] *Id*. MWD's contract with DWR expires in 2035, at which time MWD has an option to renew under the same basic conditions. MWD's 2005 UWMP at A.3-12.

Tracy, California.[26] Accordingly, Judge Roesch ordered the SWP pumps to be turned off unless appropriate permits were obtained within 60 days. As a practical response to the pending litigation in State and federal courts, the DWR shut down the Harvey O. Banks Delta Pumping Plant from May 31 to June 10, 2007 to protect the Delta smelt. DWR resumed pumping at normal operating levels on June 10, 2007 but has since reduced pumping capacity due to the increased salvage of adult smelt at the pumping plant.[27]

In May 2007, U.S. District Court Judge Oliver Wanger ruled that a federal Endangered Species Act (ESA) take permit that had been issued to protect Delta smelt at both the SWP pumps and the federal Jones Pumping Plant was not legally sufficient.[28] By the time this decision was released, the SWP and CVP water agencies were aware that the incidental take permit was not preventing take of Delta smelt and had requested a new permit. In August 2007, Judge Wanger issued an interim oral decision that allowed the SWP and CVP to continue operating under the prior take permit as long as they complied with a USFWS-proposed five-point action matrix with a few modifications, plus certain increased monitoring plans requested by the plaintiffs and other actions that do not have a water cost. The court pieced together certain operational restrictions that vary depending on fish, weather and flow conditions in the Delta, as well as how curtailments are divided between state and federal projects.

DWR has anticipated that in an average year, when combined deliveries of the CVP and SWP would be 5.9 million AF, reductions in deliveries due to compliance with the USFWS matrix will range from 820,000 to 2.17 million AF, which represent 14 and 37 percent of baseline deliveries, respectively.[29] In a dry year, when combined deliveries would be 3.2 million AF, reductions will range from 183,000 to 814,000 AF, which represent reductions from baseline deliveries of 6 and 25 percent, respectively. The modifications to the USFWS matrix by Judge Wanger will increase the delivery reductions by an amount that was not modeled by DWR, but it is expected that the actual impacts of Judge Wanger's order may be slightly greater than those figures. DWR estimates that its water deliveries will be reduced up to 30 percent this year as a result of the court order.[30]

In *Pacific Coast Federation of Fisherman's Associations* (*PCFFA) v. Carlos M. Gutierrez,*[31] an additional ruling by Judge Wanger will likely result in similar restrictions on Delta pumping to protect a variety of salmonid species. On

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[26] *Watershed Enforcers v. California Department of Water Resources*, Case No. RG06292124. Order (Alameda County Sup. Ct. March 22, 2007).

[27] *See* DWR News Release, *DWR Announces New Delta Pumping Cutbacks*, March 13, 2008, available at: http://www.water.ca.gov/news/newsreleases/2008/031308delta.pdf.

[28] *Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D.Cal. 2007).

[29] DWR, Comparison of the Water costs Associated with the Proposed Remedy Acts, Table produced from John Leahigh Supplemental Declaration Filed August 3, 2007 in *Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D.Cal. 2007).

[30] DWR News Release, *DWR Announces New Delta Pumping Cutbacks*, March 13, 2008.

[31] Case. No. 1:06-cv-00245-OWW-GSA, Federal Eastern District Court of California, April 16, 2008.

August 9, 2005 multiple environmental groups filed a complaint in the Eastern District of California against representatives of the National Marine Fisheries Service (NMFS) and the Bureau of Reclamation (Bureau), challenging a biological opinion (BiOp) prepared by NMFS that analyzed the potential impact on salmonid species of the Bureau's future operations of the CVP in coordination with the SWP. Judge Wanger's April 16, 2008 order found for the plaintiffs on two important grounds. First, the Court held that CVP and SWP operations did, and likely would continue to, impact the survival and recovery of salmonid species, which was contrary to the BiOp's conclusions. Second, the BiOp failed to include any analysis of the effects of global climate change on CVP and SWP operations and, in turn, on salmonids.

Judge Wanger's order in *NRDC v. Kempthorne* will impact diversions from December 25, 2007 until the new USFWS biological opinion (BiOp) is issued in approximately September 2008. However, it should be expected that the USFWS will include similar restrictions in the final BiOp to those that were in its action matrix adopted by Judge Wanger. Moreover, Judge Wanger could impose even further restrictions on CVP and SWP exports to protect salmonid species as a result of *PCFFA v. Gutierrez*, beyond those already mandated to remedy the effect on Delta smelt. Thus, the SWP and CVP will likely see long-term reductions in deliveries based on this litigation. Among other results, the decision in *Kempthorne* likely will increase the political pressure for construction of the Peripheral Canal to avoid use of the south Delta pumping plants. In response to this decision and other water supply and quality issues, MWD has reported that "[i]n the short and long term, continued investment in regional and local resources will help ensure and diversify reliable water supplies to meet Southern California's future needs.[32]"

Mitigation of Risks Posed by Environmental Litigation

MWD has embarked on many proactive programs to deal with potential future delivery restrictions as described above, should they occur. For example, MWD is one of the parties involved in drafting the Bay-Delta Conservation Plan (BDCP) to provide State and federal ESA coverage for its SWP operations. The BDCP allows water contractors, who must comply with the federal and State ESAs, to work cooperatively to attain incidental take coverage via a habitat conservation plan and natural community conservation plan. Development of this plan is now underway under the aegis of the California Resources Agency, with the appropriate permits and completion of an environmental impact statement/impact report (EIS/EIR) expected in late 2009. The NOP for the BDCP EIS/EIR was recently circulated for public comment on March 17, 2008.

[32] See *Metropolitan Looks to Statewide Water Market to Secure Supply Insurance in the Face of Uncertainties*, MWD News Release, November 20, 2007, available at http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2007-11/water_transfers.pdf.

MWD is also focusing on voluntary Central Valley storage and transfer programs to bank MWD's SWP water supplies. In its 2006 Integrated Water Resources Plan Implementation Report, MWD reported that "492,000 acre-feet of dry-year yield has been developed in Central Valley storage and transfer programs" and "potential partners and programs have been identified to meet IRP targets."[33] This flexibility will assist MWD in addressing shortages due to drought or court-imposed cutbacks to protect Delta smelt. Further, MWD has employed conjunctive use programs which utilize groundwater basins to store water during wet seasons, which provides a buffer supply that MWD can extract during dry periods. In 2006, MWD developed groundwater storage capable of providing 135,000 AF of dry year supply.[34] MWD continues to seek additional opportunities in southern California to expand groundwater conjunctive use storage programs.[35]

Delta Vision Process

The State is actively studying the risk of levee failure and potential impacts to SWP supplies and developing a plan to protect the Delta. There are several concurrent processes for resolving these challenges. In the spring of 2006, at the recommendation of CALFED, [36] an interagency effort that includes 23 state and federal agencies that have management or regulatory responsibility for the Delta, DWR began and completed a two-year Delta Risk Management Strategy (DRMS) to analyze risks to the levee system. Phase I included a discussion of the region's assets, existing problems with the system, the degree of risk that exists, and the potential consequences of multiple levee failures. Phase II addressed levee risk reductions. The DRMS reports was part of the Delta Vision Report submitted to the State Legislature and Governor in January 1, 2008.

Also as part of the Delta Vision process, in April, 2007, MWD released its Delta Action Plan. The Delta Action Plan calls for analyzing alternative strategies for reducing longstanding conflicts in the Delta and improving water reliability, water

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[33] MWD, *2006 Integrated Water Resources Plan Implementation Report*, at 18 (October 10, 2006).

[34] *Id* at 20.

[35] *Id* at 21.

[36] In 1994, to address the Bay-Delta's problems, 18 federal and state agencies formed a consortium, known as CALFED, to design and implement a long-term and comprehensive plan to restore the Bay-Delta's ecological health and to improve management of Bay-Delta water. CALFED prepared a program EIS/EIR for this plan, which was certified in August 2000. Legal challenges under CEQA to the program EIS/EIR were filed, claiming that it was inadequate for following reasons: because it did not examine in detail a program alternative requiring reduced water exports from the Bay-Delta; because it did not identify with adequate specificity the potential sources of water required for the proposed projects or analyze in sufficient detail the environmental impacts of taking water from those specific sources; and because it did not provide sufficient detail about the proposed "Environmental Water Account" (a specific project within the CALFED Program). These challenges were recently heard by the California Supreme court, which held on June 5, 2008, that the CALFED program EIS/EIR is not legally defective in any of these ways. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* S138974 Ct.App. 3 C044267 & C044577).

quality, levee stability, and the environment. The plan includes the following elements:

- *Short-Term Action Plan*. Actions over next 18 months to secure short-term permits for operating the State Water Project Banks pumping plant and avoiding incidental take of threatened or endangered species; implementing/funding a Delta Levee Emergency Preparedness and Response Plan; and selection and approval of key elements of the Bay-Delta Conservation Plan and long-term Delta Vision.
- *Mid-Term Action Plan*. Actions prior to a long-term Delta solution to secure long-term operating permits for the State Water Project under the Bay-Delta Conservation Plan; develop an implementation plan and environmental documentation for the preferred long-term Delta Vision; and implementation of early start "no regrets" ecosystem restoration projects.
- *Long-Term Action Plan*. Actions to fully implement, govern, and finance the elements of a long-term Delta Vision. These elements include water quality/supply infrastructure, Delta habitat protection and restoration, flood control and levees, and others.

On September 11, 2007, MWD clarified its position on the water supply conveyance element of the long-term Delta Plan to further enhance the Delta ecosystem, water quality, and water supply reliability. MWD's vision included water supply conveyance options that allow the greatest flexibility in meeting water demands by taking water where and when it is least harmful to migrating salmon and in-Delta fish species. The vision also focused on reducing longer-term risks associated with Climate Change by placing intake structures at locations that are able to withstand an estimated 1- to 3-foot sea-level rise in the next 100 years.

Following completion of the Delta Vision Report, the panel established by Governor Schwarzenegger began studying long-term strategic solutions for the conflicts in the Delta. That process, which will take place from January through December 2008, is a strategic planning stage that will assess alterative implementing measures and management practices to implement the Delta Vision recommendations. The final recommendations will include modifications to existing land uses and services in the Delta, and will assess governance, funding mechanisms, water resource uses and ecosystem management practices. The Delta Vision Committee will publish a public review draft of its Delta Strategic Plan by October 31, 2008 and submit the final plan to the Governor and Legislature by December 31, 2008.

In response to concerns over the integrity of the levee system, the state significantly increased the budget for levee repairs in 2006, and a $5.4 billion natural resources bond was approved by voters in November 2006 (Proposition 84), which assigns additional funds for flood control in the Delta and to plan for future water supplies. In 2007, both Governor Arnold Schwarzenegger and

Senator Don Perata, the Democratic leader of the state Senate, began promoting multi-billion-dollar water bond measures to be placed on a Statewide ballot in 2008. As result, California voters could decide whether to approve billions of dollars to build new water projects, including a canal to divert water around the Delta, a program to protect the aging levees, funding for three new reservoirs, delta restoration, environmental restoration projects, water recycling, conservation, and other supply reliability projects. Initiative No. 07-0069, which authorizes $6.8 billion in bonds for water related projects, is currently pending signature verification by the California Secretary of State's office. Assuming the initiative is placed on the ballot and adopted by California voters, the bonds would allocate approximately 29% to statewide water supply reliability projects, including conservation, reclamation, distribution, storage and restoration. Approximately 35% of the bonds would be allocated to Sacramento-San Joaquin delta sustainability projects including ecosystem improvements.

At the regional and local levels, numerous water decision-makers are actively addressing the threats facing the Delta. A review of MWD's resource development programs demonstrates that although SWP supplies are facing challenges and may become more expensive based on the cost of ultimately adopted solutions, MWD's adaptive planning framework, which includes conservation, in-region surface water storage, groundwater storage programs, and local water production within the MWD area, will allow MWD to adapt to changing conditions and ensure a reliable, diverse water supply to its members agencies that supply water to municipal customers. MWD has spent the past decade increasing the capacity of its reservoirs and its overall water reserve is several times larger than it was during the 1991-1992 drought. Further, actions that are being taken by the CALFED process and the State should enhance reliability of the SWP supplies in the future. Both MWD and State agencies are aware of changing conditions that may impact the SWP and are planning accordingly to ensure a safe, reliable supply of SWP water.

Climate Change

As noted above, another source of water supply uncertainty is due to global climate change. Current literature suggests that global warming is likely to significantly impact the hydrological cycle, changing California's precipitation pattern and amount from that shown by the historical record. According to DWR, there is evidence that some changes have already occurred, such as an earlier beginning of snowmelt in the Sierras, an increase in water runoff as a fraction of the total runoff, and an increase in winter flooding frequency. More variability in rainfall, wetter at times and drier at times, would place more stress on the reliability of existing flood management and water supply systems, such as the SWP. Other uncertainties include future sea level rise associated with global climate change, which could increase salinity in the Delta and the risk of interruptions in SWP diversions from the Delta due to levee failures. As to estimating future demand for SWP water, DWR has identified uncertainty factors, including population growth, water conservation, recycling efforts, other supply

sources, and global climate change. In addition to the above-identified factors affecting water delivery reliability, DWR has reported other limitations and assumptions, all of which are explained in the Draft State Water Project Delivery Reliability Report 2007. This report has also identified the status of four major concurrent Delta planning efforts that are underway with objectives related to providing a sustainable Delta over the long-term. These planning efforts may propose changes to SWP operations, which in turn could affect SWP delivery reliability. The planning efforts are the Delta Vision (described above), the Delta Risk Management Strategy, the CALFED Ecosystem Restoration Program Conservation Strategy, and the Bay-Delta Conservation Plan. According to DWR, each planning effort could affect SWP and CVP operations in the Delta, and each planning effort is explained in detail in the Draft State Water Project Delivery Reliability Report 2007.

Additional Actions to Mitigate Supply Risks

In addition to the actions described above that seek to avoid or mitigate risks facing the Colorado River or SWP individually, MWD also has several programs that address its overall supply reliability, as described in detail below.

Water Surplus and Drought Management Plan (WSDM)

In 1999, MWD incorporated the water shortage contingency analysis that is required as part of any urban water management plan into a separate, more detailed plan, called the WSDM Plan.[37] This plan provides policy guidance to manage MWD's supplies and achieve the goals laid out in the agency's Integrated Resources Plan. The WSDM Plan also "identifies the expected sequence of resource management actions that [MWD] will execute during surpluses and shortages to minimize the probability of severe shortages and eliminate the possibility of extreme shortages and shortages allocations."[38] MWD's 10 year WSDM Plan categorizes its ability to deliver water to its customers by distinguishing between surpluses, shortages, severe shortages and extreme shortages.[39] The WSDM Plan's integration of management actions taken during times of surplus and shortages reflects MWD's belief that these actions are interrelated.

For example, MWD's regional storage facilities, such as Lake Skinner, Lake Mathews and Diamond Valley Lake, along with storage capacity available to MWD in Castaic Lake and Lake Perris, provide MWD with flexibility in managing its supplies.[40] MWD's storage supplies and existing management practices allow MWD to mitigate shortages without having to impact retail municipal and

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[37] *See* Cal. Water Code §10632; MWD's *Water Surplus and Drought Management Plan*, Report No. 1150 at 1 (August 1999).
[38] MWD 2005 UWMP at II-15.
[39] *Id*. at II-16.
[40] WSDM Plan at 20.

industrial demands, except in severe or extreme shortages.[41] MWD's 2005 UWMP shows its expected ability to meet demands in single dry years by water supply source. For example, in 2010 MWD expects to have 831,000 AF in potential reserve and replenishment supplies, primarily through in-basin storage.[42] In 2030, MWD estimates that it will have 716,000 AF in potential reserve and replenishment supplies.[43] Anytime MWD withdraws from storage to meet demands, it is considered to be in a shortage stage.[44] MWD has spent decades building up its storage reserves and groundwater management programs in order to prepare for a variety of shortage conditions. "Each [shortage] stage is associated with specific resource management actions designed to (1) avoid an Extreme Shortage to the maximum extent possible and (2) minimize adverse impacts to retail customers if an Extreme Shortage occurs."[45] MWD notes that the "overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage."[46]

In an actual shortage, MWD will take one or more of the following actions: (1) draw on storage out of reservoirs; (2) draw on out-of-region storage in the Semitropic and Arvin-Edison groundwater banks; (3) reduce or suspend long-term seasonal and groundwater replenishment deliveries; (4) draw on groundwater storage programs; (5) draw on SWP terminal reservoir storage; (6) call for voluntary conservation and public education; (7) reduce Interruptible Agricultural Water Program (IAWP) deliveries; (8) call on water transfer options contracts; (9) purchase transfers on the spot market; and (10) reduce imported supplies to its members agencies by an allocation method. [47]

MWD clarifies that this list is not in any particular order, "although it is clear that the last action [taken] will be the curtailment of firm deliveries to the member agencies."[48] If MWD were obligated to curtail firm deliveries, it would enforce these shortage allocations using rate surcharges.[49] For example, if deliveries exceed 102 percent of a customer's allotment, the customer will be assessed a surcharge. MWD's actions in 2007 are instructive in demonstrating how the WSDM Plan is implemented in practice.

Prior to the start of calendar year 2007, MWD estimated that water demands would exceed annual supplies (not including stored water) by approximately

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[41] *Id*. at 23.
[42] MWD 2005 UWMP at III-2.
[43] *Id*.
[44] *Id*. at II-16.
[45] *Id*.
[46] *Id*. at II-17
[47] WSDM Plan at 23. Notably, the threat of water shortages was much greater in the late 1980s and early 1990s when the agency only had about 225,000 AF of water stored. Since then, MWD has increased its storage capacity significantly and today has more than 2.5 million AF of water stored around Southern California, including Diamond Valley Lake in Riverside County.
[48] *Id*.
[49] MWD 2005 UWMP at II-16 to II-17.

300,000 AF.[50] In response, MWD took the following actions: (1) called for water stored in its Central Valley storage programs; (2) initiated replenishment cuts and notified participating agencies with in-basin groundwater storage programs; (3) embarked on a public outreach and media conservation campaign; and (4) announced reductions in IAWP agricultural supplies.[51]

Regarding reductions in agricultural water deliveries, before MWD imposes any restrictions on water, it will reduce deliveries of discounted agricultural supplies. In 1994, MWD established the IAWP to deliver surplus water for irrigation purposes at a reduced rate that is more affordable for certain sectors of the agricultural industry.[52] In exchange for the discounted rate, the MWD General Manager has the authority to reduce IAWP deliveries up to 30 percent before it imposes mandatory allocations to municipal and industrial retail customers under its WSDM Plan.[53]

Due to dry conditions and the Delta smelt litigation in 2007 that may affect MWD's supplies, MWD will implement the water shortage actions which it outlined in its WSDM Plan, which include a 30 percent reduction in IAWP deliveries. On October 9, 2007, MWD's Board of Directors announced that it will reduce IAWP deliveries over a 12-month calendar year beginning in January 2008.[54] At this time, MWD has stated that it will not reduce water purchased by its member agencies at the full service rate.[55]

MWD has announced a strategic approach for 2008 regarding its WSDM Plan. Besides exercising interruptions to the IAWP, MWD's major strategies are as follows:

- Continue conservation campaign;
- Maximize recovery of water from Central Valley storage and banking programs;
- Purchase additional supplies to augment existing supplies; and
- Develop and implement a shortage allocation plan.[56]

On February 12, 2008, MWD adopted a long-term Water Supply Allocation Plan that may require reductions of full service deliveries during periods of drought.[57]

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[50] Metropolitan Water District of Southern California, *Water Surplus and Drought Management Plan* at 3 (June 21, 2007) [Appendix J]. That figure did not include the risk of the SWP supply being restricted to protect Delta smelt, which in fact occurred.
[51] *Id*. at 4.
[52] MWD Administrative Code §4900 *et seq*.
[53] *Id*. at §4905.
[54] MWD Board of Directors Agenda Item 8-4 at 1 (October 9, 2007).
[55] *Id*. at Attachment 2 at 3.
[56] MWD's *Water Surplus and Drought Management Plan Board Report* at 4 (June 21, 2007).
[57] See *Water Supply Allocation Plan Adopted by Metropolitan Board*, MWD News Release, February 12, 2008, available at: http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2008-02/allocation_plan.pdf.

MWD has used several of these types of initiatives in the past (e.g., during the droughts of 1977-78 and 1989-92), which allowed the agency to meet the needs of its member agencies.[58] The plan serves as the final piece of the WSDM Plan and would allocate water based on member agency dependency on MWD supplies, while taking into account other local sources of supply. The plan relies on pricing to encourage agencies to reach their targeted allocated supplies. These "penalty rates" are similar to drought pricing used in many cities during the 1987-92 drought, calling for agencies to pay up to four times Metropolitan's highest priced water, depending how far they exceed their allocation. Any funds collected through penalty rates will be applied toward investments in conservation and local resources development.[59]

Integrated Resources Plan

MWD first adopted its IRP in 1996. The most updated IRP, which was adopted in 2004, discussed local water supply initiatives (e.g., local groundwater conjunctive use programs) and established a buffer supply to mitigate against the risks associated with implementation of local and imported water supply programs.[60] The 2004 IRP noted that future water supply reliability depends not only upon actions by MWD to secure reliable imported supplies, but also further development of local projects by local agencies such as LADWP (See discussion of LADWP's Water Supply Action Plan, "Securing L.A.'s Water Supply," below)

On October 10, 2006, MWD released its 2006 Integrated Water Resources Plan Implementation Report (2006 Implementation Report) to report on progress toward implementing the targets from the 2004 IRP Update. The 2006 Implementation Report included a summary of each of MWD's water resource development categories: (1) conservation; (2) local resources; (3) Colorado River Aqueduct; (4) SWP supplies; (5) Central Valley storage and transfer programs; (6) in-region groundwater conjunctive use storage; and (7) in-region surface water storage. This recent report concluded that "while changes occur in all resource areas, Metropolitan is able to maintain supply reliability through its diversified water resources portfolio."[61]

MWD supported this conclusion by providing detailed updates for each of its resource categories, restating dry-year IRP targets and examining current considerations, changed conditions, implementation strategies and identified programs, implementation challenges and cost information. A brief summary of each of MWD's water resource development categories (other than the Colorado River and SWP supplies, which were discussed in detail in previous sections of this WSA) is provided below:

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[58] 2005 UWMP at 3-4.
[59] See *Water Supply Allocation Plan Adopted by Metropolitan Board*, MWD News Release, February 12, 2008.
[60] MWD, *Integrated Resources Plan Update* (2004).
[61] MWD, *2006 Integrated Water Resources Implementation Report* (2006).

- *Conservation*: In 2006, MWD invested $10.6 million in conservation programs and initiatives, including executing a 10-year residential master conservation funding agreement with member agencies, encouraging the use of high-efficiency toilets, strengthening outdoor conservation programs and introducing new Industrial Process Improvement programs. In 2005-2006, MWD programs conserved approximately 762,000 AF, which was an increase of approximately 30,000 AF over the previous fiscal year. MWD's 2010 target for conservation savings is 865,000 AF.[62]
- *Local Resources—Recycling, Groundwater Recovery and Seawater Desalination*: MWD has invested $213 million with its member agencies to develop local resource programs. MWD contributed approximately $24.5 million toward the production of 127,000 AF of local resource production supplies in 2006, which is an increase of 16,000 AF from 2005. MWD's 2010 target for regional water recycling and groundwater recovery is 410,000 AF. Further, three desalination project agreements have been signed.[63]
- *Central Valley Storage and Transfer Programs*: MWD has developed significant water storage and transfer program partnerships in the Central Valley and has witnessed increased cooperation with DWR and federal agencies to facilitate water transfers. MWD continues to pursue transfers with Central Valley parties and has worked to improve existing storage programs with existing SWP storage partners.[64] For 2008, MWD is currently seeking to acquire up to 250,000 AF by temporary transfer from the Central Valley.
- *In-Region Groundwater Storage*: The 2006 Implementation Report identified that components of MWD's in-region groundwater storage program may not meet its 2010 dry-yield target of 275,000 AF. As of October 2006, groundwater storage had been developed to provide about 135,000 AF.[65] In response, MWD conducted a groundwater basin assessment to explore other groundwater storage opportunities. MWD's recent Groundwater Basin Assessment Study provided new information to focus on meeting this goal.[66] MWD will continue to develop new strategies for groundwater storage.[67]

MWD's 2007 Implementation Report demonstrates that the agency has continued to react aggressively to address challenges facing water resources.[68] By amending existing strategies, MWD has made significant progress in most resource areas toward meeting the IRP targets. For example, in fiscal year 2006-2007, MWD saved approximately 812,000 AF through conservation efforts

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[62] *Id*. at 5-6.
[63] *Id*. at 7-8.
[64] *Id*. at 19.
[65] *Id*. at 20.
[66] *Id*. at I-6.
[67] *Id*. at 22.
[68] MWD, *2007 Integrated Water Resources Implementation Report* (2007).

and is expected to meet its 2010 target.[69] MWD's Board has taken a number of actions to strengthen conservation efforts, including:

- *Program refinement:* more options, streamlined administrative processes, upgraded and new incentives, and more standardization across programs to increase program participation;

- *Expanded incentives:* new incentives have been added to facilitate the installation of water conserving devices; grants and like funding from other agencies help expand incentive programs;

- *New programs:* novel programs like recently approved Public Sector Water Efficiency Partnership Demonstration Program (MWD's Board authorized $15 million for the Program) allows MWD to work with member agencies to save water through public agencies within MWD's service area that have high potential to achieve accelerated conservation or water recycling use.[70]

Local resource production is expected to exceed the 2010 target of 426,000 AF based on current production and expansion of existing programs.[71] Existing supplies in Central Valley storage programs are also expected to exceed the 2010 target of 300,000 AF.[72] While in-region groundwater storage programs are currently falling short of MWD's 2010 IRP target, MWD is actively working to find new ways to meet this goal and the success of other programs, such as Central Valley storage, can avoid any negative impacts from failure to meet this single goal.[73] For example, MWD has already exceeded its 2010 for dry-year surface water storage.[74] While SWP dry-year resources met FY 2006-2007 target level estimates (446,000 AF), the 2010 IRP target of 463,000 AF (or longer-term targets) are not projected to be met. However, MWD is actively seeking to resolve the risks associated with that supply, as discussed above.[75]

MWD's 2008 Implementation Report is scheduled for release in October 2008. In addition, MWD is currently planning to fully update the 2004 IRP itself scheduled for 2009. The updated IRP will address existing and new challenges such as the Delta smelt litigation and climate change.[76] As can be seen by these ongoing studies, MWD is continually updating its plans to meet ever-changing challenges to its water supplies.

Storage and Water Transfers

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[69] *Id*. at I-5.
[70] *Id*.
[71] *Id*.
[72] *Id*. at I-6.
[73] *Id*.
[74] *Id*. at I-7.
[75] *Id*.
[76] *Id*. at I-3.

Since the completion of the first Integrated Resource Plan in 1996, MWD has developed and implemented a number of storage projects and water transfers. These projects and programs have been beneficial in ensuring MWD's reliability despite reductions in water deliveries. Below is a list of some of the significant projects and programs in MWD's portfolio:

- *Diamond Valley Reservoir:* An 810,000 AF surface reservoir used for drought and emergency situations.
- *Various Conjunctive Use Programs*: A variety of groundwater conjunctive use and groundwater storage programs have been or are being developed between MWD and its member agencies that will provide up to 275,000 AF of dry-year yield.
- *Palo Verde Irrigation District Land Management Program:* A water transfer that can provide up to 111,000 AFY of supply for the Colorado River Aqueduct.
- *Hayfield Storage Program, Mojave Desert*: A groundwater conjunctive use project that can provide up to 150,000 AFY of supply for the Colorado River Aqueduct.
- *Arvin-Edison Program, Kern County*: A groundwater banking program that can provide up to 90,000 AFY to augment SWP supplies.
- *Semitropic Program, Kern County:* A groundwater banking and exchange program that can provide up to 107,000 AFY to augment SWP supplies.
- *San Bernardino Valley MWD Program*: A groundwater conjunctive use program that can provide up to 20,000 AFY.

A full list of MWD's storage projects and transfer programs is provided in MWD's 2003 IRP Update Report and MWD's 2005 Regional Urban Water Management Plan. Additional information is provided in MWD's 2007 Groundwater Assessment Study.

Summary of MWD Water Supply Reliability

MWD has engaged in significant water supply projection and planning efforts. As noted above, those efforts have included the water demands of the DWP service area and the Project in their projections. In its 2003 Blueprint Report and 2005 Regional Urban Water Management Plan, MWD has consistently found that its existing water supplies, when managed according to its water resource plans, such as the WSDM and IRP, are and will be 100 percent reliable for at least a 20-year planning period. Since publication of those reports, MWD has continued to implement its water supply programs, as reported in its 2006 and 2007 Implementation Reports, the latter of which was published on October 9, 2007. Although water supply conditions are always subject to uncertainties, MWD has maintained its supply reliability in the face of such uncertainties in the past, and is

actively managing its supplies to ensure the same 100 percent reliability for the future.

LADWP - Water Supply Action Plan

In response to water supply uncertainties, including those impacting the MWD, the Mayor and LADWP released a Water Supply Action Plan (Action Plan) on May 17, 2008. The plan, entitled "Securing L.A.'s Water Supply," serves as a blueprint for creating sustainable sources of water for the future of Los Angeles to reduce dependence on imported supplies. It is an aggressive multi-pronged approach that includes: investments in state-of-the-art technology; a combination of rebates and incentives; the installation of smart sprinklers, efficient washers and urinals; and long-term measures such as expansion of water recycling and investment in cleaning up the local groundwater supply.[77] The Action Plan also takes into account the realities of climate change and the dangers of drought and dry weather.

The premise of the Action Plan is that the City will meet all new demand for water due to projected population growth through a combination of water conservation and water recycling. In total, the City will conserve or recycle 32.6 billion gallons of water—enough to fill one foot of water across the entire San Fernando Valley, and enough to supply water to 200,000 homes for one year.[78] By the year 2019, half of all new demand will be filled by a six-fold increase in recycled water supplies and by 2030 the other half will be met through ramped-up conservation efforts.[79]

The Action Plan also specifically addresses current and future State Water Project (SWP) supply shortages. LADWP estimates that the Federal Court decision on Delta smelt will limit MWD exports of their anticipated SWP supply by up to 30 percent.[80] The Action Plan concludes, however, that MWD's actions in response to this threat will ensure continued reliability of its water deliveries. The Action Plan further states that "[d]espite concerns about ongoing water shortages and higher costs, MWD has upheld its pledge to plan for emergencies and natural disasters throughout this region. The agency has approximately 1.7 million acre-feet in surface and groundwater storage accounts - including Diamond Valley Lake near Hemet - and 600,000 acre-feet of storage reserved for emergencies."[81] In total, this reserve of water supplies buffers the severity of a potential shortage.[82] Furthermore, by focusing on demand reduction,

[77] Mayor Antonio Villaraigosa and LADWP, *Securing L.A.'s Water Supply*, at 1 (May 2008).
[78] *Securing L.A.'s Water Supply* at 1.
[79] *Id*. at 1.
[80] *Id*. at 8.
[81] *Id*.
[82] *Id*.

implementation of the Action Plan will ensure that long-term dependence on MWD supplies will not be exacerbated by potential future shortages.

The Action Plan includes key short-term and long-term strategies to secure water supply described below.

Short-Term Conservation Strategies

Enforcing prohibited uses of water. The prohibited uses of water are intended to eliminate waste and increase awareness of the need to conserve water. While in effect at all times, the prohibited uses have not been actively enforced since the early 1990s. In November 2007, LADWP resurrected its Drought Buster Program to heighten awareness and educate customers about the prohibited uses. Under enforcement, failure to comply would be subject to penalties, which can range from a written warning for a first violation to monetary fines and water service shutoff for continued non-compliance.[83]

Expanding the prohibited uses of water. LADWP will update and strengthen the existing Emergency Water Conservation Ordinance by expanding the prohibited uses. Possible new prohibited uses include: further restrictions on watering landscape (i.e. prohibiting watering on certain days of the week or for a limited period of time); prohibit landscape watering during rain; and prohibit washing/rinsing vehicles with a hose when the hose does not have a functioning self-closing nozzle attached or allowing the hose to run continuously.[84]

Extending outreach efforts. LADWP has committed to $2.3 million for an aggressive conservation outreach and education campaign. Some activities include: step up communication with ratepayers to include bus placards, LADWP vehicle placards, newspapers, radio, and television, among other types of media; outreach to Homeowner Associations and Neighborhood Councils to promote water conservation; train LADWP field staff as well as field staff from Public Works, Recreation and Parks, and other appropriate City departments in identifying and reporting prohibited uses of water; and ramp up marketing of water conservation incentive and rebate programs.[85]

Encouraging regional conservation measures. Work with MWD to encourage all water agencies in the region to adopt water conservation ordinances which include prohibited uses and enforcement.[86]

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[83] *Id*. at 11.
[84] *Id*.
[85] *Id*. at 12.
[86] *Id*.

Long-Term Strategies

1.0 Increase water conservation through reduction of outdoor water use and new technology.

The following are new and continuing water conservation programs as well as goals and benchmarks designed to measure their progress through 2030:

Residential Smart Sprinkler Systems: Smart sprinkler systems improve water efficiency and are already used in parks and golf courses around the City will be extended to homes throughout L.A.'s neighborhoods.

Goal**:** Install 5,250 smart sprinkler controllers per year, with a total of 63,500 by 2020.

Water Savings**:** 4,962 AFY by 2030.

Action Plan**:** LADWP will begin to provide smart controllers and installation services free of charge to qualifying residential customers. Program plans include the installation of 2,500 controllers in the first year of program, moving to 5,250 controllers per year on a sustained basis. The program is scheduled to launch in early 2009.[87]

Conservation Rebates and Incentives:

Goal**:** Increase participation in Water Conservation Rebate and Incentive Programs.

Water Savings**:** 48,457 AFY by 2030.

Action Plan**:** LADWP is continuing to expand rebates and incentives for homeowners and business owners to encourage them to purchase water-saving technology.[88] Rebate and incentive programs include the following:

High Efficiency Clothes Washer Program. LADWP increased the rebate offered for residential high efficiency clothes washers from $150 to $250. LADWP will further expand the program through "Point of Purchase" rebates, offering customers an instant rebate when they buy the appliance from a Los Angeles retailer. Since the program was launched in 1998, more than 60,000 water-saving clothes washers have been installed in Los Angeles residents' homes through the program.[89]

Commercial Rebate Program. Water conservation rebates and incentives were increased significantly in 2007 to offset the costs of replacing water-wasting toilets and urinals with high efficiency models. The current rebates offset most or all of the total replacement cost (including installation).

[87] *Id*. at 13.
[88] *Id*. at 14.
[89] *Id*.

LADWP will increase program promotion to raise awareness of these significant financial incentives, resulting in increased program participation. Since this program's inception, more than 32,800 toilets have been replaced by commercial, industrial and institutional customers, and LADWP is working to implement a grant-funded Cooling Tower program for commercial customers.[90]

High Efficiency Urinal Programs. Offering perhaps the greatest potential for quick implementation is the replacement of standard urinals with high efficiency urinals (0.5 gallon per flush (gpf) or less, including no-flush). In addition, recent changes in the Los Angeles Building Code now provide for the installation of completely water-free urinals.[91]

Additional Water Saving Efficiency Measures and Programs. As part of the City's ongoing effort to encourage customers to adopt passive water conservation measures (i.e., measures that can help customers conserve water on a daily basis without thinking about it) in their homes and businesses, LADWP will continue to distribute water-saving bathroom and kitchen faucet aerators and shower heads free-of-charge. LADWP also plans to add rebates for products such as high-efficiency dishwashers and synthetic turf for residential customers to help increase their daily conservation efforts.[92]

Action by Public Agencies:

Goal**:** Improving water efficiency at all City Department facilities. LADWP provides incentive funding and technical assistance to City Departments for the installation of high efficiency urinals and smart irrigation controllers, and helps them identify other opportunities to improve water use efficiency.

Water Savings: Estimated to save at least 10 percent from existing use, totaling as much as 1,888 AFY in water savings.

Action Plan: LADWP will assist City Departments and other public agencies in leveraging incentive funds to retrofit their facilities. The Public Sector Conservation Incentive Program, offered through MWD in conjunction with LADWP, provides up-front incentives for public agencies to purchase water-efficiency technology.[93]

Enhancing Conservation through Review of New Developments:

Goal**:** Ensure specifications for the Los Angeles Green Building program include water efficiency measures.

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[90] *Id*.
[91] *Id*. at 14-15.
[92] *Id*. at 15.
[93] *Id*. at 18-19.

Water Savings**:** The Green Building Program can yield significant water savings through water conservation measures.

Action Plan**:** LADWP will continue working with the City's Green Building Team to pursue desired changes in local codes and standards to promote water efficiency in new construction projects and major building renovations.[94]

2.0 Maximizing Water Recycling

The City's goal is to increase the total amount of recycled water used in the City of Los Angeles six-fold by 2019—expanding from the current 1% to 6% of annual water demand. This will result in an estimated water savings of 50,000 AFY by 2019.[95] In order to achieve this goal, the City will take the following actions:

Develop a Recycled Water Master Plan. LADWP and the Bureau of sanitation will prepare a detailed Recycled Water Master Plan that will outline the steps and costs of boosting the City's recycled water level to 6 percent of total demand for the City. The Master Plan will provide a blueprint for reaching this goal by expanding the existing recycled water pipeline system and using recycled water for groundwater replenishment.[96]

Increase Recycled Water for Irrigation and Industrial Use. LADWP's current Water Recycling Capital Budget provides funding for 21 projects that will increase recycled water deliveries from 4,500 AFY to 19,350 AFY by 2014, adding more than 106,300 feet of new pipe and saving potable water for nearly 31,000 households throughout the City. [97] Potential customers in future years include several parks (Taylor Yard, Elysian, Branford, Woodley, and Balboa parks); Harbor and Scattergood Generating Stations; Hansen Dam and Van Nuys golf courses; oil refineries in the Harbor area; LAX cooling towers; schools in the Sepulveda Basin, the Los Angeles Zoo, and the Playa Vista development. Under the City's Water/Wastewater Integrated Resources Plan, 30,250 AFY of treated water will continue to be used to support habitat in the Japanese Gardens, Lake Balboa, the Wildlife Lake and the Los Angeles River.[98]

Use Recycled Water for Groundwater Replenishment. Advanced treated recycled water can be sent to spreading basins to percolate underground and become part of the City's groundwater system for later use. This process, also termed groundwater replenishment, is a proven alternative for expanding locally produced, safe, high-quality drinking water. The process has been

[94] *Id*. at 21.
[95] *Id*. at 22.
[96] *Id*. at 24.
[97] *Id*.
[98] *Id*.

successfully implemented in Orange County, Australia, and Singapore, and is being considered in other U.S. and worldwide locations.[99]

Initiate Stakeholder Planning Process. LADWP will engage stakeholders from the Water/Wastewater Integrated Resources Plan (IRP) process in analyzing alternatives necessary for maximizing recycled water. These alternatives include implementing groundwater recharge with advanced treatment in the San Fernando Valley as well as expanding the purple pipe system to supply recycled water for irrigation and industrial uses.[100]

Upgrade Tillman Wastewater Treatment Plant: Groundwater replenishment will require upgrading the Tillman Plant with state-of-the-art, advanced treatment capability similar to the Orange County Water District's recently implemented Groundwater Replenishment System, which has received widespread support. Advanced treatment would be constructed at the Tillman Plant, and the highly treated wastewater would be piped to spreading basins for groundwater recharge.[101]

3.0 Enhancing Stormwater Capture

The City's goal is to increase groundwater recharge by retrofitting the Big Tujunga Dam and other large-scale projects through cooperative efforts with the Los Angeles County Flood Control District and other agencies. LADWP is moving forward with several stormwater capture projects with the goal of increasing long-term groundwater recharge by a minimum of 20,000 AFY.[102] The following are the large-scale projects that are expected to be completed or in construction within the next five years:

Big Tujunga Dam – San Fernando Basin Groundwater Enhancement Project: On September 18, 2007, the LADWP Board approved Agreement No. 47717 to provide $9 million to the Los Angeles County Flood Control District for the construction of the Big Tujunga Dam Project – an effort to seismically retrofit the dam, increase its water storage capacity, improve its reliability as a supply source, enhance flood protection measures, and green the environment. The restoration of the dam is conservatively estimated to result in the additional capture and recharge of 4,500 AFY at the Hansen and Tujunga Spreading Grounds, and more in wet years. The project will make structural improvements to Big Tujunga Dam to restore its historical retention capacity of 6,000 acre-feet; currently the dam is restricted to 1,500 acre-feet of storage capacity.[103]

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[99] *Id*.
[100] *Id*. at 25.
[101] *Id*.
[102] *Id*. at 26.
[103] *Id*. at 27.

- Schedule: In construction; scheduled to be completed by December 2010.
- Budget: $100 million of which LADWP is providing $9 million.
- Resources: Los Angeles County Flood Control District is the project manager.
- Potential Water Savings: Capture an additional 4,500 AFY of stormwater on average, up to 10,000 AFY or more in extremely wet years.

Sheldon-Arleta Project – Cesar Chavez Recreation Complex Project Phase I:
On December 19, 2006, the Board of Water and Power Commissioners approved Agreement No. 47448 to provide up to $5.25 million to the City of Los Angeles Department of Public Works for the construction of the project (the total project cost is about $9 million). The project will upgrade the methane gas extraction system at the Sheldon-Arleta Landfill that is necessary to allow the full use of the adjacent Tujunga Spreading Grounds. Currently, the spreading grounds are restricted to an operating capacity of 50 cubic feet per second (cfs) or 20 percent of the full operating capacity of 250 cfs.[104]

- Schedule: In construction; scheduled to be completed by late-2008.
- Budget: $9 million of which LADWP is providing $5.25 million.
- Resources: Los Angeles Department of Public Works is the project manager.
- Potential Water Savings: Capture of an additional 6,000 to 10,000 AFY of stormwater.

Hansen Spreading Grounds Enhancement Project: LADWP has entered into Agreement No. 47739 to share the costs of the construction of the Hansen Spreading Grounds Project with the District. The project will increase the capacity and efficiency of the spreading grounds by: 1) combining and deepening the existing basins, and 2) installing and building a new rubber dam, intake structure, control house, and upgrading the telemetry system. The Los Angeles County Board of Supervisors approved the agreement on March 11, 2008, and the LADWP Board of Commissioners approved it on April 1, 2008.[105]

- Schedule: Scheduled to go into construction in summer 2008; completion expected within 18 months.
- Budget: Up to $15 million; LADWP is providing up to $7.5 million, with remaining costs covered by the LA County Flood Control District.

[104] *Id*.
[105] *Id*. at 27-28.

- Resources: Los Angeles County Flood Control District is the project manager.
- Potential Water Savings: Capture of an additional 1,200 to 3,000 AFY of stormwater.

Tujunga Spreading Grounds Enhancement Project: This project proposes to deepen the spreading basins, increase their storage capacity, replace the existing diversion structure with two diversion structures, and add remote automation of the operating structures.[106]

- Schedule: Planning and design 2008-09; construction in 2010.
- Budget: $1.3 million for design; $24 million for construction (LADWP funded).
- Resources: LADWP will be the project manager.
- Potential Water Savings: Capture of an additional 8,000 to 12,000 AFY of stormwater.

Pacoima Spreading Grounds Enhancement Project: This project proposes to deepen the spreading basins, increase their storage capacity, replace existing diversion structure, and add remote automation of the operating structures.[107]

- Schedule: Planning and design 2008-09; construction in 2011.
- Budget: $1.3 million for design; $20 million for construction (LADWP may provide some funding for this project).
- Resources: Los Angeles County Flood Control District will be the project manager.
- Potential Water Savings: Capture of an additional 1,500 to 3,000 AFY of stormwater.

4.0 Accelerating Clean-Up of the San Fernando Groundwater Basin

The City's goal is to clean up the contaminated San Fernando Groundwater Basin to expand groundwater storage and the ability to fully utilize the City's groundwater supplies. The result will be a reduction of imported water supply of up to 87,000 AFY – LADWP's annual allocation of San Fernando Valley groundwater supplies.[108] LADWP will also work to ensure that this Basin

[106] *Id*. at 28.
[107] *Id*.
[108] *Id*. at 29.

remains a consistent, stable and reliable resource for years to come. The following actions are proposed to achieve this goal:

Work with Regulatory Agencies and Governmental Officials: LADWP will continue to encourage the EPA to develop a long-term, comprehensive solution for existing and emerging contamination issues in the Basin. In addition to the EPA, LADWP will work with the Los Angeles Regional Water Quality Control Board and the California Department of Toxic Substances to find and hold polluters accountable for cleaning up the Basin.[109]

Groundwater System Improvement Study (GSIS): LADWP will conduct a comprehensive groundwater study for the Basin. This study is a necessary step to evaluate the groundwater quality in the Basin and recommend treatment options to maximize the utility of the groundwater supply.[110]

- Schedule: Contract award in mid-2008; contract term is 6 years.
- Budget:: $10 million (LADWP funded).
- Resources: LADWP will serve as contract manager and administrator.
- Benefit: Will provide vital information to develop a long-term strategy to remediate groundwater contamination in the San Fernando Basin.

Monitoring Well Drilling Contract: LADWP will install up to 40 new monitoring wells throughout the Basin to provide vital water quality information necessary for the Groundwater System Improvement Study.[111]

- Schedule: Construction contract award in mid-2009; contract term is 2 years.
- Budget:: $7.5 million (LADWP funded).
- Resources: LADWP will serve as contract manager and administrator.
- Benefit: The monitoring wells be routinely sampled during and after the GSIS to provide vital information on groundwater contaminants and their concentration levels.

Interim Wellhead Treatment: LADWP will install interim treatment for select wellheads in the Tujunga Well Field in order to maintain groundwater pumping production. An amount of $3 million has been included in the budget for this work.[112]

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[109] *Id*.. at 30.
[110] *Id*.
[111] *Id*.
[112] *Id*.

5.0 Expanding Groundwater Storage

LADWP is investigating opportunities for increased storage of groundwater, creating a cost-effective, environmentally friendly reserve of water resources in case of extreme drought or other emergencies. Currently, the City has significant amounts of stored groundwater in the San Fernando Basin. However, as noted above, contamination restricts the ability to effectively utilize this resource. [113]

LADWP is investigating the following opportunities: groundwater storage along the Los Angeles Aqueduct; a groundwater conjunctive use storage project in the LA County groundwater basins; and construction of an interconnection between the Los Angeles Aqueduct and the California Aqueduct, located where the two aqueducts intersect in the Antelope Valley. The interconnection will allow for water transfers or exchanges, and could be used to help move water to facilitate groundwater storage opportunities. The design phase of the interconnection is almost complete. LADWP is waiting for a permit to build on land owned by DWR. LADWP plans to begin construction in 2008.[114]

Secondary Sources and Other Considerations

Integrated Planning

Integrated planning has also filled an important role in developing secondary sources of supply for Los Angeles. It is generally true for large undertakings that a concerted effort with others who share a common goal will produce a higher degree of success. This is an approach that has been taken in Southern California with overall water resources planning. The City of Los Angeles works closely with MWD, the City's Bureau of Sanitation (wastewater agency), other regional water providers, and various stakeholder groups to develop and implement programs that reduce overall water use. The City has also pioneered community-based job programs to assist in conservation program implementation. While significantly assisting with program implementation, these community-based organizations also provide important social and economic benefits to neighborhoods.

Integrated resources planning is a process that is being used by many water and wastewater providers to meet their future needs in the most effective way possible, and with the greatest public support. The planning process differs from traditional planning processes in that it incorporates:

- public stakeholders in an open, participatory process;

[113] *Id*.
[114] *Id*. at 31.

- multiple objectives such as reliability, cost, water quality, environmental stewardship, and quality of life;
- risk and uncertainty; and
- partnerships with other agencies, institutions, and non-governmental organizations.

Through integrated planning, not only water-use efficiency and recycling activities are maximized, but potential alternative supplies such as water transfer, seawater desalination, and stormwater runoff reuse are considered and evaluated as part of the City's long-term water resources portfolio.

Further information is available in LADWP's 2005 UWMP, which can be found at www.ladwp.com.

Proposed Revisions to the Emergency Water Conservation Ordinance

As an initial step toward implementing the Short-Term Conservation Strategies of the Waster Supply Action Plan described above, DWP has proposed revisions to the City's existing Emergency Water Conservation Ordinance.[115] Approved by the DWP Board of Commissioners on June 4, 2008, these revisions would discourage water waste by expanding prohibited uses of water and increasing the penalties for violations. If approved by the City Council and signed by the Mayor, the revised ordinance would go into effect immediately.[116]

The ordinance, first instituted in the drought of 1990, allows officials to cite and fine water wasters for activities such as watering during expanded daytime hours, washing down sidewalks and other pavement, automatically serving drinking water at restaurants without the customer's request, allowing excess water to flow from lawns and other practices. Proposed changes include doubling existing monetary fines for residential customers (meters smaller than two inches) from $50 for a first offense to $100 and quadrupling existing monetary fines from $50 to $200 for a first offense for large customers, including businesses (meters two inches and larger).[117]

DWP will also begin enforcement of the ordinance through its Drought Buster Team. Previously, the Drought Busters patrolled the city to remind customers wasting water of the prohibited uses and provide a tip sheet on simple ways to cut waste. Under the proposed changes the Drought Busters will begin issuing citations to offending property owners or occupant. First time offenders will get a warning, but repeat offenders will be fined on a sliding scale depending upon the

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[115] Ordinance No. 166,080, effective July 25, 1990.

[116] *See* DWP News Release, *LADWP Strengthens Water Use Ordinance to Encourage Conservation*, June 4, 2008, available at: http://www.ladwpnews.com/go/doc/1475/204815/, and proposed ordinance, available at: http://www.ladwpnews.com/posted/1475/Emergency_Water_Conservation_Plan_Ordinance_6_4_08.205004.pdf.

[117] *See LADWP Strengthens Water Use Ordinance to Encourage Conservation*.

rate and magnitude of the waste. The fine will appear as a charge on the customer's DWP water bill. Appeals will come directly to the Board of Water and Power Commissioners.[118]

The ordinance takes a phased approach to prohibited uses, allowing the Department to expand phases depending on severity of water supply conditions. Phase I seeks compliance of 14 prohibited uses and will be permanent, enforceable 24 hours a day, 12 months a year. Implementation of Phases II and subsequent phases will occur upon the assessment of the Board of Water and Power Commissioners of the city's water supply. Under Phase II as example, the city will institute non watering days leaving Monday, Thursday or Saturday as permissible days to irrigate landscaping. Under Phase III, watering outdoors will be cut back an additional day to Mondays and Thursdays only.[119]

State Executive Order S-06-08

In a recent effort to coordinate water conservation efforts at the State level, Governor Schwarzenegger signed Executive Order S-06-08. The Order comes in response to two straight years of below-average rainfall and very low snowmelt runoff.[120] As a result, the Governor proclaimed a statewide drought. The Executive Order took effect on June 4, 2008 and addresses water shortages that have forced numerous local California communities to mandate water conservation or rationing programs, such as the DWP programs discussed above. The lack of water has created other problems, such as extreme fire danger due to dry conditions, economic harm to urban and rural communities, loss of crops and the potential to degrade water quality in some regions.[121] The Executive Order directs the DWR to take the following actions:

- Facilitate water transfers to respond to emergency shortages across the state.
- Work with local water districts and agencies to improve local coordination.
- Help local water districts and agencies improve water efficiency and conservation.
- Coordinate with other state and federal agencies and departments to assist water suppliers, identify risks to water supply and help farmers suffering losses.
- Expedite existing grant programs to help local water districts and agencies conserve.

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[118] *Id*.

[119] *Id*.

[120] *See* Office of the Governor Press Release, *Governor Schwarzenegger Proclaims Drought and Orders Immediate Action to Address Situation* (GAAS:307:08), June 4, 2008, available at: http://gov.ca.gov/index.php?/print-version/press-release/9796/.

[121] *Governor Schwarzenegger Proclaims Drought and Orders Immediate Action to Address Situation*.

The Executive Order also encourages local water districts and agencies to promote water conservation. They are encouraged to work cooperatively on the regional and state level to take aggressive, immediate action to reduce water consumption locally and regionally for the remainder of 2008 and prepare for potential worsening water conditions in 2009. As part of the Executive Order, DWR will work with locals to conduct an aggressive water conservation and outreach campaign.[122]

[122] Id.