#### Josephine Alido

From: Derek Wyss

Sent: Wednesday, March 14, 2007 10:42 AM

To: Josephine Alido

Subject: FW: Library response to Ontario Walmart Supercenter

Attachments: David Evans Assoc. questionnaire 102506.doc



David Evans Assoc. questionnai...

Hello Josephine,

Here is the email response from the Library in Ontario.

Derek Wyss
Environmental Planner
David Evans & Associates, Inc.
9635 Granite Ridge Drive, Suite 300
San Diego, CA 92123
(858) 614-4360 Ext. 214 Phone
(858) 614-4367 Fax

----Original Message----

From: JEvans@ci.ontario.ca.us [mailto:JEvans@ci.ontario.ca.us]

Sent: Thursday, November 16, 2006 3:13 PM

To: Derek Wyss

Subject: Library response to Ontario Walmart Supercenter

Let me know if you need more information.

Judy Evans

Library Director

jevans@ci.ontario.ca.us

1. Please identify the addresses of libraries which would serve the project site.

Ontario City Library
Main Library
215 E. C Street
Ontario, CA 91764
(located in the City of Ontario Civic Center)

The City also has a joint-use public/high school library at Colony High School in south Ontario.

3850 E. Riverside Drive Ontario, CA 91761

2. Please provide information on staffing, book volumes, facilities and programs available at these libraries.

#### MAIN LIBRARY

Staffing: The Main Library is staffed by 28 full time and 27 part time employees.

.

Books: 147,773 volumes AudioVisual: 29,649 items

Facilities: 58,000 sq. ft. remodeled/ expanded in 2005.

Full service library including free computer and internet use for the public, wireless access, large circulating and reference collections, local history room, foreign language collection, large periodicals collection. Library Administration is located in this building.

Programs: Programs, offered for all age groups, include the following:

- weekly story times for children ages 8months to 10 years—including Spanish story time.
- Summer and Winter Reading Programs for children and young adults
- Book discussion group for adults
- Computer classes
- Movie series for all ages
- Various special programs throughout the year

#### **BRANCH LIBRARY**

Staffing: The Branch Library is staffed by 3 full time and 11 part time employees

Books: 53,069 volumes AudioVisual: 3,518 items

Facilities: 14,000 sq. ft. facility

Services include free computer and internet use for the public, circulating and reference collections, periodicals collection, and Spanish language collection.

Programs: Children's programs as described in Main Library above, computer classes, and various special programs throughout the year

3. Does the City Of Ontario Library system have service standards for library services: If so, what are they? Are these standards currently met within the City of Ontario.?

The library does not have formal service standards. Public needs

4. How is the City of Ontario Library system funded?

The majority of the funding (over 95%) is through the City's general fund. The remaining funds are from the California State Library through various programs.

5. Does the library anticipate or expect any long-term impacts associated with the provision of library services due to anticipated development within the City of Ontario? If so, please describe the nature of these impacts and how this project may contribute to those impacts.

An increase in population due to new housing developments in the New Model Colony area in the southern portion of the city is likely to require increased library services for that part of the city. It is unlikely that this project would have an impact on library services.

From: To: Roberto Perez Josephine Alido

Date:

11/22/2006 1:46:28 PM

Subject:

Ontario Wal-Mart Super Center

Josephine,

Here is the information that I was able to find with regards to your solicitation dated 10/25/06

- 1. The park located within the vicinity of the proposed super center is Anthony Munoz Park, the acreage of this facility is 18 acres of multi use land and facilities, park is located on 1240 West 4th Street in the City of Ontario.
- 2. The facility hosts a variety of sports on a year round basis, AYSO plays their fall and spring youth soccer programs there Monday/Saturday from Mid August to late May, they typically serve ages 5-18 years old, they had approximately 1800 youth enrolled, the primary user on Sundays is adult soccer, they use the park year round and serve approximately 400 adults. Additional organized activities in the park are group picnics and Recreation Community services sponsored sport leagues for basketball, tee-ball and swim lessons. The Community Center ( 5000 sq. ft) also hosts classes and private reservations on weeknights and weekends throughout the year.
- 3. The City does have a Parkland standard (I requested this information from our Planning Department as soon as I receive it I will e-mail it to you)
- 4. Yes, the City does require the provision of parkland with new residential development or other types of development (same as # 3)
- 5. No
- 6. Yes, the City will be growing in the next 10 to 15 years, the addition of the new Model colony which is located in the south part of town will impact the provision of services to parks and recreational facilities due to the anticipated growth, as far as how this project is going to impact the provision of services is hard to pin point, I believe that the constant day to day operation of the center will bring an extra amount of people to the vicinity surrounding the park and will probably affect the easiness the residents have to access the facility as of now, how much of the day to day pedestrian traffic will be using the park facility will be hard to tell, I believe that some families will take the opportunity to enjoy a day of shopping and a day of recreation which will put a greater amount of people in our facility.

Thank you Roberto Perez Parks and Maintenance Manager roperez@ci.ontario.ca.us

# Chaffey Joint Union High School District

211 West Fifth Street, Ontario, California 91762-1698 • (909) 988-8511 • FAX (909) 984-1164

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November 1, 2006

David Evans and Associates, Inc. 800 North Haven Avenue, Suite 300 Ontario, CA 91764

Attention: Josephine Alido,

**Environmental Planner** 

Subject: Ontario Walmart Supercenter

Dear Ms. Alido,

Thank you for inquiring about possible impacts on school services for the above subject project. The site is located within the Montclair High School boundary. The school information is listed on the accompanying White Report. We have also enclosed our most current Fee Justification Report for new residential and commercial/industrial development.

Chaffey Joint Union High School District currently collects a developer fee of \$0.13 per square foot for commercial/industrial construction. With a project of this size, we do not anticipate any long-term impacts for school services. At this time, there is not a Community Facilities District for the Chaffey District in this project area, nor is one anticipated.

Should you have any questions, please do not hesitate to contact us.

Sincerely,

CHAFFEY JOINT UNION HIGH SCHOOL DISTRICT

Mike Harrison,

Director,

Operations & Planning

rele there

MWH/dat Enclosures (2)

## Chaffey Joint Union High School District School Locations and Facilities Report (Business and Professions Code 11010)

To:

From:

Assistant Superintendent of Business

Re:

Your Request for School Information

Property Address (or Tract/Lot):

Date:

The Chaffey Joint Union High School District ("District") services grades nine through twelve. Information regarding kindergarten through grade eight must be obtained from elementary school districts.

#### **District Schools**

Alta Loma High School 8880 Baseline Road Alta Loma, CA 91701 (909) 989-5511

Los Osos High School 6001 Milliken Avenue Rancho Cucamonga, CA 91737 (909) 477-696ປ

Canyon View Continuation H.S. 557 West Fifth Street Ontario, CA 91762 (909) 983-7102

Chaffey High School 1245 North Euclid Avenue Ontario, CA 91762 (909) 988-5560

Montclair High School 4725 Benito Street Montclair, CA 91763 (909) 621-6781

Valley View Continuation H.S. 1801 East Sixth Street Ontario, CA 91764 (909) 985-0966

Colony High School 3850 East Riverside Drive Ontario, CA 91761 (909) 930-2929

Ontario High School 901 West Francis Street Ontario, CA 91762 (909) 988-7411

Community Day School 525 West Fifth Street Ontario, CA 91762 (909) 983-8413

Etiwanda High School 13500 Victoria Avenue Etiwanda, CA 91739 (909) 899-2531

Rancho Cucamonga High School 11801 Lark Drive Rancho Cucamonga, CA 91730 (909) 989-1600

The attendance area of each of the schools is indicated on the attached map. Please be aware that attendance areas of the District are subject to change. Receipt of this location report does not guarantee that children from a specific area will attend a specific school.

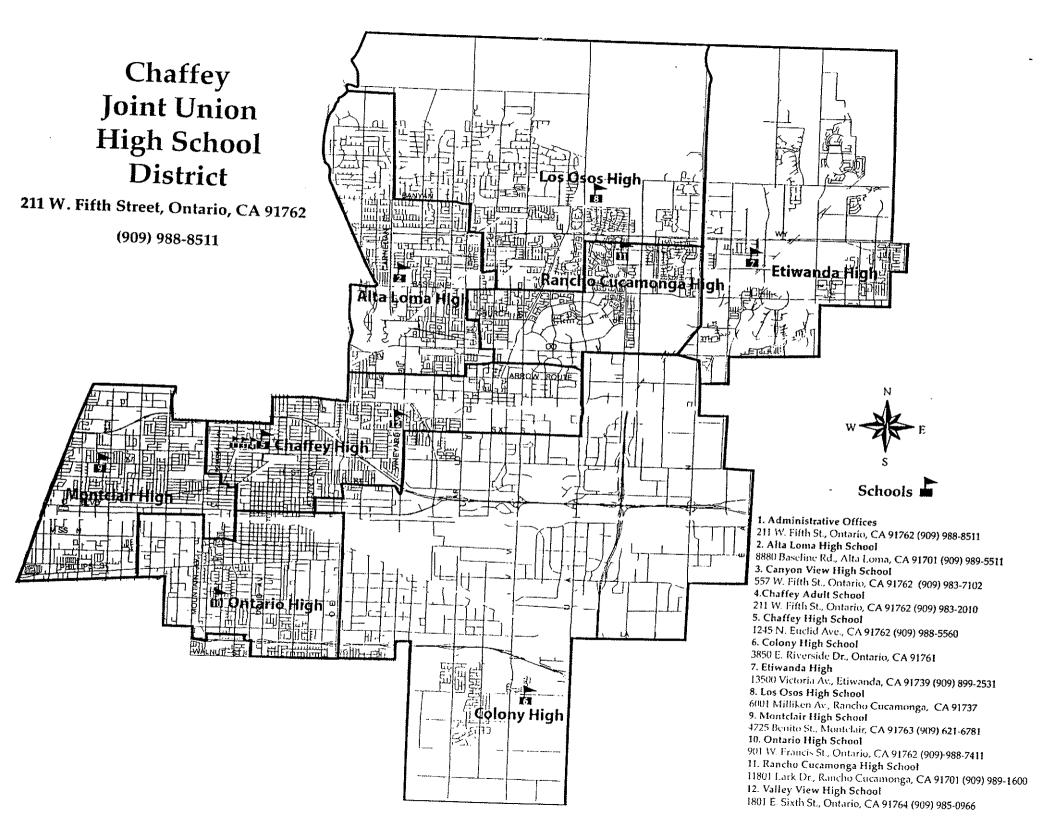
> Total Enrollment 21,981 Total Design Capacity 15.749 Number of Permanent Classrooms 635

**Projected Enrollments** 

2003-2004 22,700 2004-2005 22.950

For additional information contact the Assistant Superintendent of Business at (909) 988-8511, extension 2680.

Board of Trustees Approved 2/04/03



# Chaffey Joint Union High School District Description of High School Attendance Boundaries

# ALTA LOMA HIGH SCHOOL

From San Bernardino National Forest boundary line in alignment with Carnelian Street, south in a straight line to Carnelian Street and continue south to Banyan Street, east to Archibald Avenue, south to Highland Avenue, east to Ramona Avenue, south to former Southern Pacific Railroad right-of-way, east to Hermosa Avenue, south to Baseline Road, west to Archibald Avenue, south to Church Street, east to Ramona Avenue, south to Foothill Boulevard, east to Hermosa Avenue, south to Devon Street, west in a straight line to Archibald Avenue, south to Arrow Route, west to Grove Avenue, north to Foothill Boulevard at City of Rancho Cucamonga boundary line, follow City of Rancho Cucamonga boundary line north to the alignment with 14th Street, north in a straight line to Baseline Road, east to Cucamonga Creek Channel at City of Rancho Cucamonga boundary line, follow City of Rancho Cucamonga boundary line north to San Bernardino National Forest boundary line, and include Mt. Baldy Area.

# ETIWANDA HIGH SCHOOL

From San Bernardino National Forest boundary line in alignment with Lytle Creek Road, south in a straight line to Lytle Creek Road and continue south to Highland Avenue, east to Knox Avenue, south to Walnut Street, west to the alignment with Lytle Creek Road, south to Baseline Road, west to Cherry Avenue, south to Foothill Boulevard, west to East Avenue, south to Arrow Route, west to Etiwanda Avenue, north to Foothill Boulevard, west to Interstate 15, northeast to Etiwanda Avenue, north to San Bernardino National Forest boundary line.

# LOS OSOS HIGH SCHOOL

From San Bernardino National Forest boundary line in alignment with Etiwanda Avenue, south in a straight line to Etiwanda Avenue and continue south to Route 30/210, west to Milliken Avenue, south to Baseline Road, west to Hermosa Avenue, north to former Southern Pacific Railroad right-of-way, west to Ramona Avenue, north to Highland Avenue, west to Archibald Avenue, north to Banyan Street, west to Carnelian Street, north to San Bernardino National Forest boundary line.

# RANCHO CUCAMONGA HIGH SCHOOL

From Highland Avenue at Etiwanda Avenue, south to Interstate 15, southwest to Foothill Boulevard, west to Milliken Avenue, south to the alignment with the intersection of Elm Avenue and White Birch Drive, west in a straight line to Hermosa Avenue, north to Foothill Boulevard, west to Ramona Avenue, north to Church Street, west to Archibald Avenue, north to Baseline Road, east to Milliken Avenue, north to Route 30/210, east to Etiwanda Avenue.

## CHAFFEY HIGH SCHOOL

From Milliken Avenue at the alignment with the intersection of Elm Avenue and White Birch Drive, south to Sixth Street, west to Vineyard Avenue, south to G Street, west to Grove Avenue, south to D Street, west to Allyn Avenue, south to Holt Boulevard, west to San Antonio Avenue, north to Flora Street, west to Granite Avenue, north to F Street, west to Boulder Avenue, north to H Street, west to Mountain Avenue, north to Interstate 10, east to Euclid Avenue, north to Burlington Northern & Santa Fe Railroad tract (Metrolink), east to Grove Avenue, north to Arrow Route, east to Archibald Avenue, north to Devon Street east in a straight line to Milliken Avenue.

# COLONY HIGH SCHOOL

From Foothill Boulevard at Etiwanda Avenue, south to Burlington Northern & Santa Fe Railroad track (Metrolink), east to East Avenue, south to Fourth Street, east to Mulberry Avenue, south to the alignment with Jurupa Avenue, west in a straight line to Etiwanda Avenue, south to Philadelphia Street, west to Milliken Avenue, south to Belgrave Avenue, follow San Bernardino County boundary line southwest to the alignment with Carpenter Street, north in a straight line to Interstate 60, west to Vineyard Avenue, south to Walnut Street, west to Grove Avenue, north to Holt Boulevard, west to Allyn Avenue, north to D Street, east to Grove Avenue, north to G Street, east to Vineyard, north to Sixth Street, east to Milliken Avenue, north to Foothill Boulevard, east to Etiwanda Avenue.

# MONTCLAIR HIGH SCHOOL

From Interstate 10 at Mountain Avenue, south to H Street, east to Boulder Avenue, south to F Street, east to Granite Avenue, south to Flora Street, east to San Antonio Avenue, south to Mission Boulevard, west to Mountain Avenue, north to Union Pacific Railroad track, west to Central Avenue, south to Phillips Street, west to San Bernardino County boundary line, north to Southern Pacific Railroad tracks, east in a straight line to Benson Avenue, south to Interstate 10, west to Mountain Avenue.

# ONTARIO HIGH SCHOOL

From Holt Boulevard at Grove Avenue, south to Walnut Avenue, west to Fern Avenue, north to Interstate 60, west to City of Ontario boundary line, follow City of Ontario boundary line north to the alignment with Monticello Street, west along City of Ontario boundary line to Mountain Avenue, south to Interstate 60, west to Magnolia Avenue, north to Philadelphia Street, west to Benson Avenue, north to Phillips Street, west to Central Avenue, north to Union Pacific Railroad track, east to Mountain Avenue, south to Mission Boulevard, east to San Antonio Avenue, north to Holt Boulevard, east to Grove Avenue.

# Chaffey Joint Union High School District

# FEE JUSTIFICATION REPORT FOR NEW RESIDENTIAL & COMMERCIAL / INDUSTRIAL DEVELOPMENT

**April 2006** 

# **Chaffey Joint Union High School District**

Operations & Planning
211 W. Fifth Street
Ontario, CA 91762
TEL: 909 • 988 • 8511 FAX: 909 • 467 • 5102
Contact: Mike Harrison

SPECIAL DISTRICT FINANCING & ADMINISTRATION
437 West Grand Avenue
Escondido CA 92025
760.233.2630 Fax 760.233-2631

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## **EXECUTIVE SUMMARY**

This Fee Justification Report ("Report") for Residential and Commercial/Industrial Development has been prepared by Special District Financing & Administration ("SDFA") for the purpose of identifying the impact of projected future development on the school facilities of the Chaffey Joint Union High School District ("CJUHSD" or "District"), the ability of the District's current facilities to accommodate the impact, and the extent to which projected demand exceeds the District's current facilities capacity as well as quantify the costs associated with meeting the increased demand.

Specifically, this Report is intended to provide the Board of Education of the District with the required information to make the necessary findings set forth in Government Code Section 66001 et seq. and in accordance with Government Code Section 65995 et. seq, to support the District's collection of its fair share of the statutory fees allowed by the State of California, which for unified districts (K-12) is currently \$2.63 per square foot of new residential development and \$0.42 per square foot of new commercial/industrial development. The CJUHSD is a high school district providing school facilities to secondary students living within the cities of Fontana, Montclair, Ontario, Rancho Cucamonga and Upland as well as small portions of unincorporated areas within the counties of San Bernardino and Los Angeles.

The findings contained in this Report include the following:

- In accordance with state classroom loading standards, the District currently has school capacity to house approximately 22,228 students.
- As of October 5, 2005, current enrollment, including Special Day Class students, is approximately 25,018 students resulting in a current capacity deficit of 2,790 seats.
- Approximately 13,500 new dwelling units are anticipated to be constructed within the
  City of Ontario during the next ten years and 4,120 new dwelling units are
  anticipated to be constructed within that portion of the cities of Fontana and Rancho
  Cucamonga that lie within the attendance boundaries of the Etiwanda School District
  ("ESDAA") during that same time period.
- Historical data indicates that over one high school student is generated from every four single-family detached homes constructed and that almost one high school student is generated from every six multi-family dwelling units constructed.
- An entire new high school and a portion of a second high school will need to be constructed in order to provide adequate facilities to house students to be generated solely from currently unmitigated developments which lie within the boundaries of the Chaffey Joint Union High School District. The estimated cost of these school

facilities, excluding interim housing requirements and central administrative support, is over \$227 million dollars.

- Taking into account the cost of interim housing and administrative support, the total cost of school facilities results in a cost of approximately \$59,730 per high school student. Thus, estimated school facilities cost per new single-family detached ("SFD") home equates to approximately \$15,661 and the cost per multi-family dwelling unit ("MF") is approximately \$7,849.
- Utilizing property characteristics data provided by the County Assessor's office as it pertains to that portion of development that lies within the ESDAA as well as District-wide tabulations of permitted units during the past five years, the weighted average size of the future dwelling units to be constructed within the CJUHSD was estimated to be 2,336 square feet. Based upon the average square footage, the District would need to collect approximately \$5.94 per square foot of new residential development to mitigate the school facilities impacts. This amount is well in excess of the amount that may be currently collected by the District (i.e., the District's maximum fee amount is \$0.82 per square foot) and permitted by State statute. Thus, the District is justified in collecting the statutory fees for residential development as permitted by state law.
- Utilizing estimates regarding employee generation and associated residential household generation gleaned from recent Census data, it was determined that the District would need to collect between \$0.33 and \$16.00 per square foot of commercial/industrial development to mitigate the gross school facilities impacts resulting from new non-residential development. This amount is well in excess of the amount currently collected by the District (i.e., the District's maximum fee amount is \$0.13 per square foot) and permitted by State statute. Thus, the District is justified in collecting the statutory fees for commercial/industrial development as permitted by state law.
- Absent additional state or local funding, the District will not be able to provide adequate school facilities for new residential, commercial or industrial developments within the boundaries of the District, which are currently unmitigated.

Section

Unt

#### INTRODUCTION

This Section of the Report sets forth the legislative requirements as well as the methodology employed and the data sources utilized in the analysis of the District's school facilities impact. Also included in this Section is a brief description of the CJUHSD, its current student enrollment and its current capacity.

### The Chaffey Joint Union High School District

The CJUHSD is a political subdivision of the State of California located in the western portion of San Bernardino County and includes almost all of the territory within the boundaries of the Cities of Montclair and Rancho Cucamonga, portions of the cities of Fontana and Ontario as well as an unincorporated area serving the mountain community of Mt. Baldy. Its western boundary is largely coterminous with the western boundaries of the City of Rancho Cucamonga to the north and the City of Montclair to the south. Its southern boundary line generally lies south of the I-10 and north of the I-60 freeways, with the exception of the southern central portion of the District between Archibald Avenue and Milliken where it extends south of Interstate 60 to the County line. The eastern boundary of the District roughly follows Etiwanda Avenue to the point that that Etiwanda Avenue intersects with the I-15 freeway and then the eastern boundary extends further east to Lytle Creek. The northern boundary largely abuts the foothills to the north of Fontana and Rancho Cucamonga.

The District is a large high school district (Grades 9-12) that primarily serves an urban population with over 25,000 students housed in eight comprehensive high schools, two continuation schools and one adult and one community day school. The District serves a diverse ethnic population that includes more than 350,000 people in the cities of Fontana, Montclair, Ontario and Rancho Ontario as well as some small unincorporated areas.

## Synopsis of District Growth & Student Capacity

During the past six years the District has seen an increase in enrollment of over 5,000 pupils, which represents an increase of over twenty-five percent (25%). While there are some signs that development within southern California may be slowing slightly from the terrific pace experienced during the past several years, continued robust development during the next five years is still expected to occur, particularly in the eastern portion of the District where many developments exist along both sides of the I-15 corridor, north of the I-10 freeway. Additionally, development in the southern portion of the City of Ontario is expected to occur within the eastern portion of the master-planned area known as New Model Colony as a result of the

recent adoption of the Eden Glen Specific Plan. Additional specific plans approvals within the New Model Colony project area are expected to occur shortly.

Student enrollment for 2005-06 by grade level is as follows:

Table I FY 2005/06 Student Enrollment

Grade Level	Current Enrollment <sup>(1)</sup>
Ninth	. 6,641
	6,680
Tenth	6,090
Eleventh	5,607
Twelfth	25,018
Total 2005/06 Enrollment	25,010

<sup>(1)</sup> Reflects California Basic Educational Data Systems (CBEDs) enrollment based on CBEDs Information Day of October 5, 2005 which indicated a total enrollment of 25,018 and includes Special Day Class (SDC) pupils.

According to California Basic Educational Data Systems ("CBEDS"), enrollment figures show that the total student population is over 25,000 students. For purposes of calculating current enrollment and capacity under the School Facilities Program the District relies on enrollment and capacity computations as summarized on its <u>School Capacity and Actual Enrollment</u> worksheet, attached as Appendix "A". This worksheet indicates that the District's currently funded school facilities are sufficient to house 21,129 regular high school students (Grades 9-12) and 1,099 Special Day Class pupils (1,003 non-severe and 96 severe). A comparison of current student enrollment to current capacity demonstrates that the District currently has insufficient facilities to adequately house its current 9-12 enrollment.

Based upon the most recent population and housing estimates and trends as indicated by recent Census data and corroborated by recent development activity within the cities of Fontana, Ontario and Rancho Cucamonga, it is anticipated that the growth experienced by the District during the past decade is likely to continue in the near future. Specifically, current growth estimates prepared by the Southern California Association of Governments suggest that additional housing development within the jurisdictional boundaries of the CJUHSD is likely to continue at a good pace during the next five years. Thus, as the District's current facilities are inadequate to house all of its current students, much less any additional students expected to be generated from future dwelling units to be constructed, additional facilities must be added to provide some incremental capacity for students that will be generated from new non-mitigated development.

## Legislative History

School districts have historically relied upon state funds and local bond measures to provide funding for the acquisition and construction of new school facilities. Prior to the passage of

Proposition 13 in 1978, a school district's share of local property taxes was typically sufficient to build necessary schools to accommodate new development. The rapid increase in real estate prices within California during the 1970's and 1980's ensured that revenues would expand as the "ad valorem" tax base grew. However, limitations on the growth of this funding source were significantly constrained by the passage of Proposition 13, which limited annual increases in real estate values, except in the case of ownership transfers, to two percent (2%). This action, combined with a compounding need for new construction monies, caused significant hardships in many school districts during the early 1980's.

In 1986 the state legislature attempted to address this funding shortfall through the enactment of Assembly Bill 2926 ("School Fee Legislation"), which provided for the imposition of development fees on new residential and commercial/industrial construction. The School Fee Legislation provides that development fees are to be collected prior to the issuance of a building permit. Furthermore, no city or county is authorized to issue a building permit for new residential or commercial/industrial projects unless it first certifies with the appropriate school districts that the developer of the project has complied with the development fee requirement.

Shortly thereafter, AB 1600 ("Mitigation Fee Act") was enacted by the state legislature and took effect on January 1, 1989. Government Code Section 66001 Et. Seq. sets forth the requirements for establishing, imposing and increasing development fees initially authorized under AB 2926. Specifically, the Mitigation Fee Act requires that a reasonable relationship or "nexus" exist between the type and the amount of a development fee imposed and the cost of the benefit to be derived from the fee. Specifically, Section 66001 of the Government Code with respect to the imposition of development fees provides, in pertinent part, that any action establishing, increasing, or imposing a fee on new development shall do all of the following:

- Identify the purpose of the fee.
- Identify the use to which the fee is to be put.
- Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed.
- Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed.

The development fees are currently authorized under Education Code Section 17620 and are \$2.63 per square foot of new residential construction and \$0.42 per square foot of new commercial/industrial development (for K-12 school districts) of which, if substantiated by a properly adopted fee report the District would receive \$0.82 per square foot of new residential development and \$0.13 per square foot of new non-residential development pursuant to its feesharing agreements with the various feeder school districts. These development fees will next be increased by the SAB in 2008 and every two years thereafter.

#### Methodology

In order to determine the impact of new residential development on CJUHSD facilities the relationship between the construction of a new residential dwelling unit and its impact on the demand for school facilities must be identified. For residential development this determination includes the following:

- Projecting the number of future residential dwelling units to be constructed within CJUHSD boundaries.
- Calculating a student generation rate (i.e., students expected to be generated from each new home) for each dwelling unit type (SFD and MF).
- Determining the number of students to be generated from new development.
- Identifying the "per student cost" for new high school facilities.
- Multiplying the per student costs for high school facilities by the student generation rate for each dwelling unit type.

The methodology for determining the impact of new commercial/industrial development is similar. However, instead of determining the number of students to be generated per new dwelling unit, the focus is on the number of students generated per employee.

This Report utilizes in part, employee generation factors derived from the Traffic Generator's Guide prepared by the San Diego Association of Governments (SANDAG), last updated in April of 2002, as well as certain census data compiled by the U.S. Census Bureau.

#### Data Sources

The primary information required to establish a nexus between new development and school facilities impacts include residential housing projections, employment impacts from new commercial/industrial development, historical student generation rates and facilities cost estimates. Primary information sources regarding future housing projections includes a tabulation of future dwelling units to be constructed within the Etiwanda School District attendance area as prepared by SDFA and specific plan information as contained in two specific plans for the project area known as New Model Colony. Data for determining commercial/industrial impacts was derived from the Traffic Generators Guide prepared by SANDAG as well as 2000 Census Data for the Cities of Fontana, Montclair, Ontario and Rancho Cucamonga. Student generation rates for this Report were taken from the FY 2004/05 Student Population Projections Report, dated June 20, 2005, which was prepared by Davis Demographics and Planning (DDP). Facilities cost estimates were prepared using cost information obtained from the District's Facilities Department.

Section

Two

### RESIDENTIAL DEVELOPMENT

This Section of the Report identifies the school facilities impact from new residential construction.

# Existing Facilities Capacity and Current Enrollment

Prior to examining the school facilities impacts from new development, the District's current capacity and enrollment were reviewed to identify existing facilities that may be available to house future students. As shown in Appendix "A" (School Capacity & Actual Enrollment worksheet), the District has determined that its existing funded school building capacity is approximately 22,228 high school seats. As shown in Table I, CBEDS enrollment figures for 2005/06 include 25,018 students. The resulting capacity deficit is shown in Table II.

Table II
Existing School Facilities Capacity

School	2005/06	2005/06	Existing Seat
Type	Capacity <sup>(1)</sup>	Enrollment	Surplus/(Deficit)
High (9-12) (2)	22,228	25,018	(2,790)

Includes Permanent Facilities & Interim Facilities

## Future Residential Unit Projections

SDFA has assisted the Etiwanda School District (ESD) with the administration of its community facilities districts during the past several years and has also been involved in the tabulation of student generation rates for that school district in conjunction with the preparation of its School Facilities Needs Analysis (SFNA) and its DFJS. Part of these efforts have involved a review of proposed development plans for the cities of Rancho Cucamonga and Fontana and a tabulation of future development projects for the ESD attendance area. Additionally, SDFA has also reviewed the specific plan documents for two of the proposed master-planned communities within Ontario's New Model Colony project area – Eden Glen and Countryside.

While, the District can expect additional development to occur in various "in-fill" and redevelopment areas within the cities of Montclair and Ontario as well as in that portion of the

<sup>(2)</sup> It should be noted that the High School Capacity shown above is derived from Appendix 'A' and that calculation is based on the District's baseline capacity as determined by using state loading standards and then supplemented by the number of grant units obtained for each project.

City of Rancho Cucamonga that is not located within the ESD attendance area, this report incorporates only those future development projects identified within the ESD attendance area and those dwelling units proposed for that portion of Ontario's New Model Colony project area that is located within the boundaries of the CJUHSD. Again, the District has not incorporated any estimate of future dwelling units expected from currently unidentified in-fill development; however, as the following discussion indicates, a simple projection of new residential units that are likely to be constructed in response to growth in population within the area lends supports to the District's position that considerable new construction of residential construction can be expected.

Based on current and future population estimates prepared by the Southern California Association of Governments (see Appendix 'B') and existing housing to population ratios, the District would expect that by 2025, approximately 37,000 additional residential units would need to be constructed within the boundaries of the District solely as a result of expectations regarding population growth.

This estimate is summarized in Table III.

Table III Projected Future Residential Units

Statistical Area (1)	Current Population	Projected 2025 Population	Current Households	Projected 2025 Households	Net Increase in Residential Units <sup>(2)</sup>
City of Fontana (10%)	31,718	45,237	7,880	12,191	4,311
City of Montclair (100%)	34,459	34,997	8,882	9,783	901
City of Ontario (55%)	94,135	151,730	24,956	43,950	18,994
City of Rancho Cucamonga (100%)	149,527	170,771	46,430	59,522	13,092
Total Projection for CJUHSD	309,839	402,735	88,148	125,446	37,298

<sup>(1)</sup> Percent of population and housing units shown for Fontana and Ontario was based on an estimate of the approximate percentage of land area of each jurisdiction that is located within the boundaries of CJUHSD and assumes that overall densities for that portion of the jurisdictions that are located within the boundaries of CJUHSD are similar to that portion of the jurisdictions that are not located within the boundaries of CJUHSD.

As previously indicated, SDFA has prepared a tabulation of Future Dwelling Units expected to be constructed within the ESD attendance area. This tabulation also includes dwelling units for which a building permit was issued after January 1, 2005, as it is unlikely that a significant portion of such units would have been completed, occupied and generating students that would have been reflected in the FY 2005/06 CBEDs enrollment figures, based on attendance as of the October 5, 2005. Thus, for identifying dwelling units expected to generate future students, dwelling units permitted since January 1, 2005 are considered to be future dwelling units and are included on the Future Unit tabulation contained in Appendix 'C-2'. A summary of these projects is shown below:

Table IV
Projected Future Residential Units — ESD Attendance Area (1)

<sup>(2)</sup> While there is not a perfect correlation between the expected increase in households and residential units, the District believes that the correlation is sufficiently strong to approximate the number of new residential units.

<del></del>	Future SFD	Future MF	Total Future
Jurisdiction	Dwelling Units	Dwelling Units (2)	Dwelling Units
City of Fontana	1,135	0	1,135
City of Rancho Cucamonga	2,604	381	2,985
Totals	3,739	381	4,120

<sup>(1)</sup> Future Residential Projects identified within the boundaries of the Etiwanda School District and includes some dwelling units for which building permits were issued after January 1, 2005.

The estimated dwelling unit counts for that portion of the New Model Colony project which is within the boundaries of the CJUHSD are set forth in Appendix 'C-1' and are summarized below:

Table V
Projected Future Residential Units — Cities of Montclair and Ontario

	Future SFD	Future MF	Total Future
Jurisdiction	Dwelling Units	Dwelling Units (1)	Dwelling Units
City of Montclair <sup>(2)</sup>	0	0	0
City of Ontario <sup>(3)</sup>	9,855	3,645	13,500
Totals	9,855	3,645	13,500

<sup>(1)</sup> MF or Multi-family dwelling units include both "for-sale" units (i.e., condominiums and townhouses) and apartment units.

Thus, a summary of future residential SFD and MF units to be built within the CJUHSD within the next few years is shown in Table VI.

Table VI Projected Total Future Residential Units

Jurisdiction	Single-Family Detached (SFDs)	Multi-Family (SFAs and Apts)	Estimated Total
City of Fontana (1)	1,135	0	1,135
City of Montclair	0	0	0
City of Ontario (1)	9,855	3,645	13,500
City of Rancho Cucamonga (1)	2,604	381	2,985
Totals	13,594	4,026	17,620

<sup>(1)</sup> Includes only that portion of the applicable jurisdiction that lies within the boundary of the CJUHSD.

<sup>(2)</sup> MF or Multi-family dwelling units include both "for-sale" units (i.e., condominiums and townhouses) and apartment units.

<sup>(2)</sup> As previously noted, anticipated development from in-fill and redevelopment was not considered in this Report.

<sup>(3)</sup> Only that portion of anticipated development within the eastern portion of the New Model Colony project area was incorporated in the future development estimate for the City of Ontario.

#### Student Generation Rates

To establish a nexus between anticipated future residential development and a corresponding need for additional school facilities, the number of future students anticipated to be generated from the new residential development must be determined. This calculation often results in a student generation rate or factor, which represents the number of students, or portion thereof, expected to attend District schools from each new house. To accurately determine the cost of school facility impacts a student generation rate for each dwelling unit type (i.e., SFD, Multifamily) is required because different product types generate a different number of students per dwelling unit than others.

The calculation of student generation rates for the purpose of projecting future students to be generated from future development was derived from the FY 2004/05 Student Population Projections Report, dated June 20, 2005, which was prepared by Davis Demographics and Planning (DDP) The Maturity yield rates set forth in that report are summarized in Appendix 'D' and the following two tables.

The student generation rate for single-family detached units is reflected in Table VII.

Table VII Student Generation Rate for SFDs

	SFD	SFD	Generation
School Level	Students	Units	Rate (1)
High (9-12)	17,638	67,275	0.2622

<sup>(1)</sup> Rounded to the nearest ten-thousandth.

SDFA computed a distinct student generation rate for both single-family attached units and apartment units. However, these two rates were aggregated for two primary reasons. First, the resulting rates for SFA and apartments were very similar and it can be assumed that the student generation rates for these two product types will continue to be fairly similar. Secondly, current planning documents do not always make a distinction between single-family attached units and apartment units. Therefore, the aggregate multi-family generation rates for elementary, middle and high school students incorporates both single-family attached units and apartment units as indicated below in Table VIII:

Table VIII Student Generation Rate for MFs

	MF	MF	Generation
School Level	Students	Units	Rate (1)
High (9-12)	4,687	35,669	0.1314

<sup>(1)</sup> Rounded to the nearest ten-thousandth.

### Students Generated By New Development

The number of students estimated to be generated from future Unmitigated Development is determined by multiplying the projected number of future unmitigated SFD and MF units (Table VI) by the corresponding generation rates (Tables VII & VIII). This computation is reflected in Table IX:

Table IX
Student Generation for SFDs & MFs

	Future SFD Dwelling Units: 13,594		Future MF Dwelling Units: 4,026		
School Level	SFD Student Generation Rate	Future SFD Students	MF Student Generation Rate	Future MF Students	Aggregate Future Students
High (9-12)	0.2622	3,564	0.1314	529	4,093

## School Facilities Required to Serve New Development

In order to determine the number of schools, or portions thereof, required to serve students generated from new development, the aggregate student generation rate shown in Table IX is divided by the school capacity (i.e., design population). Table X shows the number of new high schools required to serve new development:

Table X
School Facilities Required for New Development (Unmitigated)

School	Current Available	Design	Future	Required
Facility	Capacity (1)	Capacity	Students	Facilities (2)
High School (9-12)	0	2,500	4,093	1.64

<sup>(1)</sup> Current capacity available for Unmitigated Development is shown at zero pursuant to Table II.

#### Estimated School Facilities Costs

To calculate the cost for new school facilities, the District incorporated it most recent estimates for High School No. 9, the next comprehensive school site to be constructed. These numbers reflect the District's estimate of land acquisition and construction costs, and also include anticipated costs for furniture, equipment and technology. It should be noted that the District's actual school costs for High School No. 9 and High School No. 10 could be significantly higher than these estimates as recent dramatic increases in school construction costs have suggested annual inflation of 15-20% in the short-term. The land costs associated High School No. 9, which were a result of condemnation proceedings, were incorporated and these costs are in excess of \$485,000 per acre.

The estimated costs high school facilities are contained in Appendix 'E-1'. The resulting facilities costs per school site, including acquisition and site development are shown in Table XI.

<sup>(2)</sup> Rounded to the nearest hundredth.

Table XI Estimated Facilities Costs Per School Site

-	School	Site Acquisition/		Total
-	Facility <sup>.</sup>	Development (1)	Construction <sup>(2)</sup>	Cost
	High (9-12)	\$46,328,936	\$92,320,811	\$138,649,747

<sup>(1)</sup> It should be noted that the site acquisition and development costs incorporated here are higher than the amount shown in Table 13 of the District's School Facilities Needs Analysis (SFNA), because the prescribed methodology required for the SFNA requires that the computation of site acquisition costs for a high school site with a design capacity similar to High School No. 9 reflect land costs for only 46.5 acres (artificially low). The costs shown above reflect the true acquisition costs for High School No. 9, which is a 60.1 acre site.

The aggregate facilities impact from new, Unmitigated Development is determined by multiplying the per site costs shown in Table XI by the required number of sites reflected in Table X. This resulting impact is shown in Table XII.

Table XII
Estimated Facilities Costs (Excluding Interim Housing & Admin. Facilities)

School	Required	Site Acquisition/		Total
Type (1)	Schools <sup>(1)</sup>	Development	Construction <sup>(2)</sup>	Cost
High (9-12)	1.64	\$75,979,455	\$151,406,130	\$227,385,585

<sup>(1)</sup> Rounded to the nearest hundredth.

## Interim Housing and Administrative Support

In addition to the need for high school facilities, new development imposes additional facilities impacts on school districts. Because development fees are collected at the time a building permit is issued, funds to provide facilities accumulate over a period of time and revenues, particularly when other local or state funds are not available, are not sufficient to build a school when development so warrants. The solution to this problem is most often addressed through "interim housing" in which the District purchases or leases relocatable classrooms that are used to temporarily alleviate overcrowding at existing school sites. Utilizing recent cost data associated with the setup and leasing of portables at its current sites, the CJUHSD has determined that it costs the District approximately \$3,500 per high school student to provide interim housing until new facilities are available.

Additional central administrative facilities and support is also required as new students place incremental demands on school administration. The District has determined that \$675 for each new student is necessary to provide for corresponding central administrative facilities. The estimated total cost of interim housing and central administrative facilities is shown in Table XIII.

<sup>(2)</sup> Includes plans, tests and inspections, furniture and equipment, technology and other items.

<sup>(2)</sup> Includes plans, tests and inspections, furniture and equipment, technology and other items.

Table XIII
Costs for Interim Housing & Administrative Support Facilities

		Per Pt	ıpil Costs	
School Level	Future Students	Interim Housing (1)	Administrative Support (1)	Total Cost
High (9-12)	4,093	\$3,500	\$675	\$17,088,275

<sup>(1)</sup> Rounded to the nearest dollar.

Thus, the estimated total cost of school facilities (Table XII) and ancillary facilities (Table XIII) necessary to accommodate students generated from new residential development is shown in Table XIV:

Table XIV Total Estimated Facilities Costs

School	School	Interim	Administrative	Total
Level	Facilities	Housing	Support	Cost
High (9-12)	\$227,385,585	\$14,325,500	\$2,762,775	\$244,473,860

#### Total Estimated Cost Per Student

The estimated facilities cost for high school student is derived by dividing the school facilities costs by the respective number of students expected to be generated from new residential development. The per pupil costs for interim housing and administrative support (Table XIII) are added to the per pupil school facilities cost to determine the total per student facilities costs for high school facilities. The total estimated per pupil facilities cost is shown below:

Table XV Total Facilities Costs Per Pupil

			Per Pupil Costs (1)			
School Level	School Facilities Cost	Future Students	School Facilities	Interim Housing	Administrative Support	Total Cost
High (9-12) (2)	\$227,385,585	4,093	\$55,555	\$3,500	\$675	\$59,730

<sup>(1)</sup> Rounded to the nearest dollar.

<sup>(2)</sup> Reflects a weighted average based upon anticipated number of SFD and MF units to be constructed.

#### School Facilities Impact Per Dwelling Unit

The total estimated facilities cost for each new residential SFD and MF unit is determined by multiplying the facilities costs per student (Table XV) by the applicable student generation rate (Tables VII and VIII) and is shown in the following table:

Table XVI Total Facilities Costs Per Residential Unit

		Single-Family	Detached (SFD)	Multi-Family	Detached (MF)	Composite	-Wtd Avg. <sup>(3)</sup>
		Student	Facilities Cost	Student	Facilities Cost	Student	Facilities Cost
	Per Pupil	Generation	Per Dwelling	Generation	Per Dwelling	Generation	Per Dwelling
Facilities Type	Cost	Rate (1)	Unit (2)	Rate (1)	Unit (2)	Rate (1)	Unit (2)
High (9-12)	\$59,730	0.2622	\$15,661	0.1314	\$7,849	0.2169	\$13,875

<sup>(1)</sup> Rounded to the nearest ten-thousandth.

(2) Rounded to the nearest dollar.

The average size of a dwelling units recently constructed within the CJUHSD (both SFD and MF) is 2,336 square feet as shown in Appendix "C-1". Dividing the total facilities cost per dwelling unit (SFD and MF) of \$13,875 by the average size of a dwelling unit yields a school facilities cost of \$5.94 per square foot.

As previously indicated, the current statutory development fee authorized by Government Code Section 65995 (b)(1) for new residential construction for K12 District's is \$2.63 per square foot, of which the District is entitled to \$0.82 per square foot. Based on the District's student generation rates, actual costs to provide school facilities and the average square footage for new dwelling units, the District, as outlined above, would need to levy approximately \$5.94 per square foot to actually provide the school facilities necessitated by new residential development.

This Report demonstrates that the school facilities impact amount per square foot equals \$5.94 for all new residential development within the boundaries of the District. There is full justification for collecting the District's share of the maximum statutory developer fee allowed of \$2.63 per square foot (K-12) of new residential development.

Since the District's school facilities impact per square foot is greater than the maximum statutory fee allowed under Government Code Section 65995 (b)(1), the District actually suffers unmitigated impacts from new residential development, which not only supports the collection of the statutory development fee for residential developments, but also those fees for new commercial/industrial development as provided for in Section Three of this Report.

Education Code Section 17623 provides that non-unified school districts having a common jurisdiction, such as a high school district and feeder elementary schools, must determine how

<sup>(3)</sup> Reflects a weighted average based upon anticipated number of SFD and MF units to be constructed (composite facilities cost per dwelling unit is equal to total facilities cost divided by total dwelling units to be constructed).

to distribute the development fee among the school districts if the combined fees to be collected exceed the maximum amount authorized under Government Code Section 65995 (b)(1), currently \$2.63 per square foot.

In this instance, CJUHSD is justified in levying the maximum fee of \$2.63 per square foot. Based on the cost, development, and student generation assumptions set forth in this report, but in accordance with its developer fee sharing Agreement with the various feeder elementary school districts, the District receives approximately thirty-one (31%) percent of the statutory fee amount to be collected from new residential developments as follows:

Table XVII Fee Allocation by School Type -- Residential Development (1)

Fee Allocation	Fee Allocation	Total Statutory Fee Collected
Feeder Districts	To CJUSD	per Gov't Code Section 65995
\$1.81 per square foot	\$0.82 per square foot	\$2.63 per square foot

(1) Fees collected by CJUHSD effective June 19, 2006.

Table XVIII identifies the facilities costs per dwelling unit and on a square foot basis — the facilities cost per square foot, the amount currently being collected by CJUHSD and the net fee deficit for new development. As can be seen, the amount required is over seven times the amount that can be collected (\$0.82) by the CJUHSD, absent eligibility for and adoption of Alternative (Level II) Fees. The following table shows the fee deficit associated with collecting the Statutory Level I Fee from new residential development as set forth in this report as well as the fee deficit realized when collecting the Alternative Fees (Level II Level III Fee) amounts as identified in the SFNA:

Table XVIII
Comparison of Facilities Cost to Currently Authorized Fees

Authorized Fee Applicable to New Residential Development	Authorized Fee Per Square Foot	Fee Deficit Per Square Foot
Statutory Fee (Level I) — CJUHSD Share Per Fee Agreement	\$0.82	(\$5.12)
Alternative Level II Fee — As set forth in the SFNA, dated April 2006	\$1.50	(\$4,44)
Alternative Level III Fee — As set forth in the SFNA, dated April 2006 (1)	\$3.01	(\$2.93)

(1) Level III Fee can only be collected when the State Legislature declares that it no longer has funds available for new construction.

Section

Three

### COMMERCIAL/INDUSTRIAL DEVELOPMENT

This Section of the Report identifies the school facilities impact from new commercial and industrial development.

## School Facilities Impacts from Commercial/Industrial

Just as the District is required to establish the impact of new residential development on student enrollment and a corresponding need for additional school facilities, a similar nexus must be established between new commercial/industrial development and the corresponding need for additional school facilities. The four-step methodology used to quantify the impact of commercial/industrial development on student enrollment is discussed in this section of the report and is summarized as follows:

- Determine the number of employees required per square foot for specific types of commercial and industrial development (i.e., new jobs created within the school district).
- Determine the number of new employees that would both live and work within the school district.
- Determine the number of occupied housing units that would be associated with new employees.
- Determine the number of new students generated from these employees utilizing the estimated student generation rates.

## **Estimated Number of Employees Per Square Foot**

Because the utilization of commercial and industrial buildings varies significantly, in order to estimate the number of employees and hence, the number of school age children generated by employees, it is important that the relationship between the size of any commercial/industrial development and its associated employee base, be established for various development or land use types. To do this, the CJUHSD relied on survey results published in SANDAGs report entitled <a href="Traffic Generators Guide">Traffic Generators Guide</a>. This Traffic Generators Guide reflects data gleaned from a site specific employment inventory of diverse developments throughout San Diego County. Multiple sites for eighteen different development types are included in the survey data and the square footage and number of employees has been averaged for each development type yielding the average number of employees per 1,000 square feet as shown in the following table:

Table XIX
Region-wide Employment Per 1000 Square Feet by Development Type (1)

Development Type	Square Feet of Dev. Type	Total Employees	Employees per 1000 Sqft. <sup>(2)</sup>
Self-Storage	170,953	32	0.187
Specialized Recreation	19,850	9	0.453
Hotel /Motel	165,200	184	1,114
Commercial Strip Center	27,677	50	1,807
Regional Shopping Center	1,496,927	2,777	1.855
Car Dealers	28,433	57	2.005
Industrial Parks (No Commercial)	351,266	733	2.087
Community Shopping Center	151,525	363	2,396
Industrial Plants (Mult. Shift)	456,000	1,120	2.456
Neighborhood Shopping Center	69,509	178	2.561
Corporate Office (Single User)	127,331	342	2,686
Banks	9,203	26	2,825
Scientific Research & Development	221,184	673	3.043
Industrial/Business Parks	260,379	972	3.733
Commercial Offices (>100,000 sqft)	135,433	625	4.615
Commercial Offices (<100,000 sqft)	27,100	130	4.797
Medical Offices	15,306	96	6.272
Restaurants	5,267	48	9.113

(1) Source: SANDAG Publication, Traffic Generators Guide

(2) Employees/1000 Square Feet = Total Employment/Square Feet of Each Type

# Estimated Number of Employees Living & Working Within the School District

In order to determine the minimum number of students that will be generated as a result of new commercial/industrial development, an estimate of the number of employees (i.e., parents of the children expected to attend schools within the District) that will both work and live within the District must be determined. To make this determination, SDFA relied on 2000 Census data and worksite information provided by the Equal Employment Opportunity Commission (EEOC). Specifically, SDFA obtained employment and population estimates for the cities of Ontario and Rancho Cucamonga – at the time of the 2000 Census the City of Montclair had a population of less than 50,000 so EEOC data was not available for that City and since only a relatively small portion of the City of Fontana lies within the boundaries of the CJUHSD, it was also ignored for the purpose of computing the employee generation rate as discussed in the following paragraphs. Tabulations of the worksite and population estimates are contained in Appendix 'E'.

The US Census Bureau estimated that as of the 2000 Census date, there were a total of 126,305 employees working within the cities of Ontario and Rancho Cucamonga (the Ontario/Rancho Cucamonga or "ORC Census Area"). The census data also contains "place of residence" information for these employees. The following table identifies the residential employee generation rate (REGR) for the two cities, which is determined by dividing the total number of employees within the ORC Census Area by the total number of employees that both live and work within the boundaries of ORC Census Area.

Table XX
Estimated Resident Employees within the ORC Census Area (1)

		Place of Residence		Pct of Employees
Jurisdiction	Total Employees	Ontario	Rancho Cucamonga	Residing Ontario and Rancho Cucamonga
Ontario	81,975	14,808	6,940	26.53%
Rancho Cucamonga	44,330	2,639	12,342	33.79%
Total	126,305	17,447	19,282	29.08%

(1) Source: 2000 Census

Because the census data does not identify a place of residence which corresponds solely to the jurisdictional boundaries of the CJUHSD, it was assumed that the REGR for the ORC Census Area would produce a close approximation of the actual REGR for the CJUHSD. This assumption is reasonable because the commercial and industrial development characteristics of areas outside of the CJUHSD but within the jurisdictional boundaries of the ORC Census Area are similar to those of commercial and industrial developments within the boundaries of the CJUHSD.

It should be noted that by considering only those employees that both live and work within the CJUHSD (as expressed by the REGR), the District is being conservative in its estimate of the impact of commercial/industrial development on student enrollment because the methodology identified herein does not take into account any students who may attend schools within the District as a result of Education Code Section 48204 (i.e., interdistrict transfers). Section 48204 of the Education Code permits employees working within the school district who do not reside within the boundaries of the school district to request that their children be permitted to attend a school within the boundaries of the District in which they work. The census data suggests that approximately seventy-percent (70%) of ORC Census Area workers commute from outside of the ORC Census Area to their jobs. Many of these workers living outside of but working within the ORC Census Area could request that their children be transferred into the CJUHSD on the basis of employment.

Nevertheless, by multiplying the number of employees per thousand square feet as shown in Table XIX by the REGR computed for the ORC Census Area, one can derive a REGR for the various commercial/industrial development types. The following table indicates that for every 1,000 square feet of new commercial or industrial development, expected residential employee generation ranges from a low of 0.054 employees for *Self-Storage* to a high of 2.650 employees for *Restaurants*.

Table XXI
Resident Employee Generation Factors by Development Type

Development Type	Employees per 1000 Sqft.	Residential Employment Generation Rate	Resident Employee Per 1000 Sqft.
Self-Storage	0.187	.2908	0.054
Specialized Recreation	0.453	.2908	0.132
Lodging	1.114	.2908	0.324
Discount Retail Club	1.671	.2908	0.486
Commercial Strip Center	1.807	.2908	0,525
Regional Shopping Center	1.855	.2908	0,539
Car Dealers	2.005	.2908	0.583
Industrial Parks (No Commercial)	2.087	.2908	0.607
Community Shopping Center	2.396	.2908	
Industrial Plants (Mult. Shift)	2.456	.2908	0.697
Neighborhood Shopping Center	2.561	,2908	0.714
Corporate Office (Single User)	2.686	.2908	0.745
Banks	2.825	.2908	0.781
Scientific Research & Development	3.043	.2908	0.822
Industrial/Business Parks	3,733		0.885
Medical Offices	4.265	.2908	1.086
Commercial Offices (>100,000 sqft)	4.615	.2908	1.240
Commercial Offices (<100,000 sqft)	4.797	.2908	1.342
Restaurants	9.113	.2908	1.395
	_1 5.113	.2908	2.650

# Estimated Household Rate per Resident Worker

In order to quantify the impact of these residential workers on the District, two additional relationships must be established. The first of these is the number of households per resident worker. Utilizing estimates obtained from the California Department of Finance indicating occupied housing units within the ORC Census Area, SDFA identified the household rate (i.e., the number of occupied housing units per residential worker) to be 0.4352.

Table XXII Household Rate for ORC Census Area

ORC Census Area Component	Resident Workers (Ontario/Rancho Cucamonga)	Occupied Housing Units	Household Rate <sup>(1)</sup>
City of Ontario	17,447	43,525	40.09%
City of Rancho Cucamonga	19,282	· 40,863	47.19%
Aggregate ORC Census Area	36,729	84,388	43.52%
Source: 2000 Census			43,3476

(1) Household Rate = Occupied Housing Units / Resident Workers

By applying the household generation rate for the ORC Census Area of .4352 to the Resident Employee Generation Factors shown in Table XXI, housing units required per employee for each commercial/industrial land use category can then be determined. Expected household

generation per 1,000 square feet of commercial/industrial development appears in the following table:

Table XXIII
Household Generation for Commercial / Industrial Land Uses

Rate .4352 .4352 .4352 .4352 .4352 .4352 .4352 .4352 .4352 .4352 .4352 .4352	Per 1,000 Sqft 0.024 0.057 0.141 0.211 0.229 0.235 0.254 0.264
.4352 .4352 .4352 .4352 .4352 .4352 .4352 .4352	0.057 0.141 0.211 0.229 0.235 0.254 0.264
.4352 .4352 .4352 .4352 .4352 .4352 .4352	0.141 0.211 0.229 0.235 0.254 0.264
.4352 .4352 .4352 .4352 .4352 .4352	0.211 0.229 0.235 0.254 0.264
.4352 .4352 .4352 .4352	0.229 0.235 0.254 0.264
.4352 .4352 .4352	0.235 0.254 0.264
.4352 .4352	0.254 0.264
.4352	0.264
	0.000
.4352	0.303
.4352	0.311
.4352	0.324
.4352	0.340
	0.358
	0.385
· · · · · · · · · · · · · · · · · · ·	0,472
	0.540
	0.584
	0.607 1.153
_	.4352 .4352 .4352 .4352 .4352 .4352

# School Facilities Cost from Commercial/Industrial Development

Since the school facilities cost per new dwelling unit was already identified in Table XVII, by applying the total cost per dwelling unit to the district household generation shown in Table XXIII, the gross school facilities impact of commercial/industrial development can be determined. Since it is not possible to know how many employees of any given development type will choose to live in single-family detached, single-family attached, or multi-family housing, the composite cost per dwelling unit for all unit types of \$13,874.79 is used. The resulting facilities cost per square foot is shown in Table XXIV and ranges from \$0.33 to \$16.00 per square foot of development.

Table XXIV

Gross School Facilities Impact for Commercial/Industrial Land Uses

Development Type	District Households Per Sqft of New, Non- Residential Development	School Facilities Cost Per Dwelling Unit	Gross Facilities Cost Per Sqft of Commercial/Industrial Development
Self-Storage .	0.0000237	\$13,874.79	\$0.33
Specialized Recreation	0.0000574	\$13,874.79	\$0.80
Lodging	0.0001410	\$13,874.79	\$1.96
Discount Retail Club	0.0002115	\$13,874.79	\$2.93
Commercial Strip Center	0.0002286	\$13,874.79	\$3.17
Regional Shopping Center	0.0002348	\$13,874.79	\$3.26
Car Dealers	0.0002537	\$13,874.79	\$3.52
Industrial Parks (No Commercial)	0.0002641	\$13,874.79	\$3.66
Community Shopping Center	0.0003032	\$13,874.79	\$4.21
Industrial Plants (Mult. Shift)	0.0003109	\$13,874.79	\$4.31
Neighborhood Shopping Center	0.0003241	\$13,874.79	\$4,50
Corporate Office (Single User)	0.0003399	\$13,874.79	\$4.72
Banks	0.0003576	\$13,874.79	\$4.96
Scientific Research & Development	0.0003851	\$13,874.79	\$5.34
Industrial/Business Parks	0.0004725	\$13,874.79	\$6.56
Medical Offices	0.0005398	\$13,874.79	\$7.49
Commercial Offices (>100,000 sqft)	0.0005841	\$13,874.79	\$8.10
Commercial Offices (<100,000 sqft)	0.0006071	\$13,874.79	\$8.42
Restaurants	0.0011534	\$13,874.79	\$16.00

## Commercial/Industrial Development Impact

As noted, the school facilities impact shown above represents the total cost to provide school facilities required to serve new students resulting from the construction of new commercial/industrial development. This amount reflects the gross impact of such development and does not take into account the impact fees already collected from new residential construction. Nor does it consider that as new commercial/industrial development occurs, some portion of the new employees will be housed in existing housing (from which no additional residential impact fee may be collected).

The following table shows the *net facilities* impacts remaining assuming that the currently authorized maximum statutory fee (Level I Fee) or Alternative Fee amounts (Level II and Level III) were collected from all new residential development:

Table XXV

Net Facilities Deficit after Collecting Maximum Residential Fees

Net Facilites Fee Component	Statutory Level I Fee (1)	Alternative Level II Fee	Alternative Level III Fee
Residential School Fee Amount	\$0.82	\$1.50	\$3.01
Weighted Average Soft of Dwelling Unit	2,336	2,336	2,336
Facilities Costs Per Dwelling Unit	\$13,874.79	\$13.874.79	\$13,874,79
Fee from New Residential Development	\$1,915.52	\$3,504.00	\$7,031.36
Fee Deficit Per D/U after collecting Residential Fee	\$11,959.27	\$10,370.79	\$6,843.43
Fee Deficit Per Sqft after Collecting Residential Fee	\$5.12	\$4.44	\$2.93

<sup>(1)</sup> Reflects District's share of the Statutory Level I Fee Amount of \$2.63 per square foot of new residential construction.

By multiplying the "fee deficit per D/U" for each of the fee scenarios shown in the previous table, and then applying the households rates per square foot of development to each of the non-residential development types, we can then see the net facilities cost remaining after collection of the statutory residential fee:

Table XXVI Net Non-Residential Facilities Impact Fee Deficit After Collection of the Residential Impact Fee

	District Households	Facilities Deficit Per	Facilities Deficit Per	Facilities Deficit Per
·	Per Sqft of New	Square Foot After	Square Foot After	Square Foot After
	Non-Residential		Collecting Alternative	Collecting Alternative
Development Type	Development	Level I Fee (1)	Level II Fee (1)	Level III Fee (1)
Self-Storage	0.0000237	\$0.28	\$0.25	\$0.16
Specialized Recreation	0.0000574	\$0.69	\$0.60	\$0.39
Lodging	0.0001410	\$1.69	\$1.46	\$0.96
Discount Retail Club	0.0002115	\$2.53	\$2.19	\$1.45
Commercial Strip Center	0.0002286	\$2.73	\$2.37	\$1.56
Regional Shopping Center	0.0002348	\$2.81	\$2.44	\$1.61
Car Dealers	0.0002537	\$3.03	\$2.63	\$1.74
Industrial Parks (No Commercial)	0.0002641	\$3.16	\$2.74	\$1.81
Community Shopping Center	0.0003032	\$3.63	\$3,14	\$2.07
Industrial Plants (Mult. Shift)	0.0003109	\$3.72	\$3.22	\$2.13
Neighborhood Shopping Center	0.0003241	\$3.88	\$3.36	\$2.22
Corporate Office (Single User)	0.0003399	\$4.07	\$3.53	\$2.33
Banks	0.0003576	\$4.28	\$3.71	\$2.45
Scientific Research & Development	0.0003851	\$4.61	\$3,99	\$2.64
Industrial/Business Parks	0.0004725	\$5.65	\$4.90	\$3.23
Medical Offices	0.0005398	\$6.46	\$5.60	\$3.69
Commercial Offices (>100,000 sqft)	0.0005841	\$6.99	\$6.06	\$4.00
Commercial Offices (<100,000 sqft)	0.0006071	\$7.26	\$6.30	\$4.15
Restaurants	0.0011534	\$13.79	\$11.96	\$7.89

<sup>(1)</sup> Equal to the "fee deficit per D/U" as shown in Table XXV multiplied by the households per square foot of non-residential development.

Thus, assuming that all employees working in new non-residential developments within the District also reside in new housing within the District and the District was collecting the Alternative Fee (Level III) of \$3.01 per square foot from each home, a fee deficit after collecting

the maximum statutory fee for residential development would still range between \$0.16 (Self-Storage) and \$7.89 (Restaurants) per square foot of new non-residential development.

Thus, based on CJUHSD's currently authorized share of the non-residential fee (i.e., \$0.13 per square foot of non-residential development), assuming that every employee within the CJUHSD also resided within the CJUHSD and was housed in a dwelling unit for which the statutory fee (Level III Fee) for residential and the statutory non-residential fee was collected, a net facilities funding deficit would still remain.

And as previously mentioned, this analysis does not consider interdistrict transfers pursuant to Education Code Section 48204. Section 48204 of the Education Code permits employees working within the school district who do not reside within the boundaries of the school district to request that their children be permitted to attend a school within the boundaries of the District in which they work. For any of these pupils, the District will have collected no corresponding residential development impact fees.

Pursuant to Government Code Section 65995(b)(2), a unified school district is authorized to collect \$0.13 per square foot for new commercial/industrial development. Thus, for all of the commercial/industrial development types shown in Table XXVI, CJUHSD is justified in levying the maximum fee of \$0.13 per square foot as shown in the following table:

Table XXVII Authorized Development Fee -- Commercial/Industrial Development

	Total Statutory Fee Collected
Fee Component	per Government Code & 65995 (1)
Authorized Statutory Fee (Level 1) Per Square Foot of New Commercial/Industrial Development	\$0.13 per square foot
(1) Reflects District's share of the Statutory Level Level Amount of \$0.42 per several factors.	

Section

**four** 

#### **CONCLUSIONS & STATEMENT OF FINDINGS**

Based upon the data gathered by SDFA regarding future development within the boundaries of the CJUHSD, student generation, school facilities costs and the methodology employed to determine the school facilities impact from new residential and commercial development, CJUHSD makes the following findings pursuant to Section 66001 of the California Government Code:

- The purpose of the fee is to pay for the construction and/or acquisition of new public school facilities
  and equipment necessary to serve students expected to be generated from new residential and
  commercial/industrial development.
- The fees will be collected and may be used to repay debt service on bonds issued for the purpose of
  providing new school facilities or to pay directly for the acquisition and/or construction of such
  facilities and equipment. The fees may also be used to pay for the leasing or acquisition of portable
  classrooms to meet the temporary needs of students generated from new development.
- There is a reasonable relationship between the expected use of the fee (i.e., new school facilities and
  equipment) and the development on which the fee is imposed (i.e., new residential, commercial and
  industrial development) because additional students will be generated by new residential and
  commercial/industrial development.
- There is a reasonable relationship between the number of new residential units constructed and the number of high school students expected to be generated from the construction of such units. There is also a reasonable relationship between the construction of new commercial and industrial development and the number of students expected to be generated from the construction of such commercial/industrial development, as the parents of students will be employed by new businesses occupying the new commercial or industrial development and a portion of the students' parents will also choose to live within the boundaries of the District.
- There is a reasonable relationship between the amount of the fee identified in this Report and the
  cost of the school facilities to be constructed and deemed required to serve new residential,
  commercial and industrial developments.

Section

Five

# **APPENDICES**

Appendix A: School Capacity & Enrollment Worksheet

Appendix B: SCAG - Population & Household Projections

Appendix C: Future Dwelling Unit Projections

Appendix D: Summary of Student Generation Rates

Appendix E: School Facilities Cost Estimates

Appendix F: 2000 Census Data - Employment & Housing

Appendix A:

School Capacity & Enrollment Worksheet

Chaffey Joint Union High School District School Enrollment & Capacity Worksheet Fiscal Year 2005-06

						SAB Form 50-02 -Districtwide	2 -Districtwide		
	Grade	Grade	Grade	Grade			Grades	Severe	NonSevere
School	6	10	#	12	Total	Existing School Building Capacity:	9-12	SDC	SDC
Comprehensive Hath Schools:						(SAB Forms Certified on March 31, 2001)			
Alta Loma High	845	808	714	643	3,010	ő			
Chaffey High	768	941	823	710	3,407		15,083	95	758
Colony High	653	642	549	479	2,323		•		
Efiwanda High	917	912	857	269	3,383	Plus Capacity from New Construction:			
Los Osos High	860	838	791	771	3,260	Alta Loma High (50-67652-00-001)	648		
Montclair	895	875	717	614	3,101	Los Osos High (50-67652-00-002)	2,457		
Ontario High	784	815	637	454	2,690	Colony High (50-67652-00-003)	2,434		
Rancho Cucamonga	729	759	069	569	2,747	Monclair High (50-67652-00-004)	216		
Comprehensive School Total	6,580	6,590	5,814	4,937	23,921	Chaffey High (50-67652-00-005)	16		
						Valley View High (50-67652-00-006)	338		
Alternative High Schools:						Los Osos High (50-67652-00-007)	62		
Canyon View	0	0	83	129	212	Canyon View Cont. (50-67652-00-008)	20		
Community Day	2	42	<b>&amp;</b>	5	27		정		
Newcomer	46	47	23	မ	122		6,292		
District ASP	13	27	28	34	94				
Valley View	0	4	128	368	200	Total Current Computed Capacity:	21,375	95	758
Valley View Evening	0	0	13	89	87	Reallocation of Current Capacity:			
Valley View GED	O	0	<del>-</del> -1	00	9	Less Housed SDC Pupils:		(96)	(1,003
Alternative School Total	61	6	276	670	1,097	Net		£	(245)
						Reallocation of Regular to SDC: (1)	(246)	_	245
Total Student Enrollment	6,641	089'9	6,090	5,607	25,018				
Percentage of Enrollment:		Students	<u>a</u>	Percentage		Total Reallocated Capacity:	21,129	96	1,003
Regular Day/Continuation Students		23,919		95.6072%					
0.022 Non-Severe		1,003 25,018	·	4.0091%					

Appendix B:

SCAG - Population and Household Projections

## **Chaffey Joint Unified School District**

# Population, Household and Employment Projections for the Cities of Fontana, Montclair, Ontario and Rancho Cucamonga

<u>Estimate</u>	<u>Fontana</u>	<u>Montclair</u>	<u>Ontario</u>	Rancho Cucamonga
2000 Population	130,188	33,144	158,331	128,793
2005 Population	158,590	34,459	171,154	149,527
2010 Population	179,426	34,709	180,059	154,170
2015 Population	195,373	34,808	212,734	159,832
2020 Population	211,105	34,904	244,977	165,417
2025 Population	226,186	34,997	275,873	170,771
2030 Population	240,650	35,087	305,509	175,904
2000 Households	34,282	8,810	43,538	41,123
2005 Households	39,400	8,882	45,374	46,430
2010 Households	45,291	9,035	48,749	48,972
2015 Households	50,391	9,264	58,981	52,371
2020 Households	55,669	9,518	69,473	55,932
2025 Households	60,955	9,783	79,909	59,522
2030 Households	66,323	10,070	90,417	63,222
2000 Employment	28,798	22,110	76,927	57,244
2005 Employment	32,530	23,600	85,536	64,670
2010 Employment	37,661	25,647	97,366	74,870
2015 Employment	41,758	28,011	109,637	81,515
2020 Employment	45,954	30,428	122,204	88,315
2025 Employment	50,186	32,870	134,897	95,173
2030 Employment	54,488	35,347	147,785	102,133

Appendix C: Future Dwelling Units Projections

Chaffey Joint Unified School District - Development Projection for Identified Future Dwelling Units

4	Computation	Computation of Average Dwelling Unit Size	ling Unit Size	Projected D	Projected Development
	From Las	From Last Five Years of Development	<i>evelopment</i>	For Future D	For Future Dwelling Units
					Projection
		Aggregate	Average	Projection	of New
	Dwelling	Residential	Sqft of	of Future	Residential
Jurisdiction /Development Area	Units	Sqft	Dwelling	Dwelling Units	Square Footage
Derived from or Applicable to ESD Attend Area:					
Multi-Family (SFAs & Apartments)	1,599	1,901,229	1,189 (1)	381	453,009
Single-Family Defached (SFD)	9,012	22,499,731	2,497 (1)	3,739	9,336,283
Subtotal - Etiwanda School District	10,611	24,400,960	2,300 <sup>(2)</sup>	4,120	9,789,292
New Model Colony - Western Portion:					
(Avg Saft Derived from District-wide computations)					•
Multi-Family (SFAs & Apartments)	069'9	7,248,446	1,083 (3)	3,645	3,947,535
Single-Family Detached (SFD) (2)	7,673	21,344,397	2,782 (3)	9,855	27,416,610
Subtotal - Ontario - Western Portion of NMC Area	14,363	28,592,843	1,991 (2)	13,500	31,364,145
Projected Square Footage from the Identified Future Dwelling Units.	Identified Futur	re Dwelling Unit			
Multi-Family (SFAs & Apartments)	tments)		1,093 (4)	4,026	4,400,544
Single-Family Detached (SFD)	FD)		2,704 (4)	13,594	36,752,893
Total - Identified Future Dwelling Units	iits		2,336 (2)	17,620	41,153,437

(1) Data shown for average dwelling unit sizes was taken from the average dwelling unit size computations as set forth in Appendix

(2) Reflects a weighted-average computation of dwelling unit sizes based on unit mix of SFDs and MFs (SFAs and Apts) B-2' (ESD Attendance Area Computations) of the School Facilities Needs Analysis (SFNA).

(3) Data shown for average dwelling unit sizes was taken from the average dwelling unit size computations reflected on Appendix 'B-1'

(District-wide Computations) of the School Facilities Needs Analysis (SFNA).

(4) Reflects a "wieghted average" with respect to the average square footage computation.

		Oroloctor	Indov	Dwelling	Tract			
City	SPAJCP	s,nd			ı	Developer	Project Description	Location
SFDs:			,					
FON	Westgate	9	9	SFR	15806	Westgate	Westgate Spec. Plan	6-tot subdivision for Westgate Spec. Plan
_	Westgate	311	311	SFR	15813	Westgate	Westgate Spac. Plan	Summit Heights - Lewis/311 Lots
	Hunter's Ridge	3	2	SFR	16112	Hunters Ridge	Tract 16112 Cherry Ave & Bridlepath Dr.	31 single family fots in Hunters Ridge (Etco Homes)
	Rancho Fontana	56	56		16478		South side of Walnut Ave., east of Beech Ave. (Sheet No	South side of Walnut Ave., east of Beech Ave. (Sheet No. Subdivision of one 10-acre parcel into 56 tots for resid dev (Young Homes), Tract 1647
-	West Fnd	88	2		16137		11 16137	101 sfr/NWC Beech & Carter - Forecast Homes (2-lots temporary det. Basin)
-	West Foo	96	m	SFR	16222		TT 16222	94 sfr lots in West End (old condo area)
	Counte Canvon	109	109		16290	Covote Canyon	TT 16290	348 lot sfr subdivision (Coyote Canyon SP)
-	Most End	8	8		16317	West End	Tracts 16317/16318	80 or 82 lot subdivision (West End) Fontana RDA
	West End	25	7 8		16503	Shemak		NWC of Baseline/Hemtock
2 2		÷ 7	38		16597	Silveroak		NWC of Baseline/Beech
		, K	5 K		16839	Centerstone Communites		NEC of Baseline/ San Sevaine
	Constant Constant	3 25	3 5		16290-1	Center Homes		Duncan Canyon/ Roaddunner
	Coyote Carryon	127	127		16290-2	Centex Homes		Duncan Canyon/ Roaddunner
	Coyote Carryon	100	200		16325-2	Cantax Homes	Work Phase 11 &12	NEC of Duncan Caryon/ Roadrunner
	Loyote Callyon		2		1622E 4	Company of the Company	77 16326.1	247 hat sushdivision (Covole Canyon)
	Coyote Canyon-IAT		ה ה		103201	Coyote Carryon	1.0250111	Sk lot subdivision (Covota Cancon)
2	Coyote Canyon-IA		8	1	02001	Coyota Carryon	07001 21	
SFDs i	SFDs in Fontana:	1,341	1,135					
		1	,	4	40467		Anna Charles Contract Contract	
	Terra Vista	229	1/5	1/5 Apt	20101	Lewis Communities	NVVC COURCE & 18878 VISIA	
2 2	Victoria	500	64	Apt	16257	Forecast Corp	W/Etwanda N/Footbill	
Apts in	Apts in Rncho Cucamon	1,177	239					
SEAc.								
į (	10.45	700	ď		16519	20 CO CO	NEC Maken & Church	
	Ferra Vista	89	ρ:	congo	71 001	Karomes	NEC MIRKET & CHUICH	
	Etiwanda .	156	12		16455	K8 Homes	SWC 1-15 & Baseline	
RC	Victoria		124	Condo	16612	Charles Joseph Assoc	SEC Day Creek & Church	Section 1. Control of the section of
SFAsi	SFAs in Rncho Cucamor	yr 510	142					L. C.
		!		į	0007	:	4	
		152	8/		14380	Mastercraft Homes	N. Of Wilson; E. Of Etwanda	
	Etiwanda North	269	569		14749	Traigh Pacific	Behveen Eliwanda & East	
	Etiwanda North	360	241		14759	Lennar Home	SEC Wardman Bullock	
	Etiwanda North	49	42		15838	Standard Pac	SEC Day Creek & Wilson	
	Etiwanda North	64	54		15982	Reho Cuc 685,LLC	N/Day Creek & Wilson	
	Etiwanda North	358	358		16072	Richland Pinehurst	NEC Etiwanda & Wilson	
_	Etiwanda North	30	30		16100	ESD Joe Oleson	N/Wilson E/Day Creek	
	Etiwanda North	23	23	SFR	16113	Sake Engineers	SEC East & 24th	
22	Etiwanda North	21	₹	SFR	16114	Sake Engineers	s/24th E/East	
	Etiwanda North	265	265		16226	BCA Development	N/Wilson, E/Day Creek, W/Etiwanda	
	Etiwanda North	367	367	SFR	16227	BCA Development	N/Wilson, E/Day Creek, W/Etiwanda	
_	Ffewanda	62	79		16279	Toli Brothers	S/Highland blwn East & Etiwanda	
2 0	Victoria	47	47	SER	16301	Centex	W/Etiwanda S/Baseline	
	Totoria	:	:					

Appendix 'C-2' - Page 2 of 2

Etiwanda School District Future Dweiling Units- Dweiling Units Unpermitted or Permitted After January 1, 2005

		Projected Undev.	1	Dwelling	Tract			,
či⊱	SPA/CP	ou's	D/Us	Type	NO.	Developer	Project Description	Location
RC Hend	Henderson Creek	123	123	SFR 1	16324	Henderson Creek	SPS Development Services	
		82		•	16370	Standard Pacific Homes- U Rutherford @ Arbors	U Rutharford @ Arbors	Day Creek, S/o Baseline
SC SC		57	56	•	16371	US Homes		Day Creek, Sto Baseline
22		49	49	,	16372	Greystone/Standard Pac/	Greystone/Standard Pac/A Day Creek, s/o Baseline	
RC RC		25	15	SFR	16374	Standard Pacific Homes	Victoria Arbors	
RC Victoria	ria	23	83		16445	Wm Lyon Homes	W/Etiwanda S/Baseline	
- 111	tiwanda North	33	33		16466	Carriage Estates III	N/Banyan btw Eliwanda & Bluegrass	
ч.	ında	Ф	9		16578	Kaut	W/East S/Victoria	
		22	22		16716	JT Storm		Etiwanda Ave south of Intermidediate School on east side
SC SC		59	59		16776	Van Daele Homes		N side of Baseline NW of southbound off-ramp (old nursery Property)
RC C		30	30		16812	Pacific Crest		SEC of Countrywood and Vaquero near southem end of original Carriage Estates. (Lefl
22		12	12	Ì	16867	Etco		W side of Eliwanda NWC of I-210 and Eliwanda
RC .		7	^		17096	Ethan Ruch		7581 Etiwanda Ave.
S C		90	06	SFR		BCA Development		NEC of Wilson and East Ave
2 2		80	80	SFR		Centex Homes		NWC Wardman Bullock and Summit
200		50	20	SFR				E/o East Ave N/o 210 Freeway
22		11	7	SFR		Robert Weinberger		SEC of Banyan and East Ave
SFDs in Rn	SFDs in Rucho Cucamor	2,843	2,604					

Totals All D/Us in Fontan 5,871 4,120

Appendix D:

Summary of Student Generation Rates

# **Chaffey Joint Union High School District**

## Summary of Student Generation Rates as set forth in the FY 2004/05 Student Population Projections Prepared by DDP

Dwelling Units:				
Region	SFD	<u>SFA</u>	<u>Apt</u>	<b>Aggregate</b>
Alta Loma	13,854	1,102	1,925	16,881
Central	6,785	2,005	2,919	11,709
Cucamonga	2,277	2,194	3,014	7,485
Etiwanda	17,407	481	985	18,873
Mountain View	2,624	2,053	1,153	5,830
Ontario-Montclair	<u>24,328</u>	<u> 10,376</u>	<u>7,462</u>	42,166
Total	67,275	18,211	17,458	102,944
Students:				
Alta Loma	3,356	140	187	3,683
Central	1,540	175	343	2,058
Cucamonga	512	195	167	874
Etiwanda	5,018	45	103	5,166
Mountain View	818	424	144	1,386
Ontario-Montclair	<u>6,394</u>	<u>1,856</u>	<u>908</u>	<u>9,158</u>
Total	17,638	2,835	1,852	22,325
Generation Rate:				
Alta Loma	0.2422	0.1270	0.0971	0.2182
Central	0.2270	0.0873	0.1175	0.1758
Cucamonga	0.2249	0.0889	0.0554	0.1168
Etiwanda	0.2883	0.0936	0.1046	0.2737
Mountain View	0.3117	0.2065	0.1249	0.2377
Ontario-Montclair	0.2628	0.1789	0.1217	0.2172
Total	0.2622	0.1557	0.1061	0.2169
Multi-Fami	ly Wtd Avg:		0.1314	

Appendix E:

School Facilities Cost Estimates

# CHAFFEY JOINT UNION HIGH SCHOOL DISTRICT SUMMARY OF ESTIMATED COSTS (FUTURE HIGH SCHOOL NO. 9)

			Cost Estimate
A. SITE ACQUISITION			\$29,157,382
Purchase Price of Property (1)		\$29,157,382	
Acres:	60.10		
Cost/Acre:	\$485,148		
			\$47 474 EEA
B. SITE DEVELOPMENT		\$1,549,152	\$17,171,554
Off-Site Development Service Site Development		\$2,841,804	
Utilities		\$1,620,000	
Eligible Site Work <sup>(2)</sup>		Ψ1,020,000	
Ineligible Site Work:			
General On-Site		\$6,660,598	
Swimming Pool		\$1,500,000	
Lights/Bleachers		\$3,000,000	
Lighton Diodonolo			
C. CONSTRUCTION			\$75,777, <del>444</del>
Construction		\$59,645,800	
Construction Management		\$7,681,735	
Estimated Escalation to Mid-point of	Construction	\$8,449,909	
(Construction, Site Development & CM E	Escalated @ 10%)		
D. INSPECTIONS/ENGINEERING			\$7,389,215
Architect & Engineering		\$2,450,000	
Labor Compliance Program		\$464,745	
Insurance		\$464,745	
Soils		\$50,000	
City/Utility Fees		\$1,250,000	
Testing		\$1,394,235	
Inspection		\$336,000	
Plan Check (DSA, CDE)		\$929,490	
Printing		\$50,000	
E. FURNITURE AND EQUIPMENT			\$3,940,230
F. CONTINGENCY	ŧ	<b>5%</b>	\$5,213,922
TOTAL ESTIMATED COST			\$138,649,747
TOTAL NUMBER OF STUDENTS NET COST PER STUDENT PLUS INTERIM HOUSING & CENT GROSS SCHOOL FACILITIES CO GROSS FACILITIES COSTS PER	STS PER STUDE	PPORT NT	2,500 \$55,460 \$4,175 \$59,635 \$23,490

- (1) Land price reflects actual acquisition price for H.S. Site as a result of codemnation proceedings.
- (2) Eligible site development costs are estimated service site, off-site and utilities cost which are deemed to be eligible site development costs for purposes of computing eligible grant monies.

Appendix F:

2000 Census Data Employment and Housing Estimates

# gis, Census Bureau

Census 2000 EEO Data Tool

EEO Place Worksite Data for Ontario city, CA

Number of People

	Occupation Census/SOC Code	Sex	Total	White non- Hispanic				Asian non- Hispanic	NHOPI	Black & White non- Hispanic	Whi
Ontario city, CA Fips=060712005	Total Employed at Work	Total	81975	33862	35926	5428	318	4248	145	77	
Ontario city, CA Fips=060712005	Total Employed at Work	Male	50648	20709	22665	3221	148	2688	72	29	
Ontario city, CA Fips=060712005			31327	13153	13261	2207	170	1560	73	48	

Source: US Census Bureau, Census 2000 special tabulation

**NOTE:** Estimates may not add to the total due to <u>rounding</u>. For information on confidentiality protection, sampling error, nonsampling error, and accuracy of the data, see <a href="http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf">http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf</a>

More Information: FedStats provides more data estimates for counties and places in California

EEO Place Worksite Data for Ontario city, CA

Percentages

Geography	Occupation Census/SOC Code	Sex	Total	White non- Hispanic	Uicnania	lnon	l .	non	NHOPI		Whi
Ontario city, CA Fips=060712005	Total Employed at Work	Total	100%	41.3%	43.8%	6.6%	0.4%	5.2%	0.2%	0.1%	(
	Total	Male	61.8%	25.3%	27.6%	3.9%	0.2%	3.3%	0.1%	0.0%	1
Ontario city, CA Fips=060712005	Total Employed at Work	Female	38.2%	16.0%	16.2%	2.7%	0.2%	1.9%	0.1%	0.1%	(

Source: US Census Bureau, Census 2000 special tabulation

**NOTE:** Percentages may not add to total due to <u>rounding</u>. For information on confidentiality protection, sampling error, nonsampling error, and accuracy of the data, see <a href="http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf">http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf</a>.

More Information: FedStats provides more data estimates for counties and places in California

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Races, non-Hispanic

Asian & White non-Hispanic

Black non-

# U.S. Census Bureau

Census 2000 EEO Data Tool

# EEO Place Worksite Data for Rancho Cucamonga city, CA

N	umber of Peor	ole					 ,		NHOPI	Black &	AIAN &
Г	eography	Occupation	Sex	Total	White non- Hispanic	Hispanic	AIAN non-	non-	non-	White non-	White non- Hispanic

ł .	Code			mispanic									1	i .
Rancho Cucamonga city, CA	Total Employed at	Total	44330	22803	15618	2630	155	2119	76	12	224	35	202	456
Fips=060712278	Work		<u> </u>											1
	Total Employed at	Male	23497	11513	9079	1244	67	1062	38	0	117	10	96	271
Fips=060712178	Work		<u> </u>						· · · · · · · · · · · · · · · · · · ·					1
Rancho Cucamonga city, CA	and the second	Female	20833	11290	6539	1386	. 88	1057	38	12	107	25	106	185
Fips=060712278	Work				<u> </u>	C Consulo 5	uranu Con	sus 2000 sp	ecial tabulat	ion				

Source: US Census Bureau, Census 2000 special tabulation

**NOTE:** Estimates may not add to the total due to <u>rounding</u>. For information on confidentiality protection, sampling error, nonsampling error, and accuracy of the data, see <a href="http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf">http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf</a>

More Information: FedStats provides more data estimates for counties and places in California

EEO Place Worksite Data for Rancho Gucamonga city, CA

percentages

Geography	Code	Sex	Total	White non- Hispanic	Hispanic		AIAN non• Hispanic	Asian non- Hispanic	non-	Bíack & White non- Hispanic	White non-	Black non-	White non-	Balance 2+ Races, non- Hispanic
city, CA Fios=060712278	Employed at Work	Total	100%	51.4%	35.2%	5.9%	0.3%	4.8%	0.2%	0.0%	0.5%			
Ranche Cucemenga city, CA Fips=060712278	Employed at Work	Male	53.0%	26.0%	20.5%	2.8%	0.2%	2,4%	0.1%	0.0%	0.3%	0.0%	0.2%	0.6%
Ranche Cucamença city, CA	Total Employed at Work	Female	47.0%	25.5%	14.8%	3.1%	0.2%	2.4%	0.1%	0.0%	0.2%	0.1%	0.2%	0.4%

Source: US Census Bureau, Census 2000 special tabulation

**NOTE:** Percentages may not add to total due to <u>rounding</u>. For information on confidentiality protection, sampling error, nonsampling error, and accuracy of the data, see <a href="http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf">http://www.census.gov/prod/cen2000/doc/sf3chap8.pdf</a>.

More Information: FedStats provides more data estimates for counties and places in California

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# USCENSUSBUREAU

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# CITY OF ONTARIO FIRE DEPARTMENT

BUREAU OF FIRE PREVENTION • 415 EAST "B" STREET • ONTARIO, CALIFORNIA 91764 • (909) 395-2029 • FAX (909) 395-2585

PAUL S. LEON

ALAN D. WAPNER

JASON ANDERSON SHEILA MAUTZ COUNCIL MEMBERS

GREGORY C. DEVEREAUX

MARY E. WIRTES, MMC

JAMES R. MILHISER TREASURER

CHRIS HUGHES

November 27, 2006

Ms. Josephine Alido David Evans and Associates 800 N. Haven Avenue, Suite 300 Ontario, California 91764

**SUBJECT: Ontario Walmart Supercenter** 

Dear Ms. Alido:

The Ontario Fire Department currently provides fire and emergency medical services (EMS) from eight existing fire stations. The response capability consists of eight paramedic engine companies, two truck (ladder) companies and two Battalion Supervisors, totaling forty-two emergency personnel on duty 24-hours-per-day, 7-days-a-week. (See attachment #1A – Fire Station Information Sheet).

The closest fire station to the proposed project site is Ontario Fire Station No. 4, located at 1005 N. Mountain. This station is .5 miles south of the project site. The Department's current response time from Station No. 4 to the proposed site will meet current emergency response goals.

The Department serves an area of fifty square miles and provides Emergency Medical Dispatch (EMD), Basic Life Support/AED (EMT-1), and Advanced Life Support (EMT-P). The Department maintains a mutual-aid agreement with the Operation Area and state of California and receives first alarm automatic-aid from the following fire departments:

- Chino Valley Independent Fire Protection District Fire Stations 63 and 65.
- Montclair Fire Department Fire Stations 151 and 152.
- Ontario International Airport Fire Department.
- Rancho Cucamonga Fire Protection District Fire Stations 172 and 174.
- San Bernardino County Fire Department Central Valley Battalion Fire Stations 74 and 72.
- Upland Fire Department Fire Station 161.

This is a general overview of our capabilities. I will try to answer your questions below.

1. Which Fire Station would provide first response to the project site? Are there any additional stations that would serve the site (e.g. Stations 71, 73, or 75)? Please provide the available equipment and manpower at the fire stations that may serve the site.

Fire Station No. 4, located at 1005 N. Mountain Avenue (.5 miles from project site), will provide first response to the location provided they are available. All of the stations noted may respond depending on circumstances.

2. Are there plans for new stations, equipment, or manpower in the area?

There are no current plans for new stations, equipment or manpower in the area.

3. Is the existing level of fire protection service adequate to serve the project area?

The existing level of fire protection service is adequate at this time.

4. What is the estimated response time to the site? Is this response time considered adequate?

The Ontario Fire Department response goal is met and adequate.

5. Will the proposed project present an adverse impact to fire protection services? Are there ways to mitigate these impacts?

It does not appear that there are significant adverse impacts.

6. What fire safety standards or requirements would be imposed on the project (development fees, access, exits, construction, etc.?)

There are multiple fire safety standards and requirements which can be defined in the California Fire Code and California Building Code. These elements will be determined upon plan submittal.

7. Does the Fire Department anticipate or expect any long-term (10-year, 20-year, 30-year or longer) impacts associated with fire protection due to anticipated development in the area and within the City? If so, please describe the nature of these impacts and how this project may contribute to those impacts.

The Ontario Fire Department does not anticipate any long-term impacts due to current development in this area.

Sincerely,

Richard T. Smith, Deputy Chief

Mals. SS

Ontario Fire Department

RTS:mb

Attachments

# Attachment #1-A FIRE STATION INFORMATION SHEET

Fire Station:	131 <b>Address</b> : 425 E.	"B" Street x Sultan	2	
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-131	4	2	2	YES
T-131	4	-	4	YES
B-1815	i	<u> </u>	<u> </u>	YES
I-1850	1	-	<b>=</b>	YES
EOD-131	(2) *		_	YES
U-131	(1) *	-	-	YES
Fire Station:	132   Address: 544 W	7. Francis Street x Sa	n Antonio	
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-132	4	2	2	YES
OES-229	(4) *		-	YES
Fire Station:	133 Address: 1408 I	E. Francis Street x Pa	arco	
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-133	4	2	2	YES
WT-133	(2) *	-		YES
T-133R	(0)	_	<b>B</b>	TRAINING
E-133R	(4)	•		RESERVE
Fire Station:		N. Mountain Avenue	y 4 <sup>th</sup> Street	··········
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-134	4	2	2	YES
134-R	(4)	<b>H</b>	M	RESERVE
	and the second s	E. 4 <sup>th</sup> Street x I-10 F	roomy	
Fire Station:	MANNING	EMT-P	EMT-1	24 HR
ME-135	4	2	2	YES
135-R	(4)	<u> </u>		RESERVE
		C Dhiladalahia Street	of v. Turnor, Avonue	
Fire Station: UNIT		E. Philadelphia Stree EMT-P	EMT-1	24 HR
ME-136	MANNING		2	YES
B-1825	4	2	<u> </u>	YES
BE-136	(4) *	-	-	YES
E-136R	(4)	-		RESERVE
			A 4 C 4 D	RESERVE
	<del></del>		x Auto Center Drive	24 HR
UNIT ME-137	MANNING	EMT-P	EMT-1 2	YES
	4	2		1 E3
		E. Shelby Avenue x		24 770
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-138	4	2	2	YES
T-138	4		4	YES
HR-138	(2) *	-	-	YES
U-138	(1) *	-	PH .	YES
HM-501	(2) *		-	YES

<sup>\* =</sup> indicates cross-staffed with on-duty personnel () = indicates unit personnel capacity



November 9, 2006

Ms. Josephine Alido, Environmental Planner David Evans and Associates, Inc. 800 North Haven Avenue, Suite 300 Ontario, CA 91764

RE: Ontario Walmart Supercenter

Dear Ms. Alido:

The following is in response to your inquiries regarding transit services within the project area.

1. Please provide us with information on existing bus routes in the City of Ontario. Which of these routes serve the project site or areas near the project site?

Several routes travel through Ontario, many of which stop in downtown Ontario. More specifically, Omnitrans route 62 travels along  $5^{th}$  Street from the Chino Transit Center and downtown Ontario to the Montclair Transcenter (**Exhibit** – **A**).

Omnitrans also provides Access service for persons with disabilities. Access service is a demand-response service for persons with disabilities that live inside a ¾-mile buffer around any existing fixed-route. A passenger places a reservation to be picked up at his/her doorstep and is taken to his/her destination.

2. Please provide information on schedule, bus stops, passenger volumes, and services available at these routes.

Route 62 currently provides 30 minute service on weekdays from 5:48 am to 10:00 pm, hourly service on Saturdays between 6:48 am to 6:55 pm, and hourly service on Sundays from 6:48 am to 7:19 pm (Exhibit – A).

According to our May 2004 Comprehensive Operations Analysis, on an average weekday the stop adjacent to this development accounted for a total of 4 pick-ups and 16 drop-offs for the northbound direction and a total of 19 pick-ups and 5 drop-offs for the southbound direction.

Omnitrans • 1700 West Fifth Street • San Bernardino, CA 92411 Phone: 909-379-7100 • Web site: www.omnitrans.ora • Fax: 909-889-5779 3. Are there plans for bus services to or through the site? What facilities would be needed on-site? [Are] there limitations on bus service that could affect the proposed project? What are they?

Bus service currently serves this location. In the future, service frequency may increase from 30-minute service to 15-minute service. Adequate space for shelters and amenities should be considered as transit usage will increase with this use. Omnitrans does provide a set of design guidelines on its website (www.omnitrans.org) which describes design criteria for stops and amenities.

Because of the existing fixed-route service, pedestrian facilities that connect to Wal-Mart should be included as part of the development. At a minimum, the development should conform with the current Americans with Disabilities Act Accessibility Guidelines (ADAAG) for Buildings and Facilities to ensure access for persons with disabilities.

We also recommend that the building be oriented to the street with parking located at the rear of the building. This will allow pedestrians, as well as transit-users, to access the building without having to cross the parking lot.

4. Does Omnitrans anticipate or expect any long-term (10-year, 20-year, 30-year or longer) impacts associated with the provision of bus services due to anticipated development within the City of Ontario? If so, please describe the nature of these impacts and how this project may contribute to those impacts.

Long-term impacts that Omnitrans anticipates include an increase in ridership on all routes in the City. As the City continues to grow, transit service will need to be improved to satisfy increasing demand. With this growth, Wal-Mart will attract new/existing passengers by providing opportunities for shopping and work-related activities. The direct result will be frequent service on route 62 and potentially additional routes serving the area in the long-term.

Thank you for your inquiries regarding our transit service in relation to this project. Omnitrans staff is available should you require information on potential stop locations, bus stop amenities, or consultation on implementing service. If you have any questions, please call me at 909.379.7256 or email mervin.acebo@omnitrans.org.

Sincerely,

Mervin Acebo Associate Planner

Memil Victor

cc: Allen Wild, Stops and Stations Supervisor

Encl.

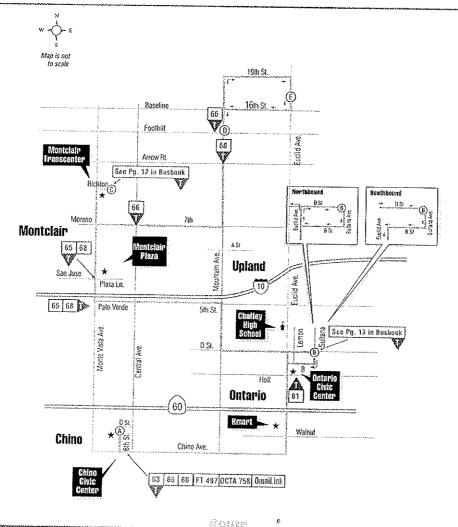
# Montclair - Ontario - Chino

(A) Time Point

Transfer Point

1 Route Number

Regular Routing



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Annual (1975)		and a second		Sanday		(augustus)	Yall, In		
Chino Transit Center	D St. & Sultana	Montclair Transcenter	Mountain & Foothill	19th & Ecild	Mountain & Foothill	Montclair Transcenter	D St. & Sultana	Chino Transit Center	Seogna
(A)	$^{\odot}$	(C)	(D)	Œ.	<b>(</b>	<b>©</b>	<b>B</b>	A	HOLD BOOK
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	Chino Transit Center	D St. & Sultana	Montclair Transcenter	Mountain & Foothill	19th & Ecilid	Mountain & Foothill	Montciair Transcenter	D St. & Sultana	Chino Transit Center
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# J. STEVE GARCIA President ROBERT HARDY Vice President DOREEN McDANIEL Clerk PAUL VINCENT AVILA Member

# Ontario-Montclair

#### **School District**

950 West D Street, Ontario, California 91762 • (909) 459-2500 • FAX (909) 459-2572 FACILITIES PLANNING

SHARON P. McGEHEE, Ph.d. Superintendent

DEBRA DORST-PORADA

Member

R.K. "PETE" PETERSON, NCARB Coordinator of Facilities Planning

Ms. Josephine Alido Environmental Planner David Evans and Associates, Inc. 800 North Haven Avenue Suite 300 Ontario, CA 91764

Re: Ontario Walmart Supercenter

Dear Ms. Alido:

This is in response to your October 25, 2006 letter requesting information regarding possible impacts to our schools.

- 1. The proposed project is in the area served by El Camino Elementary School and Vernon Middle School. El Camino currently has an enrollment of 911 students in grades Pre-K/K-6. Vernon MS currently has an enrollment of 785 students in grades 6-8. These schools are over-crowded as evidenced by the number of portable classrooms at each school. El Camino currently has 17 portable classrooms, and Vernon MS currently has 11 portable classrooms. For the past few years we have experienced a decline in enrollment, but not sufficient to remove portable classrooms from these sites.
- 2. El Camino has recently been modernized and Vernon MS is currently being modernized. A new multipurpose room will soon be installed at El Camino. There are no facilities deficiencies at these schools at this time.
- 3. The district uses SGR's 0.212 for multi-family, 0.379 for single family attached, and 0.406 for single family detached, residential developments. These SGR's are based on the School Facilities Needs Analysis prepared by Schoolhouse Services in October 2005. This report does not include commercial uses.
- 4. The district currently assesses Level 2 residential development fees of \$2.74 per square foot.
- 5. The district does not anticipate or expect any long-term impacts associated with school services due to anticipated development within the project area.
- 6. The district does not have any Community Facilities Districts (CFD's).

Please give me a call if you need additional assistance.

Respectfully.

R.K. "Pete" Peterson, NCARB Coordinator of Facilities Planning

# Ontario-Montclair

School District

950 West D. Street, Ontario, California 91762

**FACILITIES PLANNING** 

7174444F1







# CITY OF ONTARIO MEMORANDUM

TO: Richard Ayala, Senior Planner

FROM: Patrick Sandford, Detective

**DATE:** January 31, 2007

SUBJECT: WALMART EIR

The Police Department has an updated statement for the EIR. Would you please forward this to the consultant.

Page 4.11.1 States there are 233 officers assigned to the Ontario Mills Substation. This needs to be deleted. The statement listed below addresses the staffing level for the Police Department.

Page 4.11-5 inquires about security. This section should refer to the requirements of the Security Ordinance OMC 4-11.11

Page 4-11.6 in the first paragraph below the bullet points states that there is a "police substation." It states "the substation.... is currently not in use." This location is actually a storefront and is still being utilized by the Police Department. This needs to be corrected.

Listed below is the statement for the EIR.

The City of Ontario Police Department receives all calls at the main station located at 2500 S. Archibald Avenue. Chief Jim Doyle commands the Department. The Ontario Police Department has a mutual aid agreement with all adjacent cities as a primary resource and the County of San Bernardino Sheriff's Department as a secondary resource.

The mission of the Ontario Police Department is to protect life and property, solve neighborhood problems, and enhance the quality of life in our community. This is accomplished by providing superior police services while fostering successful community partnerships. These services are provided in a positive, empathetic, and professional manner, which reflects sensitivity to the needs of both the community and the individual. The dedicated full-time staff of 230 sworn law enforcement personnel and 116 non-sworn civilian support personnel are committed to the accomplishment of the Department's mission. There are a total of 158 vehicles assigned to the Police Department.

Response time is the period of time between when a call is received by a dispatcher and the arrival of a patrol officer. The response time varies depending upon the nature of the call. Typical calls are prioritized based upon the urgency of the incident. The average emergency call response time for the officer assigned to the beat of the subject project site is less than five minutes. Other response times will vary depending on the level of priority in conjunction with the availability of an officer. The Police Department currently has a ratio of 1.34 officers per 1,000 residents, and a civilian personnel ratio of 0.68 employees per 1,000 residents. No reduction in the current level of service is expected.

The Police Department will analyze the crimes trends as they develop. Personnel and equipment will be deployed accordingly. An estimation of Calls for Service (CFS) that could be generated has been complied using data from Superstores in other jurisdictions. The actual CFS once the store is open may vary.

# ESTIMATED ANNUAL IMPACT

OFFICER	1337hours	s .64 Officers	\$66,314.25
Civilian Emp.(Suppo	rt)1337 hrs	.24 employees	\$14,229.43
Police unit	.64 Off.	.15Police Units	\$ 4,416.00
	Total estir	nated costs currently	\$84,959.68

Please call me at (909) 395-2496 if you have any questions.

# CHAPTER 11: SECURITY STANDARDS FOR BUILDINGS

<u>4-11.01</u>	Scope
<u>4-11.02</u>	Enforcement
<u>4-11.03</u>	Violations and penalties
<u>4-11.04</u>	Alternate materials and methods of construction
<u>4-11.05</u>	Keying requirements
<u>4-11.06</u>	Windows/sliding glass doors
<u>4-11.07</u>	Garage type doors: Rolling overhead, solid overhead, swing, sliding or accordion
<u>4-11.08</u>	Special residential building provisions
<u>4-11.09</u>	Special commercial/industrial building provisions
<u>4-11.10</u>	Special hotel/motel building provisions
<u>4-11.11</u> Co	onstruction site security provisions
<u>4-11.12</u>	Alarm systems
<u>4-11.13</u>	Occupancy clearance

## Sec. 4-11.01. Scope.

- (a) The provisions of this chapter shall apply to all activities for which a building permit is required by the ordinances of this City.
- (b) Existing multiple-family dwelling units which, on the effective date of the ordinance codified in this chapter, are rented or leased, but thereafter are privately-owned family units, including condominiums, shall comply with the special residential building provisions of this chapter.
- (c) Any existing structure which converts from its original occupancy group as designated in the Uniform Building Code shall comply with the provisions of this chapter.
- (d) Any building which requires special type releasing, latching, or locking devices under the provisions of the Uniform Building Code or California Code of Regulation, Title 19 shall be exempt from the provisions of this chapter relating to locking devices of interior and/or exterior doors.

#### Sec. 4-11.02. Enforcement.

The Chief of Police or authorized representatives are hereby empowered and directed to administer and enforce the provisions of this chapter. Plans and specifications for any proposed construction must, however, be approved by the Building Official or authorized representatives, in accordance with the provisions of this chapter. No certificate of occupancy is to be approved unless the applicant has satisfied the enforcing authority that all provisions of this chapter have been met.

Enforcement of this chapter will be the responsibility of the Police Department. This includes plan checks and inspections, reference meeting the requirements of this chapter.

(§ 1, Ord. 2482, eff. September 4, 1990)

### Sec. 4-11.03. Violations and penalties.

It shall be unlawful for any persons, firm or corporation to erect, construct, enlarge, alter, move, improve, convert, or equip, use, occupy or maintain any building or structure in the City, or cause same to be done, contrary to or in violation of any of the provisions of this chapter.

Any person, firm, or corporation violating any of the provisions of this chapter is guilty of a misdemeanor and each offense is punishable by a fine of not more than One Thousand Dollars (\$1,000.00), or by confinement in jail for not more than six (6) months, or by both fine and confinement in jail.

#### Sec. 4-11.04. Alternate materials and methods of construction.

The provisions of this chapter are not intended to prevent the use of any material or method of construction not specifically prescribed by this chapter; provided, any such alternate has been approved by the enforcing authority, nor is it the intention of this chapter to exclude any sound method of structural design or analysis not specifically provided for in this chapter. Materials, methods of construction, or structural deign limitations provided for in this chapter are to be used unless an exception is granted by the enforcing authority.

The enforcing authority may approve any such alternate; provided, they find the proposed design, material, and method of work to be for the purpose intended at least equivalent to that prescribed in this chapter in quality, strength, effectiveness, burglary resistance, durability and safety.

(§ 1, Ord. 2482, eff. September 4, 1990)

#### Sec. 4-11.05. Keying requirements.

Upon occupancy by the owner or proprietor, each single unit in the same residential project or commercial building development, constructed under the same development plan, shall have locks which are interchange free from locks used in all other separate

dwellings, proprietorships or similar distinct occupancies within such residential project or commercial building development.

(§ 1, Ord. 2482, eff. September 4, 1990)

#### Sec. 4-11.06. Windows/sliding glass doors.

- (a) Sliding glass doors will be of the inside sliding door type. All sliding glass doors shall have secondary locking devices and anti-lift devices. Secondary locking devices may be waived if the doors successfully meet tests prescribed by the Police Department.
- (b) Louvered windows shall not be used when a portion of the window is less than twelve (12) feet vertically or six (6) feet horizontally from an accessible surface or any adjoining roof, balcony landing, stair, tread, platform or similar structure.
- (c) All sliding glass windows shall have secondary locking devices and anti-lift devices. Secondary locking devices may be waived if the windows successfully meet tests prescribed by the Police Department.
  - (d) Doors swinging out shall have nonremovable hinge pins.
- (§ 1, Ord. 2482, eff. September 4, 1990)

# Sec. 4-11.07. Garage type doors: Rolling overhead, solid overhead, swing, sliding or accordion.

- (a) Doors utilizing a cylinder lock shall have a minimum five (5) pin tumbler operation with the locking bar or bolt extending into the receiving guide a minimum of one (1) inch.
- (b) Doors that exceed sixteen (16) feet in width, but do not exceed nineteen (19) feet in width, shall have one of the following locking devices:
  - (1) Two (2) lock receiving points, one on each side of the door;
- (2) A single bolt may be used if placed in the center of the door with the locking point located either at the floor or door frame header.
- (c) Except in a residential building, door secured by electrical operation shall have a keyed switch to open the door when in a closed position, or shall have a signal locking device to open said door.
- (§ 1, Ord. 2482, eff. September 4, 1990)

#### Sec. 4-11.08. Special residential building provisions.

(a) Except for vehicular access doors, all exterior swinging doors of any residential building and attached garages, including the door leading from the garage area into the dwelling unit, shall be equipped as follows:

- (1) All wood doors shall be of solid core construction with a minimum thickness of one and three- fourths (13/4) inches, or with panels not less than nine sixteenths (9/16) inch thick:
- (2) A single or double door shall be equipped with a single cylinder deadbolt lock. The bolt shall have a minimum projection of one (1) inch and be constructed so as to repel cutting tool attack. The deadbolt shall have an embedment of at least three-fourths (3/4) inch into the strike receiving the projected bolt. The cylinder shall have a cylinder guard and shall be connected to the inner portion of the lock by connecting screws of at least one-fourth (1/4) inch in diameter. A dual locking mechanism constructed so that both deadbolt and latch can be retracted by a single action of the inside door knob, or lever, may be substituted; provided, it meets all other specifications for locking devices;
- (3) When not required for exiting purposes, the inactive leaf of double doors shall be equipped with metal flush bolts having a minimum embedment of five-eighths (5/8) inch into the head and threshold of the door frame;
- (4) Glazing in exterior doors or within twelve (12) inches of any locking mechanism shall be of fully tempered glass or rated burglary resistance glazing;
- (5) Except where clear vision panels are installed, all front exterior doors shall be equipped with a wide angle (180 degree) door viewer, not to be mounted more than fifty eight (58) inches from the bottom of the door;
- (6) Fully tempered glass or rated burglary resistance glazing shall be used if a window is within forty (40) inches of any locking mechanism;
- (7) Garage doors without automatic openers installed will have two exterior slide locks, one on each side of the door. Garage doors with automatic garage door openers require one slide lock;
- (8) Doorjambs shall be installed with solid backing in such a manner that no voids exist between the strike side of the jamb and the frame opening for a vertical distance of six (6) inches each side of the strike plates;
- (9) Jambs for all doors shall be constructed or protected so as to prevent violation of the strike plates;
- (10) The strike plate for deadbolts on all wood framed doors shall be constructed of minimum sixteen (16) U.S. gauge steel, bronze, or brass and secured to the jamb by a minimum of two (2) screws, which must penetrate at least two (2) inches into solid backing beyond the surface to which the strike is attached;
- (11) Hinges for out-swinging doors shall be equipped with nonremovable hinge pins or a mechanical interlock to preclude removal of the door from the exterior by removing the hinge pins.
  - (b) Street numbers and other identifying data shall be displayed as follows:

- (1) Street address numbering shall adhere to standards set forth in this Code. All residential dwellings shall display street numbers in a prominent location on the street side of the residence in such a position that the number is easily visible to approaching emergency vehicles. The numerals shall be no less than four (4) inches in height and shall be of contrasting color to the background to which they are attached and of reflective material. Multi-family residences shall also have rear addressing per Fire Department requirements;
- (2) There shall be positioned at each entrance of a multiple building, multifamily apartment complex an illuminated diagrammatic representation of the complex which shows the location of the viewer and the unit designations within the complex. In addition, each individual unit within the complex shall display a prominent identification number, not less than four (4) inches in height, which is easily visible to approaching vehicular and/or pedestrian traffic;
- (3) Rooftop address numbers shall be installed on all new construction or development of apartments, condominiums, or any other multiple-building unit in the city for which an alarm permit or other discretionary permit is requested. The rooftop numbers shall be a minimum of three (3) feet in length and one (1) foot in width and shall be painted in reflective white paint on a flat black painted background, away from any rooftop obstacles. Such rooftop numbers shall be screened from public view and visible only from aircraft.

Those buildings with multiple apartments, condominiums, or other types of multiunits shall also have the apartment, condominium or unit number or letters painted, to the same specifications set forth above, on the roof over the primary entrance to that particular unit as described in that graphic shown in § 4-11.09(j)(2) below.

- (4) Addressing of multi-family complexes shall meet with the approval of the Police Department.
  - (c) Lighting in residential dwellings shall be as follows:
- (1) Areas outside apartments, duplexes and condominiums are to be lighted by photo cells to come on at sunset and go off at sunrise. This is to include walkways, doorways, and other areas used by the public. Lighting to be minimum maintained .5 footcandle power in all common areas;
- (2) Open parking lots and carports shall be provided with a maintained minimum of one (1) footcandle of light on the parking surface during the hours of darkness. Lighting devices shall be protected by weather and vandalism resistant covers;
  - (3) Single-family housing will have lighting at all entrances;
- (4) The developer shall have approved certified exterior lighting plans showing luminaire throw patterns and cut sheets of the luminaires to be used prior to building permits being issued. The lighting plans should include the areas covered by any carports to prevent any delay in the approval of the plans.

- (d) Residential fencing will comply with the following conditions:
- (1) If locking gates are installed, the Police and Fire Departments will be provided access by the Knox submaster system;
- (2) Security shrubbery shall be installed next to all fences and walls that adjoin all common and public access areas and shall have an automatic sprinkler system installed;
- (3) Barbed wire, electrified, or similar type security fencing shall not be installed in residential zones.
- (e) Apartments, condominiums, or any other multiple-building with a common attic will have a resident controlled locking device installed to each scuttle-hole or accessway. The locking device shall be of the type to prevent entrance to any one residence from another and will not lock behind a resident, trapping them in the attic.
- (§ 1, Ord. 2482, eff. September 4, 1990, as amended by § 1, Ord. 2658, eff. March 17, 1998)

#### Sec. 4-11.09. Special commercial/industrial building provisions.

- (a) Swinging exterior glass doors, wood or metal doors with glass panels, solid wood or metal doors shall be constructed or protected as follows;
- (1) Wood doors shall be of solid core construction with a minimum thickness of one and three- fourths (134) inches. Wood pane doors with panels less than one (1) inch thick shall be covered on the inside with a minimum sixteen (16) U.S. gauge sheet steel, or its equivalent, which is to be attached with screws on minimum six (6) inch centers. Hollow steel doors shall be of a minimum sixteen (16) U.S. gauge and have sufficient reinforcement to maintain the designed thickness of the door when any locking device is installed; such reinforcement being able to restrict collapsing of the door around any locking device;
- (2) Except where double cylinder deadbolts are utilized, any glazing in exterior doors or within forty eight (48) inches of any door looking mechanism shall be constructed or protected as follows:
  - (i) Fully tempered glass or rated burglary resistance glazing;
- (ii) Iron or steel grills of at least one-eighth (1/8) inch material with a minimum two (2) inch mesh secured on the inside of the glazing may be utilized; or
- (iii) The glazing shall be covered with iron bars of at least one-half ( $\frac{1}{2}$ ) inch round or one (1) inch by one-fourth ( $\frac{1}{4}$ ) inch flat steel material, spaced not more than five (5) inches apart, secured on the inside of the glazing;
- (iv) Subsections (ii) and (iii) of this section shall not be implemented so as to interfere with the operation of opening windows if such windows are required to be opened by the Building Code.

- (b) All swinging exterior wood and steel doors shall be equipped as follows:
- (1) A single or double door shall be equipped with a double cylinder deadbolt. The bolt shall have minimum projection of one (1) inch and be constructed so as to repel cutting tool attack. The deadbolt shall have a embedment of at least three-fourths (3/4) inch into the strike receiving the projected bolt. The cylinder shall have a cylinder guard, a minimum of five (5) pin tumblers, and shall be connected to the inner portion of the lock by connecting screws a least one-fourth (1/4) inch in diameter. The provisions of this subsection do not apply where:
  - (i) Panic hardware is required; or
  - (ii) An equivalent device is approved by the enforcing authority;
  - (2) Double doors shall be equipped as follows:
- (i) When not required for exiting purposes, the inactive leaf of a double door shall be equipped with metal flush bolts having a minimum embedment of five-eighths (5/8) inch into the head and threshold of the door frame;
- (ii) Double doors shall have an astragal constructed of steel a minimum of .125 inches thick which will cover the opening between the door. The astragal shall be a minimum of two (2) inches wide, and extend a minimum of one (1) inch beyond the edge of the door to which it is attached. The astragal shall be attached to the outside of the active door by means of welding or with nonremovable bolts spaced apart on not more than ten (10) inch centers.
  - (c) Aluminum frame swinging doors shall be equipped as follows:
- (1) The jamb on all aluminum frame swinging doors shall be so constructed or protected to withstand one thousand six hundred (1,600) pounds of pressure in both a vertical distance of three (3) inches and a horizontal distance of one (1) inch each side of the strike, so as to prevent violations of the strike;
- (2) Except when panic hardware is required, a single or double door shall be equipped with a double cylinder deadbolt with a bolt projection exceeding one (1) inch, or a hook shaped or expanding dog bolt that engages the strike sufficiently to prevent spreading. The deadbolt lock shall have a minimum of five (5) pin tumblers and a cylinder guard.
- (d) Panic hardware, whenever required by the Uniform Building Code or California Code of Regulation, Title 19, shall be installed as follows:
- (1) Panic hardware shall contain a minimum of two (2) locking points on each door; or
- (2) On single doors, panic hardware may have one (1) locking point which is not to be located at either the top or bottom of the door frame. The door shall have an astragal constructed of steel 0.125 inches thick which shall be attached with nonremovable bolts to the outside of the door. The astragal shall extend a minimum of

- six (6) inches vertically above and below the latch of the panic hardware. The astragal shall be a minimum of two (2) inches wide and extend a minimum of one (1) inch beyond the edge of the door to which it is attached;
- (3) Double doors containing panic hardware shall have an astragal attached to the doors at their meeting point which will close the opening between them, but not interfere with the operation of either door.
- (e) Horizontal sliding doors shall be of the inside slider type and equipped with a metal guide track at top and bottom and a cylinder lock and/or padlock with a hardened steel shackle which locks at both heel and toe, and a minimum five (5) pin tumbler operation with a nonremovable key when in an unlocked position. The bottom track shall be so designed that the door cannot be lifted from the track when the door is in a locked position.
- (f) In office buildings (multiple occupancy), all entrance doors to individual office suites shall meet the construction and locking requirements for exterior doors.
- (g) Windows shall be deemed accessible if less than twelve (12) feet above ground. Accessible windows and all exterior transoms having a pane exceeding ninety six (96) square inches in an area with the smallest dimension exceeding six (6) inches and not visible from a public or private vehicular access-way shall be protected in the following manner:
  - (1) Fully tempered glass or burglary resistant glazing; or
- (2) The following window barriers may be used but shall be secured with nonremovable bolts:
- (i) Inside or outside iron bars of at least one-half (½) inch round or one (1) inch by one- quarter (¼) inch flat steel material, spaced not more than five (5) inches apart and securely fastened; or
- (ii) Inside or outside iron or steel grills of at least one-eighth (1/8) inch material with not more than a two (2) inch mesh and securely fastened;
- (3) If a side or rear window is of the type that can be opened, it shall, where applicable, be secured on the inside with either a slide bar, bolt, crossbar, auxiliary locking device, or padlock with hardened steel shackle, a minimum four (4) pin tumbler operation;
- (4) The protective bars or grills shall not interfere with the operation of opening windows if such windows are required to be opened by the Uniform Building Code.
  - (h) Roof openings shall be equipped as follows:
- (1) All skylights on the roof of any building or premises used for business purposes shall be provided with:
  - (i) Rated burglary resistant glazing;

- (ii) Iron bars of at least one-half (½) inch round or one (1) inch by one-fourth (¼) inch flat steel material under the skylight and securely fastened; or
- (iii) A steel grill of at least one-eighth (1/8) inch material with a maximum two (2) inch mesh under the skylight and securely fastened. Smoke and heat vents must have a minimum of one (1) inch mesh per Fire Department requirements;
- (2) All hatchway openings on the roof of any building or premises used for business purposes shall be secured as follows:
- (i) If the hatchway is of wooden material, it shall be covered on the inside with at least sixteen (16) U.S. gauge sheet metal, or its equivalent, attached with screws;
- (ii) The hatchway shall be secured from the inside with a slide bar or slide bolts;
- (iii) Outside hinges on all hatchway openings shall be provided with nonremovable pins when using pin-type hinges;
- (3) All air duct or air vent openings exceeding ninety six (96) square inches on the roof or exterior walls of any building or premises used for business purposes shall be secured by covering the same with either of the following:
- (i) Iron bars of at least one-half (½) inch round or one (1) inch by one-fourth (¼) inch flat steel materials spaced no more than five (5) inches apart and securely fastened; or
- (ii) Iron or steel grills of at least one-eighth (1/8) inch material with a maximum two (2) inch mesh and securely fastened;
- (iii) If the barrier is on the outside, it shall be secured with bolts which are nonremovable from the exterior:
- (iv) The above (i) and (ii) must not interfere with venting requirements creating a potentially hazardous condition to health and safety or conflict with the provisions of the Uniform Building Code or California Code of Regulations, Title 19.
- (i) Permanently affixed ladders leading to roofs shall be fully enclosed with sheet metal to a height of ten (10) feet. This covering shall be locked against the ladder with a case hardened hasp, secured with nonremovable screws or bolts. Hinges on the cover will be provided with nonremovable pins when using pin-type hinges. If a padlock is used, it shall have a hardened steel shackle, locking at both heel and toe, and a minimum five (5) pin tumbler operation with nonremovable key when in an unlocked position.
- (j) The following standards shall apply to lighting, address identification and parking areas:
- (1) Street address numbers shall adhere to standards set forth in § 9-1.3280 of the Zoning Ordinance. Numbers and the backgrounds shall be of contrasting color and shall be reflective for nighttime visibility;

(2) Rooftop address numbers shall be installed on all new construction or development of commercial/industrial buildings for which an alarm permit or other discretionary permit is requested. The rooftop numbers shall be a minimum of three (3) feet in length and one (1) foot in width and shall be painted on the rooftops in reflective white paint on a flat black painted background, away from any rooftop obstacles. The rooftop numbers shall be placed on the rooftops in a parallel direction to the displayed streetside numbers. Such rooftop numbers shall be screened from public view and visible only from aircraft.

The rooftops of those buildings with multiple suites shall also have the suite number or letters painted, to the same specifications set forth above, on the rooftop over the primary entrance to that suite as follows:

#### Address

A B C D

This requirement to include suite identification shall not apply where in the opinion of the Chief of Police it is not feasible to do. In determining where suite identification is feasible, the Chief shall consider the size of the building, space on the rooftop and location of suites.

- (3) Rear addressing, including street name, shall be installed on any multiple building development. Address numbering shall adhere to standards set forth in § 9-1.3280 of the Zoning Ordinance;
- (4) All parking, common, and storage areas must have maintained one (1) footcandle power. These areas are to be lighted from sunset to sunrise by photo censored cell;
  - (5) Lighting in exterior areas shall be in vandalism resistant fixtures;
- (6) The developer shall submit certified exterior lighting plans showing luminaire throw pattern and cut sheets of luminaires to be used prior to building permits being issued;
- (7) Interior night lighting shall be constructed and maintained in those areas that are visible from the street (ground floor level only).

#### (k) Elevators.

- (1) Passenger elevators, the interiors of which are not completely visible when the car door is open, shall have mirrors so placed as to make visible the whole of the elevator interior to prospective passengers outside the elevator; mirrors shall be framed and mounted to minimize the possibility of their accidentally falling or shattering;
- (2) Elevator emergency stop button shall be so installed and connected as to activate the elevator alarm.
  - (l) Security fencing.

- (1) If security fencing is installed, the Police Department will be provided access by the Knox submaster system. If gates are not electrically operated, a "KNOX" padlock may be substituted for electrically operated override systems;
- (2) If wrought iron fencing is used, it shall be six (6) feet high, open ended, and pickets shall be four (4) inches on center. If block wall fencing is used, it shall be six (6) feet high with security shrubbery and anti-graffiti measures (i.e., vines and the like) will be used:
- (3) If barbed wire or similar material is used, it shall be at least six (6) feet above the ground.
- (m) Helicopter pad. Any building that is required by City Fire Ordinance to maintain a helicopter pad must allow access to Ontario Police Department helicopters as needed.
  - (n) Public Safety 800 MHZ Radio Amplification System.
- (1) Except as otherwise provided in this section, no person shall construct or develop any commercial or industrial building or structure or any part thereof or cause the same to be done which fails to support adequate radio coverage for City emergency service workers, including, but not limited to, firefighters and police officers. For purposes of this section, adequate radio coverage shall include all of the following:
- (i) the frequency range which must be supported shall be 806MHZ to 824 MHZ and 850 MHZ to 869 MHZ, and the frequency range which must be rejected shall be 824 MHZ to 849 MHZ and 859 MHZ to 894 MHZ;
- (ii) a minimum signal strength of one (1) microvolt available at the City of Ontario Communications Systems when transmitted from eighty five percent (85%) of the area of each floor of the building;
- (iii) the frequency range which must be supported shall be 806 MHZ to 824 MHZ and 850 MHZ to 869 MHZ, and the frequency range which must be rejected shall be 824 MHZ to 849 MHZ and 869 MHZ to 894 MHZ;
  - (iv) a ninety percent (90%) reliability factor.
  - (2) Testing procedures.
- (i) Initial tests will be performed by the City of Ontario employees in accordance with this section. A Certificate of Occupancy shall not be issued for any structure if the building fails to comply with this section.
- (ii) Annual tests will be conducted by the Ontario Fire Department in conjunction with inspection procedures.
- (iii) In addition to the initial and annual tests, City Police and Fire Personnel, after obtaining consent from the owner or his representative, or absent such consent, after

obtaining other lawful authority, shall have the right to enter onto the property to conduct field testing to be certain the required level of radio coverage is present.

- (iv) If at any time during normal operation within the structure by emergency personnel, it is discovered there exists a problem with radio transmission or reception, a test shall be initiated to determine compliance with established signal strength and coverage. Failure to comply with this process shall result in revocation of license to conduct said business.
- (3) Correction of radio coverage deficiency. Should a property fail the testing by the City, the deficiency shall be corrected as follows:
- (i) The property owner or other person responsible for the property shall have thirty (30) days to correct the radio deficiency.
- (ii) Failure to correct the deficiency within thirty (30) days shall result in suspension of license to conduct said business(s) on the property until the deficiency is corrected.
- (4) Amplification systems allowed. Buildings and structures which cannot support the required level of radio coverage shall be equipped with any of the following in order to achieve the required adequate radio coverage:
  - (i) a radiating cable system; or
- (ii) an internal multiple antenna system with FCC type-accepted bidirectional 800 MHZ amplifiers.

If any part of the installed system or systems contains an electrically powered component, the system shall be capable of operating on an independent battery and/or generator system for a period of at least twelve (12) hours without external power input. The battery system shall automatically charge in the presence of an external power input.

Any person who constructs or develops a commercial or industrial building or structure shall provide two (2) inch raceways in the walls into which the cable could be laid. Such raceways shall include an opening in the roof which allows for placement of an exterior antenna and access to each floor.

- (5) Exemptions. This section shall not apply to the following buildings provided they do not make use of any metal construction or any underground storage or parking areas:
  - (i) buildings permitted in R1 and R2 zones;
  - (ii) any building constructed of wood frame;
  - (iii) any building thirty (30) feet high or less.

For purposes of this section, parking structures are included in the definition of "all parts of a building" but elevators may be excluded.

(§ 1, Ord. 2482, eff. September 4, 1990, as amended by § 2, Ord. 2658, eff. March 17, 1998, § 1, Ord. 2666, eff. June 2, 1998, Ord. 2731, eff. March 6, 2001)

#### Sec. 4-11.10. Special hotel/motel building provisions.

- (a) Security hardware.
- (1) One (1) inch single cylinder deadbolts will be installed on all entrance doors, in addition to the locking handset. If windows are within forty (40) inches of any locking device, tempered glass must be used;
- (2) Double locking deadbolts and self closing doors will be installed on all guest room doors with public access;
- (3) Double lock instructions and other approved security and emergency information will be posted on all guest room doors;
- (4) A one hundred eighty (180) degree door viewer will be installed on all guest room doors with public access.

#### (b) Numbering.

- (1) Street address numbering shall adhere to standards set forth in § 9-1.3280 of the Zoning Ordinance. Numbers and the background shall be of contrasting color and reflective for nighttime visibility.
- (2) Developer shall install rooftop numbering and street names parallel to the street that the address is assigned. The numbers and letters shall be a minimum of three (3) feet in length and one (1) foot in width and white in color.
- (3) Addresses for individual units should be clearly marked and well lit. Room directories shall be placed around the perimeter of the development (placement, size and lighting will be approved by Building, Police, Fire and Planning Departments).
- (§ 1, Ord. 2482, eff. September 4, 1990)

#### Sec 4-.11.11Construction site security provisions.

All new construction, on a site exceeding one (1) acre in area, shall comply with the following security measures until the utilities have been released by the City of Ontario.

- (a) Perimeter lighting shall be installed at a minimum of one hundred fifty (150) foot intervals and at a height not less than fifteen (15) feet from the ground. The light source used shall have a minimum light output of two thousand (2,000) lumens, be protected by a vandalism resistant cover, and be lighted during the hours of darkness.
- (b) Additional lighting shall be required if the construction site exceeds four (4) acres in area.
- (c) In addition to perimeter lighting described in (a) above, one of the following shall be used:

- (1) Fencing, not less than six (6) feet in height, which is designed to preclude human intrusion, shall be installed along the perimeter boundaries of the construction site: or
- (2) A uniformed security guard, licensed according to the California Business and Profession Code Chapter 11.5 (commencing with Cal. Bus. & Prof. Code § 7580), shall be utilized to continually patrol the construction site during the hours when construction work has ceased.
- (§ 1, Ord. 2482, eff. September 4, 1990)

#### Sec. 4-11.12. Alarm systems.

- (a) Burglar alarm systems are recommended for all businesses and a robbery alarm should be considered for certain retail businesses.
- (b) If an alarm is installed in any type of building (residential, commercial or industrial), and alarm permit must be obtained from the Ontario Police Department. Subscribers should acquaint themselves with Title 4, Chapter 9 of this code.
- (c) If an alarm is installed in any commercial or industrial building, a blue flashing light shall be installed on the rooftop. This light shall be screened from public view but visible from the air. Such a blue flashing light is recommended for residential, but is optional.

The blue flashing light shall meet the specifications approved by the Police Department.

(§ 1, Ord. 2482, eff. September 4, 1990)

#### Sec. 4-11.13. Occupancy clearance.

- (a) Utilities shall not be released for any building subject to this chapter until a final occupancy clearance inspection is completed and approved by a member of the Ontario Police Department.
- (b) No building shall be open for public use or occupied for business or residential use until the occupancy clearance inspection is completed and approved.
- (§ 1, Ord. 2482, eff. September 4, 1990)

DATE: November 9, 2006

COMPANY: Walmart Supercenter

#### SUBJECT: Mountain & 5<sup>Th</sup>, Ontario

Dear: Sir or Madam

This is to advise that the subject property is located within the service territory of the Southern California Edison Company (SCE) and that the electrical loads of the project are within parameters of projected load growth which SCE is planning to meet in this area.

Our total system demand is expected to continue to increase annually; however, excluding any unforeseen problems, our plans for new distribution resources indicate that our ability to serve all customers' loads in accordance with our rules and tariffs will be adequate during the decade of the 2000's.

Current conservation efforts on the part of SCE customers have resulted in energy savings. Optimization of conservation measures in this project will contribute to the overall energy savings goal.

If you have any additional questions, please feel free to call me at (909) 930-8576

Sincerely,

Greg Klock

Customer Service Planner

From:

Yonkers, Bruce

To:

Bernal. Said, Flaming. Rachael H., Jeff Hild, Zandra Marrero [E-mail]

Date:

11/17/2006 10:37:15 AM

Subject:

Walmart Supercenter in Ontario

<<scg2.doc>> <<PF 06-516 OD 1.pdf>>

Hi Rachael,

Could you please have someone in the Engineering Dept. address the questions that Mr. Wyss has presented to us. I have already sent him a pdf file of our facilities in the area. Thanks

Derek,

I am sending you a pdf file of our facilities in the area of your project. I am forwarding the rest of your request to our engineering department to answer the technical questions for you. If you have any questions feel free to give me a call. Thanks

Enclosed are .PDF files of our facilities covering the area you have requested. The information we have provided was obtained from a search of all our available records and are approximate in nature. If exact locations are required, it will be necessary to physically check the facility in question (Pothole). Our Main lines are by Size and Location dimensioned from existing Property Lines or Center Line of Street. These are approximate locations only. Depths of these lines vary in as much as these facilities were installed some time ago and subsequent street improvements may have altered the grade considerably. It is the responsibility of the City, Utility, Developer, or Engineering Firm to determine if a conflict exists between the proposed development and our facilities.

We require new facilities that cross our pipelines maintain a minimum one (1) foot of vertical separation and new facilities installed parallel to our pipelines maintain a minimum two (2) feet of horizontal separation. Existing twelve (12) inch and larger gas lines require additional horizontal separation.

It is extremely important that you furnish us with "signed" final plans, including profiles and subsequent plan revisions as soon as they are available. A minimum of twelve (12) weeks is needed to analyze the plans and design alterations for any conflicting facilities. Depending on the magnitude of the work involved, additional time may be required to clear the conflict. Please keep us informed of construction schedules, pre-construction meetings, etc., so that we can schedule our work accordingly.

It is our intention to allow your contractor to remove any abandoned facilities that may be encountered during the course of construction. Upon request, at least two (2) working days prior to the start of construction, we will locate and mark our active underground facilities for the contractor at no cost. Please call Underground Service Alert (USA) at 1 (800) 227-2600.

If you have immediate questions or require additional information, please contact me at (909) 335-7871

Sincerely.

Bruce Yonkers Planning Associate

CAUTION GAS FACILITIES SHOWN ON MAP ARE APPROXIMATE LOCATIONS ONLY.

----Original Message----

Date: 02/13/2007 06:50 am -0800 (Tuesday)

From: Yonkers, Bruce

To: Derek Wyss

Subject: RE: Proposed Ontario Walmart

#### Derek,

In order for me to issue a willserve letter I will need a copy of the appropriate Thomas Guide page with the exact area of the project located along with a request for willserve letter on your companies letterhead. You can fax that information to me at 909-335-7527. As for your question about running a gas line under a building. It is never a good idea to run a gas line under a building for safety reasons. The gas company installs its facilities around, not under buildings. If you were referring to your houseline running from our meter to your facility, you would have to check with the City/County. I would think that you would get the same information from them on this matter.

#### Subject: ONTARIO WALMART SUPERCENTER

Enclosed are PDF files of our facilities covering the area you have requested. The information we have provided was obtained from a search of all our available records and are approximate in nature. If exact locations are required, it will be necessary to physically check the facility in question.

We require new facilities that cross our pipelines maintain a minimum one (1) foot of vertical separation and new facilities installed parallel to our pipelines maintain a minimum two (2) feet of horizontal separation. Existing twelve (12) inch and larger gas lines require additional horizontal separation.

It is extremely important that you furnish us with "signed" final plans, including profiles and subsequent plan revisions as soon as they are available. A minimum of twelve (12) weeks is needed to analyze the plans and design alterations for any conflicting facilities. Depending on the magnitude of the work involved, additional time may be required to clear the conflict. Please keep us informed of construction schedules, pre-construction meetings, etc., so that we can schedule our work accordingly.

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If you have immediate questions or require additional information, please contact me at (909) 335-7734

Sincerely,

Graciela C. Frazier Planning Associate

#### **CAUTION**

GAS FACILITIES SHOWN ON MAP ARE **APPROXIMATE LOCATIONS ONLY**. FOR LOCATING AND MARKING SERVICE PHONE "UNDERGROUND SERVICE ALERT"

1-800-422-4133

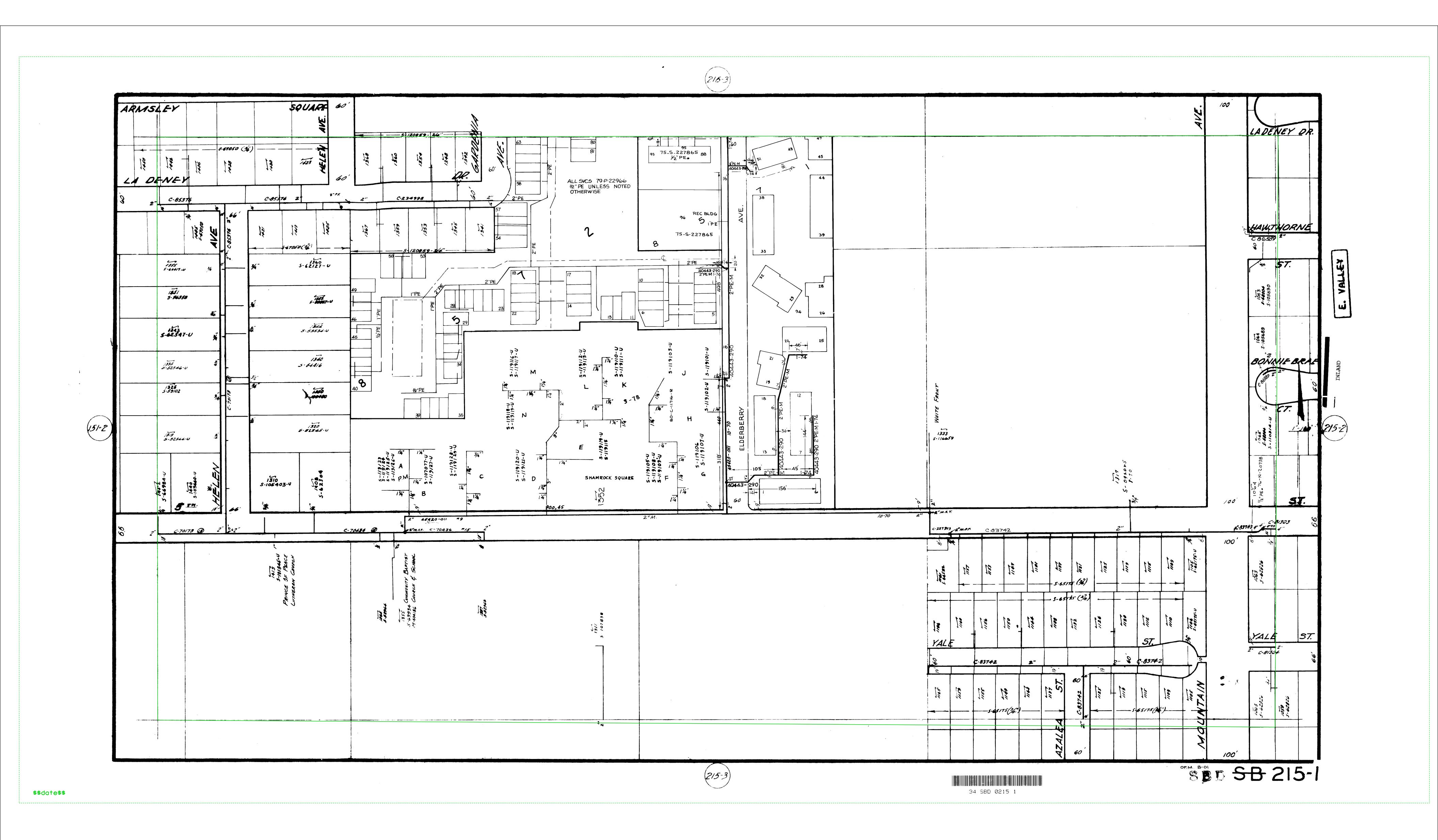
#### Derek Wyss DAVID EVANS & ASSOCIATES

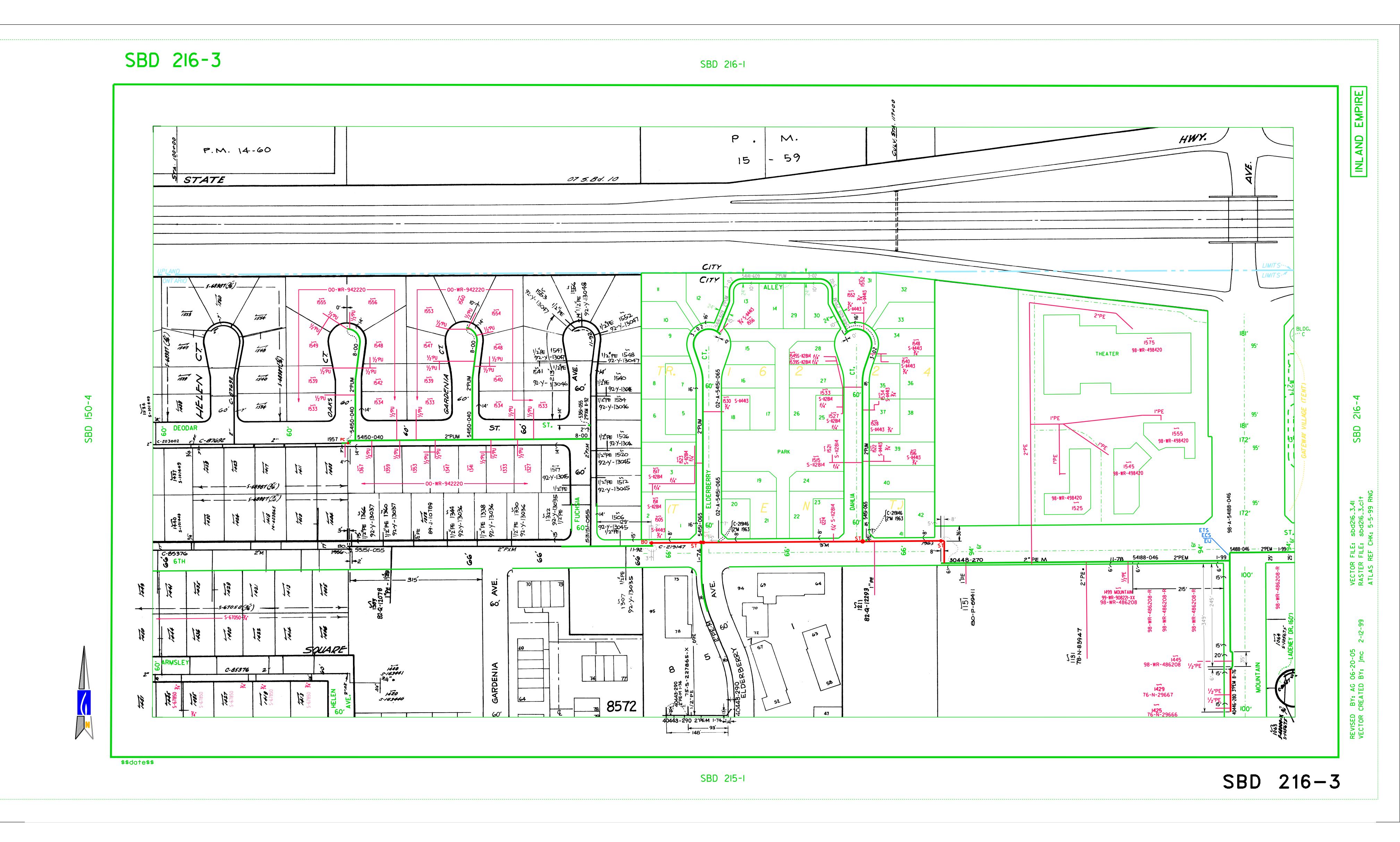
Re: ONTARIO WALMART SUPERCENTER

## Our Reference number CAT7: Please use when inquiring about your project.

( <b>X</b> ) Per your request.	() Please forward
	prints of your
(X) Copy/Copies of our Maps.	Plan & Profile
	showing the
( ) Copy of your DWG/Plan with	location of our
respect to the location of	facilities.
our facilities indicate	
that:	() Please forward
( ) No conflict is expected.	Two sets of your
( ) A conflict is expected	approved plans.
(See description below or	
attachment).	
() Our relocation plan is attached for your:	
() Review () Approval () Commer	
() Depth checks and/or elevations were taker	ı at:
() the location(s) requested	
() the location(s) mutually agreed upon	
( ) the location(s) we deemed necessary.	
( ) Depth or elevation information is tabulated	
shown graphically on the enclosed or attac	hed.
Comments:	

Graciela C. Frazier Planning Associate-East Region (909) 335-7734 GFrazier@semprautilities.com







# CITY OF ONTARIO MEMORANDUM

**TO:** Richard Ayala, Planning Department

FROM: Reymundo Trejo, Utilities Department

**DATE:** April 30, 2007

**SUBJECT: PDEV04-047 Ontario Wal-Mart Supercenter Environmental Impact Report** 

Comments on the water and sewer utilities sections are listed in the following table. The Utilities Section should be revised and resubmitted for review before finalizing the draft EIR.

Reference/ Page No.	Comment	
<b>Executive Summary</b>		
Page S-3	The total building size is approximately 191,000 sf. The commercial land use requirement for a water supply assessment report is 500,000 sf or more. Therefore, a water supply assessment report does not appear to be required for the Wal-Mart Supercenter as a stand alone project. The EIR Consultant should also review this project and related Mountain Village development and confirm that a water supply assessment report is not required.	
4.12 Utilities, Section 4.12.1 Water Services		
Page 4.12-2	Well 13 has been destroyed, so it is no longer a valid water supply source to the 1348 (13 <sup>th</sup> St) Zone water system. New Well 46 will provide water supply to the 1348 Zone. Construction of Well 46 is scheduled to be completed in 2008.	
	The MWD Upper Feeder pipeline runs through the City of Ontario; however it is no longer used as a source to the City's water supply.	
	Construction of new potable and recycled water system distribution lines will be required as part of this project.	
Page 4.12-4	The EIR should note that the City water system has sufficient water supply, based on the water supply evaluation contained in the 2005	

	Urban Water Management Plan.
	Water service to the Wal-Mart Supercenter shall be provided from connections the 12-inch pipeline on Mountain Avenue. A separate fire flow service will be required to serve the Wal-Mart building.
	Based on the 2006 Water Master Plan, the City requires replacement of the existing 6-inch pipeline along the property frontage along 5 <sup>th</sup> Street with an 8-inch pipeline to improve fire flow capacity of the existing water system. The 12-inch pipeline in Mountain Avenue was identified as an age replacement project in the 2006 Water Master Plan.
	Delete the reference to Well 13.
Page 4.12-5	Footnote references to Chino Basin Municipal Water District and CBMWD and note that CBMWD has change its name to Inland Empire Utilities Agency, since the Supplemental EIR for the Mountain Village Specific Plan was completed.
	Under "Previous Analysis," review the 2005 Ontario Urban Water Management Plan and confirm that sufficient water supply is available.
Page 4.12-6	For Mitigation Measure 8, the project compliance column should state that pipeline improvements will be constructed to address fire flow deficiencies that are identify in the 2006 Water Mater Plan and the water system hydraulic analysis.
4.12 Utilities, Section	on 4.12.2 Wastewater and Sewer Services
Page 4.12-5-8	It is noted that there are sewer deficiencies downstream of the proposed Wal-Mart Supercenter based on the 1995 Sewer Master Plan. Most of these sewer deficiencies will be eliminated by diversion of flow to a proposed sewer trunk line in Holt Boulevard. The schedule of this sewer diversion projects need to be compared to the schedule of the Wal-Mart Supercenter to verify that the sewer diversion project will be completed and sewer capacity will be available prior to occupancy of the Wal-Mart Supercenter. The development will ensure that all sewer deficiencies are eliminated prior to occupancy.
	A 10-foot wide sewer easements have been recorded for segments of the existing sewer that cross the parking lot. If used, these sewer easements must be amended to increase to the easement width to meet current City Standards. If the site elevation is lowered, existing on-site sewers may need to be relocated to meet City Standards.



6075 Kimball Avenue • Chino, CA 91710 P.O. Box 9020 • Chino Hills, CA 91709 TEL (909) 993-1600 • FAX (909) 597-8875 www.ieua.org

RECEIVED

DEC 08 2006

DEA

December 6, 2006

Ms. Josephine Alido, Environmental Planner David Evans and Associates, Inc. 800 North Haven Avenue, Suite 300 Ontario, CA 91764

RE:

Ontario Walmart Supercenter

Dear Ms. Alido:

This letter is in response to your request for information regarding the subject project. Inland Empire Utilities Agency (IEUA) has the following responses to your questions regarding any impacts that the project may have on sewer services:

- 1. Which sewage treatment plant would serve the project site? Please provide address, capacity and current volume treated at the treatment plant? Regional Plant No.1 (RP-1) serves this area of Ontario. It is located west of Archibald Ave. and south of State Highway 60. Its treatment capacity is 44 MGD. In 2005, the average annual flow was 37.3 MGD.
- 2. What are the location and sizes of sewer trunk lines near the site, which may serve the proposed project? Is there available capacity in these trunks to handle additional sewage volume from the project? There are no IEUA sewer trunk lines near the project site.
- 3. What is the average sewage generation rate of commercial development? This information should be obtained from the City of Ontario.
- 4. Does the existing treatment plant serving the area have remaining sewer capacity to serve the proposed project? If not, how can additional capacity be obtained? RP-1 serves a section of the city of Ontario. Additional flows can be bypassed to other IEUA treatment plants if needed.
- 5. What kind of sewer system improvements (if any) are needed to serve the project? The City of Ontario will determine this requirement since it is there sewer system that will serve the project site.
- 6. Are there recycled water lines serving the site or near the site? If yes, in what way? No
- 7. Are any reclaimed water lines proposed near the site? Where will they be located? There is a proposed 8" recycled water lateral in Fifth St. which will be built as part of the San Antonio Channel Pipeline (Segment B) project WR04445. The construction project began in September 2006 and should be tentatively completed by the end of 2007 or beginning of 2008.
- 8. Is reclaimed water suitable for use on the project? If yes, in what way? The recycled water can be used for landscape irrigation.
- 9. Does IEUA have any concerns or expect any long term (10-year, 20-year, 30-year or longer) impacts associated with the provision of water and sewer services to future development within the City of Ontario? If so, please describe the nature of these impacts and how this project may contribute to those impacts. IEUA will make improvements to its sewer trunk system, recycled water system and treatment plants to better serve the City of Ontario and other member agencies as part of its capital improvement program scheduled for the near future.

The IEUA website, <u>www.ieua.org</u>, has previous and current annual reports available for review. Please find attached a copy of the design plan for the 8" recycled water lateral in Fifth St. for your information.

Ontario Walmart Supercenter Page 2 of 2

If you have any questions regarding this matter, please feel free to call me at (909) 993-1522.

Sincerely,

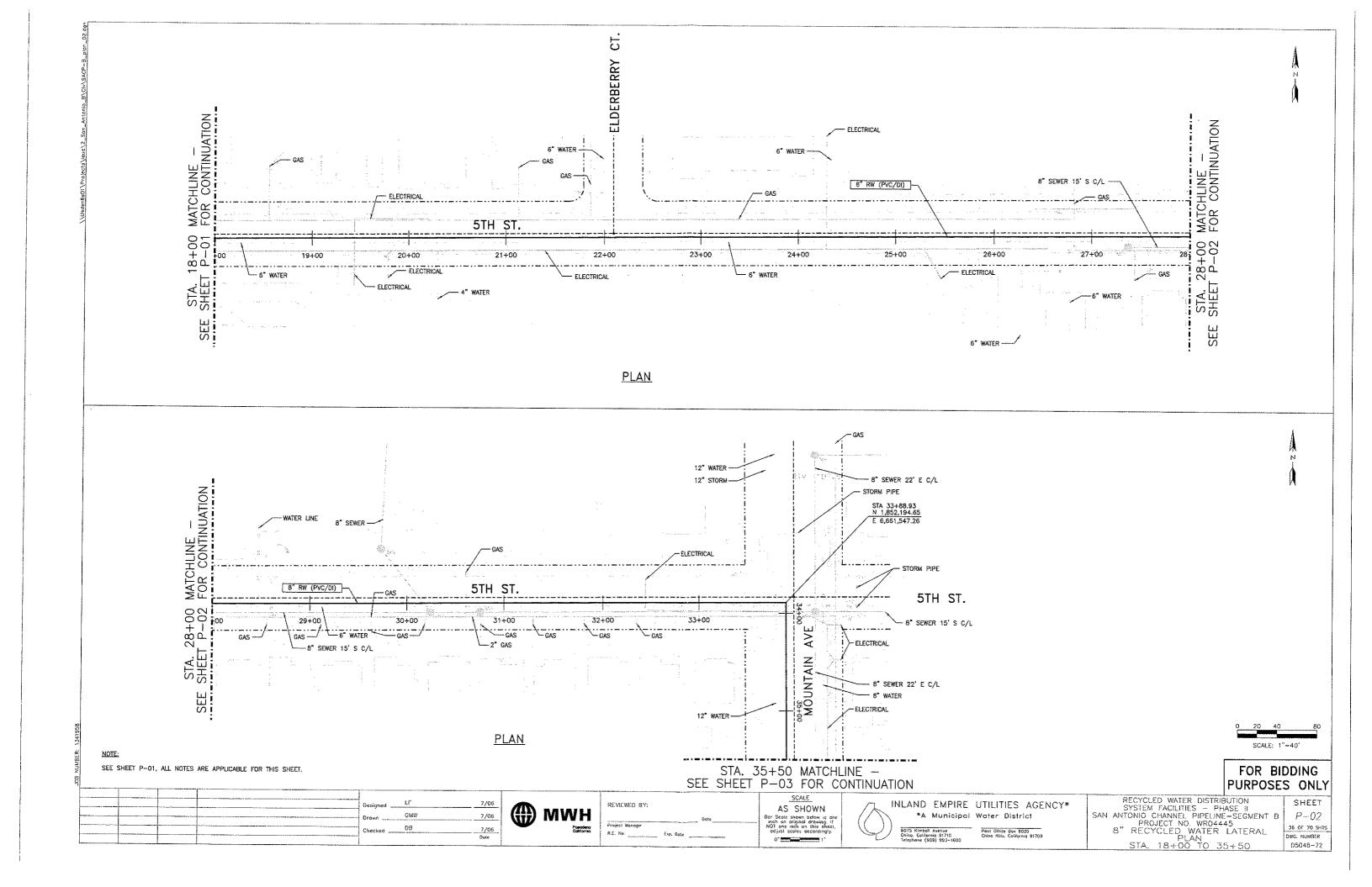
Liza Muñoz

Office Engineer

c: Craig Parker, IEUA Deputy Manager of Engineering

Eliza Jane Whitman, IEUA Manager of Planning and Water Resources

File



6075 Kimball Avenue & Chino, CA 91710 P.O. Box 9020 & Chino Hills, CA 91709 TEL (909) 993-1600 & FAX (909) 597-8875 www.ieua.org



October 23, 2006

Mr. Richard Ayala City of Ontario – Planning Department 303 East B Street Ontario, CA 91764-4196

Subject:

Ontario Wal-Mart Supercenter

Dear Mr. Ayala:

This letter is in response to your letter dated October 19, 2006 regarding the proposed Wal-Mart Supercenter west of Mountain Ave. and north of Fifth St. in the City of Ontario. Inland Empire Utilities Agency (IEUA) has the following facilities:

- 1. An existing 21" non-reclaimable wastewater pipeline in Fifth St.
- 2. An existing City of Upland 8" ion exchange brine lateral in Mountain Ave.

The as-built drawings are enclosed for your information. In addition, the Initial Study has been forwarded to IEUA's Planning section for review.

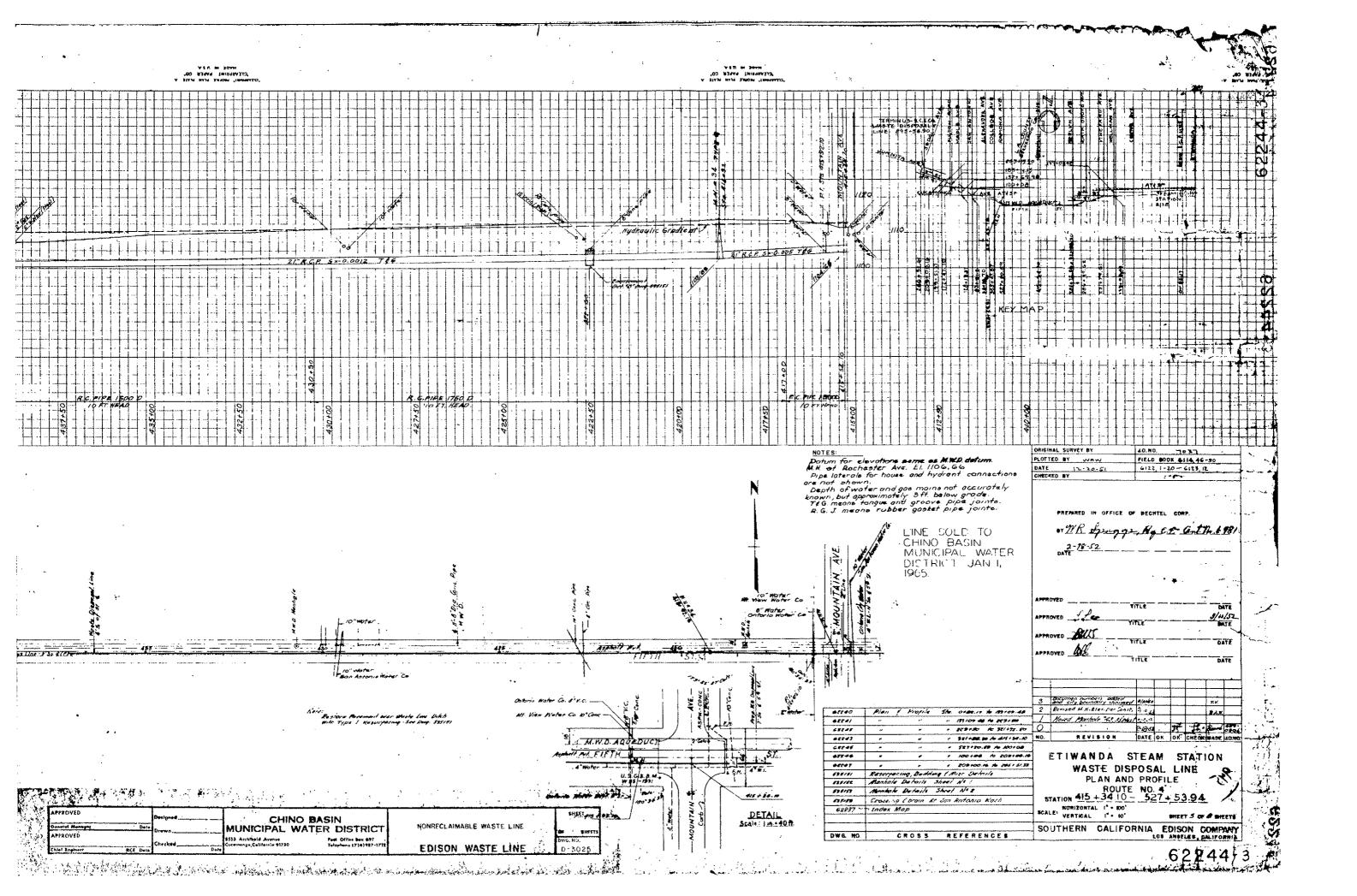
If you have any questions regarding this matter, please feel free to call me at (909) 993-1522.

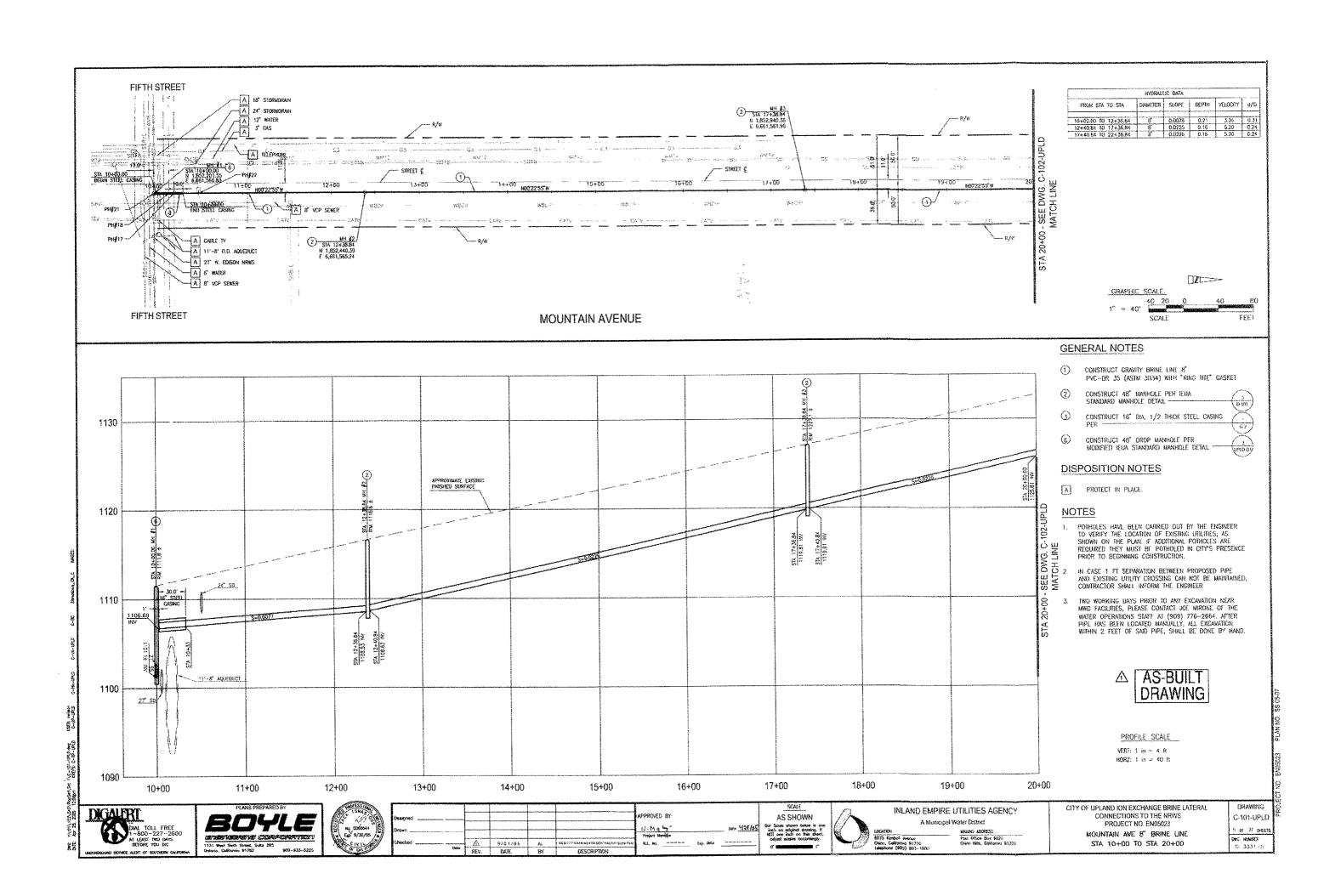
Sincerely,

Liza Muñoz Office Engineer

c: Craig Parker, Deputy Manager of Engineering File

**Enclosures** 









## CITY OF ONTARIO

PUBLIC WORKS AGENCY 1425 South Bon View Avenue Ontario, CA 91761 Phone: (909) 395-2600

#### SEWER SYSTEM DESIGN GUIDELINES FOR THE PREPARATION AND REVIEW OF SEWER ANALYSIS FOR NEW DEVELOPMENTS IN THE CITY OF ONTARIO UPDATED SEPTEMBER 1, 2006

This document provides guidelines for the preparation and review of EIR and Specific Plan sewer analyses performed for developments within the City of Ontario. These Sewer System Design Guidelines are based upon information and design standards developed in the **New Model Colony Sewer Master Plan** dated January 2001 prepared for the City of Ontario by AKM Consulting Engineers. The Sewer System Design Guidelines include methodology for estimating wastewater design flows, and minimum design standards for the collection system. Wastewater flows are projected using future land use, unit flow factors, peaking factors, and infiltration / inflow allowances. Collection system design standards include minimum pipe size, minimum flow velocity, and depth of flow to pipe diameter ratio. The information contained herein is the best available to date. However, this data shall continue to be subject to revisions as necessary. All sewer plan analysis must be stamped and signed by a licensed CA Civil Engineer. The guidelines presented herein are divided into the following categories:

- Unit Flow Factors
- Peaking Factors
- Sewer Design Criteria
- Criteria for Specific Plans and Development Sub-areas

#### Reference Exhibits

The following exhibit is attached for reference:

Draft NMC Updated Sewer Master Plan Exhibit

#### **Unit Flow Factors**

**Table 1** contains wastewater unit flow factors by land use category to estimate the future average dry weather flows that will be generated by the study area. The table also provides a unit flow factor 270 gpd/du for all residential land uses and the appropriate unit flow factor in gpd/TSF for all commercial and industrial uses.

Table 1
Unit Flow Factors

Land Use Category		Unit Flow Factor			
Use	Description	gpd/DU	gpd/AC	gpd/TSF	
Residential					
SF	Single Family	270	1242	-	
MF	Multi-Family	270	3824		
Commercial					
C1	Neighborhood	-	2200	253	
C2	Community	-	2200	225	
C3	Office (Town Center)	-	2200	144	
C4	Regional	-	2200	189	
C5	Retail (Town Center)	-	2200	174	
C6	Retail (Business Park)	-	2200	253	
Industrial					
IND	Light Manufacturing / Business Park	-	4700	308	
Public					
P1	Community Facility	-	3500	250	
P2	Government, Cultural	-	3500	250	
P3	Schools	-	3500	-	
P4	Parks	-	200	-	
P5	Education Campus	-	3500	-	
P6	Sports Complex	-	3500		
Amenities					
A1	Lake	-	200	-	
A2	Village Green	-	200	-	
A3	Golf Course	-	200	-	

Where specific plans propose more dense or different development than the uses covered in Table 1, average sewage flow shall be calculated based upon project specific information. Where the number of dwelling units are available, sewer flow calculations shall be based upon the per dwelling unit flow factor.

#### **Peaking Factors**

Wastewater unit flow factors contained in the previous section are used to generate average dry weather flows (ADWF) entering the collection system. However, the sewage collection system facilities are sized for the peak flows. The peak wet weather flow (PWWF) has two components: peak dry weather flow (PDWF) and rainfall dependent inflow/infiltration (I/I). At any individual point in the system, peak dry weather flow is estimated by converting the total average flow upstream of the point in question to peak flow by an empirical peak-to-average relationship.

The peaking formula commonly used in estimating the peak dry weather flows in sewerage studies is:

$$\mathbf{Q}_{PDWF} = \mathbf{a} \ \mathbf{Q}_{ADWF}^{\ \ b}$$
 where  $\mathbf{Q}_{PDWF} = \text{Peak Dry Weather Flow in MGD}$   $\mathbf{Q}_{ADWF} = \text{Average Dry Weather Flow in MGD}$   $\mathbf{a}, \mathbf{b} = \text{Peaking Formula Coefficients}$ 

The following formula shall be used for estimating peak dry weather flows:

$$Q_{PDWF} = 1.8 (Q_{ADWF})^{0.92}$$

A higher coefficient "a" may be required for small sewer-sheds or sewer-sheds of a single land use type.

#### **Sewer Design Criteria**

Design criteria are established to ensure that the wastewater collection system can operate effectively under all flow conditions. Each pipe segment must be capable of carrying the peak wet weather flows in the hydraulically stable zone of the pipe. Low flows must be conveyed at a velocity that will prevent solids from settling and blocking the system.

The design capacity of a gravity pipeline is the calculated capacity of the pipeline based on the Manning formula:

 $Q = 1.486 R^{2/3} S^{1/2} / n$  where, Q = flow in cubic feet per second

 $\mathbf{R}$  = hydraulic radius in feet = A / P

A = cross-sectional area of the pipe in square feet

 $\mathbf{P}$  = wetted perimeter in feet

S = slope of pipe in feet of rise per foot of length

 $\mathbf{n} =$ Manning's friction factor

Sewer system capacity is established using a Manning's friction factor of 0.013 for vitrified clay pipe.

The 1995 City Sewer System Master Plan established the hydraulic design criteria for sewer pipes by classifying 'over capacity' pipes as any with a depth to diameter (D/d) greater than 0.64. This D/d ratio was arrived at by taking 75 percent of a pipe's maximum stable flow capacity, which is at a D/d of 0.82. The area above a D/d of 0.82 is considered hydraulically unstable. This provides capacity for 35 percent of peak dry weather flow for inflow and infiltration.

The extra pipeline capacity allows for the possibility that actual wastewater flows may be slightly higher than anticipated, especially during the hours when instantaneous or intermittent peaks may occur. These peaks are generally observed between the hours of 6:00 a.m. and 9:00 a.m. and 7:00 p.m. and 9:00 p.m. during weekdays and somewhat later in the morning hours during weekends. They may also be observed during rainfall events due to inflow and infiltration. Additionally, the area above the water surface helps to keep the sewage aerated, reducing the possibility of septic conditions and odors.

The design and analysis of gravity sewer pipes is typically based upon the depth to diameter ratio (D/d). The following depth to diameter ratio assumptions apply:

- Pipes 12-inches and smaller in diameter shall be designed to flow at a maximum D/d of 0.50 under peak dry weather flows
- Pipes **15-inches and greater** in diameter shall be designed to flow at a maximum **D/d of 0.64** under peak dry weather flows

• For either group, the depth of flow to diameter ratio shall not exceed 0.82 with peak wet weather flows

At a minimum, all pipes should be 8 inches or larger in diameter and the velocity of flow in the pipe should be greater than 2 feet per second at average dry weather flow (ADWF), and a peak velocity of less than 10 feet per second. This velocity will prevent deposition of solids in the sewer and help to resuspend any materials that may have already settled in the pipe. The minimum corresponding slopes for various pipe sizes are shown in **Table 2**.

Table 2 Minimum Sewer Slopes

Sewer Size	2 ft/s Velocity Slope
8"	0.0057
10"	0.0042
12"	0.0033
15"	0.0019
18"	0.0014
21"	0.0011
24"	0.0008
27"	0.0008
30"	0.0007
33"	0.0006
36" & larger	0.0005

It is important to note that the slopes listed above assume the depth of flow in the pipe is 50 or 64 percent full. If there is insufficient flow to create this condition, greater slopes than those shown may be required.

A summary of sewer system design criteria is listed in **Table 3**.

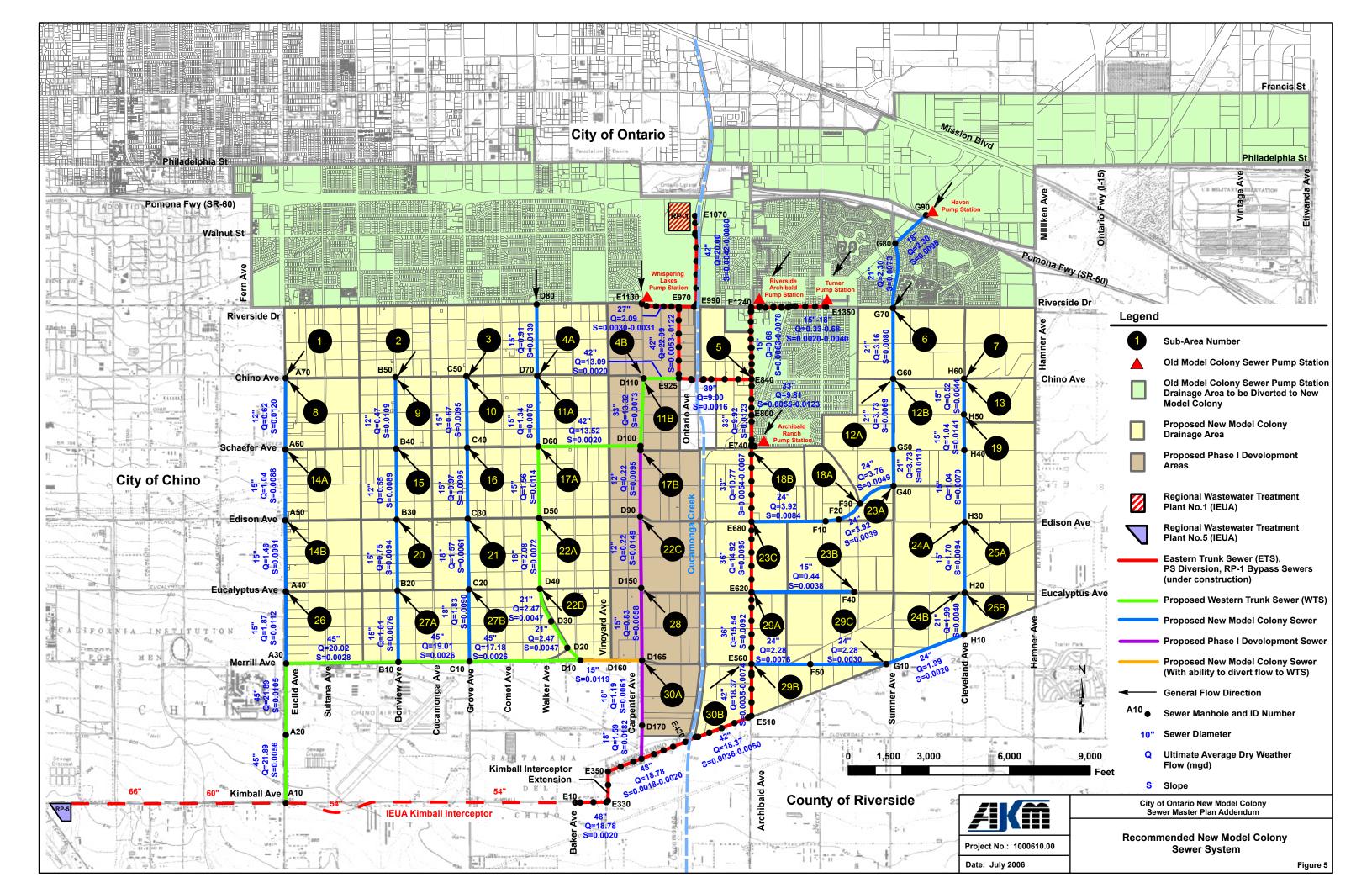
Table 3
Sewer System Criteria

Collection System	<del>-</del>
Minimum Pipe Size	8-inch
Minimum Velocity	2.0 ft/s at average dry weather flow
Maximum Pipe Depth to Diameter Ratio	0.50 for 12-inch and smaller
With Peak Dry Weather Flows	0.64 for 15-inch and greater
Maximum Pipe Depth to Diameter Ratio	0.82 for all sizes
With Peak Wet Weather Flows	

#### Criteria for Specific Plans and Development Subareas

Each party wishing to pursue development of a tract or area within the NMC shall develop a Sub-Area Master Plan (SAMP). The developer's plans for providing adequate sewer service to all users within the proposed development, how the local sewer system will connect to the backbone and regional system, and the impact of the proposed development to the downstream facilities (to the regional system) shall be fully described in the SAMP. The local sub-area sewers shall meet the sewer design criteria provided in this document and the City Standard Drawings for Sewer Construction. At a minimum, sewage flow calculations shall be based upon the unit flow factors contained in Table 1 or higher factors if specific conditions require it. A typical Sub-Area Sewer Master Plan Report shall include, but not be limited to the following:

- The document shall be prepared and stamped & signed by a Registered Civil Engineer.
- Map showing project boundaries and drainage areas
- Detailed land use description and map
- Average dry weather, peak dry weather, and peak wet weather flow calculations
- Exhibit showing all proposed sewer facilities and connections to the downstream regional system
- Phasing of development and wastewater flows
- Hydraulic calculations for phased and fully developed ultimate conditions, from the development to the regional system, meeting all sewer design criteria





Ontario Walmart Superstore



## **MEMORANDUM**

DATE: November 2, 2006

TO: Reymundo Trejo, Principal Engineer

FROM: Dennis Mejia, Principal Engineer

SUBJECT: Walmart Supercenter - October 25, 2006 Letter

The following are my draft response for your use for the subject letter received 10/25/06. The developer's engineer must provide the City with a Sewer Study per our guidelines. The City has an on-call consultant that can provide the sewer study with the respective costs passed onto the developer.

- 1. Please see the attached exhibit for sewer locations and sizes.
- 2. Please refer to the attached sewer study guidelines.
- 3. The Developer shall submit a Sewer Study to address this item.
- 4. The Developer shall submit a Sewer Study to address this item.
- 5. The Developer shall submit a Sewer Study to address this item.
- 6. The developer should use water efficient fixtures such as low-flush toilets.
- 7. Engineering will address this question.
- 8. The City is in the process of completing a Sewer Master Plan Update, expected to be completed in May 2007. The SMP Update will provide recommendations that will address the ultimate build-out conditions and a long-term Capital Improvement Plan.

Let me know if you need anything else to complete your respons	e to	o th	is re	eque	est
--	------	------	-------	------	-----

Thanks,

Reymundo



October 30, 2006

PUBLIC WORKS AND COMMUNITY SERVICES AGENCY

PAUL S. LEON MAYOR

ALAN D. WARNER MAYOR PROTEM

JASON ANDERSON SHEILA MAUTZ COUNCIL MEMBERS

**ONTARIO MUNICIPAL SERVICES CENTER** 

KECEIVED

OCT 31 2006

DEA

GREGORY C. DEVEREAUX

KENNETH L. JESKE PUBLIC WORKS / COMMUNITY SERVICES DIRECTOR

MARY E. WIRTES, MMC CITY CLERK

> JAMES R. MILHISER TREASURER

Josephine Alido, Environmental Planner David Evans and Associates, Inc. 800 North Haven Avenue Suite 300 Ontario, CA 91764

Re: Ontario Walmart Supercenter Environmental Review—Solid Waste Considerations

Dear Ms. Alido:

Below are responses to the seven questions in your letter dated October 25, 2006.

- 1-Ontario Solid Waste Department facilities and services are currently adequate to serve the solid waste disposal needs of existing developments in the City.
- 2—The City of Ontario would be able to serve the proposed project. Contractors must adhere to requirements in the Construction and Demolition Recycling Plan, which is part of the process of obtaining a building permit and certificate of occupancy. The Solid Waste Department's Commercial Areas Refuse and Recycling Standards outline requirements for refuse and recycling service once the project is complete based on square footage of the facility.
- 3-Solid Waste is brought to West Valley Transfer Station and Material Recovery Facility, 3373 Napa St., in unincorporated San Bernardino County. C&D material is brought to West Valley Transfer Station and MRF or Philadelphia Recycling Mine, 12000 Philadelphia St., Mira Loma, CA 91752.
- 4—El Sobrante Landfill in Riverside County is used for final disposal.
- 5—Waste recycling programs offered include residential curbside commingled recycling and green waste collection, commercial commingled recycling and green waste collection, wood waste recycling, waste assessments, and Construction and Demolition (C&D) recycling.

Ontario Walmart Supercenter Environmental Review-Solid Waste Considerations

6—The Construction and Demolition Recycling Plan requires 50% waste diversion for projects over \$100,000.

7—Anticipated growth, including development in the New Model Colony, will significantly impact the Ontario's waste disposal and recycling efforts in the future. The City is planning for expansion of the Solid Waste Department to meet future needs. Landfill contracts will take into account projected population and commercial growth. Additional waste diversion programs (voluntary or mandatory) will also be considered.

Enclosed are a folder for the Construction and Demolition Recycling Plan, commercial and residential brochures, Solid Waste Department Refuse and Recycling Standards, and applicable sections of the Ontario Municipal Code. Feel free to call, email or write if you have any other questions. My phone number is (909)395-2664 and my email is <a href="mailto:bfigoni@ci.ontario.ca.us">bfigoni@ci.ontario.ca.us</a>.

Sincerely,

Bob Figoní

Assistant Utilities Director/Solid Waste

Encl. Construction and Demolition Recycling Plan Commercial and residential brochures Refuse and Recycling Standards Ontario Municipal Code (partial)

# **ONTARIO MUNICIPAL CODE**

# **CHAPTER 3: INTEGRATED SOLID WASTE MANAGEMENT**

# Sec. 6-3.308. Residential receptacles, placement.

- (a) Residential refuse, recycling and green waste receptacles shall be placed for collection by \$\overline{\cap5}\$:00 a.m. on the scheduled collection day, but not prior to the evening preceding the collection day. Receptacles shall be removed no later than the evening after collection day. Such receptacles shall be placed for collection along the alley where a useable alley exists. Where there is no useable alley, such receptacles shall be placed for collection near the street curb. Where no curbs or walks exist, such receptacles shall be placed in a location convenient for collection along the street right-of-way and placed at least three (3) feet from any mailboxes, cars, or any other obstructions for safety and efficiency.
- (d) It shall be the customer's responsibility to provide means of entering and exiting premises, adequate collection vehicle turning radius, and vertical and horizontal clearance for the Solid Waste Collectors and equipment.

## Sec. 6-3.314. Commercial storage standards.

All new development projects utilizing commercial collection bins rather than individual curbside collection of refuse which:

- (a) Have submitted a site plan on or after September 1, 1993 for development plan review as prescribed by Title 9, Planning and Zoning;
  - (b) Are existing development projects which will be adding thirty percent (30%) or more to the existing floor area; or
- (c) Are existing development projects which will be adding one thousand (1,000) square feet or more, shall meet the requirements of the following provisions:
- (1) Each development shall include an area set aside for the provision of adequate and accessible enclosures for the storage of recyclable materials and refuse in proper receptacles. The design, construction and accessibility of the enclosures shall be shown on the site plan in conformance with the standards and specifications of the Solid Waste Department and the design guidelines listed below:
- (i) The recycling collection area and the refuse collection area shall be adjacent to one another and in an enclosure(s) conveniently located next to the building(s) it serves and easily accessible to collection vehicles. No enclosure shall be located in any required setback.
  - (ii) The enclosure(s) shall be screened from public view.
- (iii) The exterior doors of the enclosure(s) for recyclables shall be posted with permanent, reflectorized signs stating "Recyclables Only" and "Solamente Reciclajes" in letters a minimum of one and one-half (1.5) inches in height for a total sign area within a minimum width of ten (10) inches and a minimum length of fourteen (14) inches. Each receptacle shall be painted with a sign identifying which material is to be disposed of in it. General instructions about how to recycle shall be posted within the enclosure or near the receptacle area; the instructions shall be visible to the users of the receptacles. The name of the person or business responsible for maintenance of the receptacle shall be posted within the enclosure.
- (iv) The receptacles for the recyclable materials, with the exception of twenty to forty (20-40) cubic yard roll-off containers, shall be permanently protected from adverse environmental conditions with lids or other methods approved by the Solid Waste Department and the Fire Department. The lids shall be kept closed when the receptacles are not being loaded or emptied.

- (v) The enclosure(s) shall be secured to prevent the removal of recyclable materials by unauthorized persons while permitting access to it by authorized persons.
  - (2) The property owner shall be responsible for maintenance of the enclosure(s) in a clean condition.
  - (3) This section conforms to the California Solid Waste and Recycling Access Act of 1991 (Pub. Res. Code § 42900 et seq.) related to the provision of adequate areas for collecting and loading recyclable materials.

## Sec. 6-3.601. Business recycling plan.

- (a) A business recycling plan shall be submitted by customers using commercial collection service and proposing to conduct the following business activity:
- (1) Addition of a new development for which a site plan for development review has been submitted as prescribed by **fitte** 9, Planning and Zoning;
  - (2) Addition of thirty percent (30%) or more to the existing floor area of any existing development; or
  - (3) Addition of one thousand (1,000) square feet or more to any existing development projects.
  - (b) Submitted plans shall include but not be limited to the following information:
    - (1) A written description of the projected annual waste generation rates;
    - (2) The estimated type of generated waste by volume;
    - (3) The measures to be taken to reduce waste:
- (4) The methods to be used to separate recyclable material from the waste stream and temporarily store them inside the building prior to transport to the outside storage area for collection by an authorized recycler; and
  - (5) Identification of the proposed business used to collect or receive recycled material.
- (c) All customers subject to the provisions of this chapter shall submit a business recycling plan to the Public Works/Community Services Agency within thirty (30) days of receipt of written notice. Business recycling plans shall be considered complete once final approval is made by the Public Works/ Community Services Agency.
- (d) All customers subject to the provisions of this chapter and regardless of permit status, shall implement, at a minimum, the measures identified in the business recycling plan for reduction of waste.
  - (e) Business recycling plans shall be updated at a frequency as determined by the City. In reviewing the plan, the City may require the handling of special wastes.

## Sec. 6-3.602. Construction and demolition recycling plan.

Wastes going to landfill from construction and demolition activities must be minimized to the greatest extent possible by recycling, deconstruction for reuse, or by use of "green building" practices. Material targeted for recycling shall include concrete, asphalt, clean wood (unpainted or untreated), brick, metal, cardboard and sheetrock. The Public Works/ Community Services Agency Director may modify the targeted materials based on available markets.

(a) A construction and demolition recycling plan shall be submitted for conducting the following types of development activities:

- (1) The construction, demolition or renovation of any structure whereby the total costs are projected to be greater than or equal to One Hundred Thousand Dollars (\$100,000,00):
- (2) The construction, demolition or renovation of and/or additions of tenant improvements to any building other than a single-family residential building whereby the total costs are projected to be greater than or equal to One Hundred Thousand Dollars (\$100,000.00);
- (3) Any City-sponsored construction, demolition or renovation whereby the total costs are projected to be greater than or equal to One Hundred Thousand Dollars (\$100,000.00); or
  - (4) Any re-roofing activity.
- (b) A construction and demolition recycling plan is not required for smaller construction, demolition, and renovation projects within the City whose total costs are less than One Hundred Thousand Dollars (\$100,000.00). Customers performing these types of projects shall be encouraged to divert at least fifty percent (50%) of all project-related construction and demolition debris from landfill to recycling or reuse operations.
- (c) In preparing the construction and demolition recycling plan, customers for building or demolition permits involving the removal of all or part of an existing structure shall consider deconstruction, to the maximum extent feasible.
- (d) Plans may be required to be submitted on City-approved forms. Plans shall focus at least fifty percent (50%) of the total construction and demolition debris generated by the project via reuse or recycling and shall include but not be limited to the following information:
- (1) The estimated volume or weight of the project construction and demolition debris to be generated, by materials type, the estimated volume or weight of construction and demolition debris that can feasibly be diverted for reuse or recycling and the estimated volume or weight of construction and demolition debris that will be hauled as refuse. In estimating the volume or weight of materials identified in the Construction and Demolition Recycling Plan, the customer shall use the standardized conversion rates approved by the City for this purpose;
- (2) A drawing that identifies an area for the loading and collection of recyclable materials with appropriate access for collection vehicles;
- (3) A description of how the materials will be separated at the source and/or recycled by utilizing the services of a processor;
  - (4) Identification of the recycled materials to be used in the construction or remodeling of the facility;
  - (5) Identification of the proposed vendor or facility proposed to collect or receive recycled material; and
  - (6) A description of green building practices in use, if any.
- (e) All customers with projects subject to the provisions of this chapter shall implement, at a minimum, the measures identified in the construction and demolition recycling plan and shall demonstrate compliance with the following construction site requirements:
- (1) Construction waste and demolition debris shall be removed from the construction site on a regular basis and shall not be stored on site and in the open for a period in excess of four (4) weeks, provided that such waste is not hazardous or noxious and does not constitute a nuisance, in which case it must be appropriately secured and regularly removed from the construction site;
- (2) Reasonable efforts shall be demonstrated to provide for segregation of recyclable construction materials and demolition debris for diversion from landfills; and
  - (3) Construction waste and demolition debris that may become windblown shall be containerized to prevent litter.
- (f) No demolition permit or building permit shall be issued for any development activity subject to this chapter unless the construction and demolition recycling plan has been approved by the City.
- (g) The issuance of the certificate of occupancy will be conditional on submittal of a report that documents the construction and demolition debris recycled. The report shall be submitted to the Director of Public Works/Community Service Agency and shall contain the following information:

- (1) The estimated and actual quantities of all construction waste and demolition debris listed in the construction and demolition recycling plan;
- (2) Copies of recycling receipts or other pertinent documentation that demonstrates waste diversion and recycling in conformance with the approved construction and demolition recycling plan. Customers shall make reasonable efforts to ensure that all construction and demolition debris diverted by recycling or landfill are measured and recorded using the most accurate method of measurement available. To the extent practical, all construction and demolition debris shall be weighed by measurement on scales in compliance with all regulatory requirements for accuracy and maintenance. For construction and demolition debris for which weighing is not practical due to small size or other considerations, a volumetric measurement shall be used. For conversion of volumetric measurements to weight, customers shall use the standardized conversion rates approved by the City for this purpose; and
- (3) Any additional information the customer believes is relevant to determining its efforts to comply in good faith with this section.

### **PUBLIC WORKS AGENCY**

1425 S. Bon View Avenue Ontario, CA 91761

# SOLID WASTE DEPARTMENT COMMERCIAL AREAS REFUSE AND RECYCLING STANDARDS

### I. GENERAL INFORMATION

### A. Contact

For any questions concerning these standards, or for special requests please contact Joe Portolese at (909) 395-2600. Any exceptions to these standards must be preapproved.

### B. Permits

The property owner or designee shall be responsible for obtaining any permits necessary from the Building Department. For specific questions concerning permits call the Building Department at (909) 395-2023.

### C. Site Plan Notations

The location of any refuse enclosure or compactor shall be drawn on the site plan and labeled. The dimensions of the refuse enclosure(s) and compactor(s) shall be noted on the site plan. The following are examples of notes as they shall appear on the site plan:

Refuse enclosure to City standards for _	trash bins and	_ recycling bins and
recycling bins, or	cubic yard compactor	

### D. Construction Activities

The property owner or designee shall be responsible for the separation of recyclable materials during site preparation and construction.

# II. REFUSE AND RECYCLING STANDARD REQUIREMENTS

Residential	Refuse	Recycling
Residential	4-cu yd bin per 8 units	4-cu yd bin per 8 units
oSinoller Engil virtetanged Direktes in oppos		,
Commercial		
Reclision providents	4-cu yd bin per 8 units	4-cu yd bin per 8 units
Multiplienant/Retail/Shopping//	4-cu yd bin for every 2 tenants	4-cu yd bin for every 2 tenants
©fficters and the second secon	4-cu yd bin per 15,000 sq. ft	4-cu yd bin for 15,000 sq. ft
Holiekor Motel	4-cu yd bin per 10,000 sq. ft	4-cu yd bin per 10,000 sq. ft
Restaurant op Minis Marie 1993	Two 4-cu yd bins per unit	Two 4-cu yd bins per unit
Vehiole, Apolianae Zamnorae n Repaireling	4-cu yd bin per 8,000 sq. ft	4-cu yd bin per 8,000 sq. ft
Industrial		
Industrial Park The Park	4-cu yd bin per 8,000 sq. ft	4-cu yd per 8,000 sq. ft
Mult Tenant Industrial Palike it	4-cu yd for every 2 tenants	4-cu yd bin for every 2 tenants
Wajianise	4-cu yd bin per 30,000 sq. ft	4-cu yd bin per 30,000 sq. ft

### III. REFUSE VEHICLE ACCESS STANDARDS

Α.	Refuse vehicle turning radii Inside radius38'-0" Outside radius
B.	Refuse vehicle height clearance15 feet
C.	Refuse vehicle width clearance15 feet
D.	Refuse vehicle backing distance Residential
E.	A minimum 25-foot distance must be maintained in front of a bin enclosure. The bin enclosure must face the driveway not parking spaces.

- F. Alleys should be a minimum of 20 feet in width and have enough room to allow for a 28 foot minimum turning radius when making turns at 90 degrees intersections in the alley. It is recommended that each residence have an unobstructed pad placed in the alley are for placement of refuse/recycling/greenwaste containers. The recommended specifications for the pad are 3' x 12' with standard thickness.
- G. Refer to the Refuse Access Detail attached for roll-off or compactor bin access.

### IV. REFUSE STANDARD DIMENSIONS

- A. 4 Cubic Yard Bins: Require approximately 12' x 27' for a double bin enclosure and 12' x 17' 8"' for a single bin enclosure. Refer to City Standard drawings of respective layouts. Multiple bin enclosures larger than a "double" shall be reviewed on a case-by-case basis by the Solid Waste and Equipment Service Director, or designee. Show all walls and gates on the site plan.
- B. <u>4 Cubic Yard Compactor:</u> Requires a concrete area 15'-4' x 6'-8' for the compactor and one bin only. Required storage for additional bins will be evaluated on a case-by-case basis and shall be 4' x 6' per additional bin. The enclosure shall meet City refuse standards for walls, gates, wheel stops and pedestrian entrances.

- C. Roll-off Bins: 20 to 40 cubic yard roll-offs require an 8' x 22' concrete pad. The concrete pad shall be striped and designated "Refuse Storage Zone." Refer to attached. Bins are assumed to be located outside of building footprint unless otherwise noted.
- D. Refuse Compactor Units: 20 to 40 cubic yard compactors require an area of 15' x 85' for compactor, compactor bin and refuse truck. See the attached "Hammerhead" detail for access and layout. Compactor units are assumed to be located outside of building footprint unless otherwise noted.

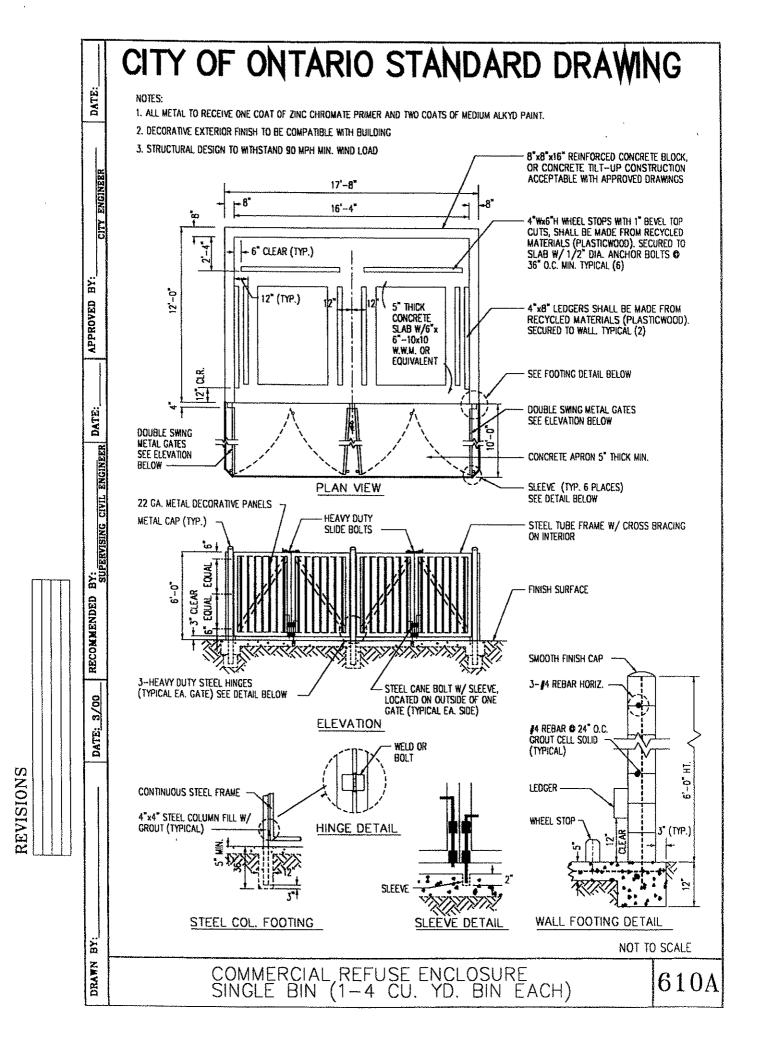
### V. REFUSE ENCLOSURE LOCATION STANDARDS

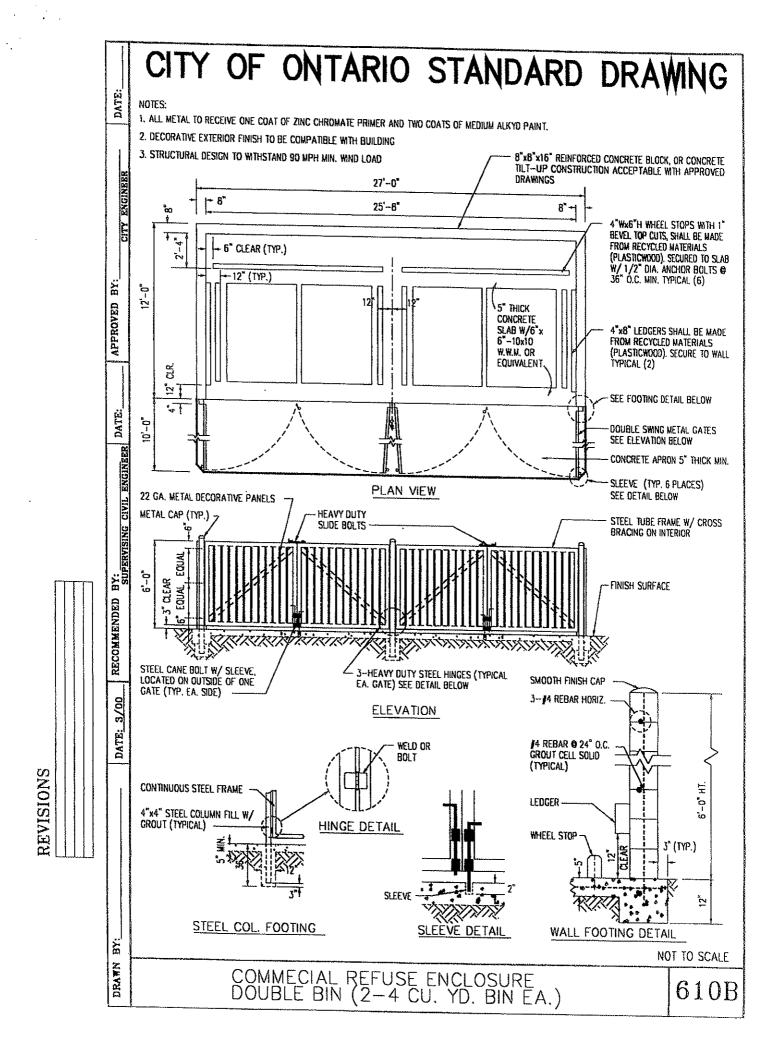
- A. Through circulation shall be provided for solid waste vehicles.
- B. All refuse enclosures shall be located on major drives within developments to achieve adequate circulation of refuse vehicles.
- C. A five (5') foot wide concrete apron (with a 2% max. pitch) shall be placed in front of all refuse enclosures to allow for safe and efficient removal of bins. No drainage Vditches or catch basins shall be allowed within this 5' apron.
- D. Enclosures shall be screened with plant material whenever possible.
- E. Enclosures shall be constructed with interior dimensions so that individual bins can be removed independently of each other. Refer to double bin enclosure standard for detail or guidelines on dimensions.
- F. Refuse enclosures shall be located so that refuse vehicles can pull to within 5 feet of gates.
- G. All refuse enclosures located closer than 5 feet to an adjacent structure shall be protected by an automatic fire sprinkler approved by the Ontario Fire Department.
- H. All developments that install security gate systems shall utilize coded entrance equipment only. Systems that require keys, cards, or hand-held remote control devices are not acceptable. Refuse vehicles will not carry keys or other equipment to operate security gate systems.

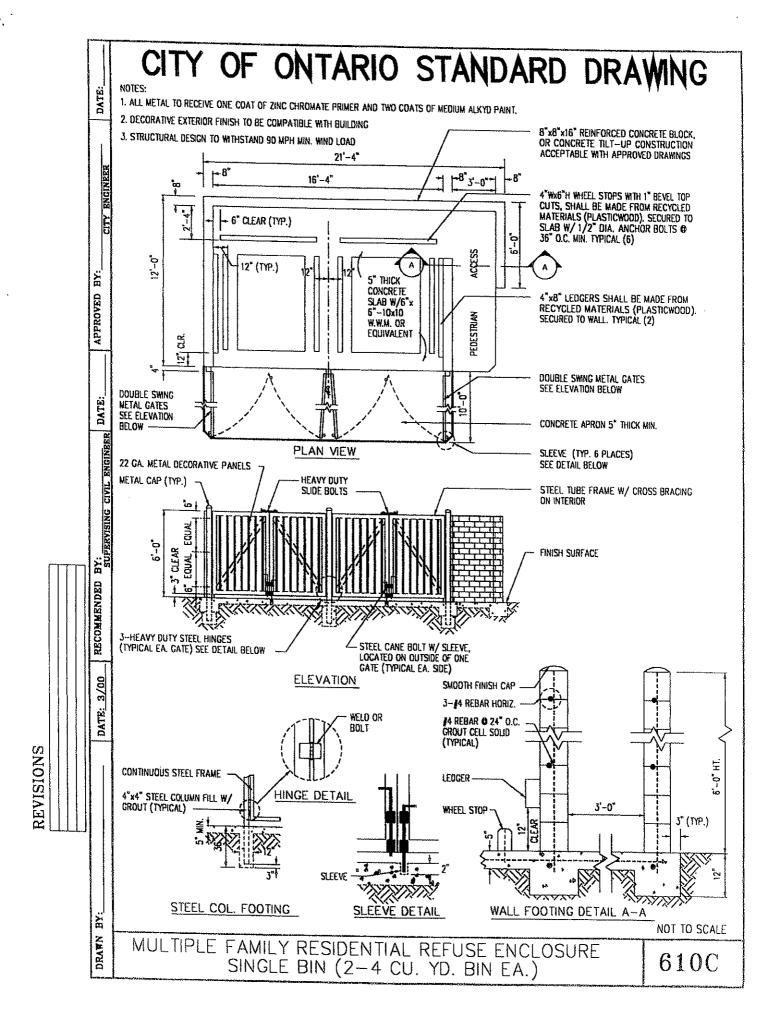
- I. Gate stop bollards shall be installed to prevent enclosure gates from swinging into adjacent parking stalls when necessary. Steel cane bolt sleeves shall be installed in the ground outside of bin enclosure gates to prevent gates from swinging shut.
- J. It is highly recommended that the wheel stops be made from recycled materials (Plasticwood). The following is a list of a few suppliers of the material:
  - i. American Plastic Lumber PO Box 514 Cameron Park, CA 95682 (530) 677-7700
  - ii. Eagle Recycled Products 1201 West Katella Orange, CA 92867 (800) 448-4409
  - iii. Rideout Plastics 5535 Ruffin Road San Diego, CA 92123 (858) 560-1551
  - iv. Castleblock PO Box 6097 Hilo, HI 96720 (800) 672-7872
  - v. The Plastic Lumber Company, Inc. 115 West Bartges Street Akron, OH 44311-1034 (800) 886-8990
- K. Roll-off bins and compactor units are assumed to be located outside of the building footprint unless otherwise accepted by the Solid Waste and Equipment Services Department.

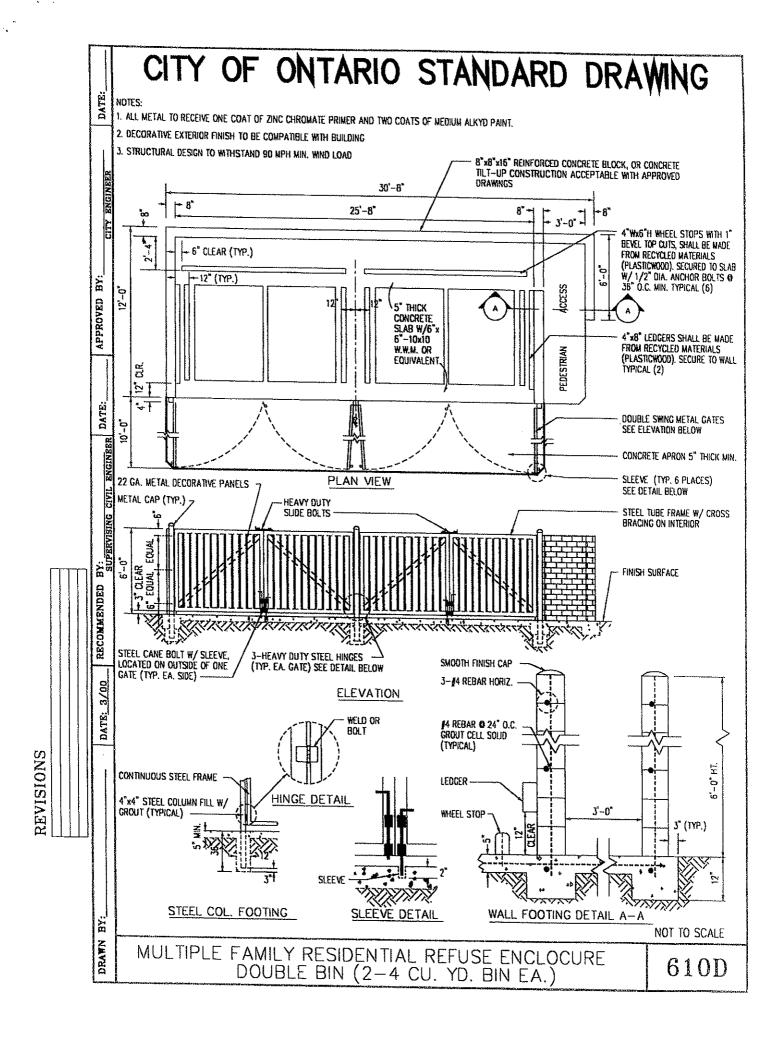
### VI. General Information

- A. Contact. For any questions concerning these standards, please contact Joe Portolese at (909) 395-2600. All exceptions to these standards must be preapproved.
- B. Permits. The property owner or designee shall be responsible for obtaining any permits required from the Building Department. For specific questions concerning permits, you need to call the Building Department at (909) 395-2023.









# Form 1 Construction & Demolition Recycling Plan

The City of Ontario (City) requires all building and demolition permit applicants to prepare a Construction & Demolition Recycling Plan. Complete Sections 1 through 3 for waste generated as a result of work performed in the City. The goal is 50% diversion. If your project is exempt, complete Section 1, General Information, check the exempt category, and indicate Construction Valuation. **This report is to be completed and submitted to the City of Ontario Solid Waste Department.** Submittal of the Construction & Demolition Recycling Plan does not require any additional fees or assessments. For assistance in completing this form, please contact (909) 395-2642.

|--|

	<del></del>						
Project Address (Include	flooi	r, suite, etc.):					
Project Manager:							
Company Name:							
Contact Mailing Address:							
Phone:		Fax:		Ema	il:		
Type of Project:		New Construction Re-roofing		Renovation Demolition		⊐ Ca	tegorically Exempt
Type of Building:		Commercial		Single Family Resid	dence	⊐ Mu	ılti-Family
Construction Valuation:	\$_						
JOB SITE SEPARAT for concrete, one bin  COLLECTION AND construction and den Recovery Facility for SELF HAUL. Materia using only the applica  3. Estimated Disponant	FION for r DEL noliti sorti al is ant's	Iring your project? (Please of It. Material is segregated in netals, one bin for wood and IVERY OF MIXED LOADS ion material commingled in ng. Trash is collected in a secollected in any manner of equipment and vehicles.  Tonnage  ect to generate for disposal	to two	o or more material-sp bin for trash.  A MATERIAL RECONDING. The mixed loads ate bin and delivered d, and then delivered	VERY FA s are ther to a land d to recy	CILITY n delive fill. cling c	f. Clean recyclable ered to a Materials
The machinacte ac year	OAP.	FOR CIT					
Date Received:		Application			CDRP	Subm	itted:
Date Approved:				Perm	nit Counte	r Staff	Initials:
Exempt:				Approved, Bu	uilding Pe	rmit #:	
Reviewed by:	amo				Data		

Form 1 - Construction & Demolition Recycling Plan

### Form 2 **Construction & Demolition Recycling Plan Summary Report**

Summary Report must be completed prior to sign off at final inspection and issuance of certificate of occupancy or temporary certificate of occupancy. A Summary Report is required for each permit issued. The purpose of this report is to confirm that you diverted from landfilling at least 50% of the material generated by your project or as required by Ontario Municipal Code (Ordinance No. 2806).

Complete this report, attach all receipts and weight tags from recycling facilities, salvage companies, deconstruction contractors, waste haulers (City), processors, transfer stations, and landfills and submit to:

> City of Ontario Public Works/Solid Waste Department 1425 South Bon View Avenue Ontario, CA 91761

Building/Demolition Permi	it #:		
Project Address (Include f	floor, suite, etc.):		
Project Manager:			_
Company Name:			
Contact Mailing Address:			
Phone:	Fax:	Email:	
Type of Project:	<ul><li>□ New Construction</li><li>□ Re-roofing</li></ul>	☐ Renovation☐ Demolition	
Type of Building:	□ Commercial	☐ Single Family Residence	☐ Multi-Family
Construction Valuation:	\$	_	
regarding construction and	d demolition recycling. I here	extent practicable in accordance weby attest that the information in this religious legitimate recycling, reuse, or salvage	eport is true and accurate, and
Project Manager Signatur	e:	D	ate:
	For Assistance with t	his Report, Contact (909) 395-2642	
	F	OR CITY USE ONLY	
□ Approved		Date Received:	
□ Denied		Diversion %:	
Reason for Deni	al:		
Reviewed By:		Date:	
	Form 2 – Construction &	Demolition Recycling Plan Summary R	Report

Use your weight slips to fill in the table below. If material was measured in units of volume (for example, cubic feet or cubic yards), convert to tons using the conversion factors provided. Note: 1 ton = 2,000 pounds.

Example using conversion factors:

 $\frac{4.7 \text{ tons (recycled)} + 5.6 \text{ tons (reused)}}{19.3 \text{ tons (generated)}} = \frac{10.3 \text{ tons}}{19.3 \text{ tons}} = 53\%$ 

Note: Diverted = recycled + reused Generated = diverted + disposal

Concrete Recycle Example:  $5yd^3 \times 1,885$  lbs = 9,425 lbs / 2,000 = 4.7 tons

	Colu	mn A	Colu	mn B	Column C	Column D			
Material	Recy	/cled	Reused		Disposed	Total Quantity Generated	Facility Used/Destination		
	Volume	Weight (tons)	Volume	Weight (tons)	Weight (tons)	Weight (tons)			
Example: Concrete 1yd³ = 1,885 lbs	5yd³	4.7 tons	6yd³	5.6 tons	1.5	19.3 tons	(Recycle) XYZ Recycling Center (Disposal) West Valley MRF (Reused) Job Site Grading		
Asphalt 1yd³ = 1,380 lbs									
Brick lyd <sup>3</sup> = 3,024 lbs									
Building Materials (doors, windows, fixtures, etc.)									
Cardboard, paper 1yd³ = 100 lbs									
Carpet/Carpet Padding									
Concrete Lyd <sup>3</sup> = 1,885 lbs									
Glass 1yd <sup>3</sup> = 2,160 lbs									
Green Waste 40yd³ = 4,320 lbs									
Gypsum/Drywall 1yd³ = 3,834 lbs									
Metals 1 yd <sup>3</sup> = 906 lbs									
Mixed C&D (tons) Commingled, recyclable)									
Plastic 1yd³ = 22.55 lbs									
Roofing Lyd <sup>3</sup> = 418.5 lbs									
File (ceramic) Lyd <sup>3</sup> = 1,214 lbs									
Wood (lumber, doors, etc.) Lyd <sup>3</sup> = 329.5 lbs									
Refuse	NA	NA	NA	NA					
Other (do not include dirt)									
Totals									

Totals								
Fill in the blanks belo	w to determin	e if you met th	ne City's rec	quirement to	divert 50% o	f project waste.		
Column Totals A (recycled)	+ B (ret	used)	_ = Diverted	d	+ C (disposed	l) = D	(Total Quantity Generated)	-
Diverted ÷ Total Quantit	y Generated =	Diversion %						

### **Recovering Construction & Demolition Debris**

The choice of what and how construction & demolition debris can be recovered depends on many factors including the type of project, space on the building site, the existence of markets for materials, the cost effectiveness of recovery, and the time allowed for the project.

**Type of Project:** Demolition projects produce much more debris than renovation or new construction for similar sized projects. Wood is a primary component of most residential structures, whereas steel and concrete are often a primary component of commercial structures. Packaging materials can often be a significant portion of the debris produced during renovation and new construction projects.

**Space on Building Site:** Debris recovery is often easiest if the building site is spacious enough to allow on-site sorting of debris. Having separate containers for each type of material can reduce contamination and increase resale value.

**Material Markets:** Contractors can maximize recovery by taking advantage of all available markets for recovered materials. In some areas, specialty hauling firms serving the building industry have emerged. These firms keep abreast of local markets and can advise which materials have strong local markets. The City can also provide such technical advice. The City also provides for hauling of construction & demolition debris.

**Cost Effectiveness:** Hauling and disposal costs, the value of recovered materials, and labor costs contribute to whether materials recovery is more or less cost-effective than disposing of materials. Recovery of low value materials may be cost effective, if disposal costs are high and removal and sorting are not labor intensive. The added labor necessary to remove items for reuse may be offset by savings from avoided costs of purchasing new materials and disposal.

The City offers an Inert Collection Service (includes construction & demolition material). The cost for this service is substantially lower than regular refuse collection.

**Project Timeline:** Source separation of materials for reuse and recycling can take more time than disposing of all commingled materials and often projects are on a tight schedule due to financing arrangements. Contractors can maximize materials recovery in the time allowed by planning ahead. If necessary, contractors can focus waste reduction efforts by utilizing off site source separation and recycling facilities.

### Reuse

Many materials can be salvaged from demolition and renovation sites and sold, donated, stored for later use, or reused on the current project. More than 200 used building materials stores around the country buy and/or accept donations of used building materials. Organizations that have space may want to consider storing high value materials for later projects.

Typical materials suitable for reuse include plumbing fixtures, doors, cabinets, windows, carpeting, bricks, light fixtures, ceiling and floor tiles, wood, HVAC equipment, and decorative items.

### Recycling

Recycling is often easiest during construction projects as opposed to demolition or renovation projects. During construction, crews can source separate materials as debris is produced. Demolition and renovation project materials often consist of mixed materials and require on or off site processing.

Typical materials recycled from building sites include metals, lumber, asphalt, concrete, roofing materials, corrugated cardboard, and dry wall (gypsum or wallboard).

### **CONSTRUCTION & DEMOLITION PROCESSING FACILITIES**

					//	//	/&/	//	//	//	//	//	//	//	//	//
			/	/	//	(5)) (5))		40%		//	//	//	//	//	//	/,
		/	Conct	5/ 5/	Dile		ding		Men	//	/ &/		//	//	//	ilets
Company		'QUSII'		ilding	19009				5) 52/	NA SEE VI		\$ \\ \delta \\ \		Offine A	80 8	
Company	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	? <b>У</b> ♦	```	<b>&gt;</b> / C	<i>څ</i> ⁄ د	<i>ان کا</i>	<b>%</b> ◊	Y	<b>%</b> / 6	1	\$\\	<b>'</b> /	<b>%</b>	1/2/	<b>∀</b> ₹	<b>%</b> √√
All Pallet Recycling Fontana (909) 822-4224														×		
All State Paper & Metal Recycling																
Rancho Cucamonga (909) 899-3613				×						×						
Alpine Paper Recycling & Disposal																
La Verne (909) 596-2855	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Agua Mansa	, .															
Rialto (909) 824-3867	×	L		L			L									L
Amercian Metal Recycling										×						
Ontario (909) 988-8000										^						
Apollo Wood Recovery			×											×		
Fontana (909) 356-2735	_		•••													
Artesia Sawdust Products	×													×		
Ontario (909) 947-5983 Colton Iron and Metal	•													•••		
Colton from and Metal Colton (909) 825-1662										×						
COPP Materials																
Fontana 1-800-DUMP SITE	×															
D&D Recycling	г															
San Bernardino (714) 634-9600					×											
Filter Recycling, Inc.																
Rialto (909) 424-1630	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
GMA Pallet Recycling Corp														×		
Fontana (909) 823-2061	_													-		
Main Street Fibers				×						×						
Ontario (909) 986-6310										-						
Master Disposal Company El Monte (626) 350-4401	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Philadelphia Recycling Mine																
Mira Loma (951) 685-8343	×	×					×			×	×					
Pico Rivera Pallet																
Colton (909) 350-0113														×		
Ontario Metal Recycling																
Ontario (909) 983-0655										×						
Tamco										×						
Rancho Cucamonga (909) 899-0660	ᆫ									^						
West Valley Material Recovery Facility	×	×		×	×	×	×		×	×	×	×		×	×	
Fontana (909) 899-5501				•	~	**	•		**		**	**		•	~	

The inclusion or inadvertent exclusion of an organization in no way constitutes a recommendation by the City Of Ontario



### **Collection Service Available**

**96-gallon cart**Monday through Friday

1.5 and 4 cubic yard bins Monday through Saturday

Roll-offs
Scheduled appointments or on-call basis

### Holidays

Refuse and recycling collection will be delayed by one day when a holiday is before your collection day. The City of Ontario observes the following holidays:

• January	New Years Day
• February	
• May	
• July	Independence Day
• September	Labor Day
• November	Veteran's Day
	Thanksgiving Day
• December	Christmas Day

### **Important Phone Numbers**

City staff is dedicated to assisting new and existing companies, and is responsive to the needs of the business community, making Ontario one of California's most desirable places to do business.

Department	<b>Phone Numbers</b>
Building	395-2023
Business License	395-2022
Code Enforcement	395-2007
Economic Development	395-2010
Engineering.	395-2025
Fire Safety	395-2029
Graffiti Removal	395-2626
Planning	395-2036
Police Dispatch (for non-emerg	gencies) 986-6711
Public Works Agency	395-2605
Recycling	395-2040
Solid Waste Customer Service	395-2050
Street Maintenance	395-2639
Utilities Billing	395-2050
Water and Sewer Maintenance	395-2678

### City Officials

lerson
autz
mbers

Gregory C. Devereaux
City Manager

Kenneth L. Jeske Dir. of Public Works/ Community Services

Please Reduce, Reuse, and Recycle!



# Commercial/ Industrial Solid Waste Services





www.ci.ontario.ca.us

### **Container Types**

The City of Ontario offers variable size containers for recycling, green waste and refuse collection. Since "Commingled Recycling" and "Green Waste" containers cost less than refuse containers, businesses that utilize them reduce costs and increase profits. Businesses can further save money by developing a customized collection schedule that is economical and efficient.

For container rates and more information, call (909) 395-2050.



Containers

• 96 gallon cart

• 1.5 cubic yard bin

Roll-Offs

Available in various sizes:

· "High Side" for general refuse and

• 4 cubic yard bin

### **Maintenance**

The solid waste rate includes bin maintenance which consists of the following:

- · Lids securely attached;
- · Wheels in working condition; and
- · Graffiti-free containers.

### **Hot Embers**

Caution: Placing hot embers in a refuse container may cause a fire. ALWAYS soak embers thoroughly with water before placing them into the refuse container.

### Unacceptable Items

Materials that are deemed hazardous or contain electronic components **SHOULD NOT** be placed into refuse containers.

Tires are also not an acceptable item. Access http://www.ciwmb.ca.gov/Tires/Facilities/ for local facilities that can accept waste tires from businesses.

Please call (909) 395-2050 for disposal assistance.

## Waste Reduction

**Assessment Program** 

The City of Ontario offers FREE assessments to help businesses implement and/or enhance waste reduction strategies. Recycling and waste reduction programs are not only good for the environment, they can also reduce refuse collection bills and generate additional profits. The assessment also provides information on ways to streamline the recycling process. Implementing any of the recommendations from the assessment is voluntary. For a FREE Waste Reduction Assessment, call (909) 395-2642.

### **WRAP** Award

Businesses can gain public recognition for their waste reduction efforts through the State's Waste Reduction Award Program (WRAP). For more information, visit www.ciwmb.ca.gov/WRAP or call (916) 341-6604.

### **CalMAX Program**

CalMAX is a free exchange service designed to help businesses, industries, and institutions save resources and money by finding markets for nonhazardous materials they have traditionally discarded. This includes items such as construction material, containers, durable goods, glass/metal and organics.

For materials that are currently "wanted" and "available", to post a free ad and for more information, please visit the www. calmax.org or call toll-free (877) 520-9703.

### **DEPARTMENT OF PUBLIC WORKS**

FLOOD CONTROL • SOLID WASTE MGMT • SURVEYOR • TRANSPORTATION

SOLID WASTE MANAGEMENT DIVISION
222 West Hospitality Lane, Second Floor • San Bernardino, CA 92415-0017 • (909) 386-8701
Administration/Engineering/Solid Waste Programs Fax (909) 386-8900
Fiscal Section/Operations Fax (909) 386-8786



COUNTY OF SAN BERNARDINO
PUBLIC AND SUPPORT
SERVICES GROUP

PATRICK J. MEAD Director of Public Works

PETER H. WULFMAN Solid Waste Division Manager

November 15, 2006

Josephine Alido, Environmental Planner David Evans and Associates, Inc. 800 North Haven Ave., Suite 300 Ontario, CA 91764

RE: ONTARIO WALMART SUPERCENTER

Dear Ms. Alido:

Our office is in receipt of your letter, dated October 25, 2006, requesting additional information about our ability to provide landfill services for the above-referenced project. In response, we offer the following:

- We are unable to provide the landfill name that will serve this project. According to the City of Ontario, all of their waste is taken to the West Valley Materials Recycling Facility/Transfer Station, which is an entity privately owned by Burrtec. They should be contacted to ascertain where waste will be taken after processing.
- Existing County-owned landfills are adequate to meet the current solid waste disposal needs of existing development.
- There are no new landfills planned at this time.
- Waste generation rates are estimated at approximately 1500 pounds per person per year for residential uses and 3650 pounds per employee per year for commercial uses.
- Hazardous wastes are not accepted at County-owned landfills. An on-site loadchecking program is utilized. If hazardous waste is discovered, the load is rejected. If hazardous waste is abandoned, it is placed in a hazardous waste storage bin to be disposed of as required by law.
- Our agency does not anticipate any longer-term impacts affecting the ability to provide landfill services; however, we would like the EIR to address the project's handling of construction and demolition debris, hazardous and universal waste handling measures, and potential waste generation rates.

Should you have any questions or comments, please feel free to contact me or Traecey Anthony by phone at (909) 386-9063; by facsimile at (909) 386-8964, by mail to the address listed above, or by e-mail to NSansonetti@sym.sbcounty.gov or TAnthony@swm.sbcounty.gov.

Sincerely

Nancy Sansonetti, Supervising Planner/Chief

Planning & Renmitting Section

cc: Peter Wulfman, Division Manager – County of San Bernardino Solid Waste Management Division Traecey Anthony, Associate Planner

File

MARK H. UFFER
County Administrative Office

NORMAN A. KANOLD Assistant County Administrato Public and Support Board of Supervisor

POSTMUS . . . . First Distric

DENNIS HANSBERGER

... Third District



# CONSTRUCTION & DEMOLITION RECYCLING PLAN





# Instructions For Construction & Demolition Recycling Plan

This booklet contains two forms that must be completed:

- Form 1 Construction & Demolition Recycling Plan, and
- Form 2 Construction & Demolition Recycling Plan Summary Report.

The forms are located in the front pocket and are used to identify pre-project estimates of potential waste generation (Form 1) and provide post-project documentation of waste diverted and disposed (Form 2).

### <u>FORM 1</u>

Please complete Form 1 by filling in the required information. Submit the form when applying for a building or demolition permit.

### <u>FORM 2</u>

Please complete both sides of Form 2. Submit the form and your disposal and diversion tonnage documentation to the City within 30 days after completion of the project. Certificate of Occupancy can be delayed if form is not fully completed.

### **Construction & Demolition Recycling Plan**

The City of Ontario (City) adopted Ordinance No. 2806, Sec. 6-3.602 in late 2004. The Ordinance requires all building and demolition permit applicants to submit a Construction & Demolition Recycling Plan. State law (AB 939) requires cities to achieve 50% waste diversion. Construction & Demolition debris represents a large portion of materials going to the landfill. This booklet will assist you in preparing the plan and identifying materials qualifying for recycling or reuse, and also saving money through reduced waste disposal costs. Technical assistance is available by calling (909) 395-2642.

If you plan to conduct any of the following projects, a Construction & Demolition Recycling Plan is required:

- ✓ New construction and demolition of any structure whereby the total costs are projected to be greater or equal to \$100,000; or
- ✓ The renovation, additions or tenant improvements to any building other than a single-family residential building whereby the total costs are projected to be greater or equal to \$100,000; or
- ✓ Any City sponsored construction, demolition or renovation whereby the total costs are projected to be greater or equal to \$100,000; or
- ✓ Any re-roofing activity.

### **Prior to Construction or Demolition...**

Complete Form 1 – Construction & Demolition Recycling Plan

An applicant for a building or demolition permit is required to prepare a Construction & Demolition Recycling Plan (enclosed in this guide). On this form, the applicant will estimate the amount of waste they expect to generate through their construction and/or demolition project. Materials to be included in the plan are concrete, asphalt, clean wood (unpainted or untreated), brick, metal, cardboard, and sheetrock. As part of your Construction & Demolition Recycling Plan, you should decide how you intend to assure that at least 50% of the waste generated at the project site will be diverted from the landfill. Materials included in this plan, as well as many others are readily recyclable or reusable.

Please fully and accurately complete this form. Submittal of an accurate and completed Form 1 (Construction & Demolition

Recycling Plan) is a precondition to issuance of a Building or Demolition Permit. Submit your completed Form 1 to the Solid Waste Department.

If you need assistance in completing Form 1, please contact (909) 395-2642.

### **During Construction or Demolition...**

### Divert Construction & Demolition Wastes Through Recycling or Reuse

It is the responsibility of every owner, general contractor, subcontractor and developer to divert the maximum amount of salvageable and reusable materials from the landfill. Materials diverted prior to demolition and during/after construction are equally eligible for diversion. "Divert" or "diversion" means a reduction in the amount of waste being disposed in landfills by any of the following methods:

- ✓ Use of new construction methods that reduce the amount of waste generated.
- ✓ Onsite reuse of waste materials.
- ✓ Job site separation of materials and delivery to a recycling processing facility.

Keep all weight receipts issued by any recycling and/or disposal facility and maintain records or logs of the volume and weight of materials reused on the job site. This booklet contains a matrix of local processing facilities.

The City will monitor and evaluate each construction and demolition project to follow progress toward the diversion requirement.

All waste diversion methods are subject to restrictions and documentation requirements set forth in the City Ordinance.

### **After Project Completion...**

### Complete Form 2 - Construction & Demolition Recycling Plan Summary Report

Within 30 days after the completion of the project, the applicant shall submit documentation to the Solid Waste Department that proves compliance with the diversion requirements of the Construction and Demolition Recycling Plan. The documentation shall consist of:

- 1. A completed Form 2 (Construction & Demolition Recycling Plan Summary Report) summarizing the weight data of materials diverted and disposed (Form 2 is included in this booklet).
- 2. The attached copies of receipts and weight tickets or other records of measurement from recycling facilities, salvage companies, deconstruction contractors, waste haulers, processors, transfer stations and landfills.

A properly completed Construction & Demolition Recycling Plan Summary Report and all receipts must be submitted to the Solid Waste Department prior to issuance of a Certificate of Occupancy.



# City Ordinances Pertaining To The Construction & Demolition Waste Recycling Plan

### Sec. 6-3.602. Construction and Demolition Recycling Plan.

Waste going to the landfill from construction and demolition activities must be minimized to the greatest extent possible by recycling, deconstruction for reuse, or by use of "green building" practices. Material targeted for recycling shall include concrete, asphalt, clean wood (unpainted or untreated), brick, metal, cardboard and sheetrock. The Public Works/Community Services Director may modify the targeted materials based on available markets.

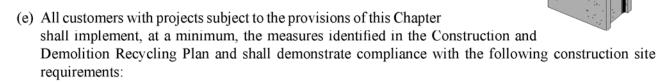
- (a) A Construction and Demolition Recycling Plan shall be submitted for conducting the following types of development activities:
  - (1) The construction, demolition or renovation of any structure whereby the total costs are projected to be greater than or equal to one hundred thousand dollars (\$100,000) or;
  - (2) The construction, demolition or renovation of and/or additions of tenant improvements to any building other than a single-family residential building whereby the total costs are projected to be greater than or equal to one hundred thousand dollars (\$100,000) or;
  - (3) Any City sponsored construction, demolition or renovation whereby the total costs are projected to be greater than or equal to one hundred thousand dollars (\$100,000) or;
  - (4) Any re-roofing activity.
- (b) A Construction and Demolition Recycling Plan is not required for smaller construction, demolition, and renovation projects within the City whose total costs are less than one hundred thousand dollars (\$100,000). Customers performing these types of projects shall be encouraged to divert at least fifty percent (50%) of all project-related construction and demolition debris from the landfill to recycling or reuse operations.
- (c) In preparing the Construction and Demolition Recycling Plan, customers for building or demolition permits involving the removal of all or part of an existing structure shall consider deconstruction, to the maximum extent feasible.
- (d) Plans may be required to be submitted on City approved forms. Plans shall focus at least fifty percent (50%) of the total construction and demolition debris generated by the project via reuse or recycling and shall include but not be limited to the following information:
  - (1) The estimated volume or weight of the project construction and demolition debris to be generated, by materials type, the estimated volume or weight of construction and demolition debris that can feasibly be diverted for reuse or recycling and the estimated volume or weight of construction

debris that will be hauled as refuse. In estimating the volume or weight of materials identified in the Construction and Demolition Recycling Plan, the customer shall use the standardized conversion rates approved by the

City for this purpose;

- (2) A drawing that identifies an area for the loading and collection of recyclable materials with appropriate access for collection vehicles;
- (3) A description of how the materials will be separated at the source and/or recycled by utilizing the services of a processor;

- (4) Identification of the recycled materials to be used in the construction or remodeling of the facility;
- (5) Identification of the proposed vendor or facility proposed to collect or receive recycled material;
- (6) A description of green building practices in use, if any.



- (1) Construction waste and demolition debris shall be removed from the construction site on a regular basis and shall not be stored on site in the open for a period in excess of four (4) weeks, provided that such waste is not hazardous or noxious and does not constitute a nuisance, in which case it must be appropriately secured and regularly removed from the construction site.
- (2) Reasonable efforts shall be demonstrated to provide for segregation of recyclable construction materials and demolition debris for diversion from landfills.
- (3) Construction waste and demolition debris that may become windblown shall be containerized to prevent litter.
- (f) No Demolition Permit or Building Permit shall be issued for any development activity subject to this chapter unless the Construction and Demolition Recycling Plan has been approved by the City.
- (g) The issuance of the Certificate of Occupancy will be conditional on submittal of a report that documents the construction and demolition debris recycled. The report shall be submitted to the Public Works/Community Services Director and shall contain the following information:
  - (1) The estimated and actual quantities of all construction waste and demolition debris listed in the Construction and Demolition Recycling Plan, and:
  - (2) Copies of recycling receipts or other pertinent documentation that demonstrates waste diversion and recycling in conformance with the approved Construction and Demolition Recycling Plan. Customers shall make reasonable efforts to ensure that all construction and demolition debris diverted by recycling or landfilled are measured and recorded using the most accurate method of measurement available. To the extent practical, all construction and demolition debris shall be weighed by measurement on scales in compliance with all regulatory requirements for accuracy and maintenance. For construction and demolition debris for which weighing is not practical due to small size or other considerations, a volumetric measurement shall be used, customers shall use the standardized conversion rates approved by the City for this purpose, and;
  - (3) Any additional information the customer believes is relevant to determining its efforts to comply in good faith with this section

### Sec. 6-3.603. Infeasibility Exemption.

If a customer subject to this Chapter experiences unique circumstances or emergency conditions that make it infeasible to comply with the diversion requirement, the City may waive the diversion requirements required under Sec. 6-3.602 (a) of this article. The customer shall indicate on the Construction and Demolition Recycling Plan the maximum rate of diversion feasible for each material and the specific circumstances that make it infeasible to comply with the diversion requirement.

### Construction & Demolition (C&D) Recycling Plan Frequently Asked Questions

What is the Construction & Demolition Recycling Plan? Construction & Demolition debris represents a large amount of the City's waste stream. In order to ensure that this waste stream is being diverted from the landfill, the City has enacted an Ordinance that requires developers and contractors that have projects valued at \$100,000 or more to submit to the City a Construction & Demolition Recycling Plan at the time of application for a Building or Demolition Permit. The plan will show how the contractor or developer plans to reach the 50% diversion requirement. This program is mandated by Municipal Code (Ordinance Number 2806).

Will it delay the start of my project? Generally, no, because this matter is addressed at the time you normally take out building and demolition permits. However, if you do not comply with the program or do not submit the required documentation or forms, there could be a delay in issuance of the Certificate of Occupancy.

Will there be additional permitting cost or assessment fees? No. There are no additional fees or assessments associated with this program.

Can someone help me with the forms? Yes, the City has experts available to help with the completion of the forms. Also, the City as the primary hauler will assist you in completing your reporting requirements.

Why are we doing this now? Not only is the State of California developing a model ordinance, the City is under mandates to reduce the amount of waste entering landfills by 50%. Failure to achieve this mandate could cause the City to face up to a \$10,000 per day fine and other penalties.

Who else is doing this program? Construction & Demolition waste is a growing statewide problem. To comply with State mandates, many communities are implementing similar programs. Local cities such as Claremont, Chino Hills, Diamond Bar, Pomona and Rancho Cucamonga have implemented similar programs.

Won't my costs increase? Not necessarily. The costs of labor to salvage or separate materials should be weighed against the avoided costs to haul and dispose of materials. Material recovery often proves more cost effective than disposal.

How important is it to keep materials separated on the job site? Very important. Even a small amount of other materials in a bin of recyclable C&D materials can make the entire bin unacceptable for recycling, thus increasing the cost for disposal.

Kenneth L. Jeske Director of Public Works/ Community Services

Mohamed El-Amamy
Director of Solid Waste
& Utilities



Public Works / Community Services Agency Solid Waste Department 1425 South Bon View Avenue Ontario, CA 91761 (909) 395-2605 www.ci.ontario.ca.us

### Josephine Alido

cfreeman@burrtec.com

Derek Wyss

Richard Crockett

Tuesday, January 02, 2007 1:33 PM

From:

Sent:

To:

Cc:

Subject: Re: Proposed Ontario Walmart Supercenter To Derek Wyss-- The following are responses to the questions contained in your letter concerning the Walmart Supercenter proposed for the City of Ontario. Question # 1-answer: Yes Question # 2-answer: (2a) Yes (2b) No (3a) 13373 Napa St. Fontana, Ca. 92335 Question # 3-answer: (3b) capacity is 5000 tons per day (3c) currently 4000 tons per day of municipal solid waste / 350 tons per day in the MRF Question # 4-answer: El Sobrante // Mid Valley // Colton landfills) Question # 5-answer: commercial recycling, green waste processing, wood waste processing and inert waste processing. Question # 6-answer: segregate materials if possible - ie; inerts, wood, fiber etc. Question # 7-answer: (No) Derek, I hope these responses serve your needs for your project. If you need any additional information please contact me and I will do what I can to assist you. Craig Freeman Operations Manager West Valley MRF & Transfer cc: Richard Crockett / General Manager West Valley MRF & Transfer Derek Wyss wrote: > Dear Mr. Freeman, > Attached is a letter requesting information about the West Valley > Materials Recovery Facility in relation to a proposed Walmart > Supercenter in the northwestern section of the City of Ontario. > Please respond to the questions from the letter as soon as your > schedule will allow by fax or, if you prefer, by email at > djwy@deainc.com. If you need additional information on the project, > please call me at (858) 614-4360 or contact Josephine at the number provided on the letter. > Thank you for your assistance. > Derek Wyss > Environmental Planner > David Evans & Associates, Inc. > 9635 Granite Ridge Drive, Suite 300 > San Diego, CA 92123 > (858) 614-4360 Phone > (858) 614-4366 Fax >





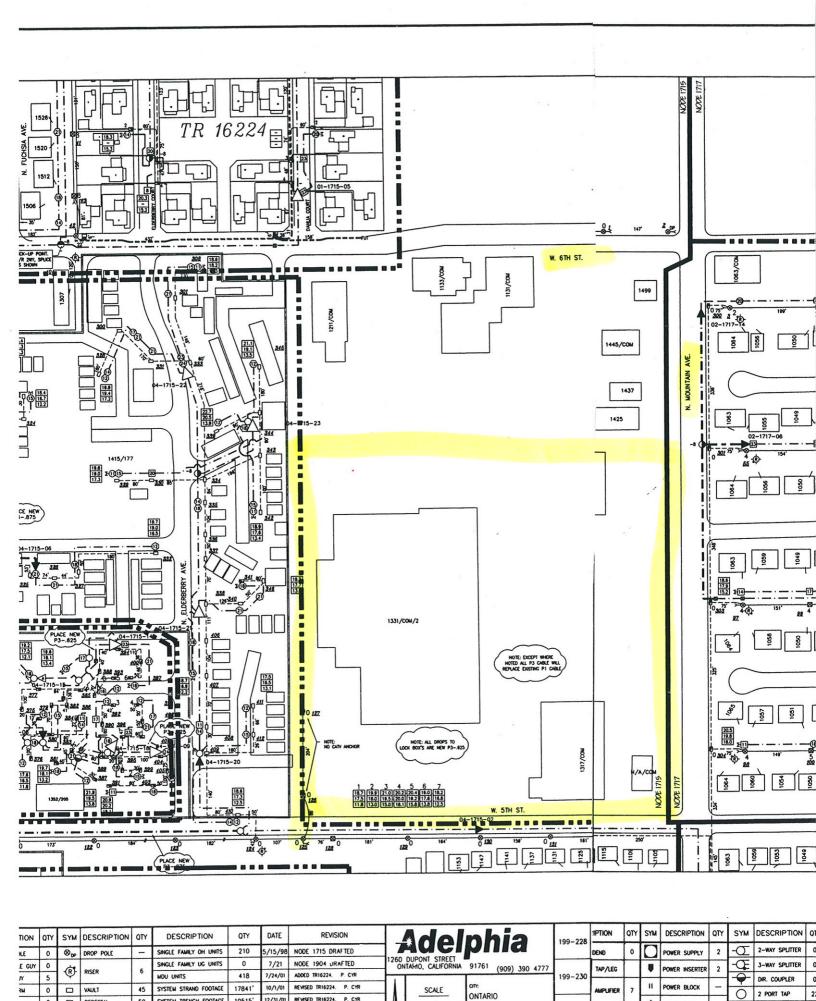
David Evans & Associates 800 N Haven Ave Suite 300 Ontario CA 91764

51764+4951-75 RO#2

Rod Mesa Construction Supervisor



1500 Auto Center Drive Ontario, CA 91761 Tel 909-975-3405 Cell 951-830-9733 Fax 909-975-3471 Rod.Mesa@twcable.com



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### **City of Ontario**

Final Report

Urban Water Management Plan

December 2005



### **CITY OF ONTARIO**

# Urban Water Management Plan

**FINAL REPORT** 

December 2005



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Table 33	Not included in this UWMP
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# **Table of Contents (Continued)**

# **LOOKUP TABLE FOR THE DWR (Continued)**

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Table 37	Table 2-5 Comparison of 2000 Recycled Water Projection and Actual Usage
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Table 39	Not included in this UWMP
Table 40	Table 5-2 Projected Normal Water Supply
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Table 57	Table 5-24 Supply and Demand Comparison for a Multiple Dry Year Period ending in 2025

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# **List of Abbreviations**

To conserve space and improve readability, abbreviations have been used in this report. Each abbreviation has been spelled out in the text the first time it is used. Subsequent usage of the term is usually identified by its abbreviation. The abbreviations used are as follows:

## **List of Abbreviations**

Abbreviation	Description
acre-ft/yr	acre-feet per year
AFY	acre-feet per year
Act	Urban Water Management Planning Act (Water Code Section 10610-10656)
ADD	Average Day Demand
BMP's	Best Management Practices
CBWM	Chino Basin Watermaster
CCI	Construction Cost Index
CDA	Chino Basin Desalter Authority
CDA-I	Chino Desalter No. 1 (located in the City of Chino)
CDA-II	Chino Desalter No. 2 (located in JCSD)
CDA-III	Chino Desalter No. 3 (no location)
City	City of Ontario
CII	Commercial-Industrial-Institutional
CIP	Capital Improvement Program
CUWCC	California Urban Water Conservation Council
CVWD	Cucamonga Valley Water District
DMM	Demand Management Measures
du	dwelling unit
DWR	California State Department of Water Resources
DYY	Dry Year Yield
ENR	Engineering News Record
ERP	Emergency Response Plan
ft/s	feet per second
FWC	Fontana Water Company
FY	Fiscal Year
GP	General Plan
gpd	gallons per day
gpd/cap	gallons per day per capita
FY	Fiscal Year
HDR	High Density Residential
HECW	High Efficiency Clothes Washers
HGL	Hydraulic Grade Line
IEUA	Inland Empire Utilities Agency
INF	Infrastructure
IRP	Integrated Resources Plan
JCSD	Jurupa Community Services District
LDR	Low Density Residential
MDD	Maximum Day Demand
MDR	Medium Density Residential

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# **List of Abbreviations (Continued)**

# **List of Abbreviations (Continued)**

	=======================================
MFR	Multi Family Residential
MOU	Memorandum of Understanding regarding water conservation in California
MWD	Metropolitan Water District of Southern California
MVWD	Monte Vista Water District
NMC	New Model Colony
NC	Neighborhood Commercial
OBMP	Optimum Basin Management Plan
OMC	Old Model Colony
OSY	Operating Safe Yield
RO	Reverse Osmosis
SAWC	San Antonio Water Company
SAWRC	Santa Ana River Water Company
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SFR	Single Family Residential
SR	State Route
SWP	State Water Project
TDS	Total Dissolved Solids
TVMWD	Three Valleys Municipal Water District
ULF	Ultra Low Flow (toilets)
UWMP	Urban Water Management Plan
WEWAC	Water Education Water Awareness Committee
WDF	Water demand factor
WFA	Water Facilities Authority
WMP	Water Master Plan

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# Section 1 Introduction

#### 1.1 PROJECT AUTHORIZATION

This Urban Water Management Plan (UWMP) has been prepared in accordance with the agreement for water master planning consulting services between the City of Ontario (City) and MWH Americas, Inc. (MWH) dated July 20, 2004. This report refers to the scope of services of Task 5 of this contract only. The work related to the remaining tasks are presented in separate reports.

#### 1.2 REPORT OVERVIEW

This UWMP is divided into seven sections. This section provides an brief description of the Urban Water Management Planning Act, the relation of this UWMP with the regional UWMP prepared by the Inland Empire Utilities Agency (IEUA) and other water agencies. This section also included a description of the City's service area, land use, climate, and topography.

Section 2 describes the City's historical and projected population through year 2030, which is the planning horizon of this report. The historical and projected potable and recycled water demands associated with the population are also discussed in this section. Section 3 describes the water conservation efforts of the City to date and through year 2030, including a more detailed water conservation plan for the period 2006-2010. Section 4 provides an overview of the City's water supplies, the historical usage of various supply sources and the projected water supply mix through year 2030 as presented in the 2005 Water and Recycled Water Master Plan Update (MWH, 2005a). Section 5 discusses the water supply reliability by comparing the projected water demands presented in Section 2 with the available supplies presented in Section 4. Normal Year, Single Dry Year, and Multiple Dry Year scenarios are evaluated through year 2030. The Water Shortage Contingency Plan is discussed in Section 6, and the UWMP Implementation Plan is provided in Section 7. A list of references used for the preparation of this UWMP is provided in Appendix A.

The majority tables presented in this report correspond with the sample table formats included in the *Guidebook to assist water suppliers in the preparation of a 2005 UWMP* prepared by the California Department of Water Resources (DWR, 2005). To facilitate DWR's review of this report, a lookup table is included in the Table of Contents which lists all the sample tables presented in DWR's Guidebook that are included in this report with the corresponding table numbering in this UWMP.

#### 1.3 URBAN WATER MANAGEMENT PLANNING ACT

This is the UWMP for the City for the period of 2006 through 2010. This report has been prepared in compliance with California Water Code, Division 6, Part 2.6. The Urban Water Management Planning Act (Act; Water Code Section 10610 et. Seq.) became effective on

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# Section 1 - Introduction

January 1, 1984. Multiple amendments have been added to the Act, the most recent occurring in 2004.

The Act requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (AFY) prepare and adopt an UWMP. The Act requires urban water suppliers to prepare an UWMP that describes and evaluates sources of supply, reasonable and practical efficient water uses, recycling and water demand management activities. The amendments require additional actions addressing urban water management plan preparation and considerations of such issues as metering, drought contingency planning, and water recycling. The Act requires that each water supplier prepare or update its UWMP every five years before December 31, in years ending in five and zero. A copy of the Act is included in **Appendix B**.

The requirements for the preparation of an UWMP set forth in the California Water Code Sections 10610 through 10656 are intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water. The need for the planning and management of urban water supplies are based on the following declaration of the State of California Legislature (Water Code 10610):

- The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
- A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
- As part of its long-range planning activities, every urban water supplier should make every
  effort to ensure the appropriate level of reliability in its water service sufficient to meet the
  needs of its various categories of customers during normal, dry, and multiple dry water years.
- Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
- Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- The quality of source supplies can have a significant impact on water management strategies and supply reliability.

According to the Act, this UWMP will be submitted to the DWR within 30 days of adoption by the City Council of the City of Ontario.

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#### 1.4 ONTARIO'S 2005 UWMP

The IEUA prepared an UWMP in year 2000 in compliance with the Act, which was adopted by the City on November 20, 2001 (Ontario, 2001). This Ontario UWMP updates the Ontario information as presented in the IEUA's 2000 UWMP. It provides a greater level of detail on Ontario specific water demands, water supplies, and water conservation activities and it incorporates a number of significant changes in the region's water planning and management activities that have taken place in the last five years. These changes include, but are not limited to, the Dry Year Yield (DYY) program of Metropolitan Water District of Southern California (MWD), the Chino Basin Recharge Master Plan, IEUA's Recycled Water Implementation Plan, and the City's Water and Recycled Water Master Plan (WMP) Update.

#### 1.5 INTER-AGENCY COORDINATION

Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable (Water Code 10620.d.2). The City is a member agency of the IEUA, Water Facilities Authority (WFA), Chino Basin Desalter Authority (CDA), and the Chino Basin Watermaster (CBWM). The City coordinated the preparation of this UWMP with these four regional agencies. In addition, the City has seven neighboring water retail agencies, City of Chino, City of Upland, Fontana Water Company (FWC), Jurupa Community Services District (JCSD), Monte Vista Water District (MVWD), Cucamonga Valley Water District (CVWD) and San Antonio Water Company (SAWC). The actions the City has taken to coordinate the preparation of this UWMP with these agencies is summarized in **Table 1-1**. A brief description of these agencies is summarized in **Table 1-2**.

Table 1-1
Coordination with Appropriate Agencies

Water Agency Category	Participated in developing the plan	Was contacted for assistance?	Was sent a copy of the draft plan? <sup>(1)</sup>	Commented on the draft?	Attended public meetings?	Was sent a notice of intention to adopt?	Not Involved or no Information
Wholesale	WFA	Yes	Yes	No	No	No	No
Water	MWD	Yes	Yes	No	No	No	No
Suppliers	CDA	Yes	Yes	No	No	No	No
	IEUA	Yes	Yes	Yes	No	No	No
Water Mgmt Agencies	CBWM	Yes	Yes	No	No	No	No
Neighboring Water	City of Chino	No	Yes	No	No	No	No
Agencies	City of Upland	No	Yes	No	No	No	No
	MVWD	No	Yes	No	No	No	No
	FWC	No	Yes	No	No	No	No
	JCSD	No	Yes	No	No	No	No
	SAWC	No	Yes	No	No	No	No
	CVWD	No	Yes	No	No	No	No

This table corresponds to DWR Table 1 and 32. (1) Includes electronic copies available through the City's website.

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Table 1-2
Description of Coordination Agencies

Agency	Description
IEUA	The Inland Empire Utilities Agency collects and treats wastewater and distributes recycled water to its member agencies and groundwater recharge basins in a 242 square mile service area. Its member agencies are the cities of Chino, Chino Hills, Ontario, Upland, Fontana, Cucamonga Valley Water District, Fontana Water Company, Monte Vista Water District, and San Antonio Water Company. IEUA is a member agency of MWD and a member of the Chino Basin Watermaster Board of Directors.
WFA	The Water Facilities Authority is a joint powers authority responsible for the operation and maintenance of the Aqua de Lejos Water Treatment Plant that treats imported State Water Project water from MWD through IEUA. Member of WFA are the cities of Chino, Chino Hills, Ontario, Upland, Monte Vista Water District, and Cucamonga Valley Water District.
CDA	The Chino Basin Desalter Authority is a joint powers authority responsible for the operation and maintenance of the CDA-I and the design, construction, and operation of the Chino I Desalter Expansion and the CDA-II.
CBWM	The Chino Basin Watermaster is responsible for the administrating adjudicated water rights and managing groundwater resources within the watershed of the Chino Basin.
City of Chino	The City of Chino serves water to approximately 66,000 residents in the city and some unincorporated areas in San Bernardino County and encompasses approximately 25 square miles.
City of Upland	The City of Upland serves water to approximately 70,000 residents in the city and encompasses approximately 15 square miles.
MVWD	Monte Vista Water District is an independent special district that serves a population of about 42,000 in the City of Montclair, portions of the City of Chino and some unincorporated areas in San Bernardino County. MWVD encompasses approximately 30 square miles.
FWC	Fontana Water Company is a retail investor-owned utility company that provides water to about 130,000 residents in the City of Fontana and some portions of the cities of Rancho Cucamonga and Rialto. FWC encompasses approximately 51 square miles.
JCSD	The Jurupa Community Services District provides water to approximately 60,000 residents and encompasses approximately 48 square miles (JSCD, 2005).
SAWD	The San Antonio Water Company serves water to approximately 1,200 residents in San Antonio Heights which is an unincorporated areas in San Bernardino County (SAWC, 2005).
CVWD	The Cucamonga Valley Water District provides water to approximately 140,000 residents and encompasses approximately 49 square miles (MWH, 2005a).

In addition to the agencies listed in **Table 1-1**, the City is indirectly related to other water retail agencies through its membership with IEUA and the CBWM. These agencies are not included in the inter-agency coordination, as this coordination is part of the preparation of IEUA's UWMP Update. These agencies are listed in **Table 1-3**.

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Table 1-3
Agencies Indirectly Related to the City through IEUA

Other Regional Water Agencies	Other Retail Water Agencies
Metropolitan Water District of Southern California	City of Chino Hills
Santa Ana Watershed Project Authority	City of Fontana
	City of Montclair
	City of Norco
	City of Pomona
	Fontana Union Water Company
	Los Serranos Country Club
	Maygold Mutual Water Company
	Monte Vista Irrigation Company
	Santa Ana River Water Company
	San Bernardino County (Prado Shooting Park)
	Southern California Water Company
	West End Consolidated Water Company
	West Valley Water District

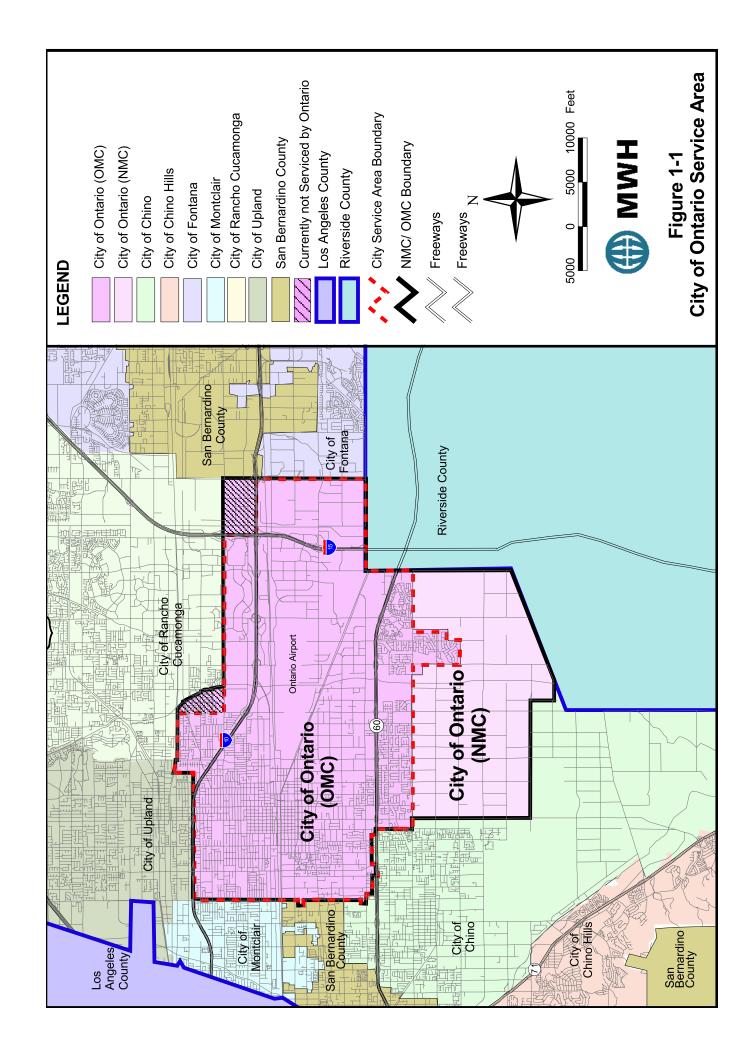
#### 1.6 ONTARIO'S SERVICE AREA

The City is located in the western portion of San Bernardino County, California, and is surrounded by the City of Montclair to the west, the City of Upland and the City of Rancho Cucamonga to the north, the City of Chino to the southwest, the City of Fontana to the northeast, and some unincorporated areas of Riverside County to the southeast. The location of the City is shown on **Figure 1-1**. Also shown on this figure is that the City is traversed by four major freeways, Interstate 10, Interstate 15, and State Route (SR) 60, and the City is also the home of the Ontario International Airport.

The study area of this UWMP is the water service area of the City. With over 32,000 water meters, the City currently serves a population of approximately 169,000 people. As shown on **Figure 1-1**, the study area coincides with the City boundaries, with the exception of two small areas in the north and the northeast corner that are served by CVWD.

The City is divided into two distinct areas, the Old Model Colony (OMC) in the north and the New Model Colony (NMC) in the south, with Riverside Drive delineating the majority of the boundary between the two areas. The OMC is the existing City and consists mainly of residential, industrial, and commercial developments. The OMC comprises about 23,000 acres or 36 square miles. The NMC is an 8,200-acre agricultural area that was annexed in 1999. With the addition of the NMC, the City's service area is expanded from 36 square miles to about 49 square miles, which equates to a 26 percent increase. The NMC is currently dominated with extensive agricultural activity. Rapid development of the eastern part of the NMC is about to start. Completion of the first homes is anticipated in late 2006 and occupancies in early 2007. The development of the NMC will significantly increase the City's population in the coming decades. The historical and projected population of the City are discussed in Section 2.

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#### 1.6.1 Land Use

The primary land use categories in the OMC are Single Family Residential (SFR) and industrial. Additionally, the OMC has Multi Family Residential (MFR), commercial, infrastructure, parks, schools, and institutional land uses. The City is also home of the Ontario International Airport and its airport-related businesses. The NMC is primarily characterized by agricultural land use, mostly of dairy and poultry farms along with cultivated crops, fallow fields, and plant nurseries. The NMC is planned to be converted to predominantly residential area with some schools, parks, and commercial land uses over the next 25 years.

#### 1.6.2 Climate

The City is located within the desert climate zone of Southern California. The region receives an average annual rainfall of about 15 inches. Monthly average temperatures range from a low of 66 degrees in December and January to a summer high average of 92 degrees. Records show daily summer temperatures as high as 114 degrees. The monthly average rainfall, temperature, and evapotranspiration rate in the City's service area are listed in **Table 1-4**.

Table 1-4
Climate Summary

Month	Standard Average Eto <sup>(1)</sup> (in)	Average Rainfall <sup>(2)</sup> (in)	Average Max Temperature <sup>(2)</sup> (F)	Average Min Temperature <sup>(2)</sup> (F)
January	2.17	3.65	66.8	44.0
February	2.80	2.85	69.4	45.0
March	4.03	2.80	70.1	46.3
April	5.10	1.13	74.5	48.4
May	5.89	0.26	79.9	52.6
June	6.60	0.04	86.7	56.6
July	7.44	0.01	95.0	62.2
August	6.82	0.11	94.4	62.9
September	5.70	0.34	91.3	61.3
October	4.03	0.34	83.0	55.4
November	2.70	1.72	73.6	48.5
December	1.86	2.07	68.3	44.4
Annual	55.10	15.32	79.4	52.3

This table corresponds to DWR Table 3.

# 1.6.3 Topography

The City is located on relatively flat terrain with a general rise in elevation as one moves from the southern boundary to the northeastern corner of the City. Elevations range from a low of approximately 550 feet above mean sea level to a high of approximately 1,200 feet. The City overlays a portion of the Chino Groundwater Basin, which is located in the northern part of the Santa Ana Watershed. The principal drainage direction is north to south from the San Bernardino Mountains and foothills to Prado Lake and the Prado Flood Control Basin located south of the City of Chino. The primary creeks and washes within the City that convey storm

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<sup>(1)</sup> California Irrigation Management Information System Dept. of Water Resources Office of Water Use Efficiency (CIMIS, 2005)

<sup>(2)</sup> Western Regional Climate Center, Fontana Kaiser, CA (WRCC, 2005)

# **Section 1 – Introduction**

water are the West Cucamonga Creek, Cucamonga Creek, and Deer Lower Creek. Once the water reaches Prado Lake, it is discharged through the outlet of Prado Dam into the Santa Ana River which ultimately discharges into the Pacific Ocean.

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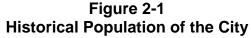
# Section 2 Population and Water Use

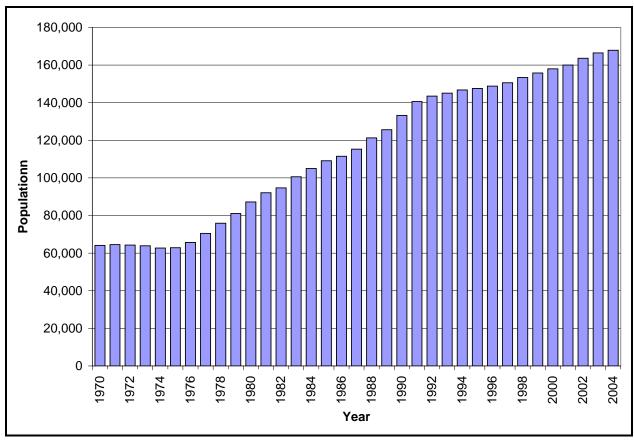
This section describes the historical and projected population for the City of Ontario (City) followed by a discussion of the historical and projected water use. The potable water and recycled water demands are discussed as well as the estimated water losses and water conservation. The information presented here is based on the 2005 Water and Recycled Water Master Plan (MWH,2005).

## 2.1 POPULATION

### 2.1.1 Historical Population

The historical population from the year 1970 to 2004 for the City is shown on **Figure 2-1**. The City had a fairly steady population throughout the early 1970s, and began to steadily increase after 1975. This population growth will continue with the development of the New Model Colony (NMC) in the coming decades.





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# Section 2 – Population and Water Use

The existing (year 2004) population of the City is estimated at approximately 167,900 people. The overwhelming majority of the City's population (98.5 percent) resides in the OMC. It is estimated that the existing (2004) population of the NMC is not more than about 2,500 people (1.5 percent).

## 2.1.2 Future Population

Once the City is fully developed and has reached build out conditions, the population is expected to rise to nearly 305,500 residents (SCAG, 2004). This corresponds to a population increase of about 81 percent or 3 percent per year.

This population projection was verified in the draft 2005 Water and Recycled Water Master Plan (2005 WMP) Update (MWH, 2005a) using land use information from the City's General Plan, Specific Plans, and aerial photography. The population projections presented in the 2005 WMP show a population increase from 169,125 people to 297,670 people. Hence, the population projection of SCAG is about 7,839 people higher. This difference of 3 percent could be due to different land use, phasing, or population density assumptions.

The population projections used in this UWMP are based on SCAG data, which is consistent with the population projections presented in IEUA's 2005 UWMP Update. The projections are presented in 5-year increments in **Table 2-1**, while the historical and projected population is shown on **Figure 2-2**. This figure also shows the projected by SCAG for the period 2004 through 2030.

Table 2-1 Estimated and Projected Population

Population Projection Source	2005	2010	2015	2020	2025	2030
WMP Projections (1)	169,125	203,811	225,412	248,424	273,047	297,670
SCAG Projections (2,3)	171,154	204,645	226,182	250,811	275,440	305,509
Difference	(2,029)	(834)	(770)	(2,387)	(2,393)	(7,839)

This table corresponds to DWR Table 2.

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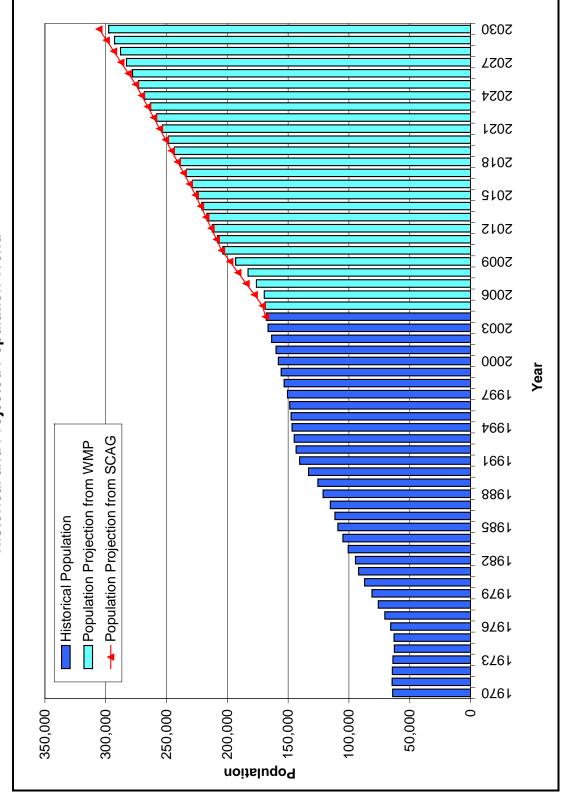
<sup>(1) 2005</sup> Water and Recycled Water Master Plan Update (MWH, 2005a).

<sup>(2)</sup> Southern California Association of Governments 2004 population projections (SCAG,2004).

<sup>(3) 2005</sup> Urban Water Management Plan (IEUA, 2005d).

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Figure 2-2 Historical and Projected Population Trend



#### 2.2 HISTORICAL WATER USE

The historical water use of the City is shown on **Figure 2-3**. As shown in this figure, the City's water demand has increased from approximately 37,500 acre-feet per year (AFY) in fiscal year (FY)1994/1995 to approximately 39,800 AFY in FY 2004/2005.

50,000 45,000 40,000 Consumption (acre-ft/yr) 35,000 30,000 25,000 20,000 15,000 10,000 5,000 94/95 95/96 96/97 97/98 98/99 99/00 00/01 01/02 02/03 03/04 04/05 **Fiscal Year** 

Figure 2-3 **Historical Water Consumption** 

Source: Historical Water Consumption Records (Ontario, 2005)

Based on the historical population records and the metered consumption, the water usage trend per capita is calculated for the years 2000 through 2004. It should be noted that this usage does not express the water consumption per person in gallons per day per capita (gpd/cap) as the total water usage also includes non-residential demands such as industrial, commercial, schools, parks, fire fighting, etc. The per capita water usage of residential accounts only is listed separately in Table 2-2.

As shown in **Table 2-2**, the total per capita water use ranges from 224 to 243 gpd/cap. This is similar to the average per capita water usage of the entire Inland Empire Region, which ranges from 241 gpcd to 279 gpcd (IEUA, 2005).

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Table 2-2
Per Capita Water Use - City of Ontario

Calendar Year	2000	2001	2002	2003	2004
Population	158,007	160,000	163,600	166,500	167,900
Total Water Usage (AFY) <sup>(1)</sup>	43,028	43,109	44,194	41,772	42,087
Residential Water Usage (AFY) (1)	24,644	24,393	25,050	23,830	23,715
Capita Water Use (gpd/cap)	243	241	241	224	224
Residential Capita Water Use (gpd/cap)	139	136	137	128	126

<sup>(1)</sup> Source: Public Water System Statistics (Ontario, 2000), (Ontario, 2001a), (Ontario, 2002a), (Ontario, 2003), (Ontario, 2004)

Typically, areas that are located in dry and hot climate zones are expected to have higher water use rates than areas that are located in wet and cooler climate zones. The City is also characterized by industrial land use, which results in a higher water usage per capita. For comparison purposes, the per capita water use in MWD's service areas are presented in **Table 2-3**.

Table 2-3
Per Capita Water Use – MWD Service Area

County	1980 <sup>(1)</sup> (gpcd)	1985 <sup>(1)</sup> (gpcd)	1990 <sup>(1)</sup> (gpcd)	1995 <sup>(1)</sup> (gpcd)	2000 <sup>(1)</sup> (gpcd)	2005 <sup>(2)</sup> (gpcd)
Los Angeles County	191	197	188	164	175	171
Orange County	224	229	233	197	205	192
Riverside County	275	262	304	226	258	258
San Bernardino County	325	318	281	221	n/a	255
San Diego County	186	213	209	164	185	179
Ventura County	206	211	228	179	198	205
Weighted Average of MWD	203	212	210	176	n/a	187

<sup>(1)</sup> Source: Table I-4 of the MWD UWMP (MWD, 2005)

#### 2.3 FUTURE WATER USE

# 2.3.1 Projected Potable Water Demand

As presented in section 2.1, the population of the City is projected to increase from 167,900 (year 2004) to about 305,500 residents in year 2030. This population increase, which will primarily occur in the NMC, will result in a substantial increase in water deliveries. The projected water demands for the period 2005 through 2030 in five year increments in listed in **Table 2-4** and shown on

Figure 2-4.

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<sup>(2)</sup> Source: Table 2-5 of the IEUA UWMP (IEUA, 2005)

Past, Current, and Projected Water Deliveries Table 2-4

[ ;			Single	Multi-			Institutional		(4)	(5).
<b>&gt;</b>	Year	Water Use	Family	Family	Commercial	Industrial	Governmental	Irrigation	Other <sup>(7)</sup>	Total <sup>(2)</sup>
2000(1)		# of accounts <sup>(1)</sup>	25,600	1,988	2,089	342	258	1,011	340	31,628
.0007	merered	Deliveries (AFY) (1)	17,785	6,859	5,010	3,873	619	5,979	2,902	43,028
3006	700	# of accounts <sup>(2)</sup>	26,050	2,099	2,840	349	341	1,033		32,712
cooz	merered	Deliveries (AFY) (3)	17,222	6,454	6,836	2,040	1,132	5,743		39,428
0,700	7000	# of accounts <sup>(2)</sup>	34,903	2,812	2,951	898	354	1,073		42,457
0102	neielei	Deliveries (AFY) (3)	23,074	8,648	7,104	2,119	1,177	2,968		48,091
700	7000	# of accounts <sup>(2)</sup>	38,557	3,107	3,080	379	370	1,120		46,612
6102	ופופופופו	Deliveries (AFY) (3)	25,490	9,553	7,414	2,212	1,228	6,229		52,127
0000	7000	# of accounts <sup>(2)</sup>	45,176	3,640	3,174	068	381	1,154		53,915
2020		Deliveries (AFY) (3)	29,866	11,193	7,639	2,279	1,265	6,418		58,661
3000	7000	# of accounts <sup>(2)</sup>	51,687	4,165	3,285	404	394	1,195		61,129
C707	neielei	Deliveries (AFY) (3)	34,170	12,807	7,907	2,359	1,310	6,643		65,195
0606	P02040	# of accounts <sup>(2)</sup>	58,198	4,689	3,396	417	408	1,235		68,344
2030	lietered	Deliveries (AFY) <sup>(3)</sup>	38,475	14,420	8,174	2,439	1,354	6,868		71,730
	- 1 - 1	- H								

This table corresponds to DWR Table 12.

Note: All accounts are metered.

From the Public Water System Statistic Reports submitted to the DWR by the City of Ontario.

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Calculated by dividing the projected water deliveries by the average water delivery per account in year 2005 (projected 2005 demand/number of accounts as of August 2004).

Projected water demands obtained from hydraulic model prepared for the Water and Recycled Water master Plan. SFR and MFR demands are distributed based on the ratio COM/IND/INS/IRR in year 2004.

In year 2004. Commercial, Industrial, Institutional and Irrigation demands are distributed based on the ratio COM/IND/INS/IRR in year 2004.

Per Water Statistics submitted to the DWR: specified as Re. Code 7/9

Total consumption; excludes 8% water loss. Demand = Consumption + Water loss. <u>9</u>83

**<sup>4</sup> 0** 

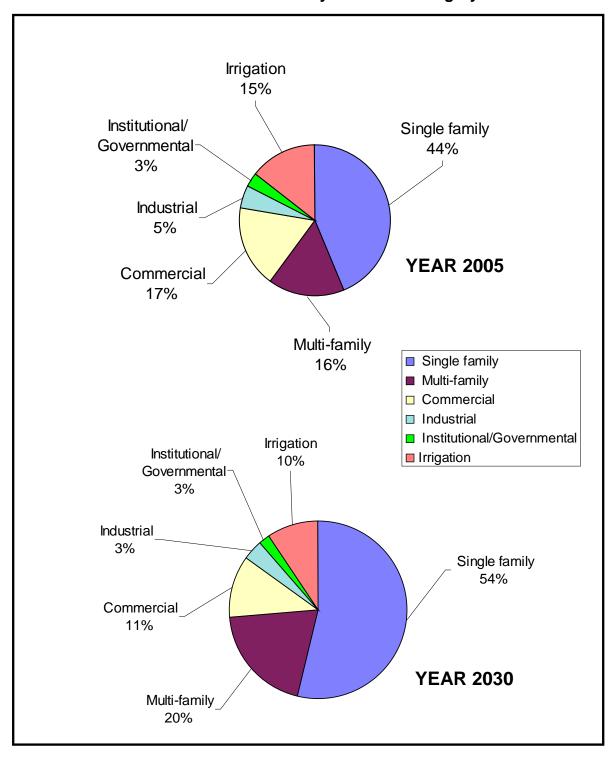


Figure 2-4
Water Use Distribution by Land Use Category

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# Section 2 – Population and Water Use

The projected demand data for year 2005 and the actual number of account as of August 2004 is used to calculate the average water delivery per account for each billing classification as listed in **Table 2-4**. These averages were used to estimate the number of future accounts for the years 2005 through 2030.

As shown in **Table 2-4**, the total water deliveries are projected to increase from about 43,000 AFY to approximately 72,000 AFY in 2030. This equates to a water demand increase of 67 percent. This increase in demand is lower than the population increase of 81 percent considering a lower per capita use for the added population as the NMC does not include water usage associated with industrial land use and minimal commercial water demands. The number of accounts is estimated to increase from about 32,000 in year 2000 to 68,000 in year 2030.

It should be noted that the listed demands and account numbers per billing classification are based on the potable water demand projections presented in the WMP Update (MWH, 2005a), which are based on 2003 billing data and land use types. Because the billing classifications do not exactly match the land use type categories, the projected demands had to be re-distributed amongst the billing classifications as described in footnote 3 of **Table 2-4**. Due to the lower demand of the 2003 billing data compared to 2000 and the re-distribution process, certain billing classifications show an initial decrease in demand.

### 2.3.2 Projected Recycled Water Demand

The existing recycled water demand within the City is about 2,129 AFY, which includes 500 AFY of recycled water that is currently used for groundwater recharge at the Ely Basins by IEUA. It should be noted that Ely Basin is not an Ontario customer, but a customer of IEUA. All existing recycled water customers that are located in the City are currently served by IEUA, rather than by the City. The comparison of the projected and actual recycled water demand projected for 2005 in the 2000 UWMP (IEUA, 2000) is presented in **Table 2-5**. This table shows that recycled water usage in Ontario has not expanded as rapidly as projected in 2000.

Table 2-5
Comparison of 2000 Recycled Water Projection and Actual Usage

Projection for 2005 <sup>(1)</sup> (AFY)	Actual Use 2005 <sup>(2)</sup> (AFY)
6,000	1,829

This table corresponds to DWR Table 37.

The City has taken measures to encourage the use of recycled water including 1) reduced recycled water rates that provide recycled water at lower cost than potable water to customers, 2) developer's agreements for new OMC and NMC developments that mandate the installation of recycled water mains to all common irrigation areas, parks, and schools, or 3) the development and approval of a mandatory ordinance.

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<sup>(1)</sup> Table 5-6 from IEUA 2000 UWMP (IEUA, 2000)

<sup>(2)</sup> Water and Recycled Water Master Plan (MWH,2005)

The existing and projected recycled water demand in the City is summarized in **Table 2-6** in AFY. As shown in this table, the recycled water demand in the City is projected to increase from 1,829 AFY to 14,492 AFY, which equates to an increase of almost 700 percent. It should be noted that these projections are contingent upon the development of the NMC.

Table 2-6
Recycled Water Demand Projection

Year	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Old Model Colony	1,229	2,198	2,903	5,471	5,512	5,554
New Model Colony	600	5,728	5,913	6,290	6,923	8,938
Total	1,829	7,926	8,816	11,761	12,435	14,492

This table corresponds to DWR Table 14.

The <u>potential</u> recycled water demands by user type and category are summarized in **Table 2-7**, while the <u>projected</u> recycled water demands are summarized in **Table 2-8**. The only difference between the potential and projected demand is the projected demand of the future landscape users in the OMC. A feasibility study was conducted for this user category as part of the latest WMP Update (MWH, 2005a). This study eliminated some of the potential recycled water users based on the cost, resulting in a lower projected than potential demand for this category. The recycled water demand projection for the NMC is based on assumptions that reflect extensive use of recycled water. Hence, the potential and projected recycled water demands for the NMC listed in **Table 2-7** and **Table 2-8** are the same. A detailed breakdown of the various categories listed in these tables are discussed below.

Table 2-7

Potential Recycled Water Demand by User Type

User type	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Landscape in the OMC (existing users)	1,229	1,229	1,229	1,229	1,229	1,229
Agriculture use in NMC (temporary)	600	3,295	3,019	1,381	0	0
Landscape in the OMC (future users)	0	356	1,719	3,080	4,442	5,803
Industrial in the OMC (future user)	0	1,005	1,005	1,005	1,005	1,005
Landscape in NMC	0	2,433	2,894	4,909	6,923	8,938
Wildlife Habitat	n/a	n/a	n/a	n/a	n/a	n/a
Wetlands	n/a	n/a	n/a	n/a	n/a	n/a
Groundwater Recharge	0	0	0	0	0	0
Total	1,829	8,318	9,866	11,604	13,599	16,975

This table corresponds to DWR Table 35.

Note: IEUA wholesales disinfected tertiary recycled water to the City

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Table 2-8
Projected Recycled Water Demand by User Type

User Type	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Landscape in the OMC (existing users)	1,229	1,229	1,229	1,229	1,229	1,229
Agriculture use in NMC (temporary)	600	3,295	3,019	1,381	0	0
Landscape in the OMC (future users)	0	0	669	3,237	3,278	3,320
Industrial in the OMC (future user)	0	969	1,005	1,005	1,005	1,005
Landscape in NMC	0	2,433	2,894	4,909	6,923	8,938
Wildlife Habitat	n/a	n/a	n/a	n/a	n/a	n/a
Wetlands	n/a	n/a	n/a	n/a	n/a	n/a
Groundwater Recharge	n/a	n/a	n/a	n/a	n/a	n/a
Total	1,829	7,926	8,816	11,761	12,435	14,492

This table corresponds to DWR Table 36.

## **Major Existing Recycled Water Customers**

Some of the existing recycled water customers located in the City are currently served directly by IEUA. The existing recycled water customers are listed in **Table 2-8**.

Table 2-9
Existing Recycled Water Customers

User Type	Existing Demand (AFY)	Ultimate Demand (AFY)
Whispering Lakes Golf Course	1,036	1,036
Murai Farms	600	0
Westwind Park	80	80
Two Caltrans connections	100	100
Median on Archibald Avenue	13	13
Total	1,829	1,229

This table corresponds to DWR Table 36.

These customers are currently served by IEUA directly, rather than through the City. With the expansion of the regional recycled water system, it is assumed that all recycled water demands within the City will be served by the City directly in the future. The recycled demand of these existing users that will be served by the City under ultimate conditions is about 1,229 AFY (1,829 AFY minus 600 AFY for Murai Farms as discussed below).

#### **Temporary Agricultural Users**

In the near-term, the City could serve recycled water to (non-dairy) agricultural customers with irrigation in the NMC by accelerating the construction of some of the recycled water pipelines that are planned for the NMC under build out conditions. One example is Murai Farms, which is

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currently served with recycled water directly by IEUA with a demand of about 600 AFY. In addition to Murai Farms, the total area identified with agricultural users that can be temporarily served with recycled water is 802 acres. The estimated recycled water demand of this area is 2,695 AFY, resulting in a total recycled water demand for temporary agricultural users of 3,295 AFY or 2.9 mgd. Due to the development of the NMC, this demand is reduced to zero by year 2025, but is replaced by a combination of potable and recycled water demand.

#### **Future Customers in the OMC**

The projected recycled water demands in the OMC are based on the conversion of existing potable water users and the use of recycled water on newly developed parcels (infill) where possible. The potential recycled water demand is estimated to be about 6,627 AFY including one large industrial user with a potential demand of 1,005 AFY. As part of the WMP Update (MWH, 2005a), a feasibility study was conducted to select those user groups that are most feasible based on the relative unit cost (\$/acre-ft). The projected recycled water demand in the OMC based on this feasibility study is 4,230 AFY or 3.8 mgd.

#### **Future Customers in the NMC**

The projected recycled water demand for the entire NMC at build out conditions is about 8,938 AFY or 8.0 mgd under average day demand (ADD) conditions. As shown in this table, the recycled water demand of temporary agricultural users is assumed to be zero in year 2025, when the NMC is anticipated to get close to being build out.

## **Future Customers in the entire City**

The projected recycled water demands are summarized in **Table 2-6**. As shown in this table, the recycled water demand in the City is projected to increase from 1,816 AFY to 14,384 AFY, which equates to almost 700 percent increase. The NMC contributes approximately 500 percent to this increase.

#### 2.3.3 Sales to Other Agencies

The City also serves water to Sunkist as part of the Chino Basin overlying (non-agricultural) assessment adjustment. In exchange for water delivery, the City obtains the groundwater pumping rights in the amount equal to the amount of water served. The historical and projected water deliveries to Sunkist are shown in **Table 2-10**.

Table 2-10 Sales to Other Agencies

Water Distributed	2005	2010	2015	2020	2025	2030
	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)
Sunkist <sup>(1)</sup>	1,449	1,470	1,470	1,470	1,470	1,470

This table corresponds to DWR Table 13.

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<sup>(1)</sup> It should be noted that Sunkist is not a water agency, but a customer located within the City boundaries.

# Section 2 – Population and Water Use

The projected water delivery for years 2005 through 2030 is assumed to be constant and is based on the average water delivery of the last six years (1998 through 2003). No other adjustments to water rights assessment or special deliveries are identified.

#### 2.3.4 Water Losses

The difference between the volume of water delivered to the distribution system (water production) and the metered sales (water consumption) is often referred to as "unaccounted-for water" or water loss. The historical water production and consumption is presented on **Figure 2-5**.

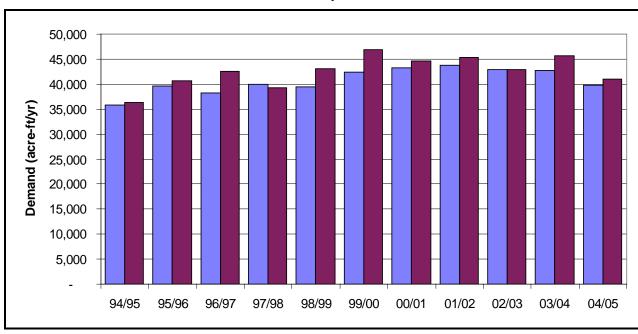


Figure 2-5
Historical Water Consumption and Production

As shown on this figure, the water loss varies from year to year. The average water loss in the period 1994 through 2004 was 4 percent. As some years have shown water loss as high as 10 percent, the water loss used for system planning purposes in the WMP Update is 8 percent. To be consistent with the WMP Update, the projected water loss as shown in **Table 2-11** is calculated as 8 percent of the projected water demand listed in **Table 2-4**. The value listed for year 2000 is the actual recorded water loss.

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Table 2-11						
<b>Historical and Projected Water</b>	Loss					

Water Loss	2000 (AFY)	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Production (AFY)	46,100	42,583	51,938	56,297	63,354	70,411	77,468
Consumption (AFY)	43,028	39,428	48,091	52,127	58,661	65,195	71,730
Water Loss (AFY)	3,072	3,155	3,847	4,170	4,693	5,215	5,738
Water Loss (%)	7%	8%	8%	8%	8%	8%	8%

This table corresponds to DWR Table 14.

The water loss of year 2000 is based on historical records (7%), while the projected water loss for years 2005 through 2030 is estimated using 8% of the projected water consumption as defined in the 2005 WMP Update (MWH, 2005a).

#### 2.3.5 Total Water Use

The total historical and projected water use through year 2030 is presented in **Table 2-12**. The total water use is the summation of the potable water used by user categories (Table 2-4), projected recycled water demands, sales to other agencies (Table 2-10), and water loss (Table 2-11). It should be noted that the City does not have any additional water uses such as saline barriers protection, groundwater recharge, conjunctive use, or demands associated with raw water projects.

Table 2-12
Total Water Use – Without Water Conservation

Water Use	2000 (AFY)	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Consumption <sup>(1)</sup>	43,028	39,428	48,091	52,127	58,661	65,195	71,730
Recycled Water	0	1,829	7,926	8,816	11,761	12,435	14,492
Sunkist	1,449	1,470	1,470	1,470	1,470	1,470	1,470
Water Loss	3,072	3,154	3,847	4,170	4,693	5,216	5,738
Saline barriers	n/a						
Groundwater Recharge	n/a						
Conjunctive Use	n/a						
Raw Water	n/a						
Total	47,549	45,881	61,334	66,583	76,585	84,316	93,430

This table corresponds to DWR Table 14.

The total water use projected through year 2030 that incorporates water conservation is summarized in **Table 2-13**. As shown, the total water use is estimated to be 7,747 AFY lower than presented in **Table 2-12**, which equates to a demand reduction of 8percent. Details regarding water conservation are discussed in **Section 3**.

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<sup>(1)</sup> Consumption plus 8% water loss is equal to the production numbers listed in Table 2-11.

Table 2-13
Total Water Use – With Water Conservation

Water Use	2000 (AFY)	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Total Water Use	47,549	45,881	61,334	66,583	76,585	84,316	93,430
Water Conservation	0	-840	-2,635	-3,994	-4,900	-6,149	-7,747
Water Use with Conservation	47,549	45,041	58,699	62,589	71,685	78,167	85,683

This table corresponds to DWR Table 15.

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# Section 3 Water Conservation

#### 3.1 INTRODUCTION

Water conservation is an important component of water resource management, not only for the City of Ontario (City) but also for the entire Inland Empire Region and Southern California. For a variety of reasons, the Inland Empire Region remains one of the top growth areas in the country, with the City being a major contributor to the projected growth. This growth in population and industry puts pressure on the local retail agencies to meet the anticipated water demand over the next 25 years and beyond. Implementation of conservation programs helps reduce the expected increase in water demand.

The City's water conservation policies are primarily driven by two factors, the water conservation goals defined in IEUA's *Review Draft Urban Water Management Plan* (IEUA, 2005d) and the California Urban Water Conservation Council (CUWCC) *Memorandum of Understanding regarding urban water conservation in California* (MOU) of September 1991 and last amended in March 2004 (CUWCC, 2004). As a signatory to the MOU, the City has pledged to implement a prescribed set of urban water conservation Best Management Practices (BMPs). In the California Water Code Section 10631, the BMPs are referred to as Demand Management Measures (DMMs). BMPs and DMMs are functionally equivalent. In this report the term BMP is used. The 14 BMPs are listed in **Table 3-1**.

Table 3-1
Best Management Practices

BMP No.	Best Management Practices
1	Water Survey Programs for Single-Family and Multi-Family Residential Customers
2	Residential Plumbing Retrofit
3	System Water Audits, Leak Detection and Repair
4	Metering with Commodity Rates for all New Connections and Retrofit of Existing
5	Large Landscape Conservation Programs and Incentives
6	High-Efficiency Washing Machine Rebate Programs
7	Public Information Programs
8	School Education Programs
9	Conservation Programs for Commercial, Industrial and Institutional (CII) Accounts
10	Wholesale agency programs
11	Conservation Pricing
12	Water Conservation Coordinator
13	Water Waste Prohibition
14	Residential Ultra-Low-Flush Toilet Replacement Program

As a signatory to the MOU, the City is a member of the CUWCC and is required to provide BMP Activity Reports every two years. These reports provide specific details of the agency's efforts to implement each BMP. The Act requires that agencies describe the implementation

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status and cost-effectiveness of each BMPs in their UWMP unless the agency is signatory to the MOU and provides the annual BMP Activity Reports. California Water Code Section 10613 (i) allows an agency to provide the BMP Activity Reports in-lieu of describing each of the BMPs. The City has submitted the Activity Reports for 2003 and 2004 to the CUWCC since the City signed the MOU in 2002. These reports are included in **Appendix C**.

#### 3.2 WATER CONSERVATION STRATEGY OF IEUA

Over the past five years, IEUA and their member agencies have developed a strong partnership and an aggressive approach to BMPs that reduce water at the source. Water conservation is an important component of water resource management. Conservation has multiple benefits such as a reduction on the dependence of imported water supplies. Water conservation helps solve the water quality issues in the California Bay Delta and improves water supply reliability. Water conservation is also beneficial for the region's water rate payers, as water conservation is one of the least expensive new sources of water. IEUA projects regional savings of more than \$200 million over the next 20 years by utilizing water conservation measures to reduce imported water purchases (IEUA, 2005e).

IEUA and the local retail agencies have been implementing water conservation programs for the region since 1991. Through year 2000, the source of the majority of water savings has been the distribution of ultra low flush (ULF) toilets. Beginning in 2001, the conservation programs have become much more diversified with the introduction of high efficiency clothes washer (HECW) rebates, commercial and industrial rebates, landscape water efficiency programs, public education, school programs, hiring of water conservation coordinators and water waste prohibition ordinances.

#### 3.2.1 2000-2005 Water Conservation

The IEUA regional water conservation goal for year 2005 as defined in the 2000 UWMP (IEUA, 2000) was 11,600 acre-feet per year (AFY). The actual amount of water conservation achieved is estimated as 5,100 AFY. Over the past five years, IEUA has introduced a variety of new and innovative incentive programs to help achieve this goal. The water conservation programs that IEUA has implemented in the 5-year period from 2000 to 2005 to encourage participation by its retail agencies are:

- Large Landscape: As part of BMP No. 5, IEUA has participated in a number of initiatives to reduce the amount of water used for irrigation. These programs include regional and local classes for businesses on landscaping efficiencies, the "California Friendly Model Program", and the weather sensitive irrigation controller program.
- Residential HECW Rebates: As part of BMP No. 6, about 4,800 HECW have been installed, contributing to about 220 AFY of water savings.
- School Education: As part of BMP No. 8, IEUA and local agencies expanded water conservation education programs by conducting three presentations: (1) a magic show entitled "Think Earth; It's Magic" that reached 22,000 elementary school students, (2) a stage show entitled "The Water Pirates of Neverland" that was seen by 21,000 students, and (3) the thematic school garden demonstration projects entitled "A Garden in Every School".

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- Commercial, Industrial, and Institutional (CII) rebate program. As part of BMP No. 9, rebates were provided for ULF toilets, waterless urinals, HECW, cooling tower conductivity controllers, x-ray film processor re-circulation units, pressurized water brooms, pre-rinse spray nozzles, and weather sensitive irrigation controllers.
- Agency Support: As part of BMP No. 10, IEUA provided annual grants of \$2,000 per agency for BMP related programs or projects. The City of Ontario prefers to participate in programs sponsored by IEUA, which provide greater benefits for the City than small-scale water conservation programs.
- Residential ULF Active Programs: As part of BMP No. 14, about 35,000 ULF toilets have been installed since 1991, contributing to about 1,800 AFY of water savings.
- Residential ULF Passive Programs: As part of BMP No. 14, about 153,000 ULF toilets have been installed since 1993, contributing to about 6,000 AFY of water savings.

The combined active and passive water conservation achieved from these programs for the region between 1993 and 2000 is about 5,110 AFY. Additional water savings from 2001 through 2004 are expected to bring the total water saved to over 8,600 AFY, which is IEUA's water conservation goal for year 2005 as listed in the 2005 UWMP (IEUA, 2005d). It should be noted that the water conservation goal for year 2005 was set at 11,600 AFY in the 2000 IEUA UWMP. To achieve new water conservation savings each year, IEUA and the retail agencies will have to invest more into existing conservation programs.

#### 3.2.2 2005-2010 Water Conservation

The water conservation goals established in IEUA's Review Draft UWMP (IEUA, 2005d) are summarized in **Table 3-2**. Although all agencies participate in water conservation programs, each agency has a different service area size, population, land use, and water use mix. The water conservation goals for the period 2010 though 2030 are set 10 percent of the projected water demands, while the water conservation goal for 2005 is about 3.6 percent of the combined projected water demand of all member agencies.

Table 3-2
IEUA's Water Conservation Goals (Active and Passive)

Water Purveyor	2005 <sup>(1)</sup> (AFY)	2010 <sup>(2)</sup> (AFY)	2015 <sup>(2)</sup> (AFY)	2020 <sup>(2)</sup> (AFY)	2025 <sup>(2)</sup> (AFY)
City of Chino	745	2,459	2,750	2,983	3,183
City of Chino Hills	690	2,019	2,080	2,142	2,206
City of Ontario	1,825	5,695	6,315	6,925	7,596
City of Upland	699	2,164	2,194	2,194	2,194
Cucamonga Valley Water District	2,047	7,283	8,133	8,733	9,514
Fontana Water Company	2,024	7,000	7,180	7,240	7,320
Monte Vista Water District	447	1,310	1,373	1,437	1,500
San Antonio Water Company	123	351	331	339	348
Total	8,600	28,281	30,356	31,993	33,861
Total (rounded) <sup>(3)</sup>	8,600	28,500	30,000	32,000	34,000

- (1) Calculated by multiplying the projected demands from Table2-8 of the 2005 UWMP (IEUA, 2005d) with 3.6%
- (2) Calculated by multiplying the projected demands from Table2-8 of the 2005 UWMP (IEUA, 2005d) with 10%

(3) Water conservation goal as listed in Table2-8 of the 2005 UWMP (IEUA, 2005d)

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It should be noted that the water conservation goals presented in **Table 3-2** include both active and passive water conservation, resulting in higher water conservation goals than presented in IEUA's Draft UWMP (IEUA, 2005), which include active water conservation measures only.

Passive water conservation refers can be defined as the water conservation resulting from changes in the (plumbing) code and will happen automatically due to changes in the available appliances. Passive conservation is also referred to as "Code Based water conservation". Active water conservation can be defined as water conservation resulting from special activities and (financial) incentives that encourage reduction in water usage.

The active and passive water conservation goals for the City are listed in **Table 3-3**.

Table 3-3 IEUA's Water Conservation Goals (Active and Passive)

Water Conservation Goal	2005 <sup>(1)</sup> (AFY)	2010 <sup>(2)</sup> (AFY)	2015 <sup>(2)</sup> (AFY)	2020 <sup>(2)</sup> (AFY)	2025 <sup>(2)</sup> (AFY)	2030 <sup>(3)</sup> (AFY)
Active Water Conservation <sup>(1)</sup>	840	1,800	2,630	2,980	3,640	3,712
Passive Water Conservation (2)	985	3,895	3,685	3,945	3,956	4,035
Total	1,825	5,695	6,315	6,925	7,596	7,747

<sup>(1)</sup> Water conservation goal as listed in Table2-10 of the 2005 UWMP (IEUA, 2005)

To achieve the water conservation goals listed in **Table 3-2**, IEUA has included an annual BMP implementation schedule in its UWMP for the years 2005 through 2010. The estimated cost of implementing these BMPs is \$1,536,500. These programs are estimated to generate 1,020 acreft of new water savings per year for the period 2005-2010. This corresponds to a unit cost of approximately \$300 per acre-ft (1,020 AFY x \$1,536,500/5 years) (IEUA, 2005).

### 3.2.3 2010 and Beyond

Water conservation is a constantly evolving process due to changes and improvements in technologies, saturation of water saving devices, and consumer trends. By the year 2010, many programs are expected to be fully implemented, and some of the incentive programs may not be needed anymore due to market transformations.

For the period 2010 and beyond, IEUA and the retail agencies will modify the water conservation program and focus on those areas where the greatest water conservation potential will exist. Programs that may be part of the water conservation strategy in this period are:

- Replacement of water inefficient toilets, clothes washers, dishwashers, showerheads, and irrigation systems in existing homes
- Aggressive water conservation measures in new homes, similar to a large scale implementation of the pilot program "California Friendly Model Home"
- Incentives such as "Turf Buyback program" where homeowners receive a rebate (e.g. \$1.00 per square foot) of turf removed.

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<sup>(2)</sup> Water conservation goal as listed in Table2-8 of the 2005 UWMP (IEUA, 2005d)

<sup>(3)</sup> Total calculated as 10 percent of the projected demands; 2025-2030 increase distributed evenly between active and passive water conservation.

- Expansion of the CII rebate program "Save Water, Save A Buck"
- Implementation of an extensive recycled water system throughout IEUA's service area.
- Legislative approaches such as the "Retrofit upon Resale" ordinance that requires plumbing upgrades prior to selling a property.
- Adjustment of rate structures that reward conservation minded customers with lower rates.
- Continuation of education programs for teachers and students.

#### 3.3 WATER CONSERVATION STRATEGY OF ONTARIO

The City signed the MOU on December 11, 2002 (Ontario, 2002). The MOU sets goals for implementing each of the BMPs. Since 2003, the City has submitted the annual BMP Activity Report to the CUWCC. The BMP reports for 2003 and 2004 are included in **Appendix C**, and the status of the City's water conservation efforts are summarized in **Table 3-4**.

Table 3-4
BMP Implementation Status - City of Ontario

Best Management Practices		Status Details <sup>(1)</sup>			
1	Water Survey Programs for Single-Family and Multi-Family Residential Customers	Surveys began in 2005. Several hundreds of surveys completed.			
2	Residential Plumbing Retrofit	City distributed over 1,000 low-flow showerheads along with other conservation items to customers that completed surveys			
3	System Water Audits, Leak Detection and Repair	Pre-Screening Completed			
4	Metering with Commodity Rates for all New Connections and Retrofit of Existing	All accounts are metered			
5	Large Landscape Conservation Programs and Incentives	Ontario, in conjunction with IEUA, conducted 3 audits in 2005			
6	High-Efficiency Washing Machine Rebate Programs (HECW)	51 rebates awarded in 2004. Funded by IEUA (through MWD)			
7	Public Information Programs	32 activities reported to date in BMP reports			
8	School Education Programs	70 presentations to 1595 students to date in the BMP reports			
9	Conservation Programs for CII Accounts	18 CII Surveys, 211 rebates, 6 AFY of Performance Savings, and 20.5 AFY of Conservation Program Savings. This BMP is also covered by IEUA's "Save Water Save a Buck" program			
10	Wholesale agency programs	N/A (Ontario is a retail agency)			
11	Conservation Pricing	Increasing block pricing structure			
12	Water Conservation Coordinator	Position staffed in 2001			
13	Water Waste Prohibition	A general water waste prohibition is incorporated into the Emergency Water Conservation section of the City Ordinances (OMC, Section 6, Chapter 8A.)			
14	Residential ULFT Replacement Program	1,756 rebates reported in BMP reports			

(1) Reflect cumulative totals to date (September 2005)

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## Section 3 – Water Conservation

Examples of the existing water conservation programs implemented by the City (Ontario, 2005a) are:

- ULF Toilet Exchange Program: The City promotes water conservation through distribution of ULF toilets that have a flushing volume of 1.6 gallons, compared to 3.5 gallons/flush of older models. Single family home customers that reside in homes built prior to 1992 are eligible to participate in this program. The City hosts at least two large-scale toilet distribution events each year.
- ULF Toilet Rebate Program: Customers that are not able to participate in the exchange program may purchase toilets from a local retailer and apply for a \$50.00 rebate per toilet.
- HECW Rebates: Customers may purchase a HECW and apply for a rebate up to \$100.00.
- Water Education Water Awareness Committee (WEWAC): The City is an active member of WEWAC, a committee that is comprised of local agencies. WEWAC co-sponsors several education programs for teachers and students regarding conservation and the environment. WEWAC also provides public education grants.
- Home and Garden Show: The annual home and garden show held at the Ontario Convention Center provides water resource information and conservation materials through WEWAC.
- Low Flow Shower Heads: Customers can obtain new low flow showerheads free of charge in exchange for their less water efficient showerheads from the City's Utilities Department. The City also provides faucet aerators and low-flow hose nozzles.
- Cooling Tower Rebate: Commercial customers can receive a \$500.00 rebate by installing a Cooling Tower Conductivity Controller, which can save up to 800,000 gallons annually.

Based on the 2004 Activity Reports submitted to CUWCC, the active water conservation amount achieved by the end of the fiscal year (FY) 2005 is estimated to be around 177 AFY. It should be noted that this does not include passive or "code based" water conservation. Hence, the total amount of water conservation is higher. The estimate breakdown is presented in **Table 3-5.** Details of calculations to estimate the water conservation savings are included in **Appendix D**. The estimated (active) water conservation (177 AFY) is significantly less than the IEUA's water conservation goal for 2005 as defined in the 2000 UWMP (3,000 AFY). It should be noted that the goal for 2005 was lowered from 3,000 AFY to 840 AFY in the 2005 UWMP (IEUA, 2005). Based on the estimate of 177 AFY it is evident that the City needs to ramp up the implementation of the BMPs. The strategy to increase water conservation and meet the goal set for year 2010 is discussed in Section 3.3.1.

It should be noted that the water conservation estimates only include active water conservation measures, and do not account for passive water conservation such as the direct purchase of ULF toilets, showerheads, or high-efficiency washers by residents in the City that do not apply for a rebate. The estimates also excludes the water conservation achieved by behavioral changes as a result of education programs and increased awareness of the limited water resources in California.

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Table 3-5
Water Conservation Estimate by the End of FY 2004/2005 (Active Programs)

Best Management Practices (BMP's)	Total Number of BMP's	Estimated Savings <sup>(1)</sup> (AFY)
(1) Water Survey Programs for Single-Family and Multi-Family Residential Customers	0	0.0
(2) Residential Plumbing Retrofit - single family dwelling units	1,500	14.4
(2) Residential Plumbing Retrofit - multi family dwelling units	500	4.8
(3) System Water Audits	on-going	0.0
(4) Metering with Commodity Rates	on-going	0.0
(5) Large Landscape Programs	on-going	0.0
(6) HECW machine Rebate Programs (washers)	689	31.4
Pool Cover Rebates <sup>(2)</sup>	87	4.5
(7) Public Information Programs	32	0.0
(8) School Education Programs	1,595	0.0
(9) Conservation Programs for CII accounts	211	-
CII ULF Toilet rebates	187	11.2
unknown CII Rebates	3	0.0
CII Surveys	18	0.0
HECW rebates	69	8.3
Cooling Tower Conductivity Controllers (CTCC)	9	20.2
Waterbrooms <sup>(3)</sup>	17	2.6
Performance Target savings	0	6.0
Conservation Program Targets	0	19.5
(10) Wholesale pricing	N/A	N/A
(11) Conservation Pricing	complete	0.0
(12) Conservation Coordinator	complete	0.0
(13) Water Waste Prohibition	complete	0.0
(14) Residential ULFT rebates	1,756	54.4
Total Estimated Savings	n/a	177.0
Note: Details of calculations to estimate the water conservation savings are included in		1111

Note: Details of calculations to estimate the water conservation savings are included in Appendix D.

In addition, the water conservation estimates are highly dependent upon the assumptions made to calculate the actual water conservation achieved by certain BMPs. The assumptions used for the water conservation estimates presented in this section are listed below.

• Showerhead Savings (BMP 2): The MOU states that pre-retrofit showerheads correspond with an estimated water use of 7.2 gpd/cap, while low flow showerheads have an average water usage of 2.9 gpd/cap. Therefore, the water savings are about 4.3 gpd/cap. With an average density of 4 people per household and 2 showerheads per homes, this equates to 8.6 gpd/showerhead or 0.010 AFY per showerhead.

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<sup>(1)</sup> Includes active water conservation estimates only, does not include passive (or Code Based) water conservation.

<sup>(2)</sup> This program has been discontinued by IEUA.

<sup>(3)</sup> This program has been discontinued by the City.

## Section 3 – Water Conservation

- Large Landscape Meters (BMP 5): The MOU states that landscaping retrofits result in 15 percent water savings. With 1,000 large landscaping meters (2004 BMP report) and a total irrigation demand of 6,402 AFY, the average landscaping water usage in the City is 6.4 AFY. Hence, 15 percent savings equates to about 0.96 AFY per meter.
- Residential HECW Rebate Program (BMP 6): The potential water savings of a residential HECW machine is estimated to be up to 14,720 gallons per year or 0.046 AFY (IEUA, 2005a). These savings can be achieved when a 40 gallon per load washer is replaced with a 20 gallon per load washer and the clothes washer is used 400 times a year. Pool Cover rebates, grouped with residential HECW for this report, have a savings of 0.052 AFY (IEUA, 2005b).
- CII Rebates (BMP 9): The MWD CII Annual Report (MWD, 2004) lists the water savings
  of various CII water devices. The devices that are part of the City's rebate program under
  this BMP and the associated water savings are: 0.06 AFY for ULFT, 0.12 AFY for
  commercial HECW, 2.24 AFY for CTCC, and 0.15 AFY for water brooms. It should be
  noted that these unit savings in the CII sector are higher for residential BMP's due to more
  intensive use.
- ULF Toilets (BMP 14): The water conservation estimate of residential ULFT's is based on the savings reported in the IEUA Regional ULF Toilet Rebate Program Status Report (IEUA, 2005c). This report states that 308 active toilet replacements resulted in an average saving of 9.7 AFY, or 0.03 AFY/toilet.

The water conservation as a result of other BMP's are not included in **Table 3-5** as water savings for many BMPs are difficult to quantify. In addition, measurable water savings from ULFT distribution occurring prior to 2003 is not included in the table. Therefore, it is expected that the actual water savings are higher than 177 AFY.

#### 3.3.2 2006-2010

As listed in **Table 3-2**, the water conservation goal for the City in year 2010 is 1,800 AFY (IEUA, 2005). This goal reflects active water conservation measures only, and does not include passive water conservation as a result of plumbing retrofits etc. To achieve this goal and to be in compliance with the goals defined in the MOU, a water conservation implementation plan has been developed as part of this UWMP. This plan defines the number of BMP's that need to be implemented each year to achieve the 2010 water conservation goal. **Table 3-6** presents the number of BMPs that needs to be realized on an annual basis from FY 2005-2006 through FY 2009-2010 to achieve the water conservation goals. **Appendix D** contains BMP activity reports for 2003 and 2004 and additional details regarding existing and project water conservation projections.

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Table 3-6 Ontario's Active Water Conservation Implementation Plan

	Oillai	Olitailo s Activ		מופו כס			חבוובו	ומווסוו	_   a				
	Hist.	Future BM	ا⊾	Activities (I	(MOU and	l Add'l)		Esti	Estimated S	Savings (AFY)	۹FY)		
Best Management Practice	Pre FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	Pre FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	Unit
(1) Water Survey Programs	0	0	0	0	0	0	0	0	0	0	0	0	
SFR Surveys	0	408	489.5	571	647.5	724	0	0	0	0	0	0	Surveys
MFR Surveys	0	31	28	43	49	55	0	0	0	0	0	0	Surveys
(2) Residential Plumbing Retrofit	0	-	-	-	-	-	0	0	0	0	0	0	-
SFR Rebates	1,500	2,386	2,386	2,386	2,386	2,386	14	37	09	83	106	129	Showerheads
MFR Rebates	200	1,108	1,108	1,108	1,108	1,108	2	15	56	37	47	28	Showerheads
(3) System Water Audits	0	0	0	0	0	0	0	0	0	0	0	0	Audits
(4) Metering with Commodity Rates	0	0	0	0	0	0	0	0	0	0	0	0	Unmetered Accounts
(5) Large Landscape Programs	0	225	225	450	20	20	0	216	432	864	912	096	Accounts
(6) HECW Rebates	689	200	200	200	200	200	31	41	09	29	89	22	Rebates
Pool Cover Rebates <sup>(2)</sup>	87	0	0	0	0	0	2	5	2	5	2	2	Rebates
(7) Public Information Programs	32	0	0	0	0	0	0	0	0	0	0	0	Events
(8) School Education Programs	1,595	0	0	0	0	0	0	0	0	0	0	0	Students
(9) CII Conservation Programs	1	-		•	-	-		-	1	-	-	1	
Commercial surveys	11	28	47	29	92	117	0	0	0	0	0	0	Surveys
Industrial surveys	3	4	2	10	14	17	0	0	0	0	0	0	Surveys
Institutional surveys	4	3	9	8	11	14	0	0	0	0	0	0	Surveys
Number of CII ULFT rebates	187	450	009	220	009	650	11	38	89	101	137	921	Rebates
Unknown rebates	3	0	0	0	0	0	0	0	0	0	0	0	Rebates
HECW	69	10	10	10	15	20	8	9	11	12	14	16	Rebates
сстс	6	5	5	5	5	5	20	31	43	54	65	76	Rebates
Waterbrooms <sup>(2)</sup>	17	0	0	0	0	0	3	3	3	3	3	3	Rebates
Performance Target savings	9	0	0	0	0	0	9	6	9	6	6	9	AFY
Conservation Program Targets	20	0	0	0	0	0	20	20	20	20	20	20	AFY
(11) Conservation Pricing	0	0	0	0	0	0	0	0	0	0	0	0	-
(12) Conservation Coordinator	0	0	0	0	0	0	0	0	0	0	0	0	Coordinator
(13) Water Waste Prohibition	0	0	0	0	0	0	0	0	0	0	0	0	ı
(14) Res. ULFT Replacements	1,756	200	1,000	1,500	2,000	2,500	54	70	101	147	209	287	Rebates
Total <sup>(1)</sup>	n/a	n/a	u/a	n/a	n/a	n/a	177	491	823	1,390	1,592	1,813	
(1) Totals may not add up due to rounding.													

(1) Totals may not add up due to rounding.(2) Program is discontinued (no increase).
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As shown in **Appendix D**, the BMPs are divided into three categories; 1) Pre- FY 04-05, 2) MOU Requirements, and 3) Additional BMP Activities. The measures currently in place are referred to as "Pre-FY 04-05", and are estimated to conserve about 177 AFY (see **Table 3-5**). The BMPs listed in the MOU requirements would result in an additional 936 AFY, increasing the water conservation amount to 1,113 AFY. Hence, additional BMP activities have been identified to meet the goal of 1,800 AFY. These additional activities are:

- Increasing the number of distributed showerheads give-aways (BMP 2) by 1,000 for SFR customers and 1,000 for MFR customers for the next five years.
- Implementing water conservation measures at 50 large landscaping customers in FY 2008-2009 and FY 2009-2010.
- Providing rebates for 200 residential HECW's per year (BMP 6) for each year in 2006 through 2010.
- Distributing ULF toilets in the CII sector (BMP 9), starting with 450 units in FY 2006-2007 and increase by 50 toilets per year to 650 toilets in 2010.
- Providing rebates for 10 commercial HECW for the next 3 FY's, then increase by 5 each FY until FY 2009-2010 for a total of 20 HECW per year.
- Distributing 5 CTCC per year.
- ULF toilets in the residential sector (BMP 14), starting with 1,000 units in FY 2006-07 and increase by 500 toilets per year to 2,500 toilets in FY 2009 -2010.

These activities and the MOU requirements will bring the water conservation in line with the IEUA goal. The comparison of the active water conservation goals and estimated water conservation is listed in **Table 3-7** and is graphically shown on **Figure 3-1**. This figure also presents the combined active and passive water conservation goal as presented in the Review Draft UMWP (IEUA, 2005d). As shown in the figure, passive water conservation is expected to contribute significantly to the total water conservation, ranging from about 55-70 percent of the total water conservation.

Table 3-7
Comparison of Water Conservation Estimates and Goals for 2006-2010

Water Conservation Plan	Pre FY 04-05 (AFY)	FY 05-06 (AFY)	FY 06-07 (AFY)	FY 07-08 (AFY)	FY 08-09 (AFY)	FY 09-10 (AFY)
City's Water Conservation Plan <sup>(1)</sup>	177	491	823	1,390	1,592	1,813
IEUA's Active Water Conservation Goal <sup>(2)</sup>	840	1,032	1,224	1,416	1,608	1,800
Difference (AFY)	-663	-541	-401	-26	-16	13
Difference (%)	-79%	-52%	-33%	-2%	-1%	1%
City's Water Conservation Plan <sup>(1)</sup>	177	491	823	1,390	1,592	1,813
IEUA's Active and Passive Water Conservation Goal <sup>(3)</sup>	1,825	2,599	3,373	4,147	4,921	5,695
Difference (AFY)	-1,648	-2,108	-2,550	-2,757	-3,329	-3,882
Difference (%)	-90%	-81%	-76%	-66%	-68%	-68%

<sup>(1)</sup> The estimated savings of the City's water conservation plan reflect active conservation measures only.

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<sup>(2)</sup> Active water conservation goals per IEUA's Draft UWMP Table 2-10 (IEUA, 2005).

<sup>(3)</sup> Active and passive water conservation goals per IEUA's Review Draft UWMP Table 2-8 (IEUA, 2005d) and Table 3-2.

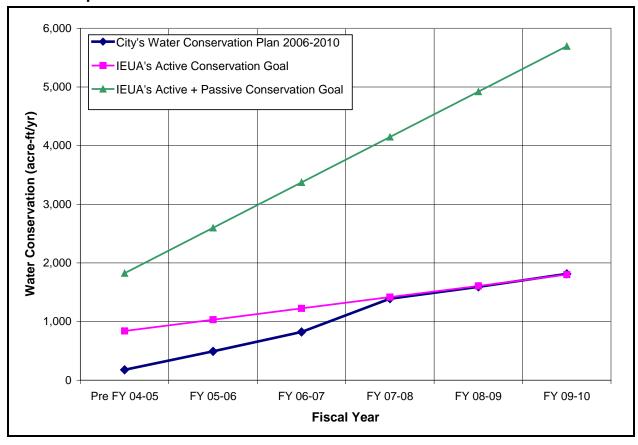


Figure 3-1
Comparison of Water Conservation Estimates and Goals for 2006-2010

As shown in **Figure 3-1**, the proposed implementation plan will result in a rapid increase of water conservation in the period FY 06/07 to FY 07/08, primarily as a result of the large landscaping metering program. In the following years, the MOU requirements and additional BMP activities will increase the water conservation at the same rate as the linear increase in water conservation goals set by IEUA.

# 3.3.3 2010 and Beyond

In addition to the active water conservation measures defined in **Table 3-6**, passive water conservation will take place as new homes in the NMC will be constructed according to current plumbing codes and toilet and fixtures will be replaced in homes in the OMC. It is the City's goal to reach IEUA's combined (passive and active) water conservation goal in year 2030 when the NMC is anticipated to reach build out conditions. The estimated water conservation increase compared to the goals of IEUA defined in the Draft and Review Draft Urban Water Management Plan Reports is presented in **Figure 3-2**. This estimate is based the following assumptions:

• 100 percent of the homes in the NMC will be in compliance with the current plumbing code by installation of water conserving toilets, showerheads and fixtures;

- 25 percent of the homes in the OMC will be in compliance with the current plumbing code in year 2030 through passive replacement of toilets, showerheads and fixtures;
- Implementation of passive water conservation measures would save approximately 15 gallons of water per person per day.

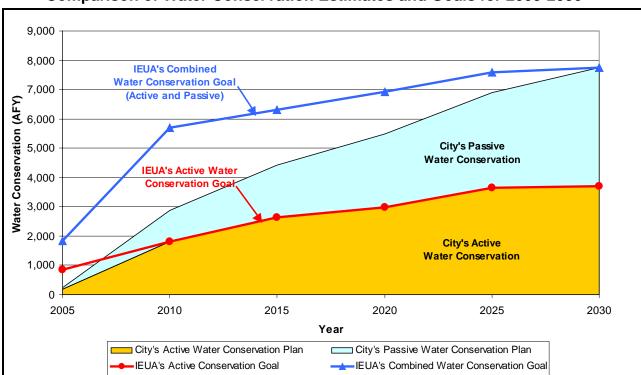


Figure 3-2
Comparison of Water Conservation Estimates and Goals for 2005-2030

Water conservation measures that need to be taken beyond year 2010 should be defined in detail in the 2010 UWMP Update. The actual water conservation achieved by year 2009 should be estimated and compared with the goals set by IEUA. Additional water conservation measures should be considered in the future because market saturation of certain BMPs, such as ULF toilets, is anticipated to occur in the future. A number of water conservation alternatives are discussed under the water conservation strategy of IEUA for the period 2010 and beyond.

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# Section 4 Water Supplies

## 4.1 INTRODUCTION

About one third of the water used in Southern California comes from local sources such as groundwater and treated runoff water, while two thirds of the water supplies are imported into the region from the Colorado River (via the Colorado River Aqueduct), the Sacramento-San Joaquin River Delta (via the State Water Project (SWP) aqueduct and the Owens Valley and Mono Basin (via the Los Angeles Aqueducts).

Increased environmental regulations and competition for water from outside the region have resulted in projected decreases in reliability of imported water supplies. At the same time, the Colorado River basin is experiencing a drought that is unprecedented in recorded history, while water demands continue to rise within the region because of population and economic growth.

To address the regional water supply challenges, Metropolitan Water District of Southern California (MWD) completed a landmark evaluation of the future water supplies in Southern California in 1996. This evaluation is known as the Integrated Resources Plan (IRP). The purposed of this plan was to provide a realistic means of achieving a reliable and affordable water supply to meet Southern California's water needs until year 2020. This plan developed a Preferred Resource Mix which consisted of a diverse mix of resources to meet a goal of 100 percent reliability for full-service demands through 2020 through the attainment of regional targets set for conservation, local supplies, SWP supplies, Colorado River supplies, groundwater banking, and water transfers.

The IRP was updated in May 2004 to incorporate achievements to date, identify changed conditions, and to extend the planning horizon to year 2025. The results of the IRP Update show that the most significant change was the increased participation of local agencies in developing local water supplies and promoting water conservation. The contribution of the City of Ontario (City) to develop new local water supplies are discussed in this section. The existing and projected water supplies presented herein are based on the water supply plan presented in the Water Master Plan (WMP) Update (MWH, 2005).

# 4.2 HISTORICAL WATER SUPPLY

Currently, the City obtains potable water from the following four principal sources:

- Chino Basin groundwater wells owned and operated by the City
- Chino Basin Groundwater from San Antonio Water Company (SAWC)
- Imported water from the Water Facilities Authority (WFA)
- Imported recycled water from the Inland Empire Utilities Agency (IEUA)

The historical water supply mix for the period 1990-2003 is listed in acre-feet per year (AFY) in **Table 4-1** and is graphically presented in **Figure 4-1**.

1	Table 4	l-1	
Historical	Water	Supply	Mix

Year	WFA	SAWC <sup>(1)</sup>	Wells	IEUA <sup>(2)</sup>	Total
rear	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)
1990	16,637	574	20,639	0	37,850
1991	8,607	1,632	24,900	0	35,140
1992	8,825	1,084	24,935	0	34,844
1993	14,645	1,040	19,474	0	35,159
1994	7,695	476	28,555	0	36,725
1995	6,810	0	30,994	0	37,804
1996	8,759	0	32,006	0	40,765
1997	7,590	0	35,526	0	43,115
1998	4,582	0	35,489	0	40,071
1999	8,116	0	37,029	0	45,144
2000	9,258	0	36,842	0	46,100
2001	8,907	0	35,105	0	44,011
2002	9,325	0	35,444	0	44,769
2003	13,207	0	30,240	630	43,447
2004	15,143	0	27,824	1,058	42,967
Average	9,874	320	30,333	113	40,527

<sup>(1)</sup> Per the agreement between City and SAWC, the City pumps SAWC's entitlement from its own wells to avoiding the water quality problems associated with SAWC's well.

As shown in **Table 4-1** and **Figure 4-1**, the City has not imported Chino Basin groundwater from SAWC since 1994 due to high nitrate in their well water. In the past, the City took at a maximum 1,632 AFY of water and an average of 961 AFY of water over the years 1990 to 1994. Since 2001, the City has pumped water from its own wells on behalf of SAWC to obtain its entitlement. As discussed in Section 2.3.3, the City obtains water rights from SAWC in exchange for water deliveries through the City's distribution system.

Recycled water recharge of the Chino Basin is not shown as a separate supply source, as this supply is represented in the historical amount of groundwater pumped with City wells. However, the amount groundwater recharged with recycled water is important as it reduces the amount of groundwater overpumping, which is subject to a replenishment fee. The amount of overpumping is calculated as the difference of the total amount of groundwater pumped minus the groundwater rights minus the City's share (24.34 percent) of the total groundwater recharged with recycled water by IEUA.

## 4.3 EXISTING AND FUTURE WATER SUPPLY SOURCES

In addition to the existing water supplies from the City's groundwater wells, the SAWC groundwater wells, imported water from WFA, recycled water recharge and recycled water from IEUA, the City will have additional potable water supply source in the near future. In January 2006, the City will receive treated Chino Basin groundwater from the Chino Basin Desalter Authority (CDA).

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<sup>(2)</sup> Historical recycled water sales to customers within the City of Ontario.

The existing and future supply sources shown in **Figure 4-1** are discussed below.

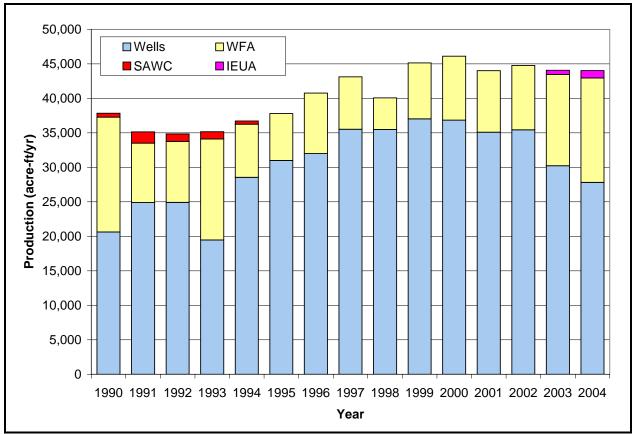


Figure 4-1
Historical Water Supply Mix

# 4.3.1 Chino Basin Groundwater from City Wells

The Chino Basin covers an area of about 235 square miles. The basin contains about 5 million acre-ft of water in storage and has an unused storage capacity of about 1 million acre-ft. The Chino Basin is the largest groundwater basin in the Upper Santa Ana River watershed. The basin is bounded on the north by the Red Hill fault and Cucamonga fault zone, on the northwest by the San Jose fault, on the southwest by the Chino Hills, on the northeast by the Rialto-Colton fault, on the east by the Jurupa and Pedley Hills and on the south by the Santa Ana River. The basin is an alluvial valley that was formed when eroded sediments from the surrounding San Gabriel Mountains, the Chino Hills, the Puente Hills and the San Bernardino Mountains filled a geological depression

The groundwater quality in Chino Basin is of better quality in the north than in the south, as that is the direction of water flow through the basin. With recharge in the northern portion, salinity measured as total dissolved solids (TDS) and nitrate concentrations increase in the southern portion of Chino Basin. Generally, the TDS exceeds 500 mg/L and nitrate exceeds 50 mg/L south of Riverside Drive. TDS and nitrate generally originate from non-point sources such as land application of wastes and fertilizer from previous and current agricultural activities. In

# Section 4 – Water Supplies

addition, several point sources of contamination exist in the basin that affects groundwater quality in localized areas.

# **Water Rights**

Groundwater rights are defined by the 1978 judgment in the case *Chino Basin MWD v. City of Chino, et al.* The judgment is administered by a watermaster and is subject to the on-going court jurisdiction. The original watermaster, the Chino Basin Municipal Water District (now known as IEUA), was replaced in 1998 by a nine-member board made up of representatives of the basin pumpers, designated the Chino Basin Watermaster (CBWM). The judgment defined the safe yield of the basin to be 140,000 AFY.

The water rights of the Chino Basin are allotted to three pools: the Overlying (Agricultural) Pool, the Overlying (Non-agricultural) Pool, and the Appropriative Pool. The Overlying (Agricultural) Pool consists of private property owners with land being used for agricultural activities and the State of California detention centers. The Overlying (Non-Agricultural) Pool consists of businesses and industries, and the Appropriative Pool consists of cities and water agencies that supply water to their customers. Water rights are divided for the City between the three pools as follows:

Overlying (Agricultural) Pool: 82,800 AFY
Overlying (Non-Agricultural) Pool: 7,366 AFY
Appropriative Pool: 49,834 AFY
Total Water Rights: 140,000 AFY

The City has water rights based on 20.742 percent of the Initial Operating Safe Yield (OSY), permanent conversion of agricultural land, temporary transfers of unpumped water from the Overlying (Agricultural) Pool, and the safe yield reallocation of the Agricultural Pool. The cities groundwater rights are summarized in **Table 4-2**.

For Fiscal Year (FY) 2003-2004, the City had a total right to pump 28,539 AFY. This amount consists of 11,374 AFY of the Initial OSY, 11,110 AFY of Appropriative Pool transactions and new yield, 5,827 acre-ft from Agricultural Pool transfers and a one-time storage adjustment of 229 AFY. The Appropriative Pool transactions included 8,600 acre-ft of water rights that were leased from the City of Chino and Jurupa Community Services District (JCSD).

4-3 and Table 4-4, respectively. Historical records show that groundwater has contributed to approximately 70-80 percent of the City's water supply mix. Although the City is planning to drill more groundwater wells to serve new customers, the projected amount of groundwater decreases to about 41-48 percent of the City's water supply, which means that the City will become more reliant on imported water from WFA. These tables also show that the actual amount of groundwater pumped and projected to be pumped exceeds the City's water rights as listed in Table 4-2. The City needs to pay IEUA a replenishment fee of \$213/acre-ft pumped in excess of its water rights to cover IEUA's cost to replenishment the groundwater basin with recycled water. As mentioned in paragraph 4.2, the amount of overpumping that is subject to the replenishment fee is reduced by the City's share of the amount of groundwater recharged with

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recycled water, which is calculated as 24.34 percent of the total amount of groundwater recharged with recycled water by IEUA. The projected recycled water recharge and the City's share are presented in **Table 4-5**.

Table 4-2
Groundwater Pumping Rights

Chino Basin	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Initial Safe Yield	11,374	11,374	11,374	10,337	10,337	10,337
New Yield	2,489	2,489	2,489	2,489	2,489	2,489
NMC Ag and Land Use Conversions	0	3,625	5,712	8,813	11,917	15,021
OMC Ag Conversions	97	207	317	426	536	646
Prior Land Use Conversions	895	895	895	895	895	895
Annual Early Transfers	6,803	6,803	6,803	6,803	6,803	6,803
Adjustment to Total Available <sup>(1)</sup>	(708)	(910)	(1,111)	(1,313)	(1,514)	(1,716)
Total Share of Initial OSY	20,950	24,483	26,478	28,451	31,463	34,475
SAWC Shares	765	765	765	765	765	765
Sunkist (service agreement)	1,470	1,470	1,470	1,470	1,470	1,470
Total Groundwater Rights	23,185	26,718	28,713	30,686	33,698	36,710

This table corresponds to DWR Table 5.

(1) Adjustment is based on the City's share of the projected early transfers and land use conversions. The adjustments of 708 AFY (year 2005) and the 1,716 AFY (year 2030) are obtained from the Chino Basin Water Master (Post land use conversions – 2025). As the NMC is projected to reach build out conditions in year 2030 (2005 Water Master Plan Update), the year 2025 numbers are used for 2030. Intermediate years are calculated with linear interpolation.

Table 4-3
Historical Amount of Groundwater Pumped

Chino Basin	2000	2001	2002	2003	2004
City Wells in Chino Basin (AFY)	36,842	35,105	35,444	30,240	27,824
Percent of Total Water Supply to City	80%	80%	79%	70%	65%

This table corresponds to DWR Table 6.

Table 4-4
Projected Amount of Groundwater Pumped

Chino Basin	2010	2015	2020	2025	2030
City Wells in Chino Basin (AFY)	25,248	27,453	33,554	39,312	44,721
Percent of Total Water Supply to City	41%	41%	44%	47%	48%

This table corresponds to DWR Table 7.

Table 4-5	
City's Share of Groundwater I	Recharge

Recycled Water Recharge	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY
Total Recharge by IEUA <sup>(1)</sup>	22,000	25,000	28,000	35,000	35,000
City's Share of Total Recharge <sup>(2)</sup>	5,355	6,085	6,815	8,519	8,519

<sup>(1)</sup> Source: IEUA's Review Draft UWMP (IEUA, 2005d)

#### 4.3.2 Chino Basin Groundwater from SAWC

The City is a shareholder of the SAWC. Currently, the City owns 295 shares, which currently entitles the City to approximately 765 AFY. This value was recently reduced from 2.9 to about 2.59 AFY per share. Historically, the water from SAWC is delivered through a Chino Basin well that is owned and operated by SAWC. However, this well is currently closed due to nitrates over 100 mg/L, which is above the State Primary Maximum Contaminant Level of 45 mg/L.

In October 2001, the City and SAWC executed a license agreement whereby the City pumps its SAWC entitlement from its own Wells 31, 37 and 38. This agreement allows the City to access its SAWC entitlement while avoiding the water quality problems associated with SAWC's well.

In the past, the City took at a maximum 1,630 AFY of water and an average of 961 AFY of water over the years 1990 to 1994. Since 2001, the City has pumped water from its own wells on behalf of SAWC to obtain its entitlement.

# 4.3.3 Imported Water from WFA

The WFA operates the Aqua de Lejos Water Treatment Plant located in the City of Upland. The plant obtains raw imported SWP water from MWD through the Rialto Reach of the Foothill Feeder. At the time of its construction in 1988, the plant had an initial capacity of 68 million gallons per day (mgd). The plant is a conventional water treatment plant featuring coagulation, flocculation, sedimentation, filtration and chloramine disinfection. The plant has been re-rated several times and has a current capacity of 81 mgd. The City owns 31.4 percent of the plant capacity or 25 mgd. The City of Ontario purchases imported water from the WFA. There are two connections designated Ontario #1 (15 mgd capacity), and Ontario #2 (10 mgd capacity) serving the City's water system.

Based on historical records for 1990 through 2003, the average annual WFA supply has been 8,947 AFY, while the maximum annual purchase was 16,637 AFY in 1990. The peak monthly flow averaged 20.2 mgd. For the period 1999-2002, the City obtained about 20 percent of its annual supply from the WFA. In 2003, this amount was increased to about 30 percent.

The quality of water from the WFA has low TDS and nitrate levels at 280 and 4 mg/L, respectively. Data from MWD (1979-2005) indicates the TDS of water from the East Branch of the SWP has ranged from 84 to 455 mg/L with an average of 266 mg/L (MWD, 2005).

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<sup>(2)</sup> Calculated as 24.34% of total groundwater recharge by IEUA.

# 4.3.4 Recycled Water from IEUA

Recycled water is provided by the IEUA, which treats its collected wastewater at four regional wastewater reclamation plants; Carbon Canyon Wastewater Reclamation Facility (CCWRF), Regional Plant No. 1 (RP-1), RP-4, and RP-5. The City of Ontario can currently obtain recycled water from RP-1 and RP-4 through the existing recycled water distribution system of IEUA. As described in the IEUA's *Recycled Water Implementation Plan* (MWH, 2005b), IEUA has planned to expand the existing recycled water distribution system significantly to serve its entire service area. With the expansion, more regional recycled water pipelines will be constructed within the City that allow substantial increase of recycled water use in the future. It is anticipated that the current recycled water supply of 1,829 AFY will increase to 14,492 AFY by year 2030.

#### 4.3.5 Chino Basin Groundwater from CDA

The City of Ontario is a member of the CDA, a joint powers agency created on September 25, 2001, between JCSD, Santa Ana River Water Company (SAWRC), IEUA and the cities of Chino, Chino Hills, Norco, and Ontario. The CDA currently operates and maintains a treatment facility, Chino Desalter I (CDA-I), and is currently in the construction phase of the Chino Desalter I Expansion and Chino Desalter II (CDA-II).

## CDA-I

CDA-I treats brackish groundwater high in nitrates and TDS from the southern portion of Chino Basin and treats the water using a reverse osmosis (RO) system for domestic purposes. The CDA-I has a treated water quality goal of 350 mg/L for TDS and 25 mg/L for nitrate with a target of 20 mg/l (Chino, 2002). This quality reflects the blended product water from the plant. The existing capacity of CDA-I is 9.2 mgd, while the expansion of the CDA-I from 9.2 mgd (10,3200 AFY) to 14.2 mgd (15,900 AFY) is scheduled to be completed by January 2006. The City will take 1,500 AFY into the 1,010 Zone from a connection near the intersection of Archibald and Schaeffer Avenues after the plant is expanded.

## **CDA-II**

In addition to the expansion of CDA-I, a second facility, CDA-II, is under construction and is expected to be completed in January 2006. The CDA-II was initiated by the CDA to provide 10,400 acre-ft/ yr of water deliveries to JCSD, the cities of Ontario, Norco and the SARWC. The City will receive 3,500 AFY of water from the CDA-II facility. This plant will deliver water to the City at two connections, one near the intersection of Philadelphia Street and Milliken Avenue and one near the intersection of Galena Street and Milliken Avenue.

## **CDA-III**

As part of the Optimum Basin Management Plan (OBMP) investigations, the CBWM has conducted groundwater modeling studies to determine how best to establish hydraulic control of groundwater, salts and nitrates in the southern Chino Basin. Hydraulic control is necessary to ensure that groundwater, heavily contaminated with nitrate, TDS and other constituents of

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concern, does not discharge to the Santa Ana River and impact water users in Orange County. Hydraulic control is also needed for maintaining the safe yield of the Chino Basin. As the agricultural preserve area develops, it will be important that production be continued to prevent increased losses of water to the Santa Ana River. Groundwater production by the Agricultural Pool is currently about 40,000 AFY and is projected to decline to about 10,000 AFY. Production by the CDA desalters will be about 24,600 AFY. CBWM studies indicate that an additional 20,000 AFY of extraction will be needed to achieve hydraulic control of the basin.

CDA-III (or further expansion of CDA-I or CDA-II) is a possible facility that could be located in the southern portion of the Chino Basin, to collect and reduce the loss of water to Orange County. At this time, no capacities or locations have been identified for such a facility.

# 4.3.6 Dry Year Yield Program

The Dry Year Yield (DYY) Storage Program is a cooperative conjunctive use program involving MWD, IEUA, CBWM, Three Valleys Municipal Water District (TVMWD) and the Chino Basin groundwater producers. The DYY Program allows MWD to store up to 100,000 acre-ft of water in the Chino Basin when surplus water is available during wet years and produce 33,000 AFY in dry, drought or emergency periods. The DYY Program is partially funded by a State grant from Proposition 13 Bond funds. A combination of grant and MWD funding will be provided to local agencies to build water production and treatment facilities in support of the DYY. The funds received by each participating local water agency are consistent with each agency's commitment to use delivered MWD water during normal years and use groundwater from the MWD's storage account during dry years.

On April 15, 2003, the City authorized execution of an agreement with IEUA to participate in the DYY program. To participate in the DYY program, an agency agrees to reduce its use of imported water compared to the prior year by a fixed amount, known as the agency's "shift obligation". Thus, water that the City would normally import from WFA in a dry year would be offset by groundwater. The City's shift obligation is 8,076 AFY, and its share of the funding is \$5,674,168. During years when MWD calls for extraction, the City's WFA production would be reduced by 8,076 AFY compared to the previous year and it would extract this amount of water from the designated DYY wells.

The funds will be used to build three new groundwater wells (designated and a wellhead treatment facility to remove nitrates from one existing well and one future well. Each well has an estimated yield of 2,500 gpm (about 3,000 AFY when operated 75 percent of the year). Upon call by MWD for stored water delivery, the City will operate these facilities, combined with the existing infrastructure to meet its shift obligation. MWD would pay for the cost of operations and the City would pay MWD (through IEUA) the full service water rate. The City can use the DYY facilities to meet its normal water demands during other periods but is responsible for the O&M costs when they use the facilities. Because of this program, the City is less reliant on imported water supply in dry years and improves its groundwater capacity during wet weather cycles.

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# 4.4 SUMMARY OF WATER SUPPLIES

The existing and projected water supplies under normal year and dry year conditions are summarized in **Table 4-6** and **Table 4-7**, respectively. Under the Dry Year Scenario, the amount of imported water from WFA is reduced by the shift obligation amount of 8,076 AFY. This amount is pumped from the DYY wells.

The projected imported water supplies from WFA are based on the assumption that 30 percent of the water demands are met with water from WFA up to a total supply of 20,000 AFY, which is 8,000 AFY less than the City's allotment in the treatment plant capacity. The maximum capacity is not reached by year 2030. This shift obligation amount is subtracted under the Dry Year Scenario.

Table 4-6
Current and Planned Water Supplies – Normal Year Scenario

		• •				
Water Supply Sources	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Wholesale Water Provider						
WFA Connection I & II (1)	19,750	19,800	19,850	19,900	19,950	20,000
Groundwater Produced						
Operating Safe Yield <sup>(2)</sup>	20,950	24,483	26,478	28,451	31,460	34,475
SAWC (3)	765	765	765	765	765	765
Recycled Water Recharge <sup>(4)</sup>	243	1,890	4,203	6,815	8,519	8,519
Leases and Transfers (5)	874	0	0	2,423	4,716	8,709
DYY <sup>(6)</sup>	0	0	0	0	0	0
Sunkist <sup>(7)</sup>	1,470	1,470	1,470	1,470	1,470	1,470
Local Surface Water Supplies	n/a	n/a	n/a	n/a	n/a	n/a
Recycled Water <sup>(9)</sup>	1,829	7,926	8,816	11,761	12,435	14,492
Desalinated Water	0	5,000	5,000	5,000	5,000	5,000
<b>Total without Water Conservation</b>	45,881	61,334	66,583	76,585	84,316	93,430
Water Conservation	-840	-2,635	-3,994	-4,900	-6,149	-7,747
<b>Total with Water Conservation</b>	45,041	58,699	62,589	71,685	78,167	85,683

This table corresponds to DWR Table 4

<sup>(1)</sup> The max capacity that WFA can deliver is 25 mgd (28,000 AFY). WFA is set at 30% of demand except for years where this would results in a supply surplus.

<sup>(2)</sup> Obtained from Table 4-2.

<sup>(3)</sup> SAWC well is closed due to high nitrates. The water rights are transferred to the City which pumps the water from its own wells (Wells 31, 37, and 38). Assessment package from the years 2003 - 2004 for the years 2004 - 2005 budget.(CBWM, 2004).

<sup>(4)</sup> The first amount of overpumping (if applicable) is assigned to recycled water recharge up to the amount listed in Table 4-5.

<sup>(5)</sup> The remaining amount of overpumping (if applicable) is assigned to leases and transfers that are subject to a replenishment fee.

<sup>(6)</sup> Shift Obligation per the "Local Agency Agreement" between IEUA and the City of Ontario (IEUA,2003).

<sup>(7)</sup> Supply from Sunkist is set equal to the projected demand, thus it does not impact the available water supply for growth.

<sup>(8)</sup> Combined Water Conservation (active + passive) is counted as a supply source. Values obtained from Table 3-3.

<sup>(9)</sup> Obtained from Table 2-6 (supply is equal to demand).

Table 4-7
<b>Current and Planned Water Supplies – Dry Year Scenario</b>

Water Supply Sources	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Wholesale Water Provider						
WFA Connection I & II (1)	19,750	11,724	11,774	11,824	11,874	11,924
Groundwater Produced						
Operating Safe Yield <sup>(2)</sup>	20,950	24,483	26,478	28,451	31,460	34,475
SAWC (3)	765	765	765	765	765	765
Recycled Water Recharge <sup>(4)</sup>	243	5,355	6,085	6,815	8,519	8,519
Leases and Transfers (5)	874	742	2,678	7,554	10,420	14,984
DYY <sup>(6)</sup>	0	8,076	8,076	8,076	8,076	8,076
Sunkist <sup>(7)</sup>	1,470	1,470	1,470	1,470	1,470	1,470
Local Surface Water Supplies	n/a	n/a	n/a	n/a	n/a	n/a
Recycled Water <sup>(9)</sup>	1,829	7,926	8,816	11,761	12,435	14,492
Desalinated Water	0	5,000	5,000	5,000	5,000	5,000
Total without Water Conservation	45,881	65,541	71,143	81,716	90,019	99,704
Water Conservation <sup>(8)</sup>	-840	-2,635	-3,994	-4,900	-6,149	-7,747
Total with Water Conservation	45,041	62,906	67,149	76,816	83,870	91,957

This table corresponds to DWR Table 4

#### The OSY is calculated as the sum of:

- The City's share of the Initial OSY (20.742 percent of 54,834 or 11,373 AFY till 2017 and 10,337 AFY from 2018 and beyond due to a reduction of 5,000 AFY in OSY)
- The City's share of new yield (2,489 AFY from 2004 and beyond).
- The Ag Pool Reallocation varies over time due to increasing land use conversions and the variable conversion rates (1.3 AFY/acre prior to the Peace Agreement and 2.0 AFY/acre post Peace Agreement). The total re-allocation amount of 15,668 AFY that was estimated for year 2025 by the Chino Basin watermaster is used for year 2030, when the NMC is projected to reach build out conditions.
- The City's share of the early transfers (20.742 percent of 32,800 or 6,804 AFY)
- The City's share of overpumping (28.15 percent of 6,097 or 1,716 AFY). The percentage is based on the portion of the City's potential for reallocation (annual early transfers plus land use conversions) which is 23,366 AFY of 83,006 AFY total.

The amount of water obtained from SAWC is based on a water rights transfer as the SAWC well has high nitrates. The City will obtain water through pumping its own wells.

The amount of overpumping is calculated by subtracting all available potable water supplies (groundwater wells, WFA, SAWC, CDA-I, CDA-II, and water conservation) from the projected

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<sup>(1)</sup> The max capacity that WFA can deliver is 25 mgd (28,000 AFY). WFA is set at 30% of demand except for years where this would results in a supply surplus.

<sup>(2)</sup> Obtained from Table 4-2.

<sup>(3)</sup> SAWC well is closed due to high nitrates. The water rights are transferred to the City which pumps the water from its own wells (Wells 31, 37, and 38). Assessment package from the years 2003 - 2004 for the years 2004 - 2005 budget.(CBWM, 2004).

<sup>(4)</sup> The first amount of overpumping (if applicable) is assigned to recycled water recharge up to the amount listed in Table 4-5.

<sup>(5)</sup> The remaining amount of overpumping (if applicable) is assigned to leases and transfers that are subject to a replenishment fee.

<sup>(6)</sup> Shift Obligation per the "Local Agency Agreement" between IEUA and the City of Ontario (IEUA,2003).

<sup>(7)</sup> Supply from Sunkist is set equal to the projected demand, thus it does not impact the available water supply for growth.

<sup>(8)</sup> Combined Water Conservation (active + passive) is counted as a supply source. Values obtained from Table 3-3.

<sup>(9)</sup> Obtained from Table 2-6 (supply is equal to demand).

average potable water demand. The first amount of overpumping is assigned to "Recycled Water Recharge" up to the amounts listed in **Table 4-5**. This amount is zero if the City has a supply surplus. For years where the City needs to overpump more than the City's share of recycled water recharge, the City would need to lease or transfer additional groundwater supplies.

The DYY amount is zero under normal conditions, and equal to the shift obligation under Dry Year Scenario.

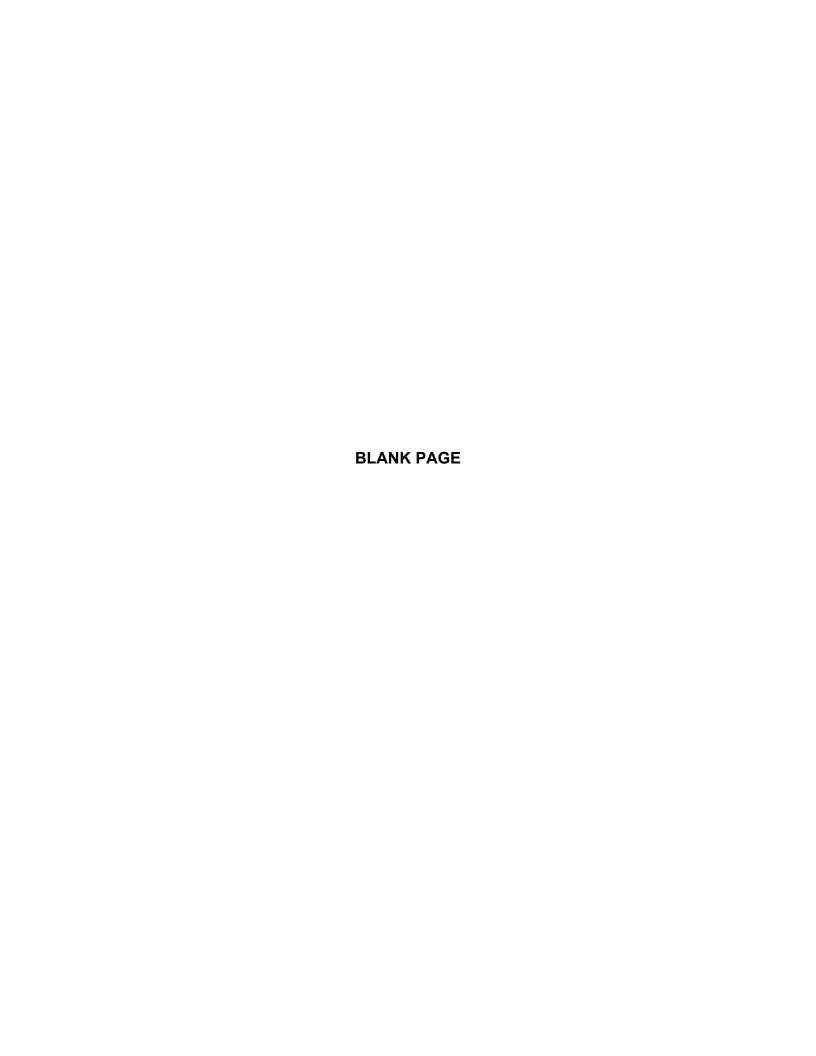
The demand of Sunkist is assumed to remain constant.

The amount of recycled water supplies are based on the recycled water demand projections presented in **Section 3**. Although the actual available recycled water supplies from IEUA may be higher than the projected demands, the recycled water supply is set equal to the recycled water demand, to avoid counting recycled water supplies towards meeting potable water demands. Therefore, the remaining supplies listed in **Table 4-6** and **Table 4-7** should be sufficient to meet the projected potable water demands listed in **Table 2-8**.

Desalinated groundwater from CDA-I and CDA-II will become available in 2007 and is a constant supply delivery.

The Water Conservation amounts are based on the projections presented in IEUA's Review Draft UWMP (IEUA, 2005d). Details on how to achieve these water savings are presented in **Section 3**.

The comparison of supplies and demands and the supply reliability under various weather conditions are discussed in **Section 5**.



# Section 5 Supply Reliability

## 5.1 WATER SERVICE RELIABILITY

Water Code section 10635 (a) defines that every urban water supplier shall include an assessment of the reliability of its water service to its customers during normal, dry year, and multiple dry years in its Urban Water Management Plan (UWMP). This water supply and demand assessment shall compare the total water supply sources available to the water suppliers with the total projected water use over the next 20 years, in 5-year increments, for normal water year, a single dry water year, and multiple dry years.

This section provides the comparison of the available water supplies under various demand conditions through year 2030. The following assumptions are made to calculate the numbers presented in **Tables 5-2** through **5-29**. The projected demands per year from 2005 through 2030 under the evaluated demand scenarios are summarized in **Appendix E**.

- The projected water demand in a "Normal Water Year" are based on the <u>average</u> annual water demand projections presented in **Table 7-1** of the 2005 Water and Recycled Water Master Plan (MWH, 2005).
- The projected water demand in a "Single Dry Year" and "Multiple Dry Year" are based on the <u>high</u> annual water demand projections presented in **Table 7-1** of the 2005 Water and Recycled Water Master Plan (MWH, 2005) and adjusted for water conservation.
- The projected recycled water demands as presented in **Table 2-4** are added to all of the 2005 Water and Recycled Water Master Plan (MWH, 2005) demands under normal year, single dry year, and multiple dry years.
- The water conservation amount as presented in **Table 3-2** of this UWMP is deducted from the projected water demands. This is referred to as the "base water conservation amount"
- Multiple dry year periods consist of three consecutive years, rather than 4 years, as the City's
  only requires to meets its shift obligation for three years as defined in the Dry Year Yield
  (DYY) Program.
- For each multiple dry year period, the first and last year of each 5-year period (ending in 0 and 5) are considered normal years, while the second through fourth year are selected as the dry years. This rule does not apply to the period 2005-2010, as the DYY Program does not become effective until 2008. Years 2009 and 2010 are selected as the multiple dry years in this period. This approach is consistent with the IEUA UWMP (IEUA, 2005).
- In the second and third year of a multiple dry year period, additional water conservation equal to 10 percent of the projected high annual demand is deducted from the projected water demand minus the Active Conservation. Additional water conservation is not applied to the first year of a 3-year multiple dry year period as it is unknown in the first year if a drought sustains. It is assumed that when a drought sustains, public notifications will be used effectively to reduce water consumption.
- All years are considered normal years for the normal year evaluations.

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- Every year of each 5-year period is considered as a dry years for the single dry year evaluations, because each year is evaluated separately. Additional water conservation as used for multiple dry years is not applied.
- In dry years and multiple dry years, the amount of imported water from WFA is reduced by the City's DYY shift obligation of 8,076 acre-ft/yr. This reduction in supply is compensated by increased groundwater production of 8,076 acre-ft/yr. This amount is added to the Chino Basin groundwater leases and replenishment, which is groundwater pumped in excess of the City's water rights.

With these assumptions, the contribution of each supply source to the total supply mix under the various demand conditions is determined. This contribution expressed in percentage of normal year conditions is also referred to as supply reliability. The supply reliability of groundwater leases and replenishment varies over time, as the amount of groundwater used will increase in the future to meet the increasing demands. The supply reliability of the City's supply sources are summarized in **Table 5-1**. The upper end of each range represents the first dry year in the period 2005-2030 when the shift obligation is relatively high, while the lower end of each range represents the last dry year in the period 2005-2030 when the shift obligation becomes a smaller percentage due to an increase in groundwater production.

Table 5-1
Supply Reliability per Source

	Average /		Multiple Dry Water Years (1)						
Supply Source	Normal Water Year	Single Dry Water Year	Year 1	Year 2	Year 3	Year 4 <sup>(2)</sup>			
Groundwater Rights	100%	100%	100%	100%	100%	100%			
Recycled Water	100%	100%	100%	105%	110%	100%			
CDA I & II	100%	100%	100%	100%	100%	100%			
Imported Water	100%	62%	60%	59%	59%	100%			

This table corresponds to DWR Table 8.

Source: (IEUA,2005) pg. 169

#### 5.2 PROJECTED DEMAND AND SUPPLIES – NORMAL WATER YEAR

The City's water supplies, which are separated into the following five categories, are summarized in **Table 5-2**:

 Groundwater – The City's water rights consistent with the operating safe yield (OSY) of the Chino Basin and City's water rights through the San Antonio Water Company (SAWC) shares. As discussed in detail in Section 4, the City's water rights will increase in time due to

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<sup>(1)</sup> Chino Basin Dry-Year Yield (DYY) Program facilities provide for 100,000 AF of storage and 33,000 AFY of additional groundwater production for use in-lieu of Imported Water during dry years. The DYY Program is in effect during dry years between 2008 and 2025. Percentages reflect decrease in imported water and associated increase in groundwater production. From Report on Metropolitan's Water Supplies "A Blueprint for Water Reliability" (MWD, 2003), Metropolitan has documented the capability to reliably meet 100 percent of projected supplemental water demands through 2030. Per the Fiscal Year 2004/2005 Chino Basin Watermaster Assessment Package, agencies have approximately 150,000 AF in storage.

<sup>(2)</sup> Metropolitan's Report on Metropolitan's Water Supplies, A Blueprint for Water Reliability, March 25, 2003, provides information for three consecutive dry years

land use conversions and other factors from 25,660 acre-ft/yr in 2005 to 33,063 acre-ft/yr in 2030.

- CDA The City's 5,000 acre-ft/yr allotment of Chino Desalter I and II starting in 2006.
- Chino Basin Leases and Replenishment The amount of groundwater pumped in excess of the City's water rights that are subject to replenishment fees. This amount increases over time to accommodate the growth in water demand.
- Imported Water The projected amount of water purchased from WFA and increases to 20,000 acre-ft/yr in year 2030 under normal year conditions. This amount is adjusted with the shift obligation of 8,076 acre-ft/yr for single and multiple dry years.
- Recycled Water The recycled water supply is set equal to the projected recycled water demand and increases from gradually to 14,492 acre-ft/yr in 2030.

Table 5-2
Projected Normal Water Supply

Supply Sources	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights (1)	26,718	28,713	30,686	33,695	36,710
CDA-I and II	0	209	4,338	7,086	9,481
Additional Groundwater Pumping <sup>(2)</sup>	5,000	5,000	5,000	5,000	5,000
Imported Water <sup>(3)</sup>	19,055	19,850	19,900	19,950	20,000
Recycled Water	7,926	8,816	11,761	12,435	14,492
Base Conservation	2,635	3,994	4,900	6,149	7,747
Total Supply	61,334	66,583	76,585	84,316	93,430

This table corresponds to DWR Table 40.

The projected normal demand consist of the combination of potable and recycled water demands and is adjusted for the base water conservation as discussed in **Section 3**. The projected normal year demands are summarized in **Table 5-3**.

Table 5-3
Projected Normal Year Water Demand

Demand	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Potable Water	53,408	57,767	64,824	71,881	78,938
Recycled Water	7,926	8,816	11,761	12,435	14,492
Total Demand	61,334	66,583	76,585	84,316	93,430
% of year 2005	136%	148%	170%	187%	207%
Active Conservation	(2,635)	(3,994)	(4,900)	(6,149)	(7,747)
Total Demand with Conservation	58,699	62,589	71,685	78,167	85,683

This table corresponds to DWR Table 41

The comparison between the available water supplies and projected demands for normal year conditions is presented in **Table 5-4**. As shown in this table, the available supplies are equal to the projected demand.

<sup>(1)</sup> Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

<sup>(2)</sup> Additional groundwater pumping includes recycled water recharge, leases and transfers.

<sup>(3)</sup> The City of Ontario owns a total capacity of 25 MGD (28,000 AF) in the WFA Plant.

Table 5-4						
<b>Normal Year Supply and Demand Comparison</b>						

Supply and Demand	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Supply totals	61,334	66,583	76,585	84,316	93,430
Demand totals	61,334	66,583	76,585	84,316	93,430
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 42

The supply strategy shown in **Table 5-4** is based on maximizing groundwater and CDA supplies as these are the cheapest sources of supply. The amount of imported water is such that the City maintains sufficient supplies when it needs to meet its shift obligation in dry years. The recycled water supplies are set equal to the recycled water demand. Hence, the only variable in the water supply mix is the amount of Chino Basins groundwater leases and replenishment. This amount is adjusted such that the total water supply equals the projected demands. Therefore, there is no supply surplus shown in **Table 5-4**. However, the City has the ability to pump more water if needed as the City's groundwater pumping capacity is greater than needed to meet the annual demands, as additional wells are used to meet the maximum day demand. The groundwater supply surplus based on continues groundwater pumping of all wells is shown in **Table 5-5**.

Table 5-5
Groundwater Pumping Surplus in Normal Year Conditions

Groundwater Supply	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights	26,718	28,713	30,686	33,695	36,710
Additional Groundwater Pumping <sup>(1)</sup>	0	209	4,338	7,086	9,481
Total Projected GW Supply	26,718	28,923	35,024	40,782	46,191
Available GW Pumping Capacity	78,877	78,877	78,877	83,715	93,391
GW Pumping Surplus	52,159	49,954	43,853	42,933	47,200

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

## 5.3 PROJECTED DEMAND AND SUPPLIES – SINGLE DRY YEAR

The City has the same water supply sources available in a single dry year as in a normal dry year, however the available amount of some of the sources are adjusted. As discussed in **Section 4**, the City will participate in a cooperative conjunctive use program with Metropolitan Water District of Southern California (MWD) and other agencies. This program will become effective in year 2008. Under this program, the City will receive less imported water from MWD through WFA in years designated as a dry year based on the regional water supply situation. To compensate the reduced imported water supply, also referred to as the City's shift obligation, the City will pump additional groundwater with wells that are drilled and financed through the DYY Program. The City's shift obligation is 8,076 acre-ft/yr. The water supply mix under dry year

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conditions is presented in **Table 5-5**. As shown in this table, the imported supplies are reduced by 8,076 acre-ft/yr, while the chino basin replenishment supplies are increased by this amount.

Table 5-6
Projected Single Dry Year Water Supply

Supply Sources	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights <sup>(1)</sup>	26,718	28,713	30,686	33,695	36,710
Additional GW Pumping <sup>(2)</sup>	5,000	5,000	5,000	5,000	5,000
CDA-I and II	11,538	12,845	17,546	20,866	23,832
Imported Water	11,724	11,774	11,824	11,874	11,924
Recycled Water	9,449	10,511	14,022	14,825	17,278
Base Conservation	2,635	3,994	4,900	6,149	7,747
Total Supply	67,064	72,837	83,977	92,409	102,490
Groundwater Rights	100%	100%	100%	100%	100%
Additional Groundwater <sup>(2)</sup>	100%	100%	100%	100%	100%
CDA	n/a	6135%	404%	294%	251%
Imported Water	62%	59%	59%	60%	60%
Recycled Water	119%	119%	119%	119%	119%
% of projected normal	105%	104%	103%	102%	102%

This table corresponds to DWR Table 43

Based on historical production data for the period 1990-2003, the dry year demands are about 8.1 higher than the annual average demands. The dry year demands are also referred to as the High Year Demand in the 2005 Water Master Plan (MWH, 2005). The demands used for the single dry year are based on the high year demands. The demand of Sunkist is assumed to remain unchanged at 1,470 acre-ft/yr. The difference between the dry year demands shown in **Table 5-7** and the annual average demands listed in **Table 5-3** are not exactly 8.1 percent, because the potable demands include both the City's and Sunkist's demands.

The recycled water demands are increased with 19 percent under dry year conditions to compensate the decrease in rainfall. With an average ET of 55.1 inches and average rainfall of 15.3 inches, irrigation should be about 39.8 inches per year. Assuming that rainfall in a dry year is about 50 percent of normal rainfall, irrigation increases to about 47.5 inches, which is 19 percent higher than 39.8 inches.

The projected demands under single dry year conditions are shown in **Table 5-7**.

<sup>(1)</sup> Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

<sup>(2)</sup> Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

Table 5-7
Projected Single Dry Year Water Demand

Demand	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Potable High Demand 1	57,615	62,327	69,955	77,584	85,212
Recycled Water	9,449	10,511	14,022	14,825	17,278
Total Demand without Conservation	67,064	72,837	83,977	92,409	102,490
Base Conservation	(2,635)	(3,994)	(4,900)	(6,149)	(7,747)
Total Demand with Conservation	64,429	68,843	79,077	86,260	94,743
% of projected normal	108%	106%	105%	104%	103%

This table corresponds to DWR Table 44

The comparison between the available water supplies and projected demands for single dry year conditions is presented in **Table 5-8**. As shown in this table, the available supplies are equal to the projected demand, which means that the City has sufficient supply to meet the demands under single dry year conditions. Similarly to the supply strategy under normal year conditions, the City has the ability to pump more water if needed by using additional wells. The groundwater supply surplus under single dry year conditions based on continues groundwater pumping of all wells is shown in **Table 5-9**.

Table 5-8
Single Dry Year Supply and Demand Comparison

	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Supply totals	67,064	72,837	83,977	92,409	102,490
Demand totals	67,064	72,837	83,977	92,409	102,490
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 45

Table 5-9
Groundwater Pumping Surplus in Single Dry Year Conditions

Groundwater Supply	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Groundwater Rights	26,718	28,713	30,686	33,695	36,710
Additional Groundwater Pumping <sup>(1)</sup>	11,538	12,845	17,546	20,866	23,832
Total Projected GW Supply	38,256	41,559	48,231	54,561	60,541
Available GW Pumping Capacity	78,877	78,877	78,877	83,715	93,391
GW Pumping Surplus	40,621	37,318	30,646	29,154	32,849

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

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# 5.4 PROJECTED DEMAND AND SUPPLIES – MULTIPLE DRY YEAR

The water demands and supplies are also analyzed for the next 25 years in the event of a multiple dry year period. Multiple dry year periods consist of 3 consecutive years, rather than 4 years, as the City is only required to meets its shift obligation for 3 years as defined in the DYY Program.

The results are presented in per year for 5-year periods, compared to the 5-year intervals shown for the normal and single dry year conditions to demonstrate the effect of multiple dry years on water demands, conservation, and supplies. For each multiple dry year period, the first and last year of each 5-year period (ending in 0 and 5) are considered normal years, while the second through fourth year are selected a the dry years. An exception is the period 2005-2010, where years 2009 and 2010 are selected as the 2-year multiple dry year period, because full implementation of the DYY Program does not become effective until 2008. The water demand in the first year of a multiple dry year period is the same as a single dry year, while the demand in the second and third year are lowered with additional water conservation, corresponding to multiple dry year demand in **Appendix E**.

The City has the same water supply sources and supply amounts available in a multiple dry year as in a single dry year. The water supply mix under multiple dry year conditions for the period 2006-2010 is presented in **Table 5-10.** As shown in this table, the imported supplies in 2009 and 2010 are reduced by 8,076 acre-ft/yr, while the chino basin replenishment supplies are increased by this amount for these years.

Table 5-10
Projected Supply for a Multiple Dry Year Period ending in 2010

Supply Sources	2006 (AFY)	2007 (AFY)	2008 (AFY)	2009 (AFY)	2010 (AFY)
Climate Condition	Normal	Normal	Dry	Dry	Dry
Groundwater <sup>(1)</sup>	23,892	24,598	25,305	26,012	26,718
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	0	0	8,743	4,626	5,776
Imported Water	14,167	15,389	11,704	11,714	11,724
Recycled Water	3,042	4,268	6,551	8,013	9,449
Active Conservation	1,199	1,558	1,917	2,276	2,635
Additional Conservation	0	0	0	5,514	5,761
Total Supply	47,299	50,813	59,220	63,154	67,064
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	100%	100%	100%	100%
Imported Water	80%	81%	70%	66%	62%
Recycled Water	100%	100%	119%	119%	119%
% of projected normal	103%	103%	116%	117%	117%

This table corresponds to DWR Table 46

<sup>(1)</sup> Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

<sup>(2)</sup> Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

# Section 5 – Water Supply Reliability

Similarly to the single dry year conditions, the potable water demands for multiple dry years are increased with 8.1 percent (with the exception of Sunkist) to represent high annual demands, while recycled water demands are increased by 19 percent compared to normal year conditions. In addition to the "base water conservation" used for normal and single dry year conditions, additional water conservation equal to 10 percent of the projected high annual demand is deducted from the projected water demand in the second and third year of each multiple dry year period. The 10 percent additional water conservation is not applied to the first year of a 3-year multiple dry year period because it is unknown in the first year if a drought sustains. It is assumed that when a drought sustains, public notifications will be used effectively to reduce water consumption.

The projected demands under the period 2006-2010 with multiple dry years in 2009 and 2010 are shown in **Table 5-11**.

Table 5-11
Projected Demand for a Multiple Dry Year Period ending in 2010

Demand	2006 (AFY)	2007 (AFY)	2008 (AFY)	2009 (AFY)	2010 (AFY)
Climate Condition	Normal	Normal	Dry	Dry	Dry
Potable High Demand	0	0	52,669	55,142	57,615
Potable Normal Demand	44,257	46,545	0	0	0
Recycled Water	3,042	4,268	6,551	8,013	9,449
Total Demand without Conservation	47,299	50,813	59,220	63,154	67,064
Base Conservation	(1,199)	(1,558)	(1,917)	(2,276)	(2,635)
Additional Conservation	0	0	0	(5,514)	(5,761)
Total Demand with Conservation	46,100	49,255	57,303	55,364	58,668
% of projected normal	100%	100%	109%	100%	100%

This table corresponds to DWR Table 47

The comparison between the available water supplies and projected demands for multiple dry years in the period 2006-2010 is presented in **Table 5-12**.

Table 5-12
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2010

Supply and Demand	2006 (AFY)	2007 (AFY)	2008 (AFY)	2009 (AFY)	2010 (AFY)
Climate Condition	Normal	Normal	Dry	Dry	Dry
Supply totals	47,299	50,813	59,220	63,154	67,064
Demand totals	47,299	50,813	59,220	63,154	67,064
Difference	2,276	1,972	0	0	0
Difference as % of Supply	4.7%	3.8%	0.0%	0.0%	0.0%
Difference as % of Demand	4.9%	4.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 48

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As shown in this table, the available supplies are equal to the projected demand, which means that the City has sufficient supply to meet the demands under single dry year conditions. Similarly to the supply strategy under normal and single dry year conditions, the City has the ability to pump more water if needed by using additional wells. The groundwater supply surplus under multiple dry year conditions based on continues groundwater pumping of all wells is shown in **Table 5-13**.

Table 5-13
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2010

Groundwater Supply	2006 (AFY)	2007 (AFY)	2008 (AFY)	2009 (AFY)	2010 (AFY)
Climate Condition	Normal	Normal	Dry	Dry	Dry
Groundwater Rights	23,892	24,598	25,305	26,012	26,718
Additional Groundwater Pumping <sup>(1)</sup>	0	0	8,743	4,626	5,776
Total Projected GW Supply	23,892	24,598	34,048	30,638	32,494
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
GW Pumping Surplus	25,313	54,279	44,829	48,239	51,221

<sup>(1)</sup> Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2011-2015 are presented in **Table 5-14**, **Table 5-15**, **Table 5-16**, and **Table 5-17**, respectively. Years 2011 and 2015 represent normal year conditions, while years 2012 through 2014 represent the multiple dry year period. As shown in **Table 5-16**, the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-17**.

Table 5-14
Projected Supply for a Multiple Dry Year Period ending in 2015

Supply Sources	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Groundwater <sup>(1)</sup>	27,117	27,516	27,915	28,314	28,713
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	0	12,061	6,451	6,445	209
Imported Water	19,256	11,744	11,581	11,764	19,850
Recycled Water	8,378	10,501	11,015	11,528	8,816
Active Conservation	2,907	3,179	3,450	3,722	3,994
Additional Conservation	0	0	6,044	6,138	0
Total Supply	62,657	70,001	71,457	72,912	66,583
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	100%	100%	34983%	100%
Imported Water	100%	60%	59%	59%	100%
Recycled Water	100%	119%	119%	119%	100%
% of projected normal	105%	118%	118%	119%	106%

This table corresponds to DWR Table 49.; (1) Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist. (2) Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

Table 5-15
Projected Demand for a Multiple Dry Year Period ending in 2015

Demand	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Potable High Demand	0	59,500	60,442	61,384	0
Potable Normal Demand	54,280	0	0	0	57,767
Recycled Water	8,378	10,501	11,015	11,528	8,816
<b>Total Demand without Conservation</b>	62,657	70,001	71,457	72,912	66,583
Base Conservation	(2,907)	(3,179)	(3,450)	(3,722)	(3,994)
Additional Conservation	0	0	(6,044)	(6,138)	0
Total Demand with Conservation	59,750	66,822	61,962	63,052	62,589
% of projected normal	100.0%	109.9%	100.2%	100.3%	100.0%

This table corresponds to DWR Table 50.

Table 5-16
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2015

Supply and Demand	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Supply totals	62,657	70,001	71,457	72,912	66,583
Demand totals	62,657	70,001	71,457	72,912	66,583
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 51.

Table 5-17
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2015

Groundwater Supply	2011 (AFY)	2012 (AFY)	2013 (AFY)	2014 (AFY)	2015 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Groundwater Rights	27,117	27,516	27,915	28,314	28,713
Additional Groundwater Pumping <sup>(1)</sup>	0	12,061	6,451	6,445	209
Total Projected GW Supply	27,117	39,577	34,366	34,760	28,923
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
GW Pumping Surplus	22,087	39,300	44,511	44,117	54,792

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2016-2020 are presented in **Table 5-18**, **Table 5-19**, **Table 5-20**, and **Table 5-21**, respectively. Years 2016 and 2020 represent normal year conditions, while years 2017 through 2019 represent the multiple dry year period. As shown in **Table 5-20**, the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-21**.

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Table 5-18
Projected Supply for a Multiple Dry Year Period ending in 2020

Supply Sources	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Groundwater <sup>(1)</sup>	29,108	29,502	29,897	30,291	30,686
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	1,035	14,725	8,975	9,763	4,338
Imported Water	19,860	11,794	11,804	11,814	19,900
Recycled Water	10,259	12,420	12,609	12,798	11,761
Active Conservation	4,175	4,356	4,538	4,719	4,900
Additional Conservation	0	0	6,690	6,843	0
Total Supply	69,437	77,798	79,513	81,227	76,585
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	791%	334%	278%	100%
Imported Water	100%	59%	59%	59%	100%
Recycled Water	100%	119%	119%	119%	100%
% of projected normal	106%	119%	119%	120%	107%

This table corresponds to DWR Table 52

Table 5-19
Projected Demand for a Multiple Dry Year Period ending in 2020

Demand	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Potable High Demand	0	65,378	66,904	68,430	0
Potable Normal Demand	59,178	0	0	0	64,824
Recycled Water	10,259	12,420	12,609	12,798	11,761
Total Demand without Conservation	69,437	77,798	79,513	81,227	76,585
Base Conservation	(4,175)	(4,356)	(4,538)	(4,719)	(4,900)
Additional Conservation	0	0	(6,690)	(6,843)	0
Total Demand with Conservation	65,262	73,441	68,285	69,666	71,685
% of projected normal	100.0%	110.2%	100.4%	100.3%	100.0%

This table corresponds to DWR Table 53

<sup>(1)</sup> Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

<sup>(2)</sup> Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

Table 5-20
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2020

Supply and Demand	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Supply totals	69,437	77,798	79,513	81,227	76,585
Demand totals	69,437	77,798	79,513	81,227	76,585
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 54

Table 5-21
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2020

Groundwater Supply	2016 (AFY)	2017 (AFY)	2018 (AFY)	2019 (AFY)	2020 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Groundwater Rights	29,108	29,502	29,897	30,291	30,686
Additional Groundwater Pumping <sup>(1)</sup>	1,035	14,725	8,975	9,763	4,338
Total Projected GW Supply	30,143	44,228	38,872	40,054	35,024
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
GW Pumping Surplus	19,061	34,649	40,005	38,823	48,691

(1) Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2021-2025 are presented in **Table 5-22**, **Table 5-23**, **Table 5-24** and **Table 5-25**, respectively. Years 2021 and 2025 represent normal year conditions, while years 2022 through 2024 represent the multiple dry year period. As shown in **Table 5-24**, the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-25**.

Table 5-22
Projected Supply for a Multiple Dry Year Period ending in 2025

Supply Sources	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Groundwater <sup>(1)</sup>	31,288	31,890	32,492	33,093	33,695
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	4,888	18,874	12,084	12,596	7,086
Imported Water	19,910	11,844	11,854	11,864	19,950
Recycled Water	11,103	13,487	13,736	13,986	12,435
Active Conservation	5,150	5,400	5,649	5,899	6,149
Additional Conservation	0	0	7,453	7,606	0
Total Supply	77,338	86,493	88,269	90,045	84,316

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Table 5-22 (continued)
Projected Supply for a Multiple Dry Year Period ending in 2025

Supply Sources	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	347%	202%	193%	100%
Imported Water	100%	59%	59%	59%	100%
Recycled Water	100%	119%	119%	119%	100%
% of projected normal	107%	120%	120%	120%	108%

This table corresponds to DWR Table 55.

Table 5-23
Projected Demand for a Multiple Dry Year Period ending in 2025

Demand	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Potable High Demand	0	73,007	74,533	76,058	0
Potable Normal Demand	66,235	0	0	0	71,881
Recycled Water	11,103	13,487	13,736	13,986	12,435
Total Demand without Conservation	77,338	86,493	88,269	90,045	84,316
Base Conservation	(5,150)	(5,400)	(5,649)	(5,899)	(6,149)
Additional Conservation	0	0	(7,453)	(7,606)	0
Total Demand with Conservation	72,188	81,094	75,166	76,540	78,167
% of projected normal	100.0%	110.2%	100.3%	100.3%	100.0%

This table corresponds to DWR Table 56

Table 5-24
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2025

Supply and Demand	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Supply totals	77,338	86,493	88,269	90,045	84,316
Demand totals	77,338	86,493	88,269	90,045	84,316
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

This table corresponds to DWR Table 57

<sup>(1)</sup> Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

<sup>(2)</sup> Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

Table 5-25
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2025

Groundwater Supply	2021 (AFY)	2022 (AFY)	2023 (AFY)	2024 (AFY)	2025 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Groundwater Rights	31,288	31,890	32,492	33,093	33,695
Additional Groundwater Pumping <sup>(1)</sup>	4,888	18,874	12,084	12,596	7,086
Total Projected GW Supply	36,175	50,763	44,576	45,689	40,782
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715
GW Pumping Surplus	13,029	28,114	34,301	33,188	42,933

<sup>(1)</sup> Additional groundwater pumping includes recycled water recharge, leases and transfers.

The projected supply, demands, and the comparison of supply and demand, and the groundwater pumping surplus for the period 2026-2030 are presented in **Table 5-26**, **Table 5-27**, **Table 5-28**, and **Table 5-29**, respectively. Years 2026 and 2030 represent normal year conditions, while years 2027 through 2029 represent the multiple dry year period. As shown in **Table 5-28** the City has sufficient water supplies to meet the projected demands and has excess groundwater pumping capacity as shown in **Table 5-29**.

Table 5-26
Projected Supply for a Multiple Dry Year Period ending in 2030

Supply Sources	2026 (AFY)	2027 (AFY)	2028 (AFY)	2029 (AFY)	2030 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Groundwater <sup>(1)</sup>	34,298	34,901	35,504	36,107	36,710
CDA-I and II	5,000	5,000	5,000	5,000	5,000
Additional Groundwater Pumping <sup>(2)</sup>	7,565	22,052	14,429	14,870	9,481
Imported Water	19,960	11,894	11,904	11,914	20,000
Recycled Water	12,430	15,401	15,984	16,566	14,492
Active Conservation	6,469	6,788	7,108	7,427	7,747
Additional Conservation	0	0	8,216	8,369	0
Total Supply	85,722	96,037	98,145	100,253	93,430
Groundwater	100%	100%	100%	100%	100%
CDA-I and II	100%	100%	100%	100%	100%
Additional Groundwater Pumping	100%	274%	169%	165%	100%
Imported Water	100%	60%	60%	60%	100%
Recycled Water	100%	119%	119%	119%	100%
% of projected normal	108%	121%	121%	121%	109%

<sup>(1)</sup> Groundwater rights includes the Total share of Initial OSY, the SAWC shares, and the water rights from Sunkist.

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<sup>(1)</sup> Additional groundwater includes groundwater pumping for the DYY shift obligation, recycled water recharge, and Chino Basin Leases and Replenishment.

Table 5-27
Projected Demand for a Multiple Dry Year Period ending in 2030

Demand	2026 (AFY)	2027 (AFY)	2028 (AFY)	2029 (AFY)	2030 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Potable High Demand	0	80,635	82,161	83,687	0
Potable Normal Demand	73,292	0	0	0	78,938
Recycled Water	12,430	15,401	15,984	16,566	14,492
Total Demand without Conservation	85,722	96,037	98,145	100,253	93,430
Base Conservation	(6,469)	(6,788)	(7,108)	(7,427)	(7,747)
Additional Conservation	0	0	(8,216)	(8,369)	0
Total Demand with Conservation	79,253	89,248	82,821	84,457	85,683
% of projected normal	100.0%	110.4%	100.5%	100.6%	100.0%

Table 5-28
Supply and Demand Comparison for a Multiple Dry Year Period ending in 2030

Supply and Demand	2026 (AFY)	2027 (AFY)	2028 (AFY)	2029 (AFY)	2030 (AFY)
Climate Condition	Normal	Dry	Dry	Dry	Normal
Supply totals	85,722	96,037	98,145	100,253	93,430
Demand totals	85,722	96,037	98,145	100,253	93,430
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

Table 5-29
Groundwater Pumping Surplus in Multiple Dry Year Conditions ending in 2030

Groundwater Supply	2026 2027 (AFY) (AFY)		2028 (AFY)	2029 (AFY)	2030 (AFY)	
Climate Condition	Normal	Dry	Dry	Dry	Normal	
Groundwater Rights	34,298	34,901	35,504	36,107	36,710	
Additional Groundwater Pumping <sup>(1)</sup>	7,565	22,052	14,429	14,870	9,481	
Total Projected GW Supply	41,863	56,953	49,933	50,977	46,191	
Available GW Pumping Capacity	49,204	78,877	78,877	78,877	83,715	
GW Pumping Surplus	7,341	21,924	28,944	27,900	37,524	

<sup>(1)</sup> Additional groundwater pumping includes recycled water recharge, leases and transfers.

## 5.5 INTER-AGENCY CONNECTIONS

The City's water system is connected with neighboring cities and water utilities through five inter-agency connections. Only one of the five inter-agency connections can provide water supply to the City of Ontario, while four locations can provide water from Ontario to the adjacent water agencies. In 2006, the City will obtain water from CDA though three additional connections which will provide water to the City at a continuous rate. The 2005 Water Master Plan (MWH, 2005) includes recommendations for five additional inter-agency connections that would be used in emergencies only. These connections will increase the City's supply reliability and are summarized in **Table 5-30**.

Table 5-30 Existing and Proposed Inter-Agency Connections

ID	General Location	Fr	rom	То			
ID	General Location	Agency	Zone	Agency	Zone		
Existing C	onnections						
WFA	Benson Ave. & 18 <sup>th</sup> St.	WFA	1618'	Ontario	1348' and		
CVWD-1	Sixth St. & Corona Ave.	Ontario	1348'	CVWD	1190' or		
CVWD-2	Sixth St. & Vineyard Ave.	Ontario	1348'	CVWD	1190'		
CVWD-3	Milliken Ave. & 6 <sup>th</sup> St.	CVWD	1310'	Ontario	1212'		
Chino-1	Benson Avenue/State St.	Ontario (3)	1212'	Chino	980'		
Upland-1	Campus Ave./Richland St.	Ontario	1348'	Upland	unknown		
Future Co	Future Connections						
CDA-1	Archibald & Schaefer Ave.	CDA-1	Unknown	Ontario	1212'		
JCSD-1/ CDA2-1	Milliken Ave. and Philadelphia St.	JCSD/CDA-2	1110'	Ontario	1212'		
JCSD-2/ CDA2-2	Milliken Ave. & Galena St.	JCSD/CDA-2	1110'	Ontario	925'		
JCSD-3	Along Bellgrave Ave.	Ontario	925'	JSCD	870'		
Chino-2	Euclid Ave & Chino Ave.	Chino	980'	Ontario	925'		
MVWC-1	Benson Ave & San	Ontario	1212'	MVWD	1207'		
1010 000-1	Bernardino Ave.	MVWD	1355'	Ontario	1348'		
Upland-2	Reservoir 1348' (1-3)	Upland	Unknown	Ontario	1348'		
FWC-1	Etiwanda Ave. & Airport Dr.	Fontana	1280'	Ontario	1212'		

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# Section 6 Water Shortage Contingency Plan

The City of Ontario (City) has prepared and adopted a number of plans that address water shortages including the Emergency Response Plan (Boyle, 2003) and the Emergency Water Conservation Chapter of the Municipal Code (Ontario, 1999). This section provides a summary of these plans and presents actions to be undertaken to respond to water shortages in compliance with the Urban Water Management Plan (UWMP) Act (CC 10610). The Act requires every urban water supplier to file a plan, because of the worsening 1986-1992 drought. The Act is included in **Appendix B** and summarized below.

## 6.1 URBAN WATER MANAGEMENT PLAN ACT

In summary, Section 10632 of the UWMP Act requires than each urban water supplier provides an urban water shortage contingency analysis that includes each of the following elements, where applicable:

- A definition of stages of water supply conditions and the associated actions to be undertaken during each stage, including up to a 50 percent reduction in water supply. 10632 (a).
- Estimates the minimum water supply available at the end of 1, 2 and 3 years. 10632 (b)
- Actions to be undertaken to prepare for, and implement during, a catastrophic interruption of water supplies. 10632 (c)
- Mandatory prohibitions against specific water use during water shortages. 10632 (d)
- Consumption reductions to achieve up to a 50 percent reduction in water supply. 10632 (e)
- Penalties or charges for excessive use. 10632 (f)
- An analysis of the impacts on revenues and expenditures of each of the actions and conditions described in subdivisions (a) to (f)., 10632 (g)
- A draft water shortage contingency resolution or ordinance. 10632 (h)
- A mechanism for determining actual reductions in water use. 10632 (i)

#### 6.2 MINIMUM SUPPLY AND DEMANDS DURING WATER SHORTAGES

Section 10632 (b) defines the minimum water supply as the supply available during each of the next three water years based on the driest three-year historic sequence for the City's water supply. The lowest 3-year supply occurred in the period 1991 through 1993, which partially overlaps with the 1986-1992 drought. However, the supply in this period is not driven by supply availability but by water demands. The City could have pumped more groundwater or imported more water from WFA in these years if needed. Therefore, the minimum supply in this UWMP is not based on historical data but on the assumption that the City's imported water supply would be cut back by 50 percent. The three-year minimum water supplies are compared with the normal year demands for the period 2005 through 2008 in **Table 6-1** 

Table 6-1				
<b>Three-Year Minimum Water</b>	Supply			

Year	Minimum Supply (acre-ft/yr)	Normal Year Demand (acre-ft/yr)	Supply Deficit <sup>(1)</sup> (acre-ft/yr)	Additional GW Pumping Capacity (acre-ft/yr)	Supply Surplus <sup>(2)</sup> (acre-ft/yr)
Year 1 (2005)	29,629	43,572	13,943	27,366	13,423
Year 2 (2006)	34,564	44,797	10,233	57,103	46,870
Year 3 (2007)	37,764	48,119	10,356	55,130	44,775

This table corresponds to DWR Table 24.

The minimum supplies and demands listed in **Table 6-1** are based on the following assumptions:

- Imported water is reduced to 50 percent (4,749 acre-ft/yr) of the historical purchases in the period 1990-2003 (9,494 acre-ft/yr).
- Groundwater supply is limited to the City's water rights and transfer water rights from San Antonio Water Company (SAWC) and Sunkist.
- Leases and replenishment of groundwater are not included.
- Water from the Chino Basin Desalter Authority (CDA) is included for 2006 and 2007.
- Recycled water supplies are assumed to be equal to the projected recycled water demands.
- The base amount of water conservation per the goals set forth in Inland Empire Utilities Agency (IEUA) 2005 UWMP are included. Additional water conservation, as used for multiple dry year scenarios discussed in **Section 5**, are not included.

As shown in **Table 6-1**, the City needs to purchase additional groundwater beyond its water rights to meet its demands. As the Chino Basin judgement does not limit the City's groundwater supplies to its water rights, the City can pump additional groundwater in exchange for a groundwater replenishment fee to the Chino Basin Watermaster. The only limitation to the supply is the available groundwater pumping capacity, which is demonstrated to be sufficient in **Table 6-1** and under all scenarios presented in **Section 5**.

## 6.3 WATER SHORTAGE STAGES

On March 19<sup>th</sup> of 1999, the City adopted Ordinance No. 2500, adding Chapter 8A "*Emergency Water Conservation*" to Title 6 of the Ontario Municipal Code (Ontario, 1999). This ordinance established a phased approach to water conservation enforcement that consists of three mandatory water shortage phases, Phase 1 through Phase 3 that increase in severity of water shortage. These water supply shortage stages and the associated conditions are summarized in **Table 6-2**.

As shown in **Table 6-2**, a voluntary stage, Phase 0, has been added. The benefit of a voluntary stage is that the City can maintain its normal operations and it gives customers a chance to voluntarily conserve water compliance to comply to mandatory regulations is enforced. Based on the customers response to Phase 0, City Council can determine that it is necessary to implement Phase 1 to protect the public welfare and safety. Prior to the implementation of each mandatory phase, the City Council shall hold a public hearing for the purpose of determining

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<sup>(1)</sup> Without groundwater pumping limited to the City's water rights.

<sup>(2)</sup> With additional groundwater pumping beyond City's water rights (limited by available firm groundwater pumping capacity.

whether a shortage exists and which measures should be implemented. The public shall be informed of the public hearing at least 10 days prior before the hearing, and City Council shall notify the public of its determination by public proclamations.

Table 6-2
Water Supply Shortage Stages and Conditions

Stage No.	Water Supply Conditions	Shortage (percent)
0	Voluntary	0-10 %
1	Mandatory	0-10 %
2	Mandatory	11-20%
3	Mandatory	20-50%

This table corresponds to DWR Table 23.

#### 6.3.1 Water Use Restrictions

The water use restrictions for each Phase are listed in **Table 6-3**. The voluntary water use restrictions selected of Phase 0 are the same as the mandatory water use restrictions of Phase 1.

Table 6-3
Mandatory Prohibitions and Stage

Formula of Book 11 12 or a		Phase				
Examples of Prohibitions	0	1	2	3		
Hose washing of outdoor paved surfaces, except for sanitary purposes	Χ	Χ	Χ	Χ		
Washing of vehicles or mobile equipment, except at a commercial car wash or with reclaimed water.	Х	Х	Х	Х		
Filling of decorative fountains, ponds or lakes.	Х	Х	Х	Χ		
Supply of water at a commercial venue unless requested by customer.	Х	Х	Х	Χ		
Not repairing leaks promptly.	Х	Χ	Х	Х		
Allowing water to leave a customer's property by drainage onto adjacent property due to excessive irrigation.	Х	Х	Х	Х		
Lawn watering or irrigation during daylight.			Χ	Χ		
Use of hand-held hose without automatic shut-off nozzle			Χ	Χ		
Use of potable water for commercial street cleaning			Х	Χ		
Residential car washing			Χ	Χ		
No residential outdoor watering at any time except by bucket.				Χ		

In addition to the water use restrictions listed in **Table 6-3**, the Emergency Water Conservation Chapter (Ontario, 1999) defines that no water customer of the City shall make, cause, use or permit the use of water from the City for any purpose in an amount in excess of 85 percent for Phase 2 and 80 percent for Phase 3 of the amount used on the customer's premises during the corresponding billing period during the prior calendar year.

# Section 6 – Water Shortage Contingency Plan

Failure to comply with the mandatory phases 1-3 can lead to the fines as listed in **Table 6-4**.

Table 6-4
Penalties and Charges

Violation description	Violation number <sup>(1)</sup>	Penalty
Conservation	First	The City issues a written notice of a first violation to the water
Actions	violation	customer.
	Second	The City imposes a surcharge in an amount of fifty dollars (\$50.00)
	violations	added to the water customer's water bill.
	Third	The City imposes a surcharge in an amount of one hundred dollars
	violation	(\$100.00) added to the water customer's water bill.
	Fourth	The City imposes a surcharge in an amount of one hundred fifty dollars
	violation	(\$150.00) added to the customer's water bill.
		And
		Install a flow restrictive device and charge the customer for the
		installation and disassembly.
Conservation		Pay a surcharge in an amount equal to one hundred percent (100%) of
Quantity		the portions of the water bill that exceeds the respective percentages
		set in those two subsections.

<sup>(1)</sup> Violations within one water shortage emergency

In addition to the water use restrictions listed in **Table 6-3**, the City could also add additional consumption reduction methods. Examples are presented in **Table 6-5**.

# 6.4 CATASTROPHE

Section 10632 (c) of the UWMP requires the definition of actions to be undertaken to prepare for, and implement during, a catastrophic interruption of water supplies. Catastrophic events include non-drought events such as earthquakes. With three of Southern California's imported water supplies (State Water Project, Colorado River Aqueduct, and the Los Angeles Aqueduct) all crossing the San Andreas Fault, it is likely that one or more of these supplies will be disrupted in the event of a major earthquake. It is estimated that restoring service to any of these facilities following a catastrophic outage could take up to six months, which could reduce annual imported water deliveries by roughly 50 percent.

Planning for catastrophes has been addressed in multiple documents that can be differentiated based on the level of detail specifically related to the City. These levels are:

- Southern California Region MWD's Water Surplus and Drought Management Plan
- Inland Empire Region IEUA's Emergency Response Plan
- City of Ontario Ontario's Emergency Response Plan

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Table 6-5
Other Consumption Reduction Methods

Consumption Reduction Method	Phase When Method Takes Effect	Projected Reduction (percent)
Coordinate with other agencies to issue press notification to the media	0	
Notify customers of need for additional conservation	0	Unknown
Ask large irrigation customers to reduce water usage	0	Unknown
Ask customers to reduce irrigation	0	
Reduce or suspend deliveries to neighboring water agencies	1	
Establish reduction targets for commercial landscape accounts	1	Unknown
Enforce water conservation and use restrictions	restrictions 1	
Consider reassigning personnel to enforce water use regulations	2	
Require Agricultural Water Program customers to reduce usage up to 30 %	2	
Mandating water budgets for large landscape accounts	2	Unknown
Consider mandating water budgets for all customers	2	
Suspend all water use from temporary meters.	2	
Restrict filling of swimming pools, ponds or lakes	3	Unknown
Suspend all water use from temporary meters.	3	UTIKITOWIT

MWD has developed a Water Surplus and Drought Management Plan (WSDM) to address water surplus and shortage scenarios and achieve the reliability goals of the Integrated Resources Plan (IRP). Substantial investments are made in emergency storage projects and water conservation measures to adapt to water supply catastrophes. And the unplanned 7-day shutdown of the Rialto Feeder in June 2004 demonstrated that customers respond well to the request to reduce water use. For example, the customers of Cucamonga Valley Water District (CVWD) reduced their overall water use by 60 percent during the week of repairs. Based on the ongoing projects, detailed analysis, and successful customers response during previous imported water supply interruptions, MWD expects to be 100 percent reliable for all non-discounted non-interruptible demands throughout the next ten years (MWD, 2005).

The IEUA updated its 1996 Emergency Response Plan in 2000. According to this plan, IEUA expects to meet emergency demands within the region through extraordinary water conservation and groundwater pumping measures. Multiple sources of power exist within the region, making any electrical shortages a temporary disruption (IEUA, 2005).

The City's Department of Public Works has prepared an Emergency Response Plan (Boyle, 2003) that defines disaster events and the actions to be taken by City staff to respond to these. The water supply related disasters are:

- Threat or actual intentional contamination of the water system
- Threat of contamination at a major event
- Notification from Health Department Officials of potential water contamination
- Intrusion through the Supervisory Control and Data Acquisition system
- Significant structural damage resulting from an intentional act

A model response to any of these events is described in the City's ERP including, but not limited to, details of the organization and responsibilities, contact phone numbers, training requirements,

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#### Section 6 – Water Shortage Contingency Plan

and public notification samples. It should be noted that many of these disasters are water quality related. Hence, the ERP list the water quality constituents that are monitored.

In addition to the City's ERP, the impact of a number of catastrophic events on the City's ability to meet its water demands has been evaluated in the Water and Recycled Water Master Plan (MWH, 2005). The water supply balance per pressure zone under various emergency scenarios through year 2030 are presented and the necessary system improvements are included in the proposed Capital Improvement Program.

Actions that are included in the City's ERP are listed in **Table 6-6**. Overall it can be concluded that the City has prepared the appropriate documentation and planning documents to be prepared for a catastrophe. It is recommended that the City defines the different water shortage stages in terms of total supply available to provide a quantitative measure for declaring a certain water shortage stage and implement the associated water use restrictions.

Table 6-6
Preparation Actions for a Catastrophe

Actions	Included in ERP <sup>(1)</sup>
Quantify the definition of each phase of water shortage.	no
Stretch existing water storage.	yes
Obtain additional water supplies.	yes
Develop alternative water supplies.	yes
Determine where the funding will come from.	no
Contact and coordinate with other agencies.	yes
Create and Emergency Response Team /Coordinator.	yes
Create a catastrophe preparedness plan.	yes
Put employees/contractors on-call.	yes
Develop methods to communicate with the public.	yes
Develop methods to prepare for water quality interruptions.	yes
Reassess the Emergency Response Plan each year.	yes

(1) ERP = Emergency Response Plan (Boyle, 2003)

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#### 6.5 REVENUES AND EXPENDITURES

The impact of each of the phases of water reduction on the City's revenue and cost are estimated and presented in **Table 6-7**.

Table 6-7
Estimated Revenue Impacts at Various Demand Reduction Levels

Description	Baseline Year 2005	Phase 1 (10 percent reduction)	Phase 2 (20 percent reduction)	Phase 3 (50 percent reduction)
Projected Demand (acre-ft/yr)	42,583	38,325	34,066	21,291
Revenue from Sales	\$22,258,897	\$20,033,007	\$17,807,117	\$11,129,448
Groundwater	\$3,462,605	\$3,462,605	\$3,462,605	\$3,199,910
Groundwater L&R	\$845,346	\$2,771,783	\$3,004,680	\$0
Imported Water	\$9,104,750	\$4,552,375	\$2,276,188	\$1,138,094
Water Supply Cost	\$13,412,701	\$10,786,763	\$8,743,473	\$4,338,004
Revenue minus Supply Cost	\$8,846,196	\$9,246,244	\$9,063,645	\$6,791,445
Difference Compared to Baseline	\$0	\$400,048	\$217,449	-\$2,054,751
Difference with Baseline Revenue		2%	1%	-9%

The following assumptions have been made for these estimates listed in **Table 6-7**:

- The revenue estimates are based on the average potable water volume community charge of the baseline charge (0-15 hundred cubic feet) of \$1.14/HCF and the second tier charge (> 15 HCF) of \$1.26/HCF. The average volume community charge is \$1.20/HCF.
- The first reduction in supply is based on a 50 percent cutback of WFA water
- The reduction of supply is compensated with additional groundwater pumping above the City's water rights
- For the 50 percent supply scenario, groundwater pumping is reduced such that the demands are met with 50 percent imported water supplies and groundwater pumping within the City's water rights.
- The unit cost of WFA water is \$461/acre-ft.
- The unit cost of groundwater leases and replenishment is \$343/acre-ft.
- The unit cost of groundwater within the City's water rights is \$170/acre-ft.
- No reduction in operations and maintenance cost, as payroll for operational staff during a temporary catastrophe is expected to remain the same.
- The duration of the shortage is based on the average over one year.

As shown in **Table 6-7**, the reduction in water revenue is slightly less than the reduction in water supply cost for Phase 1 and 2 due to an increased use of lower cost water supply sources (groundwater). This results in a positive financial impact of approximately \$200,000-\$400,000, if the shortage would sustain for a full year. In Phase 3, the only source of supply is groundwater, which is the City's lowest cost source. However, due to the drastic demand reduction, the revenue is reduced more than the water supply cost, resulting in the need for additional funds of about \$2 million.

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### Section 6 – Water Shortage Contingency Plan

Although it can be concluded that the net impact on revenue and expenditures is relatively small (two to nine percent of the normal demand year revenues) several measures could be taken to generate additional funds to absorb the negative financial impact of a severe water shortage. Examples of such measures are listed in **Table 6-8**.

Table 6-8
Proposed Measures to Overcome Revenue and Expenditure Impacts

Proposed Measure	Summary of Impacts		
Rate Adjustment	<ul> <li>Increased savings to General Fund</li> <li>In normal years, the City would receive more money that required for normal operations (increased profit).</li> <li>Water customers resistance</li> </ul>		
Development of Reserves	<ul> <li>Increased savings to General Fund</li> <li>Decreased availability for O&amp;M or Capital Fund</li> </ul>		
Decrease Capital Expenditure	<ul> <li>Increased savings to General Fund</li> <li>Delay of system rehabilitation</li> <li>Decrease in quality of future system facilities</li> </ul>		
Decrease of O&M Expenditure	<ul> <li>Increased savings to General Fund</li> <li>Less staff available to respond to emergencies</li> <li>Reduced maintenance frequency of system facilities</li> </ul>		

This table corresponds with DWR Tables 29 and 30

#### 6.6 WATER USE MONITORING MECHANISMS

The water use monitoring mechanisms that the City has implemented to date are summarized in **Table 6-9**.

Table 6-9
Water Use Monitoring Mechanisms

Mechanisms to Determine Water Use Reductions	Benefits
Water Meter Readings	Monthly records can help detect leaking service laterals
Remote Metering Program	Increased efficiency in meter readings and detection of leaking service laterals
Residential Meter Replacement Program (every 15 years)	Accurate readings and revenue collection
Large Meter Replacement Program (every 5-10 years)	Accurate readings and revenue collection
Inter-Agency Connection readings	Accurate readings and revenue collection
Water Quality Reports	Detect standing water
Valve Exercising Program	Avoid leaking valves
Daily Production Recording (Groundwater wells, WFA, CDA, and inter-agency connections)	Determine monthly or annual system losses on a when compared with billing records.

This table corresponds with DWR Tables 31

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# Section 7 Implementation Plan

The process for adopting this 2005 Urban Water Management Plan (UWMP) and submitting it to the California Department of Water Resources (DWR) is outlined in the California Water Code Sections 10640 through 10645. The City of Ontario (City) is required to review any amendments to the conservation and water recycling plans that were adopted as part of the Inland Empire Utilities Agency (IEUA) 2000 UWMP (IEUA, 2000).

#### 7.1 ADOPTION PROCESS

This UWMP is prepared in accordance with the State of California Water Code Section 10610 through 10657 and has followed DWR's *Guideline to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan* (DWR, 2005). The Draft UWMP was submitted for review by the City's in October 2005. Comments were incorporated in a Final Draft UWMP.

According to Water Code 10620 (d), each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable. The city is a member agency of the IEUA, Water Facilities Authority (WFA), Chino Desalter Authority (CDA), and the Chino Basin Watermaster (CBWM). The City coordinated the preparation of this Plan with these four regional agencies. In addition, the City has seven neighboring water retail agencies, City of Chino, City of Upland, Fontana Water Company (FWC), Jurupa Community Services District (JCSD), Monte Vista Water District (MVWD), Cucamonga Valley Water District (CVWD) and San Antonio Water Company (SAWC). The actions the City has taken to coordinate the preparation of this UWMP with these agencies is summarized in Table 1-1. The Final Draft UWMP was submitted to the City's neighboring water agencies, and wholesale agencies listed in this table were contacted per telephone or by email during the preparation of the Draft UWMP. The UWMP reports prepared by the wholesale agencies were used, where available.

A public hearing process was announced to all water agencies and the general public through newspaper advertisement and City's homepage (Ontario, 2005b). The public hearing on December 20 was preceded by a 14-day review period. The review of the Review Draft UMWP by neighboring water agencies coincides with the public hearing period. No comments were received.

The 2005 UWMP was formally adopted on December 20, 2005 and submitted to the DWR on December 29, 2005, accordance with State Law. The adoption resolution is included in **Appendix F**.

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#### 7.2 IMPLEMENTATION PLAN

As presented in section 2.1, the population of the City is projected to increase from 168,950 (year 2004) to about 305,500 residents in year 2030. This population increase, which will primarily occur in the newly annexed area south of the City, the New Model Colony (NMC), will result in a substantial increase in water demand. The projected water demands for the period 2005 through 2030 in five year increments are listed in **Table 7-1** and is graphically presented in **Figure 7-1**. The total water use is the summation of the projected potable water demands, projected recycled water demands, sales to other agencies, water loss, and water conservation.

It should be noted that these projected water demands are based on an aggressive approach for both water conversation and recycled water use. The implementation of these plans is required to minimize the increase of potable water demands and the associated need for and dependence of imported water supplies

Table 7-1
Projected Water Use through 2030

Water Use	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Consumption	48,091	52,127	58,661	65,195	71,730
Recycled Water	7,926	8,816	11,761	12,435	14,492
Sunkist	1,470	1,470	1,470	1,470	1,470
Water Loss	3,847	4,170	4,693	5,216	5,738
Total w/o Conservation	61,334	66,583	76,585	84,316	93,430
Water Conservation	-2,635	-3,994	-4,900	-6,149	-7,747
Total with Conservation	58,699	62,589	71,685	78,167	85,683

This table corresponds to DWR Table 14.

#### 7.2.1 Water Conservation Plan

The primary focus of the City's water conservation efforts in the implementation of the Best Management Practices (BMPs) as discussed in detail in **Section 3**. As a signatory to the *Memorandum of Understanding regarding water conservation in California* (MOU), the City is a member of the California Urban Water Conservation Council (CUWCC). The City has provided the CUWCC with bi-annual reports to update its progress on the implementation of BMPs since fiscal year (FY) 2002/2003. These reports are included in **Appendix C**.

Based on the 2004 Activity Reports submitted to CUWCC, the water conservation amount achieved through active programs by the end of the fiscal year (FY) 2005 is estimated to be around 177 acre-feet per year (AFY). This is significantly less than the 2005 water conservation goals of 3,000 and 840 AFY set for the City in the 2000 UWMP (IEUA, 2000) and 2005 UWMP (IEUA, 2005), respectively.

To get the City back on track to meet the active water conservation goal of 1,800 AFY by 2010, a detailed BMP implementation schedule for the period 2005-2010 is prepared as part of this UWMP.

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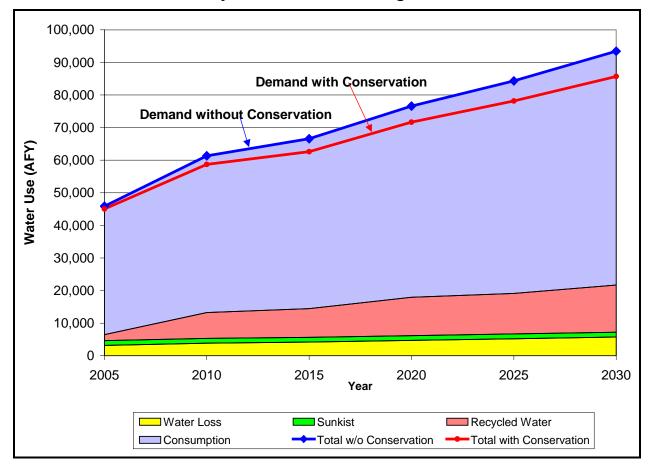


Figure 7-1
Projected Water Use through 2030

This schedule (see **Table 3-5**) will increase the City's active water conservation from an estimated 177 AFY to 1,800 AFY in year 2010 as shown on **Figure 3-1**. The main increase in water conservation will be achieved by implementation large landscaping metering programs (BMP 5). Other BMPs include plumbing retrofits of residential homes (BMP 2), rebates for residential High Efficiency Clothes Washers (HECW) and swimming pool covers (BMP 6), and Ultra Low Flush (ULF) toilets (BMP 9 and 14).

In addition to active water conservation programs, passive water conservation will happen automatically due to changes in the plumbing code and the available appliances. Passive conservation is also referred to as "Code Based water conservation". By year 2010, passive water conservation is estimated to account for nearly 3,900 AFY, which is about 68 percent of the combined water conservation goal for year 2010 (1,800 + 3,900 = 5,700 AFY).

#### 7.2.2 Recycled Water Plan

The City has recently prepared a *Water and Recycled Water Master Plan* (WMP) (MWH, 2005) that identifies the City's potential to serve recycled water to existing and future customers. This WMP includes an aggressive approach to increase the use of recycled water in the City.

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## **Section 7 – Implementation Plan**

The recycled water system expansion of recycled water system in the Old Model Colony (OMC) includes 32 miles of new recycled water pipelines will connect to existing and proposed regional recycled water pipeline of IEUA. The recycled water demand served through these extensions is estimated to be about 4,325 AFY, which will increase the existing recycled water demand in the NMC of 1,229 AFY to about 5,554 AFY (350 percent increase).

In addition, the water system of the New Model Colony (NMC) is based on intensive use of recycled water with an estimated recycled water demand of 8,938 AFY, which is about 20 percent of the total NMC demand. The backbone recycled water system for the NMC is 52 miles, which does not include the mains for the small service streets.

The City also plans to temporarily serve about 3,300 AFY of recycled water to the existing agricultural customers in the NMC until development occurs by accelerating certain future planned recycled water pipelines.

#### 7.2.3 Water Supply Strategy

The existing and proposed water supply sources of the City are:

- Chino Basin groundwater wells owned and operated by the City
- Chino Basin Groundwater from San Antonio Water Company (SAWC)
- Imported water from the Water Facilities Authority (WFA)
- Recycled water form the IEUA
- Treated Chino Basin groundwater from the Chino Basin Desalter Authority (CDA).
- Chino Basin groundwater wells that are part of the Dry Year Yield (DYY) Program

These sources are described in detail in **Section 4**. All sources are used under normal year, single dry year, and multiple dry year conditions. However, the amount of imported and leased groundwater water used from each source varies depending on the demand conditions. Leased groundwater is water pumped from the Chino Basin beyond the City's water rights (including transfers), which is subject to a replenishment fee. Supplies that are the same under all scenarios are:

- Groundwater pumping is maximized for all scenarios up to the City's water rights, as this is the cheapest source of supply. This groundwater amount will be increased over time as the groundwater rights gradually increase from 19,603 AFY in 2005 to 30,828 AFY in 2030 due to land use conversion.
- Starting in 2006, the City will obtain a constant delivery of 5,000 AFY from CDA under all demand scenarios.
- The recycled water supply is set equal to the projected demands, as IEUA has sufficient recycled water available to meet the projected demands (MWH, 2005a).

Under normal year conditions, about 30 percent of the water demands are met with imported water from WFA with a total supply of 20,000 AFY, which is 8,000 AFY less than the City's allotment in the treatment plant capacity. Under the single dry year and multiple dry year scenarios, the amount of imported water from WFA is reduced by the shift obligation amount of

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8,076 AFY to be in compliance with the DYY agreement. This amount is pumped from the DYY wells. The amount of leased groundwater is adjusted to meet the demands. The water supply mix and reliability is evaluated for all three scenarios for the period 2005-2030 in **Section** 5. It can be concluded that the City has sufficient water supply to meet it's demand through year 2030, provided that the City can pump the projected amounts from the Chino Basin. As the Chino Basin Judgment does not limit the pumping and the City obtain pumping capacity beyond its water rights in exchange for a replenishment fee.

The comparison between the available water supplies and projected demands for multiple dry years in the period 2006-2010 is presented in **Table 5-10**. As shown in this table, the available supplies are equal to the projected demand, which means that the City has sufficient supply to meet the demands under normal, single dry year and multiple dry conditions. The City's groundwater supply is only limited by its pumping capacity, rather than by its water rights, as the Chino Basin judgement not limit pumping in excess to the assigned water rights because IEUA can recharge the basin through spreading basins in exchange for a replenishment fee. As shown in **Section 5**, the City has sufficient groundwater pumping capacity to provide a reliable water supply for the City through year 2030.

#### 7.2.4 Water Shortage Contingency Plan

On March 19<sup>th</sup> of 1999, the City adopted Ordinance No. 2500, adding Chapter 8A "*Emergency Water Conservation*" to Title 6 of the Ontario Municipal Code (Ontario, 1999). This ordinance established a phased approach to water conservation enforcement that consists of three mandatory water shortage phases, Phase 1 through Phase 3 that increase in severity of water shortage. This UWMP introduced a "Phase 0", which consists of the same water use prohibitions, with the exception that these are voluntary under Phase 0 and mandatory under Phase 1. The water use restrictions for each Phase are listed in **Table 6-3**, while the associated penalties and charges are listed in **Table 6-4**.

Section 6 also includes a discussion on the actions to be undertaken to prepare for, and implement during, a catastrophic interruption of water supplies. Catastrophic events include non-drought events such as earthquakes. Planning for catastrophes has been addressed in multiple documents that can be differentiated based on the level of detail specifically related to the City. These levels are:

- Southern California Region MWD's Water Surplus and Drought Management Plan
- Inland Empire Region IEUA's Emergency Response Plan (ERP)
- City of Ontario Ontario's ERP

Actions that are included in the City's ERP are listed in **Table 6-6**. Overall it can be concluded that the City has prepared the appropriate documentation and planning documents to be prepared for a catastrophe. It is recommended that the City defines the different water shortage stages in terms of total supply available to provide a quantitative measure for declaring a certain water shortage stage and implement the associated water use restrictions.

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# Section 7 – Implementation Plan

#### 7.3 CONCLUSION

This UWMP is based upon an aggressive water conservation approach to meet the 2010 water conservation goals and include significant extensions of a recycled water in the next five years to increase the use of recycled water to reduce the use of limited potable water supplies where possible. The City has sufficient water supplies to meet its projected demands under normal, dry year, and multiple dry year scenarios with a combination of imported water and Chino Basin groundwater. This UWMP should be updated before December 2010 to be in compliance with the UMWP Act.

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# Appendix A References

The following is a bibliography list of sources used in developing this report:

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(CBWM, 2004)	Chino Basin Water Master, Annual Assessment Package, 2004.
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(CUWCC, 2004)	California Urban Water Conservation Council (CUWCC), <i>Memorandum of Understanding regarding water conservation in California</i> . Dated September 1991; last amendment March 10, 2004.
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(IEUA, 2005)	IEUA, Draft 2005 Urban Water Management Plan, June 2005.
(IEUA, 2005a)	IEUA, <i>High Efficiency Clothes Washer Rebate Program Water Conservation Savings.</i> – Listed per Water Purveyor Agency for Fiscal Years 2002-2003, 2004-2004, and 2004-2005. Updated as of August 31, 2005.
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MWH Appendix A-1

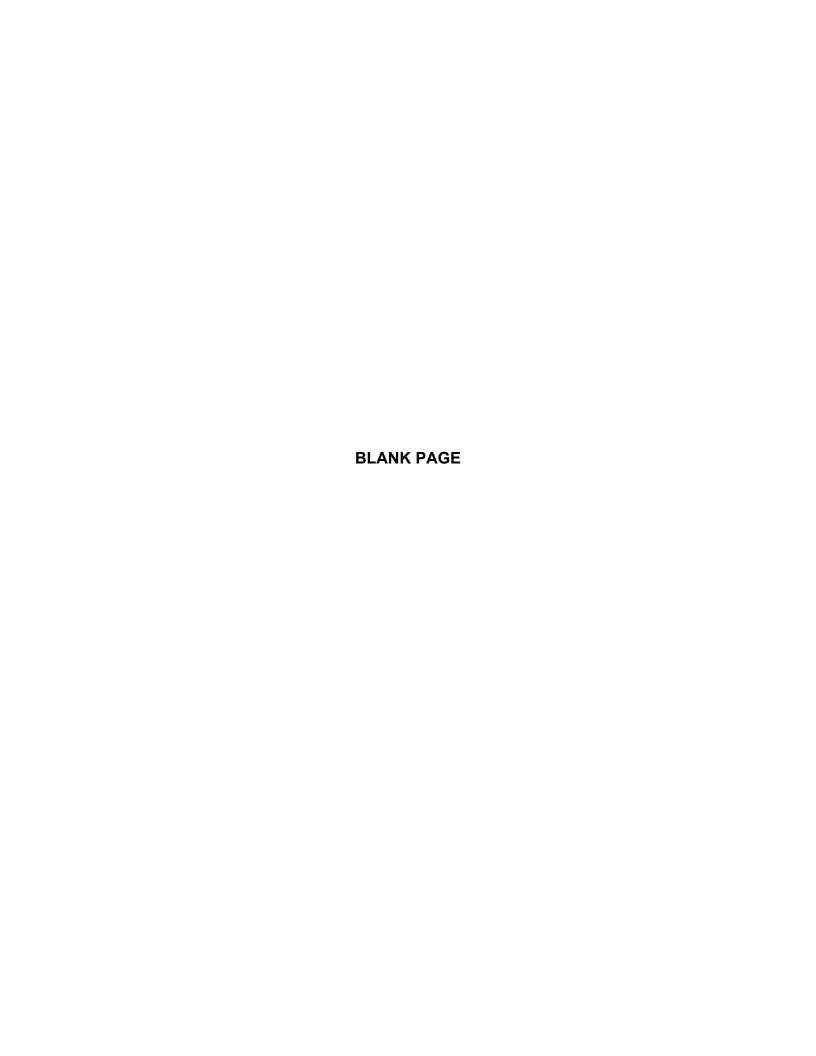
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(IEUA, 2005d)	IEUA, Review Draft 2005 Urban Water Management Plan, October 2005.
(IEUA, 2005e)	IEUA, Written comments on Draft Section 3 of the Ontario 2005 Urban Water Management Plan by David Hill, October, 2005.
(IEUA, 2003)	"Local Agency Agreement" by and among Inland Empire Utilities Agency and the City of Ontario. April 15, 2003.
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(MWD, 2005)	Metropolitan Water District of Southern California, Regional Urban Water Management Plan – Draft Report, May 2005.
(MWD,2004)	MWD CII Annual Report for the Save Water- Save a Buck Program
(MWH, 2005)	MWH, Water and Recycled Water Master Plan Update – Final Draft Report prepared for the City of Ontario, September 2005.
(MWH, 2005a)	MWH, Recycled Water Implementation Plan – Final Draft Report prepared for Inland Empire Utilities Agency, May 2005.
(Ontario, 1999)	Ontario Municipal Code, <i>Chapter 8A. Emergency Water Conservation</i> . Ordinance No. 2500. Adopted March 19, 1999.
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(Ontario, 2001)	Ontario, Consent Calendar Agenda Report November 20, 2001 – Adoption of a Resolution for the Year 2000 Regional Urban Water Management Plan, November 2001.
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(Ontario, 2002a)	City of Ontario, <i>Public Water System Statistics for Calendar Year</i> 2002 (DWR Statistics 2002.xls) – Submitted to the California Department of Water Resources, 2002.

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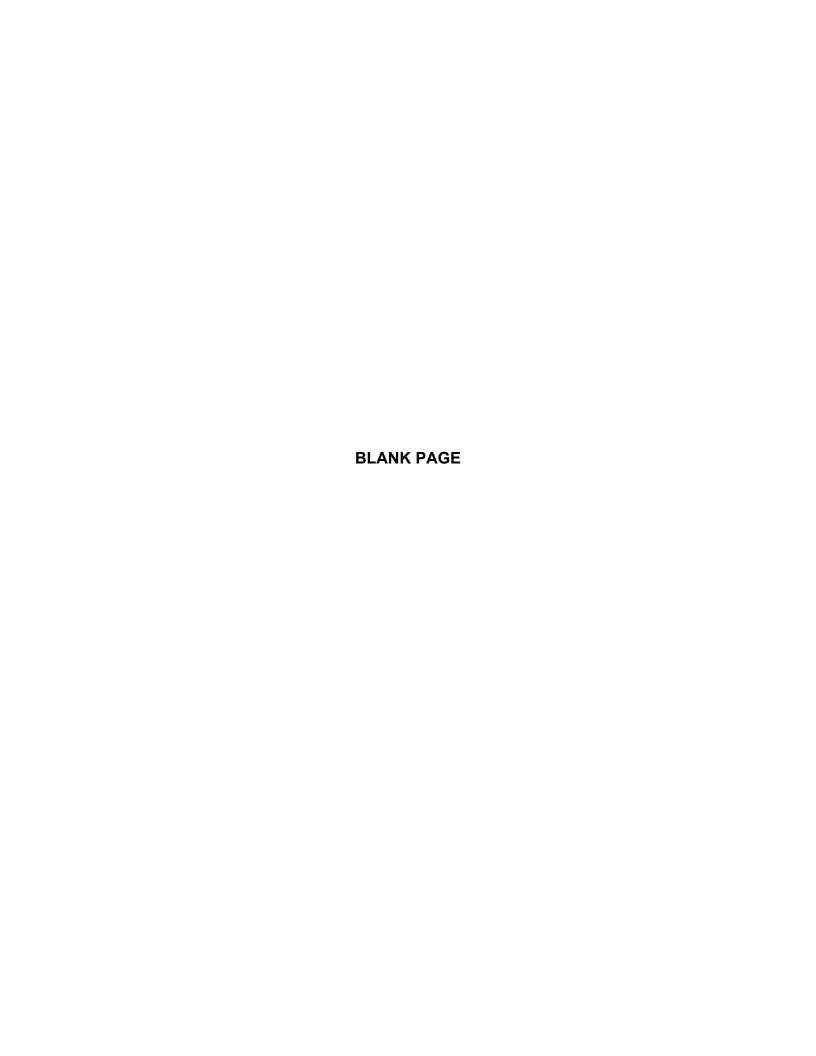
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(Ontario, 2004)	City of Ontario, <i>Public Water System Statistics for Calendar Year</i> 2004 (DWR Statistics 2004.xls) – Submitted to the California Department of Water Resources, 2004.
(Ontario, 2005)	Ontario, Water Consumption for 10 fiscal years.xls, 2005, August 2005.
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(Ontario, 2005b)	Ontario, http://www.ci.ontario.ca.us/, November 2005.
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MWH Appendix A-3



# Appendix B Urban Water Management Plan Act

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Established: AB 797, Klehs, 1983 Amended: AB 2661, Klehs, 1990

AB 11X, Filante, 1991

AB 1869, Speier, 1991

AB 892, Frazee, 1993

SB 1017, McCorquodale, 1994

AB 2853, Cortese, 1994

AB 1845, Cortese, 1995

SB 1011, Polanco, 1995

AB 2552, Bates, 2000

SB 553, Kelley, 2000

SB 610, Costa, 2001

AB 901, Daucher, 2001

SB 672, Machado, 2001

SB 1348, Brulte, 2002

SB 1384, Costa, 2002

SB 1518, Torlakson, 2002

AB 105, Wiggins, 2004

SB 318, Alpert, 2004

# CALIFORNIA WATER CODE DIVISION 6 PART 2.6. URBAN WATER MANAGEMENT PLANNING

#### CHAPTER 1. GENERAL DECLARATION AND POLICY

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

- 10610.2. (a) The Legislature finds and declares all of the following:
  - (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
  - (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
  - (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
  - (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in

- its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.
- (5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- (6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- (7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
- (8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- (9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.
- (b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.
- 10610.4. The Legislature finds and declares that it is the policy of the state as follows:
  - (a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
  - (b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
  - (c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

#### **CHAPTER 2. DEFINITIONS**

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

- 10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.
- 10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.
- 10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.
- 10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.
- 10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.
- 10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.
- 10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.
- 10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

# CHAPTER 3. URBAN WATER MANAGEMENT PLANS Article 1. General Provisions

10620.

(a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d)

- (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.
- (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.
- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
- (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621.

- (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.
- (b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

#### Article 2. Contents of Plans

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

- (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.
- (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
  - (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
  - (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.
    - For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.
  - (3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

- (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
- (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
  - (1) An average water year.
  - (2) A single dry water year.
  - (3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

- (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.
- (e)
- (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
  - (A) Single-family residential.
  - (B) Multifamily.
  - (C) Commercial.
  - (D) Industrial.
  - (E) Institutional and governmental.
  - (F) Landscape.
  - (G) Sales to other agencies.
  - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
  - (I) Agricultural.
- (2) The water use projections shall be in the same five-year increments described in subdivision (a).

- (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
  - (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:
    - (A) Water survey programs for single-family residential and multifamily residential customers.
    - (B) Residential plumbing retrofit.
    - (C) System water audits, leak detection, and repair.
    - (D) Metering with commodity rates for all new connections and retrofit of existing connections.
    - (E) Large landscape conservation programs and incentives.
    - (F) High-efficiency washing machine rebate programs.
    - (G) Public information programs.
    - (H) School education programs.
    - (I) Conservation programs for commercial, industrial, and institutional accounts.
    - (J) Wholesale agency programs.
    - (K) Conservation pricing.
    - (L) Water conservation coordinator.
    - (M) Water waste prohibition.
    - (N) Residential ultra-low-flush toilet replacement programs.
  - (2) A schedule of implementation for all water demand management measures proposed or described in the plan.
  - (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

- (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
- (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
  - (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
  - (2) Include a cost-benefit analysis, identifying total benefits and total costs.
  - (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
  - (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
- (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.
- (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- (j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council

- in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).
- (k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- 10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.
- 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
  - (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.
  - (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
  - (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including,

- but not limited to, a regional power outage, an earthquake, or other disaster.
- (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
- (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
- (f) Penalties or charges for excessive use, where applicable.
- (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
- (h) A draft water shortage contingency resolution or ordinance.
- (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
- (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
- (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

- (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
- (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
- (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
- (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

#### **Article 2.5 Water Service Reliability**

10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

- (b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
- (c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.
- (d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

#### **Articl 3. Adoption and Implementation of Plans**

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

#### 10644.

(a) An urban water supplier shall file with the department and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the

- plans shall be filed with the department and any city or county within which the supplier provides water supplies within 30 days after adoption.
- (b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has filed its plan with the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

#### **CHAPTER 4. MISCELLANEOUS PROVISIONS**

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

- (a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.
- (b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.
- 10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.
- 10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

#### 10657.

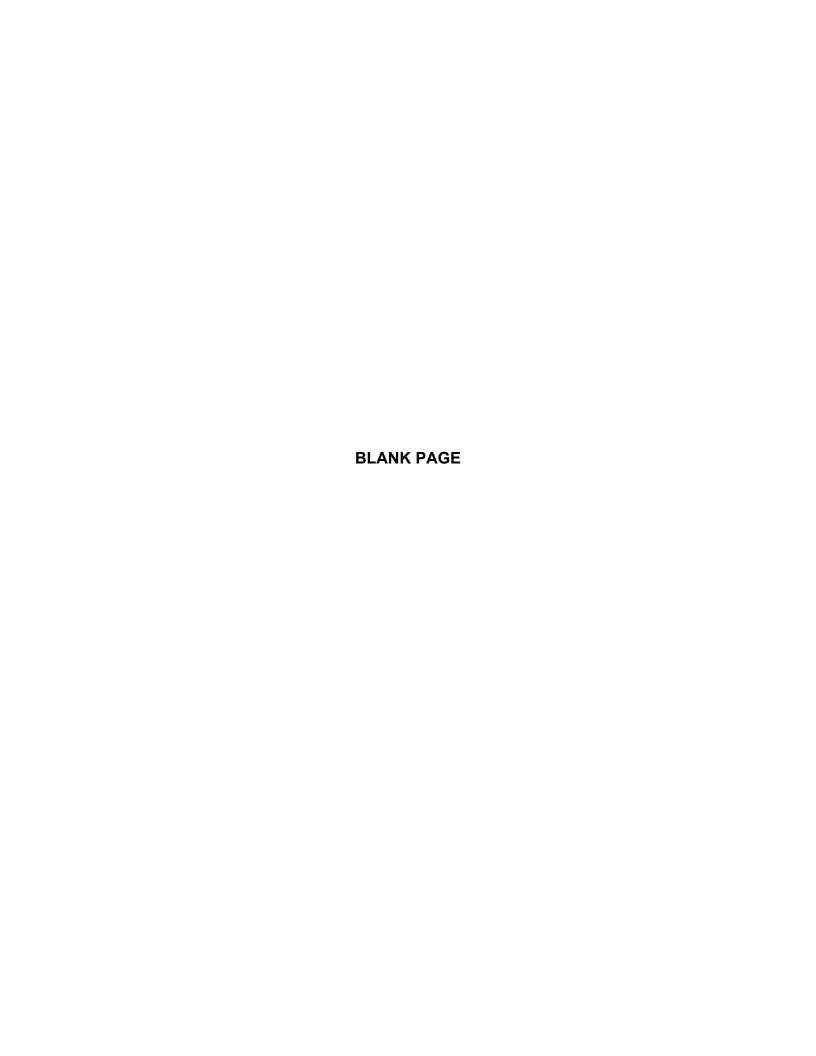
- (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.
- (b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

# Appendix C BMP Activity Report

This Appendix includes the following information:

- Water Supply and Reuse Summary 2004
- Water Account and Use Summary 2004
- BMP Activity Reports 2004
- Water Supply and Reuse Summary 2003
- Water Account and Use Summary 2003
- BMP Activity Reports 2003
- CUWCC Coverage Reports as of October 2005

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# Water Supply & Reuse

Reporting Unit: Year: City of Ontario 2003

# **Water Supply Source Information**

<b>Supply Source Name</b>	Quantity (AF) Supplied	Supply Type
Well No.3	896.19	Groundwater
Well No.9	133.14	Groundwater
Well No. 11	1777.46	Groundwater
Well No. 15	1837.91	Groundwater
Well No. 16	982.81	Groundwater
Well No.17	2077.4	Groundwater
Well No.20	693.45	Groundwater
Well No.24	2758.84	Groundwater
Well No.25	2087.05	Groundwater
Well No.26	335.86	Groundwater
Well No.27	903.2	Groundwater
Well No.29	3152.54	Groundwater
Well No.30	536.8	Groundwater
Well No.31	2847.3	Groundwater
Well No.34	2761.72	Groundwater
Well No.35	1838.98	Groundwater
Well No.36	1127.72	Groundwater
Well No.37	3835.16	Groundwater
Well No.38	1407.06	Groundwater
Well No.39	2639.69	Groundwater
State Proj/MWD	8255.08	Imported

Total AF: 42885.36

Reported as of 10/12/05

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# **Accounts & Water Use**

Reporting Unit Name: Submitted to Year: City of Ontario CUWCC 2003

11/22/2004

# A. Service Area Population Information:

1. Total service area 165678 population

# **B. Number of Accounts and Water Deliveries (AF)**

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single- Family	25830	17038	0	0
2. Multi-Family	1977	6484	0	0
3. Commercial	2615	10423	0	0
4. Industrial	344	2473	0	0
5. Institutional	293	1171	0	0
<ol><li>Dedicated Irrigation</li></ol>	958	5052	0	0
7. Recycled Water	2	87	0	0
8. Other	0	0	0	0
9. Unaccounted	NA	5	NA	0
Total	32019	42733	0	0

Metered Unmetered

Reported as of 10/12/05

# BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

### A. Implementation

1. Based on your signed MOU date, 12/11/2002, your 12/10/2004 Agency STRATEGY DUE DATE is:

2. Has your agency developed and implemented a no targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?

a. If YES, when was it implemented?

3. Has your agency developed and implemented a no targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?

a. If YES, when was it implemented?

### **B. Water Survey Data**

Survey Counts:	Single Family Accounts	Multi-Family Units
<ol> <li>Number of surveys offered:</li> </ol>	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
<ol><li>Check for leaks, including toilets, faucets and meter checks</li></ol>	no	no
<ol> <li>Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary</li> </ol>	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
<ol><li>Check irrigation system and timers</li></ol>	no	no
<ol><li>Review or develop customer irrigation schedule</li></ol>	no	no
<ol><li>Measure landscaped area (Recommended but not required for surveys)</li></ol>	no	no
<ol> <li>Measure total irrigable area</li> <li>(Recommended but not required for surveys)</li> </ol>	no	no
<ol> <li>Which measurement method is typically used (Recommended but not required for surveys)</li> </ol>		None
11. Were customers provided with	no	no

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information packets that included evaluation results and water savings recommendations?

- 12. Have the number of surveys offered no no and completed, survey results, and survey costs been tracked?
  - a. If yes, in what form are surveys tracked?
  - b. Describe how your agency tracks this information.

### C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as yes effective as" variant of this BMP?
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Leaks are checked at the meter during customer service work, in response to a customer complain, during meter exchanges and when the meter is read. The coverage % would be 100% coverage several times throughout the year. Additionally, during various in-home customer service visits, leaks are noticed to customers. Customers are also offered swimming pool rebates to reduce evaporation.

#### E. Comments

Reported as of 10/12/05

## **BMP 02: Residential Plumbing Retrofit**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

#### A. Implementation

- 1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts?
  - a. If YES, list local jurisdictions in your service area and code or ordinance in each:
- 2. Has your agency satisfied the 75% saturation requirement for single-family housing units?
  3. Estimated percent of single-family households with low-flow showerheads:
  4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?
  5. Estimated percent of multi-family households with low-flow showerheads:
- 6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

#### **B. Low-Flow Device Distribution Information**

- 1. Has your agency developed a targeting/ marketing yes strategy for distributing low-flow devices?
  - a. If YES, when did your agency begin 1/1/2002 implementing this strategy?
  - b. Describe your targeting/ marketing strategy.

Low flow showerheads are distributed at water quality/water conservation fair booths, during in-home water quality site visits and by customer service staff conducting routine fieldwork.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	375	125
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
<ol><li>Number of faucet aerators distributed:</li></ol>	0	0
6. Does your agency track the distributio low-flow devices?	n and cost of	no

a. If YES, in what format are low-flow devices tracked?

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b. If yes, describe your tracking and distribution system :

## C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	2000	2000
2. Actual Expenditures	2290	

#### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### **E.** Comments

500 Low flow hoze nozzles were also distributed this year with the showerhead giveaways.

yes

# BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

## A. Implementation

- 1. Has your agency completed a pre-screening yes system audit for this reporting year?
- 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:

a. Determine metered sales (AF)	42733
b. Determine other system verifiable uses (AF)	86.5
c. Determine total supply into the system (AF)	42885.36
<ul><li>d. Using the numbers above, if (Metered Sales</li><li>+ Other Verifiable Uses) / Total Supply is &lt; 0.9</li><li>then a full-scale system audit is required.</li></ul>	1.00

- 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production?
- 4. Did your agency complete a full-scale audit during no this report year?
- 5. Does your agency maintain in-house records of yes audit results or the completed AWWA audit worksheets for the completed audit?
- 6. Does your agency operate a system leak detection yes program?
  - a. If yes, describe the leak detection program:

Leaks are reported by Ontario Utilities employees and other Public Works employees working in the field who may observe leaks while reading meters, working on services lines or conducting misc. work within the City. Leaks are also reported directly by the customer. In addition, field crews investigate below ground leaks.

## B. Survey Data

- 1. Total number of miles of distribution system line. 498
- 2. Number of miles of distribution system line 0 surveyed.

## C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	20000	20000
2. Actual Expenditures	13000	

## D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to

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be "at least as effective as."

## **E.** Comments

# BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

## A. Implementation

- Does your agency require meters for all new yes connections and bill by volume-of-use?
   Does your agency have a program for retrofitting no
- existing unmetered connections and bill by volume-of-use?
  - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
  - b. Describe the program:

Not needed, all services are metered.

3. Number of previously unmetered accounts fitted with 0 meters during report year.

## **B. Feasibility Study**

- 1. Has your agency conducted a feasibility study to no assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?
  - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
  - b. Describe the feasibility study:
- 2. Number of CII accounts with mixed-use meters. 0
- 3. Number of CII accounts with mixed-use meters or retrofitted with dedicated irrigation meters during reporting period.

## C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### E. Comments

The number of CII accounts with mix-used meters is unknown at this time. The zero number reported above may not be an accurate reflection of the zero number reported above.

# **BMP 05: Large Landscape Conservation Programs and Incentives**

Reporting Unit: BMP Form Status: Year: 2003 100% Complete City of Ontario A. Water Use Budgets 1. Number of Dedicated Irrigation Meter Accounts: 890 2. Number of Dedicated Irrigation Meter Accounts 0 with Water Budgets: 3. Budgeted Use for Irrigation Meter Accounts with 0 Water Budgets (AF): 4. Actual Use for Irrigation Meter Accounts with 0 Water Budgets (AF): 5. Does your agency provide water use notices to no accounts with budgets each billing cycle? **B. Landscape Surveys**  Has your agency developed a marketing / no targeting strategy for landscape surveys? a. If YES, when did your agency begin implementing this strategy? b. Description of marketing / targeting strategy: 2. Number of Surveys Offered. 0 3. Number of Surveys Completed. 0 4. Indicate which of the following Landscape Elements are part of your survey: a. Irrigation System Check no b. Distribution Uniformity Analysis no c. Review / Develop Irrigation Schedules no d. Measure Landscape Area no e. Measure Total Irrigable Area no f. Provide Customer Report / Information no 5. Do you track survey offers and results? no 6. Does your agency provide follow-up surveys for no previously completed surveys? a. If YES, describe below:

#### C. Other BMP 5 Actions

An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large	no
landscape survey program.	
Does your agency provide mixed-use accounts with landscape budgets?	
Number of CII mixed-use accounts with landscape budgets.	0

yes

4. Does your agency offer financial incentives to improve landscape water use efficiency?		no	
Type of Financial Incentive:	Budget (Dollars/ Year)	Number Awarded to Customers	
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0
5. Do you provide landso information to new custo changing services?  a. If YES, describe	mers and cus	•	No
6. Do you have irrigated facilities?		at your	yes
a. If yes, is it water	-efficient?		no
<ul><li>b. If yes, does it ha metering?</li></ul>	ve dedicated	irrigation	yes
7. Do you provide custor irrigation season?	ner notices at	the start of the	no
8. Do you provide custor irrigation season?	ner notices at	the end of the	no

3. Do you offer landscape irrigation training?

## **D. Landscape Conservation Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

## E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### F. Comments

# BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

## A. Implementation

1. Do any energy service providers or waste water utilities yes in your service area offer rebates for high-efficiency washers?

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

Rebates are available through Inland Empire Utilities Agency in coordination with the Metropolitan Water District. The rebate is \$100. The City does not offer a rebate in addition to the IEUA/MWD rebate.

2. Does your agency offer rebates for high-efficiency washers?	no
3. What is the level of the rebate?	0
4. Number of rebates awarded.	0

## **B. Rebate Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective no as" variant of this BMP?
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

Budgeted and actual expenditures may be reflected through IEUA regional program expenditures for this program. This City pays into this program and monies and programs and administered regionally.

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## **BMP 07: Public Information Programs**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

#### A. Implementation

- 1. Does your agency maintain an active public yes information program to promote and educate customers about water conservation?
  - a. If YES, describe the program and how it's organized.

Conservation information is distributed in a variety of ways. Conservation information is found prominantly in our water quality reports and our quarterly newsletter. Conservation topics are discussed with residents and businesses on an individual and group level. Various literature is targeted and distributed to various age levels.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	3
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	2
<ul> <li>d. Bill showing water usage in comparison to previous year's usage</li> </ul>	no	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	2
g. Speaker's Bureau	yes	2
<ul> <li>h. Program to coordinate with other government agencies, industry and public interest groups and media</li> </ul>	yes	

## **B. Conservation Information Program Expenditures**

	This Year Nex	t Year
Budgeted Expenditures	5000	5000
2. Actual Expenditures	4925	

#### C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

A budgeted amount of \$1500 shown is paid to a regional conservation group called the Water Education and Water Awareness Committee whose purpose is to conduct public

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education on water conservation. Additionally, budgeted expenditures reflect Ontario staff time to implement these programs.

## **BMP 08: School Education Programs**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

#### A. Implementation

1. Has your agency implemented a school information yes program to promote water conservation?

2. Please provide information on your school programs (by grade level):

Grade	_	No. of class presentations	students	No. of teachers' workshops
Grades K-3rd	yes	0	0	0
Grades 4th-6th	yes	31	799	0
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0
3. Did your Age framework requ	•	meet state edu	ıcation	yes
4. When did you program?	ır Agency begi	n implementing	this	01/01/2003

## **B. School Education Program Expenditures**

	This Year	Next Year
Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### **D.** Comments

Budgeted and actual expenditures will be reflected on the wholesale agency report.

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## BMP 09: Conservation Programs for CII Accounts

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

## A. Implementation

1. Has your agency identified and ranked no COMMERCIAL customers according to use?

2. Has your agency identified and ranked yes INDUSTRIAL customers according to use?

3. Has your agency identified and ranked yes INSTITUTIONAL customers according to use?

## Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey yes and customer incentives program for the purpose of complying with BMP 9 under this option?

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
<ul><li>b. Number of New</li><li>Surveys Completed</li></ul>	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0
011.0	• • •		

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no

Agency CII Customer	Budget (\$/Year)	No. Awarded to	Total \$ Amount
Incentives	(, , , ,	Customers	Awarded
h. Rebates	0	14	2100

i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

## **Option B: CII Conservation Program Targets**

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from siteverified actions taken by agency since 1991.	.65
8. Estimated annual savings (AF/yr) from non-siteverified actions taken by agency since 1991.	5.82

## **B. Conservation Program Expenditures for CII Accounts**

	This Year	<b>Next Year</b>
1. Budgeted Expenditures	0	0
2. Actual Expenditures	2515.5	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

Budgeted expenditures should be reflected on the wholesale agency report.

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BMP 09a: CII ULFT Water Savings

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

1. Did your agency implement a CII

ULFT replacement program in the reporting year?

If No, please explain why on Line B.

10.

## A. Targeting and Marketing

1. What basis does your agency use to target CII Sector or subsector customers for participation in this program? Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

We found CII sectors and sub sectors most effective because we were able to version our marketing efforts appropriately.

2. How does your agency advertise this program? Check all that apply.

Direct letter
Web page
Bill insert
Newsletter
Newspapers
Trade publications
Other print media
Trade shows and events
Telemarketing

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

For the purposes of this program, Trade Allies have proven to be the most effective overall marketing tool, as well as the most effective per dollar expended. Trade Allies include plumbers, distributors, retail home improvement stores and product manufacturers.

## **B.** Implementation

Does your agency keep and maintain customer yes participant information? (Read the Help information for a complete list of all the information for this BMP.)
 Would your agency be willing to share this Yes

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency?

3. What is the total number of customer accounts participating in the program during the last year?

0

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CII Subsector	Number of Toilets Replaced			
4.	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	0	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Govern- ment	0	0	0	0
i. Churches	0	0	0	0
j. Other	0	0	0	0
5. Program design.			Re	bate or voucher
6. Does your ag	•	utside serv	vices to	Yes
implement this part a. If yes, check apply.				Consultant
7. Participant tra follow-up.	acking and			Telephone Site Visit
8. Based on you to 5, with 1 bein frequent cause, participate in the	ng the least the following	frequent ca	ause and 5 be	eing the most
a. Disruption to	business			1
b. Inadequate p	ayback			3
c. Inadequate U	JLFT perforr	mance		2
d. Lack of fundi	ng			5
e. American's w	ith Disabilit	ies Act		0
f. Permitting				0
g. Other. Please	e describe i	n B. 9.		
9. Please descr customers, obs	tacles to im	plementati	on, and other	_

customers, obstacles to implementation, and other isues affecting program implementation or effectiveness.

Customers are generally more willing to participate in

Customers are generally more willing to participate in the program if the cost of the retrofit is in balance with the amount of the rebate, and the projected water savings is significant. Resistance occurs if the out-ofpocket expense for the retrofit is too costly and the CUWCC | Print All Page 21 of 29

rebate amount is too low.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Either Metropolitan or its Agencies to provide this response.

## C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
<ul><li>d. Administration &amp; Overhead</li></ul>	0	0
e. Outside Services	0	0
f. Total	0	0
2. CII ULFT Program: Annual Cost S	haring	
<ul><li>a. Wholesale agency contribution</li></ul>		0
<ul><li>b. State agency contribution</li></ul>		0
c. Federal agency contribution		0
d. Other contribution		0
e. Total		0

#### D. Comments

The # of toilets is an estimate.

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## **BMP 11: Conservation Pricing**

BMP Form

Reporting Unit: Status: Year: City of Ontario 100% 2003

Complete

#### A. Implementation

## Rate Structure Data Volumetric Rates for Water Service by Customer Class

#### 1. Residential

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from \$14221989
Volumetric Rates

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources

\$14221989

#### 2. Commercial

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from \$8580852 Volumetric Rates

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources

\$8580852

#### 3. Industrial

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from \$1381299
Volumetric Rates

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources

\$1381299

#### 4. Institutional / Government

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from \$709610

d. Total Revenue from Non-Volumetric Charges, Fees and

other Revenue Sources

\$709610

## 5. Irrigation

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Service Not Provided

c. Total Revenue from Volumetric Rates

\$0

d. Total Revenue from Non-

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Volumetric Charges, Fees and other Revenue Sources \$0

6. Other

a. Water Rate Structure Decreasing Blockb. Sewer Rate Structure Service Not Provided

c. Total Revenue from Volumetric Rates \$0

d. Total Revenue from Non-

Volumetric Charges, Fees and \$0

other Revenue Sources

## **B. Conservation Pricing Program Expenditures**

This Year Next Year

1. Budgeted Expenditures 70000 0

2. Actual Expenditures 60000

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

Revenue for irrigation and recycled water is lumped into other revenue accounts and is not tracked separately. In addition, readiness-to-serve charges are also lumped into total revenue and cannot be broken out at this time. Conservation pricing expenditures covered a full-scale rate study.

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#### **BMP 12: Conservation Coordinator**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

## A. Implementation

1. Does your Agency have a conservation coordinator?

yes

2. Is this a full-time position?

3. If no, is the coordinator supplied by another agency yes with which you cooperate in a regional conservation program?

4. Partner agency's name: Inland Empire Utilities

Agency

5. If your agency supplies the conservation coordinator:

a. What percent is this conservation coordinator's position?

b. Coordinator's Name Rosemarie Chora
c. Coordinator's Title Water Quality
Specialist

d. Coordinator's Experience and Water quality and Number of Years Supply/4 years

e. Date Coordinator's position was created (mm/dd/yyyy)

01/01/2000

6. Number of conservation staff, including Conservation Coordinator.

## **B. Conservation Staff Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	32000	35000
2. Actual Expenditures	31235	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Conservation activities are managed by the Environmental Programs Manager with primary responsibility to implement by the Water Quality Specialist. These positions are additionally supported by many other in-house and wholesaler staff members in order to implement the BMPs. The City is also an active participant in 2 regional conservation groups which pool resources to implement conservation programs. these groups are WEWAC and the IEUA Conservation Committee.

#### D. Comments

#### **BMP 13: Water Waste Prohibition**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

## A. Requirements for Documenting BMP Implementation

- 1. Is a water waste prohibition ordinance in effect in your no service area?
  - a. If YES, describe the ordinance:
- 2. Is a copy of the most current ordinance(s) on file with CUWCC?

no

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

City of Ontario none at this time

#### **B.** Implementation

- 1. Indicate which of the water uses listed below are prohibited by your agency or service area.
  - a. Gutter flooding

no

- b. Single-pass cooling systems for new connections
- no
- c. Non-recirculating systems in all new conveyor or car wash systems
- no
- d. Non-recirculating systems in all new commercial laundry systems
- no
- e. Non-recirculating systems in all new decorative fountains
- no
- f. Other, please name2. Describe measures that prohibit water uses listed above:

osinos inicacaros triat promoti mater acco netea ao

none at this time

#### Water Softeners:

- 3. Indicate which of the following measures your agency has supported in developing state law:
  - a. Allow the sale of more efficient, demand-initiated regenerating DIR models.

no

no

no

- b. Develop minimum appliance efficiency standards that:
  - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.
  - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.
- c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the

yes

agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.

4. Does your agency include water softener checks in home water audit programs?

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models?

## C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### E. Comments

Water treatment devices (softeners) are limited to one cubic foot in size. Comm/Ind. users needing unit larger than this are prohibited from installation and must use and exchange service. Ontario is an active partner in the Inland Empire Utilities Agency salinity study which is looking at salinity from residential. If acceptable, this report will be used to move forward prohibition of "time controlled" regenerable softeners.

Reported as of 10/12/05

no

# BMP 14: Residential ULFT Replacement Programs

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2003

A. Implementation

Single- Multi-Family Family Accounts Units

yes

1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?

/ Program During

yes

## Number of Toilets Replaced by Agency Program During Report Year

Replacement Method		SF Accounts	MF Units
2. Rebate		0	0
3. Direct Install		0	0
4. CBO Distribution		852	284
5. Other	_	0	0
	Total	852	284

6. Describe your agency's ULFT program for single-family residences.

ULFT Exchange events are hosted twice per year at the City's public works yard. Advertising is done through local newspapers and within the water bills. Toilets are given to Ontario water customers. Customers are required to install and return old toilet within 2 weeks on a predetermined exchange date. Random inspections are done to ensure installation at the address provided by the customer.

7. Describe your agency's ULFT program for multi-family residences.

None existing presently that specifically target multi-family residences. It is believed that a number of residences will obtain toilets through the regional events.

- 8. Is a toilet retrofit on resale ordinance in effect for your no service area?
- 9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

City of Ontario None at this time.

## **B. Residential ULFT Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	20000	20000

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2. Actual Expenditures

17920

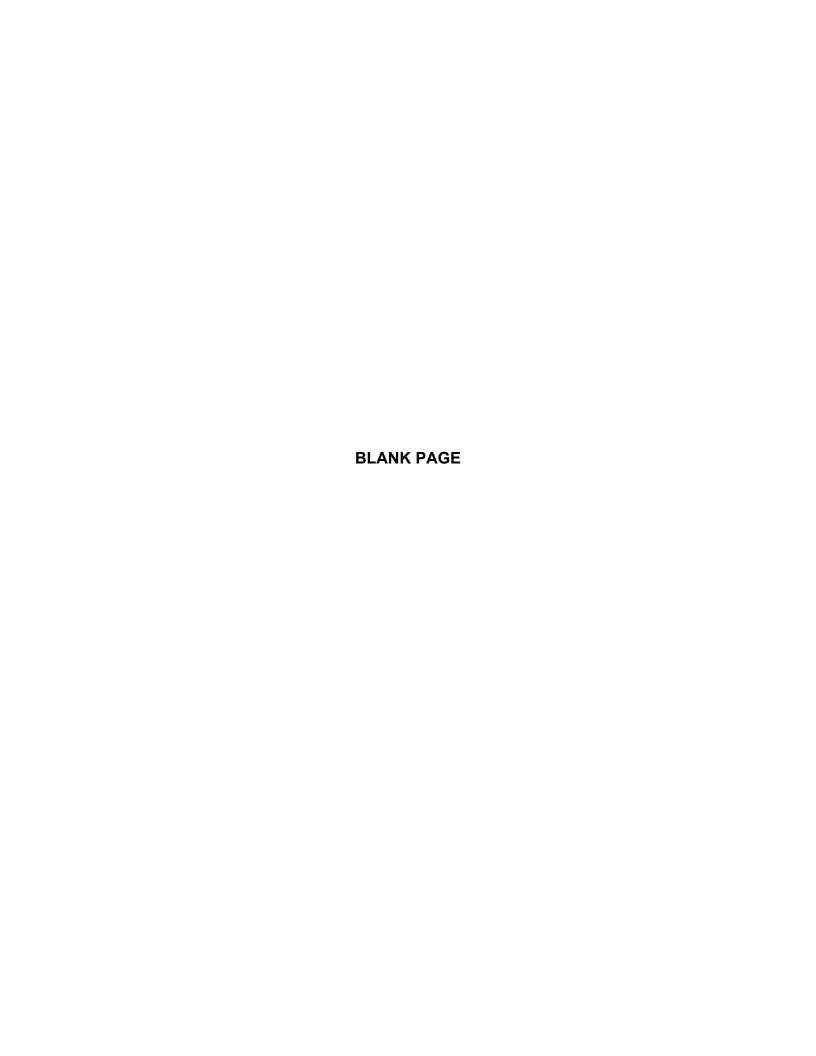
#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as no effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

Actual costs associated with the toilets should be reflected in reporting from the wholesale agency. Costs reported above reflect staff time to distribute and accept returned toilets. Toilet numbers reported above include toilets distributed at regional events and also through rebate programs.



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## Water Supply & Reuse

Reporting Unit: Year: City of Ontario 2004

## **Water Supply Source Information**

	•	
Supply Source Name	Quantity (AF) Supplied	Supply Type
Well No.3	734.69	Groundwater
Well No.4	13.31	Groundwater
Well No.9	31.05	Groundwater
Well No.11	2116.59	Groundwater
Well No.15	0	Groundwater
Well No.16	714.66	Groundwater
Well No.17	1839.15	Groundwater
Well No.24	1047.31	Groundwater
Well No.25	1289.23	Groundwater
Well No.26	158.22	Groundwater
Well No.27	1073.83	Groundwater
Well No.29	3320.32	Groundwater
Well No.30	0	Groundwater
Well No.31	4009.64	Groundwater
Well No.34	2216.4	Groundwater
Well No.35	1263.48	Groundwater
Well No.36	1846.46	Groundwater
Well No.37	2516.79	Groundwater
Well No.38	1390.12	Groundwater
Well No.39	3293.8	Groundwater
State Proj/MWD	15938.05	Imported
Well No. 40	0	Groundwater
Well No. 41	0	Groundwater
Well No. 20	338.89	Groundwater

Total AF: 45151.99

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## **Accounts & Water Use**

Reporting Unit Name: Submitted to Year: City of Ontario CUWCC 2004

12/10/2004

## A. Service Area Population Information:

1. Total service area 167000 population

## B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single- Family	25648	17875	0	0
2. Multi-Family	2042	6621	0	0
3. Commercial	2758	8262	0	0
4. Industrial	345	2234	0	0
5. Institutional	333	1353	0	0
6. Dedicated Irrigation	1000	6402	0	0
7. Recycled Water	2	69	0	0
8. Other	0	0	0	0
9. Unaccounted	NA	5	NA	0
Total	32128	42821	0	0
		_		_

Metered Unmetered

no

## BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit:

City of Ontario

BMP Form
Status:

100% Complete

Year:

## A. Implementation

- 1. Based on your signed MOU date, 12/11/2002, your 12/10/2004 Agency STRATEGY DUE DATE is:
- 2. Has your agency developed and implemented a no targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?
  - a. If YES, when was it implemented?
- 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?
  - a. If YES, when was it implemented?

## **B. Water Survey Data**

Survey Counts:	Single Family Accounts	Multi- Family Units
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
<ol><li>Review or develop customer irrigation schedule</li></ol>	no	no
<ol><li>Measure landscaped area (Recommended but not required for surveys)</li></ol>	no	no
<ol> <li>Measure total irrigable area (Recommended but not required for surveys)</li> </ol>	no	no
<ol> <li>Which measurement method is typically used (Recommended but not required for surveys)</li> </ol>		None
11. Were customers provided with	no	no

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information packets that included evaluation results and water savings recommendations?

12. Have the number of surveys offered no no and completed, survey results, and survey costs been tracked?

a. If yes, in what form are surveys

None
tracked?

b. Describe how your agency tracks this information.

## **C. Water Survey Program Expenditures**

"at least as effective as."

, , ,		
	This Year	<b>Next Year</b>
Budgeted Expenditures	0	0
2. Actual Expenditures	0	
D. "At Least As Effective As"		
<ol> <li>Is your AGENCY implementing an "at le effective as" variant of this BMP?</li> </ol>	east as	No
<ul> <li>a. If YES, please explain in detail how this BMP differs from Exhibit 1 and w</li> </ul>	•	

#### **E.** Comments

## **BMP 02: Residential Plumbing Retrofit**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Implementation

- 1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts?
  - a. If YES, list local jurisdictions in your service area and code or ordinance in each:
- 2. Has your agency satisfied the 75% saturation no requirement for single-family housing units?

  3. Estimated percent of single-family households with low-flow showerheads:

  4. Has your agency satisfied the 75% saturation no requirement for multi-family housing units?

  5. Estimated percent of multi-family households with low-flow showerheads:
- 6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

#### **B. Low-Flow Device Distribution Information**

- 1. Has your agency developed a targeting/ marketing yes strategy for distributing low-flow devices?
  - a. If YES, when did your agency begin 1/1/2002 implementing this strategy?
  - b. Describe your targeting/ marketing strategy.

Low flow showerheads are distributed at water quality/water conservation fair booths, during in-home water quality site visits and by customer service staff conducting routine fieldwork.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	375	125
<ol><li>Number of toilet-displacement devices distributed:</li></ol>	0	0
4. Number of toilet flappers distributed:	0	0
<ol><li>Number of faucet aerators distributed:</li></ol>	375	125
6. Does your agency track the distributio low-flow devices?	n and cost of	no

a. If YES, in what format are lowflow devices tracked? CUWCC | Print All Page 6 of 29

b. If yes, describe your tracking and distribution system :

## C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	2000	4000
2. Actual Expenditures	2395	

#### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### **E.** Comments

We will begin to track where these devices are being distributed in an effort to comply better with this BMP.

yes

# BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Implementation

- 1. Has your agency completed a pre-screening yes system audit for this reporting year?
- 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:

a. Determine metered sales (AF)	42821
b. Determine other system verifiable uses (AF)	25
c. Determine total supply into the system (AF)	45151.99
<ul><li>d. Using the numbers above, if (Metered Sales</li><li>+ Other Verifiable Uses) / Total Supply is &lt; 0.9</li><li>then a full-scale system audit is required.</li></ul>	0.95

- 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production?
- 4. Did your agency complete a full-scale audit during no this report year?
- 5. Does your agency maintain in-house records of yes audit results or the completed AWWA audit worksheets for the completed audit?
- 6. Does your agency operate a system leak detection yes program?
  - a. If yes, describe the leak detection program:

Leaks are reported by Ontario Utilities employees and other Public Works employees working in the field who may observe leaks while reading meters, working on service lines or conducting misc. work within the City. Leaks are also reported directly by the customer. In addition, field crews investigate below ground leaks. Based on the leak percentage this year, we will slowly begin an active leak program.

## **B. Survey Data**

- Total number of miles of distribution system line.
   Number of miles of distribution system line
   0
- 2. Number of miles of distribution system line surveyed.

## C. System Audit / Leak Detection Program Expenditures

	This Year	<b>Next Year</b>
1. Budgeted Expenditures	20000	20000
2. Actual Expenditures	13000	

## D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

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a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### **E.** Comments

# BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

## A. Implementation

- Does your agency require meters for all new yes connections and bill by volume-of-use?
   Does your agency have a program for retrofitting no
- 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use?
  - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
  - b. Describe the program:

Not needed, all services are metered.

3. Number of previously unmetered accounts fitted with 0 meters during report year.

## **B. Feasibility Study**

- 1. Has your agency conducted a feasibility study to no assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?
  - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
  - b. Describe the feasibility study:
- 2. Number of CII accounts with mixed-use meters. 0
- 3. Number of CII accounts with mixed-use meters 0 retrofitted with dedicated irrigation meters during reporting period.

## C. Meter Retrofit Program Expenditures

	This Year	Next Year
Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### E. Comments

The number of CII accounts with mix-used meters is unknown at this time. The zero number reported above may not be an accurate reflection of the zero number reported above.

# **BMP 05: Large Landscape Conservation Programs and Incentives**

Reporting Unit: BMP Form Status: Year: 2004 100% Complete City of Ontario A. Water Use Budgets 1. Number of Dedicated Irrigation Meter Accounts: 890 2. Number of Dedicated Irrigation Meter Accounts 0 with Water Budgets: 3. Budgeted Use for Irrigation Meter Accounts with 0 Water Budgets (AF): 4. Actual Use for Irrigation Meter Accounts with 0 Water Budgets (AF): 5. Does your agency provide water use notices to no accounts with budgets each billing cycle? **B. Landscape Surveys**  Has your agency developed a marketing / no targeting strategy for landscape surveys? a. If YES, when did your agency begin implementing this strategy? b. Description of marketing / targeting strategy: Number of Surveys Offered. 0 3. Number of Surveys Completed. 0 4. Indicate which of the following Landscape Elements are part of your survey: a. Irrigation System Check no b. Distribution Uniformity Analysis no c. Review / Develop Irrigation Schedules no d. Measure Landscape Area no e. Measure Total Irrigable Area no f. Provide Customer Report / Information no 5. Do you track survey offers and results? no 6. Does your agency provide follow-up surveys for no previously completed surveys? a. If YES, describe below:

#### C. Other BMP 5 Actions

An agency can provide mixed-use accounts with no ETo-based landscape budgets in lieu of a large landscape survey program.
 Does your agency provide mixed-use accounts with landscape budgets?
 Number of CII mixed-use accounts with landscape budgets.

3. Do you offer landscape irrigation training?	yes
4. Does your agency offer financial incentives to	no
improve landscape water use efficiency?	

improve landscape water	er use efficienc	;y?	
Type of Financial Incentive:	Budget (Dollars/ Year)	Number Awarded to Customers	Amount
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0
5. Do you provide landscape water use efficiency information to new customers and customers changing services?  a. If YES, describe below:			
6. Do you have irrigated facilities?	landscaping a	at your	yes
a. If yes, is it water	-efficient?		no
<ul><li>b. If yes, does it ha metering?</li></ul>	ave dedicated	irrigation	yes
7. Do you provide custor irrigation season?	mer notices at	the start of the	no
8. Do you provide custo	mer notices at	the end of the	no

#### D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### E. "At Least As Effective As"

irrigation season?

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### F. Comments

We began a pilot program in FY 04/05 which fulfills this BMP. If the pilot proves to be successful, a large full-scale program will be implemented. Though no budget is reflected, this program is funded through monies contributed by the City of Ontario to the Inland Empire Utilites Agency (our wholesaler) as a surcharge on imported water purchases. Monies are distributed among regional agencies.

# **BMP 06: High-Efficiency Washing Machine Rebate Programs**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Implementation

1. Do any energy service providers or waste water utilities yes in your service area offer rebates for high-efficiency washers?

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

Rebates are available through Inland Empire Utilities Agency in coordination with the Metropolitan Water District. The rebate is \$100. The City does not offer a rebate in addition to the IEUA/MWD rebate.

2. Does your agency offer rebates for high-efficiency washers?	no
3. What is the level of the rebate?	0
4. Number of rebates awarded.	51

#### **B. Rebate Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective no as" variant of this BMP?
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

Budgeted and actual expenditures may be reflected through IEUA regional program expenditures for this program. This City pays into this program and monies and programs and administered regionally. \$282,500 is budgeted regionally for this program

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#### **BMP 07: Public Information Programs**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Implementation

- 1. Does your agency maintain an active public yes information program to promote and educate customers about water conservation?
  - a. If YES, describe the program and how it's organized.

Conservation information is distributed in a variety of ways. Conservation information is found prominantly in our water quality reports and quarterly newsletter. Conservation topics are discussed with residents on an individual and group level. Various literature is targeted to various age levels.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	3
b. Public Service Announcement	yes	2
c. Bill Inserts / Newsletters / Brochures	yes	2
<ul> <li>d. Bill showing water usage in comparison to previous year's usage</li> </ul>	no	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	2
g. Speaker's Bureau	yes	10
<ul> <li>h. Program to coordinate with other government agencies, industry and public interest groups and media</li> </ul>	yes	

#### **B.** Conservation Information Program Expenditures

Budgeted Expenditures	5000	5000
2. Actual Expenditures	5023	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### **D.** Comments

A budgeted amount of \$1500 shown is paid to a regional conservation group called the Water Education and Water Awareness Committee whose purpose is to conduct public education on water conservation. Additionally, budgeted

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expenditures reflect Ontario staff time to implement the WEWAC awareness programs.

#### **BMP 08: School Education Programs**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Implementation

1.Has your agency implemented a school information yes program to promote water conservation?

2. Please provide information on your school programs (by grade level):

Grade	•	No. of class presentations	students	No. of teachers' workshops
Grades K-3rd	yes	0	0	0
Grades 4th-6th	yes	39	796	0
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0
3. Did your Age framework requ	•	s meet state edu	ıcation	yes
4. When did you program?	ır Agency begi	n implementing	this	01/01/2003

#### **B. School Education Program Expenditures**

	This Year	Next Year
Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### **D.** Comments

Budgeted expenditures will be reflected on the wholesale agency report

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# **BMP 09: Conservation Programs for CII Accounts**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Implementation

1. Has your agency identified and ranked no COMMERCIAL customers according to use?

2. Has your agency identified and ranked yes INDUSTRIAL customers according to use?

3. Has your agency identified and ranked yes INSTITUTIONAL customers according to use?

## Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option?

yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
<ul><li>a. Number of New Surveys Offered</li></ul>	0	0	0
<ul><li>b. Number of New</li><li>Surveys Completed</li></ul>	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0
CILCumian	Commoraiol	lo di catri a l	lootitutional

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no
Agonov CII	Dudget	No Awardad	Total ¢

Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	197	22220

i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

#### **Option B: CII Conservation Program Targets**

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from siteverified actions taken by agency since 1991.	1.3
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	11.7

### **B. Conservation Program Expenditures for CII Accounts**

	This Year	<b>Next Year</b>
1. Budgeted Expenditures	0	0
2. Actual Expenditures	27262.5	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

Budgeted expenditures should be reflected on the wholesale agency report.

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BMP 09a: CII ULFT Water Savings

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

1. Did your agency implement a CII

ULFT replacement program in the reporting year?

If No, please explain why on Line B.

10.

#### A. Targeting and Marketing

1. What basis does your agency use to target CII ULFT Study subsector targeting customers for participation in this program? Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

We found CII sectors and sub sectors most effective because we were able to version our marketing efforts appropriately.

2. How does your agency advertise this program? Check all that apply.

Direct letter
Web page
Newsletter
Bill insert
Newspapers
Trade publications
Other print media
Trade shows and events
Telemarketing

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

For the purposes of this program, Trade Allies have proven to be the most effective overall marketing tool, as well as the most effective per dollar expended. Trade Allies include plumbers, distributors, retail home improvement stores and product manufacturers.

#### **B.** Implementation

Does your agency keep and maintain customer Yes participant information? (Read the Help information for a complete list of all the information for this BMP.)

 Would your agency be willing to share this Yes

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency?

3. What is the total number of customer accounts participating in the program during the last year?

2

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CII Subsector	Number of Toilets Replaced			
4.	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	137	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Govern- ment	0	0	0	0
i. Churches	0	0	0	0
j. Other	0	0	0	0
5. Program design.			Re	bate or voucher
6. Does your ag	jency use o	utside serv	rices to	Yes
implement this i				
a. If yes, check apply.	all that			Consultant
7. Participant tra follow-up.	acking and			Telephone Site Visit
8. Based on you to 5, with 1 bein frequent cause, participate in the	g the least the followin	frequent ca	ause and 5 be	eing the most
a. Disruption to	business			1
b. Inadequate p	ayback			3
c. Inadequate U	•	nance		2
d. Lack of fundi	ng .			5
e. American's w	rith Disabiliti	es Act		0
f. Permitting				0
g. Other. Please	e describe in	n B. 9.		
9. Please descr customers, obs				

Customers are generally more willing to participate in the program if the cost of the retrofit is in balance with the amount of the rebate, and the projected water savings is significant. Resistance occurs if the out-ofpocket expense for the retrofit is too costly and the

program implementation or effectiveness.

rebate amount is too low.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Either Metropolitan or its Agencies to provide this response.

#### C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

#### 2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	8220
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e Total	8220

#### D. Comments

CUWCC | Print All

#### **BMP 11: Conservation Pricing**

**BMP Form** 

Reporting Unit: Status: Year: City of Ontario 100% 2004

Complete

#### A. Implementation

#### Rate Structure Data Volumetric Rates for Water Service by Customer Class

#### 1. Residential

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from Volumetric \$14266962

d. Total Revenue from Non-Volumetric Charges, Fees and \$14266962

other Revenue Sources

#### 2. Commercial

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from Volumetric \$9652163

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources

\$9652163

#### 3. Industrial

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from Volumetric \$1454459

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources

\$1454459

#### 4. Institutional / Government

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Increasing Block

c. Total Revenue from Volumetric \$750286

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources

\$750286

#### 5. Irrigation

a. Water Rate Structure Increasing Blockb. Sewer Rate Structure Service Not Provided

c. Total Revenue from Volumetric Rates

\$0

d. Total Revenue from Non-

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Volumetric Charges, Fees and other Revenue Sources

6. Other

a. Water Rate Structure

b. Sewer Rate Structure

c. Total Revenue from Volumetric Rates

d. Total Revenue from Non
\$0

\$0

\$0

\$0

\$0

d. Total Revenue from Non-Volumetric Charges, Fees and \$0

other Revenue Sources

#### **B. Conservation Pricing Program Expenditures**

	This Year	Next Year
Budgeted Expenditures	0	0
2. Actual Expenditures	0	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as No effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### D. Comments

See note from previous year for revenue explanations. #6-other reflects recycled water.

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#### **BMP 12: Conservation Coordinator**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Implementation

1. Does your Agency have a conservation coordinator?

yes

2. Is this a full-time position?

3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program?

4. Partner agency's name: Inland Empire Utilities

Agency

5. If your agency supplies the conservation coordinator:

a. What percent is this conservation coordinator's position?

b. Coordinator's Namec. Coordinator's TitleRosemarie ChoraWater Quality

Specialist

d. Coordinator's Experience and Water quality and Number of Years supply/5 years

e. Date Coordinator's position was created (mm/dd/yyyy)

01/01/2000

6. Number of conservation staff, including Conservation Coordinator.

#### **B. Conservation Staff Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	35000	35000
2. Actual Expenditures	32059	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

yes

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Conservation activities are managed by the Environmental Programs Manager with primary responsibility to implement by the Water Quality Specialist. These positions are additionally supported by many other in-house and wholesaler staff members in order to implement the BMPs. The City is also an active participant in 2 regional conservation groups which pool resources to implement conservation programs. these groups are WEWAC and the IEUA Conservation Committee.

#### D. Comments

no

#### **BMP 13: Water Waste Prohibition**

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

#### A. Requirements for Documenting BMP Implementation

- 1. Is a water waste prohibition ordinance in effect in your no service area?
  - a. If YES, describe the ordinance:
- 2. Is a copy of the most current ordinance(s) on file with CUWCC?

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

City of Ontario none at this time

#### **B.** Implementation

- 1. Indicate which of the water uses listed below are prohibited by your agency or service area.
  - a. Gutter flooding no
  - b. Single-pass cooling systems for new connections no
  - c. Non-recirculating systems in all new conveyor or car wash systems
  - d. Non-recirculating systems in all new commercial laundry systems
  - e. Non-recirculating systems in all new decorative no
  - f. Other, please name no
- 2. Describe measures that prohibit water uses listed above:

none at this time

#### Water Softeners:

- 3. Indicate which of the following measures your agency has supported in developing state law:
  - a. Allow the sale of more efficient, demand-initiated regenerating DIR models.
  - b. Develop minimum appliance efficiency standards that:
    - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness no removed per pound of common salt used.
    - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water no produced.
  - c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the

yes

no

agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.

4. Does your agency include water softener checks in home water audit programs?

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models?

#### C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
Budgeted Expenditures	0	5000
2. Actual Expenditures	0	

#### D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### E. Comments

Water treatment devices (softeners) are limited to one cubic foot in size for commercial and industrial use. Comm/ind. users that need larger units are prohibited by ordinance from installation and must use an off-site exchange and regeneration service. Ontario is continuing to be an active partner in the Inland Empire Utilities Agency salinity study which is looking at salinity generation from residential sources. If acceptable, this report will be used to move forward with prohibiting "time controlled" regenerable softeners.

Reported as of 10/12/05

no

# BMP 14: Residential ULFT Replacement Programs

Reporting Unit: BMP Form Status: Year: City of Ontario 100% Complete 2004

A. Implementation

Single- Multi-Family Family Accounts Units

yes

yes

1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method		SF Accounts	MF Units
2. Rebate		103	34
3. Direct Install		0	0
4. CBO Distribution		362	121
5. Other	_	0	0
	Total	465	155

6. Describe your agency's ULFT program for single-family residences.

The City continued to host ULFT Exchange events twice per year at the Public Works Yard. Ontario customers were also able to obtain toilets at an Inland Empire Utilities Agency regional toilet exchange event. See note for 02/03 for program implementation.

7. Describe your agency's ULFT program for multi-family residences.

None existing presently.

- 8. Is a toilet retrofit on resale ordinance in effect for your no service area?
- 9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

City of Ontario None at this time.

#### **B. Residential ULFT Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	20000	20000
2. Actual Expenditures	18300	

#### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as

no

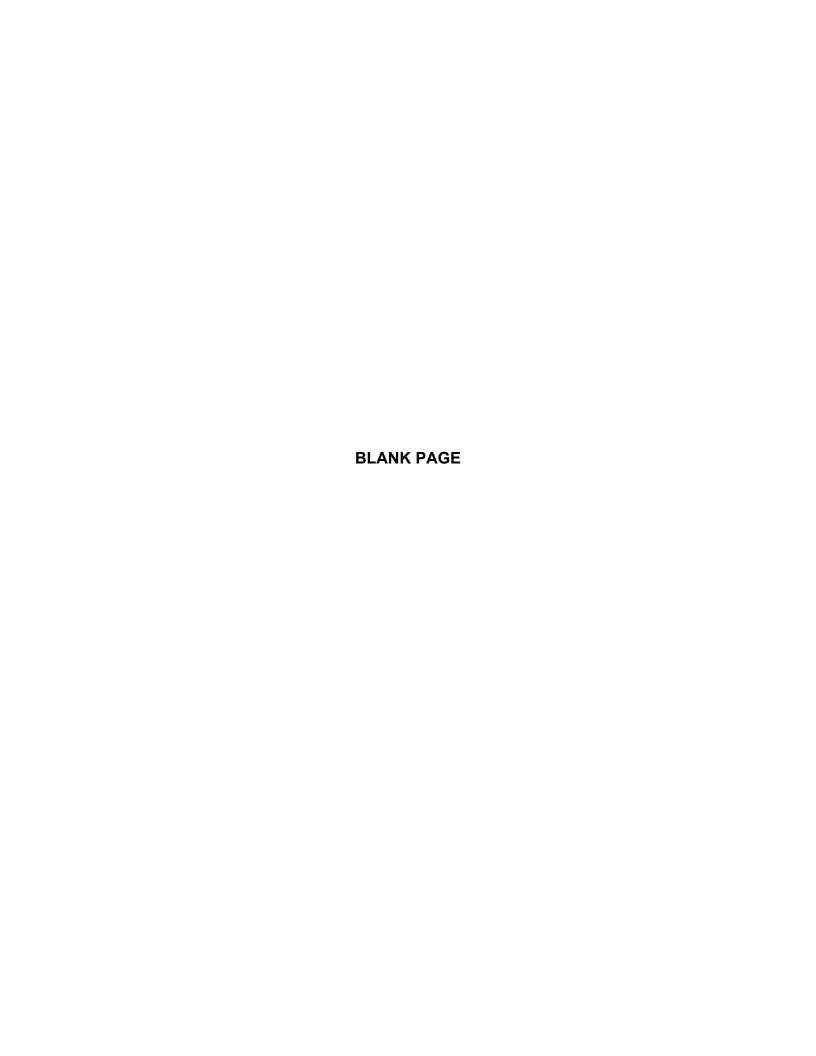
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effective as" variant of this BMP?

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

#### **D.** Comments

See note for 02/03

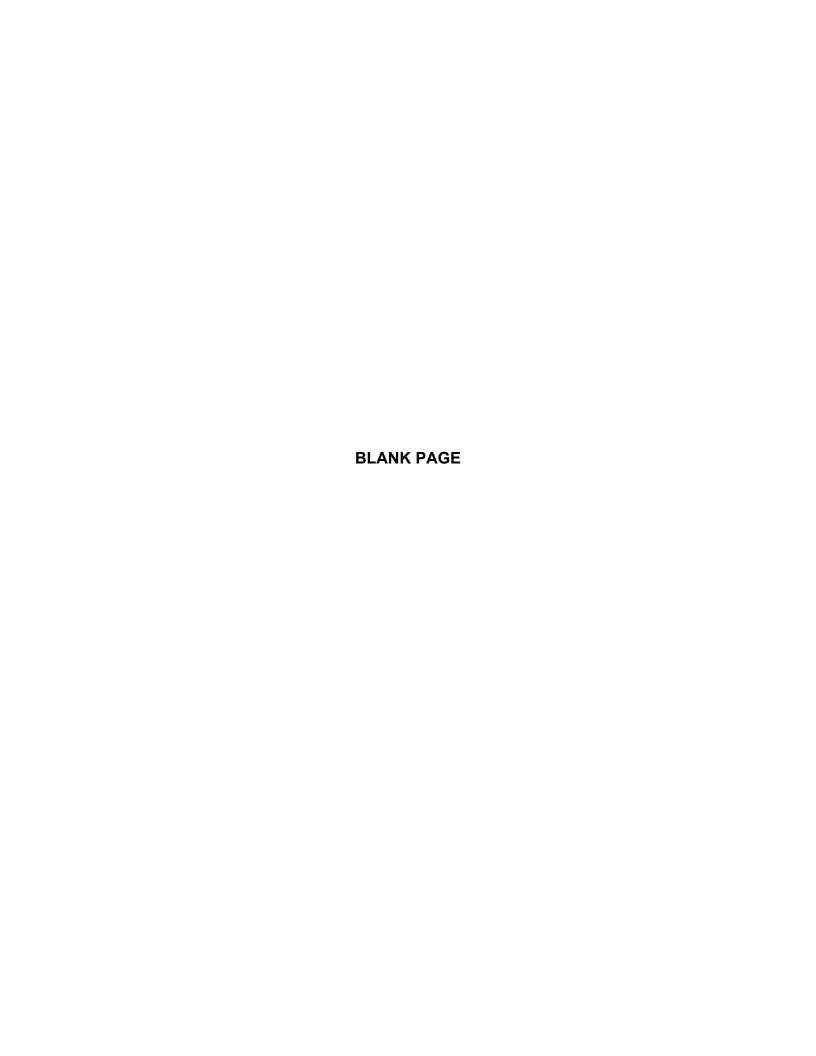


# Appendix D Water Conservation Details

This Appendix includes the following information:

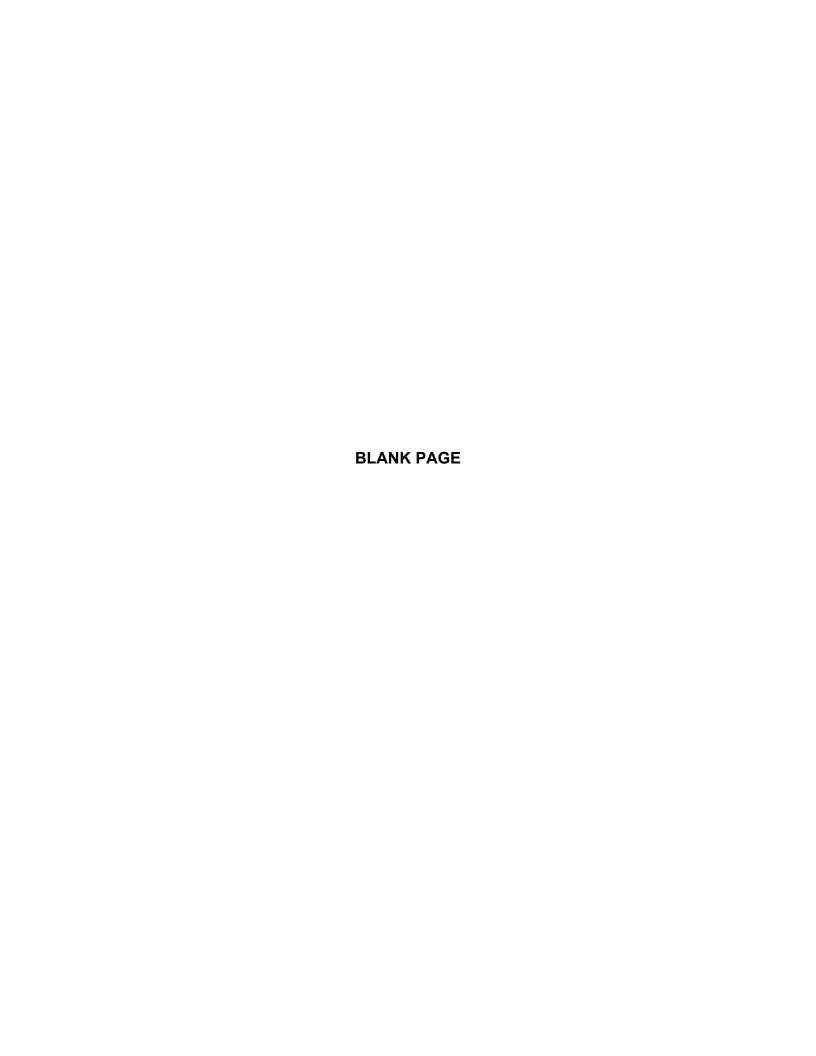
- Estimated Water Conservation Savings 2004/2005
- Water Conservation Strategy 2006 2010

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# Estimated Water Conservation Savings by end of FY 2004/2005 (Existing BMPs

			Mallik			Se	-6
Best Management Practices	Pre 2002 - 2003	FY 02 - 03	2004	Total by the end of 2004	d Unit	acre-ft/year per unit	Total (acre-ft/year)
(1) Water Survey Programs for Single-Family and Multi-Family Residential Customers	0	0	0	0	residential surveys		
(2) Residential Plumbing Retrofit - Single Family Residential	0	750	220	1,500	showerheads	0.01	14
(2) Residential Plumbing Retrofit - Multi Family Residential		250	250	200	showerheads	0.01	5
(3) System Water Audits, Leak Detection and Repair	yes	yes	yes	0	audit <sup>(1)</sup>		
(4) Metering with Commodity Rates for all New Connections and Retrofit of Existing	none	none	none	0	unmetered accounts		
(5) Large Landscape Conservation Programs and Incentives	none	none	none	0	landscape meters surveyed	96:0	
(6) High-Efficiency Washing Clothes Machine (HECW) Rebate Programs	189	226	274	689	washing machine rebates	0.05	31
Pool Covers	29	28	30	87	pool cover rebates	0.05	9
(7) Public Information Programs	0	11	21	32	events		
(8) School Education Programs	0	299	962	1,595	students		
(9) Conservation Programs for CII accounts	0	14	197	211	CII rebates		
CII ULF Toilets	20	0	137	187	toilet rebates	90:0	11
unaccounted CII Rebates	0	2	1	3	Other rebates	unknown	
CII Surveys	0	0	18	18	surveys		
High Efficiency Clothes Washers (HECW)	18		51	69	Washer rebates	0.12	8
Cooling Tower Conductivity Controllers (CTCC)	9	2	1	6	Cooling Tower Rebates	2.24	20
Waterbrooms	0	10	2	17	Waterbroom rebates	0.15	ε
Performance Target savings	0	2	4	9	acre-ft/year	unknown	9
Conservation Program Targets	0	6.5	13	20	acre-ft/year	unknown	50
(10) Wholesale pricing	N/A	N/A	N/A	0	wholesale pricing		
(11) Conservation Pricing	yes	yes	yes	0	increasing price block		
(12) Conservation Coordinator	1	0	0	1	coordinator		
(13) Water Waste Prohibition	0	0	0	0	water waste ordinance		
(14) Residential ULFT Replacement Program	0	1136	620	1,756	residential ULFT rebates (2)	0.03	54
Total Estimated Savings	n/a	n/a	n/a	6,700	n/a	n/a	441
Note: Savings of BMPs with grey cells are assumed to be zero, as the impact of these can not be quantified.							
<ol> <li>Audit determined that waterloss is less than 10 percent no further actions required.</li> </ol>							
Sold Table 2 Catedra GTO TON 2001 NOON and have cotoder GTM NOON have cotoder GTO COOK 2011 (C)							

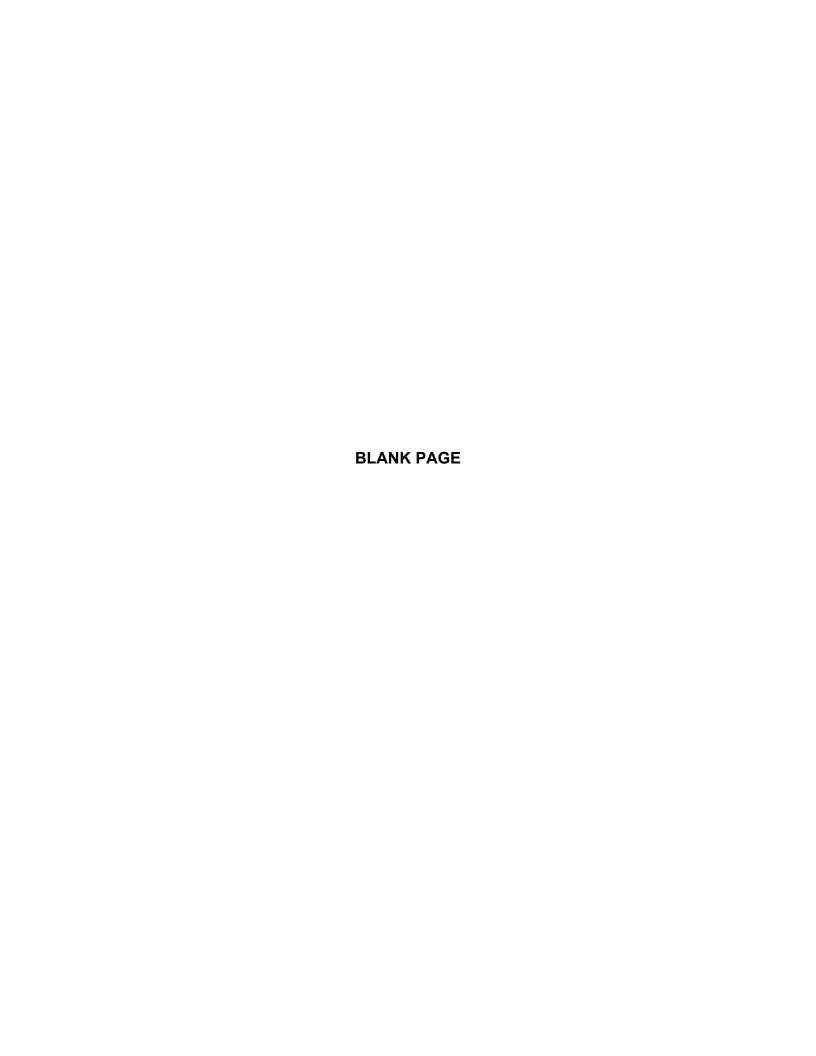


# Water Conservation Strategy 2006-2010

	Historical		BMP Requ	BMP Requirements per MOU	MOU		,	Additional B	Additional BMP Activities		Units			Est	imated Savin	Estimated Savings (acre-ft/year)	r)	
Best Management Practice	Pre FY 04-05	FY 05-06	FY 06-07	FY 07-08 F	FY 08-09 FY	FY 09-10 FY	FY 05-06 FY 0	FY 06-07 FY C	FY 07-08 FY 08-0	-09 FY 09-10	-10 Unit	Savings (AFY/unit)	Pre FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10
(1) Water Survey Programs																		
SFR Customrs		408	490	571	648	724					Surveys	0						
MFR Customers		31	37	43	49	22					Surveys	0						
(2) Residential Plumbing Retrofit - single family											-	0						
SFR Customrs	1,500	1,386	1,386	1,386	1,386	1,386	1,000 1,0	1,000 1,0	1,000 1,000	1,000	0 showerheads	0.01	14	37	09	83	106	129
MFR Customers	200	108	108	108	108		1,000 1,0	1,000 1,0	1,000 1,000	1,000		0.01	2	15	56	37	47	28
(3) System Water Audits, Leak Detection and Repair											audits <sup>(1)</sup>	0						
(4) Metering with Commodity Rates for all New Connections and Retrofit of Existing Customers											unmetered accounts	0						
(5) Large Landscape Conservation Programs and Incentives		225	225	450					20			96.0		216	432	864	912	096
(6) High-Efficiency Washing Machine Rebate Programs	689						200 20	200 2	200 200			0.046	31	41	20	29	68	77
Pool Cover Rebates	87										pool cover rebates	0.052	2	2	2	2	2	2
(7) Public Information Programs	32										events	0						
(8) School Education Programs	1,595										students	0						
(9) Conservation Programs for CII accounts	-	-	-	-	-	-				-	CII conservation	0						
Commercial surveys per account	11	28	47	29	92	117					Surveys	0						
Industrial surveys per account	3	4	7	10	14	17					Surveys	0						
Institutional surveys per account	4	3	9	8	11	14					Surveys	0						
Number of CII ULFT rebates	187						450 50	200	550 600	029 (		90'0	11	38	89	101	137	176
unknown rebates	3										unknown CII rebates	0						
High Efficiency Clothes Washers (HECW)	69						10 1		10 15	20	CII HECW rebate	0.12	8	6	11	12	14	16
Cooling Tower Conductivity Controllers (CTCC)	6						5	2	5 5	2	CTCC rebate	2.24	20	31	43	54	92	9/
Waterbrooms	17										Waterbroom rebates	0.15	3	3	3	3	3	3
Performance Target savings	9										acre-ft/year		9	9	9	9	9	9
Conservation Program Targets	20										acre-ft/year		20	20	20	20	20	20
(11) Conservation Pricing											increasing price block	0						
(12) Conservation Coordinator											coordinator	0						
(13) Water Waste Prohibition											water waste ordinance	0						
(14) Residential ULFT Replacement Program	1,756						500 1,0	1,000 1,5	1,500 2,000	0 2,500	0 ULFT rebates	0.03	54	70	101	147	209	287
Residential ULFT rebates	137										residential ULFT rebates (2)	0						
CBO Distribution	483										CBO distribution	0						
Total	n/a	n/a	n/a	n/a	n/a	n/a	n/a n/	n/a n	n/a n/a	ı n/a	Total		177	491	823	1,390	1,592	1,813
Note: Savings of BMPs with grey cells are assumed to be zero, as the impact of these can not be quantified.  (1) Audit determined that waterloss is less than 10 percent no further actions required.																		
(2) For 2003 year 852 SFR rebates and 284 MFR rebates and for 2004 year 465 SFR rebates and 155 MFR rebates.																		

# Appendix E Water Demand Projections by Year

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#### Water Demand Projections by Year

Demand Summary	2005	2006	2007	2008	2009	2010
Average Annual Demand	42,582	42,786	45,074	47,362	49,649	51,938
2) High Annual Demand	46,031	46,252	48,725	51,198	53,671	56,145
3) Sunkist Demand	1,470	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	44,052	44,256	46,544	48,832	51,119	53,408
5) Potable High Demand (2+3)	47,501	47,722	50,195	52,668	55,141	57,615
Normal Year Recycled Water Demand	1,829	3,042	4,268	5,495	6,721	7,926
Dry Year Recycled Water Demand	2,181	3,627	5,089	6,551	8,013	9,449
Base Conservation*	-840	-1,199	-1,558	-1,917	-2,276	-2,635
9) Additional Conservation**	-4,750	-4,772	-5,019	-5,267	-5,514	-5,761
Normal Year Demand (1+3+6+8)	45,041	46,099	49,254	52,409	55,564	58,699
Single Dry Year Demand (2+3+7+8)	48,842	50,150	53,726	57,302	60,877	64,429
Multiple Dry Year Demand (2+3+7+8+9)	44,091	45,378	48,706	52,035	55,363	58,668

<sup>\*</sup> Base Conservation includes passive and active conservation

<sup>\*\*</sup> Additiona Conservation is 10 % \* (2 + 3)

Demand Summary	2011	2012	2013	2014	2015
Average Annual Demand	52,810	53,681	54,553	55,425	56,297
2) High Annual Demand	57,087	58,030	58,972	59,914	60,857
Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	54,280	55,151	56,023	56,895	57,767
5) Potable High Demand (2+3)	58,557	59,500	60,442	61,384	62,327
Normal Year Recycled Water	8,378	8,808	9,239	9,669	8,816
Dry Year Recycled Water	9,988	10,501	11,015	11,528	10,511
8) Base Conservation*	-2,907	-3,179	-3,450	-3,722	-3,994
Additional Conservation**	-5,856	-5,950	-6,044	-6,138	-6,233
Normal Year Demand (1+3+6+8)	59,750	60,781	61,812	62,842	62,589
Single Dry Year Demand (2+3+7+8)	65,638	66,822	68,006	69,190	68,843
Multiple Dry Year Demand (2+3+7+8+9)	59,783	60,872	61,962	63,052	62,611

<sup>\*</sup> Base Conservation includes passive and active conservation
\*\* Additiona Conservation is 10 % \* (2 + 3)

Demand Summary	2016	2017	2018	2019	2020
Average Annual Demand	57,708	59,120	60,531	61,942	63,354
2) High Annual Demand	62,383	63,908	65,434	66,960	68,485
Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	59,178	60,590	62,001	63,412	64,824
5) Potable High Demand (2+3)	63,853	65,378	66,904	68,430	69,955
Normal Year Recycled Water	10,259	10,417	10,576	10,734	11,761
7) Dry Year Recycled Water	12,230	12,420	12,609	12,798	14,022
8) Base Conservation*	-4,175	-4,356	-4,538	-4,719	-4,900
Additional Conservation**	-6,385	-6,538	-6,690	-6,843	-6,996
Normal Year Demand (1+3+6+8)	65,262	66,650	68,039	69,428	71,685
Single Dry Year Demand (2+3+7+8)	71,908	73,441	74,975	76,509	79,077
Multiple Dry Year Demand (2+3+7+8+9)	65,523	66,904	68,285	69,666	72,081

<sup>\*</sup> Base Conservation includes passive and active conservation

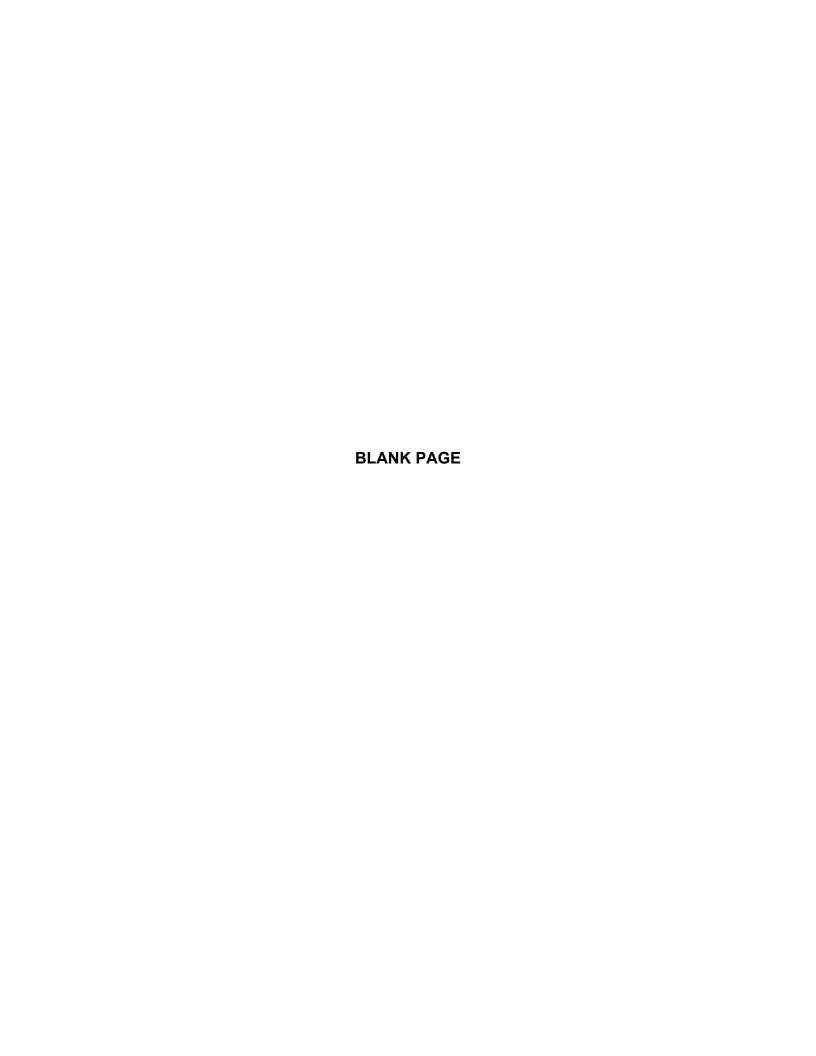
<sup>\*\*</sup> Additiona Conservation is 10 % \* (2 + 3)

Demand Summary	2021	2022	2023	2024	2025
Average Annual Demand	64,765	66,177	67,588	68,999	70,411
2) High Annual Demand	70,011	71,537	73,063	74,588	76,114
Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	66,235	67,647	69,058	70,469	71,881
5) Potable High Demand (2+3)	71,481	73,007	74,533	76,058	77,584
Normal Year Recycled Water	11,103	11,312	11,522	11,731	12,435
Dry Year Recycled Water	13,237	13,487	13,736	13,986	14,825
8) Base Conservation*	-5,150	-5,400	-5,649	-5,899	-6,149
Additional Conservation**	-7,148	-7,301	-7,453	-7,606	-7,758
Normal Year Demand (1+3+6+8)	72,188	73,559	74,930	76,301	78,167
Single Dry Year Demand (2+3+7+8)	79,568	81,094	82,620	84,145	86,260
Multiple Dry Year Demand (2+3+7+8+9)	72,420	73,793	75,166	76,540	78,502

<sup>\*</sup> Base Conservation includes passive and active conservation
\*\* Additiona Conservation is 10 % \* (2 + 3)

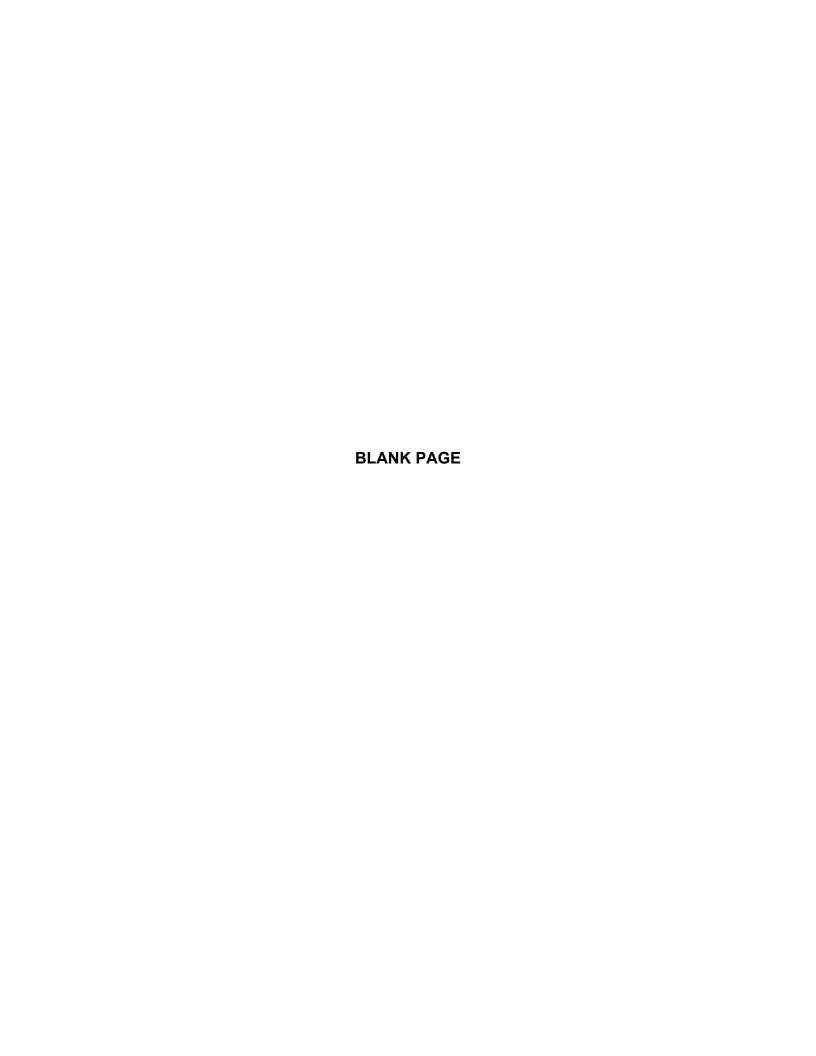
Demand Summary	2026	2027	2028	2029	2030
1) Average Annual Demand	71,822	73,233	74,645	76,056	77,468
2) High Annual Demand	77,640	79,165	80,691	82,217	83,742
3) Sunkist Demand	1,470	1,470	1,470	1,470	1,470
4) Potable Normal Demand (1+3)	73,292	74,703	76,115	77,526	78,938
5) Potable High Demand (2+3)	79,110	80,635	82,161	83,687	85,212
Normal Year Recycled Water	12,430	12,918	13,407	13,895	14,492
7) Dry Year Recycled Water	14,819	15,401	15,984	16,566	17,278
8) Base Conservation*	-6,469	-6,788	-7,108	-7,427	-7,747
Additional Conservation**	-7,911	-8,064	-8,216	-8,369	-8,521
Normal Year Demand (1+3+6+8)	79,253	80,833	82,414	83,994	85,683
Single Dry Year Demand (2+3+7+8)	87,460	89,248	91,037	92,826	94,743
Multiple Dry Year Demand (2+3+7+8+9)	79,549	81,185	82,821	84,457	86,222

<sup>\*</sup> Base Conservation includes passive and active conservation \*\* Additiona Conservation is 10 % \* (2 + 3)



# Appendix F Adoption Resolution

MWH Page F-1



#### **RESOLUTION NO. 2005-126**

# A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA ADOPTING THE 2005 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually prepare an Urban Water Management Plan; and

WHEREAS, the City of Ontario is a water supplier of more than 3,000 acre-feet annually; and

WHEREAS, the Plan is periodically reviewed at least once every five years; and

WHEREAS, the City of Ontario contracted with expert consultants, MWH Americas, to assist staff in completing the draft 2005 Urban Water Management Plan; and

WHEREAS, a public hearing was held by the City of Ontario City Council on December 20, 2005 to respond to public comments regarding on the draft Urban Water Management Plan

#### NOW, THEREFORE, IT IS HEREBY RESOLVED as follows:

SECTION 1. The 2005 Urban Water Management Plan for the City of Ontario is hereby adopted.

SECTION 2. The Public Works/Community Services Director is hereby authorized to file three copies of the Plan with the State Department of Water Resources.

SECTION 3. The City Manager is hereby authorized and directed to implement the Water Programs as detailed in the adopted 2005 Urban Water Management Plan, including recommendations to the City Council regarding necessary procedures, rules, and regulations in an effort to carry out effective and equitable water programs.

**SECTION 4.** This Resolution shall take effect upon adoption.

I HEREBY CERTIFY, that the foregoing resolution was duly and regularly passed and adopted by the City Council of the City of Ontario, California, at a regular meeting thereof held on the  $20^{\rm th}$  day of December, 2005.

City Clerk of the City of Ontario



# CITY OF ONTARIO MEMORANDUM

**TO:** Richard Ayala, Planning Department

FROM: Reymundo Trejo, Utilities Department

**DATE:** April 30, 2007

**SUBJECT: PDEV04-047 Ontario Wal-Mart Supercenter Environmental Impact Report** 

Comments on the water and sewer utilities sections are listed in the following table. The Utilities Section should be revised and resubmitted for review before finalizing the draft EIR.

Reference/ Page No.	Comment
<b>Executive Summary</b>	
Page S-3	The total building size is approximately 191,000 sf. The commercial land use requirement for a water supply assessment report is 500,000 sf or more. Therefore, a water supply assessment report does not appear to be required for the Wal-Mart Supercenter as a stand alone project. The EIR Consultant should also review this project and related Mountain Village development and confirm that a water supply assessment report is not required.
4.12 Utilities, Section	n 4.12.1 Water Services
Page 4.12-2	Well 13 has been destroyed, so it is no longer a valid water supply source to the 1348 (13 <sup>th</sup> St) Zone water system. New Well 46 will provide water supply to the 1348 Zone. Construction of Well 46 is scheduled to be completed in 2008.
	The MWD Upper Feeder pipeline runs through the City of Ontario; however it is no longer used as a source to the City's water supply.
	Construction of new potable and recycled water system distribution lines will be required as part of this project.
Page 4.12-4	The EIR should note that the City water system has sufficient water supply, based on the water supply evaluation contained in the 2005

	Urban Water Management Plan.
	Water service to the Wal-Mart Supercenter shall be provided from connections the 12-inch pipeline on Mountain Avenue. A separate fire flow service will be required to serve the Wal-Mart building.
	Based on the 2006 Water Master Plan, the City requires replacement of the existing 6-inch pipeline along the property frontage along 5 <sup>th</sup> Street with an 8-inch pipeline to improve fire flow capacity of the existing water system. The 12-inch pipeline in Mountain Avenue was identified as an age replacement project in the 2006 Water Master Plan.
	Delete the reference to Well 13.
Page 4.12-5	Footnote references to Chino Basin Municipal Water District and CBMWD and note that CBMWD has change its name to Inland Empire Utilities Agency, since the Supplemental EIR for the Mountain Village Specific Plan was completed.
	Under "Previous Analysis," review the 2005 Ontario Urban Water Management Plan and confirm that sufficient water supply is available.
Page 4.12-6	For Mitigation Measure 8, the project compliance column should state that pipeline improvements will be constructed to address fire flow deficiencies that are identify in the 2006 Water Mater Plan and the water system hydraulic analysis.
4.12 Utilities, Section	on 4.12.2 Wastewater and Sewer Services
Page 4.12-5-8	It is noted that there are sewer deficiencies downstream of the proposed Wal-Mart Supercenter based on the 1995 Sewer Master Plan. Most of these sewer deficiencies will be eliminated by diversion of flow to a proposed sewer trunk line in Holt Boulevard. The schedule of this sewer diversion projects need to be compared to the schedule of the Wal-Mart Supercenter to verify that the sewer diversion project will be completed and sewer capacity will be available prior to occupancy of the Wal-Mart Supercenter. The development will ensure that all sewer deficiencies are eliminated prior to occupancy.
	A 10-foot wide sewer easements have been recorded for segments of the existing sewer that cross the parking lot. If used, these sewer easements must be amended to increase to the easement width to meet current City Standards. If the site elevation is lowered, existing on-site sewers may need to be relocated to meet City Standards.

From: Dennis Mejia
To: Josephine Alido

**Date:** 11/21/2006 2:04:32 PM

**Subject:** Ontario Walmart Supercenter Letter dated 10/25/06

Josephine,

This is in response to your letter requesting information regarding the City's water system. Upon discussing with the Utilities Dept, the developer's engineer will be required to submit a Hydraulic Analysis for Potable Water per our guidelines.

- 1. The City's 2005 Urban Water Management Plan addresses this question. Additionally, attached is SB 221 and SB 610 law that may require a Water Supply Assessment.
- 2. A copy of the applicable water atlas sheet may be obtained from the Engineering Dept counter at City Hall.
- 3. Please refer to the attached Hydraulic Analysis guidelines.
- 4. The Developer's engineer shall submit a Hydraulic Analysis to address this item.
- 5. The Developer's engineer shall submit a Hydraulic Analysis to address this item.
- 6. The developer should use water efficient fixtures such as low-flush toilets and use recycled water for irrigation purposes.
- 7. The City's recycled water ordinance and design guidelines are available through Engineering.
- 8. The City's 2005 Urban Water Management Plan addresses this question. Please note that the plan was based on the City's 1998 General Plan Amendment land use.

Please let me know if you have any further questions.

Dennis Mejia, P.E. Principal Engineer City of Ontario Engineering Department 303 East "B" Street Ontario, CA 91764 Phone (909) 395-2144 Fax (909) 395-2122



Executive Office

November 15, 2006

Via E-Mail

Ms. Josephine Alido David Evans and Associates, Inc. 800 North Haven Avenue, Suite 300 Ontario, California 91764

Dear Ms. Alido:

#### Response to Letter - Ontario Walmart Supercenter

The Metropolitan Water District of Southern California (Metropolitan) has received your letter (dated October 25, 2006) requesting our input in assessing the Ontario Walmart Supercenter (Project) potential impacts on water service. The Project is proposed on approximately 15.23 acres located west of Mountain Avenue and north of Fifth Street, approximately ¼ mile south of the San Bernardino (I-10) Freeway in the northwestern section of the City of Ontario. The proposed Project would involve the demolition of existing on-site structures that are currently present but not in use and the construction of an approximately 190,803-square-foot building on the western portion of the site, with parking areas on the eastern portion. The proposed Project would include a general merchandise store, a grocery store, and an outside garden center. Infrastructure and street improvements would also accompany the Project. The city of Ontario (City) is the Lead Agency for this Project. This letter contains Metropolitan's response to the questions as provided in your letter.

# 1. Where is the Metropolitan feeder line located and to and from where does it go? Are there other Metropolitan facilities near the site?

Metropolitan owns and operates the Upper Feeder, a 140-inch pipeline, which is located adjacent to the southern Project boundary along Fifth Street within street right-of-way. The Upper Feeder originates at Lake Mathews and extends west to the Eagle Rock Control Facility.

#### 2. Does this feeder line serve the site?

Metropolitan is a regional water agency that delivers supplemental water to its 26 member agencies. This Project is located within the boundaries of the Inland Empire Utility Agency (IEUA)—a Metropolitan member agency. Please consult with IEUA regarding service to the Project site.

# 3. Are there guidelines that the applicant would need to comply with to prevent impacts on this feeder line?

Development, future excavation, construction, or utilities associated with the proposed Project must not restrict any of Metropolitan's day-to-day operations, repairs and/or its access to facilities. Metropolitan must also be allowed to maintain its rights-of-way and access to all of

its facilities at all times in order to repair and maintain the current condition of those facilities. Nor can the development affect the water quality of Metropolitan supplies by allowing for non-compatible land uses including open space designations. Please identify measures in the Draft EIR that would ensure avoidance of all impacts to Metropolitan's facilities.

In order to avoid potential conflicts with Metropolitan's rights-of-way, we request that any design plans for any activity in the area of Metropolitan's pipelines or facilities be submitted for our review and written approval. Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564. To assist in preparing plans that are compatible with Metropolitan's facilities, easements, and properties, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California." Please note that all submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way.

- 4. Are there permits needed with regards to your facilities and the proposed Project?

  No permits should be required, however, all plans must obtain Metropolitan approval, as noted above in response to Question No. 3.
- 5. Does Metropolitan have any concerns or expect any long-term (10-year, 20-year, 30-year or longer) impacts associated with the provision of water services to the City of Ontario? If so, please describe the nature of these impacts and how this Project may contribute to those impacts.

Metropolitan is not a local water distributor but rather a regional wholesale supplier. From a regional perspective, Metropolitan's March 25, 2003, Report on Water Supplies indicates that Metropolitan's water supply plan will provide a reliable source of water to Southern California over the next 20 years. A discussion of this plan is outside the scope of this letter; however, a copy of the report is attached. The plan discusses not only Metropolitan's existing water supply, but also how it will develop reliable supplies into the future. Because Metropolitan is a supplemental supplier to the region, please consult with IEUA regarding current water statistics for the proposed project site, future water use based on the Project description, and whether there is the need to increase existing levels of service or facilities.

Additionally, Metropolitan encourages projects within its service area to include water conservation measures. Water conservation, reclaimed water use, and groundwater recharge programs are integral components to regional water supply planning. Metropolitan supports mitigation measures such as using water efficient fixtures, drought-tolerant landscaping, and reclaimed water to offset any significant increase in water use associated with the proposed Project.

Ms. Josephine Alido Page 3 November 15, 2006

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental documentation on this project. If we can be of further assistance, please contact me at (213) 217-6217.

Very truly yours,

Delaine W. Shane

Interim Manager, Environmental Planning Team

LIM/lim

(Public Folders/EPU/Letters/13-NOV-06A.doc - Josephine Alido)

Attachment: 1) Planning Guidelines

2) Report on Metropolitan's Water Supplies, March 25, 2003

Copy: Mr. Richard Ayala

The City of Ontario Planning Department 303 East "B" Street

Ontario, California 91764

Mr. Richard Atwater

Chief Executive Officer/General Manager

Inland Empire Utility Agency

6075 Kimball Avenue

Chino, California 91709

# Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California

#### 1. Introduction

- a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.
- b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

## 2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

- a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.
- b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.
- c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.
- d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.

## 3. Maintenance of Access Along Metropolitan's Rights-of-Way

- a. Proposed cut or fill slopes exceeding 10 percent are normally not allowed within Metropolitan's fee properties or easements. This is required to facilitate the use of construction and maintenance equipment, and provide access to its aboveground and belowground facilities.
- b. We require that 16-foot-wide commercial-type driveway approaches be constructed on both sides of all streets crossing Metropolitan's rights-of-way. Openings are required in any median island. Access ramps, if necessary, must be at least 16-feet-wide. Grades of ramps are normally not allowed to exceed 10 percent. If the slope of an access ramp must exceed 10 percent due to the topography, the ramp must be paved. We require a 40-foot-long level area on the driveway approach to access ramps where the ramp meets the street. At Metropolitan's fee properties, we may require fences and gates.
- c. The terms of Metropolitan's permanent easement deeds normally preclude the building or maintenance of structures of any nature or kind within its easements, to ensure safety and avoid interference with operation and maintenance of Metropolitan's pipelines or other facilities. Metropolitan must have vehicular access along the easements at all times for inspection, patrolling, and for maintenance of the pipelines and other facilities on a routine basis. We require a 20-foot-wide clear zone around all above-ground facilities for this routine access. This clear zone should slope away from our facility on a grade not to exceed 2 percent. We must also have access along the easements with construction equipment. An example of this is shown on Figure 1.
- d. The footings of any proposed buildings adjacent to Metropolitan's fee properties and/or easements must not encroach into the fee property or easement or impose additional loading on Metropolitan's pipelines or other facilities therein. A typical situation is shown on Figure 2. Prints of the detail plans of the footings for any building or structure adjacent to the fee property or easement must be submitted for our review and written approval as they pertain to the pipeline or other facilities therein. Also, roof eaves of buildings adjacent to the easement or fee property must not overhang into the fee property or easement area.

e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

## 4. Easements on Metropolitan's Property

- a. We encourage the use of Metropolitan's fee rightsof-way by governmental agencies for public street and
  utility purposes, provided that such use does not interfere
  with Metropolitan's use of the property, the entire width of
  the property is accepted into the agency's public street
  system and fair market value is paid for such use of the
  right-of-way.
- b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

## 5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

- a. A green belt may be allowed within Metropolitan's fee property or easement.
- b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.

- c. Absolutely no trees will be allowed within 15 feet of the centerline of Metropolitan's existing or future pipelines and facilities.
- d. Deep-rooted trees are prohibited within Metropolitan's fee properties and/or easements. Shallow-rooted trees are the only trees allowed. The shallow-rooted trees will not be permitted any closer than 15 feet from the centerline of the pipeline, and such trees shall not be taller than 25 feet with a root spread no greater than 20 feet in diameter at maturity. Shrubs, bushes, vines, and ground cover are permitted, but larger shrubs and bushes should not be planted directly over our pipeline. Turf is acceptable. We require submittal of landscape plans for Metropolitan's prior review and written approval. (See Figure 3).
- e. The landscape plans must contain provisions for Metropolitan's vehicular access at all times along its rights-of-way to its pipelines or facilities therein. Gates capable of accepting Metropolitan's locks are required in any fences across its rights-of-way. Also, any walks or drainage facilities across its access route must be constructed to AASHTO H-20 loading standards.
- f. Rights to landscape any of Metropolitan's fee properties must be acquired from its Right of Way and Land Division. Appropriate entry permits must be obtained prior to any entry on its property. There will be a charge for any entry permit or easements required.

#### 6. Fencing

Metropolitan requires that perimeter fencing of its fee properties and facilities be constructed of universal chain link, 6 feet in height and topped with 3 strands of barbed wire angled upward and outward at a 45 degree angle or an approved equal for a total fence height of 7 feet. Suitable substitute fencing may be considered by Metropolitan. (Please see Figure 5 for details).

# 7. <u>Utilities in Metropolitan's Fee Properties and/or Easements</u> or Adjacent to Its Pipeline in Public Streets

Metropolitan's policy for the alinement of utilities permitted within its fee properties and/or easements and street rights-of-way is as follows:

- a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.
- b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.
- c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.
- d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alinement as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.
- e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.
- f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

- g. Overhead electrical and telephone line requirements:
  - 1) Conductor clearances are to conform to the California State Public Utilities Commission, General Order 95, for Overhead Electrical Line Construction or at a greater clearance if required by Metropolitan. Under no circumstances shall clearance be less than 35 feet.
  - 2) A marker must be attached to the power pole showing the ground clearance and line voltage, to help prevent damage to your facilities during maintenance or other work being done in the area.
  - 3) Line clearance over Metropolitan's fee properties and/or easements shall be shown on the drawing to indicate the lowest point of the line under the most adverse conditions including consideration of sag, wind load, temperature change, and support type. We require that overhead lines be located at least 30 feet laterally away from all above-ground structures on the pipelines.
  - 4) When underground electrical conduits, 120 volts or greater, are installed within Metropolitan's fee property and/or easement, the conduits must be incased in a minimum of three inches of red concrete. Where possible, above ground warning signs must also be placed at the right-of-way lines where the conduits enter and exit the right-of-way.
- h. The construction of sewerlines in Metropolitan's fee properties and/or easements must conform to the California Department of Health Services Criteria for the Separation of Water Mains and Sanitary Services and the local City or County Health Code Ordinance as it relates to installation of sewers in the vicinity of pressure waterlines. The construction of sewerlines should also conform to these standards in street rights-of-way.
- i. Cross sections shall be provided for all pipeline crossings showing Metropolitan's fee property and/or easement limits and the location of our pipeline(s). The exact locations of the crossing pipelines and their elevations shall be marked on as-built drawings for our information.

- j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assists others in locating and identifying its pipeline. Two-working days notice is requested.
- k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.
- 1. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:
  - 1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

#### "CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

with:	yellow warning tape	shall be imprinted	
	"CAUTION BURIED	PIPELINE"	
	Sewer or storm dra green warning tape	in pipeline: A shall be imprinted with	:
	"CAUTION BURIED	PIPELINE"	
4) signals c be imprin		ighting, or traffic red warning tape shall	
	"CAUTION BURIED	CONDUIT"	

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION	BURIED		CONDUIT"
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#### m. Cathodic Protection requirements:

- 1) If there is a cathodic protection station for Metropolitan's pipeline in the area of the proposed work, it shall be located prior to any grading or excavation. The exact location, description and manner of protection shall be shown on all applicable plans. Please contact Metropolitan's Corrosion Engineering Section, located at Metropolitan's F. E. Weymouth Softening and Filtration Plant, 700 North Moreno Avenue, La Verne, California 91750, telephone (714) 593-7474, for the locations of Metropolitan's cathodic protection stations.
- 2) If an induced-current cathodic protection system is to be installed on any pipeline crossing Metropolitan's pipeline, please contact Mr. Wayne E. Risner at (714) 593-7474 or (213) 250-5085. He will review the proposed system and determine if any conflicts will arise with the existing cathodic protection systems installed by Metropolitan.
- 3) Within Metropolitan's rights-of-way, pipelines and carrier pipes (casings) shall be coated with an approved protective coating to conform to Metropolitan's requirements, and shall be maintained in a neat and orderly condition as directed by Metropolitan. The application and monitoring of cathodic protection on the pipeline and casing shall conform to Title 49 of the Code of Federal Regulations, Part 195.
  - 4) If a steel carrier pipe (casing) is used:
  - (a) Cathodic protection shall be provided by use of a sacrificial magnesium anode (a sketch showing the cathodic protection details can be provided for the designers information).
  - (b) The steel carrier pipe shall be protected with a coal tar enamel coating inside and out in accordance with AWWA C203 specification.
- n. All trenches shall be excavated to comply with the CAL/OSHA Construction Safety Orders, Article 6, beginning with Sections 1539 through 1547. Trench backfill shall be placed in 8-inch lifts and shall be compacted to 95 percent relative compaction (ASTM D698) across roadways and through protective dikes. Trench backfill elsewhere will be compacted to 90 percent relative compaction (ASTM D698).

- o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.
- p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

## 8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

# 9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

#### 10. Drainage

- a. Residential or commercial development typically increases and concentrates the peak storm water runoff as well as the total yearly storm runoff from an area, thereby increasing the requirements for storm drain facilities downstream of the development. Also, throughout the year water from landscape irrigation, car washing, and other outdoor domestic water uses flows into the storm drainage system resulting in weed abatement, insect infestation, obstructed access and other problems. Therefore, it is Metropolitan's usual practice not to approve plans that show discharge of drainage from developments onto its fee properties and/or easements.
- b. If water <u>must</u> be carried across or discharged onto Metropolitan's fee properties and/or easements, Metropolitan will insist that plans for development provide that it be carried by closed conduit or lined open channel approved in writing by Metropolitan. Also the drainage facilities must be maintained by others, e.g., city, county, homeowners association, etc. If the development proposes changes to existing drainage features, then the developer shall make provisions to provide for replacement and these changes must be approved by Metropolitan in writing.

#### 11. Construction Coordination

During construction, Metropolitan's field representative will make periodic inspections. We request that a stipulation be added to the plans or specifications for notification of Mr. of Metropolitan's Operations Services Branch, telephone (213) 250-\_\_\_, at least two working days prior to any work in the vicinity of our facilities.

#### 12. Pipeline Loading Restrictions

a. Metropolitan's pipelines and conduits vary in structural strength, and some are not adequate for AASHTO H-20 loading. Therefore, specific loads over the specific sections of pipe or conduit must be reviewed and approved by Metropolitan. However, Metropolitan's pipelines are typically adequate for AASHTO H-20 loading provided that the cover over the pipeline is not less than four feet or the cover is not substantially increased. If the temporary cover over the pipeline during construction is between three and four feet, equipment must restricted to that which

imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

#### 13. Blasting

- a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:
- b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.
- c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

#### 14. CEQA Requirements

# a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

- 2) In order to ensure compliance with the regulations implementing CEQA where Metropolitan is not the Lead Agency, the following minimum procedures to ensure compliance with the Act have been established:
  - a) Metropolitan shall be timely advised of any determination that a Categorical Exemption applies to the project. The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.
  - b) Metropolitan is to be consulted during the preparation of the Negative Declaration or EIR.
  - c) Metropolitan is to review and submit any necessary comments on the Negative Declaration or draft EIR.
  - d) Metropolitan is to be indemnified for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

## b. When Environmental Documents Have Been Prepared

If environmental documents have been prepared for your project, please furnish us a copy for our review and files in a timely manner so that we may have sufficient time to review and comment. The following steps must also be accomplished:

- 1) The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.
- 2) You must agree to indemnify Metropolitan, its officers, engineers, and agents for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

#### 15. Metropolitan's Plan-Review Cost

a. An engineering review of your proposed facilities and developments and the preparation of a letter response

giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

- b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.
- c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

#### 16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.

#### 17. Additional Information

Should you require additional information, please contact:

Civil Engineering Substructures Section

Metropolitan Water District

of Southern California

P.O. Box 54153

Los Angeles, California 90054-0153

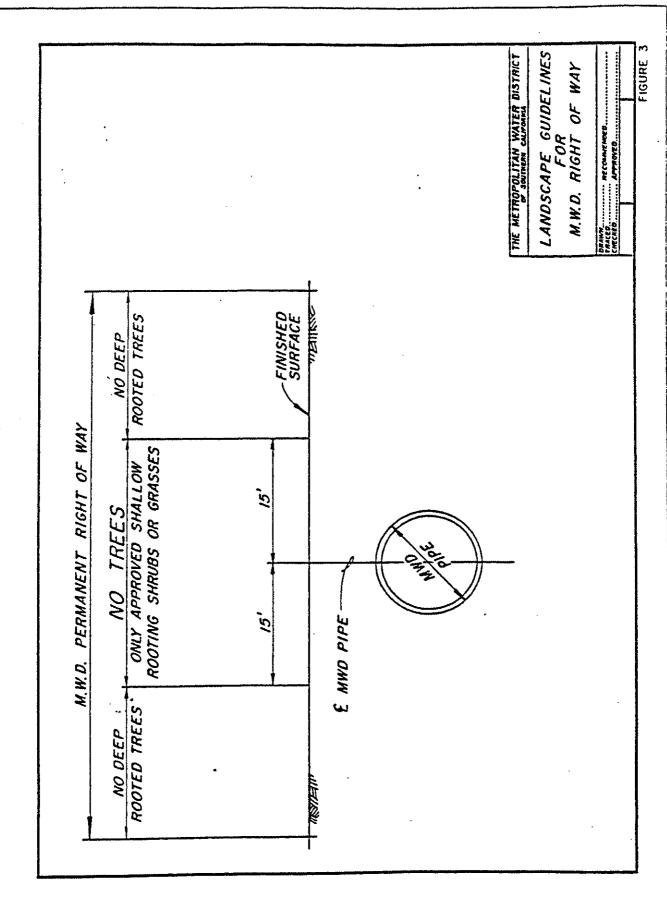
(213) 217-6000

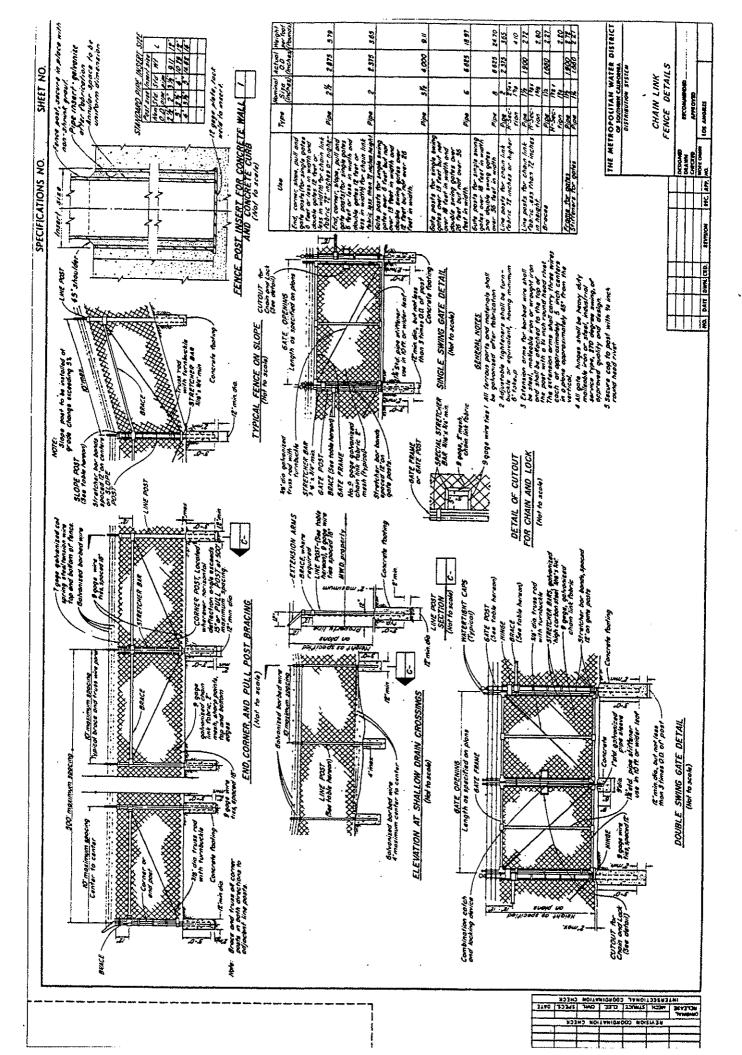
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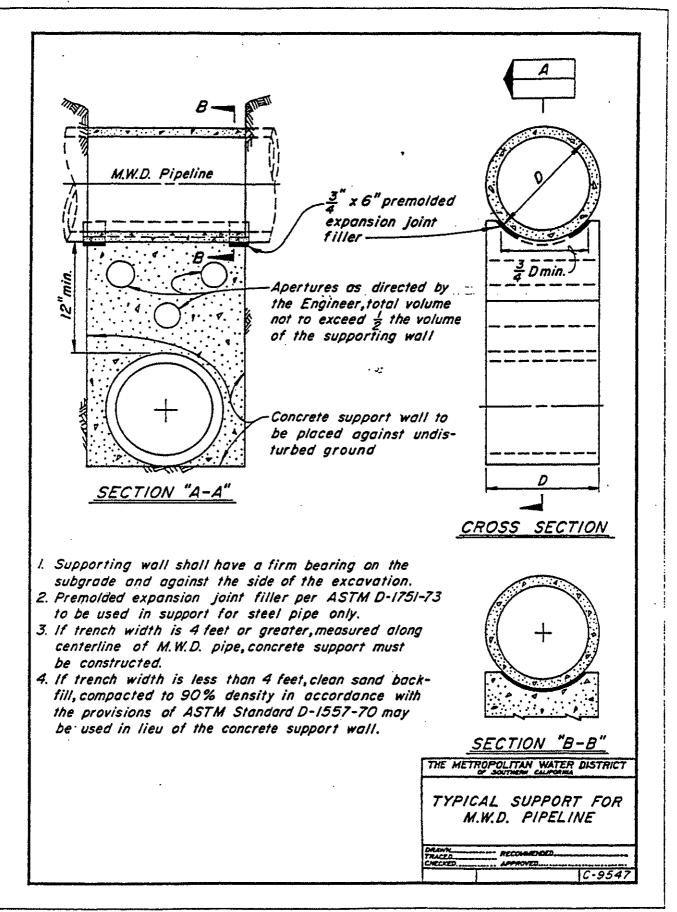
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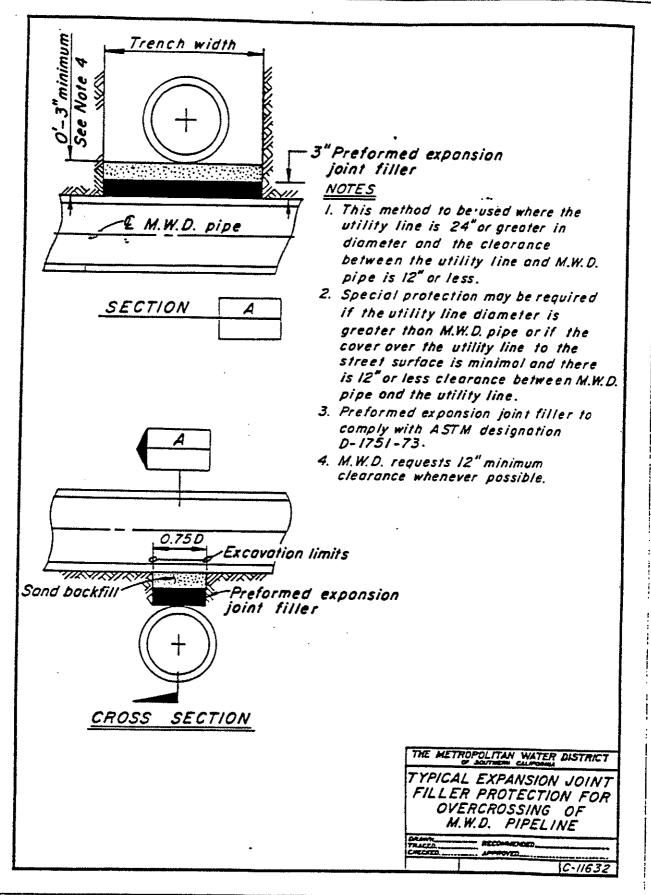
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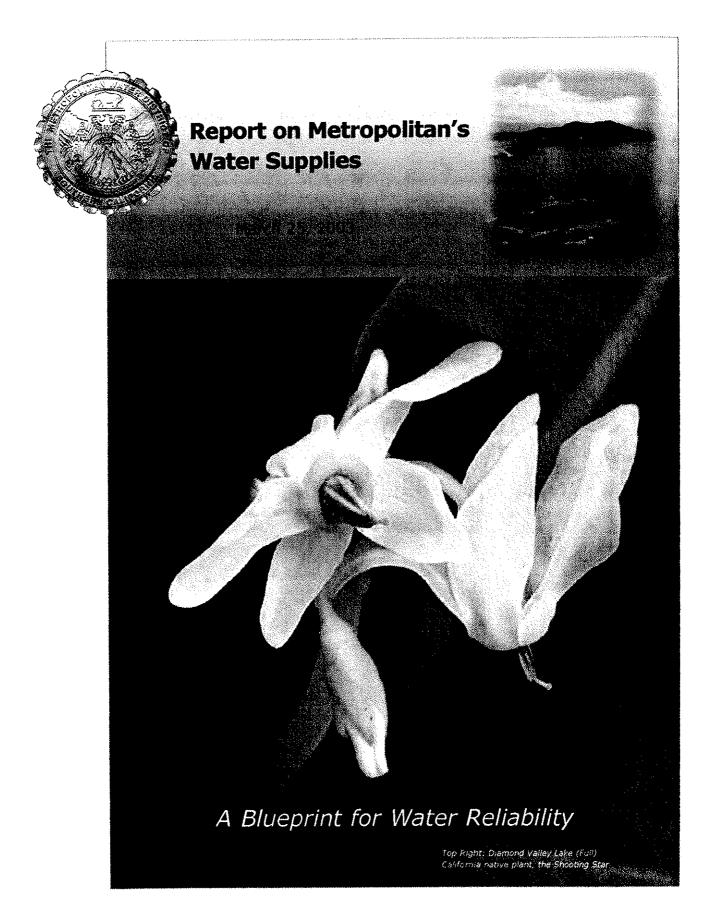
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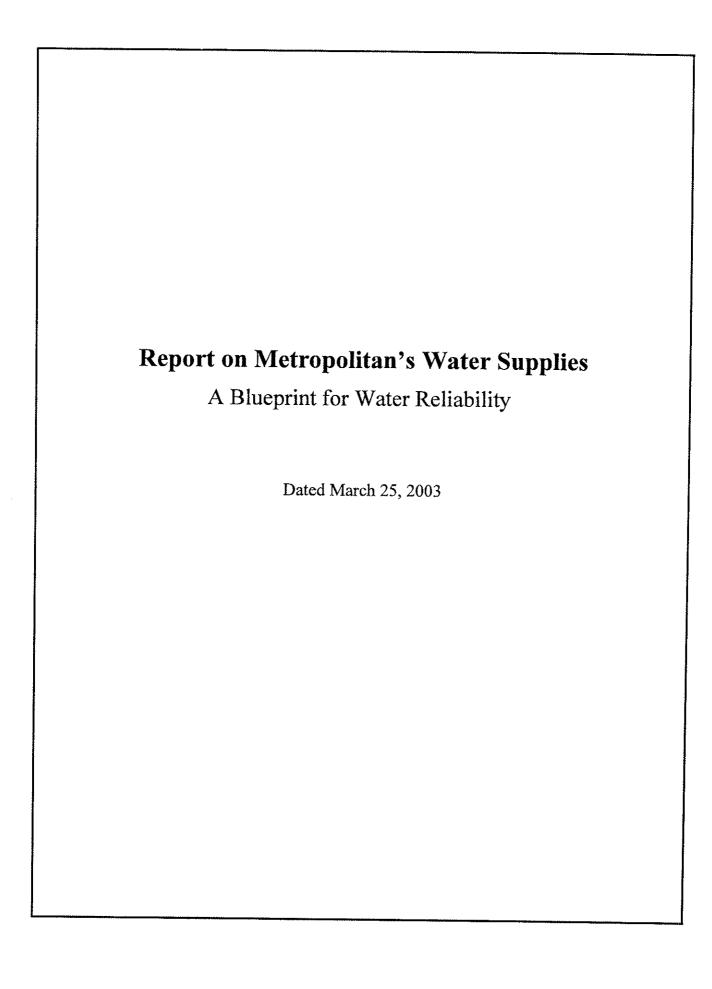












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#### INTRODUCTION

#### **OBJECTIVE OF THE REPORT**

This document, Report on Metropolitan's Water Supplies, provides the member public agencies, retail water utilities, cities and counties within the service area of The Metropolitan Water District of Southern California (Metropolitan), with information that may assist in their compliance with SB 221 (Kuehl) and SB 610 (Costa). The recently enacted laws require new development to meet certain criteria and provide "substantial evidence" of available water supplies in the event of drought. The responsibility the new law placed on water districts is to develop and publish information on available and planned future water supplies to assist local public agencies making land use decisions on new development. This report recognizes that retail water supply reliability is dependent on the development of both local resources and supplemental imported water supplies. In addition, the report identifies actual and projected demands for water from Metropolitan, as well as the water supplies available to Metropolitan to meet those demands. This report will be updated as new information and circumstances warrant. Information presented in this report is consistent with Metropolitan's February 2003 annual progress report to the California Legislature (SB60) on Conservation, Recycling and Groundwater Recharge. The approach in evaluating water supplies and demands is consistent with Metropolitan's December 2000 Regional Urban Water Management Plan.

This report serves four primary purposes. These purposes are to:

- Address recent changes in demand and supply conditions as compared to Metropolitan's December 2000 Regional Urban Water Management Plan and February 11, 2002 Report on Metropolitan's Water Supplies.
- Demonstrate Metropolitan's ability to meet projected demands over the next 20 years and provide additional resource reserves as a "margin-of-safety" that mitigates against uncertainties in demand projections and risks in implementing supply programs.
- ➤ Demonstrate that Metropolitan has a blueprint for water supply reliability and is implementing a comprehensive plan to secure reliable water supplies in accordance with policy principles and objectives established by Metropolitan's Board of Directors.
- > Provide a planning tool for local and retail agencies providing local water supplies.

## MANAGING CHANGE IN SOUTHERN CALIFORNIA'S WATER RESOURCES

Water providers continuously face the challenge of managing the planned and unexpected changes in water demands and supplies. Changes have resulted from variable weather conditions, political and legal issues, environmental and water quality regulations, and breakthroughs in the development of new resources. Such changes either present challenges or opportunities for water supply reliability. In 2003, six major changes in the region's water resources occurred. These changes include:

<b>Changes Affecting Water Resources</b>	Changes	Affecting	Water	Resources
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Challenge	Opportunity
<ul> <li>Reduced Colorado River deliveries</li> <li>Water quality constraints</li> </ul>	<ul> <li>Full Diamond Valley Lake</li> <li>Re-operation of storage and transfer programs</li> <li>Enhanced conservation programs</li> <li>Development of additional local resources</li> </ul>

In California's dynamic hydrologic, economic, and political environment change is constant. In working closely with its 26 member public agencies, Metropolitan is prepared to adjust to change and maintain water supply reliability through its development of diversified resources and its financial strength.

Regional Approach: Insuring Water Supply Reliability Against Risks. In 2002, Metropolitan's service area faced record-breaking weather, as hot temperatures and dry conditions caused drought conditions in nearly half of the 48 contiguous states. Many parts of the Southland, including San Diego and Los Angeles, endured the driest rainfall season in recorded history. In addition to drought, California faces a reduction of about 35 percent of its draw of Colorado River water. Metropolitan, having a lower priority right to Colorado River water in California, bears the major portion of this reduction. Pursuant to the 1964 U.S. Supreme Court Decree in Arizona v. California and the Boulder Canyon Project Act, California must live within its 4.4 million acre-feet basic annual apportionment of Colorado River water in the absence of surplus river water and unused river water apportionments of Arizona and Nevada.

Southern California can withstand these hydrologic and political risks and expects to have a reliable water supply for the foreseeable future because of the integrated resources planning effort of Metropolitan and its member agencies. This integrated resources planning effort has created a diverse resource portfolio, complemented by an aggressive conservation program. As prudent utility managers, Metropolitan and its member agencies have developed supply contingencies to protect the reliability of its entire system. Two years ago, Metropolitan began aggressively preparing for the possibility that the Colorado River supply could be curtailed, either by drought or the failure of potential Colorado River agreements. Metropolitan maximized storage and water transfer options and today has more than 2 million acre-feet of water in storage and will purchase up to 250,000 acre-feet of additional short-term water supplies. Long-term plans to meet reliability needs through water transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination has been expedited.

Financial Strength: Key to Adaptability. The hallmark of Metropolitan's success in securing water supplies in anticipation of future demand is its strong financial standing – reflected in one of the highest public bond ratings in California. Recently, Metropolitan approved a new rate structure that provides added flexibility and adaptability for meeting an expanding range of uncertainties. Uncertainties include: (1) difficulty in predicting growth changes over the next several years, (2) risks in implementing new local and regional supplies, (3) future water quality and environmental restrictions, and (4) climate change, currently being studied as another factor that may affect water availability. Experts have cited Metropolitan's ability to invest in necessary supply and infrastructure projects as key to the region's adaptability to these uncertainties. For example, the \$1.2 billion Inland Feeder will allow Southern California to import and store greater volumes of water through the State Water Project when it's available. In addition, Metropolitan's new rate structure gives agencies the flexibility to secure their supplies from Metropolitan's imported sources and through expanded development of conservation, recycling, desalination or water transfers.

#### CONTENTS OF THE REPORT

The sections of the report are as follows:

- **Background:** This section discusses Metropolitan's policy objectives for water supply reliability, its resource strategy, and the implementation of the policy objectives and resource strategy.
- > Approach: This section describes the major steps in forecasting water demands, assessing supply capabilities, and evaluating the sufficiency of the supplies to meet demands.
- Managing Change: This section describes the changes that occurred in 2002, the potential impact to Metropolitan's near- and long-term supply outlook, and the way the changes are being managed.
- Findings: This section evaluates the availability of Metropolitan's water supplies to meet projected supplemental demands and reserve supplies that provide a margin of safety to mitigate against uncertainties in demand projections and risks in implementing supply programs.
- > Appendix A: This appendix documents Metropolitan's demand forecasts.
- Appendix B: This appendix presents an inventory of the resource programs that can be reasonably relied upon to deliver supplies through the Colorado River Aqueduct, documents the source of supply, expected supply capability, and provides supporting information for each program.
- ➤ Appendix C: This appendix presents an inventory of the resource programs that can be reasonably relied upon to deliver supplies through the California Aqueduct,

- documents the source of supply, expected supply capability, and provides supporting information for each program.
- Appendix D: This appendix presents an inventory of the resource programs that can be reasonably relied upon to deliver supplies from in-basin storage, documents the source of supply, expected supply capability, and provides supporting information for each program.
- > Appendix E: This appendix provides a statement of disclosure for this report.

#### BACK GROUND

## METROPOLITAN'S POLICY OBJECTIVES FOR WATER SUPPLIES

Metropolitan's Board of Directors has established policy objectives for water supply reliability and Metropolitan's role and defined responsibilities in providing water service to the regionon a wholesale basis.

Water Supply Reliability. Metropolitan's Board established the policy objective for water supply reliability as part of its Integrated Resources Plan (IRP), approved by the Board in January 1996. This policy objective is:

Through the implementation of the IRP, Metropolitan and its member agencies will have the full capability to meet full-service demands at the retail level at all times.

This policy objective calls for close coordination among Metropolitan, its member agencies and retail providers to integrate the development of imported and local resources and efficiently and affordably meet retail demands. Previous to the IRP, wholesale and retail water providers, including Metropolitan, had been independently planning investments in projects and programs within the service area to address water reliability needs. Without a coordinated and balanced regional response by water providers to growing demands, the region could run the risk of failing to demonstrate the availability of sufficient water supplies and risk overspending on its water supply and infrastructure.

Metropolitan's Role and Responsibilities. Recognizing the need for coordination with member agencies and retail providers, the IRP and the Strategic Plan Policy Principles, adopted in December 1999, established Metropolitan's role as a regional provider and redefined its responsibilities. The policy objective on water supply reliability places significant responsibility on Metropolitan to provide leadership in several areas. These areas include: (1) implementing water management programs that support the development of cost-effective local resources, (2) securing additional imported supplies as necessary through programs that increase the availability of water delivered through the Colorado River Aqueduct and the State Water Project, (3) providing the infrastructure needed to integrate imported and local sources, (4) establishing a comprehensive management plan dealing with periodic surplus and shortage conditions, and (5) developing a rate structure that strengthens Metropolitan's financial capabilities to implement water supply programs and make infrastructure improvements.

#### METROPOLITAN'S WATER RESOURCE STRATEGY

Metropolitan's challenge is to develop and execute a comprehensive water resource strategy that can adapt to continuous change, safeguard against uncertainties, and benefit from new opportunities. The key elements of Metropolitan's strategy are:

Portfolio of Diversified Supplies. Metropolitan continues to develop a portfolio of diversified supplies in accordance with targets set by the IRP and outlined in Metropolitan's Regional Urban Water Management Plan (RUWMP). The IRP established policy guidelines for investing in water conservation, recycling, desalination, Colorado River deliveries, State Water Project deliveries, water transfers, and storage in groundwater basins and surface reservoirs. The RUWMP was adopted by Metropolitan's Board in December 2000 in compliance with the California Urban Water Management Planning Act (Water Code Sections 10610 through 10656). The RUWMP presents Metropolitan's plans for reasonable and practical efficient water uses, including recycling and conservation activities, and drought contingencies.

The investments described in the IRP and RUWMP reduce the risk of failure in any single part of Metropolitan's resource portfolio. It also reduces the potential impact of a severe drought or an emergency, such as a major earthquake. The portfolio of diversified supplies avoids the pitfalls of "putting all your eggs in one basket."

<u>Supply Reserves to Mitigate Uncertainties</u>. Metropolitan plans to guard against supply uncertainties by continuing to secure supplies and make infrastructure improvements that are available in advance of the time of need and can provide back-up capabilities. This adaptive management approach creates supply reserves that maintain Metropolitan's flexibility in response to changes in demand and supply conditions.

New Rate Structure. Metropolitan's Board approved a new rate structure in October 2001. The rate structure provides the necessary financing capabilities to support the IRP and strategic planning vision that Metropolitan is a regional provider of services. As a regional provider, Metropolitan maintains the reliable delivery of imported water supplies, encourages the development of additional local supplies, like recycling and conservation, and accommodates a water transfer market. Through its regional services, Metropolitan ensures a baseline of reliability and quality for imported water deliveries. By unbundling its full-service water rate, Metropolitan provides greater opportunity for member agencies to competitively manage supplies and demand to meet future needs in a responsible, cost effective manner.

# IMPLEMENTING POLICY OBJECTIVES AND RESOURCE STRATEGY

To demonstrate the availability of sufficient water supplies for the region, Metropolitan must continue to fulfill its responsibilities as the regional provider under the IRP and Strategic Plan. Metropolitan's progress in these areas of responsibility is as follows:

Realizing water management programs that support development of cost-effective local resources. Metropolitan has established programs that provide member agencies with financial incentives to develop local resources. These programs include the Local Resources Program (water recycling and groundwater recovery), Conservation Credits Program, and the recent Request-for-Proposal process for seawater desalination. With the local supply production that is currently outlined and projected to be available, these programs are meeting IRP resource objectives.

Metropolitan's efforts to support the development of conservation and local resources management programs are documented in Metropolitan's RUWMP and Metropolitan's February 2003 Annual Progress Report to the California State Legislature on Achievements in Conservation, Recycling and Groundwater Recharge.

Securing additional imported supplies through programs that increase the availability of water delivered through the Colorado River Aqueduct and the State Water Project. Metropolitan has several programs that continue the reliable deliveries of water supplies through the Colorado River Aqueduct, the California Aqueduct, and the development of in-basin groundwater storage. These efforts include participating in Federal and state initiatives such as California's Colorado River Water Use Plan, the CALFED Bay-Delta Program, and the Sacramento Valley Water Management Agreement. Beyond these initiatives, Metropolitan acquired additional supplies through cooperative agreements and business partnerships in the Central Valley and within the Colorado River Basin to execute water transfers, storage, conservation and land management programs. Finally, in accordance with Metropolitan's IRP and Strategic Plans, Metropolitan and the member agencies have maximized storage of available water supplies through in-basin groundwater conjunctive use programs.

Metropolitan's programs to secure additional supplemental imported water supplies are documented in Metropolitan's RUWMP and this document, 'Report on Metropolitan's Water Supplies.'

Providing the infrastructure needed to integrate imported and local sources of supply. Metropolitan's Capital Investment Plan (CIP) includes projects that have been identified in studies of projected water needs that are embodied in Board Approved documents such as the IRP, Distribution System Overview Study, and the Chief Executive Officer's Business Plan. The CIP identifies, assesses and prioritizes 155 reliability and rehabilitation projects.

The status and progress of Metropolitan's infrastructure improvements are documented in Metropolitan's Capital Investment Plan, which is presented to Metropolitan's Board as part of its annual budget review.

Establishing a comprehensive management plan for dealing with surplus and shortage conditions. In April 1999, Metropolitan's Board adopted the Water Surplus and Drought Management Plan (WSDM Plan). This plan guides the management of Metropolitan's water supplies during surplus and shortage conditions to achieve the IRP reliability goals.

The RUWMP and Metropolitan Report No. 1150, 'Water Surplus and Drought Management Plan' document the establishment of the comprehensive management plan for dealing with surplus and shortage conditions.

The new rate structure strengthens Metropolitan's financial capabilities to implement water supply programs and make infrastructure improvements. The approval of the new rate structure is documented in the October 2001 Board Letter.

#### **APPROACH**

Evaluating the availability of Metropolitan's imported supplies involves three basic steps: (1) forecasting supplemental water demands, (2) assessing Metropolitan's supply capabilities, and (3) comparing supplemental demand forecasts and supply capabilities.

#### **DEMAND FORECASTS**

Water demands on Metropolitan are affected by four key parameters -- retail demands, local replenishment demands, local supplies, and Metropolitan system storage requirements. The methodology and estimates of water demand projections are documented in Appendix A.

Retail Demands. To forecast retail water demands, Metropolitan uses an econometric model, the MWD-MAIN Water Use Forecasting System, that relates water use to independent variables such as, housing, employment, income, price, and weather. Many water resource agencies across the country use similar versions of this model including the U.S. Army Corps of Engineers, the U.S. Geological Survey, the state of New York, the Cities of Phoenix, Las Vegas, and Portland, and some of Metropolitan's member agencies.

The model's demographic and economic variables are based on the Southern California Association of Governments (SCAG) Regional Transportation Plan and the San Diego Association of Government (SANDAG) 2020 Forecast. Metropolitan contracted with the Center for Continuing Study of the California Economy (CCSCE) and SCAG to extend these projections to 2050. SCAG and SANDAG demographic projections are supported by environmental impact reports and based on city, county and regional general plans. If a proposed development within Metropolitan's service area is included in the local general plans in the SCAG and SANDAG projections, there should be a linkage between the water demands for that development and the supplies made available by Metropolitan and the member agencies.

Local Replenishment Demands. Local replenishment demands refer to the member agencies' need for water to recharge groundwater basins and surface reservoirs. Some of this need is met by the member agencies' purchases of deliveries under Metropolitan's Long-Term Seasonal Storage Program. These demands include Metropolitan water deliveries to member agencies and stored by member agencies for use in future years and not the current year.

<u>Local Supplies</u>. Local supplies include local groundwater and surface water, Los Angeles Aqueduct deliveries, water recycling, groundwater recovery, and seawater desalination. Member agencies and retail providers produce these local supplies. With plans to aggressively develop additional local resources, Metropolitan's member agencies have projected local resources production will increase by 21 percent over the next 20 years and meet up to 56 percent of the total retail demands in 2025.

Metropolitan System Storage Requirements. As part of Metropolitan's resource strategy, imported water deliveries during average and wet years would be stored in Metropolitan's surface reservoirs and groundwater storage accounts located within its service area and from the California Aqueduct and Colorado River Aqueduct systems. In addition to meeting consumptive and replenishment demands, Metropolitan also requires supplies in average and wet years to refill its surface reservoirs and groundwater storage accounts.

Water demands on Metropolitan are calculated as the retail demands plus local replenishment demands less local supplies. In average and wet years, Metropolitan's system replenishment requirements are included, consistent with Metropolitan's RUWP. Demand forecasts on Metropolitan are calculated in this manner and are shown in the following table. A comparison of the supplemental demands on Metropolitan according to the member agencies' urban water management plans also is shown. Metropolitan's supplemental projected demands on Metropolitan are 6 to 16 percent higher than member agencies projections. This difference indicates that Metropolitan's supplies, developed in accordance with this water supply update, provide a level of "margin of safety" or flexibility to accommodate delays in local resources development or adjustments in development plans.

## Demands on Metropolitan (million acre-feet per year)

Demands on Metropolitan				
(Average Year)	2005	2010	2015	2020
Metropolitan Projections	1.99	1.94	2.13	2.34
Member Agencies Plans <sup>1</sup>	1.68	1.82	1.94	2.09
Difference	0.31 16%	0.12 6%	0.19 9%	0.25 11%

<sup>1</sup> Based on Metropolitan review of urban water management plans submitted by member agencies in December 2000.

#### SUPPLY CAPABILITIES

Metropolitan's supply capability equals the water that can be provided by specific supply programs included in Metropolitan's resource plan. Supply capabilities presented in this report vary according to year types (wet, average, and dry hydrologic conditions). To determine Metropolitan's supply capabilities, available supply sources have been inventoried and the associated supply yields have been estimated. The supply inventory and yields are documented in Appendices A, B, and C.

<u>Supply Inventory</u>. Metropolitan's available supplies have been inventoried in three basic categories: (1) Colorado River Aqueduct Deliveries, (2) California Aqueduct Deliveries, and (3) In-Basin Storage Deliveries.

In addition, the supplies are further categorized according to their status. Currently available supplies have a high degree of certainty and reliability because they have been successfully completed. Currently available supplies are those resource programs that have completed environmental review, have funds appropriated or budgeted for execution or construction, have requested or received permits and regulatory approvals, and are operational. Supplies that are under development are subject to some uncertainties in timing and supply yield, as they have not yet completed the critical implementation requirements. Supplies under development are resource programs that are undergoing technical feasibility studies, environmental review, and negotiations for final agreements to implement and operate. The inventory of Metropolitan's available supplies is shown in the following table.

<u>Supply Capabilities</u>. The maximum-supply capability of each of the resource programs has been estimated for various hydrologic events in years 2005, 2010, 2015, 2020 and 2025. The hydrologic events included are;

- ➤ Multiple-year dry period. A repeat of the 1990 to 1992 multi-year drought condition that occurred twice during the historic 77-year record. Thus having a probability of occurrence of 2.6%,
- > Single dry-year. A repeat of 1977 below-normal conditions that occurred once during the historic 77-year record. Thus having a probability of occurrence of 1.3%,
- ➤ Average year. Statistical average of 77 historical hydrological conditions. When combined with above-normal conditions (wet-years) having a probability of occurrence of 73%, and
- Wet year. A repeat of 1985 above-normal condition.

The expected supply capability has been estimated according to two key considerations.

- Delivery from the Colorado River Aqueduct, California Aqueduct and in-basin storage are based on historical sequence of 77 hydrologic years from 1922 to 1998 are repeated into the future to determine Metropolitan's water delivery capabilities under the weather and system operating conditions for the year types.
- Delivery ability is based on historical record, ability of projects to comply with contractual rights to supply, written contracts or other proof, financing, and federal, state, and local permits/approvals to the extent each is applicable.

<u>Supply Sufficiency</u>. Demand forecasts and supply capabilities have been compared over the next 20 years under varying hydrologic conditions. These comparisons determine supplies that can be reasonably relied upon to meet projected supplemental demands and to provide reserves that can assure a "margin of safety" to mitigate against uncertainties in demand projections and supply program risks.

### Metropolitan's Water Supplies

### Colorado River Aqueduct Deliveries

Currently Available: 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

Currently Available: SWP Deliveries

San Luis Reservoir Carryover Storage

Advance Delivery with Coachella Valley WD and Desert WA

Semitropic 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

Currently Available: Metropolitan Surface Storage (DVL, Lakes Mathews and Skinner)

Flexible Storage in Castaic Lake and Lake Perris

Groundwater Conjunctive Use Programs

Long-Term Seasonal Storage Program

North Las Posas Storage Program

Under Development: Groundwater Conjunctive Use Programs

Raymond Basin Storage Program

Proposition 13 Storage Programs

Additional Programs

## MANAGING CHANGES IN SOUTHERN CALIFORNIA'S WATER RESOURCES

Change is inherent in the business of providing water to residents and businesses in Southern California. There are two major types of change: those that create challenges and those that create opportunities. For example, a source of supply can be curtailed due to drought conditions, political and legal challenges, and environmental and water quality regulations. On the other hand, the successful identification and implementation of additional resource programs and key infrastructure improvements present new opportunities to improve the region's ability to effectively manage supplies that are available in average and wet hydrology and meet demands during critical drought events.

Water supply reliability for Southern California is dependent on how well water providers manage and leverage these changes. Metropolitan and its member agencies have aggressively invested in a portfolio of diversified water resources to manage risks and enhance their supply capabilities. In 2002, six major changes in the region's water resources have occurred as both supply risks and supply improvements. These changes include:

### **Changes Affecting Water Resources**

Challenge	Opportunity
<ul> <li>Reduced Colorado River deliveries</li> <li>Water quality constraints</li> </ul>	<ul> <li>Full Diamond Valley Lake</li> <li>Re-operation of storage and transfer programs</li> <li>Enhanced conservation programs</li> <li>Development of additional local resources</li> </ul>

The effectiveness of the approach to diversify water resources in managing supply challenges and leveraging opportunities is now being tested. Each change, its potential impact to Metropolitan's near- and long-term supply outlook, and the manner in which the change is being managed to maintain regional supply reliability are addressed in the following discussion.

## REDUCED COLORADO RIVER DELIVERIES - Challenge

<u>Changed Condition</u>. California has recently lost access to more than 35 percent of its expected Colorado River supply. This reduction resulted from California's failure to execute the Quantification Settlement Agreement (QSA) by December 31, 2002 and the unprecedented drought in the Colorado River basin.

> No QSA. California has long used supplies in addition to its basic 4.4 million acrefeet apportionment of Colorado River water. California is entitled under federal law to use surplus and other states unused water when it is available. However, it is clear that surpluses will be less frequently available because of growth in the other Colorado River Basin States. As a result, California has acknowledged the need to wean itself from this extra water. Under a plan adopted by the state's Colorado River Board (the "4.4" Plan or California Plan"), California has identified steps to gradually reduce the state's use of Colorado River water. The US Department of the Interior (DOI) responded by adopting Colorado River Interim Surplus Guidelines (ISG) that allowed California to take more surplus water than would otherwise be expected to be available for 15 years. A predicate of the ISG was an agreement among Metropolitan, the Imperial Irrigation District (IID) and the Coachella Valley Water District (CVWD) to quantify agricultural water use by IID and CVWD. It also was expected that IID would reduce its water use and transfer conserved water to CVWD and the San Diego County Water Authority (SDCWA). Metropolitan would receive rights to use other conserved water (e.g. All-American Canal lining water and Palo Verde Irrigation District [PVID] conserved water). This agreement was known as the Quantification Settlement Agreement (QSA).

On January 1, 2003, DOI suspended the ISG because of the inability of the California water agencies to reach agreement on a QSA and related agreements. As a result, California's access to use surplus Colorado River water in 2003 year has been suspended.

Record Drought Conditions. The Colorado River Basin has experienced an unprecedented drought over the last three years. In 2002, unregulated inflow into Lake Mead was only 25 percent of average. In January 2003, Lake Mead was 65 percent full. Under these conditions, a Bureau of Reclamation (Bureau) study indicates Metropolitan's access to surplus water from the ISG would not have been available in each of the next 15 years, as was anticipated when the California Plan was drafted in 1998. Even if the ISG are reinstated and average hydrology occurs in the Colorado River watershed ending current drought conditions, the Bureau study further estimates that special surplus deliveries would only be half of the amount originally planned over the next 12 years.

Managing the Change. At a special January 6, 2003, board meeting, Metropolitan staff briefed its Board on the situation. The message provided and widely reported in the media was simple: The suspension of certain provisions of the ISG and absence of an executed QSA is a very serious matter, but it is not an emergency. The reason that it is not an emergency is the contingency planning by Metropolitan and its member agencies for the region and its 18 million people.

> Contingency Planning. Two years ago, Metropolitan and its member agencies began aggressively preparing for the possibility that Colorado River supplies could be curtailed by either drought conditions or the failure of a QSA. Reductions in Colorado River deliveries can be offset with the use of more than 2.2 million acre-feet of water

stored in reservoirs and existing banking programs in the Central Valley and Southern California; options to purchase up to 250,000 acre-feet of additional transfer water from sellers in Sacramento, San Joaquin and San Bernardino valleys; enhanced conservation programs; and the development of additional local resources, including recycling, brackish desalination, and seawater desalination.

➤ Maintaining Reliability. As a result of contingency planning, Southern California will meet water demands over the next two years even under worst-case conditions, which if it occurred would consist of concurrent record drought in Southern California, the Colorado River watershed, and SWP system. Under historic conditions, Metropolitan and its member agencies would be able to meet demands for up to 10 years. Finally, Metropolitan, in partnership with member agencies, will continue to execute conservation, recycling, groundwater storage, seawater desalination projects as well as available water transfers to provide sufficient water supplies for at least 20 years. The necessity to maintain this level of reliability will not diminish even if the Interim Surplus Guidelines are reinstated in light of the existing low storage levels in Lake Mead lowered by the extended drought.

### WATER QUALITY CONSTRAINTS - Challenge

Changed Condition. Metropolitan faces two water quality challenges in meeting the Microbial Disinfection By-Products Rule established by the U.S. Environmental Protection Agency. These challenges are: (1) increased levels of total organic carbons (TOC) and bromides in SWP deliveries and (2) limitations in the blend of CRA and SWP deliveries due to the expected reductions in CRA deliveries. These conditions impose additional treatment and operational requirements on Metropolitan to maintain consistent compliance with primary drinking water standards.

- ▶ High Organics and Bromides in SWP Deliveries. In the past two years, increased levels of total organic carbons (TOC) and bromides have been detected in SWP deliveries through the East Branch of the California Aqueduct. The additional treatment facilities currently being developed at Metropolitan's five treatment plants can treat import water with TOC levels below 4 mg/l without forming disinfectant byproducts. During the period of 1981 to 2000, TOC levels at Lake Silverwood remained low, only exceeding 4 mg/l seven percent of the time. However, between 2000 and 2002, TOC levels exceeded 4 mg/l 36 percent of the time. During that same two-year period, bromides reached 5 mg/l, creating additional treatment difficulties.
- ➤ Reduced Colorado River Deliveries. One approach to lowering the organic and bromide levels is to blend CRA and SWP deliveries. The quality of Colorado River water does not have the same organic and bromide characteristics as SWP water. A full or near full CRA delivery every year would help to ensure against risks of high organic and bromide levels. However, reductions in CRA deliveries are expected because of the record drought conditions in the Colorado River watershed.

Managing the Change. To manage the increased organic and bromide levels in SWP deliveries at Metropolitan's water treatment plants and comply with drinking water standards, Metropolitan's Board reviewed several water quality and treatment recommendations at the February 2003 Engineering and Operation Committee and the Water Planning, Quality & Resources Committee. These recommendations include:

- ➤ Altering available treatment processes at Metropolitan's Weymouth, Diemer, and Skinner filtration plants whenever feasible.
- Install additional solid handling facilities at the plants including, chemical storage, sludge pumps, sludge thickeners, belt presses, and earthen sludge lagoons.
- Pursue water quality improvements. These improvements would include maximizing deliveries of better quality water from existing banking programs and water exchanges along the California Aqueduct; securing additional Colorado River supply; and drafting DVL.
- Maintain the schedule for an alternative disinfectant at the Skinner filtration plant to meet primary drinking water standards.
- > Accelerate the schedule for an alternative disinfectant at the Weymouth and Diemer filtration plants to meet primary drinking water standards.

### FULL DIAMOND VALLEY LAKE - Opportunity

<u>Changed Condition</u>. Diamond Valley Lake (DVL) is now fully operational completing initial fill, final inspection by the Department of Safety of Dams, and the increased conveyance capacity for refill of system storage.

- > Completion of Initial Fill Operations. DVL initial fill was completed by the end of 2002. DVL is full with 800,000 acre-feet of stored water and is being drafted to meet ongoing needs.
- Division of Safety of Dams. With the completion of initial fill operations, the State Department of Water Resources Division of Safety of Dams provided its Certificate of Approval for full operations of DVL to spillway crest, in 2002. As part of this approval, DVL's full capacity is operational and Metropolitan can release up to 600,000 acre-feet within a six-month period. As of January 2003, DVL can be fully operated in accordance with Metropolitan's operating criteria.
- ➤ Increased Conveyance Capacity for Refill of DVL. As of December 2002 the intertie between the existing Foothill Pipeline, owned and operated by San Bernardino Valley Municipal Water District, and the existing segment of Metropolitan's Inland Feeder, has been completed and is operational. This intertie allows Metropolitan to move SWP water from the East Branch of the California Aqueduct, through the Foothill Pipeline, and Inland Feeder segment, and into DVL and the Colorado River Aqueduct.

As a result, the intertie increases Metropolitan's capability to replenish and maintain storage in DVL by 260 cubic feet per second.

Supplies to refill Metropolitan's system storage are available in years of normal and wet hydrology. SWP allocations greater than 40 percent would occur under 69 of the 77 years of hydrologic record. In addition, over 1.65 million acre-feet of SWP water was actually available to Metropolitan 50 percent of the time. Due to conveyance and storage constraints, Metropolitan has not taken delivery of all available SWP water. With greater replenishment capabilities, however, Metropolitan can take delivery of greater amounts of the available SWP water during wet and normal-year to and maintain system storage.

Managing the Change. With a full DVL and increased refill capacity, operations of Southern California reservoirs have been coordinated to maximize use of storage and meet emergency, regulatory, drought, and water quality needs. The primary reservoirs available for use within Metropolitan's service area include Metropolitan's facilities (DVL, Lake Mathews, and Lake Skinner) and DWR facilities (Castaic Lake, Lake Perris, Pyramid Lake, Silverwood Lake and Elderberry Forebay).

> Updated Emergency Storage Requirements. Metropolitan's criteria for determining emergency storage requirements are established in the October 1991 Final Environmental Impact Report for the Eastside Reservoir (DVL) Project and in Southern California's March 1996 Integrated Resources Plan. Metropolitan's Board approved both documents. Emergency storage requirements are based on the potential for a major earthquake to damage the Colorado River, California and Los Angeles aqueducts. Emergency water reserves are essential within Metropolitan's service area to supplement local production during an emergency, or severe water shortages will occur during the period the aqueducts are out of service. Damage from such an event could render the aqueducts out of service for six months. During this period, all interruptible service deliveries would be suspended, accompanied by a mandatory water supply reduction of 25 percent from normal-year demand levels. Also water stored in surface reservoirs and groundwater basins under Metropolitan's interruptible program would be made available, and it is anticipated that full local groundwater production would be sustained. This emergency storage also would be used during other situations, including unexpected disruptions of aqueduct deliveries due to environmental and water quality regulations.

Storage reserved in system reservoirs for emergency purposes changes over the next 20 years in accordance with the projected demands on Metropolitan as shown below.

➤ Updated Storage Requirements for Dry-Year Supply and Seasonal Needs. Storage capacity in system reservoirs, including DVL, also is earmarked for dry-year supply and system regulation purposes. Dry-year supply storage within Metropolitan's service area is required to meet the additional water demands that occur during single-year and extended droughts. This storage requirement is the difference between normal-year demand and above-normal demand during dry years. Seasonal storage is

required to meet seasonal peak demands during the year, and is the difference between normal winter demands and normal summer demands. Dry-year supply and seasonal storage also provide sufficient reserves to permit about 5 percent downtime for rehabilitation, repair and maintenance of raw water transmission facilities. Full use of this storage capacity also is required to improve blends with SWP water and reduce the total organic carbons at the Weymouth, Diemer and Skinner treatment facilities.

The storage reserved in system reservoirs for dry-year supply and seasonal needs are shown below.

### Surface Storage Requirements Average-year (acre-feet)

		Average	Average-Year Storage Projection			
	2005	2010	2015	2020	2025	
Surface Storage in MWD Service Area	1,669,100	1,669,100	1,669,100	1,669,100	1,669,100	
Emergency	508,400	401,000	433,600	493,300	540,500	
Dry-Year/Seasonal	1,160,700	1,268,100	1,235,500	1,175,800	1,128,600	

## RE-OPERATION OF STORAGE AND TRANSFER PROGRAMS - Opportunity

<u>Changed Condition</u>. In 2003, Metropolitan developed additional storage and transfer capabilities and completed filling local resources to achieve full storage accounts in operational reservoirs and banking/transfer programs. The benefits of storage and transfer capabilities as of January 1, 2003 are:

- > System Integration. With a fully operational DVL and increased conveyance capacity to refill system storage, Metropolitan can integrate operations of reservoirs and banking/transfer programs to maximize supplies and meet dry-year demands and water quality needs.
- Increased Storage Capacity. More than 4.0 million acre-feet of storage capacity are available to Metropolitan in reservoirs and banking/transfer programs. Metropolitan's access to this storage capacity over the long-term is allowed by ownership or contracts that extend to years 2028 to 2035. In this past year, 266,000 acre-feet of storage capacity has been developed through long-term banking agreements with member agencies: The City of Long Beach and Three Valleys Municipal Water District: and the Kern Delta Water District in California's San Joaquin Valley.

Of the total storage capacity, 85 percent or 3.45 million acre-feet is currently reserved for Metropolitan's use to meet demands during single-year and multiple-year droughts. The remaining 15 percent or approximately 0.55 million acre-feet is dedicated for emergencies.

- ➤ Increased Dry-Year Supplies. Metropolitan has over 2.0 million acre-feet of "wet" water stored and available for immediate use during single-year and multiple-year droughts. This amount of stored water is greater than what is required to meet one year of Metropolitan's expected demands.
- ➤ Potential Water Quality Improvements. Water quality improvements in SWP deliveries can be achieved through the return of water from Metropolitan's banking/transfer programs along the California Aqueduct. Water returned from banking/transfer programs has better water quality than the SWP supplies in terms of total organic carbons and bromides.
- ➤ Market Transfer Options. Metropolitan has access to transfer options of 80,000 acrefeet per year in the San Bernardino Valley. In addition, Metropolitan has acquired 167,000 acre-feet of transfer options on a single-year basis through executed agreements with Sacramento Valley water districts. These agreements demonstrate that Metropolitan has increased access to market transfers through direct agreements with Sacramento Valley water interests. In addition, in 2003 DWR made available dry-year purchases through the Dry-year Purchase Program. This demonstrates the potential value of single-year transfer options market every year.

Managing the Change. Opportunity to maximize supply yield by re-operating banking/transfer programs and reservoir storage.

> Maximizing Banking/Transfer Programs. With a full DVL, operation of these banking/transfer programs that deliver supplies through the California Aqueduct can now be coordinated with reservoir operations to make the most of the supply yields and water quality benefits.

<u>Current Programs</u>. Current banking/transfer programs that deliver supplies via the California Aqueduct include:

Semitropic Water Banking and Exchange Program, Wasco
Arvin-Edison Water Management Program, Arvin
San Bernardino Valley Municipal Water District Program, San Bernardino
Kern Delta Water District Water Management Program, Taft
Desert Water Agency/Coachella Valley Water District Exchange Program, Coachella
Market Transfer Options, DWR Dry-year Purchase Program and Sacramento Valley
Transfer Agreements

These programs are currently are operating from periods that range from 2028 to 2035, with provisions for extensions. The programs provide Metropolitan with a total

storage capacity of more than 1.1 million acre-feet and dry-year supply yield of more than 500,000 acre-feet per year. These programs were originally envisioned to be operated during the four summer months of critical dry years. As a result, these programs would provide minimum supply benefits during infrequent droughts, which have occurred 8 out of 77 years of record.

<u>Re-operation of Banking/Transfer Programs</u>. To maximize supply yield, the re-operation of banking/transfer programs are based on the following criteria:

- Initiate supply returns to the California Aqueduct from the banking/transfer programs early in the calendar year, to blend down high organic and bromide levels, and if needed continue supply returns from the banking/transfer programs through the spring, summer and fall, to make the most of dry-year supply yields.
- Accelerate the implementation of banking/transfer programs in Central and Southern California. These programs include: (1) Kern Delta Water District Water Management Program, which completed environmental review and was approved in 2003, and (2) Proposition 13 Groundwater Conjunctive Use Programs within Metropolitan's service area.
- Access market transfer options through the DWR Dry-year Purchase Program and/or direct agreements with water interests in the Sacramento Valley and San Joaquin Valley to secure additional supplies on an as needed basis to meet demands during severe droughts and to refill system storage during wet and normal years.

<u>Increasing Supply Yield</u>. Compared to February 11, 2002 estimates, the re-operation of banking/transfer programs that deliver supplies through the California Aqueduct would more than double the supply yields in single-years and multiple-years and provide water quality improvements. Documentation of each banking/transfer program and their expected supply yield is provided in Appendix C.

It should be noted that there are additional banking/transfer programs along the Colorado River Aqueduct and groundwater conjunctive use programs within Metropolitan's service area. However, due to the drought in the Colorado River watershed and the water quality blend constraints, Metropolitan does not have the opportunity to re-operate these programs at this time and the supply yield from these programs remain unchanged.

Maximizing Reservoir Yields. Metropolitan has the use of storage capacity in 14 reservoirs that are owned and operated by Metropolitan and DWR. With a full DVL and the re-operation of banking/transfer programs, these storage capacities can be fully combined to produce higher supply yields during dry years.

Metropolitan Reservoirs. Metropolitan owns and operates nine reservoirs. DVL, Lake Mathews, and Lake Skinner provide 96 percent of Metropolitan's storage

capacity and can be operated in conjunction with DWR reservoirs to meet emergency, dry-year supply and seasonal needs. These reservoirs are:

Diamond Valley Lake, Hemet Lake Mathews, Riverside Lake Skinner, Winchester Copper Basin, Parker Dam Live Oak, La Vern Garvey, Monterey Park Palos Verdes, Rolling Hills Gene Wash, Parker Dam Orange County, Brea

<u>DWR Reservoirs</u>. There are five reservoirs, owned and operated by DWR located within or adjacent to Metropolitan's service area. Based on the SWP contract between DWR and Metropolitan, Metropolitan has rights to use specified portions of SWP southern reservoirs to supply water in addition to approved SWP deliveries. These reservoirs are:

Pyramid Lake, Piru Creek Castaic Lake, Ventura County Elderberry Forebay, Ventura County Lake Perris, Riverside County Silverwood Lake, San Bernardino County

<u>Re-operation of Reservoirs</u>. Reservoir re-operation to maximize yield with the following criteria:

- Coordinate operation of Metropolitan and DWR reservoirs with the re-operation of Metropolitan's banking/transfer programs to meet emergency, dry-year supply, system regulation and water quality needs. Storage capacity available for Metropolitan's use is 1.67 million acre-feet. This usable storage does not include dead storage and water allocations to other SWP contractors.
- Utilize reservoirs to provide peak deliveries. Reservoirs provide flexibility with
  the capability to withdraw larger volumes of water in short periods. Reservoirs
  can be drawn to meet peak, above normal demands that typically occur during the
  summer and early fall. In addition, reservoir deliveries would be used to adjust
  SWP water blends when high organic levels unexpectedly spike in the deliveries
  from the California Aqueduct.
- Utilize reservoirs to provide dry-year deliveries. Dry-year supply storage within Metropolitan's service area is required to meet the additional water demands that occur during single-year and extended droughts. Surface reservoirs provide significant flexibility in meeting potential droughts conditions by storing water when available. In Metropolitan's October 1991 Final Environmental Impact

Report for the Eastside Reservoir (DVL) Project and in Southern California's March 1996 Integrated Resources Plan criteria for utilizing storage to meet drought requirements has been established. These criteria provided that surface reservoirs could be expected to withdraw all drought storage water within a two-year period.

<u>Increasing Supply Yield</u>. Compared to February 11, 2002 estimates, the re-operation of reservoirs could provide 70 percent higher dry-year storage capacity; more than double the reservoir yields during a single dry-year; and provide up to 65 percent higher reservoir yields during multiple dry-year events. Documentation on Metropolitan's reservoirs and DWR's reservoirs and the supply yields capability are provided in Appendix D.

### ENHANCED CONSERVATION PROGRAMS - Opportunity

<u>Changed Condition</u>. The latest entry in the expanding resource portfolio is Metropolitan's initiative to enhance conservation efforts. Launched in summer 2002, a new campaign is designed: to encourage more efficient outdoor water use and promote innovative conservation measures.

- Native and Drought-Proof Plant Program. This program marks an expansion of Metropolitan's successful indoor conservation program to outdoor conservation in order to tap into an area with great potential for savings. An estimated 30 to 70 percent of residential water use in Metropolitan's service area goes outside to water the landscape. This program begins a new initiative to achieve new water savings through outdoor conservation.
- ➤ Innovative Conservation Program. Last year, Metropolitan's first Innovative Conservation Program (ICP) was completed, providing more than \$200,000 for 10 promising conservation ideas. As a result of the program, two new conservation tools a re-circulating X-ray film developer and a pressurized water broom were adopted within Metropolitan's rebate program.
- Expanded Conservation Credits Program. In addition to the existing Conservation Credits Program discussed in the February 11, 2002 report, Metropolitan's Board has approved additional rebates for dual-flush toilets, rebates for evapotranspiration (ET) landscape irrigation controllers, and a hotel/motel/restaurant customer water conservation education card program.
- > Commercial, Industrial and Institutional Program. In May 2002, Metropolitan's Board authorized a time extension and a funding increase for the Commercial, Industrial and Institutional (CII) rebate program to fund the purchase of non-residential water conserving hardware, including ULFT's, urinals, water-efficient cloths washers and cooling tower retrofits.

<u>Managing the Change</u>. Estimates show that 7 to 12 percent of water demands can be offset with the enhanced conservation programs. These water savings have been incorporated into forecasts of demands on Metropolitan.

### DEVELOPMENT OF ADDITIONAL LOCAL RESOURCES - Opportunity

<u>Changed Condition.</u> Metropolitan and its member agencies have embarked on an aggressive campaign to develop additional local resources. There are promising opportunities to develop seawater desalination and expand the Local Resources Program.

- ➤ Seawater Desalination. Turning seawater into drinking water became more viable with the introduction of Metropolitan's Seawater Desalination Program. Launched in the summer of 2001, the program will provide financial and technical support for the development of local cost-effective seawater desalination projects. A call for proposals produced five projects proposed by member agencies, which were evaluated by Metropolitan's review committee of staff and consultants. Collectively, the projects could produce about 132,000 acre-feet of drinking water per year. The program is in its early stages and projects are subject to approval by Metropolitan's board.
- ➤ Local Resources Program. In 1982, Metropolitan initiated the Local Projects Program to promote the development of water recycling projects that reduced demand for imported water and improved regional water supply reliability. In 1991, the Groundwater Recovery Program was implemented to similarly promote the recovery of local degraded groundwater supplies. In 1995, both programs were combined into the Local Resources Program. Currently the Local Resources Program, encompassing both recycling and groundwater recovery, has implemented 53 recycled water projects yielding over 235,000 acre feet of local supply and 22 groundwater recovery projects yielding over 80,000 acre feet of local supply.

Managing the Change. In accordance with the IRP, Metropolitan's regional production target is 500,000 acre-feet by 2020 for its Local Resources Program. Metropolitan continues to provide financial incentives through its Local Resources Program to its member agencies to encourage development of local water resource process. These expected water supply benefits are incorporated into the forecasts of demand on Metropolitan.

#### **FINDINGS**

In summary, this analysis finds that current practices of diversifying water supplies and securing supply reserves allow Metropolitan and its member agencies to adjust to changes in demands and supplies and to maintain a high degree of reliability. If all imported water supply programs and local projects proceed as planned, without changes in demand projections, reliability would be assured beyond 20 years.

The availability of Metropolitan's water supplies is determined by comparing total projected water demands and conservatively estimated water supplies over the next 20 years. These comparisons are shown in the following graphs and tables. They demonstrate that sufficient supplies can be reasonably relied upon to meet projected supplemental demands. The comparison also shows that additional reserve supplies could provide a "margin of safety" to guard against uncertainties in demand projections and risks in fully implementing all supply programs under development.

In more detail, the findings of the Report on Metropolitan's Water Supplies are:

RETAIL WATER SUPPLY RELIABILITY. Retail water supply reliability is provided through a combination of both local resources and supplemental imported water supplies.

The local resources include groundwater, recycling, seawater desalination, and local surface water. The existing and planned local resources required for the region are described in the urban water management plans and updated information prepared by the member agencies and retailers. Supplemental water supplies include available deliveries from the Colorado River Aqueduct, California Aqueduct, and in-basin storage (reservoirs and groundwater conjunctive use programs). These supplemental supplies meet demands that exceed local supplies. The existing and planned supplemental imported water supplies required for the region are described in Metropolitan's comprehensive supply plan as documented in this Report. Metropolitan and its member agencies are working together to implement local and supplemental supply plans to maintain retail water supply reliability.

COMPREHENSIVE SUPPLEMENTAL SUPPLY PLAN. Metropolitan has a comprehensive supply plan to provide sufficient supplemental water supplies and to provide a prudent supply reserve over the next 20 years and beyond.

<u>Diversified Resources</u>. Metropolitan continues to develop a portfolio of diversified supplies in accordance with a comprehensive supply plan. This plan is based on the Integrated Resources Plan and Regional Urban Management Plan, which establish policy guidelines for investing in water conservation, recycling, desalination, Colorado River deliveries, State Water Project deliveries, water transfers, and storage in groundwater basins and surface reservoirs. The implementation of Metropolitan's comprehensive supply plan would provide sufficient water supplies to meet projected supplemental demands over the next 20 years and beyond.

<u>Prudent Supply Reserves</u>. Consistent with current practice, Metropolitan has and will continue to have the capability to develop supplies that are available at least 10 years in advance of need and ensure water supply reliability. This recognizes that a program may require several years to become fully operational and reach ultimate production capability. In addition, the advance supply provides a reserve that safeguards against potential demand and supply uncertainties during the interim years, while being an investment that is fully utilized at the time of need. This practice provides reliability without wasted cost.

Flexibility in Demand Projections. The comprehensive resources plan provides flexibility in demand projections. Based on a conservative approach, Metropolitan estimates that the supplemental demand projections on Metropolitan are 6 to 16 percent higher than the projections presented in the member agencies' urban water management plans. This difference indicates that Metropolitan's water supplies developed in accordance with this water supply update would provide a "margin of safety" or measure of flexibility to accommodate some delays in local resources development.

IMPLEMENTING THE PLAN. If Metropolitan's supply programs were implemented under this comprehensive resource plan, Metropolitan would have the capability to reliably meet projected supplemental water demands through 2030.

<u>Implementing the Plan – Existing and Planned Supplies.</u> Metropolitan is implementing a comprehensive plan that secures water resources to meet projected supplemental water demands and to maintain supply reserves. From a resource management standpoint, it is prudent for Metropolitan to secure supplies in advance of need and maintain a high degree of reliability. From a benefit/cost standpoint, it is important that Metropolitan times its supply investments such that value can be derived from the use of these investments in the near term and Metropolitan is able to take advantage of favorable market conditions in the future. As a result, Metropolitan has supplies that are currently available at least 10 years in advance of need and supplies that are under development for longer-term needs.

Existing Supplies. Based on water supplies that are currently available, Metropolitan already has in place the existing capability to:

### Average and Wet Years (73% Occurrence)

- Meet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) over the next 20 years.
- Provide significant surplus supplies to refill system storage.

### Multiple Dry Years (2.6% Occurrence)

- Meet 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.
- Provide 8 to 26 percent reserve supply even under the repeat of the worst multipleyear drought event over the next 15 years. The supply reserve would mitigate

unexpected changes in demand or supply conditions and facilitate the refill of system storage in this 15-year period.

### Single Dry-Year (1.3% Occurrence)

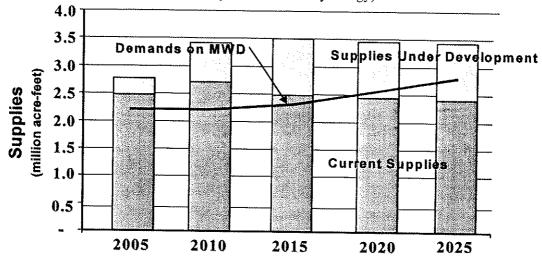
- Meet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) even under the repeat of the worst single-year drought event over the next 15 years.
- Provide 8 to 25 percent reserve supply even under the repeat of the worst single-year drought event over the next 15 years. The supply reserve would mitigate unexpected changes in demand or supply conditions and facilitate the refill of system storage in this dry condition over the next 15 years.
- Planned Supplies. With the addition of all water supplies that are under development, Metropolitan would have the total capability (existing and planned supplies) to:
  - Meet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) through 2030 even under a repeat of the worst drought.
  - Provide a 20 to 25 percent reserve supply (depending on hydrologic conditions) that can manage the risk of local or imported resource projects not performing up to expectations and provide greater assurances in meeting demands during dry years.

## <u>MANAGING CHANGE</u>: Diversified resources and prudent supply reserves assure reliable water supplies for the region.

Challenges and Opportunities. In 2002, there have occurred changes that create both challenges and opportunities for Southern California's water resources. Metropolitan and its member agencies have aggressively prepared for two possible risks to imported water supplies: (1) the reduction of Colorado River supply due to either the unprecedented drought or the absence of a Quantification Settlement Agreement and (2) increasing water quality constraints on imported water supplies. These risks have been offset by significant improvements in the region's supply capabilities: (1) a fully operational DVL and increased refill capabilities; (2) integrating the use of reservoirs and banking/transfer programs to fully use more than 2 million acre-feet of water available in storage and access up to 250,000 acrefeet of additional transfer options; (3) enhanced conservation programs, (4) aggressive development of additional local resources (groundwater, recycling and ocean desalination), and (5) treatment plant improvements.

## Multiple Dry-year Supply Capability<sup>1</sup> & Projected Demands<sup>2</sup>

(Repeat of 1990-92 Hydrology)



Supply Capability<sup>1</sup> & Potential Reserve or Replenishment

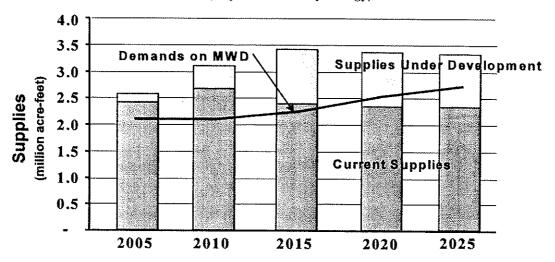
	2005	2010	2015 (acre-feet per year)	2020	2025
Current Supplies					
Colorado River <sup>2</sup>	721,330	833,292	833,292	833,292	833,292
California Aqueduct	1,290,300	1,376,100	1,146,100	1,120,300	1,120,300
In-Basin Storage	455,300	531,700	530,400	513,000	499,200
Supplies Under Developn	<u>ient</u>				
Colorado River <sup>2</sup>	167,300	416,708	416,708	416,708	416,708
California Aqueduct	20,000	195,000	390,000	390,000	390,000
In-Basin Storage	~	89,000	200,000	200,000	200,000
Maximum Supply Capability <sup>1</sup>	2,654,200	3,441,800	3,516,500	3,473,300	3,459,500
Total Demands on Metropolitan <sup>3</sup> (Firm & Replenishment)	2,245,200	2,175,600	2,320,900	2,534,100	2,688,500
Potential Reserve & System Replenishment Supply	409,000	1,266,200	1,195,600	939,200	771,000

1 -- Represents expected supply capability for resource programs.

<sup>3 --</sup> Based on SCAG 98 RTP, SANDAG 1998 forecasts and member agency projections of local supplies.

# Single Dry-year Supply Capability<sup>1</sup> & Projected Demands<sup>2</sup>

(Repeat of 1977 Hydrology)



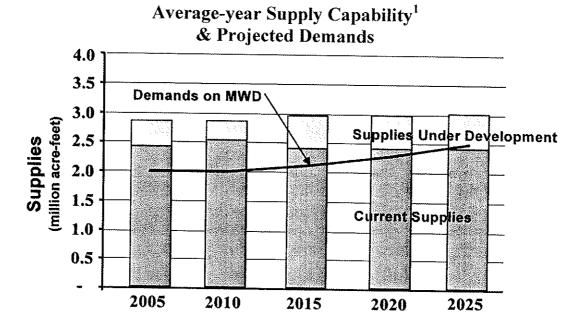
Supply Capability<sup>1</sup> & Potential Reserve or Replenishment

	2005	2010	2015 acre-feet per year)	2020	2025
Current Supplies					
Colorado River <sup>2</sup>	721,330	833,292	833,292	833,292	833,292
California Aqueduct	997,300	997,300	822,300	822,300	822,300
In-Basin Storage	730,400	790,000	787,800	757,900	734,300
Supplies Under Developm	<u>ent</u>				
Colorado River <sup>2</sup>	208,600	230,538	416,708	416,708	416,708
California Aqueduct	20,000	195,000	390,000	390,000	390,000
In-Basin Storage	<u></u>	89,000	200,000	200,000	200,000
Maximum Supply Capability <sup>1</sup>	2,677,630	3,135,130	3,450,100	3,420,200	3,396,600
Total Demands on Metropolitan <sup>3</sup> (Firm & Replenishment)	2,169,300	2,096,100	2,266,500	2,487,900	2,618,700
Potential Reserve & System Replenishment Supply	508,330	1,039,030	1,183,600	932,300	777,900

<sup>1 --</sup> Represents expected supply capability for resource programs.

<sup>2 --</sup> Total Colorado River Aqueduct Deliveries limited to 1,250,000 acre-feet per year.

<sup>3 --</sup> Based on SCAG 98 RTP, SANDAG 1998 forecasts and member agency projections of local supplies.



Supply Capability<sup>1</sup> & Potential Reserve or Replenishment

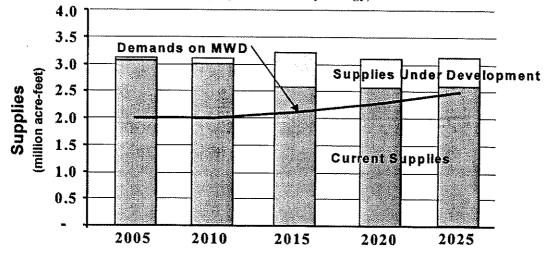
	2005	2010	2015 (acre-feet per year)	2020	2025
Current Supplies			,		
Colorado River <sup>2</sup>	695,330	735,222	719,292	707,292	719,292
California Aqueduct	1,780,800	1,783,200	1,723,900	1,714,900	1,705,900
In-Basin Storage	-	-	. ,	-	-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Supplies Under Developn	<u>1ent</u>				
Colorado River <sup>2</sup>	321,500	228,608	260,538	350,038	360,538
California Aqueduct	20,000	65,000	220,000	220,000	220,000
In-Basin Storage	-	_	-		220,000
Maximum Supply Capability <sup>1</sup>	2,817,630	2,812,030	2,923,730	2,995,230	3,005,730
Total Demands on Metropolitan <sup>3</sup> (Firm & Replenishment)	1,969,700	1,886,500	2,054,800	2,274,000	2,402,300
Potential Reserve & System Replenishment Supply	847,930	925,530	868,930	721,230	603,430

1 -- Represents expected supply capability for resource programs.

<sup>3 --</sup> Based on SCAG 98 RTP, SANDAG 1998 forecasts and member agency projections of local supplies

## Wet-year Supply Capability<sup>1</sup> & Projected Demands

(Repeat of 1985 Hydrology)



Supply Capability<sup>1</sup> & Potential Reserve or Replenishment

1	2005	2010	2015 acre-feet per year)	2020	2025
Current Supplies		WONDOWN TO THE REAL PROPERTY OF THE PERSON O			
Colorado River <sup>2</sup>	1,156,330	1,156,830	683,292	683,292	683,292
California Aqueduct	1,882,200	1,882,200	1,882,200	1,882,200	1,882,200
In-Basin Storage	-	-	-	-	-
Supplies Under Developm	<u>ient</u>				
Colorado River <sup>2</sup>	93,670	93,170	503,138	353,038	360,538
California Aqueduct	20,000	65,000	220,000	220,000	220,000
In-Basin Storage	_	-	-	<del>-</del>	-
Maximum Supply Capability <sup>1</sup>	3,152,200	3,197,200	3,288,630	3,138,530	3,146,030
Total Demands on Metropolitan <sup>3</sup> (Firm & Replenishment)	1,932,700	1,871,500	2,046,200	2,272,500	2,406,000
Potential Reserve & System Replenishment Supply	1,219,500	1,325,700	1,242,430	866,030	740,030

<sup>1 --</sup> Represents expected supply capability for resource programs.

<sup>2 --</sup> Total Colorado River Aqueduct Deliveries limited to 1,250,000 acre-feet per year.

<sup>3 --</sup> Based on SCAG 98 RTP, SANDAG 1998 forecasts and member agency projections of local supplies.

# **Demand Projections**

### RETAIL DEMAND FORECAST OVERVIEW

Water demand in the Metropolitan service area has experienced several discernable trends in the past five years. Southern California emerged from a severe recession in the mid-1990s. Despite a sustained recovery that has led to a robust economy, the intense developments of long-term conservation programs and increases in pricing have succeeded in suppressing growth in per capita water demands. Metropolitan projects that retail water demand will continue along this trend; per capita water demand will not return to its pre-drought highs, with conservation programs and water pricing offsetting water demand growth.

To forecast urban retail water demands, Metropolitan uses the MWD-MAIN Water Use Forecasting System. MWD-MAIN is a model combining statistical and end-use methods that has been adapted to conditions in Southern California. The statistical portion of the model incorporates projections of demographic and economic variables from regional planning agencies (the Southern California Association of Governments, or SCAG, and the San Diego Association of Governments, or SANDAG) into statistically estimated water demand models to produce forecasts of water demand. The end-use portion of the model derives estimates of conservation by adding additional information on how that water is utilized.

The MWD-MAIN system features a separate unique model for each sector. In the residential sector, the forecasts of water demand per dwelling unit are ultimately combined with the forecasts of dwelling units from the regional planning agencies to yield an estimate of total sector water demand. Similarly, in the nonresidential sector, water use per employee is combined with forecasts of employment to yield an estimate of total non-residential water demand.

The SCAG and SANDAG demographic projections used in the retail demand forecast are developed primarily for transportation planning, air quality management, and other regional planning purposes. The SCAG and SANDAG forecasts provide a linkage to local development and land use plans through the inclusion of sub-regional plans, and through extensive stakeholder input and feedback processes. Final plans adopted by SCAG and SANDAG are supported by EIR/EIS documentation.

The SCAG and SANDAG projections currently used by Metropolitan extend to 2020. Metropolitan contracted with the Center for Continuing Study of the California Economy (CCSCE) and SCAG to extend these projections to 2050. CCSCE developed projections for the six counties served by Metropolitan from national projections produced by the US Census Bureau. Member agency demographics for 2050 were then derived using SCAG's GIS-based allocation models. Demographics for interim years such as 2025 were interpolated from the 2020 SCAG/SANDAG projections and the 2050 estimates developed by CCSCE.

In addition to accounting for future demographic trends, Metropolitan's water demand forecasts incorporate current and future water demand management (conservation) efforts: In 1991, Metropolitan signed a Memorandum of Understanding Regarding Urban Water Conservation in California (MOU). The MOU commits Metropolitan to implement a number of long-term water conservation measures referred to as Best Management Practices (BMPs).

The MWD-MAIN model embeds a detailed accounting of water conservation, distinguishing between:

- Passive Conservation Water saved as a result of changes in water efficiency requirements for plumbing fixtures in plumbing codes. This form of conservation would occur without any water agency action.
- Active Conservation Water saved directly as a result of conservation programs by water agencies (including implementation of Best Management Practices). This form of conservation is unlikely to occur without agency action.
- Price-effect Conservation Water saved by retail customers attributable to the effect of changes in the real (inflation-adjusted) price of water. There may be some overlap between this form of conservation and the previous two. For example, increased water prices might induce a consumer to take part in one of the active conservation programs run by the providing agency.

Metropolitan's demand projections account for the effects of the conservation BMPs, including projected changes in the price of water. The forecast is based on expected BMP participation, recognizing that some of the region's retail agencies are not BMP signatories and that some BMPs are not cost effective in Metropolitan's service area.

### TRENDS IN SOUTHERN CALIFORNIA

Population: The population of Metropolitan's service area was approximately 15.8 million in 1995 and has grown to approximately 16.9 million in 2000. This represents an annual addition over this five-year period of about 211,000 people per year. The population in the entire service area is projected to be approximately 22.1 million by the year 2020, constituting an average annual increase of about 208,000 people per year.

Industrial and Commercial: Southern California generates a significant portion of the state's economy, accounting for approximately 53 percent of the state's total personal income. In 2001, total personal: income in Southern California was estimated to be \$600 billion. Employment growth is not projected to occur at the same rate across the six counties. Over the 25-year period between 2000 and 2025, the greatest employment increases are expected to occur in Los Angeles County, with more than one million additional jobs expected. Relative to existing employment, Riverside and

San Bernardino counties are expected to have the fastest rates of growth (114 and 100 percent), followed by Ventura and Orange counties (66 and 44 percent), and San Diego and Los Angeles counties (32 and 28 percent). The number of people employed is expected to increase from 7.9 million in 2000 to about 10.9 million in 2025. This increase of about 39 percent is greater than the projected population (31 percent) and housing growth (36 percent), suggesting that a somewhat greater proportion of the population will be employed over time.

Residential Consumers: SCAG and SANDAG have projected residential housing growth in all geographic areas of Metropolitan's service area. The total occupied housing stock is expected to increase about 36 percent from 2000 to 2025 (from 5.4 to 7.4 million housing units). Much of this growth is forecasted to occur in inland areas. Within the service area, the average household size (household population divided by total occupied dwelling units) is forecasted to remain at around three persons per household. Annexations to Metropolitan's service area are not projected to have a significant impact on population, housing or demand growth.

Water Demands: Historical retail water demands in Metropolitan's service area have increased from 3.1 million acre-feet in 1980 to 3.9 million acre-feet in 1990. Due to the recession, wet weather, unprecedented conservation efforts, and lingering drought impacts, water use was lower for several years in the mid-nineties. Of the 3.5 million acre-feet used in 1998, 3.2 million acre-feet (91 percent) were used for municipal and industrial purposes (M&I), and 0.3 million acre-feet (9 percent) were used for agricultural purposes. The relative share of M&I water use to total water use has been increasing over time as agricultural water use has declined due to urbanization and market factors, including the price of water. Agricultural water use accounted for 14 percent in 1980, 11 percent in 1990, 9 percent in 1995, and 8.3 percent in 1997. Total water use is projected to grow from a projected 3.8 million acre-feet in 2000 to 4.9 million acre-feet in 2025. All water demand projections discussed here reflect normal weather conditions. These water demand forecasts account for water savings resulting from plumbing codes, price effects, and actual and projected implementation of Best Management Practices. The demand models account for the effect of increasing regional income, growing penetration rates of water-using appliances, and growth in hot and dry areas. As a result per capita water demand is forecast to remain relatively constant over the 25-year forecast horizon

• By County - Total retail water demand is not expected to grow uniformly across counties. Following the pattern of the demographic projections, the greatest increase in urban water demands is expected to occur in Los Angeles, Riverside, and San Diego counties. The largest absolute increase in water demand is expected to occur in Los Angeles County, an increase of over 400,000 acre-feet between 2000 and 2025. On a percentage basis, demands in Riverside County are expected to increase at the fastest rate (51 percent between 2000 and 2025), while Los Angeles and Orange Counties are expected to increase with the lowest rate.

By Sector - Water use can also be broken down by sector. Between 2000 and 2025, single-family residential water use is expected to increase by 27 percent, while multifamily water use is expected to increase by 47 percent. Nonresidential water use between 2000 and 2025 is expected to increase by 29 percent. Water use projections for the nonresidential sector generally follow the employment projections shown in Table A.1-3. There is an additional sector, which is needed to account for system losses and any other retail demand.

### RESIDENTIAL WATER USE

Although single-family homes account for about 55 percent of the total occupied housing stock, they account for about 70 percent of total residential water demands. This variation occurs because single-family households tend to use more water than households in a multi-family structure (such as apartment buildings) on a per housing-unit basis. Single-family households tend to have more persons living in the household; they are likely to have more water-using appliances and fixtures; and they tend to have more landscaping per home.

#### NONRESIDENTIAL WATER USE

Nonresidential water use represents about 25 percent of the total M&I demand in Metropolitan's service area. The nonresidential sector represents water that is used by businesses, services, government, institutions (such as hospitals and schools), and industrial (or manufacturing) establishments. Within the commercial/institutional category, the top water users include schools, hospitals, hotels, amusement parks, colleges, laundries, and restaurants. In Southern California, the major industrial users include electronics, aircraft, petroleum refining, beverages, food processing, and other industries that use water as a major component of the manufacturing process.

#### AGRICULTURAL WATER USE

Agricultural water use currently constitutes about 8 percent of total regional water demand in Metropolitan's service area. Metropolitan has historically provided water supplies to meet 30 to 50 percent of total agricultural water demand. Remaining agricultural water demands are met by local water supplies.

### LOCAL SUPPLIES

The Integrated Resources Plan (IRP) was formulated to address the region's water supply needs through a comprehensive planning process that identifies a diverse mix of water resources. The IRP was a collaborative effort by Metropolitan and its member agencies to achieve regional objectives for water reliability, water quality and cost containment by establishing goals for development of the various water resource options. Since it was adopted in 1996, the IRP promoted steady progress towards improving the region's supply reliability in a cost-effective manner. In November 2002, Metropolitan provided an update of the IRP resource targets and strategies to ensure water supply reliability through 2025 against multiple uncertainties and reasonable assumptions of resource implementation risk. As part of this IRP update, the status of developing local supplies such as, groundwater, water recycling, groundwater recovery, and seawater desalination was reevaluated. In addition to these local supplies, Metropolitan initiated a new program, enhancement of water conservation efforts. These local water resources are summarized below.

Local Groundwater Supplies: Groundwater accounts for about 90 percent of the natural local water supplies, in Southern California, and is one of the regions most valuable water assets. In addition to supplying a basic source of water, groundwater basins provide a critical storage function that allows for reduced dependency on imported water during dry years and droughts, as well as during peak summer periods. Within a given year, a groundwater basin production peaks in the summer and replenishes during the winter. Because groundwater basins contain such a large volume of stored water, it is possible to produce more water than is naturally recharged, in the short-term, and be replenished from imported supplies, when available. During a dry-year or drought, replenishment deliveries can be curtailed, further reducing the demand for imported supplies. To compensate for this curtailment it is necessary to replenish groundwater supplies when imported water becomes available. The major groundwater basins in Southern California provide an average annual supply of approximately 1.36 million acre-feet. production is naturally recharged by surface runoff, but about 200,000 acre-feet per year is replenished by Metropolitan using available imported water. By 2025 it is estimated that groundwater production will increase to about 1.58 million acre-feet, thus requiring Metropolitan to provide about 415,000 acre-feet of replenishment water.

Local Surface Water And Los Angeles Aqueduct Supplies: In addition to groundwater supplies, local agencies maintain surface reservoir capacity and imported supply facilities for the development of local yield. Through the use of local surface reservoirs, the average annual yield from local watersheds is estimated at approximately 135,000 acre-feet per year. Local runoff and falls within San Diego County Water Authority's service area provide most of this local supply, 80,000 acre-feet per year. In addition to these local surface supplies the City of Los Angeles maintains the Los Angeles Aqueduct. The Los Angeles Aqueduct is estimated to provide an average-year supply of approximately 300,000 acre-feet per year. During a

repeat of a historical dry period, this supply is estimated to decrease to less than 150,000 acre-feet.

Seawater Desalination: The ocean represents a potentially abundant source of water supply. Although there is public support for this resource, seawater desalination has in the past been limited by its relatively high costs, environmental impacts of brine disposal, and siting considerations. Emerging technology may alleviate high costs and environmental constraints and may warrant further analysis of seawater desalination as a viable source of supply in the near-term. As part of its local supply strategy, Metropolitan's Board adopted and updated policy principles to guide development of seawater desalination in 1995 and 2001, and reviewed the status of the approach in November 2002. Initially, 50,000 acre-feet per year was targeted in Metropolitan's request for proposals (RFP) process that was initiated in November 2001. As a result, five proposals were submitted by member agencies and were evaluated by Metropolitan for participation. These proposals have a combined potential to produce more than 130,000 acre-feet per year of desalinated seawater within Metropolitan's service area. Most of this production is currently scheduled to be available by 2010, 100,000 acre-feet, with the remainder coming on line by 2015.

Water Recycling And Groundwater Recovery: Water recycling (reclamation of wastewater to produce water which is safe and acceptable for various non-potable uses) has provided a valuable source of water supply for Southern California. Southern California has been a leader in developing recycled water projects. As a result, recycled water is currently used for numerous applications including groundwater recharge, seawater intrusion barriers, landscape and agricultural irrigation, and in industrial processes. Water recycling can improve reliability not only during a drought, but also during normal and wet years. Currently, Metropolitan has entered into agreements covering 53 projects through its Local Resource Program that have the capability to produce about 235,000 acre-feet per year. Presently 37 of these water recycling projects are partially operational and will have the ultimate capability to produce an additional 200,000 acre-feet per year when fully operational.

Recovery of contaminated groundwater supplies is an important resource strategy for Southern California. This resource option is usually more expensive than other resources, but has the potential to control existing contamination and prevent this contamination from spreading and further reducing the usefulness of groundwater. Currently, Metropolitan has entered into agreements covering 22 projects with an ultimate yield of about 82,000 acre-feet per year. Presently 12 of these groundwater recovery projects are partially operational and will have the capability to produce about 55,000 acre-feet per year when fully operational. The combined IRP regional targets for water recycling and groundwater recovery projects is about 460,000 acrefeet year by 2010 and 500,000 acre-feet year by 2020.

Enhanced Water Conservation: Metropolitan has initiated a heightened public awareness and incentive program to reduce outdoor water use in its service area. A

reduction in water use within Metropolitan's service area will have a measurable and lasting impact in ensuring water supply reliability. Encouraging reductions in outdoor water use has the potential to reduce household landscape water use by 30 to 60 percent for those households that are using water for landscapes. Metropolitan's Board of Directors has approved an accelerated public outreach program. A target estimate of 7 to 12 percent of household water use has been established for the summer of 2003. As an integral part of Metropolitan's conservation supplies, the Outdoor Conservation Program will be instrumental in meeting the IRP goals for Southern California's water supply portfolio.

As discussed above, local agencies have developed and continue to implement significant local resources. Based on these local agency supply plans and demand reduction due to enhanced water conservation, on-average it is projected that local supplies will be provide 2,294,100 acre-feet per year by 2005 and 2,949,600 acre-feet per year by 2025.

### **DEMAND SUMMARY TABLES**

The following tables show total retail demands (municipal and industrial, and agricultural), total replenishment demands, total locally produced water supplies, and the supplemental demands for water that are met by Metropolitan. The figures below are derived using a historical sequence of hydrologic outcomes from 1922 through 1998, for each of the forecasted years shown. The "Average" is the statistical mean, calculated over 77 hydrologic outcomes from 1922 through 1998. "Wet" is the outcome from the hydrologic year 1985. "Single Dry" is the outcome from the hydrologic year 1977. "Multiple Dry" is the average outcome over three sequential hydrologic years from 1990-1992.

### Estimated Water Demands Forecast Year 2005

(acre-feet per year)

	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Retail Demand (MI & AG)	4,141,600	4,097,600	4,057,400	4,148,600
GW Replenishment	212,600	206,400	206,400	206,500
Local Supplies	2,109,000	2,134,700	2,294,100	2,422,400
Demands On Metropolitan	2,245,200	2,169,300	1,969,700	1,932,700

### Forecast Year 2025

(acre-feet per year)

	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Retail Demand (MI & AG)	5,065,000	4,985,900	4,938,400	5,053,100
GW Replenishment	420,300	420,400	413,500	431,100
Local Supplies	2,796,800	2,787,600	2,949,600	3,078,200
Demands On Metropolitan	2,688,500	2,618,700	2,402,300	2,406,000

# Colorado River Aqueduct Deliveries

Year 2005

(acre-feet per year)

		Event Occur	rring in 2005	
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs	A Transit of Marie Service and Associated Service A			
Base Apportionment – Priority 4	550,000	550,000	550,000	550,000
IID/MWD Conservation Program	105,130	105,130	105,130	105,130
Priority 5 Apportionment	-	-	19,000	480,000
Coachella & All-American Canals Lining Projects Off-Aqueduct Storage	21,200	21,200	21,200	21,200
Hayfield Storage Program	45,000	45,000	-	<u></u>
Subtotal of Current Programs	721,330	721,330	695,330	1,156,330
Programs Under Development				
Interim Surplus Guidelines	26,300	67,600	180,500	-
IID/MWD Conservation Program	-	_	-	••
SDCWA Transfer	30,000	30,000	30,000	30,000
PVID Land Management Program	111,000	111,000	111,000	111,000
Off-Aqueduct Storage/Transfers  • Lower Coachella Storage Program  • Chuckwalla Storage Program  • Central Arizona Banking	-	- -	-	-
Subtotal of Proposed Programs	167,300	208,600	321,500	141,000
Maximum Supply Capability <sup>2</sup>	888,600	929,930	1,016,830	1,297,330
Maximum Expected CRA Deliveries <sup>3</sup>	888,600	929,930	1,016,830	1,250,000

1 - Represents expected supply capability for resource programs.

<sup>2 --</sup> Total maximum supply capability is shown to be greater than the CRA capacity. This indicates that full CRA deliveries can be maintained even with the loss or deferral of individual programs and that Metropolitan has the operational flexibility to optimize the use of programs.

(acre-feet per year)

		Event Occur	rring in 2010		
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)	
Current Programs					
Base Apportionment – Priority 4	550,000	550,000	550,000	550,000	
IID/MWD Conservation Program	55,592	55,592	57,522	105,130	
Priority 5 Apportionment	-	<u>.</u>	50,000	424,000	
Coachella & All-American Canals Lining Projects Off-Aqueduct Storage	77,700	77,700	77,700	77,700	
Hayfield Storage Program	150,000	150,000	-	-	
Subtotal of Current Programs	833,292	833,292	735,222	1,156,830	
Programs Under Development				<del></del>	
Interim Surplus Guidelines	324,300	-	<u></u>	-	
HD/MWD Conservation Program	49,538	49,538	47,608	_	
SDCWA Transfer	70,000	70,000	70,000	70,000	
PVID Land Management Program	111,000	111,000	111,000	111,000	
Off-Aqueduct Storage/Transfers  • Lower Coachella Storage Program	-	No	-	<b></b>	
<ul><li>Chuckwalla Storage Program</li><li>Central Arizona Banking</li></ul>	33,000	-	-	<b>-</b>	
Subtotal of Proposed Programs	587,838	230,538	228,608	181,000	
Maximum Supply Capability <sup>2</sup>	1,421,130	1,063,830	963,830	1,337,830	
Maximum Expected CRA Deliveries <sup>3</sup>	1,250,000	1,063,830	963,830	1,250,000	

1 -- Represents expected supply capability for resource programs.

<sup>2 --</sup> Total maximum supply capability is shown to be greater than the CRA capacity. This indicates that full CRA deliveries can be maintained even with the loss or deferral of individual programs and that Metropolitan has the operational flexibility to optimize the use of programs.

(acre-feet per year)

	***************************************	Event Occur	rring in 2015	
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
Base Apportionment – Priority 4	550,000	550,000	550,000	550,000
IID/MWD Conservation Program	55,592	55,592	55,592	55,592
Priority 5 Apportionment Coachella & All-American Canals Lining Projects	77,700	77,700	36,000 77,700	77,700
Off-Aqueduct Storage     Hayfield Storage Program	150,000	150,000	-	_
Subtotal of Current Programs	833,292	833,292	719,292	683,292
Programs Under Development				
Interim Surplus Guidelines	275,300	سه	_	242,600
IID/MWD Conservation Program	49,538	49,538	49,538	49,538
SDCWA Transfer	100,000	100,000	100,000	100,000
PVID Land Management Program	111,000	111,000	111,000	111,000
Off-Aqueduct Storage/Transfers  • Lower Coachella Storage Program	150,000	150,000		-
Chuckwalla Storage Program     Central Arizona Banking	150,000 14,000	150,000	<b>44</b>	**************************************
Subtotal of Proposed Programs	849,838	560,538	260,538	503,138
Maximum Supply Capability <sup>2</sup>	1,683,130	1,393,830	979,830	1,186,430
Maximum Expected CRA Deliveries <sup>3</sup>	1,250,000	1,250,000	979,830	1,186,430

1 -- Represents expected supply capability for resource programs.

<sup>2 --</sup> Total maximum supply capability is shown to be greater than the CRA capacity. This indicates that full CRA deliveries can be maintained even with the loss or deferral of individual programs and that Metropolitan has the operational flexibility to optimize the use of programs.

(acre-feet per year)

	Event Occurring in 2020				
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)	
Current Programs					
Base Apportionment – Priority 4	550,000	550,000	550,000	550,000	
IID/MWD Conservation Program	55,592	55,592	55,592	55,592	
Priority 5 Apportionment	-	-	24,000	_	
Coachella & All-American Canals Lining Projects	77,700	77,700	77,700	77,700	
Off-Aqueduct Storage     Hayfield Storage Program	150,000	150,000	-		
Subtotal of Current Programs	833,292	833,292	707,292	683,292	
Programs Under Development					
Interim Surplus Guidelines	-	_	-	-	
IID/MWD Conservation Program	49,538	49,538	49,538	49,538	
SDCWA Transfer	192,500	192,500	192,500	192,500	
PVID Land Management Program	111,000	111,000	111,000	111,000	
Off-Aqueduct Storage/Transfers  • Lower Coachella Storage Program	150,000	150,000	-	-	
<ul><li>Chuckwalla Storage Program</li><li>Central Arizona Banking</li></ul>	150,000	150,000	-	-	
Subtotal of Proposed Programs	653,038	653,038	353,038	353,038	
Maximum Supply Capability <sup>2</sup>	1,486,330	1,486,330	1,060,330	1,036,330	
Maximum Expected CRA Deliveries <sup>3</sup> 1 Represents expected supply capa	1,250,000	1,250,000	1,060,330	1,036,330	

1 -- Represents expected supply capability for resource programs.

<sup>2 --</sup> Total maximum supply capability is shown to be greater than the CRA capacity. This indicates that full CRA deliveries can be maintained even with the loss or deferral of individual programs and that Metropolitan has the operational flexibility to optimize the use of programs.

(acre-feet per year)

	Event Occurring in 2025				
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)	
Current Programs					
Base Apportionment – Priority 4	550,000	550,000	550,000	550,000	
IID/MWD Conservation Program	55,592	55,592	55,592	55,592	
Priority 5 Apportionment	-	-	36,000	-	
Coachella & All-American Canals Lining Projects	77,700	77,700	77,700	77,700	
Off-Aqueduct Storage  Hayfield Storage Program	150,000	150,000	_	-	
Subtotal of Current Programs	833,292	833,292	719,292	683,292	
Programs Under Development			***************************************		
Interim Surplus Guidelines	••		-		
IID/MWD Conservation Program	49,538	49,538	49,538	49,538	
SDCWA Transfer	200,000	200,000	200,000	200,000	
PVID Land Management Program	111,000	111,000	111,000	111,000	
Off-Aqueduct Storage/Transfers  • Lower Coachella Storage					
Program Program	150,000	150,000	-	-	
Chuckwalla Storage Program	150,000	150,000	-		
Central Arizona Banking		<u></u>	-	•	
Subtotal of Proposed Programs	660,538	660,538	360,538	360,538	
Maximum Supply Capability <sup>2</sup>	1,493,830	1,493,830	1,079,830	1,043,830	
Maximum Expected CRA Deliveries <sup>3</sup>	1,250,000	1,250,000	1,079,830	1,043,830	

1 -- Represents expected supply capability for resource programs.

<sup>2 --</sup> Total maximum supply capability is shown to be greater than the CRA capacity. This indicates that full CRA deliveries can be maintained even with the loss or deferral of individual programs and that Metropolitan has the operational flexibility to optimize the use of programs.

## COLORADO RIVER AQUEDUCT DELIVERIES BASIC APPORTIONMENT - PRIORITY 4 UNUSED / SURPLUS WATER – PRIORITY 5

#### SOURCE OF SUPPLY

Under "The Law of the River", Metropolitan's priorities to Colorado River water yield an annual supply that is delivered to Metropolitan's service area via its Colorado River Aqueduct (CRA). This supply is currently available and consists of a firm annual supply of 550,000 acre-feet per year, Metropolitan's fourth priority to California's basic apportionment, water covered through the IID/MWD Water Conservation Program and surplus water when available. The amount of surplus water available is determined annually by the Secretary of Interior (Secretary). Metropolitan diverts surplus water in accordance with Metropolitan's fifth priority and surplus water contract. Metropolitan conveys Colorado River water 242 miles from its Lake Havasu intake through the CRA and distribution system to Metropolitan's terminal reservoirs. Metropolitan's terminal reservoirs include Lake Mathews, located near the City of Riverside, and Diamond Valley Lake, located near the City of Hemet.

#### **EXPECTED SUPPLY CAPABILITY**

Metropolitan's dependable water supply from its fourth priority apportionment of California's Colorado River water is expected to be 550,000 acre-feet in every of the next 20 years. In other words, it is expected that the supply would be available during all year types, including wet, average, single dry-year, and multiple dry-year weather.

### Estimated Water Supplies Available for Metropolitan's Use Under the Basic Apportionment - Priority 4 \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	550,000	550,000	550,000	550,000
2010	550,000	550,000	550,000	550,000
2015	550,000	550,000	550,000	550,000
2020	550,000	550,000	550,000	550,000
2025	550,000	550,000	550,000	550,000

<sup>\* --</sup> Represents expected supply capability for the resource program.

The Secretary of the Interior has allowed Metropolitan to divert surplus water and water that is unused by Arizona and Nevada under Metropolitan's fifth priority to California's apportionment in the past. The Colorado River water supply available under the fifth priority is projected through to simulations of future Colorado River system reservoirs operations.

# Estimated Water Supplies Available for Metropolitan's Use Under the Unused/Surplus Allocation - Priority 5

#### Without Execution of the Quantification Settlement Agreement \*

(acre-feet per year based on Bureau's of Reclamation methodology utilized in FEIS)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	**		19,000	480,000
2010	-	-	50,000	424,000
2015	-	-	36,000	***
2020	-	-	24,000	-
2025	-	**	36,000	-

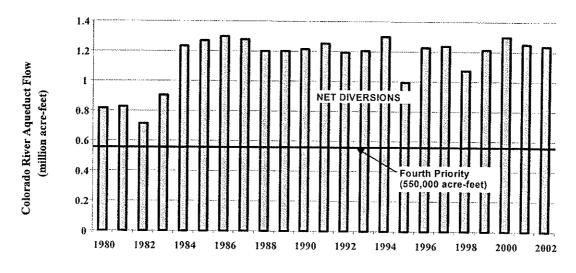
<sup>\*</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

<u>Implementation Status</u>: Water supply under Metropolitan's apportionment of Colorado River water has been delivered since 1939 and by existing contract would continue to be available in perpetuity.

Historical Record: The historical record for available Colorado River water that could be diverted by Metropolitan under its fourth priority to California's apportionment is shown in the following graph. Over the last 20 years, an average of 1.212 million acre-feet per year has been available for Metropolitan's use, enabling Metropolitan to maintain essentially full CRA delivery capability each year. The historical record 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.

## Metropolitan's Net Colorado River Diversions



<u>Written Contracts or Other Proof:</u> Metropolitan's entitlement to Colorado River water is based on "The Law of the River". The "Law of the River" is a collective body of laws, court decrees, compacts, agreements, regulations, and an international treaty that govern the distribution and management of Colorado River water. The documents that specifically determine Metropolitan's dependable supplies are as follows:

- 1931 Seven Party Agreement. The 1931 Agreement recommended California's Colorado River use priorities and has no termination date. California's basic annual apportionment is 4.4 million acre-feet. Palo Verde Irrigation District (PVID), Yuma Project (Reservation Division), Imperial Irrigation District (IID), Coachella Valley Water District (CVWD), and Metropolitan are the entities that hold the priorities. These priorities are included in the contracts that the Department of the Interior executed with the California agencies in the 1930's for water from Hoover Dam. These priorities are shown in the following table. Metropolitan has the fourth priority to California's Basic Apportionment of Colorado River water and utilizes this water, 550,000 acre-feet per year, every year. In addition, Metropolitan has access to additional Colorado River water, up to 662,000 acre-feet per year, through its fifth priority in the California apportionment. Since the initial Central Arizona Project deliveries in 1985 the Secretary of the Interior determines the availability of certain fifth priority water on an annual basis. The fifth priority water consists of: (1) water apportioned to, but unused, by Arizona and Nevada, (2) surplus Colorado River water, (3) water unused by holders of priorities 1 to 3 in California, and (4) an amount of water equal to the amount conserved under the 1988 and 1989 agreements with Imperial Irrigation District. This year, the department of the Interior has chosen to deduct from the amount of water available to Metropolitan, 28,500 acre-feet, the amount projected to be used by holders of Indian and miscellaneous presented perfected rights and others adjacent to the Colorado River who divert water. Use of water by holders of Indian and miscellaneous presented perfected rights are not specifically addressed in the Seven Party Agreement. The U.S. Supreme Court in its 1964, 1979, and 2000 decrees quantified these rights.
- Metropolitan's Basic Contracts. Metropolitan's 1930, 1931, and 1946 basic contracts with
  the Secretary permit the delivery of 1.212 million acre-feet per year when sufficient water
  is available. Metropolitan's 1987 surplus flow contract with Reclamation permits the
  delivery of water to fill the remainder of the Colorado River Aqueduct when water is
  available. Certain programs discussed subsequently are being implemented and planned
  to increase assurances that this water will be available.
- 1964 Court Decree. The 1964 U.S. Supreme Court Decree confirmed the Arizona, California, and Nevada basic apportionments of 2.8 million acre-feet per year, 4.4 million acre-feet per year and 300,000 acre-feet per year, respectively. The Decree also permits the Secretary of the Interior to make water unused by one of the states available for use in the other two states. In addition, it permits the Secretary to make available surplus water.

# Priority in Seven-Party Agreement and Water Delivery Contracts

Priority	Description	Acre-feet Annually
1	Palo Verde Irrigation District gross area of 104,500 acres of land in the Palo Verde valley	
2	Yuma Project (Reservation Division) not exceeding a gross area of 25,000 acres in California	
3(a)	Imperial Irrigation District and land in Imperial and Coachella Valleys <sup>1</sup> to be served by the All American Canal	3,850,000
3(b)	Palo Verde Irrigation District – 16,000 acres of land on the Lower Palo Verde Mesa	
4	Metropolitan Water District of Southern California for use on the coastal plain	550,000
	subtotal	<u>550,000</u> <b>4,400,000</b>
5(a)	Metropolitan Water District of Southern California for use on the coastal plain	550,000
5(b)	Metropolitan Water District of Southern California for use on the coastal plain <sup>2</sup>	112,000
6(a)	Imperial Irrigation District and land in Imperial and Coachella Valleys <sup>1</sup> to be served by the All American Canal	
6(b)	Palo Verde Irrigation District – 16,000 acres of land on the Lower Palo Verde Mesa	300,000
7	Agricultural Use in the Colorado River Basin in California	
	total	5,362,000

- The Coachella Valley Water District now serves Coachella Valley

**Financing:** The cost of delivering fourth priority Colorado River water is included in Metropolitan's budget. These costs are paid from water sales revenue.

Regulatory Permits for Delivery of Supply: Metropolitan's fourth priority Colorado River water is currently available. Delivery of the Basic apportionment is assured under this priority.

<sup>&</sup>lt;sup>2</sup> - In 1946, the City of San Diego, San Diego County Water Authority, Metropolitan, and the Secretary of the Interior entered into a contract that merged and added the City of San Diego's rights to storage and delivery of Colorado River water to the rights of Metropolitan. The conditions of that agreement have since been satisfied.

# COLORADO RIVER AQUEDUCT DELIVERIES INTERIM SURPLUS GUIDELINES

#### SOURCE OF SUPPLY

On January 16, 2001, the Secretary of the Interior signed a Record of Decision to implement the Colorado River Interim Surplus Guidelines (ISG). Adoption of the ISG recognizes California's Colorado River Water Use Plan and its commitment to reduce its draw of Colorado River water.

The Bureau of Reclamation uses the ISG to determine the availability of surplus water to Metropolitan and Southern Nevada Water Authority through 2016. Under a seven-state agreement, California has 15 years to reduce its draw on the river from about 5.2 million acrefeet to its basic apportionment of 4.4 million acrefeet a year in the absence of surplus water. During the 15-year ramp-down period, California would continue to receive surplus water from the river; the annual amount depends on whether there is a flood control release, or a full or partial domestic surplus condition.

The Secretary could, and did, suspend certain provisions of the ISG because the Quantification Settlement Agreement (QSA) was not implemented by December 31, 2002, and they will remain suspended until such time as either the QSA is executed or such other actions as are required by the Secretary of the Interior are completed. The ISG also included specific benchmarks for reduced agricultural water use that must be satisfied to avoid a reduction in surplus water availability to Metropolitan. The framework for meeting those benchmarks was agreed to in mid-October 2002.

#### EXPECTED SUPPLY CAPABILITY

In the Final Environmental Impact Statement (EIS) for the ISG, the U.S. Bureau of Reclamation (Bureau) reported the results of its simulation of Colorado River deliveries and Lake Mead operations under the ISG and estimated the available ISG water over the next twenty years. If certain provisions of ISG were reinstated, incremental increases in water supplies would be available for Metropolitan's use during dry-year conditions. However, Metropolitan may be required to provide deliveries to Arizona to offset water shortages in Arizona caused by certain provisions of the ISG. The incremental increases or decreases in deliveries under the ISG have been estimated based on the Bureau's simulation modeling methodology and are shown as follows:

## Estimated Incremental Water Supplies Available for Metropolitan's Use Under the Interim Surplus Guidelines

## With Execution of the Quantification Settlement Agreement \*

(acre-feet per year based on Bureau's methodology utilized in FEIS)

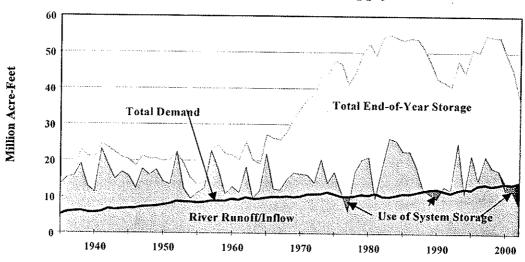
Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	26,300	67,600	180,500	_
2010	324,300	-	-	_
2015	275,300	No.	-	242,600
2020	_	-	• ••	-
2025	-		-	_

- After 2016 the ISG are no longer in effect and the availability of surplus and unused Colorado River water is determined by the Secretary on an annual basis under Metropolitan's Priority 5 entitlement.
- If the ISG creates a shortage in the Central Arizona Project (CAP), Metropolitan would be obligated to pay back, up to 1.0 million acre-feet of water to the CAP over an agreed period of time.
- Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

Implementation Status: The ISG were implemented in January 2002 and extends through December 2016.

## Historical Colorado River Supply & Demand



Historical Record: The historical record of Colorado River system annual runoff, demands and storage conditions the demonstrate that the River's reservoirs can be managed to provide Arizona, California, and Nevada with more predictable water supply for an interim period. The historical record is depicted below. The total storage capacity in the Colorado River Basin is approximately 60 million acre-feet, almost four times the River's average annual

flow. As of the end of December 2002, total storage in the system reservoirs was over 36.8 million acre-feet, about 62% of capacity.

#### **Written Contracts or Other Proof:**

- Adoption of Interim Surplus Guidelines. The Interim Surplus Guidelines were approved by the Secretary of the Interior on January 16, 2001. The ISG are effective for a 15-year term (2002 2016). Certain provisions of the ISG were suspended in 2003 as the proposed Quantification Settlement Agreement (QSA) was not executed. These provisions can be reinstated with execution of the QSA or by California completing all required actions and reducing the aggregate use of Colorado River water by the Palo Verde Irrigation District, Yuma Project Reservation Division, Coachella Valley Water District and Imperial Irrigation District to meet specified targets by specified years.
- Agreement with Arizona. The Metropolitan-Arizona Interim Surplus Guidelines Agreement was executed in May 2001. Under this agreement, Metropolitan would mitigate Colorado River shortages in Arizona due to the ISG.
- Agreement with Nevada. The Metropolitan-Southern Nevada Water Authority Interim Surplus Guidelines Agreement was executed in May 2002. This agreement establishes the allocation of unused Arizona water and determines the priority for storing water in the Arizona Water Bank between Metropolitan and Southern Nevada Water Authority.

<u>Financing</u>: The cost of delivering the ISG water supply is included in Metropolitan's annual O&M budget and long-range financial plan.

#### Federal, State and Local Permits/Approvals:

• <u>EIS for ISG</u>. The Final Environmental Impact Statement for Interim Surplus Criteria was published by the U. S. Bureau of Reclamation in December 2000. The Record of Decision was approved by the Secretary of the Interior on January 16, 2001.

## COLORADO RIVER AQUEDUCT DELIVERIES IID - METROPOLITAN CONSERVATION PROGRAM

#### SOURCE OF SUPPLY

The IID-Metropolitan Conservation Program provides an annual supply that is delivered to Metropolitan's service area via its CRA over a minimum 35-year period following full program implementation. In 1988, Metropolitan executed a Conservation Agreement to fund water efficiency improvements within the Imperial Irrigation District's (IID) service area in return for the right to divert the water conserved by those improvements. The program consists of structural and non-structural measures, including the concrete lining of existing canals, the construction of local reservoirs and spill-interceptor canals, installation of non-leak gates, and automation of the distribution system. Other implemented projects include the delivery of water to farmers on a 12-hour basis rather than a 24-hour basis and improvements in on-farm water management through the installation of tailwater pumpback systems, drip irrigation systems, and linear-move irrigation systems.

#### EXPECTED SUPPLY CAPABILITY

The IID-Metropolitan Conservation Program has been operational since 1990 and is expected to yield 105,130 acre-feet per year of conserved water. The program agreement provides Coachella Valley Water District the option to call up to 45,130 acre-feet of conserved water if needed to meet its demands under non-surplus conditions. Based upon Coachella's water resources plans, its projected water demands through 2005 can be met by Priority 3 water delivered at current levels. As a result, it is expected that Metropolitan's dependable water supply from the IID-Metropolitan Conservation Program would be 105,130 acre-feet in the near-term. During dry conditions, without implementation of the QSA, it has been assumed, that Metropolitan and Coachella Valley Water District would share in the conserved water, with Metropolitan receiving 60,000 acre-feet and remaining conserved water being utilized by Coachella Valley Water District.

#### Estimated Water Supplies Available for Metropolitan's Use Under the IID - Metropolitan Conservation Program Without Execution of the Quantification Settlement Agreement \* (acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	105,130	105,130	105,130	105,130
2010	55,592	55,592	57,522	105,130
2015	55,592	55,592	55,592	55,592
2020	55,592	55,592	55,592	55,592
2025	55,592	55,592	55,592	55,592

<sup>\* --</sup> Represents expected supply capability for the resource program.

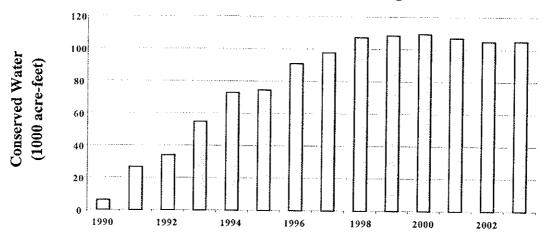
CRA Deliveries Appendix B -- 13 of 31

#### RATIONALE FOR EXPECTED SUPPLY

<u>Implementation Status</u>: The IID-Metropolitan Conservation Program has been operational since 1990 and by existing agreements will continue to be in place with a possible extension to 2077 with implementation of the QSA.

Historical Record: The historical record for conserved water that has been diverted by Metropolitan under the IID-Metropolitan Conservation Program is shown in the following graph. With operations beginning in 1990, the program has conserved up to 106,880 acre-feet per year to date, with 105,130 acre-feet available to Metropolitan in 2003 and could reach a yield of 110,000 acre-feet per year in 2004. The historical record indicates that Metropolitan's expected supply of 90,000 acre-feet per year with implementation of the quantification settlement has been available since 1996 and would be available over the next 20 years and beyond.

# Imperial-Metropolitan Water Conservation Program



<u>Written Contracts or Other Proof</u>: Metropolitan's annual supply from the IID-Metropolitan Conservation Program is based on three agreements.

- 1988 IID-Metropolitan Conservation and Use of Conserved Water Agreement. This Agreement was executed in December 1988 by Imperial Irrigation District and Metropolitan for a 35-year term following completion of program implementation (1998 2033).
- 1989 Approval Agreement. This Agreement secured the approval of Palo Verde Irrigation District and Coachella Valley Water District to not divert an amount of water equal to the amount conserved except under limited circumstances. The Agreement was executed in December 1989.
- 1989 Supplemental Approval Agreement. This Agreement was executed in December
   1989 between Metropolitan and Coachella Valley Water District to coordinate
   Colorado River diversions and the use of the conserved water provided by the Program.

CRA Deliveries

• <u>Key Terms for Quantification Settlement</u>. The Key Terms for Quantification Settlement were signed by the State of California, Metropolitan, Imperial Irrigation District, and Coachella Valley Water District in October 1999. These key terms provide the basis for completing detailed agreements to quantify the rights and uses of Colorado River water with respect to Priorities 3a and 6a of the 1931 California Seven-Party Agreement. Included in the Key Terms is the provision that approximately 90,000 acre-feet per year of water obtained through this Program would continue to be available to Metropolitan for an extended term ending as late as 2078. The remainder of the conserved water from this program (20,000 acre-feet per year) would be available to CVWD.

Financing: The water efficiency improvements under this Program have already been funded, constructed and put into operation. The cost of Program operation and maintenance and delivering the conserved water under the IID-Metropolitan Conservation Program is included in Metropolitan's 10-year capital and O&M budget.

Federal, State, and Local Permits/Approvals: A comprehensive environmental review process supported implementation.

- <u>EIR for Program</u>. The Imperial Irrigation District Board certified the final Environmental Impact Report for the Program in December 1986.
- EIR for Supplemental Program. The Imperial Irrigation District Board certified the final Environmental Impact Report for the Completion Program in June 1994.

# COLORADO RIVER DELIVERIES HAYFIELD GROUNDWATER STORAGE PROJECT

#### SOURCE OF SUPPLY

The Hayfield Groundwater Storage Project (Hayfield Project) is planned to supply up to 150,000 acre-feet annually during dry year or non-surplus Colorado River conditions. The Hayfield Project is also planned to provide additional supplemental supplies from previously stored CRA water during normal year conditions. During wet and surplus years, Metropolitan would replenish the Hayfield Project from the CRA.

#### **EXPECTED SUPPLY CAPABILITY:**

It is estimated that the Hayfield aquifer can hold up to 800,000 acre-feet of additional CRA water. This water could be extracted during dry year conditions at a rate of up to 150,000 acre-feet per year. This supply would be available to Metropolitan in any year, but delivery is constrained by the existing capacity of the CRA. Incremental deliveries of water to the CRA from the Hayfield Project can be made during wet or normal years depending on operating conditions along the CRA. For example, the Hayfield Project may provide operational efficiencies in meeting delivery obligations at Whitewater or other locations along the CRA.

#### RATIONALE FOR EXPECTED SUPPLY

As an integral part of the Colorado River resource strategy for storage programs, the Hayfield Project could be used to assist in keeping the CRA full in 2010 and following years when surpluses may not be available. The water supply available to Metropolitan is presented below:

#### Estimated Water Supplies Available for Metropolitan's Use Under the Hayfield Groundwater Storage Program \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	45,000	45,000	***	_
2010	150,000	150,000	-	
2015	150,000	150,000	*	_
2020	150,000	150,000	<u>-</u>	_
2025	150,000	150,000	-	•••

<sup>\* --</sup> Represents expected supply capability for the resource program.

<u>Program Facilities</u>: The Hayfield Program would consist of facilities in two general areas, as follows:

- 390 acres of spreading basins;
- A well field, consisting of 40 new wells, to extract water from the aquifer and pump it back to the Colorado River Aqueduct;

<u>Historical Record</u>: Metropolitan's Board of Directors authorized implementation of the Hayfield Project in April 1999. Approximately 67,000 acre-feet of water have been stored in the Hayfield aquifer since the Project was approved.

<u>Written Contracts or Other Proof</u>: The Hayfield Project has been implemented as a component of California's Colorado River Water Use Plan. The following actions have occurred:

- 1998 Memorandum of Understanding (MOU) between Metropolitan and the U. S. Department of the Interior Bureau of Land Management (BLM). This MOU describes the intent of both Metropolitan and the BLM to exchange properties overlying the Hayfield Basin in order to support the implementation of the Hayfield Project. Approximately 3,800 acres of Federally owned property in the Hayfield valley would be exchanged with like properties held by Metropolitan. The purpose of this exchange of properties is to manage the underlying groundwater resource and protect water quality.
- April 1999 Board of Directors Adoption of the CEQA Document. Metropolitan's Board of Directors adopted the Mitigated Negative Declaration for the Hayfield Project at their regularly scheduled Board of Directors meeting in April 1999.
- June 2000 Board of Directors Approval of the Hayfield Project. Metropolitan's Board of Directors approved the Hayfield Project and appropriated an additional \$7.35 million for land acquisition, preliminary design, continued water quality monitoring, additional aquifer testing and other tasks. The Board authorized storage of up to 800,000 acre-feet of CRA water.
- October 2001 Reimbursement Agreement Number 4600001909 from the California
   Department of Water Resources.
   Metropolitan and the Department of Water Resources
   entered into a Reimbursement Agreement in accordance with the California Water
   Code Section 15262. This section of Water Code calls for the DWR to reimburse up to
   \$35 million for groundwater conjunctive use programs along the Colorado River
   Aqueduct. This Agreement was effective October 9, 2001.
- <u>December 2002 Board of Directors Appropriation of Design, Testing and Construction Funds.</u> Metropolitan authorized expenditure of an additional \$18 million to implement the Hayfield Project. The action increased the authorized funding to implement the Hayfield Project to more than \$27 million. Schedule on line date for the Hayfield Project is 2007.

Financing: The capital cost of the Hayfield Project is estimated to be approximately \$75 million. This budget is included in Metropolitan's 10-year capital budget and would be financed through a combination of bonds and water sales revenue. A portion of this capital cost would be reimbursed to Metropolitan from Agreement No. 4600001909 with the DWR.

Federal, State and Local Permits for Construction: Metropolitan has applied for and requested all appropriate Federal, State and Local permits for construction. For example, Metropolitan is currently conducting long term water quality baseline monitoring in support of a possible Source Water Permit application from the Department of Health Services. Monitoring wells and production wells were completed in accordance with Riverside County permitting procedures. Necessary environmental permits would be acquired as needed.

# COLORADO RIVER DELIVERIES ARIZONA/METROPOLITAN GROUNDWATER BANKING PROGRAM

#### SOURCE OF SUPPLY

Interstate off stream water banking of unused basic and/or surplus Colorado River water apportionments provides an added water management opportunity for meeting the water supply needs of Arizona, California, and Nevada. In 1992, Metropolitan entered into an agreement with the Central Arizona Water Conservation District (CAWCD) to implement a demonstration program that allowed unused Colorado River water to be stored in central Arizona aquifers, thus capturing water that otherwise would not have been diverted due to future flood control releases from Lake Mead. Unused capacity in the Central Arizona Project (CAP) was used to transport Colorado River water to central Arizona. The Southern Nevada Water Authority also participated in the program.

In 1996, the Arizona Legislature created the Arizona Water Banking Authority (AWBA). It was created specifically to protect Arizona's supply of Colorado River water and to provide opportunities for interstate banking. Its major objective is to store Arizona's unused Colorado River apportionment. The statute provides a role for interstate storage programs, limiting the annual recovery amount to no more than 100,000 acre-feet in total for entities in California and Nevada.

In November 1999, the Department of the Interior issued a Final Rule to facilitate voluntary interstate offstream storage of Colorado River water among Arizona, California and Nevada. The Final Rule establishes a framework for the Secretary to follow in considering, participating in, and administrating storage and interstate release agreements among entities in Arizona, California and Nevada. The final rule permits state-authorized entities in Nevada and California to have Colorado River water stored off stream in groundwater basins. In years in which Nevada and/or California entities wish to receive the benefit of stored water, Arizona would reduce its diversion of Colorado River water resulting in intentionally created unused apportionment (ICUA). The ICUA would be made available to the Secretary for release and use in another of the three states that is party to a storage and interstate release agreement.

#### EXPECTED SUPPLY CAPABILITY

When Metropolitan wishes to recover the stored water, expected to be in either 2003 or 2004, CAWCD would reduce its CAP diversions, and the Secretary of the Interior would allocate the unused CAP apportionment to Metropolitan. This mechanism can be exercised in a year when Arizona's Colorado River supply is at least 2.8 million acre-feet. The maximum recoverable amount is 15,000 acre-feet per month. When Metropolitan recovers any of the water stored under this program, Metropolitan's storage credits would be debited by 110 percent of the recovered water. The factor of 110 percent is to comply with Arizona's state law, which requires that a portion of any stored water be left underground. As of December 2002, Metropolitan had a storage account balance of 89,000 acre-feet of which about 81,000 acre-feet is available for return to Metropolitan (after losses). This amount of

water is scheduled for use prior to 2005 and is not considered available in the 20-year assessment of the report.

AWBA and Metropolitan are discussing the implementation of a long-term program. Water Supplies available under the long-term program are estimated as follows:

#### Estimated Water Supplies Available for Metropolitan's Use Under a Long-term Arizona Groundwater Banking Program \* (acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	_	**	-	-
2010	33,000	-	-	-
2015	14,000	-	-	_
2020		-	-	-
2025	_	_	_	-

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

Historical Record: This Program is one of many identified in California's Colorado River Water Use Plan. As of December 2002, Metropolitan has a storage account balance of 89,000 acre-feet under the demonstration program of which about 81,000 acre-feet is available for return to Metropolitan (after losses). While water has been stored, it has not been necessary to have it withdrawn to date and remains available for use in the future.

#### **Written Contracts or Other Proof:**

- 1992 Central Arizona Water Conservation District-Metropolitan Agreement. This Agreement was executed in 1992 by the Central Arizona Water Conservation District and Metropolitan to store unused Colorado River water in the groundwater basins underlying central Arizona through 2000.
- 1999 Department of the Interior final rule. This final rule established a framework for the Secretary to follow in considering, participating in, and administrating new storage and interstate release agreements among entities in Arizona, California and Nevada.

<u>Financing</u>: The total estimated cost of this program is approximately \$270 million. The remaining estimated program cost is \$262 million that would be paid from Metropolitan's Water Transfer Fund.

Federal, State, and Local Permits for Construction: The project which is the subject of the 1992 agreement was exempt from the provisions of CEQA as it consisted of a minor alteration of the operation of existing facilities. The Bureau of Reclamation issued a Final

Programmatic Environmental Assessment for the 1999 final rule. A Finding of No Significant Impact was prepared as part of completion of the NEPA process for the final rule.

# COLORADO RIVER DELIVERIES ALL AMERICAN CANAL AND COACHELLA CANAL LINING PROJECTS

#### SOURCE OF SUPPLY

The All American Canal and Coachella Canal Lining Projects can provide an annual supply that is delivered to Metropolitan's service area via the Colorado River Aqueduct. In 1988, Public Law 100-675 authorized the Secretary of the Interior to reduce seepage from portions of the existing earthen All American Canal and to concrete line the Coachella Canal. The All American Canal Lining Project consists of constructing a concrete-lined canal parallel to 23 miles of the existing All American Canal from Pilot Knob to Drop 3. The Coachella Canal Lining Project consists of lining 33 miles of the Coachella Canal from Siphon 7 to 14 and from Siphon 15 to 32. The law also authorized the Secretary to enter into a construction or funding agreement with one or more of the California contractors holding a delivery contract for Colorado River water.

#### EXPECTED SUPPLY CAPABILITY

The All American Canal and Coachella Canal Lining Projects are expected to yield 77,700 acrefeet per year of supply to Metropolitan's service area via the Colorado River Aqueduct, other than when surplus Colorado River water is available for California's use when IID elects to use such water and such use does not adversely affect Metropolitan. Metropolitan would receive 56,200 acre-feet per year from the All American Canal Lining Project and 21,500 acre-feet per year from the Coachella Canal Lining Project for up to 75 years. The water supply that would be available to Metropolitan is presented below:

# Estimated Water Supplies Available for Metropolitan's Use Under the Coachella & All American Canal Lining Projects \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	21,200	21,200	21,200	21,200
2010	77,700	77,700	77,700	77,700
2015	77,700	77,700	77,700	77,700
2020	77,700	77,700	77,700	77,700
2025	77,700	77,700	77,700	77,700

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

Implementation Status: Design of the Coachella Canal Lining Project was 90 percent completed as of January 2003. An Advance Funding Agreement to complete the Environmental Commitment Plan and a programmatic agreement with the State Historic Preservation Office for the Project, and initiate All American Canal Lining Project management was executed in December 2002 by the Bureau of Reclamation, IID and Metropolitan.

Written Contracts: The following actions have been taken to proceed towards project implementation.

- 1988, Public Law 100-675. Authorized the Department of the Interior to reduce seepage from the existing earthen All American and Coachella Canals. This law calls for the conservation of water from lining the canals and the delivery of this conserved water to the party who pays for the linings.
- 2001, California Department of Water Resources-Metropolitan Funding Agreement. Reimburse Metropolitan for project work necessary to construct the lining of the Coachella Canal in an amount not to exceed \$74 million.
- 2001, California Department of Water Resources-IID Funding Agreement. Reimburse Imperial Irrigation District for project work necessary to construct a lined All American Canal in an amount not exceed \$126 million.
- 2002, Metropolitan-CVWD Assignment and Delegation of Design Obligations Agreement. Assigns design of the Coachella Canal Lining Project to CVWD.
- 2002, Metropolitan-CVWD Financial Arrangements Agreement for Design Obligations. Obligates Metropolitan to advance funds to CVWD to cover costs for Coachella Canal Lining Project design and CVWD to invoice Metropolitan to permit the Department of Water Resources to be billed for work completed.

**Financing:** The advancing of funds for the Coachella Canal Lining Project is included in Metropolitan's long-range financial plan and capital investment plan. Metropolitan would initially fund this project. Up to \$200 million of the costs of constructing the projects would be reimbursed by the State of California in accordance with the executed funding agreements.

#### Federal, State and Local Permits for Construction

- March 1994. The Bureau of Reclamation released the Final EIS/EIR for the All American Canal Lining Project.
- April 2001. The Bureau of Reclamation released the Final EIS/EIR for the Coachella Canal Lining Project.

# COLORADO RIVER DELIVERIES SAN DIEGO WATER TRANSFER

#### SOURCE OF SUPPLY

On April 29, 1998, the Imperial Irrigation District (IID) and the San Diego County Water Authority (Authority) executed the Agreement for Transfer of Conserved Water (Transfer Agreement). Under this market-based transaction, the Authority would pay IID a unit price to arrange for water to be conserved within its service area and transfer the conserved water to the Authority. To conserve water IID would (i) contract with landowners in its service area to undertake water conservation efforts and reduce its use of Colorado River water, and/or (ii) make improvements to its distribution system in order to reduce system losses. To facilitate the Authority's receipt of water from IID, in November 1998 Metropolitan and the Authority entered into an Exchange Agreement under which the Authority would transfer the water received from IID to Metropolitan for diversion into the Colorado River Aqueduct. In exchange, Metropolitan would deliver to the Authority a like amount and quality of water from whatever sources and using such facilities as Metropolitan determines.

#### **EXPECTED SUPPLY CAPABILITY**

Under the Exchange Agreement Metropolitan would annually receive 200,000 acre-feet of Colorado River water for diversion into the Colorado River Aqueduct of water IID conserves and transfers to the Authority under the Transfer Agreement. Under the ramp-up schedule, 200,000 acre-feet of water would be available annually by the year 2021. The Transfer Agreement between the Authority and IID has an initial term of 45 years and may be extended to a total of 75 years. The Exchange Agreement between Metropolitan and the Authority has a term of 30 years. The first increment of 10,000 acre-feet may be available as soon as 2003. The maximum water supply that would be available to Metropolitan is presented below:

### Estimated Water Supplies Available for Metropolitan's Use Under the San Diego Water Transfer Program \*

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	30,000	30,000	30,000	30,000
2010	70,000	70,000	70,000	70,000
2015	100,000	100,000	100,000	100,000
2020	192,500	192,500	192,500	192,500
2025	200,000	200,000	200,000	200,000

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

Historical Record: Under the 1988 IID-Metropolitan Conservation and Use of Conserved Water Agreement, IID has been conserving water within its service area at Metropolitan's cost and making the conserved water available for diversion by Metropolitan. With operations beginning in 1990, the program has conserved up to 106,880 acre-feet per year to date.

<u>Written Contracts or Other Proof</u>: Metropolitan's annual supply from the proposed IID/Authority transfer is based primarily on two agreements.

- 1998 Agreement for Transfer of Conserved Water by and between IID and the Authority, 2000 Amendment no. 1 and 2, 2001 Amendment No. 3, and 2003 Fourth Amendment. This Agreement provides for a market-based transaction in which the Authority would pay IID a unit price for water conserved by IID and transferred to the Authority.
- 1998 Authority/Metropolitan Exchange Agreement. This Agreement provides for the Authority to transfer the water received from IID to Metropolitan for diversion into the Colorado River Aqueduct. In exchange, Metropolitan would deliver to the Authority a like amount and quality of water from whatever sources and using such facilities as Metropolitan determines.

Financing: Under the first 20 years of the Exchange Agreement the Authority would pay to Metropolitan \$90 (increasing by 1.55 percent for every year after 1998) for each acre-foot Metropolitan delivers to the Authority in exchange for receiving water conserved by IID. During the final 10 years of the Exchange Agreement the Authority would pay to Metropolitan \$80 (increasing by 1.44 percent for every year after 1998) for each acre foot Metropolitan delivers to the Authority in exchange for receiving water conserved by IID. To offset the discount provided by Metropolitan to the Authority under the Exchange Agreement, the State Legislature enacted and the Governor approved SB 1765 in 1998, which appropriated \$200 million from the State's General Fund for lining portions of the All-American and Coachella canals and appropriated \$35 million to help fund groundwater storage projects along the Colorado River Aqueduct. Assuming Metropolitan receives the yield from these projects, the State appropriations would make Metropolitan financially whole with respect to the Exchange Agreement.

<u>Federal, State and Local Permits/Approvals</u>: Environmental review has been undertaken and permits are sought by IID before it would implement the transfer program.

• EIR/EIS for Program. IID certified its Final EIR/EIS for the IID Water Conservation and Transfer Project on June 28, 2002. The June 2002 Final EIR/EIS incorporated the Draft EIR/EIS, together with modifications and additions thereto set forth in an Errata, copies of all written and oral comments received on the Draft EIR/EIS, and responses to those comments. In order to comply with Council on Environmental Quality regulations implementing NEPA, related to the use of errata, Reclamation prepared a fully integrated, stand alone October 2002 Final EIR/EIS. IID published an Addendum to the Final EIR for the IID Water Conservation and Transfer Project and its Mitigation Monitoring and Reporting Program for the Project in December 2002. A Record of Decision must still be issued by the Bureau of Reclamation.

- ESA/CESA Permitting. The transfer could proceed with ESA/CESA permits from both the US Fish & Wildlife Service and the California Department of Fish & Game as soon as the program was implemented. IID would then seek an HCP from the US Fish &Wildlife Service and an NCCP from the California Department of Fish & Game to be developed while the transfer was underway. IID would receive the assistance from San Diego County Water Authority and Metropolitan and Coachella Valley Water District in seeking this broader ESA/CESA coverage. IID has developed a Habitat Conservation Plan (HCP) in consultation with the US Fish &Wildlife Service, a draft of which is appended to the June 2002 and October 2002 Final EIR/EIS.
- State Water Resources Control Board (SWRCB) Petition. IID requested the SWRCB to make certain findings before it would implement the IID/Authority Water Transfer Agreement. The hearing process resulted in SWRCB Order WRO 2002 0013 in October 2002 and SWRCB Order WRO 2002 16 in December 2002. The SWRCB conditionally approved the joint petition filed by IID and the Authority for approval of a long-term transfer of conserved water from IID to SDCWA pursuant to an agreement between IID and SDCWA, and conditionally approved a petition filed by IID to change the point of diversion, place of use, and purpose of use under Permit No. 7643. This Order was conditional upon execution of the QSA by December 31 2002 and thus is not effective at the time. For the transfer to proceed, the SWRCB order would need to be reinstated.

# COLORADO RIVER DELIVERIES PALO VERDE IRRIGATION DISTRICT LAND MANAGEMENT, CROP ROTATION AND WATER SUPPLY PROGRAM

#### SOURCE OF SUPPLY

The Palo Verde Irrigation District (PVID) and Metropolitan have entered into Principles of Agreement for a Land Management, Crop Rotation and Water Supply Program. Metropolitan would develop a flexible water supply for 35 years and assist in stabilizing the local farm economy in the Palo Verde Valley. PVID has the first priority for Colorado River use under the U.S. water delivery contracts.

#### EXPECTED SUPPLY CAPABILITY

It is estimated that the PVID/Metropolitan Program would provide up to 111,000 acre-feet per year of additional Colorado River water. This water would be available in any year as needed and in accordance with the provisions described in the Principles of Agreement. The water supply available to Metropolitan is presented below:

#### Estimated Water Supplies Available for Metropolitan's Use Under the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	111,000	111,000	111,000	111,000
2010	111,000	111,000	111,000	111,000
2015	111,000	111,000	111,000	111,000
2020	111,000	111,000	111,000	111,000
2025	111,000	111,000	111,000	111,000

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

Historical Record: Metropolitan and PVID have tested the concept of developing a water supply for Metropolitan by entering into an agreement in 1992. Agreements were signed with landowners and lessees in the Palo Verde Valley to forego irrigation for a two-year period from August 1992 to July 1994. Water unused by PVID, in the amount of 186,000 acre-feet was stored in Lake Mead for Metropolitan. Both PVID and Metropolitan signed approved Principles of Agreement in 2001. The Final Environmental Impact Report for the Proposed Palo Verde Irrigation District Land management, Crop Rotation and Water Supply Program was issued by PVID in September 2002. The next step for the program is to enter into agreements through which the farmers would manage lands and rotate crops making a water supply available to Metropolitan.

#### **Written Contracts or Other Proof:**

• <u>2001 Principles of Agreement</u>. Metropolitan's Board of Directors approved Principles of Agreement in 2001.

<u>Financing</u>: The cost of the PVID/Metropolitan Program is included in Metropolitan's O&M budget and would be funded from the Water Transfer Fund.

<u>Federal, State and Local Permits</u>: A Notice of Preparation for the PVID/Metropolitan Program was published on October 29, 2001. The CEQA documentation was completed in September 2002.

#### COLORADO RIVER DELIVERIES LOWER COACHELLA VALLEY GROUNDWATER STORAGE PROGRAM

#### SOURCE OF SUPPLY

Metropolitan has identified the feasibility of developing a conjunctive use storage program in the Lower Coachella groundwater basin. The basin is currently in an over-drafted condition. The Lower Coachella groundwater basin underlies the service area of the Coachella Valley Water District (CVWD). The CVWD transports its Colorado River entitlement by way of the All American and Coachella Canal systems. The projected growth for the CVWD service area is expected to gradually increase to a build out to 2015. Wet year hydrology on the Colorado River could provide surplus supplies even without the Interim Surplus Guidelines in place. This program provides Metropolitan with the flexibility of being able to store water while continuing to convey a full CRA.

#### EXPECTED SUPPLY CAPABILITY

The Program has potential to provide up to 500,000 acre-feet of storage capacity. The Program is expected to produce 100,000 to 175,000 acre-feet per year of dry year supplies with a scheduled on-line date by 2015, the water supply that could be available to Metropolitan is presented below:

#### Estimated Water Supplies Available for Metropolitan's Use Under the Lower Coachella Groundwater Storage Program \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	_	<b>→</b>	444	-
2010	-	-	-	_
2015	150,000	150,000	-	_
2020	150,000	150,000	-	-
2025	150,000	150,000	<u>-</u>	_

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

This Program is one of many identified in California's Colorado River Water Use Plan. If implemented, it would assist in positioning California to reduce its use of Colorado River water.

The storage and dry-year program capacity does not influence the ability to maintain a full Colorado River Aqueduct in the future. However, the use of Colorado River water to put

water into the Lower Coachella Valley Storage Program may be influenced by other Colorado River related storage/transfer programs. Program storage and extraction capacities as well as up-front payments and capital outlays for construction may impact Metropolitan's budget.

<u>Written Contracts or Other Proof</u>: The terms of the proposed program agreement must be negotiated with CVWD.

Financing: This program would be funded through the Water Transfer Fund

Environmental Review: The implementation of a groundwater storage project in Coachella Valley could result in the availability of additional Colorado River water to allow for the reduction in groundwater use so that current rates of groundwater overdraft would be reduced. The feasibility report identified the environmental checklist in accordance to CEQA guidelines.

## COLORADO RIVER DELIVERIES CHUCKWALLA GROUNDWATER STORAGE PROGRAM

#### SOURCE OF SUPPLY

The Chuckwalla Groundwater Basin Feasibility Study (Chuckwalla Study) was identified in Phase I investigations as a groundwater basin along the Colorado River Aqueduct having the potential to store available supplies of CRA water. Up to 150,000 acre-feet per year would be returned to the CRA in dry years or non-surplus Colorado River conditions. Metropolitan has initiated the Chuckwalla Study, which will investigate the potential for such a program. This feasibility study is in progress with emphasis on ambient groundwater quality conditions. During wet and surplus years, Metropolitan would replenish the Upper Chuckwalla Basin with available deliveries from the CRA. The Upper Chuckwalla Valley is located near Metropolitan's Eagle Mountain Pumping Plant.

#### **EXPECTED SUPPLY CAPABILITY:**

It is estimated that the Upper Chuckwalla groundwater basin could hold up to 500,000 acrefeet of CRA water. This water would be extracted during dry year conditions at a rate of up to 150,000 acre-feet per year. This supply would be available to Metropolitan in any year, but delivery is constrained by the existing capacity of the CRA, the water supply that would be available to Metropolitan under this program is presented below:

### Estimated Water Supplies Available for Metropolitan's Use Under the Chuckwalla Groundwater Storage Program \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005		-	-	-
2010	_	-	-	
2015	150,000	150,000	-	-
2020	150,000	150,000	-	_
2025	150,000	150,000	-	-

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY:

As an integral part of the Colorado River resource strategy for storage programs, deliveries of water previously stored under the Chuckwalla Project could be used to assist in keeping the CRA full in 2015 and the following years during dry years.

<u>Program Facilities</u>: The Chuckwalla Project would consist of facilities in three general areas, as follows:

• 400 acres of spreading basins:

- Water conveyance facilities, including approximately 10 miles of pipeline and a pumping station, to pump water from the extraction wells to the Colorado River Aqueduct; and
- A well field, consisting of 40 new wells to extract water from the aquifer and pump it back to the Colorado River Aqueduct.

<u>Historical Record</u>: Metropolitan's Board of Directors approved the Chuckwalla Study in June 2000. A consultant has been selected and has begun conducting this feasibility study. The Chuckwalla Study is scheduled to be completed in 2003

<u>Written Contracts or Other Proof</u>: The Chuckwalla Study has been initiated as a potential component of California's Colorado River Water Use Plan. The following actions have occurred:

- 1998 Phase I Feasibility Report for Off stream Storage on the Colorado River Aqueduct. This Report identified the Upper Chuckwalla Basin as having the potential for off stream storage of CRA water.
- June 2000 Board of Directors Approved the Upper Chuckwalla Feasibility Study. Metropolitan's Board of Directors approved the Upper Chuckwalla Feasibility Study, made a CEQA determination and appropriated \$2 million to complete geophysical, hydrogeological, infiltration, water quality and risk assessment investigations for the study.
- June 2001 Department of Water Resources awarded Metropolitan an AB 303 Study
  Grant of \$250,000 to complete the Upper Chuckwalla Feasibility Investigations. In
  accordance with AB 303, a planning grant of \$250,000 was awarded to Metropolitan
  for the Upper Chuckwalla Feasibility Study. Metropolitan is currently executing the
  contract for this grant.
- March 2001 Consultant Contract Awarded. Metropolitan's Board of Directors approved a contract to conduct feasibility investigations. An agreement was executed in May 2001 and the feasibility study is in progress.

**Financing:** The cost of the Upper Chuckwalla Feasibility Study is estimated to be approximately \$2 million. This amount is included in Metropolitan's 10 year capital and O&M budget. In addition, an AB 303 planning grant of \$250,000 will be reimbursed to Metropolitan by contract with the DWR.

Federal, State and Local Permits for Construction: Metropolitan would acquire all appropriate Federal, State and Local permits for construction. For example, Metropolitan is currently conducting long term water quality baseline monitoring in support of a possible Source Water Permit application from the Department of Health Services. Monitoring wells and production wells would be completed in accordance with Riverside County permitting procedures. Additional necessary environmental permits would be acquired as needed.

# California Aqueduct Deliveries

	Event Occurring in 2005				
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)	
Current Programs					
SWP Deliveries	794,700	418,000	1,549,100	1,741,000	
San Luis Reservoir Carryover	<u>.</u>	50,000	128,600	-	
Advance Delivery with Coachella Valley WD and Desert WA	24,600	12,300	46,100	61,200	
Semitropic Program	107,000	107,000	•	••	
Arvin Edison Program	90,000	90,000	-	-	
San Bernardino Valley MWD Program	54,000	70,000	57,000	80,000	
Kern Delta WD Program	20,000	50,000	-	-	
Market Transfer Options	200,000	200,000	-	-	
Subtotal of Current Programs	1,290,300	997,300	1,780,800	1,882,200	
Programs Under Development					
Delta Improvements	-	_	-	-	
Additional Transfers/Storage  San Bernardino Valley MWD Conjunctive-use Program  Westside Valley Transfers Eastside Valley Transfers	20,000	20,000	20,000	20,000	
Subtotal of Proposed Programs	20,000	20,000	20,000	20,000	
Maximum Supply Capability	1,310,300	1,017,300	1,800,800	1,902,200	

<sup>\* --</sup> Represents expected supply capability for resource programs.

	Event Occurring in 2010			
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
SWP Deliveries	794,700	418,000	1,549,100	1,741,000
San Luis Reservoir Carryover	55,800	50,000	131,000	-
Advance Delivery with Coachella Valley WD and Desert WA	24,600	12,300	46,100	61,200
Semitropic Program	107,000	107,000	-	
Arvin Edison Program	90,000	90,000	-	-
San Bernardino Valley MWD Program	54,000	70,000	57,000	80,000
Kern Delta WD Program	50,000	50,000	-	-
Market Transfer Options	200,000	200,000	-	~
Subtotal of Current Programs	1,376,100	997,300	1,783,200	1,882,200
Programs Under Development				
Delta Improvements	45,000	45,000	45,000	45,000
<ul> <li>Additional Transfers/Storage</li> <li>San Bernardino Valley MWD Conjunctive-use Program</li> <li>Westside Valley Transfers</li> <li>Eastside Valley Transfers</li> </ul>	150,000	150,000	20,000	20,000
Subtotal of Proposed Programs	195,000	195,000	65,000	65,000
Maximum Supply Capability	1,571,100	1,192,300	1,848,200	1,947,200

<sup>\* --</sup> Represents expected supply capability for resource programs.

	Event Occurring in 2015			
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
SWP Deliveries	794,700	418,000	1,538,100	1,741,000
San Luis Reservoir Carryover	25,800	75,000	82,700	_
Advance Delivery with Coachella Valley WD and Desert WA	24,600	12,300	46,100	61,200
Semitropic Program	107,000	107,000	-	-
Arvin Edison Program	90,000	90,000	-	-
San Bernardino Valley MWD Program	54,000	70,000	57,000	80,000
Kern Delta WD Program	50,000	50,000	-	<del>-</del>
Market Transfer Options	~		-	-
Subtotal of Current Programs	1,146,100	822,300	1,723,900	1,882,200
Programs Under Development			<u> </u>	
Delta Improvements  Additional Transfers/Storage  San Bernardino Valley MWD Conjunctive-use Program  Westside Valley Transfers  Eastside Valley Transfers	200,000 190,000	200,000 190,000	200,000 20,000	200,000 20,000
Subtotal of Proposed Programs	390,000	390,000	220,000	220,000
Maximum Supply Capability	1,536,100	1,212,300	1,943,900	2,102,200

<sup>\* --</sup> Represents expected supply capability for resource programs.

	Event Occurring in 2020			
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
SWP Deliveries	794,700	418,000	1,530,700	1,741,000
San Luis Reservoir Carryover	-	75,000	81,100	**
Advance Delivery with Coachella Valley WD and Desert WA	24,600	12,300	46,100	61,200
Semitropic Program	107,000	107,000	-	**
Arvin Edison Program	90,000	90,000	-	-
San Bernardino Valley MWD Program	54,000	70,000	57,000	80,000
Kern Delta WD Program	50,000	50,000	-	•
Market Transfer Options	<b></b> '	-	-	
Subtotal of Current Programs	1,120,300	822,300	1,714,900	1,882,200
Programs Under Development				
Delta Improvements	200,000	200,000	200,000	200,000
<ul> <li>Additional Transfers/Storage</li> <li>San Bernardino Valley MWD Conjunctive-use Program</li> <li>Westside Valley Transfers</li> <li>Eastside Valley Transfers</li> </ul>	190,000	190,000	20,000	20,000
Subtotal of Proposed Programs	390,000	390,000	220,000	220,000
Maximum Supply Capability	1,510,300	1,212,300	1,934,900	2,102,200

<sup>\* --</sup> Represents expected supply capability for resource programs.

	Event Occurring in 2025			
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
SWP Deliveries	794,700	418,000	1,523,300	1,741,000
San Luis Reservoir Carryover	<del>-</del>	75,000	79,500	_
Advance Delivery with Coachella Valley WD and Desert WA	24,600	12,300	46,100	61,200
Semitropic Program	107,000	107,000	-	-
Arvin Edison Program	90,000	90,000	<del></del>	-
San Bernardino Valley MWD Program	54,000	70,000	57,000	80,000
Kern Delta WD Program	50,000	50,000	-	-
Market Transfer Options	_	-	-	<u>-</u>
Subtotal of Current Programs	1,120,300	822,300	1,705,900	1,882,200
Programs Under Development		<u> </u>		
Delta Improvements  Additional Transfers/Storage  San Bernardino Valley MWD Conjunctive-use Program  Westside Valley Transfers  Eastside Valley Transfers	200,000 190,000	200,000 190,000	200,000 20,000	200,000 20,000
Subtotal of Proposed Programs	390,000	390,000	220,000	220,000
Maximum Supply Capability	1,510,300	1,212,300	1,925,900	2,102,200

<sup>\* --</sup> Represents expected supply capability for resource programs.

# CALIFORNIA AQUEDUCT DELIVERIES STATE WATER PROJECT DELIVERIES

#### SOURCE OF SUPPLY

The State Water Project provides imported water to the Metropolitan service area and has historically provided from 25 to 50 percent of Metropolitan's supplies. In accordance with its contract with the Department of Water Resources (DWR), Metropolitan has under contract a Table A allocation of 2,011,500 acre-feet per year from the State Water Project. Actual deliveries have never reached this amount and depend on availability of supplies as determined by DWR. The availability of SWP supplies for delivery through the California Aqueduct over the next 23 years is estimated 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. As a result, the estimates of SWP deliveries to Metropolitan as shown in this report are more conservative than the estimates provided in the "The State Water Project Delivery Reliability Report, Draft" prepared by the California Department of Water Resources in August 2002.

As part of its contract with DWR, Metropolitan pays both fixed costs of financing SWP facilities construction and variable costs of operations, maintenance, power and replacement costs for water delivered each year. SWP water is delivered to Metropolitan through the East Branch at Devils Canyon Power Plant afterbay, along the Santa Ana Valley Pipeline and at Lake Perris. Metropolitan takes delivery from the West Branch at Castaic Lake.

#### **EXPECTED SUPPLY CAPABILITY**

The Edmund G. Brown California Aqueduct is capable of transporting Metropolitan's full contract amount of 2,011,500 acre-feet per year. The quantity of water available for export through the California Aqueduct, however, can vary significantly year to year. The amount of precipitation and runoff in the Sacramento and San Joaquin watersheds, system reservoir storage, regulatory requirements and contractor demands for SWP supplies impact the quantity of water available to Metropolitan.

Prior to the execution of the Bay-Delta Accord in December 1994, significant uncertainties existed regarding how much of the water in the Sacramento San Joaquin Bay-Delta would be available for export and how much would be required to meet regulatory requirements for meeting water quality standards and sustaining endangered spices. The Bay-Delta Accord and the subsequent CALFED process removed significant uncertainties associated with regulatory requirement thus providing a base for the DWR and the SWP contractors to estimate available water supplies. As discussed in a subsequent section, actions being undertaken by the CALFED process and the Phase 8 water rights process should enhance the reliability of supplies in the future.

Utilizing the regulatory standards in the Bay-Delta Accord, and historic precipitation and runoff data and reservoir levels, DWR estimates the water supply available for export to

Metropolitan and the SWP contractors. These estimated base supplies are shown on the table below.

#### RATIONALE FOR EXPECTED SUPPLY

Metropolitan and 28 other public entities have contracts with the State of California, for a State Water Project water supply. These contracts require the state through its DWR, utilize reasonable efforts to develop and maintain the SWP water supply. The state has made significant investment in infrastructure. It has constructed 28 dams and reservoirs,

#### Estimated Water Supplies Available for Metropolitan's Use Under the State Water Project Deliveries \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	794,700	418,000	1,549,100	1,741,000
2010	794,700	418,000	1,549,100	1,741,000
2015	794,700	418,000	1,538,100	1,741,000
2020	794,700	418,000	1,530,700	1,741,000
2025	794,700	418,000	1,523,300	1,741,000

<sup>\* --</sup> Represents expected supply capability for the resource program.

26 pumping and generation plants and about 660 miles of aqueducts. Over 19 million of residents benefit from water from the SWP. To date the project has delivered in excess of 56 million acre-feet with the single year deliveries exceeding 3.5 million acre-feet in 2000. DWR estimates that with current facilities and regulatory environment the project will on average deliver 3 million acre-feet per year. Under its contract Metropolitan may utilize 48% of this quantity.

Further, under the water supply contract DWR is required to utilize reasonable efforts to maintain and increase the reliability of service to Metropolitan. As discussed in a subsequent section DWR is participating in the CALFED process to achieve these requirements.

Historical Record: The historic record shows significant accomplishments by DWR in providing its contractors with SWP water supplies. To date the project has delivered in excess of 56 million acre-feet. Deliveries exceeded 3.5 million acre-feet in 2000. DWR has continued to invest in SWP facilities to deliver water to its contractors. Some of the significant projects are listed below:

#### Written Contracts or Other Proof:

• 1960 Contract between the State of California and the Metropolitan Water District of Southern California for a Water Supply. This Contract, initially executed in 1960 and amended numerous times since, is the basis for SWP deliveries to Metropolitan. It

requires the DWR to make reasonable efforts to secure water supplies for Metropolitan and its other contractors. The contract expires in 2035, however, Metropolitan has the option to renew the contract under the same basic conditions.

<u>Financing</u>: Metropolitan's payments for its State Water contract obligation are approved each year by Metropolitan's Board of Directors and currently constitute approximately 35% of Metropolitan's annual budget.

<u>Federal, State and Local Permits</u>: The DWR is responsible for acquiring, maintaining and complying with numerous Federal and State permits for operation of the SWP. In 2000, the DWR has taken a leading role in acquiring and delivering power in California. Metropolitan has be active in monitoring the issues affecting its contract with DWR.

- Environmental Impact Report for the Eastbranch Enlargement. In April 1984 DWR prepared and finalized an Environmental Impact Report for the Enlargement of the East Branch of the Governor Edmund G. Brown California Aqueduct.
- Environmental Impact Report for the Harvey O. Banks Pumping Plant. In January 1986 DWR prepared and finalized an Environmental Impact Report for the Additional Pumping Units at Harvey O. Banks Delta Pumping Plant.
- Environmental Impact Report for the Mission Hills Extension. In 1990 DWR prepared and finalized an Environmental Impact Report for the State Water Project Coastal Branch, Phase II and Mission Hills Extension.
- East Branch Extension Project Phase 1. In 1998 DWR completed an EIR to extend the East Branch of the California Aqueduct to provide service to San Gorgonio Pass Water Agency. Construction of phase 1 will be completed in 2002.

CA Deliveries

# CALIFORNIA AQUEDUCT DELIVERIES DESERT WATER AGENCY/COACHELLA VALLEY WATER DISTRICT/METROPOLITAN WATER EXCHANGE PROGRAM

#### SOURCE OF SUPPLY

The Desert Water Agency (DWA) and Coachella Valley Water District (CVWD), both in Riverside County, have rights to State Water Project (SWP) deliveries, but do not have any physical connections to the SWP facilities. Both Agencies are adjacent to the Colorado River Aqueduct. In order for DWA and CVWD to obtain water equal to their SWP allocations, Metropolitan has agreed to exchange an equal quantity of its Colorado River water for DWA and CVWD's SWP water. DWA has a SWP Table A contract right of 38,100 acre-feet per year and CVWD has a SWP Table A contract right of 23,100 acre-feet per year, for a total of 61,200 acre-feet per year.

#### **EXPECTED SUPPLY CAPABILITY**

Under the existing agreements, Metropolitan provides water from its Colorado River Aqueduct to DWA and CVWD in exchange for SWP deliveries. Metropolitan can deliver additional water to its DWA/CVWD service connections permitting these agencies to store water. When supplies are needed, Metropolitan can then receive its full Colorado River supply as well as the State Water Project allocation from the two agencies, while the two agencies can rely on the stored water for meeting their water supply needs. As of the end of September 2001, there was 238,795 acre-feet in the Advance Delivery account. The combined SWP Table A contract right of DWA and CVWD is 61,200 acre-feet. The water supply available to Metropolitan is presented below:

#### Estimated Water Supplies Available for Metropolitan's Use Under the Desert Water Agency & Coachella Valley Water District Water Exchange Program \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	24,600	12,300	46,100	61,200
2010	24,600	12,300	46,100	61,200
2015	24,600	12,300	46,100	61,200
2020	24,600	12,300	46,100	61,200
2025	24,600	12,300	46,100	61,200

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

The DWR estimates the amount of supplies that are available each year. Metropolitan uses a forecasting method for SWP deliveries based on historical patterns of precipitation, runoff and actual deliveries of water.

<u>Historical Record</u>: The DWA and CVWD Exchange Program is currently in operation. The Advance Delivery Agreement has been in place since 1967 and modified in 1984.

#### Written Contracts or Other Proof:

- 1967 and 1983 Water Exchange Contract and Agreements. The DWA and CVWD Program is currently in operation. The DWA and CVWD water exchange contracts have been in place since 1967, amended in 1972 and were modified with execution of additional agreements in 1983.
- 1984 Advance Delivery Agreement. DWA, CVWD and Metropolitan executed an Advance Delivery Agreement. This Advance Delivery Agreement allows Metropolitan to supply DWA and CVWD with Colorado River water in advance of the time these agencies are entitled to receive water under the Exchange Agreement. In future years, Metropolitan can recover this water by reducing its deliveries under the exchange agreement.

Financing: The funds for deliveries under this Program are included in Metropolitan's O&M budget and Long-range Financial Plan.

<u>Federal, State, and Local Permits for Construction</u>: The DWR is responsible for acquiring, maintaining and complying with numerous Federal and State permits for operation of the SWP.

- July 26, 1983 CVWD Negative Declaration, Whitewater River Spreading Area expansion Phase 1.
- February 1983, DWA Final EIR for the proposed extension of time for utilizing Colorado River water to recharge the upper Coachella Valley groundwater basins to the year 2035, Volume I and II, April 1983 Volume III

# CALIFORNIA AQUEDUCT DELIVERIES SEMITROPIC WATER BANKING AND EXCHANGE PROGRAM

#### SOURCE OF SUPPLY

The agreement between Semitropic Water Storage District (Semitropic) and Metropolitan was implemented in February 1994. Semitropic obtains water from the SWP through its contracts with the Kern County Water Agency. SWP supplies irrigate an area of 161,200 acres within Semitropic's service area. When this surface water is not available, these growers withdraw water from the underlying aquifer. The agreement between Semitropic and Metropolitan to allow Metropolitan to make use of 35% of the additional storage in Semitropic's groundwater basin. In years of plentiful supply, Metropolitan could deliver available SWP supplies to Semitropic through the California Aqueduct. During dry years, Metropolitan could withdraw this stored water. Four other banking partners participate in this Program and utilize the remaining 65% of the additional storage in Semitropic's groundwater basin.

#### EXPECTED SUPPLY CAPABILITY

The Semitropic-Metropolitan Program provides Metropolitan with the capacity to store up to 350,000 acre-feet of water under the current agreement. During dry years, Metropolitan can recover its stored water through a combination of direct pumping of the groundwater and the release of Semitropic's SWP Table A contract right. Based on the terms and conditions of the program agreements, the return of water to Metropolitan ranges from a minimum of 31,000 acre-feet per year (peak 4-month summer period) up to 170,000 acre-feet (over a 12-month period).

#### Estimated Water Supplies Available for Metropolitan's Use Under the Semitropic Water Banking and Exchange Program \* (acre-feet per year)

Year	Multiple Dry- years (1990-1992)	years year		Wet Year (1985 Hydrology)	
2005	107,000	107,000	-		
2010	107,000	107,000	-	_	
2015	107,000	107,000	-	***	
2020	107,000	107,000	-	_	
2025	107,000	107,000	-	-	

<sup>\* --</sup> Represents expected supply capability for the resource program based on 10-month operation.

#### RATIONALE FOR EXPECTED SUPPLY

<u>Implementation Status</u>: The Semitropic-Metropolitan Water Banking & Exchange Program has been operational since 1994 and with existing agreements will continue to operate over the term of 41 years (1994-2035). Metropolitan has 360,000 acre-feet in its storage account and withdrew 40,000 acre-feet in 2001.

#### Written Contracts or Other Proof:

- 1992 Turn-in/out Construction, Operation and Maintenance Agreement. This Agreement was executed in 1992 by the Department of Water Resources and Semitropic to allow construction, operation and maintenance of the Semitropic California Aqueduct Turn in/out.
- 1993 Temporary Semitropic-Metropolitan Water Banking Agreement. This Agreement was executed in February 1993 by Semitropic and Metropolitan to allow the storage of available Metropolitan Supplies in advance of execution of the long-term agreement.
- 1994 Semitropic/Metropolitan Water Banking and Exchange Agreement. This Agreement was executed in December 1994 by Semitropic and Metropolitan to implement the program for a 41 year term (1994-2035).
- 1995 Point of Delivery Agreement. This agreement, with The Department of Water Resources, Kern County Water Agency and Metropolitan, allows Metropolitan to divert water from the California Aqueduct into Semitropic's service area.
- 1995 Introduction of Local water into the California Aqueduct. This agreement, with The Department of Water Resources, Kern County Water Agency and Semitropic, allows Metropolitan to receive water from the program into the California Aqueduct.

<u>Financing</u>: Metropolitan's payments for the Semitropic Program are included in the O&M budget and paid out of the Water Transfer Fund.

#### Federal, State and Local Permits for Construction:

- <u>Final EIR</u>. Semitropic acting as the Lead agency under CEQA and Metropolitan acting as a responsible agency jointly completed the Environmental Impact Report for the Program. The EIR was certified by Semitropic In July 1994 and adopted by Metropolitan in August 1994
- Regulatory Approvals. All regulatory approvals are in place and program is operational.

# CALIFORNIA AQUEDUCT DELIVERIES ARVIN-EDISON WATER MANAGEMENT PROGRAM

#### SOURCE OF SUPPLY

The Arvin-Edison Water Storage District (Arvin-Edison) manages the delivery of local groundwater and water imported into its service area from the Central Valley Project's (CVP) Millerton Reservoir via the Friant-Kern Canal. The surface water service area consists of 132,000 acres of predominantly agricultural land, and to a minor degree, municipal and industrial uses. It is situated in Kern County. Arvin-Edison operates its supplies conjunctively, storing water in the underlying aquifer when imported supplies are available and withdrawing that water when the availability of imported supplies are reduced. In 1997, Metropolitan entered into an agreement with the Arvin-Edison Water Storage District. The agreement allows Metropolitan to store available water in Arvin-Edison's groundwater basin, either through direct spreading operations, or through deliveries to growers in Arvin-Edison's service area. Similar to Arvin-Edison's own usage, this previously stored water could be withdrawn when the availability of imported supplies to Metropolitan is reduced.

#### EXPECTED SUPPLY CAPABILITY

The Arvin-Edison/Metropolitan Program provides Metropolitan with the capacity to store up to 250,000 acre-feet of water under the current agreement, and the option to increase the storage capacity to 350,000 acre-feet. During dry years, Metropolitan can recover its stored water either through direct pumping of the groundwater or through exchange. Based on the terms and conditions of the program agreement, the return of water to Metropolitan ranges from a minimum of 40,000 acre-feet per year (peak 4-month summer period) up to 110,000 acre-feet (over a 12-month period).

#### Estimated Water Supplies Available for Metropolitan's Use Under the Arvin-Edison Water Banking Program \* (acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	90,000	90,000	-	-
2010	90,000	90,000	-	_
2015	90,000	90,000	-	-
2020	90,000	90,000	-	-
2025	90,000	90,000	-	-

<sup>\* --</sup> Represents expected supply capability for the resource program based on 10-month operation.

#### RATIONALE FOR EXPECTED SUPPLY

Implementation Status: The Arvin-Edison/Metropolitan Water Management Program has been operational since 1997 and by existing agreements will continue to operate over the term of 30 years (1997-2027) with a possible extension to 2035. Metropolitan has 230,000 acre-feet in its storage account and withdrew 20,000 acre-feet in 2001.

#### Written Contracts or Other Proof:

- 1997 Arvin-Edison/Metropolitan Water Management Agreement. This Agreement was executed in December 1997 by Arvin-Edison and Metropolitan to implement the program for a 30-year term (1997-2027).
- 1998 Turn-in/out Construction and Maintenance Agreement. This Agreement was executed in 1998 by the Department of Water Resources, Kern County Water Agency, Arvin-Edison and Metropolitan to allow construction, operation and maintenance of the Arvin-Edison California Aqueduct Turn in/out.
- 1998-2002 Water Delivery and Return Agreements. These agreements, with the Department of Water Resources, Kern County Water Agency, Arvin-Edison and Metropolitan, allow Metropolitan to divert water from, and introduce water to, the California Aqueduct.

<u>Financing</u>: Metropolitan's payments for the Arvin-Edison Program are included in the O&M budget and paid out of the Water Transfer Fund.

#### Federal, State and Local Permits for Construction:

- Regulatory Approvals. All regulatory approvals are in place
- Environmental Status. The Negative Declaration was completed in 1996.

# CALIFORNIA AQUEDUCT DELIVERIES SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT PROGRAM

#### SOURCE OF SUPPLY

The San Bernardino Valley Municipal Water District Program allows Metropolitan to purchase a dependable annual supply, as well as, an additional supply for dry year needs. Under this program, Metropolitan purchases water provided to San Bernardino Valley Municipal Water District (Valley District) from its annual State Water Project (SWP) water allocation. Valley District delivers the purchased supplies to Metropolitan's service area through the coordinated use of facilities and interconnections within the water conveyance system of the two districts.

The purchased SWP supply is provided to Metropolitan as direct deliveries of annual SWP water through the California Aqueduct to Metropolitan's service area and as deliveries of recaptured SWP water previously stored in the San Bernardino groundwater basin to Metropolitan's service area. Under this Program, Metropolitan purchases a minimum of 20,000 acre-feet per year of SWP allocation every year. In addition, Metropolitan has the option to purchase Valley District's additional SWP allocation, if available, and the first-right-of-refusal to purchase additional SWP supplies available beyond the minimum and option amounts. In the event that Metropolitan's operational needs do not require all, or a portion of the minimum purchased water, that unused amount may be carried forward up to a total of 50,000 acre-feet for later delivery. Finally, the program establishes a critical dry year supply account for Metropolitan, which could provide additional amounts of dry year supplies. During any year designated by DWR as a critically dry year, Valley District could deliver from this account up to 50,000 acre-feet of recaptured SWP water previously stored in the San Bernardino groundwater basin.

In order to facilitate the transfer, the program also provides the coordinated use of existing facilities, including the Valley District's Foothill Pipeline and Inland Feeder, to improve the conveyance capabilities of the delivery of SWP water to the service areas of both districts. The intertie between the foothill Pipeline and existing segment of the Inland Feeder has been constructed and is operational as of December 2002. This intertie allows Metropolitan to move SWP water from the East Branch of the California Aqueduct through the Foothill Pipeline, Inland Feeder and into DVL and the Colorado River Aqueduct. As a result of this intertie, the conveyance capacity into Metropolitan's system has been increased by 260 cfs, thus increasing Metropolitan's capability to refill and maintain storage in DVL.

#### EXPECTED SUPPLY CAPABILITY

Based on contract provisions for the minimum, option, first-right-of-refusal, and critical dry year supply account purchases of available SWP water from Valley District, the water supply available to Metropolitan are as follows:

#### RATIONALE OF EXPECTED SUPPLY

<u>Implementation Status</u>: The San Bernardino Valley Municipal Water District Program began operations in 2001 and is expected to remain in effect on an evergreen term basis.

<u>Historical Record</u>: Metropolitan has purchased 20,000 acre-feet of water under this Program in July 2001 and is scheduled to purchase at least 20,000 acre-feet of water in 2002.

#### Estimated Water Supplies Available for Metropolitan's Use Under the San Bernardino Valley Municipal Water District Program \* (acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	54,000	70,000	57,000	80,000
2010	54,000	70,000	57,000	80,000
2015	54,000	70,000	57,000	80,000
2020	54,000	70,000	57,000	80,000
2025	54,000	70,000	57,000	80,000

<sup>\* --</sup> Represents expected supply capability for the resource program.

<u>Written Contracts or Other Proof</u>: Metropolitan's dependable annual and dry-year supplies from the San Bernardino Valley Municipal Water District Program are based on Metropolitan Board actions and agreements.

- 2000 Board Approval of Coordinated Operating Agreement. In June 2000, Metropolitan's Board authorized entering into a Coordinated Operating Agreement between Metropolitan and Valley District to develop projects that could provide benefits to both districts through the coordinated use of facilities and SWP supplies.
- <u>2000 Coordinated Operating Agreement</u>. The Coordinate Operating Agreement between Metropolitan and Valley District was executed in July 2000.
- 2001 Board Approval of the Coordinated Use Agreement. In April 2001, Metropolitan's Board authorized entering into the Coordinated Use Agreement for Conveyance Facilities and SWP Water Supplies between Metropolitan and Valley District for the purchase of dependable annual and dry year supplies by Metropolitan.
- 2001 Coordinated Use Agreement. The Coordinated Use Agreement for Conveyance Facilities and SWP Water Supplies between Metropolitan and Valley District for the purchase of dependable annual and dry year supplies by Metropolitan was executed May 2001. The Agreement is effective as of July 1, 2001 for an "evergreen" term (10-year term with automatic annual extensions unless otherwise notified).

<u>Financing</u>: The funds to purchase Program water are included in Metropolitan's Water Transfer Fund and O&M budget.

Federal, State, and Local Permits/Approvals: The Program is effective as of July 1, 2001. An environmental review process and regulatory approval supported implementation.

- Final EIR. Final Regional Water Facilities Master Plan Environmental Impact Report dated February 1, 2001 was certified by Valley District, as lead agency, and by Metropolitan, as responsible agency. Notices of determinations were filed by Valley District and Metropolitan on May 29, 2001 and April 18, 2001, respectively.
- <u>State Water Contractors' Review</u>. In May 2001 the State Water Contractors reviewed and issued a letter supporting the program.
- <u>DWR Review</u>. The California Department of Water Resources agreed to the program in December 2001.

# CALIFORNIA AQUEDUCT DELIVERIES BAY-DELTA IMPROVEMENTS

#### SOURCE OF SUPPLY

Improving the water supply reliability of the State Water Project (SWP) is a primary focus of Metropolitan's long-term planning efforts. Metropolitan's strategy is to reduce its dependence on SWP supplies during dry years, when risks to the Bay-Delta ecosystem are greatest, and to maximize its deliveries of available SWP water during wetter years to store in surface reservoirs and groundwater basins for later use during droughts and emergencies. Restoring and stabilizing the environmental health and supply reliability of the Bay-Delta through the implementation of CALFED's Bay-Delta Program and the Sacramento Valley Water Management Agreement are important steps to accomplishing this objective. These improvements are necessary for Metropolitan to attain its goal of 650,000 acre-feet of supply yield from the Bay-Delta in dry years by 2020. This yield is 200,000 to 250,000 acre-feet over existing available dry-year supplies, as described in its July 1999 policy direction regarding the Bay-Delta and CALFED. This goal means that Metropolitan rely on only 32.5 percent of its total SWP contract amount of 2.0 million acre-feet per year in dry years. In addition, Metropolitan policy objectives for Bay-Delta improvements include an average of 1.5 million acre-feet of supply yield to Metropolitan over all year types.

The SWP conveys water from the western slope of the Sierra Nevada to water users both north and south of the Bay-Delta. Specifically, SWP is delivered to Metropolitan's service area through a system of reservoirs, the Bay-Delta, pumping plants and the California Aqueduct. Owned and operated by the California Department of Water Resources (DWR), the SWP provides municipal and agricultural water to 29 State Water Contractors. Annual deliveries for the SWP average about 2.5 million acre-feet. Municipal uses account for about 60 percent of annual deliveries, with the remaining 40 percent going to agriculture.

<u>CALFED Bay-Delta Program</u>: CALFED is a process involving numerous stakeholders (federal and state resource agency representatives, water users, environmental entities, and other interests) to develop solutions for Bay-Delta problems. On August 28, 2000, CALFED's Bay-Delta Program was approved and laid out final implementation plans for the first phase – the first seven years – of what is conceived to be up to 30 years of improvements in the Bay-Delta. This Program would be implemented through 11 major elements.

- Storage. By pursuing more water storage capacity in both surface reservoirs and underground aquifers, the Program could help to meet the needs of California's growing population, and provide much-needed flexibility to improve water quality and restore ecosystems. This Storage Element provides for the development of up to 950,000 acre-feet of new surface storage capacity and up to 1 million acre-feet of new groundwater storage capacity in Stage 1 of CALFED.
- <u>Conveyance</u>. Moving water through the Bay-Delta as efficiently as possible could increase the water system's flexibility and boost ecosystem health, water quality and levee stability. The Conveyance Element commits to through-delta conveyance

improvements, such as channel enlargements, the possibility of a screened Sacramento River water diversion to the Central Delta, and South of Delta programs.

- Water Use Efficiency. The Program proposes significant investments in water-use efficiency to generate real water supply benefits in the short-term. The Water Use Efficiency Element establishes the following annual targets: urban conservation savings of 520,000 to 680,000 acre-feet; agricultural savings of 260,000 to 350,000 acre-feet; and savings from water recycling of 225,000 to 310,000 acre-feet.
- Water Transfers. Through development of an effective water transfer market, CALFED aims to stretch existing water supplies by promoting transfers from willing sellers to buyers while protecting other water users, local economies and the environment. The Water Transfer Element seeks to streamline the approval process of state and federal agencies for water transfers and to create an Internet-based Water Transfers Information Clearinghouse.
- Ecosystem Restoration. Improvements in ecosystem health could reduce the conflict between environmental water use and other beneficial uses, and could allow more flexibility in water management decisions. The Ecosystem Restoration Element could recover at-risk native species; rehabilitate natural processes related to hydrology, stream channels, sediment, floodplains, and ecosystem water quality; maintain and enhance populations of species critical to commercial fisheries; protect and restore functional habitats; reduce the negative impacts of invasive species; and improve and maintain water and sediment quality.
- Environmental Water Account. Under the Environmental Water Account, water is acquired, stored and allocated to better protect fish and habitats at critical times. Many water users, including Metropolitan have transferred water supplies to this account. In return for the environmental benefits of water under this account, there are regulatory assurances that the existing deliveries of SWP and Central Valley Project water would not be disrupted.
- Watersheds. By providing financial and technical assistance for local watershed projects, CALFED would support projects that reduce water quality problems, restore and protect habitats, and improve water supply reliability. The Watershed Element seeks to foster local leadership by encouraging landowners, community members, environmental organizations and local public agencies to come together on watershed projects.
- <u>Drinking Water Quality</u>. The Drinking Water Quality Element identifies four actions
  for implementation: implement programs to manage salt loadings in the San Joaquin
  Valley; implement source control programs to reduce contaminants from Delta and
  upstream sources; invest in water treatment technology demonstration projects for UV
  disinfection and desalination; and control runoff into the California Aqueduct with the
  construction of necessary physical improvements.
- Levee System Integrity. This Program element provides for the stabilization and improvement of Delta levees to protect in-Delta as well as export users. It seeks to improve levees to a higher standard for greater protection; improve emergency response capabilities; reduce conflicts between levee maintenance and habitat needs;

improve coordination permit processes; and develop adequate and reliable funding for levee maintenance.

- <u>Science Methods</u>. The Bay-Delta Program commits to a science program to guide adaptive management decisions. The program includes the appointment of an eminent lead scientist to be assisted by an Independent Science Board. The Board will issue annual reports regarding the status and effectiveness of program measures and will recommend adjustments.
- Program Tracking and Accountability. Performance measures are used to translate program goals and objectives into measurable benchmarks of program success. They present information on conditions, trends and their significance. The Program will develop a project tracking system; track each project's performance, cost and schedule; measure progress to assure balance across all elements of the Program; and provide monthly status information on each project.

Sacramento Valley Water Management Agreement: Along with other SWP contractors, Metropolitan has worked to ensure the burden of meeting flow requirements set out by the 1995 Water Quality Control Plan (WQCP) was fairly shared across all Bay-Delta water users in the State Water Resources Control Board (SWRCB) Phase 8 hearing process. This hearing process was stayed in April 2001 to allow discussions on a settlement agreement between the parties. The goal of the settlement agreement was to draft a work plan to develop and manage water resources to meet Sacramento Valley in-basin needs, environmental needs under the WQCP, and export supply needs for consumptive demands and water quality.

In December 2002, the Phase 8 parties signed a settlement agreement referred to as the Sacramento Valley Water Management Agreement. This agreement includes a work plan detailing projects that could provide benefits by the 2003 and 2004 water years. This plan comprises over 60 projects that have been submitted for evaluation by the Work Plan Development Team from 16 entities in the Sacramento Valley. These projects can be divided into four categories; (1) conjunctive use projects involving development of groundwater supplies to be used in conjunction with surface water to provide for additional in-basin and export needs, including the WQCP relief, (2) system improvement projects involving the lining of canals, diversion modifications and improvement in water measurement, (3) groundwater planning and monitoring projects intended to better characterize the resource and allow for expansion of conjunctive use and water transfer activities, and (4) resolution of certain regulatory or institutional issues which present impediments to resolution of in-basin needs or water transfers. About 185,000 acre-feet of water annually are expected to be produced by the conjunctive use projects in the Sacramento Valley and would be available for use under a settlement. Metropolitan's allotment of this new yield is projected to be 45, 000 acre-feet per year.

#### EXPECTED SUPPLY CAPABILITY

Based on the work plans for CALFED's Bay-Delta Program and the Phase 8 SWRCB Water Rights Proceedings, annual and dry-year supplies capabilities are projected as follows:

### Estimated Water Supplies Available for Metropolitan's Use Under the Bay-Delta Improvements

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	-	_	•	_
2010 *	45,000	45,000	45,000	45,000
2015 **	200,000	200,000	200,000	200,000
2020 **	200,000	200,000	200,000	200,000
2025 **	200,000	200,000	200,000	200,000

<sup>\*</sup> Based on the short-term work plan for the Sacramento Valley Water Management Agreement.

#### RATIONALE FOR EXPECTED SUPPLY

<u>Implementation Status</u>: Expected supplies are projected in accordance with the approved implementation plan for CALFED's Bay-Delta Program and with the work plans for the Sacramento Valley Water Management Agreement.

<u>Written Contracts or Other Proof</u>: Metropolitan's projected dependable annual and dry-year supplies from planned Bay-Delta improvements are based on Metropolitan Board actions and agreements.

- CALFED's Bay-Delta Program.
  - Bay-Delta Accord approved in December 1994.
  - Proposition 204 funds approved by voter in November 1996.
  - Metropolitan policy direction regarding CALFED's Bay-Delta Program adopted in July 1999. This policy direction established water supply goals.
  - Proposition 13 funds approved by voters in March 2000.
  - CALFED Framework announced in June 2000.
  - Final implementation plans for the first phase of CALFED's Bay-Delta Program approved in August 2000, in conjunction with the approval of the Program and conclusion of the environmental review process.
  - Proposition funds approved by voters in November 2002.
  - Annual Federal appropriations.
- Sacramento Valley Water Management Agreement.
  - Work plans detailing projects that could provide benefits by the 2002 and 2003 water years were developed in October 2001.
  - Statement of settlement policy principles recommended in December 2001 by negotiators for approval.

<sup>\*\*</sup> Based on the medium and long-term work plans for the Sacramento Valley Water Management Agreement and approved implementation plan for CALFED's Bay-Delta Program.

- Statement of settlement policy principles approved by Metropolitan's Board in January 2002.
- A Sacramento Valley Water Management Agreement was signed and approved by settlement parties in December 2002.

#### Financing. Financing for Bay-Delta improvements are as follows:

• <u>CALFED's Bay-Delta Program</u>. Overall cost-sharing plans assume an equal distribution of the program costs among state, federal, and user/local funds. Final cost-sharing arrangements will depend on the specific projects that are implemented, and will vary year by year. Initial years could be heavily funded by federal and state dollars. This initial funding will not include the cost of constructing major storage or conveyance elements. Final cost shares, including reimbursement of up-front funding, are intended to be based upon a "beneficiaries pay" principle.

- Year I funding arrangements were established in July 2000.

State \$528.1 million
Federal \$78.0 million
Other \$221.0 million
Unmet \$77.7 million

Year 2 funding arrangements were initiated in July 2001.

State \$553.1 million
Federal and Unmet Needs \$370.0 million
Other \$33.5 million

#### Federal, State, and Local Permits/Approvals:

- CALFED's Bay-Delta Program.
  - Programmatic Environmental Impact Report/Statement finalized in July 2000.
  - Record of Decision issued in August 2000 for the final Programmatic Environmental Impact Report/Statement regarding the CALFED Bay-Delta Program.
- Sacramento Valley Water Management Agreement.
  - Settlement parties approved Sacramento Valley Management Agreement in December 2002.
  - Environmental review will be conducted by the applicable lead agencies on the various work plan projects to comply with the California Environmental Quality Act, and as appropriate the National Environmental Policy Act.

### CALIFORNIA AQUEDUCT DELIVERIES KERN DELTA WATER MANAGEMENT PROGRAM

#### SOURCE OF SUPPLY

In December 1999 Metropolitan advertised a request for proposals for participation in "The California Aqueduct Dry-year Transfer Program." As a result of this request for proposals, four programs were selected for further consideration of which Kern Delta Water District (Kern Delta) was part. In 2001, Metropolitan entered into Principles of Agreement with Kern Delta for the development of a Dry-year supply program. Kern Delta serves 125,000 acres of actively farmed highly productive farmland located in the San Joaquin Valley portion of southern Kern County. Kern Delta has under contract 180,000 acre-feet per year of good quality highly reliable pre- 1914 Kern River water and 25,500 acre-feet per year of SWP Table A contract right (under contract with Kern County Water Agency).

The dry-year supply program between Kern Delta and Metropolitan involves the storage of water with Kern Delta. Basically, in years of plentiful supply the agreement allows Metropolitan to store water in Kern Delta's groundwater basin, either through direct spreading operations, or through deliveries to growers in Kern Delta's service area. Metropolitan has access to the capacity to store up to 250,000 acre-feet of water at any one time and 400,000 acre-feet of water at any one time over the term of the agreement. When needed, Metropolitan can recover its stored water either through direct pumping of the groundwater or exchange at a rate of 50,000 acre-feet per year. The duration of the program will be from 2002 to 2027 with provisions allowing the water to be withdrawn until 2033.

#### **EXPECTED SUPPLY CAPABILITY**

The Kern Delta/Metropolitan Program provides Metropolitan with the capacity to store up to 250,000 acre-feet of water at any one time, and the option to store 400,000 acre-feet of water at any one time over the term of the agreement. When needed, Metropolitan can recover its stored water either through direct pumping of the groundwater or exchange at a rate of 50,000 acre-feet per year.

# Estimated Water Supplies Available for Metropolitan's Use Under the Kern Delta Water Management Program

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	20,000	50,000		
2010	50,000	50,000	_	_
2015	50,000	50,000	*	
2020	50,000	50,000	-	_
2025	50,000	50,000	-	-

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

Implementation Status: Expected supplies are projected in accordance with accepted detailed groundwater modeling that has been accomplished for the program. In addition, the Kern Delta/Metropolitan Water Management Program will be operational and accepting water for storage by fall of 2003.

<u>Financing</u>: Metropolitan's payments for the Kern Delta/Metropolitan Program are included in the O&M budget and paid out of the Water Transfer Fund.

#### Written Contracts or Other Proof:

- <u>2001 Kern Delta/Metropolitan Principles of Agreement</u>. Principles of agreement were entered into between Kern Delta and Metropolitan in June 2001, covering program costs, operational aspects and risks/responsibilities.
- 2002 Kern Delta and Metropolitan Boards of Directors approved executing the Longterm Agreement. The Long-term Water Banking Agreement between Kern Delta and Metropolitan, delineates program operations, costs, and risks/responsibilities

Federal, State and Local Permits for Construction: Kern Delta, acting as lead agency under CEQA has prepared a full Environmental Impact Report. As part of this EIR, Kern Delta published a Notice of Preparation, and held meetings with the general public, interested agencies and resource agencies. In November 2002 the Final EIR certified by Kern Delta and adopted by Metropolitan.

# CALIFORNIA AQUEDUCT DELIVERIES MARKET TRANSFER OPTIONS

#### SOURCE OF SUPPLY

Metropolitan has acquired dry-year supplies through spot market water transfers in the past 10 years. Spot market water transfers involve water that is purchased only during the time of need (usually a drought). Payment for these transfers occurs only when water is needed. It is expected that water could continue to be available for spot market water purchases in the future. Up to 27 million acre-feet of water (80 percent of California's developed water) is delivered for agricultural use every year. Over half of this water is in the Central Valley; and much of it is delivered by, or adjacent to, SWP and Central Valley Project (CVP) conveyance facilities. This allows for the voluntary transfer of water to many urban areas, including Metropolitan, via the California Aqueduct.

Recent events indicate that a portion of this water could be available through mutually beneficial transfer agreements:

- The Governor's Water Bank (Bank) in 1991, 1992, and 1994 secured 140,000 acrefeet per year to 820,000 acre-feet per year of water supply. Further, the Department of Water Resource's (DWR's) Dry Year Water Purchase Program (Purchase Program) in 2001, 2002 and 2003 secured a total of 162,000 acre-feet. Finally, DWR is facilitating a Water Transfer Program in 2003 specifically to meet Metropolitan's needs and assisted Metropolitan in securing 167,200 acre-feet. The DWR established and administered the Bank and the Purchase Program by facilitating purchasing water from willing sellers and transferring the water to those with critical needs using the State Water Project (SWP) facilities. Sellers, such as farmers and water districts, made water available for the Bank, Purchase Program, and Water Tranafer Program by fallowing crops, shifting crops, releasing surplus reservoir storage, and by substituting groundwater for surface supplies.
- Under the Central Valley Improvement Act, passed by Congress in October 1992, water agencies, such as Metropolitan, may for the first time be able to acquire a portion of the Central Valley Project's 7.8 million acre-feet per year of supply.
- Many member of the agricultural community are actively promoting the economic benefits resulting from the voluntary transfer of some of their water supplies.

#### EXPECTED SUPPLY CAPABILITY

Metropolitan could purchase dry year supplies from the Bank and/or Purchase Program on an "as-needed" basis. The acquired water provides a reserve supply that could be available to Metropolitan to mitigate for unforeseen uncertainties that may impact expected supply capabilities. Metropolitan has purchased water from the Bank varying in amounts from 100 to 215,000 acre-feet in a given year. Since initiating in 2001 the DWR Dry Year Water Purchase Program, from 1,500 to 139,000 acre-feet were purchased in a given year.

#### RATIONALE FOR EXPECTED SUPPLY

<u>Implementation Status</u>: The availability of dry year supplies from the Bank, Purchase Program, and/or Water Transfer Program has been demonstrated 1991, 1992, 1994, 2001, 2002, and 2003.

<u>Historical Record</u> The historical record for purchases from the Bank, Purchase Program, and Water Transfer Program and the number of sellers and buyers participating in these Programs is a strong indicator that there are significant amounts of water that can be purchased through spot market water transfers during dry year. This historical record is summarized are as follows:

#### Historical Record Market Water Purchases

Program		om Bank (acre-feet Partici er year)		ipants	
	Total	Metropolitan	Sellers	Buyers	
1991 Governor's Water Bank	820,000	215,000	351	13	
1992 Governor's Water Bank	193,246	10,000	18	16	
1994 Governor's Water Bank	220,000	100	6	15	
2001 Dry-year Purchase Program	138,000	80,000	9	8	
2003 Water Transfer Program	167,200	167,200	11	1	

#### Written Contracts or Other Proof:

- Executive Order. In response to the extended 1987-92 drought, Governor Wilson issued an executive order establishing a Drought Action Team. This team, made up of state and federal officials, developed an action plan to lessen the impacts of the continuing drought (State 1991). One of the proposed actions was the formation of an emergency water bank managed by DWR. The purpose of the bank would be to help California's urban, agricultural, and environmental interests meet their critical water supply needs.
- Agreements with Buyers. Preceding the implementation of the 1995 and 2001 Banks
  contracts between DWR and agencies interested in buying were executed. The
  essential terms and conditions for negotiating purchases, including maximum offering
  price, quantity of water needed, and the timing of delivery, were established in these
  contracts.
- Agreements with Sellers. Purchases of water for the Bank, Purchase Program and Water Transfer Program have been secured through written contracts signed by DWR and sellers.
- 1999 Board Directive. Metropolitan's Board has authorized the acquisition and call of spot market water transfers in accordance with the Water Surplus and Drought

Management Plan (WSDM Plan) adopted in April 1999. The WSDM Plan is a comprehensive policy guideline for managing Metropolitan's water supply during periodic surplus and shortage conditions. During shortage conditions, the plan specifies the type, priority and timing of drought actions, including the purchase of transfers on the spot market that could be taken in order to prevent or mitigate negative impacts on retail demands.

<u>Financing</u>: Funds for spot market water purchases are included in Metropolitan's s annual O&M budget. Spot market purchases are paid out of Metropolitan's Water Transfer Fund.

#### Federal, State, and Local Permits/Approvals:

- Environmental Impact Report for the Bank. In November 1993, DWR prepared and finalized a programmatic Environmental Impact Report for the operation of the drought water banks during future drought events.
- Water Transfer Program. In 2002-2003, individual sellers prepared CEQA documentation to support their transfers. In addition, the U.S. Bureau of Reclamation prepared NEPA documentation for those transfers requiring federal approval.

# In-Basin Storage Deliveries

		Event Occui	rring in 2005	
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
Metropolitan Surface Storage (DVL, Mathews, Skinner)	274,400	470,400	<u>-</u>	-
Flexible Storage in Castaic Lake and Lake Perris	64,200	110,000	-	-
<ul> <li>Groundwater Conjunctive-use</li> <li>Long-term Seasonal Storage</li> <li>North Las Posas Storage Program</li> </ul>	100,000	100,000 50,000	-	-
Subtotal of Current Programs	455,300	730,400	<b>→</b>	_
Programs Under Development Groundwater Conjunctive-use Programs  • 2010 Programs (Raymond and Proposition 13 Programs)	<u>-</u>		-	· · · · · · · · · · · · · · · · · · ·
Additional Programs	-	-	-	-
Subtotal of Proposed Programs	-	-	-	•
Maximum Supply Capability	455,300	730,400	-	_

<sup>\* --</sup> Represents expected supply capability for resource programs.

		Event Occur	ring in 2010	
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs			· · · · · · · · · · · · · · · · · · ·	
Metropolitan Surface Storage (DVL, Mathews, Skinner)	297,500	510,000	-	-
Flexible Storage in Castaic Lake and Lake Perris	64,200	110,000	<del></del>	-
Groundwater Conjunctive-use				
<ul> <li>Long-term Seasonal Storage</li> </ul>	100,000	100,000	•	-
<ul> <li>North Las Posas Storage Program</li> </ul>	70,000	70,000	-	-
Subtotal of Current Programs	531,700	790,000	-	-
Programs Under Development				
Groundwater Conjunctive-use Programs				
<ul> <li>2010 Programs (Raymond and Proposition 13 Programs)</li> </ul>	89,000	89,000	-	-
Additional Programs	-	_	-	
Subtotal of Proposed Programs	89,000	89,000	-	
Maximum Supply Capability	620,700	879,000	-	***

<sup>\* --</sup> Represents expected supply capability for resource programs.

		Event Occur	rring in 2015	
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
Metropolitan Surface Storage (DVL, Mathews, Skinner)	296,200	507,800	-	
Flexible Storage in Castaic Lake and Lake Perris	64,200	110,000	<u></u>	-
Groundwater Conjunctive-use				
Long-term Seasonal Storage	100,000	100,000	-	-
North Las Posas Storage     Program	70,000	70,000	-	~
Subtotal of Current Programs	530,400	787,800	-	**
Programs Under Development Groundwater Conjunctive-use Programs				
2010 Programs (Raymond and Proposition 13 Programs)	89,000	89,000	<u></u>	- -
Additional Programs	111,000	111,000	<b>-</b>	-
Subtotal of Proposed Programs	200,000	200,000	<u> </u>	_
Maximum Supply Capability	730,400	987,800	-	-

<sup>\* --</sup> Represents expected supply capability for resource programs.

	:	Event Occus	ring in 2020	
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
Metropolitan Surface Storage (DVL, Mathews, Skinner)	278,800	477,900	-	-
Flexible Storage in Castaic Lake and Lake Perris	64,200	110,000	~	-
Groundwater Conjunctive-use Long-term Seasonal Storage North Las Posas Storage Program	100,000 70,000	100,000 70,000	-	-
Subtotal of Current Programs	513,000	757,900	-	<b></b>
Programs Under Development Groundwater Conjunctive-use Programs • 2010 Programs (Raymond and				
Proposition 13 Programs)	89,000	89,000	<del>-</del>	-
Additional Programs	111,000	111,000	-	••
Subtotal of Proposed Programs	200,000	200,000	-	
Maximum Supply Capability	713,000	957,900	-	-

<sup>\* --</sup> Represents expected supply capability for resource programs.

		Event Occur	rring in 2025	***************************************
	Multiple Dry Years (1990-92)	Single Dry Year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
Current Programs				
Metropolitan Surface Storage (DVL, Mathews, Skinner)	265,000	454,300	<b></b>	-
Flexible Storage in Castaic Lake and Lake Perris	64,200	110,000	-	**
Groundwater Conjunctive-use				
Long-term Seasonal Storage	100,000	100,000	-	-
<ul> <li>North Las Posas Storage Program</li> </ul>	70,000	70,000	-	<b>-</b> -
Subtotal of Current Programs	499,200	734,300	**	-
Programs Under Development				
Groundwater Conjunctive-use Programs				
<ul> <li>2010 Programs (Raymond and Proposition 13 Programs)</li> </ul>	89,000	89,000	***	-
Additional Programs	111,000	111,000		•
Subtotal of Proposed Programs	200,000	200,000		
Maximum Supply Capability	699,200	934,300	<u>-</u>	

<sup>\* --</sup> Represents expected supply capability for resource programs.

# IN-BASIN STORAGE DELIVERIES SURFACE STORAGE

#### SOURCE OF SUPPLY

Surface storage is a critical element of Southern California's water resources strategy. Because California experiences dramatic swings in weather and hydrology, surface storage is important to regulate those swings and mitigate against possible supply shortages. Simply put, surface storage provides a means of storing water during normal and wet years for later use during dry years, when imported supplies are limited.

Since the early twentieth century the Department of Water Resources and Metropolitan have constructed surface water reservoirs to meet emergency, drought/seasonal and regulatory water needs for Southern California. These reservoirs include, Pyramid Lake, Castaic Lake, Elderberry Forebay, Silverwood Lake, Lake Perris, Lake Skinner, Lake Mathews, Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, Orange County Reservoir and Metropolitan's recently completed Diamond Valley Lake. Some reservoirs such as; Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, and Orange County Reservoir, which have a total combined capacity of about 3,500 acre-feet, are used solely for regulatory purposes. The remaining surface reservoirs are primarily utilized to meet emergency, drought and seasonal requirements. The total gross storage capacity for these larger remaining reservoirs is 1,768,100 acre-feet. However, not all of the gross storage capacity is available to Metropolitan, dead storage and storage allocated to others reduce the amount of storage that is available to Metropolitan down to 1,669,100 acre-feet.

#### EXPECTED SUPPLY CAPABILITY

Surface storage reservoirs are an integral component of Metropolitan meeting the water needs of its service area. As discussed in the Final Environmental Impact Report for the Eastside Reservoir (DVL) Project dated October 1991, and in Southern California's Integrated Resources Plan, dated March 1996, the allocation of available surface storage can be divided into two primary components: emergency, and drought/seasonal. As specified by Metropolitan's Board of Directors in the Final EIR for DVL, "Metropolitan shall maintain sufficient water reserves within its service area to supplement local production during an emergency, or severe water shortage." With the completion of Diamond Valley Lake and it becoming operational, Metropolitan can now re-operate the surface reservoirs and meet the Board's stated objectives.

<u>Updated Emergency Storage Requirements:</u> Metropolitan's criteria for determining emergency storage requirements, which was approved by Metropolitan's Board, was established in the Final EIR for DVL and further discussed in the IRP. Emergency Storage requirements are based on the potential for a major earthquake to damage the Colorado River Aqueduct, Los Angeles Aqueduct, and both branches of the California Aqueducts. It is necessary that emergency water reserves are available within Metropolitan's service area to supplement local production during an emergency, or severe water shortages will occur during the period while the aqueducts are out of service. Damage would be severe enough from such an event that the aqueducts would be out of service for 6 months. During this

period, all interruptible service deliveries would be suspended, accompanied by a mandatory reduction in water use of 25 percent from normal-year demand levels, water stored in surface reservoirs and groundwater basins under Metropolitan's interruptible program would be made available, and full local groundwater production would be sustained. The storage reserved in system reservoirs for emergency purposes changes over the next 20 years in accordance with the projected demands on Metropolitan as shown below. The residual storage available to meet other needs, dry-year/seasonal, is also shown below and is discussed in further detail in this appendix.

Updated Storage Requirements for Dry-Year Supply and Seasonal Needs: Storage capacity in system reservoirs, including DVL, is also earmarked for dry-year supply and system regulation purposes. Dry-year supply storage within Metropolitan's service area is required to meet the additional water demands that occur during single-year and extended droughts. As specified in the Final EIR for DVL and further discussed in the IRP, this storage requirement is defined as the difference between normal-year demand and abovenormal demand during dry years. In addition to dry-year storage, seasonal storage is required to meet seasonal peak demands during the year and are defined as the difference between normal winter demands and normal summer demands. The dry-year supply and seasonal storage also provides sufficient reserves to permit approximately 5 percent downtime for rehabilitation, repair and maintenance of raw water transmission facilities. The storage provided in system reservoirs for dry-year supply and seasonal needs are shown below.

# Surface Storage Utilization (acre-feet)

en e		Average	-Year Storage I	Projection	
	2005	2010	2015	2020	2025
Surface Storage in MWD Service Area	1,669,100	1,669,100	1,669,100	1,669,100	1,669,100
Emergency	508,400	401,000	433,600	493,300	540,500
Dry-Year/Seasonal	1,160,700	1,268,100	1,235,500	1,175,800	1,128,600

<sup>\*</sup> Determined in accordance with Metropolitan Board policy objectives discussed in the Final Environmental Impact Report for the Eastside Reservoir (DVL) Project dated October 1991, and in Southern California's Integrated Resources Plan, dated March 1996

Historical Record: Metropolitan has a contract with the Department of Water Resources that allows use of DWR's terminal reservoirs, such as Lake Castaic on the West Branch and Lake Perris on the East Branch of the California Aqueduct. Metropolitan makes annual payments to the DWR based on the amount of water delivered, percentage of facilities actually used, power, operations, maintenance and other charges. In addition, Metropolitan owns and operates surface reservoirs such as Lake Skinner, Lake Mathews and Diamond Valley Lake to enhance its water supply reliability for its Member Agencies.

<u>Written Contracts or Other Proof of Usage</u>: The Surface Reservoirs used by Metropolitan are available either by contract (in the case of the DWR terminal reservoirs) or by construction of its own facilities. The following historical record is provided:

- November 1960 Contract between the State of California Department of Water Resources and the Metropolitan Water District of Southern California for a Water Supply. This Contract and its numerous amendments, describe Metropolitan's legal access to and obligations for the operation of the State Water Project for the benefit of its Contractors. Metropolitan has an entitlement to 2,050,000 acre-feet of water each year subject to availability. The terms of this Contract describe Metropolitan's rights to and obligations for the terminal surface reservoirs for water supply purposes.
- November 1974 Memorandum of Understanding and Agreement on Operation of Lake Skinner. This MOU, signed by Metropolitan and other affected parties, governs Metropolitan's operations of Lake Skinner in Riverside County. The DWR Division of Safety and Dams also reviews monitoring data on the safety of the dam annually.
- November 1999 Memorandum of Understanding on Operation of Diamond Valley Lake. This MOU, signed by Metropolitan and other affected parties, governs Metropolitan's operations of Lake Skinner in Riverside County. The DWR Division of Safety and Dams also reviews monitoring data on the safety of the dam annually.
- Elderberry Forebay Contract for Conditions for Use. Conditions for Use of storage are described in the Contract Between the Department of Water Resources, State of California, and the Department of Water and Power, City of Los Angeles, for Cooperative Development, West Branch, California Aqueduct; Amendment No. 1, July 3, 1969; and Amendment No. 4, June 27, 1985.
- June 2002 Division of Safety of Dams Certificate of Approval. The Department of Water Resources, Division of Safety of Dams issued the Certificate of Approval for operation of Diamond Valley Lake in early 2000, with three conditions. These conditions were: (1) Satisfactory operation of the butterfly valves and emergency gate in the inlet/outlet tower, (2) completion of the Tank Saddle Cutoff remediation and (3) completion of the Signal Spillway. Metropolitan completed these conditions in 2001 and the Diamond Valley Lake is currently operational in accordance with the Certificate of Approval.
- October 1991 Final Environmental Impact Report for the Eastside Reservoir Project
  (DVL). The EIR established criteria for integrating the operations of Metropolitan's
  reservoirs and DWR's southern reservoirs for emergency purposes. This criteria also
  provided that Metropolitan reservoirs could be expected to withdraw all drought
  storage water within a two-year period.

# IN-BASIN STORAGE DELIVERIES FLEXIBLE STORAGE USE OF CASTAIC LAKE AND LAKE PERRIS

#### SOURCE OF STORAGE

The flexible storage use of Castaic Lake and Lake Perris, SWP reservoirs, provides Metropolitan with dry-year supply. The State Water Project (SWP) contractors participating in repayment of the capital costs of Castaic Lake and Lake Perris have the contract right to withdraw SWP water from these reservoirs in addition to their allocated supply in any year on an as-needed basis. These contractors must replace the water that is withdrawn under this program within five years of the first withdrawal. This storage is referred to as "flexible storage". It is available in Castaic Lake to Metropolitan, Ventura County Flood Control and Water Conservation District, and Castaic Lake Water Agency and available in Lake Perris to Metropolitan.

#### **EXPECTED SUPPLY CAPABILITY**

The dry year supply available to Metropolitan from the flexible storage use of Castaic Lake and Lake Perris totals up to 218, 940 acre-feet. This total supply is comprised of 153,940 acre-feet in Castaic Lake and 65,000 acre-feet in Lake Perris. The use of this available supply in accordance with Metropolitan's operating criteria is planned as follows:

#### Estimated Water Supplies Available for Metropolitan's Use Under the Flexible Storage Use of Castaic Lake and Lake Perris \* (acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	64,200	110,000	_	_
2010	64,200	110,000	-	_
2015	64,200	110,000	<u>-</u>	_
2020	64,200	110,000	-	_
2025	64,200	110,000	<u></u>	<del>-</del>

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

Implementation Status: Express provisions have been incorporated in Metropolitan's SWP contract since 1995. It has been available for use since 1995 and will continue to be in effect indefinitely commensurate with the SWP contracts.

<u>Historical Record</u>: Metropolitan has exercised the flexible storage provision in 2000, 2001 and 2002.

<u>Written Contracts or Other Proof</u>: Metropolitan's dry-year supply from flexible storage is based on existing contract provisions.

- <u>DWR Bulletin 132-94</u>. The use of Castaic Lake and Lake Perris is determined in accordance with the proportionate use factors from Bulletin 132-94, Table B, upon which capital cost repayment obligations are based. Based on its capital repayment obligations, Metropolitan's proportionate use of Castaic Lake is 96.2% and of Lake Perris is 100%. Per its SWP contract, Metropolitan has express rights to utilize certain portions of the SWP southern reservoirs to supply water in amounts in addition to approved SWP deliveries. Independently Metropolitan has the ability to utilize these reservoirs for such purposes.
- Metropolitan's SWP Contract. Metropolitan's SWP contract was amended in 1995 to include Article 54, "Usage of Lakes Castaic and Perris." This article provides flexible storage to contractors participating in repayment of the capital costs of Castaic Lake and Lake Perris. Each contractor shall be permitted to withdraw up to a Maximum Allocation from Castaic Lake and Lake Perris. These contractors may withdraw a collective Maximum Allocation up to 160,000 acre-feet in Castaic Lake and 65,000 acre-feet in Lake Perris, which shall be apportioned among them pursuant to the respective proportionate use factors, as follows:

Participating Contractor	Proportionate Use Factor	Maximum Flexible Storage Allocation (acre-feet)
Castaic Lake		
Metropolitan	0.96212388	153,940
Ventura County Flood Control and Water Conservation District	0.00860328	1,376
Castaic Lake Water Agency	0.02927284	4,684
Total Castaic Lake	1.00000000	160,000
Lake Perris		
Metropolitan	1.00000000	65,000

Flexible Storage Allocations

Financing: The cost associated with the withdrawal and replacement of water in the flexible storage is included in Metropolitan's annual payments under the State Water Contract.

<u>Federal, State, and Local Permits/Approvals</u>: The flexible storage provision became effective in 1995. DWR has the approval authority to affect changes in the operations and usage of existing SWP facilities, including Castaic Lake and Lake Perris.

### IN-BASIN STORAGE DELIVERIES METROPOLITAN SURFACE RESERVOIRS

#### SOURCE OF SUPPLY

Storage capacity in Metropolitan reservoirs, including Lake Skinner, Lake Mathews, Live Oak Reservoir, Garvey Reservoir, Palos Verdes Reservoir, Orange County Reservoir and Metropolitan's recently completed Diamond Valley Lake, is earmarked to meet emergency, dry-year/seasonal and system regulation needs. Dry-year/seasonal storage within Metropolitan's service area is required to meet the additional water demands that occur during single-year and extended droughts. This storage requirement is defined as the difference between normal year demand and above normal demand during dry years. Seasonal storage is required to meet seasonal peak demands during the year and are defined as the difference between normal winter demands and normal summer demands. The dry-year supply and seasonal storage also provides sufficient reserves to permit approximately 5 percent downtime for rehabilitation, repair and maintenance of raw water transmission facilities.

#### EXPECTED SUPPLY CAPABILITY

The total available storage capacity for Metropolitan for all surface reservoirs is 1,669,100. As discussed earlier, approximately 650,000 in 2005 rising to 800,000 acre-feet in 2025 has been set aside to meet the emergency and flexible storage requirements of the service area. After accounting for system operational storage, the surface storage available to meet dry-year/seasonal requirements ranges from approximately 1,020,000 acre-feet in 2005 to 866,000 acre-feet by 2025. The dry-year/seasonal water supply available to Metropolitan in accordance with Metropolitan's operating criteria is presented below:

## Estimated Water Supplies Available for Metropolitan's Use Under the Metropolitan Surface Reservoirs \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	274,400	470,400	44.	-
2010	297,500	510,000	-	-
2015	296,200	507,800	**	_
2020	278,800	477,900	-	<b></b>
2020	265,000	454,300	-	<del>.</del>

<sup>\* --</sup> Represents expected supply capability for the resource program.

#### RATIONALE FOR EXPECTED SUPPLY

#### **Program Facilities**

Major facilities for Lake Mathews include an earthen dam to impound water, and a recently completed new outlet tower. Major facilities for Lake Skinner include an earthen dam to impound water, an outlet tower, a inlet from the San Diego Canal to deliver water into the

reservoir, a water treatment filtration facility, and recreational facilities consisting of a marina, parks, swimming areas, golf course, and hiking trails. Major facilities at Diamond Valley Lake include three earth dams to impound water, an inlet/outlet tower, a secondary inlet from the Inland Feeder, a large pumping station to deliver water into the reservoir, and power generating facilities. Recreational facilities consisting of a marina, parks, swimming areas, golf course, hiking trails, equestrian trails and lodging are planned.

<u>Historical Record</u>: The Diamond Valley Lake is currently operational and is essentially full. Lake Mathews and Lake Skinner have been service for over 30 years and are currently available for full operations.

- November 1974 Memorandum of Understanding and Agreement on Operation of Lake Skinner. This MOU, signed by Metropolitan and other affected parties, governs Metropolitan's operations of Lake Skinner in Riverside County. The DWR Division of Safety and Dams also reviews monitoring data on the safety of the dam annually.
- October 1991 Final Environmental Impact Report for the Eastside Reservoir Project
  (DVL). The EIR established criteria for integrating the operations of Metropolitan's
  reservoirs and DWR's southern reservoirs for emergency purposes. This criteria also
  provided that Metropolitan reservoirs could be expected to withdraw all drought
  storage water within a two-year period.
- November 1999 Memorandum of Understanding on Operation of Diamond Valley Lake. This MOU, signed by Metropolitan and other affected parties, governs Metropolitan's operations of Lake Skinner in Riverside County. The DWR Division of Safety and Dams also reviews monitoring data on the safety of the dam annually.
- June 2002 Division of Safety of Dams Certificate of Approval. The Department of Water Resources, Division of Safety of Dams issued the Certificate of Approval for operation of Diamond Valley Lake in early 2000, with three conditions. These conditions were: (1) Satisfactory operation of the butterfly valves and emergency gate in the inlet/outlet tower, (2) completion of the Tank Saddle Cutoff remediation and (3) completion of the Signal Spillway. Metropolitan completed these conditions in 2001 and the Diamond Valley Lake is currently operational in accordance with the Certificate of Approval.

<u>Financing</u>. The capital cost of Diamond Valley Lake, Lake Mathews and Lake Skinner was financed by a combination of revenue bonds and operating revenues. Annual operating costs, including maintenance and pumping, are included in Metropolitan's annual O&M budget.

<u>Federal, State, and Local Permits/Approvals</u>. All necessary permits have been obtained. A permit to generate and sell power has been acquired from the Federal Energy Regulatory Commission. No further regulatory permits are required.

## IN-BASIN STORAGE DELIVERIES GROUNDWATER CONJUNCTIVE USE PROGRAMS

#### SOURCE OF SUPPLY

The Integrated Resources Plan (IRP) approved by the Metropolitan Board established Metropolitan's strategy to store imported water that is most available during wet years in surface reservoirs or groundwater aquifers for later use during droughts and emergencies. In this way, Metropolitan can reduce its reliance on direct deliveries from the State Water Project (SWP) and the Colorado River during dry years when competing demands by other users and risks to the watershed ecosystems are greatest. During the development of the IRP, the Association of Groundwater Agencies (AGWA), in cooperation with Metropolitan, undertook a study to examine the potential for groundwater storage. AGWA, which is comprised of representation for six major basins in Southern California, was created in order to work collectively on groundwater issues, including conjunctive use of imported water. The findings of the AGWA study indicated that up to 1.5 million acrefeet of total storage capacity could be dedicated to regional storage of imported supplies. Utilization of current facilities, along with some facilities improvements, could result in up to 350,000 acre-feet of additional groundwater production as a result of storing imported water over the next 20 to 30 years. Based on the AGWA study, the 1996 IRP set a resource objective to develop about 275,000 acre-feet per year of dry-year supply from inbasin groundwater storage by 2010 and 300,000 acre-feet per year by 2020. Groundwater conjunctive use capabilities are being developed in accordance with the IRP through the following programs.

Long-term Seasonal Storage Program: Metropolitan currently administers the Long-term Seasonal Storage Program to encourage the replenishment of available water in groundwater basins and local reservoirs. This program is a pricing program that makes system supplies, which are in excess of that amount needed to meet consumptive municipal and industrial demands, available to the member agencies at a discounted water rate. The replenished water must be held in storage for over one year so that it can be used subsequently during dry years.

It is estimated that an average of 100,000 acre-feet per year of groundwater supply is produced as a result of Metropolitan's existing discount pricing for winter season deliveries. In order to meet the 1996 IRP resource objective, contractual groundwater conjunctive use programs should be developed to provide 200,000 acre-feet per year of dry-year supply by 2020.

North Las Posas Groundwater Storage Program. Metropolitan's first contractual conjunctive use program was developed in the North Las Posas groundwater basin. The agreement between Metropolitan and Calleguas Municipal Water District was signed in 1995 and amended in 1998. The term of the agreement extends to 2035. By December 2004, 47,000 acre-feet per year of withdrawal capacity will be available, with additional program facilities under construction. By 2010, the North Las Posas Program will be completed and provide maximum storage capacity of 210,000 acre-feet per year and an

ultimate dry-year yield of 70,000 acre-feet per year. The construction and performance of this Program are phased.

- Annual Replenishment Capacity. The total replenishment or "put" capacity for the program will be up to 50,000 acre-feet per year. This replenishment capacity will be provided through the construction of 30 aquifer storage and recovery wells in three phases.
  - Phase 1: 8,000 acre-feet per year
  - Phase 2: An additional 25,000 acre-feet per year
  - Phase 3: An additional 17,000 acre-feet per year
- Annual Withdrawal Capacity. The total withdrawal or "take" capacity for the program will be up to 70,000 acre-feet per year. This withdrawal capacity will be provided through the construction of 30 aquifer storage and recovery wells in three phases).
  - Phase 1: 12,000 acre-feet per year
  - Phase 2: An additional 35,000 acre-feet per year
  - Phase 3: An additional 23,000 acre-feet per year
- Maximum Storage Capacity. The maximum storage capacity is 210,000 acre-feet.

Based on the parameters and construction schedules for the program, the dry-year supply available from this program is as follows.

### Estimated Water Supplies Available for Metropolitan's Use Under the North Las Posas Program \*

(acre-feet per year)

Year	Multiple Dry- years (1990-1992)	Single Dry- year (1977 Hydrology)	Average Year	Wet Year (1985 Hydrology)
2005	16,700	50,000	•	_
2010	70,000	70,000	-	4*
2015	70,000	70,000	-	-
2020	70,000	70,000	_	
2025	70,000	70,000	-	_

<sup>\* --</sup> Represents expected supply capability for the resource program.

Groundwater Storage Programs Operational by 2010: Metropolitan is currently negotiating additional contractual conjunctive use agreement in Raymond Basin and several programs partially funded by Proposition 13. In January 2000, the Metropolitan Board authorized entering into agreements with the City of Pasadena and Foothill MWD to implement the groundwater storage program contingent upon satisfactory completion of all necessary environmental documentation. The Board also appropriated funds to conduct initial environmental, engineering, and planning studies. The Program is expected to yield 25,000 acre-feet in a dry year by 2010.

A total of \$45 million in Proposition 13 local assistance grant funds have been allocated to Metropolitan by the California Department of Water Resources to help finance groundwater conjunctive use programs within Metropolitan's service area. Metropolitan

#### Contractual Groundwater Storage Programs Operational by 2010

	Programs	Total Storage Capacity (acre-feet)	Dry-Year Yield (acre-feet per year)
Project Name: Submitted by:	Raymond Basin Groundwater Storage Program City of Pasadena, Foothill MWD	75,000	25,000
Project Name: Submitted by:	Phase 1: Long Beach Conjunctive Use Storage Project Central Basin MWD, West Basin MWD, Long Beach, Compton, Torrance	13,000	4,333
Project Name: Submitted by:	Foothill Area Groundwater Storage Project Foothill Municipal Water District	9,000	3,000
Project Name: Submitted by: Sponsored by:	Mission Basin Groundwater Storage and Recovery City of Oceanside San Diego County Water Authority	5,700	1,900
Project Name: Submitted by: Sponsored by:	Orange County Groundwater Conjunctive Use Program Orange County Water District Municipal Water District of Orange County	60,000	<b>20,000</b>
Project Name: Submitted by: Sponsored by:	San Dieguito Recharge and Extraction Project Olivenhain MWD San Diego County Water Authority	2,250	750
Project Name: Submitted by:	Live Oak Basin Conjunctive Use Project Three Valleys MWD	3,000	1,000
Project Name: Submitted by: Sponsored by:	Chino Basin Programs Chino Basin Watermaster Inland Empire Utility Agency	100,000	33,000
	Total	267,950	89,000

<sup>\* --</sup> Represents expected supply capability for the resource program.

issued a Request-for-Proposal (RFP) to its member agencies in November 2000. In response to this RFP, 18 proposals were submitted by twelve member agencies. Nine of the proposals were shortlisted and an additional two were wait-listed. In April 2001, the Metropolitan Board of Directors authorized finalization of agreement terms with the member agencies submitting shortlisted proposals and required that implementation of the agreement include the initiation of construction by September 2003. The approved

Proposition 13 Programs are expected to yield 64,000 acre-feet in a dry year starting in 2005-2006 and continue to be operational over the 25-year agreement term. The dry-year yield from these groundwater conjunctive use programs, which are expected to be operational by 2010, are as follows:

Additional Groundwater Conjunctive Use Programs: Beyond 2010, it is anticipated that additional dry-year supply would be developed through the implementation of the wait-listed proposals, the potential expansions of the programs and issuance of a second Request for Proposals to solicit additional storage projects. These potential programs are described as follows:

### Additional Groundwater Conjunctive Use Programs

Programs	Total Storage Capacity (acre-feet)	Dry-Year Yield (acre-feet per year)
Project Name: Elsinore Valley Groundwater Storage Program Submitted by: Elsinore Valley MWD Sponsored by: Western MWD	66,000	22,000
Project Name: San Gabriel Basin Conjunctive Use Project Submitted by: Three Valleys MWD	15,000	5,000
Expansion of 2010 Programs	TBD	TBD
New Groundwater Storage Programs	TBD	TBD
Total (Required Yield to Meet IRP Resource Objective in 2020)	302,700	111,000

<sup>\* --</sup> Represents expected supply capability for the resource program.

### RATIONALE FOR EXPECTED SUPPLY

<u>Implementation Status</u>: The status of implementation for the groundwater conjunctive use programs has been described under the "Source of Supply".

#### **Historical Record:**

- Long-term Seasonal Storage Program. As a result of Metropolitan's Long-term Seasonal Storage Program, local agencies are currently storing available imported water in order to increase groundwater production during the summer season and dry years. Based on the historical record for replenishment deliveries, it is estimated that an average of 100,000 acre-feet per year of groundwater supply is produced as a result of Metropolitan's existing Long-term Seasonal Storage Program.
- North Las Posas Groundwater Storage Program. The first phase of the program's ASR wells has been constructed, providing approximately 8,000 acre-feet per year of replenishment capacity and 12,000 acre-feet per year of withdrawal capacity. Metropolitan currently has about 30,000 acre-feet in storage..

<u>Written Contracts or Other Proof:</u> Metropolitan's dry-year supply from the groundwater conjunctive use programs is based on Metropolitan's Board actions and agreements.

- Approval of Long-term Seasonal Storage Program. Beginning in fiscal year 1989-90, Metropolitan implemented the Long-term Seasonal Storage Program. The continuation of this program was reaffirmed as part of the new rate structure that was approved by Metropolitan's Board in October 2001.
- Agreements for North Las Posas Groundwater Storage Program.
  - An Agreement between Metropolitan and Calleguas Municipal Water District (Calleguas) was executed in June 1995. The term of the Agreement extends to 2035. In this Agreement, a groundwater conjunctive use program would be implemented in the North Las Posas Groundwater Basin. Calleguas would build and operate a total of 30 Aquifer Storage and Recovery (ASR) wells and appurtenant facilities. Metropolitan would reimburse Calleguas for the cost of construction in exchange for use of the storage and pumping capacities. Metropolitan would have the capability to store 100,000 acre-feet of imported water and withdraw from storage 70,000 acre-feet per year.
  - An amendment to the Agreement between Metropolitan and Calleguas was executed in May 1998. The amendment allows Metropolitan to increase its storage capability from 100,000 acre-feet to 210,000 acre-feet and Metropolitan and Calleguas to improve the operation plans and financing structure for the program.
- Groundwater Conjunctive Use Programs Operational by 2010.
  - AGWA study dated month 1994, identifying the potential storage capacity and return capabilities from groundwater conjunctive use programs.
  - Principles for groundwater storage adopted by the Metropolitan Board in January 2000.
  - Resolution for Proposition 13 Funds adopted by the Metropolitan Board in October 2000.
  - Request-for-Proposal for groundwater conjunctive use projects issued in November 2000.
  - Information Letter to Metropolitan Board regarding the selection of groundwater conjunctive use projects in April 2001.
  - Term sheet for groundwater storage program between Metropolitan and Municipal Water District of Orange County executed in August 2001.
  - Term sheet for a groundwater storage program between Metropolitan and Inland Empire Utility Agency executed in August 2001with an agreement to be executed by April 20003.
  - Agreement for a groundwater storage program between Metropolitan and Three Valleys MWD executed in October 2002.
  - Agreement for groundwater storage program between Metropolitan and Central-West Basin, and the cities of Torrance, Compton, & Long Beach executed in July 2002.
  - Agreement for groundwater storage program between Metropolitan and Foothill MWD executed in February 2003.
  - Term sheets for San Diego groundwater storage programs executed in April and May 2002.

### **<u>Financing</u>**: Financing has been supplied from multiple sources as discussed below:

- <u>Financing for Long-term Seasonal Storage Program.</u> No capital or O&M costs are associated with the implementation of the Long-term Season Storage Program. Rather Metropolitan provides a discounted water rate to encourage member agencies to take delivery of surplus water for storage purposes.
- Financing for North Las Posas Groundwater Storage Program.
  - Metropolitan's Board appropriated \$6 million to construct wells and appurtenant facilities in Phase 1 of the program in June 1995.
  - Metropolitan's Board appropriated \$25 million to construct wells and appurtenant facilities Phase 2 of the program in January 1998.
- Financing for 2010 and Additional Groundwater Storage Programs
  - Metropolitan's Board appropriated \$210,000 to conduct initial environmental, engineering and planning studies for the Raymond Basin storage program in January 2000.
  - Proposition 13 funds (\$45 million) were allocated to Metropolitan by the state in May 2000 for the development of local groundwater storage projects.
  - Metropolitan's long-term capital program includes \$210 million to implement groundwater conjunctive use programs through 2020.

#### Federal, State, and Local Permits/Approvals.

- Final EIR for North Las Posas Groundwater Storage Program. Environmental Impact Report for the North Las Posas Groundwater Storage Program was certified by Calleguas Municipal Water District, lead agency, and by Metropolitan, responsible agency, in April 1995 and June 1995, respectively.
- Long Beach Conjunctive-use Storage Project. Environmental documentation for the Long Beach Conjunctive-use Storage Project was certified by the City of Long Beach in August 2001.
- Live Oak Basin Conjunctive-use Storage Project. Environmental documentation for the Live Oak Basin Conjunctive-use Storage Project was certified by Three Valleys MWD in January 2002.
- <u>Foothill Area Groundwater Storage Project.</u> Environmental documentation for the Foothill Area Groundwater Storage Project was certified by Foothill Municipal Water District in January 2003.
- Chino Basin Groundwater Storage Project. Environmental documentation for the Chino Basin Groundwater Storage Project was certified by Inland Empire Utility Agency in December 2002.
- Environmental Review for 2010 Programs. Environmental review of the 2010 Groundwater Conjunctive Use Programs will be completed prior to signing agreements.

# **Disclosure Document**

# REPORT ON METROPOLITAN'S WATER SUPPLIES DISCLOSURE STATEMENT

With legislation authored by Senator Sheila Kuehl (SB221) and Senator Jim Costa (SB610) water retailers are required to demonstrate whether their water supplies are sufficient for certain proposed subdivisions and large development projects subject to the California Environmental Quality Act (CEQA). Although Metropolitan and other wholesalers do not have verification responsibilities under this legislation, information provided by Metropolitan may be useful to retailers in complying with these responsibilities.

This report identifies actual and projected demands for water from Metropolitan as well as the water supplies available to Metropolitan to meet those demands. The information used in developing demand projections in this report includes data provided by the Southern California Association of Governments (SCAG), the San Diego Association of Governments (SANDAG), Metropolitan's public member agencies and other sources. The information used in developing supply projections includes data provided by the California Department of Water Resources regarding State Water Project supplies, the United States Bureau of Reclamation regarding Colorado River supplies, and other sources. Other information regarding water demand and supply is available to readers in Metropolitan's Integrated Resource Plan (IRP) and Regional Urban Water Management Plan (RUWMP). While there is information in the report discussing dry year water availability and Metropolitan's Water Supply and Drought Management Plan (WSDM Plan), this report does not cover Metropolitan's policies regarding water shortage allocations. Metropolitan's policy for water shortage allocations is to provide deliveries consistent with California law and the WSDM Plan; more information on this matter is available elsewhere.

Although all information in this report is believed to be accurate as of the time of issuance, Metropolitan does not warrant as to the reliability of information contained in this report supplied by third parties. Readers should make their own judgements to the extent on which they rely on the information in this report. This report will be updated as new information and circumstances warrant.





#### CITY OF ONTARIO

PUBLIC WORKS AGENCY 1425 South Bon View Avenue Ontario, CA 91761 Phone: (909) 395-2600

#### POTABLE AND RECYCLED WATER GUIDELINES FOR THE PREPARATION AND REVIEW OF HYDRAULIC ANALYSIS FOR NEW DEVELOPMENTS IN THE CITY OF ONTARIO UPDATED 12-01-05

This document provides guidelines for the preparation and review of EIR and Specific Plan hydraulic analyses performed for developments within the City of Ontario's New Model Colony (NMC). The City is currently finalizing the 2005 Water and Recycled Water Master Plans. The information contained herein is the best available to date. However, this data shall continue to be subject to revisions as necessary. The guidelines presented herein are divided into the following categories:

- Water Demand Estimates
- System Evaluation Criteria
- Modeling Requirements
- Documentation Requirements

#### **Potable and Recycled Water Demand Estimates**

Potable water demands should be estimated with the water demand factors presented in **Table 1**.

Table 1
Water Demand Equivalents By Land Use

Land Use	Water Demand Factor (gpd/ac)	Avg. Day Demand (gpm/ac)	Max Day Peaking Factor	Max Day Demand (gpm/ac)	Avg. Density (units/ac)	Water Demand Equivalents (WDE) (gpm/unit)
Residential Detached (4-6 units/acre)	3,982	2.77	1.57	4.34	5.0	0.87
Residential Detached (6-8 units/acre)	4,141	2.88	1.57	4.52	7.0	0.65
Residential Detached (8+ units/acre)	4,248	2.95	1.57	4.63	9.0	0.51
Residential Attached (10-20 units/acre)	5,760	4.00	1.57	6.28	15.0	0.42
Commercial *	2,495	1.73	1.48	2.56	1.0	2.56
Industrial/Business Park *	1,400	0.97	1.42	1.38	1.0	1.38
Schools	2,600	1.81	1.88	3.39	1.0	3.39
Parks	3,400	2.36	2.50	5.90	1.0	5.90
Recreational Centers *	4,000	2.78	2.50	6.94	1.0	6.94
* Water demand for these land uses may vary significantly. Actual water demand shall be determined based on site specific development.						

**Table 2** presents the percentages to be used to separate total water demand into potable and recycled water demand components. As shown in **Table 2**, the potable water demand percentage for residential land use categories is 100 percent to allow for recycled water demand uncertainties and service from the potable system in the event of a service outage.

Table 2
Potable and Recycled Water Service Assumptions

Land Use	Potable System	Recycled System <sup>1</sup>
Residential Detached (4-6 units/acre)	100%	10%
Residential Detached (6-8 units/acre)	100%	15%
Residential Detached (8+ units/acre)	100%	15%
Residential Attached (10-20 units/acre)	100%	20%
Commercial Usage	85%	15%
School Usage	60%	40%
Park Usage	20%	80%
Arterial Street Landscaping	0%	100%

Due to service outages and timing uncertainties, residential factors assigned for hydraulic analysis provide pipeline capacity for irrigation in either the potable or recycled water system.

**Table 3** contains sample water supply calculations. To calculate the total maximum day water demand in gallons per minute (gpm), multiply the appropriate land use value (dwelling units for residential categories, acreage for non-residential categories) by the corresponding Water Demand Equivalents (WDE) factor. To calculate the maximum day potable and recycled water demands in gallons per minute (gpm) (for non-residential land use categories), multiply the calculated total water demand by the recycled water percentage to obtain the recycled water demand. Subtract the recycled water demand from the total water demand to determine the potable water demand.

Table 3
Example Water Supply Calculation

Land Use	Acres (gross)	Residential Units	Density (units/acre)		% recycled water		Recycled MDD (gpm)
Residential Detached (4-6 units/acre)	600	3000	5.0	0.87	0%	2610	0
Residential Detached (6-8 units/acre)	400	3000	7.5	0.65	0%	1950	0
Residential Attached (10-20 units/acre)	150	1800	12.0	0.42	0%	756	0
Commercial	75	n/a	1.0	2.56	15%	163	29
TOTAL	1225	7800				5479	29
remaining available potable supply = 5,600gpm - 5479 gpm = 121 gpm.							

In addition to the calculation of maximum day demand (MDD), and average day demands (ADD), Minimum Month Demand (MinMD) and peak hour demand (PHD) need to be calculated by multiplying ADD with the appropriate peaking factors listed in **Table 4**. The peaking hour factors have been developed based on the historical data and typical diurnal curves. Table 4 lists the relationships between ADD and other peaking demands.

Table 4
Peaking Factors

Water System	ADD	MinDD/ADD	MDD/ADD	PHD/ADD
Residential	1.0	0.7	1.57	3.0
Commercial	1.0	0.7	1.48	2.1
Industrial	1.0	0.7	1.42	3.0
Schools	1.0	0.7	1.88	2.6
Irrigation (Recycled 8-hr nighttime)	1.0	0.7	2.6	7.8

ADD = Average Day Demand, MinDD = Minimum Day Demand, MDD = Maximum Day Demand, PHD = Peak Hour Demand.

#### **System Evaluation Criteria**

System evaluation criteria is presented in **Table 5** and **Table 6**. The system evaluation criteria has been developed reviewing typical planning criteria used by similar water utilities and defined in local codes, engineering judgment, commonly accepted industry standards and input from the City of Ontario staff. The "industry standards" are typically ranges of values that are acceptable for the criteria in question, thus are used more as a check to confirm that the values being developed are reasonable. The system evaluation that should be used for the hydraulic analysis of water and recycled water systems are summarized in **Table 5**. The fire flow criteria that apply to potable water systems only are presented in **Table 6**. Some of the criteria are discussed in more detail below.

Table 5
System Evaluation Criteria

Evaluation Criteria	Value	Units	Evaluation Demand Conditions				
System Pressure (Potable and Recycled Water Systems)							
Maximum Pressure	125	psi	MinMD				
Minimum Pressure, normal conditions	40	psi	PHD				
Minimum Pressure, with fire flow	20	psi	MDD				
Minimum Pressure, Recycled Water System	55	psi	PHD				
Pipeline Velocity (Potable and Recycled Water	r Systems)						
Maximum Velocity (excludes fire hydrant runs)	10	fps	PHD				
Maximum Design Velocity (distribution pipes ≤ 12-inch diameter)	6	fps	MDD				
Maximum Design Velocity (transmission mains > 12-inch diameter)	6	fps	MDD <sup>1</sup>				
Potable Water Storage Volume	Potable Water Storage Volume						
Operational Storage	25 percent of MDD	MG	MDD				
Fire Fighting Storage	Highest fire flow requirement (flow * duration)	MG	MDD				
Emergency Storage	1.0 times ADD	MG	ADD				
Potable Water Supply Reliability							
Water Supply Reliability – CDA Out-of-Service	Only	MDD					

<sup>1 –</sup> Includes reservoir refill condition (low demand and all wells on).

Table 6
Fire Flow Criteria

Evaluation Criteria	Value	Units	Evaluation Demand Conditions
Residential Detached (4-6 units/acre)	1,500	gpm for 2 hours	MDD
Residential Detached (6-8 units/acre)	1,500	gpm for 2 hours	MDD
Residential Detached (8+ units/acre)	2,000	gpm for 2 hours	MDD
Residential Attached (10-20 units/acre)	3,500	gpm for 4 hours	MDD
Neighborhood Commercial (NC)	2,500	gpm for 3 hours	MDD
General Commercial (GC)	3,000	gpm for 3 hours	MDD
Administrative Professional (AP)	3,000	gpm for 3 hours	MDD
Light Industrial (LI)	3,500	gpm for 4 hours	MDD
Heavy Industrial (HI)	6,000	gpm for 4 hours	MDD
Industrial Park (IP)	3,500	gpm for 4 hours	MDD
Public School (PPS)	2,500	gpm for 3 hours	MDD
Park/Recreational Open Space (PROS)	1,500	gpm for 2 hours	MDD
Non-Recreational Open Space (NROS)	1,500	gpm for 2 hours	MDD
Public Facilities (PF)	3,500	gpm for 4 hours	MDD

#### **Pressure Zones**

For the potable water system, NMC development will be served from the expansion of the existing 1010 Zone (formerly Phillips Street Zone) and creation of the new 925 Zone (formerly Francis Street Zone).

The recycled water system will be served from connections to Inland Empire Utilities Agency (IEUA) pressure zones. NMC development, north of Chino Avenue, will be served from IEUA's 1050 pressure zone via a connection at the discharge side of the RP-1 booster station. NMC development, south of Chino Avenue, will be served from IEUA's 930 pressure zone via connections at the RP-1 outfall and proposed Edison pipeline at major street intersections.

#### **System Pressures**

Minimum system pressures should be evaluated under two different scenarios: Peak Hour Demand (PHD) and Maximum Day Demand (MDD) plus fire flow. The minimum pressure criterion for normal PHD conditions (i.e. without supplying emergency and fire flows) is 40 psi, while the minimum pressure criterion under MDD with fire flow conditions is 20 psi. The pressure analysis is limited to demand nodes because only locations where customers are served need to meet such pressure requirements. Lower pressures may be acceptable for junctions at water system facilities and on transmission mains provided State Department of Health Services requirements are met.

System pressures in the recycled water system need to meet the minimum pressure criterion of 55 psi at the service meter under PHD conditions. Since recycled water would not be used for fire fighting, fire flow criteria or residual pressure criteria do not apply.

#### **Pipeline Size**

The minimum potable water pipeline size for new development is 8-inch diameter. For recycled water, the minimum pipeline size in arterial streets of new development is 8-inch diameter. Smaller diameter pipeline will be consider in collector streets on a case-by-case basis.

#### **Potable Water Reservoir Storage Volume**

The total storage required for a potable water system consists of three components: 1) storage for operational use 2) storage for fire fighting and 3) storage for emergencies. The capacities are calculated as follows:

- The operational storage is calculated as 25 percent of the MDD of a pressure zone.
- Fire flow storage is determined based on the highest fire flow requirement of each pressure zone multiplied by the corresponding duration. For example, if the highest fire flow of a zone is 6,000 gpm with duration of 4 hours, the required storage for that zone is 1.44 MG. For analysis purposes, it is assumed that there will only be one fire per zone at any one time.
- The emergency storage required is calculated as 1.0 times ADD of a pressure zone.

The total required storage of these three components should be determined by pressure zone. The available storage by pressure zone should be compared with the required storage to determine if a zone has a storage surplus or deficit. The following reservoirs are planned to serve Phase 1 development.

The following new reservoirs will provide storage for Phase 1 development:

- A new 6 MG-925 Zone Reservoir to be constructed on a site at the northeast of the intersection of Jurupa Street and Dupont Avenue.
- A new second 9 MG-1010 Zone Reservoir (Reservoir 1010-2B) to be constructed on the site of the existing City 1010 Zone Reservoir (Reservoir 1010-2A), southeast of the intersection of Milliken Avenue and Interstate 10.

#### **Potable Water Supply**

The following water supply is planned for NMC Phase 1 development:

- Chino Desalter Authority (CDA) No. 1 Connection 930 gpm
- CDA No. 2 Connection –2,170 gpm
- 3 New NMC Wells in 925 Zone –2,000 gpm (estimated capacity).
- 1 New NMC Well No. 4 in 1010 Zone –2,000 gpm (estimated capacity).

#### **Modeling Requirements**

The hydraulic analysis of both the potable and recycled water systems of a new development should be modeled using hydraulic modeling software compatible with the City's modeling platform, H<sub>2</sub>OMAP Water from MWH Soft, Inc. If another hydraulic modeling software program is used, provide detailed data file and exhibits (paper copy and Excel spreadsheet or similar electronic

format) to facilitate export of the data into the City's H<sub>2</sub>OMAP model. The proposed water systems can be modeled as follows:

- By adding the proposed pipelines to the existing potable water or recycled water model
- By creating a new model that is supplied by one or multiple sources, depending on the number of connections with the existing distribution system. These connections should be modeled as fixed grade nodes that use the hydraulic grade lines (HGLs) of the latest City model as boundary conditions under ADD, MDD and MinDD conditions.
- Model the reservoirs at two-thirds full for 30 foot water level depth tank. Use an HGL of 1,000 feet for the 1010 Zone and 915 feet for the 925 Zone.

The model and modeling analysis should at a minimum consists of:

- All pipelines of 8-inch in diameter and greater that are proposed as part of the new development.
- Input of pipeline diameter, roughness coefficient, length, material, and pressure zone.
- Input of junction demand (gpm), peaking factor, ground elevation, and pressure zone.
- Input of additional wells, reservoirs, and booster stations (if applicable confirm the facility representation in the latest City model).
- Steady state runs, evaluating pressures under PHD and MDD plus fire flow conditions.
- Exhibits presenting the proposed potable and recycled water systems with the pipeline diameters annotated.
- Exhibits presenting the system layout with pipeline velocities and system pressures annotated for each of the model runs.

#### **Reference Exhibits**

The following exhibits are attached for reference:

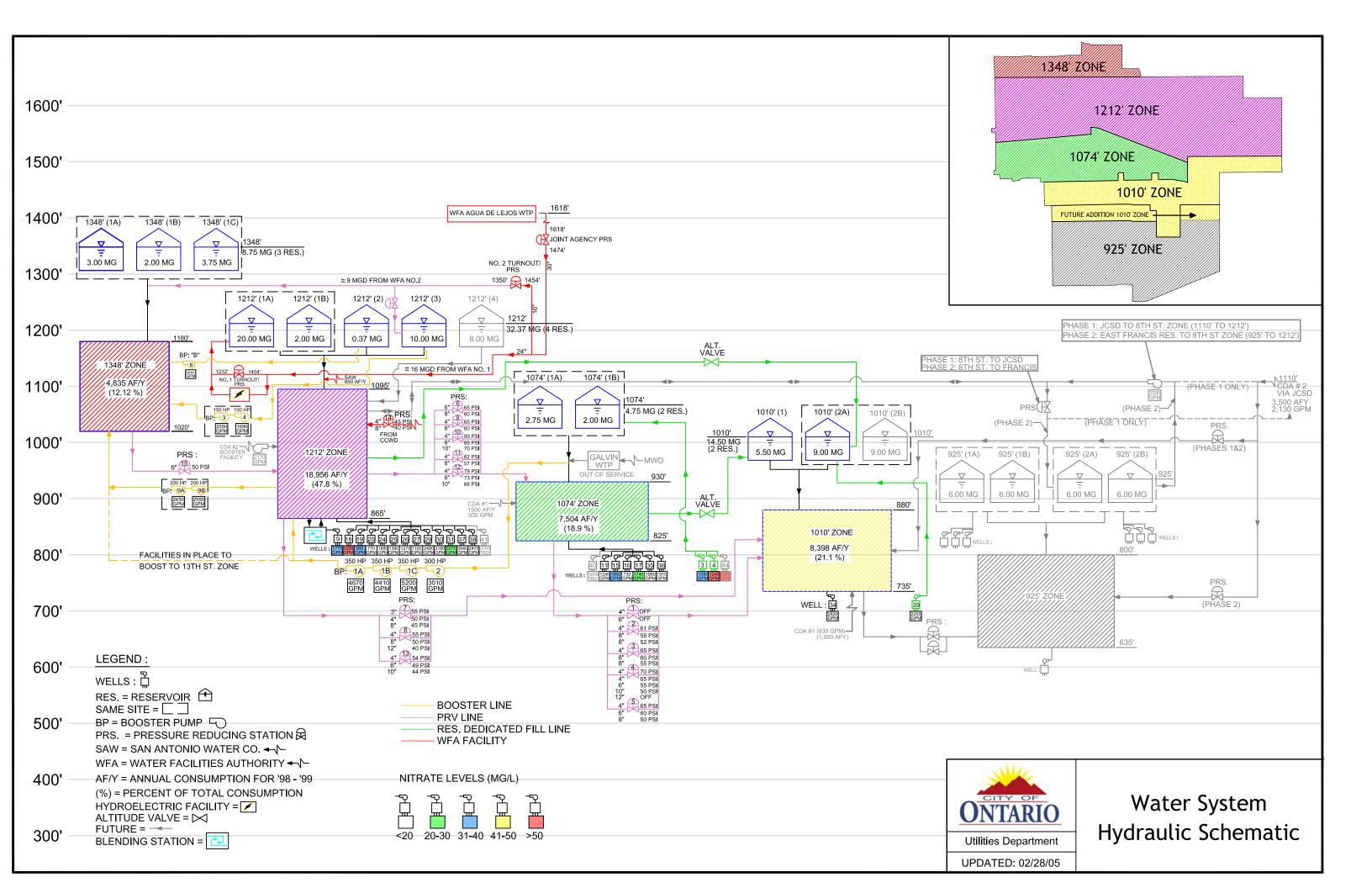
- Hydraulic Schematic of City Water System
- Pressure Zone Boundaries
- Draft NMC Water Supply Phasing Plan
- Draft NMC Phase 1 Potable Water System-1010 (Phillips Street) Zone
- Draft NMC Phase 1 Potable Water System-925 (Francis Street) Zone
- Draft NMC Phase 1 Recycled Water System-IEUA 1050 Zone
- Draft NMC Phase 1 Recycled Water System-IEUA 930 Zone

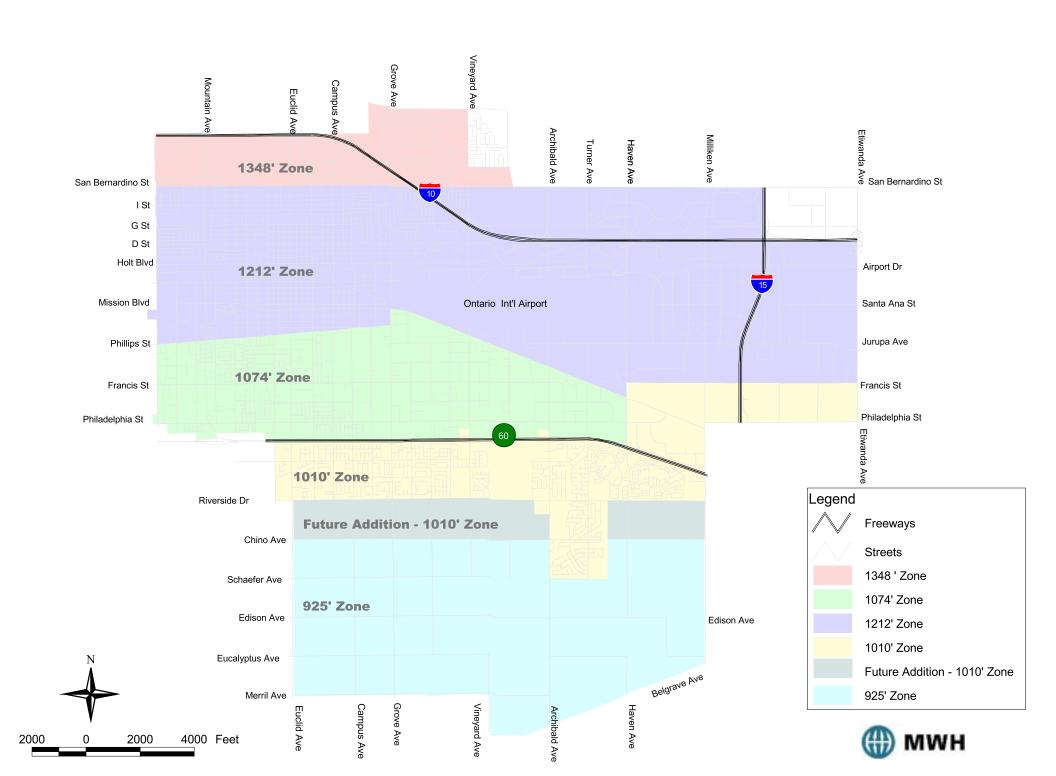
#### **Documentation Requirements**

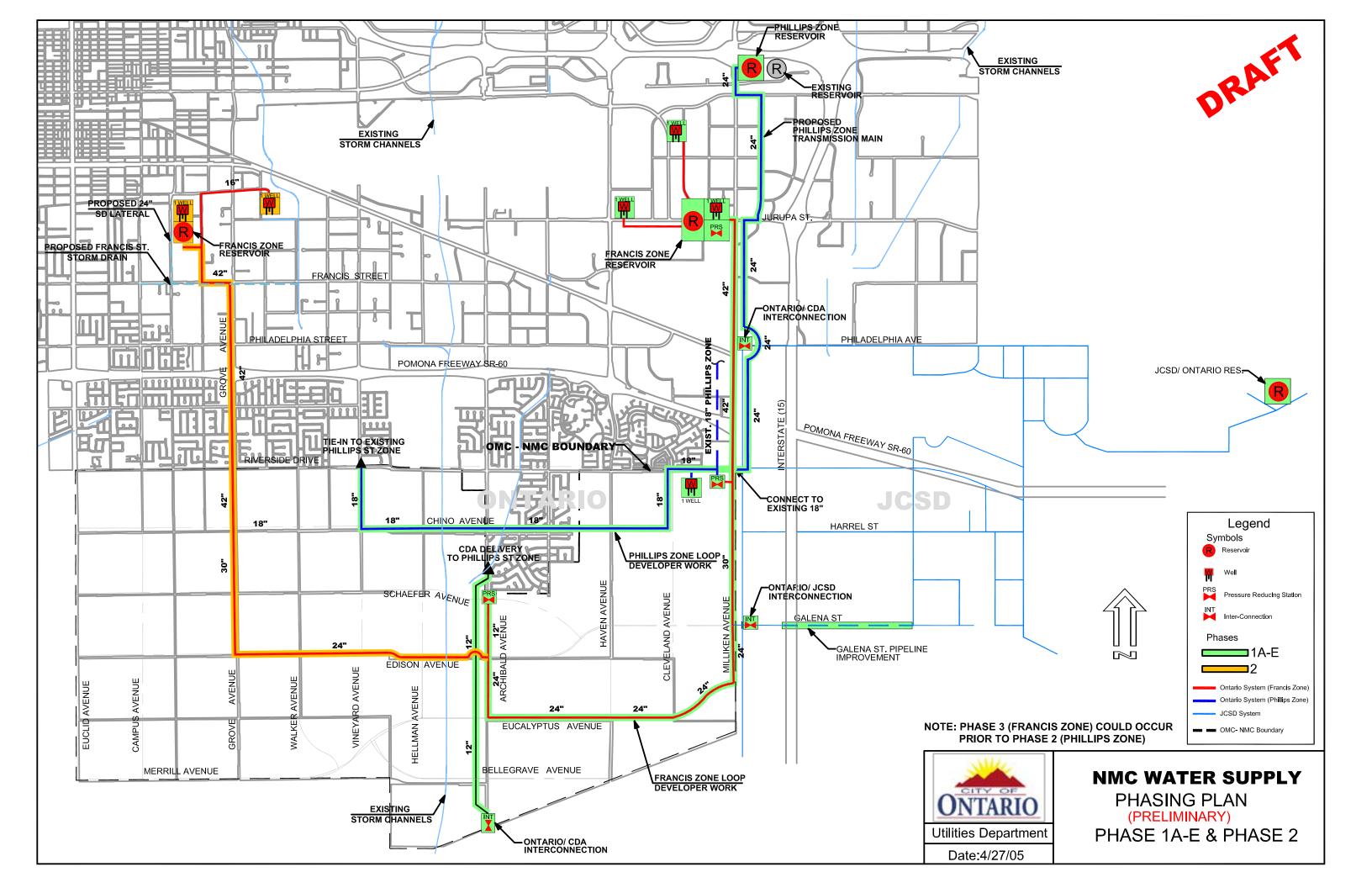
The documentation should include the following as a minimum:

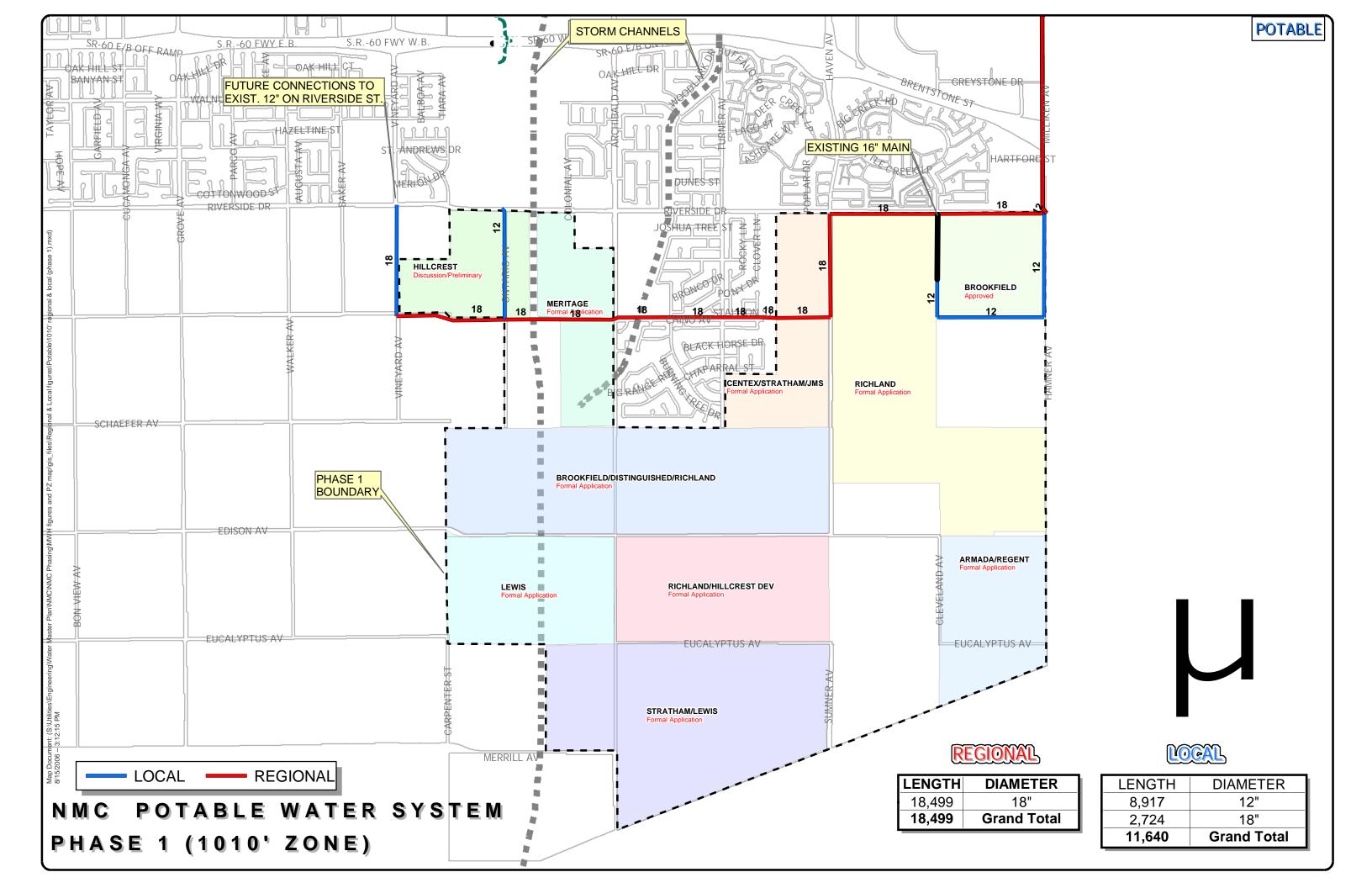
- The document shall be prepared and stamped by a Registered Civil Engineer.
- A figure indicating the location of the proposed development with land use coding
- A table summarizing the areas by land use category and the associated water and recycled water demands
- A table summarizing ADD, MDD, and PHD potable and recycled water demands
- A description of the potable water storage requirements, available storage, and storage surplus/deficit.

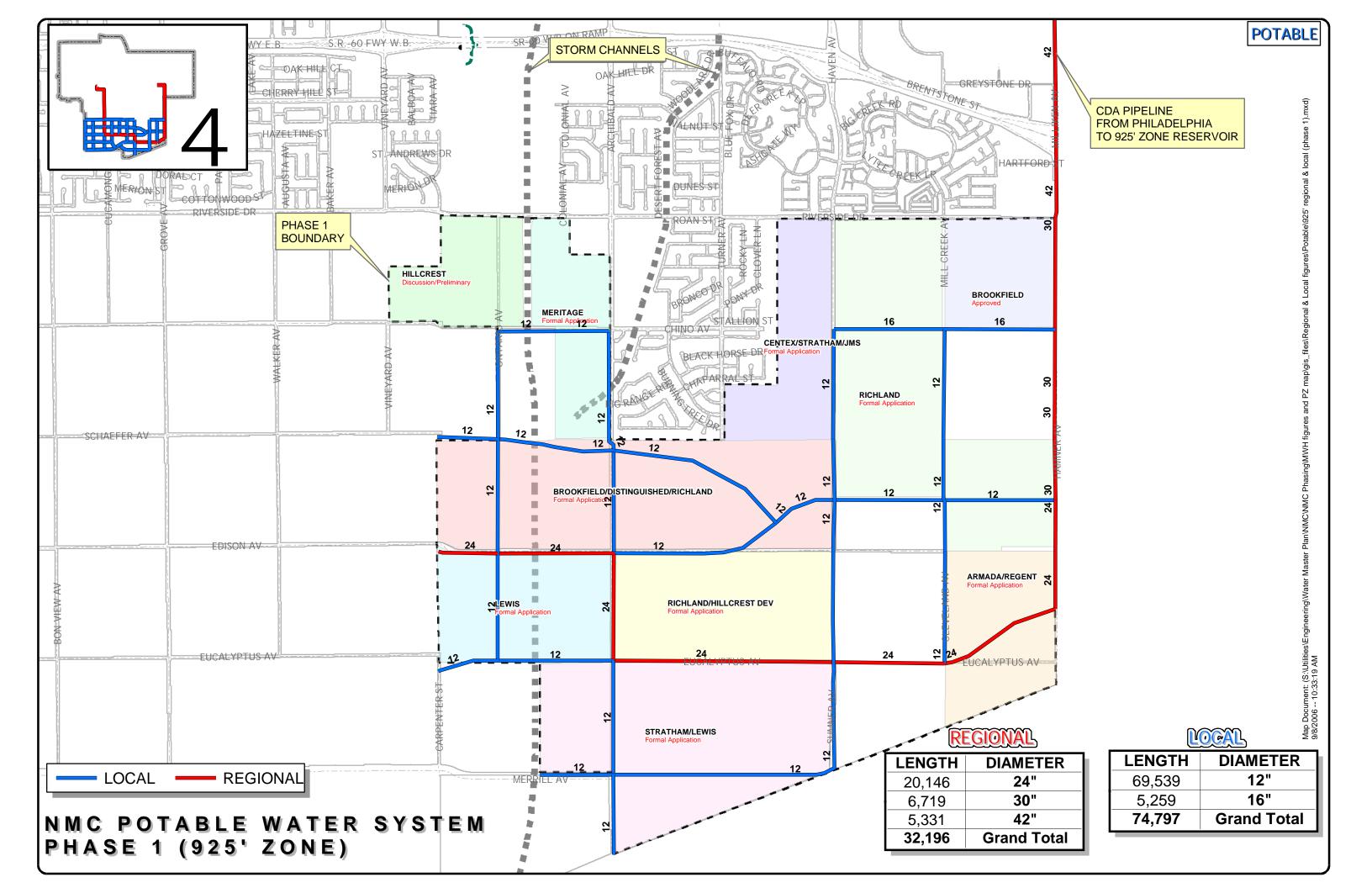
- A summary table of the potable water supply requirements and water demand, available supply by source, and supply surplus/deficit. Define which (new) sources are used to meet the supply criteria under the different reliability scenarios.
- A description of the potable water booster pumping stations/pressure reducing station requirements, if applicable.
- A description of the fire flow requirements, indicating the location with the highest fire flow criteria.
- A summary table of the recycled water demand projections. Include a discussion of where the recycled water connects with existing and future IEUA's and/or City's recycled water system.
- Presentation of proposed potable and recycled water distribution systems including the graphics as listed under modeling requirements. Discussion of pressure ranges under MinDD, ADD, and MDD scenarios.
- A description of all assumptions made in preparing and performing the hydraulic analyses.

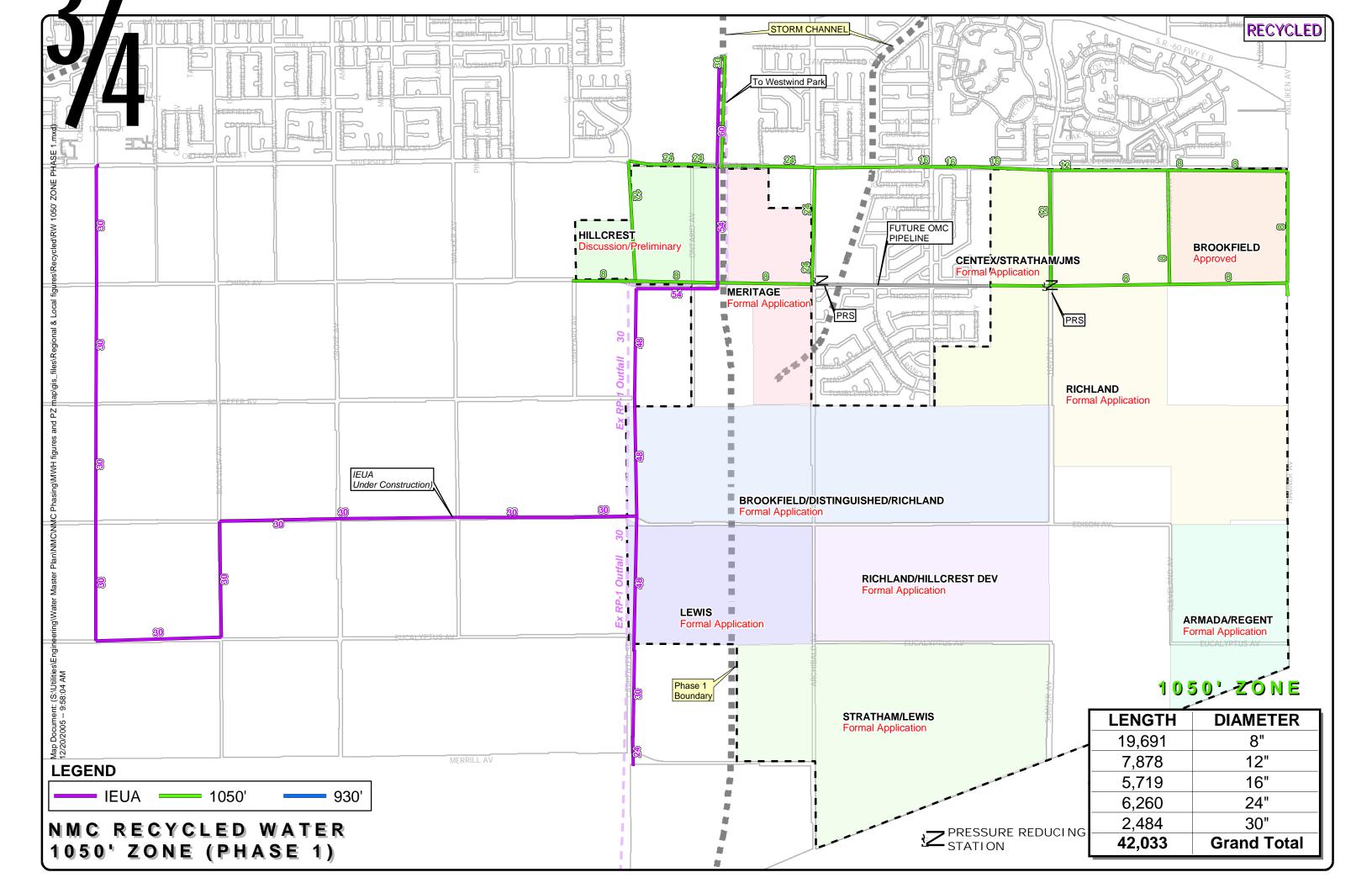


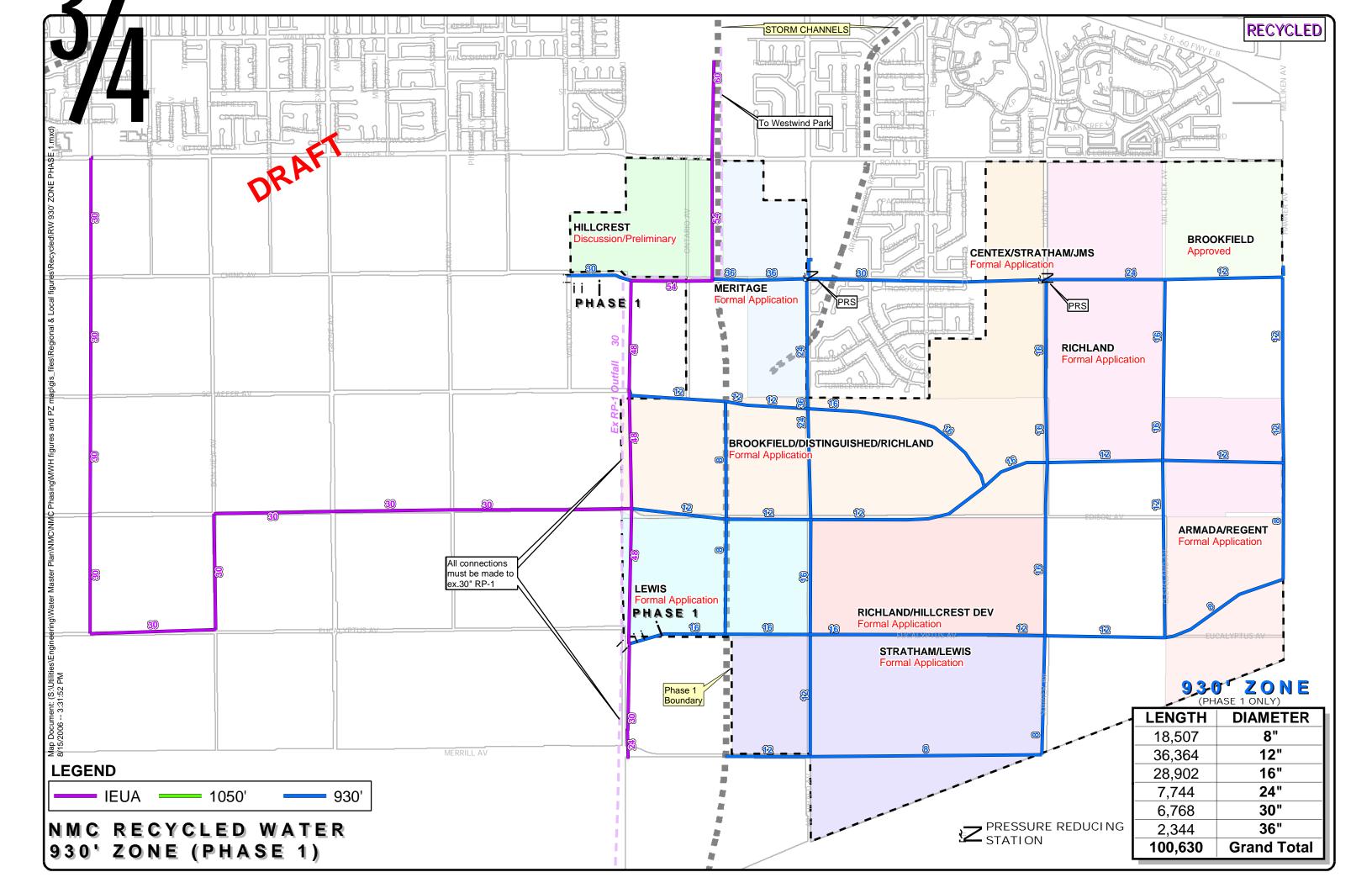












#### **ORDINANCE NO. 2689**

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ADDING CHAPTER 8C TO THE ONTARIO MUNICIPAL CODE TO PROVIDE FOR THE REGULATION AND USE OF RECYCLED WATER

## THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

**SECTION 1:** Chapter 8C is hereby added to Title 6 of the Ontario Municipal Code as follows:

#### CHAPTER 8C RECYCLED WATER USE

#### **Section** 6-8.700 Authority 6-8.701 Purpose Goals 6-8.702 6-8.703 **Policy** 6-8.704 **Priority Definitions** 6-8.705 6-8.706 Administration 6-8.707 Validity 6-8.708 Service Area 6-8.709 Determination of recycled Area 6-8.710 Authorized uses Conditions of service 6-8.711 Other applicable rules and codes 6-8.712 6-8.713 Recycled water service application Recycled Water Use Agreement 6-8.714 6-8.715 Rates, fees, charges and deposits Size, location and installation of service line 6-8.716 6-8.717 Service connection limitations 6-8.718 Service pressure 6-8.719 Relocation of recycled water service lines Protective measures 6-8.720 6-8.721 Types of protection Testing and maintenance of backflow prevention devices 6-8.722 Facilities design 6-8.723 Construction 6-8.724 Emergency connection to the recycled water system 6-8.725 6-8.726 Off-site facilities On-site facilities 6-8.727 6-8.728 Monitoring and inspection 6-8.729 Maintenance responsibility

**Sec. 6-8.700. Authority.** Recycled water use is regulated by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). In accordance with waste discharge requirements for water reclamation projects, the RWQCB requires control mechanisms to regulate facilities distributing recycled water. Article 2 of Chapter 7 of Division 7 of the California Water Code establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on Inland Empire Utilities Agency's ability to adequately treat domestic wastewater to the point that the recycled water (effluent) meets the requirements of existing Title 22, Chapter 3 regulations of the California Code of Regulations. These regulations were adopted to ensure proper health protection and specify the treatment degree to meet the needs of the intended applications.

**Sec. 6-8.701. Purpose.** The purpose of this Chapter is to establish procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the City's service area, and adopt rules and regulations controlling such use.

#### **Sec. 6-8.702.** Goals. The goals of this Chapter are as follows:

- (a) Achieve conservation of potable water supplies by using recycled water for current and future demands. Recycled water uses may include:
  - (1) Agricultural irrigation.
  - (2) Commercial uses (including flushing toilets and urinals).
  - (3) Construction use.
  - (4) Industrial processes.
  - (5) Landscape irrigation.
  - (6) Landscape and/or recreational impoundments.
  - (7) Wildlife habitat.
- (b) Maintain recycled water quality through a stringent pretreatment program for industrial wastewater.
  - (c) Prevent direct human consumption of recycled water through:
    - (1) Adherence to all applicable rules and regulations.
    - (2) Posting of warning signs by the user.
    - (3) Cross-connection/backflow prevention program.
- (d) Control runoff of recycled water through monitoring of the installation and operation of all recycled water facilities and use areas.

- (e) Monitor recycled water quality.
- **Sec. 6-8.703. Policy.** It is the policy of the City that recycled water be used for any purposes approved for recycled water use, when it is economically, technically, and institutionally feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to City policy; shall not be considered the most beneficial use of a natural resource; and shall be avoided to the maximum extent feasible.
- **Sec. 6-8.704. Priority.** Connection to the Recycled Water System shall be provided on a first-come, first-served basis, as long as infrastructure and recycled water supplies are available.
- **Sec. 6-8.705. Definitions.** Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Chapter, in addition to the definitions set forth in Title 22, Division 4, Chapter 3, Regulations of the California Code of Regulations, shall have the meanings hereinafter designated.
  - (a) "Agency" shall mean the Inland Empire Utilities Agency (IEUA).
- (b) "Agricultural Use" shall mean water used for the production of crops and/or livestock.
- (c) "Air-Gap Separation" shall mean a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one (1) inch.
- (d) "Applicant" shall mean any person, group, firm, partnership, corporation, association, or agency that applies for recycled water service.
- (e) "Application Rate" shall mean the rate at which irrigation water is applied to a design or use area, expressed in gallons per minute.
- (f) "Approved Use" shall mean an application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Agreement in compliance with applicable State and local rules and regulations.
- (g) "Approved Use Area" shall mean a site with well-defined boundaries designated in a Recycled Water Use Agreement in compliance with applicable rules and regulations.
- (h) "As-built Drawings" shall mean the record drawings that show the completed facilities as constructed or modified.
- (i) "Automatic System" shall mean the electronically actuated controllers, valves, and associated equipment used to program and operate irrigation systems for the efficient application of recycled water.

- (j) "Auxiliary Water Supply" shall mean any water supply on or available to the premises other than the City's potable water.
  - (k) "AWWA" shall mean the American Water Works Association.
  - (l) "City Council" shall mean the City Council of the City of Ontario.
- (m) "Commercial/Industrial Use" shall mean the water used for toilets, urinals, decorative fountains, decorative indoor and outdoor landscape, industrial process such as rinsing, washing, cooling, flushing, circulation, or construction; and other uses approved by the City.
- (n) "Commodity Charge" shall mean a charge imposed by the City for all metered, recycled water used.
- (o) "Cross-Connection" shall mean any unapproved and/or unprotected, actual or potential, connection between any part of a potable water system and any equipment, source, or system containing water or other substances not approved as safe and potable for human consumption.
- (p) "Direct Beneficial Use" shall mean the use of recycled water which has been transported from the point of production to the point of use, without an intervening discharge to waters of the State.
- (q) "Administrator" shall mean the City Manager of the City of Ontario or his authorized representative.
- (r) "Discharge" shall mean any release or distribution of recycled water to a use area or disposal site/mechanism. Such discharges are subject to approval by the City.
  - (s) "DHS" shall mean the California Department of Health Services.
- (t) "Double Check Valve Assembly" shall mean a double check valve (DC) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Prevention Devices which is herein incorporated by reference.
- (u) "Greenbelt Areas" shall mean those areas including, but not limited to, parkways, parks, right-of-ways, and landscaping within and/or surrounding a community.
- (v) "HCF" shall mean a unit of measure equaling one hundred (100) cubic feet or 748 gallons.
- (w) "Industrial Process Water" shall mean the water used in industrial facilities for blending, rinsing, washing, or cooling.
- (x) "Infiltration Rate" shall mean the rate at which water penetrates the soil surface and enters the soil profile.

- (y) "Landscape Impoundment" shall mean a body of water containing recycled water, which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.
- (z) "Landscape Irrigation/Use" shall mean recycled water used for the propagation and maintenance of trees, shrubs, ground cover and turf used for erosion control and aesthetic value, not for resale/profit purposes.
- (aa) "Non-potable Water" shall mean water that has not been treated for, or is not acceptable for human consumption, in conformance with Federal, State and local water standards. Non-potable water includes recycled water.
- (ab) "Off-site Facilities" shall mean all existing or proposed facilities under the control of the IEUA or the City, from the source of supply to the point of connection with the customer's on-site facilities, up to and including the City's recycled water meter and meter box.
- (ac) "On-site Facilities" shall mean all existing or proposed facilities within property under the control of the customer, normally downstream of the City's recycled water meter and meter box.
- (ad) "On-site Recycled Water Supervisor" shall mean a qualified person designated by a recycled water user and approved by the City to be responsible for the safe and efficient operation of the user's recycled water system. This person shall be knowledgeable in the operation of the recycled water system and in the application of Federal, State and local guidelines, criteria, standards, and rules and regulations governing the use of recycled water.
- (ae) "Open Space" shall mean land that has been designated to remain undeveloped. These areas may receive recycled water service for agricultural or landscape irrigation, or other approved uses.
  - (af) "POC" shall mean the point of connection at the recycled water service meter.
  - (ag) "Ponding" shall mean the retention of recycled water on the ground surface or manmade surface for a period of time following the cessation of an approved recycled water use activity, such that potential hazard to the public health may result, as determined by regulatory agencies.
  - (ah) "Potable Water" shall mean water which conforms to the latest Federal, State and local drinking water standards.
  - (ai) "PSI" shall mean Pounds per Square Inch. This is a common unit expression of pressure measurement.
  - (aj) "Recycled Water" shall mean water, which as a result of treatment of wastewater, is suitable for direct beneficial use or a controlled use that otherwise would not occur. The treatment of wastewater is accomplished in accordance with the criteria set forth in Title 22, Division 4, of the California Code of Regulations.
  - (ak) "Recycled Water Facilities" shall mean the systems, structures, etc, used in the treatment, storage, pumping, transmission and distribution of recycled water.

- (al) "Recycled Water Use Agreement" shall mean an agreement between the user and the City to use recycled water in compliance with all applicable rules and regulations
- (am) "Recreational Impoundment" shall mean a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming. Allowable uses will depend on treatment level of the recycled water.
- (an) "Reduced Pressure Principle Backflow Prevention Device" shall mean a reduced pressure principle backflow prevention device (RP) that as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.
  - (ao) "Regulatory Agency" shall mean any public entity legally constituted by Federal, State and local statutes to protect health and water quality.
  - (ap) "Runoff" shall mean the flow of water along natural or manmade surfaces away from the designated use area...
  - (aq) "RWQCB" shall mean the California Regional Water Quality Control Board, Santa Ana Region.
  - (ar) "Secondary Effluent" shall mean any oxidized wastewater that has been treated by gravity sedimentation to remove settled solids remaining after the primary biological treatment process.
    - (as) "Service" shall mean the delivery of recycled water to a user.
  - (at) "Service Connection" shall mean City facilities between the City recycled water distribution system and the customer's meter, including, but not limited to, the meter, meter box, valves, and piping equipment.
  - (au) "Standard Specifications" shall mean the specifications approved by the City for construction of recycled water facilities.
  - (av) "Tertiary Effluent" shall mean any secondary effluent which has been filtered and disinfected, and meets all applicable requirements under Title 22. Allowable uses for tertiary effluent shall include body contact and irrigation of human food crops.
  - (aw) "Unauthorized Discharge" shall mean any release of recycled water that violates any applicable Federal, State, or local statutes, regulations, Chapters, contracts or other requirements.
  - (ax) "Use Area" shall mean the specific area designated to be served with recycled water through on-site recycled water facilities.

- (ay) "User" shall mean any person, group, firm, partnership, corporation, association or agency accepting recycled water from the City's recycled water facilities for use in accordance with this Chapter. "Applicant," "Owner," or "Customer" are terms that are to be considered as users.
- (az) "Windblown Spray" shall mean any dispersed, airborne particles of recycled water capable of being transmitted through the air to a location other than that for which the direct application of recycled water is approved.
- **Sec. 6-8.706. Administrator.** Except as otherwise provided herein, the City Manager shall administer, implement, and enforce the provisions of this Chapter. The City Manager may, at his discretion, delegate any or all of these powers and duties.
- **Sec. 6-8.707. Validity.** If any section, subsection, sentence, clause or phrase of this Chapter establishing rules and regulations for the use of recycled water is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Chapter. The City Council declares that it would have approved this Chapter by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.
- **Sec. 6-8.708. Service area.** The rules and regulations contained in this Chapter apply to recycled water service to lands and/or improvements lying within the legal boundaries of the City, to properties contiguous to the City under the same ownership as abutting lands within the City or its designated service boundary. Recycled water service shall be provided to a specific service area when related distribution facilities are completed and service becomes available.

#### Sec. 6-8.709. Determination of recycled use area.

#### (a) General

- (1) The City Council may adopt a Recycled Water Master Plan or utilize the Inland Empire Utilities Agency Recycled Water Master Plan designating current and potential areas for recycled water use. The Master Plan shall be in accordance with the requirements of all DHS and RWQCB, and shall encourage recycled water use. The Master Plan shall be reviewed and updated as needed.
- (2) The City Council may review the Recycled Water Master Plan and recommend where water service should be made with recycled water in place of potable water. Where it is determined recycled water is, or will be available within five (5) years, the City may request modifications to existing on-site water facilities and require construction of recycled water systems in new developments.
- (3) The City Council may enter into agreements with surrounding cities and/or other agencies to determine recycled water use service areas within the City and jurisdiction of those entities.

#### (b) Existing potable water service

- (1) The City Council may make determinations of areas where existing potable water use should be replaced with recycled water use.
- (2) A notice of the determination to use recycled water shall be mailed to the current owner, explaining the reasons for use and resultant procedures needed to facilitate recycled water use.

#### (c) New recycled water service

- (1) On submittal by applicant of a tentative map, land use permit, other proposed land development/land use, or request for recycled water service, the Administrator shall make preliminary determinations if recycled water service can be provided to the area in question.
- (2) The Administrator may require the use of recycled water for approved uses, and refuse or otherwise restrict potable water service when recycled water is available and approved for use.
- **Sec. 6-8.710. Authorized uses.** Uses of recycled water include only those uses approved by the California State Department of Health Services (DHS) and for which Title 22 of the California Code of Regulations provides treatment requirements. Each such use will be considered for approval on case-bycase basis. Prior to approval, the user must comply with the requirements established by this Chapter and any other requirements imposed by the Inland Empire Utilities Agency, DHS, or any other regulatory agencies that have jurisdiction over such use.

#### Sec. 6-8.711. Conditions of service.

- (a) Prior to obtaining recycled water service, the user must enter into a Recycled Water Use Agreement with the City. Recycled water use shall be subject to terms and conditions established in the agreement, and in accordance with this Chapter, and other applicable codes, rules, and regulations. If any of the conditions of service are not satisfied at all times, the Recycled Water Use Agreement may be revoked by the Administrator after which all recycled water service shall cease.
  - (b) The City shall not be liable for any damage by recycled water or resulting from:
    - (1) Defective plumbing.
    - (2) Broken or faulty services or recycled water mains.
    - (3) On-site facilities failures.
    - (4) High or low pressure conditions.
    - (5) Interruptions of service.
    - (6) Any inappropriate or illegal use or management practices.

- (c) All recycled water will be provided to the user in the conditions and quantity specified in the Recycled Water Use Agreement.
- (d) Recycled water use will not be subject to the same restrictions as potable water during drought conditions and will be supplied as available.
- (e) Recycled water service may be terminated whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies, or at any time the provisions of this Chapter, or the conditions specified in the Recycled Water Use Agreement are violated.
- **Sec. 6-8.712. Other applicable rules and codes.** Other guidelines, rules and regulations, ordinances, specifications that may be applied by the City Manager to govern the use of recycled water within the City include:
- (a) Regulations that deal with backflow prevention, billing, deposits, penalties, delinquencies, and metering for potable water as established in Sections 6-8.50 to 6-8.64 of the Municipal Code.
- (b) Regional Recycled Water Distribution System Ordinance (Ordinance No. 63, Inland Empire Utilities Agency.)
  - (c) Water Reclamation (Title 22, Division 4 of the California Code of Regulations.)
- (d) Regulations Relating to Cross-Connections (Title 17 of the California Code of Regulations.)
- (e) Guidelines for Distribution Of Non-potable Water (California-Nevada Section AWWA.)
- **Sec. 6-8.713. Recycled water service application.** The steps for obtaining recycled water service are as follows:
- (a) The user completes and submits a recycled water service application, including existing facility "as-built" drawings or proposed facility plans as appropriate, description of where and how recycled water use is proposed, and any other information pertinent to the use of recycled water as requested by the Administrator.
- (b) The user prepares an Engineering Report describing proposed/requested recycled water use(s). The City may prepare the report on behalf of the user, provided that the user pays all costs associated with the preparation of the report. The Engineering Report shall be consistent with DHS guidelines.
- (c) The completed Engineering Report will be forwarded to the State Department of Health Services (DHS) for review and approval.

- (d) The user and the City will address any concerns that the DHS may have regarding the Engineering Report and revise the report accordingly.
- (e) Once the DHS approves the Engineering Report, the applicant will enter into a Recycled Water Use Agreement with the City, and pay any applicable fees.
- (f) The Administrator will schedule a start-up test of on-site recycled water system to ensure that cross-connections do not exist.
- (g) Upon the successful completion of the test, the Administrator may authorize recycled water service to begin.
- **Sec. 6-8.714. Recycled Water Use Agreement.** Recycled Water Use Agreement shall be subject to the following conditions:
- (a) The applicant shall pay any specified connection fees, service line charges and other charges, and adhere to the requirements prescribed by this Chapter and to any additional requirements required by other agencies governing recycled water use.
- (b) In order to maintain acceptable operating conditions throughout the recycled water system, the Administrator may schedule recycled water use for specific applications. Such scheduling may involve programming deliveries to different users and/or to various portions of a single users on-site system. Any scheduling shall consider the operating constraints of the affected users.
- (c) The Administrator may temporarily terminate recycled water service at any time recycled water produced by the Inland Empire Utilities Agency reclamation plant does not meet the requirements of the regulatory agencies. Recycled water service would, in such case, be restored when the recycled water meets the governing requirements.
  - (d) At a minimum, the Recycled Water Use Agreement shall include the following:
    - (1) Names and addresses of owner the property and user of the recycled water.
- (2) A statement that no changes in the proposed system will be undertaken without amending the Agreement.
- (3) A statement that the applicant recognizes potential penalties for violation of this Chapter and any regulatory agencies.
  - (4) A copy of the DHS approved Engineering Report.
- (5) Specific quantity of recycled water to be used, including estimated average annual use in acre-feet, and the maximum gallons per minutes (GPM) needed at the point of connection (POC) as shown on the plans.
  - (6) Approved uses.

- (7) A statement that the Agreement shall be cancelled or amended if:
  - (i) A change of recycled water use occurs.
  - (ii) A change in the piping system has been implemented without prior

approval.

(iii) A violation of these rules and regulations occurs and results in a system turn-off.

#### Sec. 6-8.715. Rates, fees, charges and deposits.

- (a) All rates and fees regarding recycled water service and their administrative costs shall be established by the City Council and incorporated into Title 6, Chapter 8B of the Ontario Municipal Code. Any changes in fee and rate schedules shall be automatically adopted into this Chapter.
- (b) Applicants for recycled water service shall pay their fair share for the construction of facilities needed to deliver recycled water to the applicant's property. All fees and estimated construction costs shall be paid prior to construction; however, the City may reimburse the applicant for a portion of the cost of such facilities as described in Subsection (c) of this Section.
- (c) Under certain circumstances, the City may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the City may:
- (1) Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way.
- (2) Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available.
- **Sec. 6-8.716. Size, location, and installation of service line.** Recycled water service lines shall be extended by the property owner/developer to a curb line or property line of the customer's property, abutting on a public street, highway, road or City easement in which recycled water mains are installed. The size and location and/or type of recycled water service lines, service connections, meters, backflow protection devices, and any/all other appurtenances are subject to review and approval by the City:
- **Sec. 6-8.717. Service connection limitations.** Recycled water service shall be subject to the following conditions:
- (a) A recycled water service connection and its corresponding meter shall not be used to supply adjoining property of a different owner, or to supply property of the same owner across a road, street or other public right-of-way. When a property provided with a recycled water connection and corresponding meter is subdivided, such connection and meter shall be considered as serving the lot or

parcel of land on which the meter is located. Additional recycled water mains and/or recycled water service lines will be required for all subdivided areas in accordance with this Chapter.

- (b) Private irrigation systems for homeowner's associations and other developments where landscaping around homes and in common areas are served with one meter, shall not be allowed to cross public roads, easements, or other public rights-of-way without City approval.
- (c) All recycled water used on any property where a meter is installed must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through their meters.
- **Sec. 6-8.718. Service pressure.** Whenever possible, the City will operate the recycled water system at a slightly lower pressure than the potable water system. This will cause potable water to flow in the recycled water system in the event of a cross-connection.
- Sec. 6-8.719. Relocation of recycled water service lines. Should a recycled water service line installed according to the directions of the owner or user be of the wrong size, or installed at a wrong location or depth, the cost of relocation or removal shall be paid for by the user.
- **Sec. 6-8.720. Protective measures.** The following provisions are intended to protect the City's potable water supplies against actual, undiscovered, unauthorized, or potential cross-connections to the user's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17 (Public Health) of the California Code of Regulations.
- (a) Approved backflow prevention devices on the City's potable water services to the property as required in these provisions, shall be provided, installed, tested, and maintained according to Section 6-8.722. These devices shall be located on the property served immediately downstream of the meter. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.
- (b) When a request for recycled water service is initiated, the applicant must provide sufficient information, including plumbing and building plans, to enable the Administrator and other regulatory agencies to determine the level of backflow protection required. The proper backflow protection, as determined by the Administrator and other regulatory agencies, shall then be installed and tested according to Section 6-8.722 before recycled water service is provided.
- (c) Each time there is a change of tenant on any commercial or industrial premise, the owner or user shall notify the Administrator immediately. The Administrator will then reassess the level of protection required. In addition, any alterations to existing on-site facilities that may affect required protection level must be reported immediately to the Administrator.
- (d) At their discretion, representatives of any health agency having jurisdiction, and the Administrator, may inspect any property provided recycled water service by the City. The inspection shall serve to determine if any actual or potential cross-connections exist. The owner or user shall provide full cooperation in facilitating the inspection.

- (e) Where protection is required, an approved backflow protection device for potable water supplies shall be provided as follows:
- (1) Each City water service connection that supplies potable water to a premises having an auxiliary water supply (including recycled water) that is not accepted as a potable source by the Administrator, and/or is not approved for potable use by the DHS, shall be protected against backflow from the premises into the City potable water system.
- (2) Each City water service connection supplying potable or recycled water to a premises on which any substance is handled in such a fashion as to permit entry into the City water systems (potable or recycled) from the premises shall be protected against backflow. This shall include, but not limited to, the handling of fertilizers, process waters, waters originating from any of the City water systems that have been subject to deterioration in quality, and agricultural use.
- (3) Approved backflow devices shall be installed where premises have intricate plumbing and piping arrangements or where not all portions of the premises are readily accessible for inspection.
- (4) Appropriate backflow protection may be required at premises where there has been a history of cross-connections being re-established.

#### (f) Other Measures

- (1) Water meters used for recycled water service shall be tagged or color-coded purple, color pantone 512 or 522, or otherwise distinguished as such per AWWA standards. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing have been performed.
- (2) Periodic inspection by the City of the recycled water facilities will determine if all identifying items are still clearly discernable. If not, they shall be replaced, repaired or refurbished as needed, by the user. These items include:
  - (i) Warning tags
  - (ii) Painted surfaces
  - (iii) Warning tape
  - (iv) Identification tape
  - (v) Covers, caps, signs
  - (vi) Other items that indicate recycled water is being used.

- (3) To determine the existence of any cross-connections or backflow conditions into the potable water system, periodic testing by DHS approved methods will be performed by the Administrator and/or other regulatory agencies.
- (4) In the event of contamination or pollution of a City potable water system due to a cross-connection or other failure, the DHS, the Administrator, and the IEUA shall be promptly notified by telephone so that appropriate and immediate measures may be taken to correct the problem.
- (5) The State and County health departments, the Administrator, and the IEUA shall be kept informed by written document of the identity of the person responsible for the user's recycled water system on all premises concerned with these rules and regulations. At each authorized use area, an 'On-site' Recycled Water Supervisor shall be designated. This supervisor shall be responsible for:
- (i) The installation and use of all components of the on-site recycled water system(s).
  - (ii) Prevention of cross-connections.
  - (iii) Change in use of recycled water.
- (g) When the recycled water uses or conditions, as determined by the Administrator or other regulatory agency, represent a clear and immediate hazard to the City potable and/or recycled water supply that cannot be immediately removed or corrected, the Administrator shall terminate recycled water use. Conditions or uses that create a basis for termination include, but are not limited to, refusal to install, test or repair a required backflow prevention device.
- **Sec. 6-8.721. Types of protection.** The level of protection required shall be related to the degree of potential hazard that exists on the premises served, and will be determined by the Administrator.
- **Sec. 6-8.722. Testing and maintenance of backflow prevention devices.** The user is responsible for testing all backflow prevention devices and maintaining these devices in a satisfactory operating condition. Testing shall be done at least once a year by a San Bernardino County certified backflow prevention tester. More frequent testing may be required if successive inspections indicate repeated failures. The backflow prevention devices shall be repaired, overhauled and/or replaced whenever they are found to be defective. These devices shall also be tested immediately after they are installed, relocated or repaired. All inspections, tests and repairs shall be performed at the user's expense. The user shall maintain records of all such tests, repairs and overhauls. These records shall be submitted to the Administrator, annually, and made available to the DHS, on request.

#### Sec. 6-8.723. Facilities design.

(a) The design of off-site facilities, including the preparation of plans and construction specifications shall be under the responsibility of an engineer registered in the State of California. The design of customer (on-site) facilities that will use recycled water, and preparations of plans and construction specifications, shall be stamped and signed by a State of California Registered Landscape Architect or Civil Engineer, unless otherwise approved by the Administrator.

- (b) Before the Administrator grants final acceptance of any system using recycled water, as-built drawings of the system shall be provided. The installed system shall be tested in accordance with the City Standard Specifications to ensure that the system is in full compliance with these rules and regulations.
- (c) All off-site and on-site recycled water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted in the City Standard Specifications to ensure that this system is in full compliance with this Chapter. Recycled water systems, both on-site and off-site, shall be separate and independent of any potable water systems.
- (d) Where the premises contain dual or multiple water systems, the exposed portions of pipelines shall be identified at sufficient intervals.
- (e) Areas irrigated with recycled water must be kept completely separated from domestic water wells and reservoirs. Recycled water shall not be applied or allowed to migrate to within fifty (50) feet of any well used for domestic supply. No impoundment of recycled water shall be located within hundred (100) feet of any domestic water well, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.
- (f) Adequate means of notification should be provided to inform the public, employees and others that recycled water is being used. Conspicuous signs with appropriate wording that can be clearly read should be placed at adequate intervals around the authorized use area.
- (1) Golf courses should print messages on score cards in a different color indicating recycled water is being used. Water hazards containing recycled water should be posted with appropriate signs.
  - (2) Languages in addition to English should be used on signs where appropriate.

#### (g) Off-site Facilities

- (1) Any off-site recycled water distribution facilities required to serve existing or new developments of the property within the City, as determined by the Administrator, shall be provided by the applicant, owner, or customer at their expense, unless the Administrator determines it is a City benefit to construct these capital facilities.
- (2) Plans and specifications for all recycled water distribution facilities shall be submitted to and approved by the Administrator, and other regulatory agencies, in advance of construction.
- (3) The City will assume responsibility for providing recycled water service to the point of connection of such development on transfer, to the City, title to all off-site recycled water systems and any necessary easements. All easements shall be in a form acceptable to the Administrator, and not subject to outstanding obligations to relocate such facilities or any deeds of trust, except in instances where such is determined by the Administrator to be in the best interest of the City.
- (4) The City and the property owner or developer may enter into a reimbursement agreement for the portions of a recycled water system that are required to be oversized with capacity to supply more recycled water than the property owner or developer requires. The determination to

enter into a reimbursement agreement, and the specific items that are the subject of reimbursement, will be made by the City.

#### (h) On-site facilities

- (1) The user or the owner of the property shall be responsible for all costs associated with on-site recycled water facilities.
- (2) When City Standards and Specifications require a higher quality material, equipment, design or construction method than that required by other governing codes, rules and regulations, the City Standards and Specifications shall take precedence.
- (i) In areas where recycled water is not immediately available when the use area is ready for construction, and if the City has determined that recycled water will be supplied in the future, onsite facilities shall be designed to use recycled water. Provisions shall be made to allow for connection to the City off-site recycled water facilities, when available. In the interim, potable or other suitable water may be supplied to the on-site facilities through an "interim service connection."

#### (j) Conditions of interim service are:

- (1) The City anticipates recycled water will be available to the site within 5 years of the time interim service is initiated.
- (2) The user or the owner of the property must sign a Recycled Water Use Agreement.
- (3) The user or the owner of the property must agree to perform or pay for all work necessary to remove the interim connection and make connections to the permanent recycled water system at the time the recycled water system is installed.
- (4) An approved backflow prevention device is required on the interim service. The backflow prevention device shall be at the point of connection with the interim supply system and a part of the on-site recycled water facilities.
  - (5) Future recycled water users will pay for the following:
- (i) Cost of constructing and abandoning the interim service and cost of constructing the recycled water service.
  - (ii) Applicable recycled water fees at the time service becomes available.
- (iii) Applicable interim water rates for the type of water delivered through the interim service.
- (6) When recycled water is available to the site, an inspection of the on-site facilities will be conducted by the Administrator to verify that the facilities are still in compliance with the Recycled Water Use Agreement. Recycled water service shall be provided on verification of compliance.

If the facilities are not in compliance, the Administrator shall notify the user to make any necessary corrections.

#### Sec. 6-8.724. Construction.

- (a) Construction of all new recycled water facilities will follow City Standards and Specifications and the American Water Works Association Construction Guidelines for Recycled Water Facilities.
- (b) Where it is planned that an existing non-recycled water system shall be converted to a recycled water facility, the facilities to be converted to recycled water shall be investigated in detail at the user's expense, to determine the measures required to bring the system into full compliance with this Chapter. No existing potable water facilities shall be connected to or incorporated into the recycled water system without City and DHS approvals.
- (c) If, due to on-site failure of the recycled water system, the Administrator determines that it is necessary to convert on-site facilities from a recycled water supply to a potable water supply, it shall be the responsibility of the user to pay all costs for such conversion. Conversion costs may include, but not be limited to, the following:
- (1) Isolation of the recycled water supply. Service shall be removed and plugged at the City main or abandoned in a manner approved by the Administrator.
- (2) Installation of approved backflow prevention devices, as determined by the Administrator, on all potable, and/or other water meter connections.
- (3) Removal of any/all special recycled water quick couplers. The user shall be responsible for replacement with quick couplers approved for potable water systems.
  - (4) Notification to all on-site personnel involved.
  - (5) Removal of all warning labels/signs.
- (6) Installation of any/all potable water facilities and payment of any associated capacity fees, as established in Title 6, Chapter 8B, of the Municipal Code.
- (7) System flushing, disinfecting, decontamination, and water quality analyses, as required by the City and/or other regulatory agencies.
- Sec. 6-8.725. Emergency connection of the recycled water system to the potable water system. If the Administrator determines an emergency exists where all or parts of the recycled water system are unable to provide recycled water, the Administrator may approve an emergency temporary connection to the potable water system. Before such emergency temporary connection is made, the portion without recycled water shall be isolated by an air gap separation from the remainder of the recycled water system. This isolation shall occur at either individual services or on the off-site system, as determined by the Administrator. An approved backflow prevention device shall be installed on the potable water lines in

accordance with this Chapter. The emergency temporary connection shall be removed before connection to the recycled water system is re-established. Re-establishment of recycled water service must be inspected and approved by the Administrator prior to resuming delivery of recycled water.

**Sec. 6-8.726. Off-site facilities.** The City and/or the Inland Empire Utilities Agency shall be responsible for the operation, maintenance and surveillance of all off-site recycled water systems. This includes but is not limited to recycled water pipelines, valves, connections, storage facilities, and other related equipment and property up to and including the meter. Only City and/or the Inland Empire Utilities Agency personnel and their representatives shall operate, adjust, change, alter, move or relocate any portion of their respective off-site recycled water facilities.

#### Sec. 6-8.727. On-site facilities.

#### (a) General

- (1) The operation, surveillance, repair, and maintenance of all customer recycled water facilities are the responsibility of the user and his designated "On-site" Recycled Water Supervisor.
- (2) The Administrator shall have the right to enter the user's premises to monitor and inspect all on-site recycled water facilities. Where necessary, keys and/or lock combinations shall be issued to the Administrator to provide such access during hours of recycled water system operation.
- (b) The user shall have the following responsibilities pertaining to operation of on-site facilities:
- (1) Ensure that all operations personnel are trained and familiarized with the use of recycled water.
- (2) Furnish their operations personnel with maintenance instructions, irrigation schedules, controller charts, and as-built drawings to ensure proper operation in accordance with the on-site facilities design and these rules and regulations.
- (3) Prepare and submit to the Administrator one reproducible set of as-built drawings.
- (4) Notify the Administrator of all updates or proposed changes, modifications, or additions to the on-site facilities and operations for review and approval prior to construction or implementation. All updates and proposed changes shall comply with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.
- (5) Ensure that the operation and maintenance of all recycled water facilities remain in accordance with this Chapter, the Recycled Water Use Agreement and any other applicable rules and regulations.
- (6) Operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. The user or the owner of the property shall

be responsible for any and all subsequent uses of the recycled water. Operation and control measures to be utilized in this regard shall include where appropriate, but not limited to:

- (i) Minimizing discharge onto areas not under control of the user so as to minimize public contact. Full circle sprinklers shall not be used adjacent to sidewalks, roadways, and property lines in order to confine the discharge to the use area.
- (ii) Operating the on-site recycled water facilities during periods of minimal human use of the service area, and allowing a maximum dry-out time before the irrigated area will be used by the public.
- (iii) Providing adequate first aid kits on the premises, and promptly treating all cuts and abrasions to prevent infection. If infection is likely, a physician should be consulted.
- (iv) Taking any other precautionary measures to minimize direct contact with recycled water. User's employees, residents, and the public should not be subjected to recycled water sprays.
- (v) Applying recycled water at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design and operation of the recycled water facilities shall be compatible with the lowest infiltration rate of the soils present.
- (vi) Reporting to the Administrator any/all failures in the recycled water system that cause an unauthorized discharge of recycled water.
- (vii) Protecting all drinking fountains located within the approved use area, by location and/or a structure from contact with recycled water to the maximum extent possible. Windblown spray, direct application through irrigation or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.
- (viii) Protecting facilities that may be used by the public, including but not limited to, eating surfaces and playground equipment located within the approved use areas, by seating and/or structure from contact with recycled water to the maximum extent possible. Windblown spray, direct contact by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice, or system operation.
  - (c) The user shall enforce the following prohibitions:
- (1) Cross-connections, as defined by the California Code of Regulations, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, are prohibited.
- (2) Discharge of recycled water for any purposes, in areas other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.
- (3) Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water is prohibited.

- (4) Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation are prohibited, unless designed specifically for ponding and approved by Administrator.
- (5) Conditions that directly or indirectly cause runoff of recycled water onto areas outside of approved use areas, whether by design, construction practice, or system operation, are prohibited.
- (6) Use of recycled water for any purposes other than those specifically approved in the Recycled Water Use Agreement, and without the prior approval of the Administrator, is prohibited.
- (7) Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, are prohibited.
- **Sec. 6-8.728. Monitoring and inspection.** The Administrator will monitor and inspect the entire recycled distribution facility, including both off-site and on-site facilities. The Administrator will conduct monitoring programs, maintain records as deemed necessary, inspect on-site facilities for compliance with these rules and regulations, and provide reports as requested by DHS. For these purposes, the Administrator will have the right to enter the user's premises during hours of recycled water system operation to inspect on-site recycled water facilities and approved use areas, to verify that the user's irrigation practices conform with this Chapter and the Recycled Water Use Agreement.

#### Sec. 6-8.729. Maintenance responsibility.

- (a) The user or owner is responsible for maintaining all on-site facilities that are under the ownership of parties other than the City.
- (b) No person shall place, dispose, deposit or permit the placement, disposal, deposit of oil, toxic, hazardous or contaminated liquid or waste, trash, soil, building materials or any other substances, objects, or obstructions in, on, or around meter boxes or other City facilities. No person shall allow or permit meter boxes or other City facilities from becoming obstructed or obscured by trees, shrubs, plants or in any other manner so as to impede their use or access or make their location difficult to determine. If such substances, objects, or obstructions are not cleaned and removed or are permitted to obscure or impede use or access to such facilities, the City may accomplish the cleaning and removal at the user's expense. The Administrator will provide reasonable notice to the user before assessing the charge.
- **SECTION 2:** The Mayor shall sign this Chapter and the City Clerk shall cause the same to be published within fifteen (15) days after its passage, at least once, in the Inland Valley Daily Bulletin, a newspaper of general circulation, published and circulated in the City of Ontario, California.

APPROVED AND ADOPTED this 18th day of \_\_\_\_\_\_\_, 1999, by the following vote:

AYES: Council Members Du Bois, King, Leon, Wapner; Mayor Ovitt

NOES: None

ABSENT: None

Gary C. Ovite Mayor of the City of Ontario

ATTEST:

ATTEST:

APPROVED AS TO FORM:

DECEMBER

1891

#### **SB 221**

Law

(c) A development agreement that includes a subdivision, as defined in Section 66473.7, shall not be approved unless the agreement provides that any tentative map prepared for the subdivision will comply with the provisions of Section 66473.7.

66473.7 (a) For the purposes of this section, the following definitions apply:

- (1) "Subdivision" means a proposed residential development of more than 500 dwelling units, except that for a public water system that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections.
- (i) This section shall not apply to any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households.

#### **SB 610**

Law

[SB 610 requires] a city or county that determines a project is subject to the California Environmental Quality Act to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment, except as otherwise specified. The bill would require the assessment to include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. The bill would require the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation. The bill would revise the definition of "project", for the purposes of these provisions, and make related changes.

The bill would prescribe a timeframe within which a public water system is required to submit the assessment to the city or county and would authorize the city or county to seek a writ of mandamus to compel the public water system to comply with requirements relating to the submission of the assessment.

The bill would require the public water system, or the city or county, as applicable, if that entity concludes that water supplies are, or will be, insufficient, to submit the plans for acquiring additional water supplies.

The bill would require the city or county to include the water supply assessment and certain other information in any environmental document prepared for the project pursuant to the act. By establishing duties for counties and cities, the bill would impose a state-mandated local program.



303 EAST "B" STREET, CIVIC CENTER





### NTAR

CALIFORNIA 91764-4105

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GREGORY C. DEVEREAUX CITY MANAGER

MARY E. WIRTES, MMC CITY CLERK

JAMES R. MILHISER **TREASURER** 

JAN 26 2006

ALAN D. WAPNER SHEILA MAUTZ JIM W. BOWMAN **COUNCIL MEMBERS** 

PAUL S. LEON

**MAYOR** 

JASON ANDERSON

MAYOR PRO TEM

January 23, 2007

Derek Wyss David Evans and Associates 9635 Granite Ridge Drive, Suite 300 San Diego, CA 92123

Public Records Request #07-PR0021

Water Well at 5<sup>th</sup> Street North East of Munoz Park

Dear Mr. Wyss:

In response to your Public Records Request dated January 16, 2007, the Department advises that the above noted water well has been destroyed, therefore there is no information regarding current production or depth to groundwater at this location.

Should you have any questions or need further assistance, please call the Records Management Department at (909) 395-2009.

Sincerely,

Traci R. McGinley

Records Management Director

**Assistant City Clerk** 

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