

Appendix L
2012 Water Supply Assessment

Appendices

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IRVINE RANCH WATER DISTRICT ASSESSMENT OF WATER SUPPLY

Water Code §10910 *et seq.*

To: (Lead Agency)

City of Irvine
P.O. Box 19575
Irvine, CA 92623-9575

(Applicant)
Heritage Fields El Toro, LLC
25 Enterprise, Suite 400
Aliso Viejo, CA 92656

Project Information

Project Title: Heritage Fields Project 2012 – General Plan Amendment and Zone Change (Exhibit A)


- Residential: No. of dwelling units: _____
- Shopping center or business: No. of employees _____ Sq. ft. of floor space _____
- Commercial office: No. of employees _____ Sq. ft. of floor space _____
- Hotel or motel: No. of rooms _____
- Industrial, manufacturing or processing: No. of employees _____ No. of acres _____
Sq. ft. of floor space _____
- Mixed use (check and complete all above that apply) (see Exhibit B)
- Other: _____

Assessment of Availability of Water Supply

On June 11, 2012 the Board of Directors of the Irvine Ranch Water District (IRWD) approved the within assessment and made the following determination regarding the above-described Project:

- The projected water demand for the Project was was not included in IRWD's most recently adopted urban water management plan.
- A sufficient water supply is available for the Project.
The total water supplies available to IRWD during normal, single-dry and multiple-dry years within a 20-year projection will meet the projected water demand of the Project in addition to the demand of existing and other planned future uses, including, but not limited to, agricultural and manufacturing uses.
- A sufficient water supply is not available for the Project. [Plan for acquiring and developing sufficient supply attached. Water Code § 10911(a)]

The foregoing determination is based on the following Water Supply Assessment Information and supporting information in the records of IRWD.


Signature
6/12/12
Date
Assistant Secretary
Title

Water Supply Assessment Information

Purpose of Assessment

Irvine Ranch Water District (“IRWD”) has been identified by the City as a public water system that will supply water service (both potable and nonpotable) to the project identified on the cover page of this assessment (the “Project”). As the public water system, IRWD is required by Section 10910 *et seq.* of the Water Code to provide the City with an assessment of water supply availability (“assessment”) for defined types of projects. The Project has been found by the City to be a project requiring an assessment. The City is required to include this assessment in the environmental document for the Project, and, based on the record, make a determination whether projected water supplies are sufficient for the Project and existing and planned uses.

Water Code Section 10910 (the “Assessment Law”) contains the requirements for the information to be set forth in the assessment.

Prior Water Supply Assessments

IRWD does not allocate particular supplies to any project, but identifies total supplies for its service area. Because of IRWD’s aggregation of demands and supplies, each assessment completed by IRWD is expected to be generally similar to the most recent assessment, with changes as needed to take into account changes, if any, in demands and supplies, and any updated and corrected information obtained by IRWD. Previously assessed projects’ water demands will be included in the baseline. A newly assessed project’s water demand will have been included in previous water supply assessments for other projects (as part of IRWD’s “full build-out” demand) to the extent of any land use planning or other water demand information for the project that was available to IRWD.

The Project’s water demand was included (as part of IRWD’s “full build-out” demand) in previous water supply assessments performed by IRWD, based on land use planning information then available to IRWD. In this water supply assessment, the Project demand will be revised in accordance with updated information provided by the applicant and included in the “with project” demand.

Supporting Documentation

IRWD prepares two planning documents to guide water supply decision-making. IRWD’s principal planning document is IRWD’s “Water Resources Master Plan” (“WRMP”). The WRMP is a comprehensive document compiling data and analyses that IRWD considers necessary for its planning needs. IRWD also prepares an Urban Water Management Plan (“UWMP”), a document required by statute. The UWMP is based on the WRMP, but contains defined elements as listed in the statute (Water Code Section 10631, *et seq.*), and as a result, is more limited than the WRMP in the treatment of supply and demand issues. Therefore, IRWD primarily relies on its most recent WRMP. The UWMP is required to be updated in years ending with “five” and “zero,” and IRWD’s most recent update of that document was adopted June 13, 2011.

In addition to the WRMP and the 2010 UWMP mentioned above, other supporting documentation referenced herein is found in Section 6 of this assessment.

Due to the number of contracts, statutes and other documents comprising IRWD's written proof of entitlement to its water supplies, in lieu of attachment of such items, they are identified by title and summarized in Section 2(b) of this assessment (written contracts/proof of entitlement). Copies of the summarized items can be obtained from IRWD.

Assessment Methodology

Water use factors; dry-year increases. IRWD employs water use factors to enable it to assign water demands to the various land use types and aggregate the demands. The water use factors are based on average water use and incorporate the effect of IRWD's tiered-rate conservation pricing and its other water conservation programs. The factors are derived from historical usage (billing data) and a detailed review of water use factors within the IRWD service areas conducted as a part of the WRMP. System losses at a rate of approximately 5% are built into the water use factors. Water demands also reflect normal hydrologic conditions (precipitation). Lower levels of precipitation and higher temperatures will result in higher water demands, due primarily to the need for additional water for irrigation. To reflect this, base (normal) WRMP water demands have been increased 7% in the assessment during both "single-dry" and "multiple-dry" years. This is consistent with IRWD's 2010 UWMP and historical regional demand variation as documented in the Metropolitan Water District of Southern California's ("MWD's") Integrated Resources Plan (1996) (Volume 1, page 2-10).

Planning horizon. For consistency with IRWD's WRMP, the assessment reviews demands and supplies through the year 2032, which is considered to represent build-out or "ultimate development".

Assessment of demands. Water demands are reviewed in this assessment for three development projections (to 2032):

- Existing and committed demand (without the Project) ("baseline"). This provides a baseline condition as of the date of this assessment, consisting of demand from existing development, plus demand from development that has both approved zoning and (if required by the Assessment Law) an adopted water supply assessment.
- Existing and committed demand, plus the Project ("with-project"). This projection adds the Project water demands to the baseline demands.
- Full WRMP build-out ("full build-out"). In addition to the Project, this projection adds potential demands for all presently undeveloped areas of IRWD based on current general plan information, modified by more specific information available to IRWD, as more fully described in Chapter 2 of the WRMP.

Assessment of supplies. For comparison with demands, water supplies are classified as *currently available* or *under development*:

- *Currently available* supplies include those that are presently operational, and those that will be operational within the next several years. Supplies expected to be operational in the next several years are those having completed or substantially completed the environmental and regulatory review process, as well as having necessary contracts (if any) in place to move forward. These supplies are in various stages of planning, design, or construction.

- In general, supplies *under development* may necessitate the preparation and completion of environmental documents, regulatory approvals, and/or contracts prior to full construction and implementation.

IRWD is also evaluating the development of additional supplies that are not included in either *currently available* or *under-development* supplies for purposes of this assessment. As outlined in the WRMP, prudent water supply and financial planning dictates that development of supplies be phased over time consistent with the growth in demand.

Water supplies available to IRWD include several sources: groundwater pumped from the Orange County groundwater basin (including the Irvine Subbasin); captured local (native) surface water; reclaimed wastewater, and supplemental imported water supplied by MWD through the Municipal Water District of Orange County (“MWDOC”). The supply-demand comparisons in this assessment are broken down among the various sources, and are further separated into potable and nonpotable water sources.

Comparison of demand and supply. The three demand projections noted above (baseline, with-project and full build-out) are compared with supplies in the following ways:

- On a total *annual* quantity basis (stated in acre-feet per year (AFY)).
- On a *peak-flow* (maximum day) basis (stated in cubic feet per second (cfs)).
- Under three climate conditions: base (normal) conditions and single-dry and multiple-dry year conditions. (Note: These conditions are compared for *annual* demands and not for *peak-flow* demands. *Peak-flow* is a measure of a water delivery system’s ability to meet the highest day’s demand of the fluctuating demands that will be experienced in a year’s time. Peak demands occur during the hot, dry season and as a result are not appreciably changed by dry-year conditions; dry-year conditions do affect *annual* demand by increasing the quantity of water needed to supplement normal wet-season precipitation.)

Summary of Results of Demand-Supply Comparisons

Listed below are Figures provided in this assessment, comparing projected potable and nonpotable water supplies and demands under the three development projections:

- Figure 1: Normal Year Supply and Demand – Potable Water
- Figure 2: Single Dry-Year Supply and Demand – Potable Water
- Figure 3: Multiple Dry-Year Supply and Demand – Potable Water
- Figure 4: Maximum-Day Supply and Demand – Potable Water
- Figure 5: Normal Year Supply and Demand – Nonpotable Water
- Figure 6: Single Dry-Year Supply and Demand – Nonpotable Water
- Figure 7: Multiple Dry-Year Supply and Demand – Nonpotable Water
- Figure 8: Maximum-Day Supply and Demand – Nonpotable Water

It can be observed in the Figures that IRWD’s *supplies* remain essentially constant between normal, single-dry and multiple-dry years. This result is due to the fact that groundwater and MWD imported water account for all of IRWD’s potable supply, and reclaimed water, groundwater and imported water comprise most of IRWD’s nonpotable supply. Groundwater production typically remains constant or increases in cycles of dry years, even if

overdraft of the basin temporarily increases, as groundwater producers reduce their demand on imported supplies to secure reliability. (See Section 4 herein.) As to imported water, MWD's 2010 Regional Urban Water Management Plan (RUWMP) shows that MWD can maintain reliable supplies under the conditions that have existed in past dry periods through 2035, including a repeat of the 1990-1992 multiple dry-year hydrology and the 1977 single dry-year hydrology. (See Section 2(b) (1) "IMPORTED SUPPLY - ADDITIONAL INFORMATION," below, for a summary of information provided by MWD.) Reclaimed water production also remains constant, and is considered "drought-proof" as a result of the fact that sewage flows remain virtually unaffected by dry years. Only a small portion of IRWD's nonpotable supply, native water captured in Irvine Lake, is reduced in single-dry and multiple-dry years. The foregoing factors also serve to explain why there is no difference in IRWD's supplies between single-dry and multiple-dry years.

A review of the Figures indicates the following:

- *Currently available* supplies of potable water are adequate to meet projected annual demands for both the *baseline* and *with-project* demand projections under the normal and both dry-year conditions through the year 2015. (Figures 1, 2 and 3.)
- Meeting both single- and multiple-dry-year annual demands for *full build-out* will require the completion of *under-development* supplies. (Figures 2 and 3.)
- Adequate *currently available* potable water supply capacity is available to meet *peak-flow* (maximum day) demands for all demand projections through the year 2032. (Figure 4.)
- With respect to nonpotable water, *currently available* supplies are adequate to meet projected annual demands for both the *baseline* and *with-project* demand projections under both dry-year conditions through the year 2020. (Figures 5, 6, 7 and 8). IRWD is proceeding with the implementation of *under-development* nonpotable supplies, as shown in the Figures, to improve local reliability during dry-year conditions.

The foregoing Figures provide an overview of IRWD potable and nonpotable water supply capabilities. More detailed information on the anticipated development and use of supplies, which incorporates source costs and reliability issues, is provided in the WRMP.

Margins of safety. The Figures and other information described in this assessment show that IRWD's assessment of supply availability contains several margins of safety or buffers:

- "Reserve" water supplies (excess of supplies over demands) will be available to serve as a buffer against inaccuracies in demand projections, future changes in land use, or alterations in supply availability.
- The potential exists for the treatment and conversion of some reserve nonpotable supplies to potable water.
- Conservative estimates of annual potable and nonpotable *imported* supplies have been made based on connected delivery capacity (by application of peaking factors as described below in Section 2, footnote 1); additional supplies are expected to be available from these sources, based on legal entitlements, historical uses and

information provided by MWD. In addition to MWD's existing regional supply assessments, this assessment has considered MWD information concerning recent events. See "**Recent Actions on Delta Pumping**," below.

- Information provided by MWD, as the imported water supplier, concerning the adequacy of its regional supplies, summarized herein, demonstrates MWD's inclusion of reserves in its regional supply assessments. In addition to MWD's existing regional supply assessments, this assessment has considered MWD information concerning recent events. See "**Recent Actions on Delta Pumping**," below.
- Although groundwater supply amounts shown in this assessment assume production levels within applicable basin production percentages described herein, production of groundwater can exceed applicable basin production percentages on a short-term basis, providing additional reliability during dry years or emergencies.

Recent Actions on Delta Pumping. The Sacramento/San Joaquin Delta (Delta) is a vulnerable component in both the State and Federal systems to convey water from northern portions of California to areas south of the Delta. Issues associated with the Delta have generally been known for years; however, most recently, the continuing decline in the number of endangered Delta smelt resulted in the filing of litigation challenging permits for the operation of the Delta pumping facilities. On August 31, 2007, a Federal court ordered interim protective measures for the endangered Delta smelt, including operational limits on Delta pumping, which will have an effect on State Water Project (SWP) operations and supplies in 2008 and subsequent years. On June 4, 2009, a federal biological opinion imposed rules that will further restrict water diversions from the Delta to protect endangered salmon and other endangered fish species. At present, several proceedings concerning Delta operations are ongoing to evaluate options to address Delta smelt impacts and other environmental concerns. In addition to the regulatory and judicial proceedings to address immediate environmental concerns, the Delta Vision process and Bay-Delta Conservation Plan process are defining long-term solutions for the Delta (MWD 2010 IRP Update). Prior to the 2007 court decision, MWD's Board approved a Delta Action Plan in May 2007 that described short, mid and long-term conditions and the actions to mitigate potential supply shortages and to develop and implement long-term solutions. To comprehensively address the impacts of the SWP cut back on MWD's water supply development targets, MWD brought to its Board a strategy and work plan to update the long-term Integrated Resources Plan (IRP) in December 2007. As part of the IRP Update, MWD developed a region-wide collaborative process that included a broad-based stakeholder involvement. MWD held several stakeholder forums in 2008 and 2009 and the MWD Board adopted the 2010 IRP Update on October 12, 2010. In the 2010 IRP Update, MWD identified changes to the long-term plan and established direction to address the range of potential changes in water supply planning. The IRP also discusses dealing with uncertainties related to impacts of climate change (see additional discussion of this below) as well as actions to protect endangered fisheries. Based on MWD's Findings and Conclusions as stated in the MWD 2010 IRP Update, MWD's reliability goal that full-service demands at the retail level will be satisfied for all foreseeable hydrologic conditions remains unchanged in the 2010 IRP Update, and MWD will accomplish this through its core resources strategies. The 2010 IRP Update emphasizes an evolving approach and suite of actions to address the water supply challenges that are posed by uncertain weather patterns, regulatory and environmental restrictions, water quality impacts and changes in the state and the region. MWD's Adaptive Resource Management Strategy includes three components: Core Resources Strategy, Supply Buffer Implementation and Foundational Actions which together provides the basis for the 2010 IRP Update. The 2010 IRP Update expands the concept of developing a planning buffer from the 2004 IRP Update by

implementing a supply buffer equal to 10 percent of the total retail demand. MWD will collaborate with the member agencies to implement this buffer through complying with Senate Bill 7 which calls for the state to reduce per capita water use 20 percent by the year 2020.

IRWD's Evaluation of Effect of Reduced MWD Supplies to IRWD: MWD states it is sufficiently reliable to meet full-service demands at the retail level for all foreseeable hydrologic conditions. For purposes of ensuring a conservative analysis, IRWD has compiled information from the prior "MWD IRP Implementation Report" (October 2010) and MWD's RUWMP (November 2010), to provide information in this assessment relative to how reduced SWP supplies could potentially affect IRWD's supplies from MWD.

Based on IRWD's evaluation of MWD's SWP supplies, IRWD estimates that the 22% used by MWD's October 2007 IRP Implementation Report as a potential reduction of MWD's SWP supplies conservatively translates to approximately 16% reduction in all of MWD's imported supplies over the years 2015 through 2035.¹ For this purpose it is assumed that MWD's total supplies consist only of imported SWP and Colorado deliveries. As shown in MWD's RUWMP (Tables A.3-7), SWP deliveries on average over the 20-year period are 1,682,000 acre-feet and Colorado base average supplies are 656,000 acre-feet. A 22% reduction of SWP supplies equates to 370,000 acre-feet which is approximately 16% of MWD's total imported supplies. Based on this estimate, this assessment projects a 16% reduction in MWD supplies available to IRWD for the years 2010 through 2035, using IRWD's connected capacity without any water supply allocation imposed by MWD. This reduction in MWD supplies is reflected in Figures 1, 2, 3, 5, 6, and 7.

As an alternative means of analyzing the 22% stated reduction, Figures 1a, 2a, and 3a show IRWD estimated supplies in all of the 5-year increments (average and single and multiple dry years) under a short-term MWD allocation scenario whereby MWD declares Shortage Stage 2 and a 10% cutback is applied to IRWD's actual usage rather than its connected capacity. In February 2009, MWD adopted a Water Supply Allocation Plan based on its declared level of shortage. In response to potential water shortages and a request by MWD to have water service providers within its service area adopt a water conservation ordinance, in February 2009, IRWD updated Section 15 of its Rules and Regulations – Water Conservation and Water Supply Shortage Program and also updated its Water Shortage Contingency Plan which is a supporting document for Section 15. Section 15 of the Rules and Regulations serves as IRWD's "conservation ordinance". As stated in IRWD's Water Shortage Contingency Plan, use of local supplies, storage and other supply augmentation measures can mitigate shortages, and are assumed to be in use to the maximum extent possible during declared shortage levels.

¹ MWD's 2010 RUWMP cites to DWR's Water Allocation Analysis dated March 22, 2010, which incorporated the Delta smelt biological opinion's effect on SWP operations, export restrictions could reduce deliveries to MWD by 150 to 200 thousand acre-feet for 2010. DWR estimated that approximately 520,000 AF had been lost to the SWP for 2010 of which nearly 240,000 AF would have been available to MWD. This amount is equivalent to about 16% reduction in SWP supplies, a smaller percentage reduction than MWD's 2007 figure of 22% that was used by IRWD for purposes of this analysis.

Under shortage scenarios, IRWD may need to supplement supplies with production of groundwater, which can exceed the applicable basin production percentage on a short-term basis, providing additional reliability during dry years or emergencies.² In addition, if needed resultant net shortage levels can be addressed by demand reduction programs as described in IRWD's Water Shortage Contingency Plan.

Listed below are Figures provided comparing projected potable water supplies and demands in all of the five year increments, under a temporary MWD allocation scenario:

Figure 1a: Normal Year Supply and Demand (MWD Allocated) – Potable Water
Figure 2a: Single Dry-Year Supply and Demand (MWD Allocated) – Potable Water
Figure 3a: Multiple Dry-Year Supply and Demand (MWD Allocated) – Potable Water

It can be noted that IRWD's above approach is conservative, in that IRWD evaluates the effect of the 16% reduction through 2032 and shows the effect of current allocation scenarios in all of the five-year increments but MWD reports that it has made significant progress in other water resource categories such as transfers, groundwater storage and developing other local resources, and supplies will be available from these resources over the long-term.

Climate Change. The California Department of Water Resources ("DWR") released a report "Progress on Incorporating Climate Change into Management of California's Water Resources" (July 2006), considering the impacts of climate change on the State's water supply. DWR emphasizes that "the report represents an example of an impacts assessment based on four scenarios defining an expected range of potential climate change impacts." DWR's major goal is to extend the analysis for long-term water resource planning from "assessing impacts" to "assessing risk." The report presents directions for further work in incorporating climate change into the management of California's water resources. Emphasis is placed on associating probability estimates with potential climate change scenarios in order to provide policymakers with both ranges of impacts and the likelihoods associated with those impacts. DWR's report acknowledges "that all results presented in this report are preliminary, incorporate several assumptions, reflect a limited number of climate change scenarios, and do not address the likelihood of each scenario. Therefore, these results are not sufficient by themselves to make policy decisions."

In MWD's 2010 IRP Update, MWD recognizes there is a significant uncertainty in the impact of climate change on water supply and changes in weather patterns could significantly affect water supply reliability. MWD plans to hedge against supply and environmental uncertainties by implementing a supply buffer equivalent to 10 percent of total retail demand. This buffer will be implemented through meeting the SB7 water use efficiency goals, implementing aggressive adaptive actions, development of local supplies and transfers.

² In these scenarios, it is anticipated that other water suppliers who produce water from the Orange County Basin will also experience cutbacks of imported supplies and will increase groundwater production and that Orange County Water District (OCWD) imported replenishment water may also be cutback. The OCWD's "2008-2009 Engineer's Report on the groundwater conditions, water supply and basin utilization" references a report which recommends a basin management strategy that provides general guidelines for annual basin refill or storage decrease based on the level of accumulated overdraft. It states, "an accumulated overdraft of 500,000 AF is only acceptable for short durations due to drought conditions...and an optimal basin management target of 100,000 AF of accumulated overdraft provides sufficient storage space to accommodate increased supplies from one wet year while also providing enough water in storage to offset decreased supplies during a two- to three-year drought." MWD replenishment water is a supplemental source of recharge water and OCWD estimates other main supply sources for recharge are available.

Per MWD's RUWMP, MWD continues to incorporate current climate change science into its planning efforts. As stated in MWD's RUWMP, the 2010 IRP Update supports the MWD Board adopted principles on climate change by: 1) Supporting reasonable, economically viable, and technologically feasible management strategies for reducing impacts on water supply, 2) Supporting flexible "no regret" solutions that provide water supply and quality benefits while increasing the ability to manage future climate change impacts, and 3) Evaluating staff recommendations regarding climate change and water resources against the California Environmental Quality Act to avoid adverse effects on the environment. Potential climate change impacts on state, regional and local water supplies and relevant information for the Orange County hydrologic basin and Santa Ana Watershed have not been sufficiently developed at this time to permit IRWD to assess and quantify the effect of any such impact on its conclusions in the Assessment.

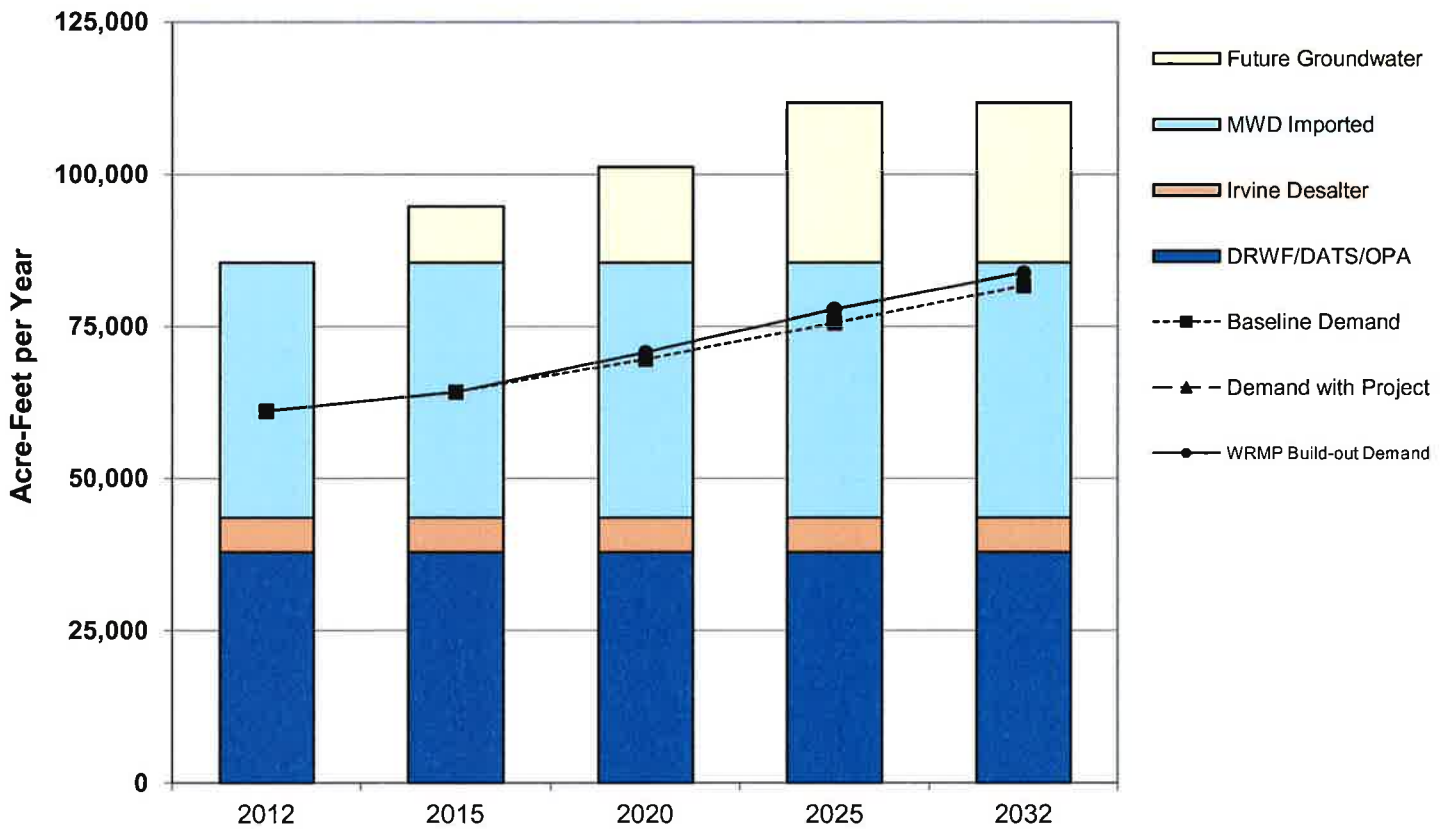
Catastrophic Supply Interruption Planning. MWD has developed Emergency Storage Requirements (2010 RUWMP) to safeguard the region from catastrophic loss of water supply. MWD has made substantial investments in emergency storage and has based its planning on a 100% reduction in its supplies for a period of six months. The emergency plan outlines that under such a catastrophe, non-firm service deliveries would be suspended, and firm supplies would be restricted by a mandatory cutback of 25 percent from normal year demand deliveries. In addition, MWD discusses the long term Delta plan in its 2010 RUWMP (pages 3-18 to 3-21). IRWD has also addressed supply interruption planning in its WRMP and UWMP.

Detailed Assessment

1. Supply and demand comparison

Comparisons of IRWD's average annual and peak (maximum day) demands and supplies, under *baseline* (existing and committed demand, without the Project), *with-project* (baseline plus Project), and *full build-out* development projections, are shown in the following Figures 1-4 (potable water), Figures 5-8 (nonpotable water) and Figures 1a, 2a, and 3a (short term MWD allocation potable water). See also the "Recent Actions on Delta Pumping" above.

**Figure 1
IRWD Normal-Year Supply & Demand - Potable Water**

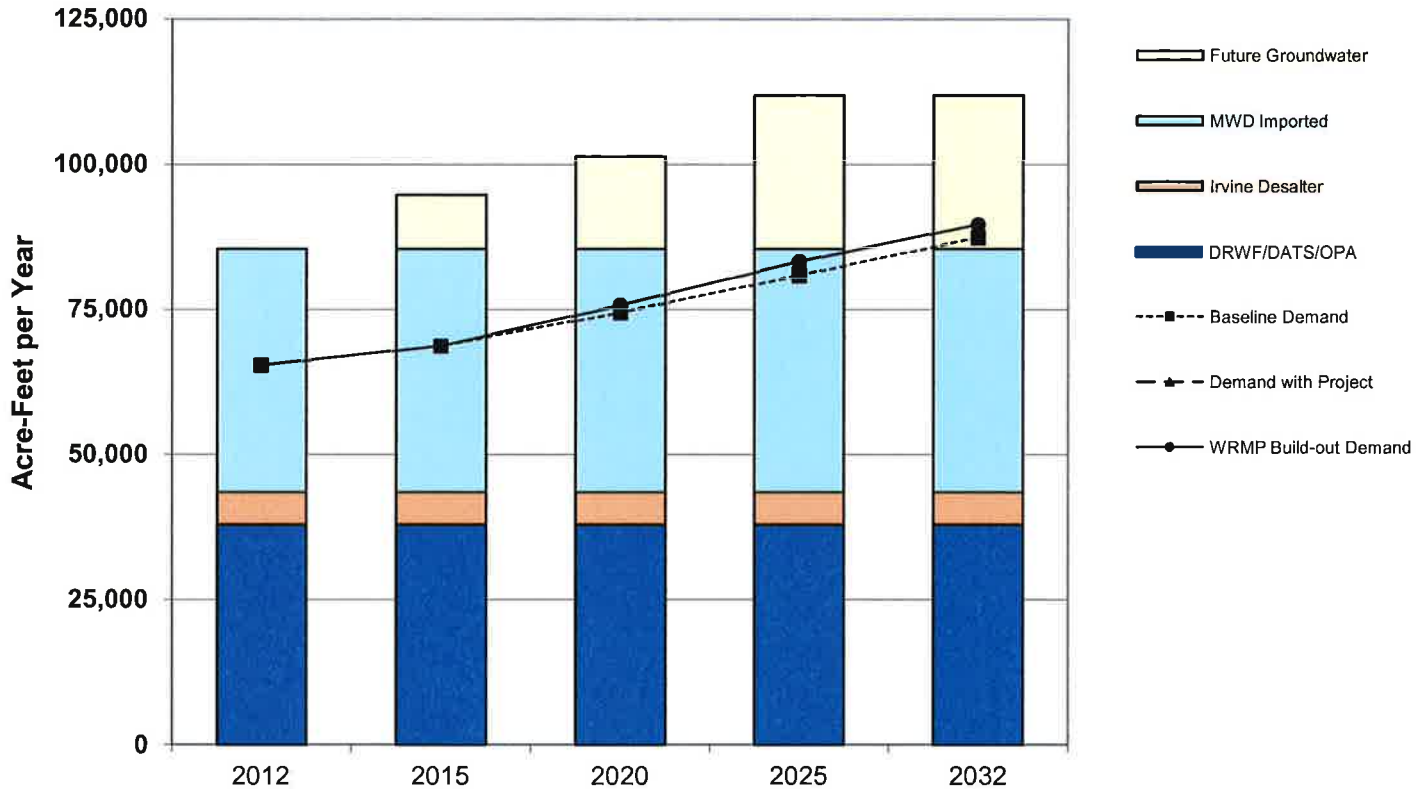


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	41,929	41,929	41,929	41,929	41,929
DRWF/DATS/OPA	37,900	37,900	37,900	37,900	37,900
Irvine Desalter	5,640	5,640	5,640	5,640	5,640
Wells 21 & 22	-	6,300	6,300	6,300	6,300
Supplies Under Development					
Future Groundwater	-	9,300	15,800	26,300	26,300
Maximum Supply Capability	85,469	101,069	107,569	118,069	118,069
Baseline Demand	60,992	64,220	69,563	75,505	81,667
Demand with Project	60,988	64,182	70,713	77,759	83,807
WRMP Build-out Demand	60,988	64,182	70,713	77,759	83,807
Reserve Supply with Project	24,481	36,888	36,856	40,310	34,262

Notes: By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

Figure 2
IRWD Single Dry-Year Supply & Demand - Potable Water

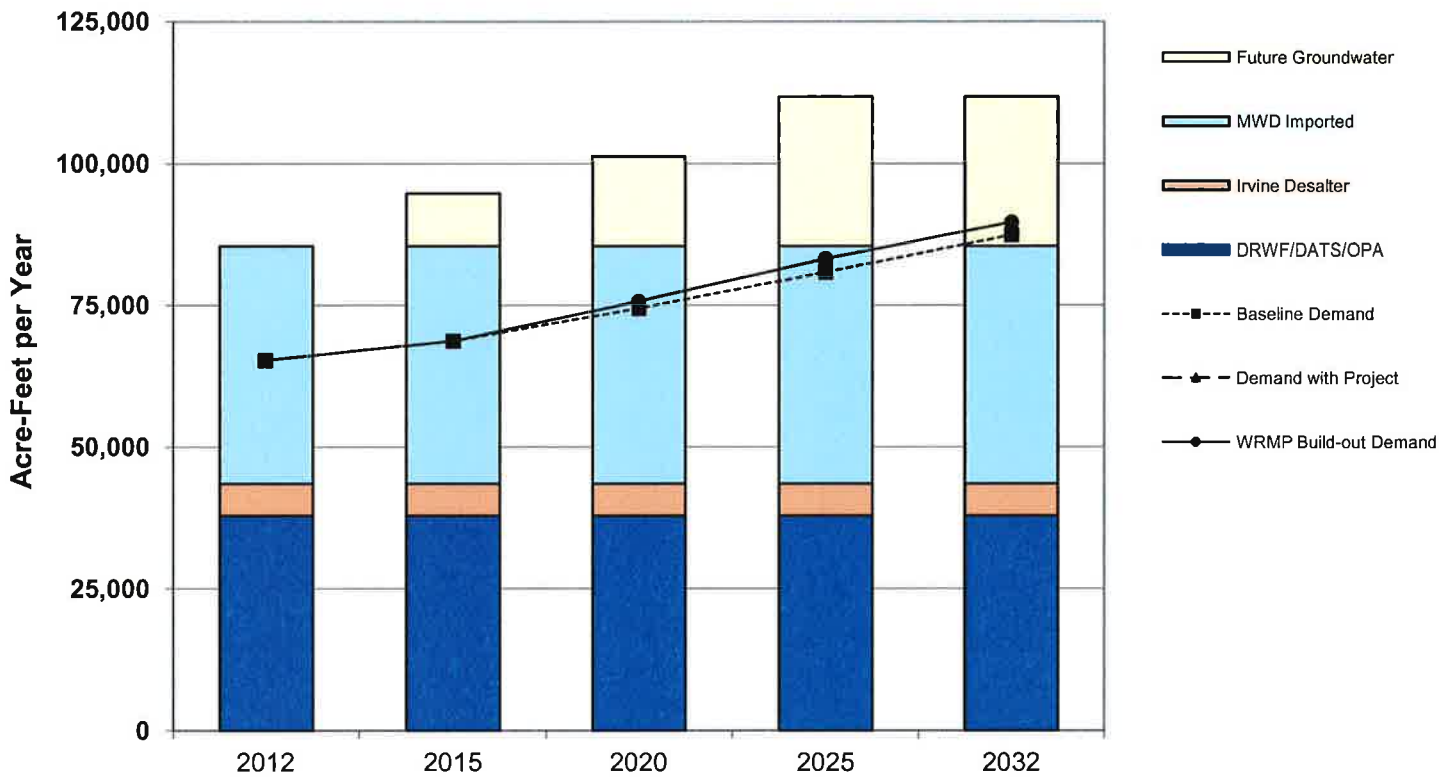


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	41,929	41,929	41,929	41,929	41,929
DRWF/DATS/OPA	37,900	37,900	37,900	37,900	37,900
Irvine Desalter	5,640	5,640	5,640	5,640	5,640
Wells 21 & 22	-	6,300	6,300	6,300	6,300
Supplies Under Development					
Future Groundwater	-	9,300	15,800	26,300	26,300
Maximum Supply Capability	85,469	101,069	107,569	118,069	118,069
Baseline Demand	65,262	68,716	74,432	80,791	87,384
Demand with Project	65,257	68,674	75,663	83,202	89,674
WRMP Build-out Demand	65,257	68,674	75,663	83,202	89,674
Reserve Supply with Project	20,212	32,395	31,907	34,867	28,395

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan (11/8/05) and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

**Figure 3
IRWD Multiple Dry-Year Supply & Demand - Potable Water**

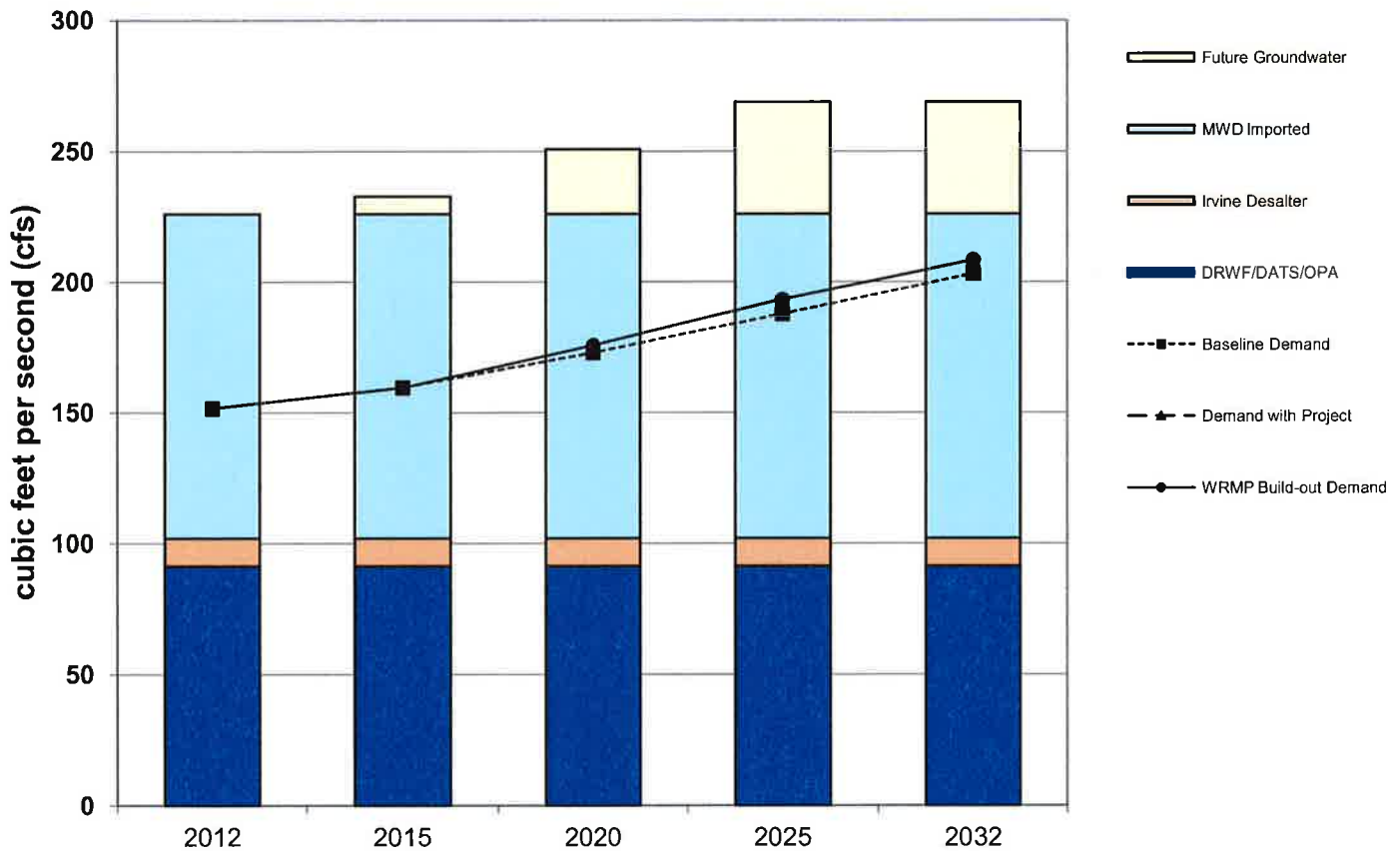


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	41,929	41,929	41,929	41,929	41,929
DRWF/DATS/OPA	37,900	37,900	37,900	37,900	37,900
Irvine Desalter	5,640	5,640	5,640	5,640	5,640
Wells 21 & 22	-	6,300	6,300	6,300	6,300
Supplies Under Development					
Future Groundwater	-	9,300	15,800	26,300	26,300
Maximum Supply Capability	85,469	101,069	107,569	118,069	118,069
Baseline Demand	65,262	68,716	74,432	80,791	87,384
Demand with Project	65,257	68,674	75,663	83,202	89,674
WRMP Build-out Demand	65,257	68,674	75,663	83,202	89,674
Reserve Supply with Project	20,212	32,395	31,907	34,867	28,395

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan (11/8/05) and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

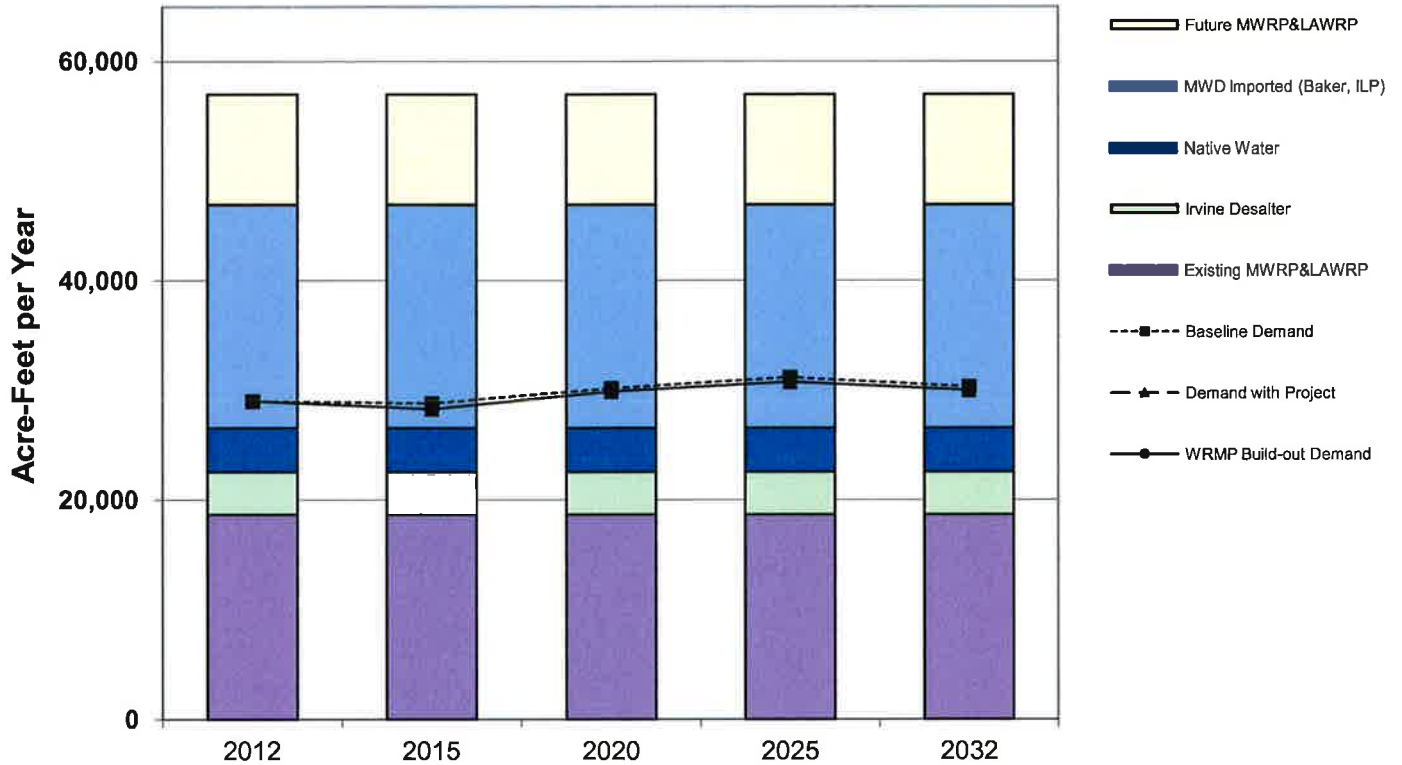
MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

**Figure 4
IRWD Maximum-Day Supply & Demand - Potable Water**



(in cfs)	2012	2015	2020	2025	2032
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	124.1	124.1	124.1	124.1	124.1
DRWF/DATS/OPA	91.4	91.4	91.4	91.4	91.4
Irvine Desalter	10.6	10.6	10.6	10.6	10.6
Wells 21 & 22	-	6.0	6.0	6.0	6.0
Supplies Under Development					
Future Groundwater	-	6.7	24.7	42.7	42.7
Maximum Supply Capability	226.1	238.8	256.8	274.8	274.8
Baseline Demand	151.6	159.7	172.9	187.7	203.0
Demand with Project	151.6	159.6	175.8	193.3	208.4
WRMP Build-out Demand	151.6	159.6	175.8	193.3	208.4
Reserve Supply with Project	74.5	79.3	81.0	81.5	66.5

**Figure 5
IRWD Normal-Year Supply & Demand - Nonpotable Water**

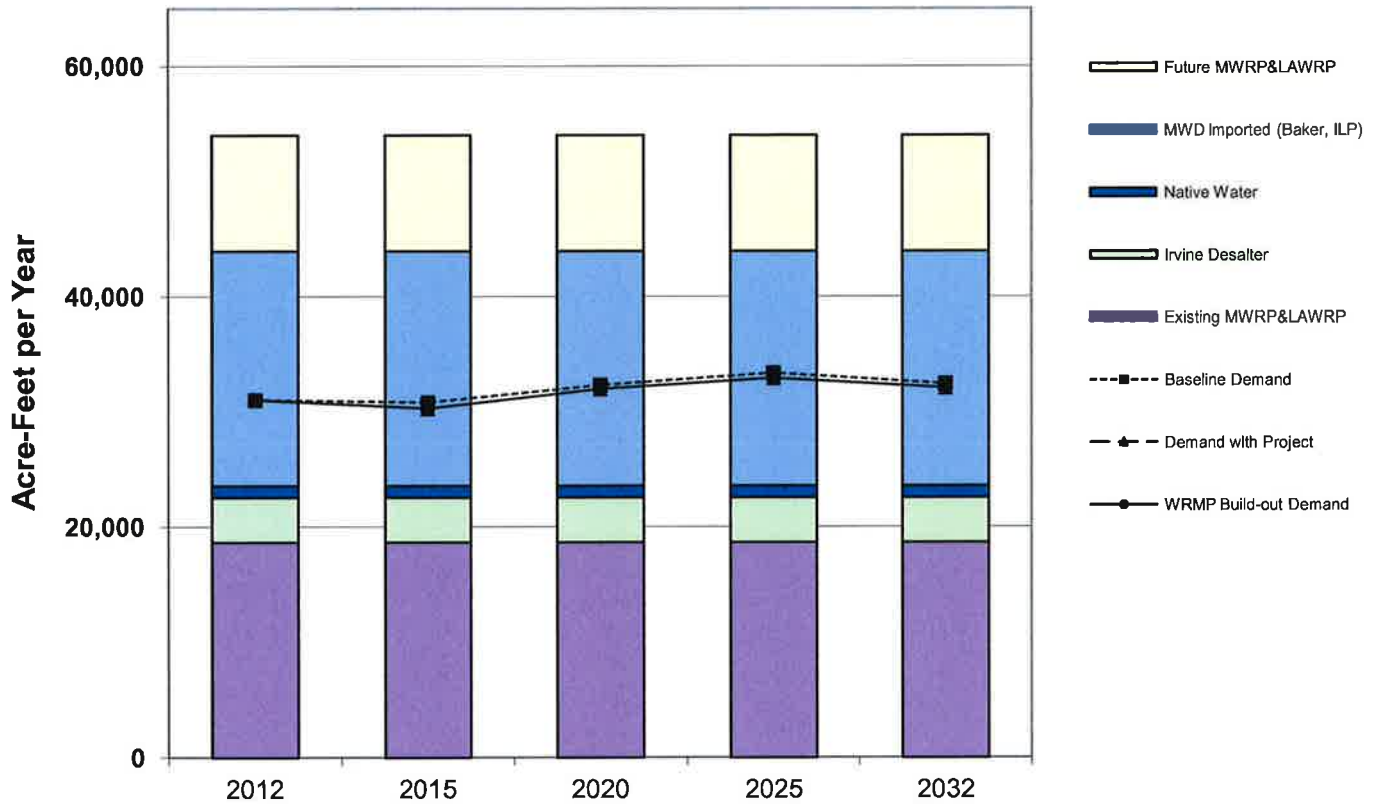


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Nonpotable Supplies					
Existing MWRP&LAWRP	18,657	18,657	18,657	18,657	18,657
MWD Imported (Baker, ILP)	20,380	20,380	20,380	20,380	20,380
Irvine Desalter	3,898	3,898	3,898	3,898	3,898
Native Water	4,000	4,000	4,000	4,000	4,000
Supplies Under Development					
Future MWRP&LAWRP	10,100	10,100	10,100	10,100	10,100
Maximum Supply Capability	57,035	57,035	57,035	57,035	57,035
Baseline Demand	28,985	28,779	30,169	31,157	30,296
Demand with Project	28,985	28,281	29,856	30,757	29,972
WRMP Build-out Demand	28,985	28,281	29,856	30,757	29,972
Reserve Supply with Project	28,050	28,050	28,754	27,179	27,063

Note: Downward trend reflects reduction in agricultural use over time.

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

**Figure 6
IRWD Single Dry-Year Supply & Demand - Nonpotable Water**

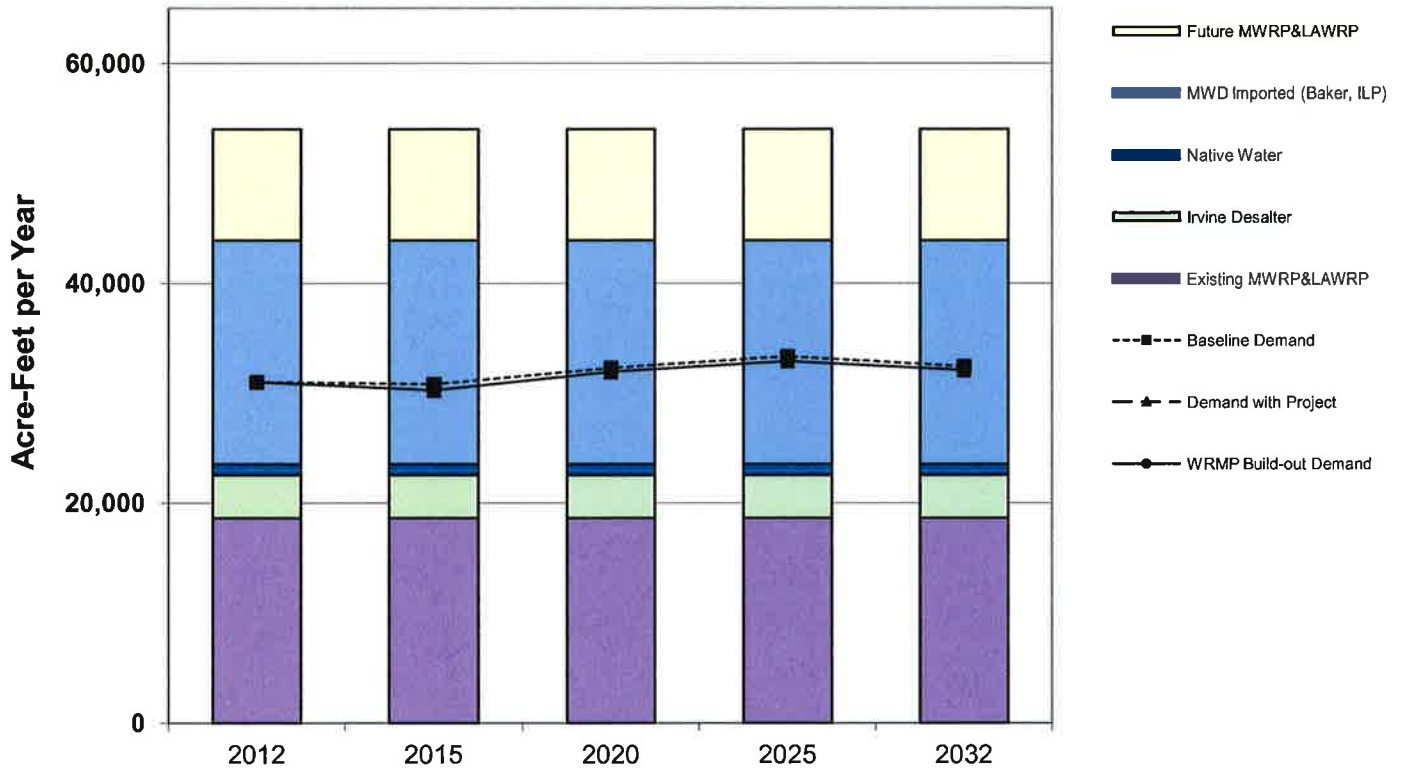


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Nonpotable Supplies					
Existing MWRP&LAWRP	18,657	18,657	18,657	18,657	18,657
MWD Imported (Baker, ILP)	20,380	20,380	20,380	20,380	20,380
Irvine Desalter	3,898	3,898	3,898	3,898	3,898
Native Water	1,000	1,000	1,000	1,000	1,000
Supplies Under Development					
Future MWRP&LAWRP	10,100	10,100	10,100	10,100	10,100
Maximum Supply Capability	54,035	54,035	54,035	54,035	54,035
Baseline Demand	31,014	30,794	32,281	33,338	32,417
Demand with Project	31,014	30,261	31,946	32,910	32,070
WRMP Build-out Demand	31,014	30,261	31,946	32,910	32,070
Reserve Supply with Project	23,021	23,774	22,089	21,125	21,965

Note: Downward trend reflects reduction in agricultural use over time.

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

**Figure 7
IRWD Multiple Dry-Year Supply & Demand - Nonpotable Water**

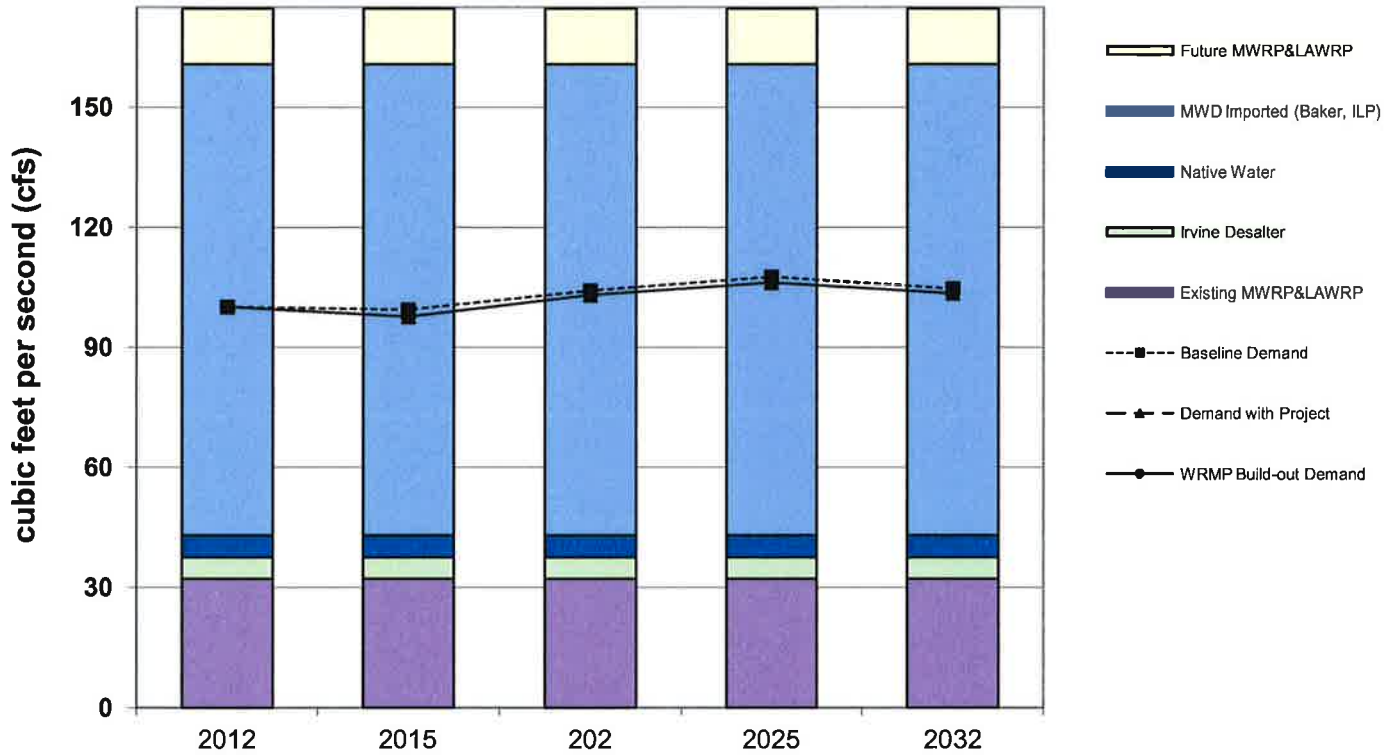


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Nonpotable Supplies					
Existing MWRP&LAWRP	18,657	18,657	18,657	18,657	18,657
MWD Imported (Baker, ILP)	20,380	20,380	20,380	20,380	20,380
Irvine Desalter	3,898	3,898	3,898	3,898	3,898
Native Water	1,000	1,000	1,000	1,000	1,000
Supplies Under Development					
Future MWRP&LAWRP	10,100	10,100	10,100	10,100	10,100
Maximum Supply Capability	54,035	54,035	54,035	54,035	54,035
Baseline Demand	31,014	30,794	32,281	33,338	32,417
Demand with Project	31,014	30,261	31,946	32,910	32,070
WRMP Build-out Demand	31,014	30,261	31,946	32,910	32,070
Reserve Supply with Project	23,021	23,774	22,089	21,125	21,965

Note: Downward trend reflects reduction in agricultural use over time.

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

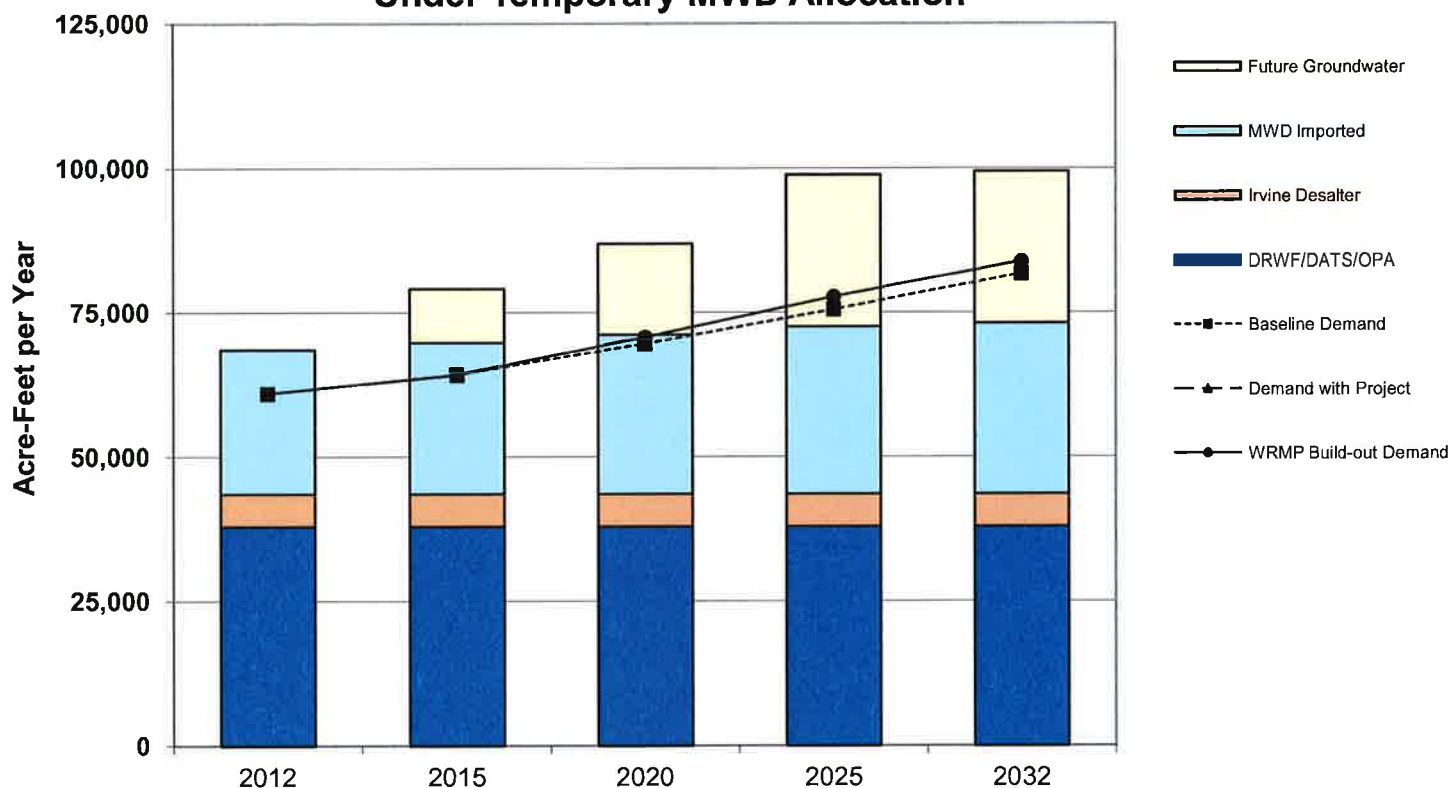
**Figure 8
IRWD Maximum-Dry Supply & Demand - Nonpotable Water**



(in cfs)	2012	2015	2022	2025	2032
Current Nonpotable Supplies					
Existing MWRP&LAWRP	32.2	32.2	32.2	32.2	32.2
Irvine Desalter	5.4	5.4	5.4	5.4	5.4
Native Water	5.5	5.5	5.5	5.5	5.5
MWD Imported (Baker, ILP)	117.7	117.7	117.7	117.7	117.7
Supplies Under Development					
Future MWRP&LAWRP	14.0	14.0	14.0	14.0	14.0
Maximum Supply Capability	174.7	174.7	174.7	174.7	174.7
Baseline Demand	100.1	99.4	104.2	107.6	104.6
Demand with Project	100.1	97.7	103.1	106.2	103.5
WRMP Build-out Demand	100.1	97.7	103.1	106.2	103.5
Reserve Supply with Project	74.6	77.1	71.6	68.5	71.2

Note: Downward trend reflects reduction in agricultural use over time.

Figure 1a
IRWD Normal-Year Supply & Demand - Potable Water
Under Temporary MWD Allocation*

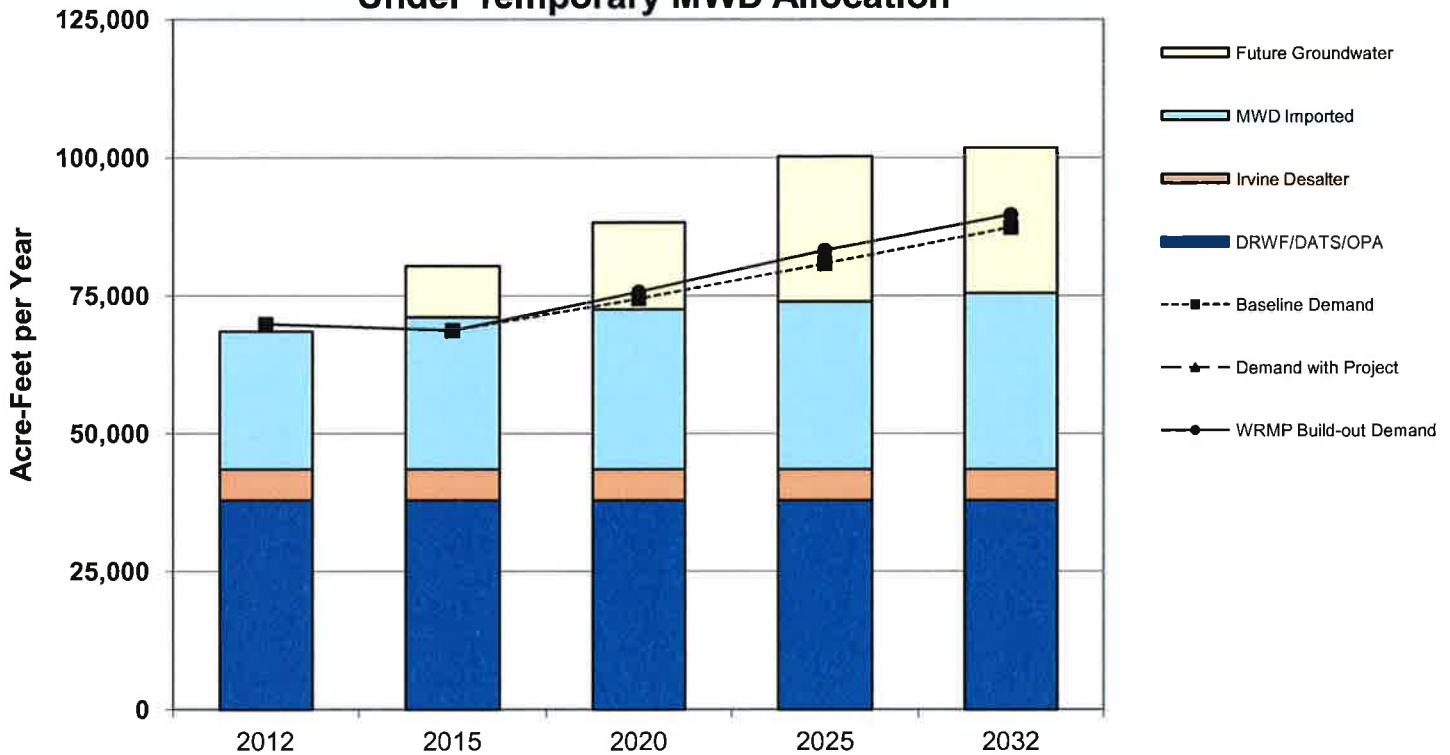


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	25,000	26,275	27,616	29,024	29,608
DRWF/DATS/OPA	37,900	37,900	37,900	37,900	37,900
Irvine Desalter	5,640	5,640	5,640	5,640	5,640
Wells 21 & 22	-	6,300	6,300	6,300	6,300
Supplies Under Development					
Future Groundwater	-	9,300	15,800	26,300	26,300
Maximum Supply Capability	68,540	85,415	93,256	105,164	105,748
Baseline Demand	60,992	64,220	69,563	75,505	81,667
Demand with Project	60,988	64,182	70,713	77,759	83,807
WRMP Build-out Demand	60,988	64,182	70,713	77,759	83,807
Reserve Supply with Project	7,552	21,234	22,543	27,405	21,940

Notes: By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a short-term 10% allocation, Shortage Stage 2 in all of the 5-year increments. However, it is likely that such a scenario would only be temporary. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis. IRWD may also reduce demands by implementing shortage contingency measures as described in the UWMP.

**Figure 2a
IRWD Single Dry-Year Supply & Demand - Potable Water
Under Temporary MWD Allocation***

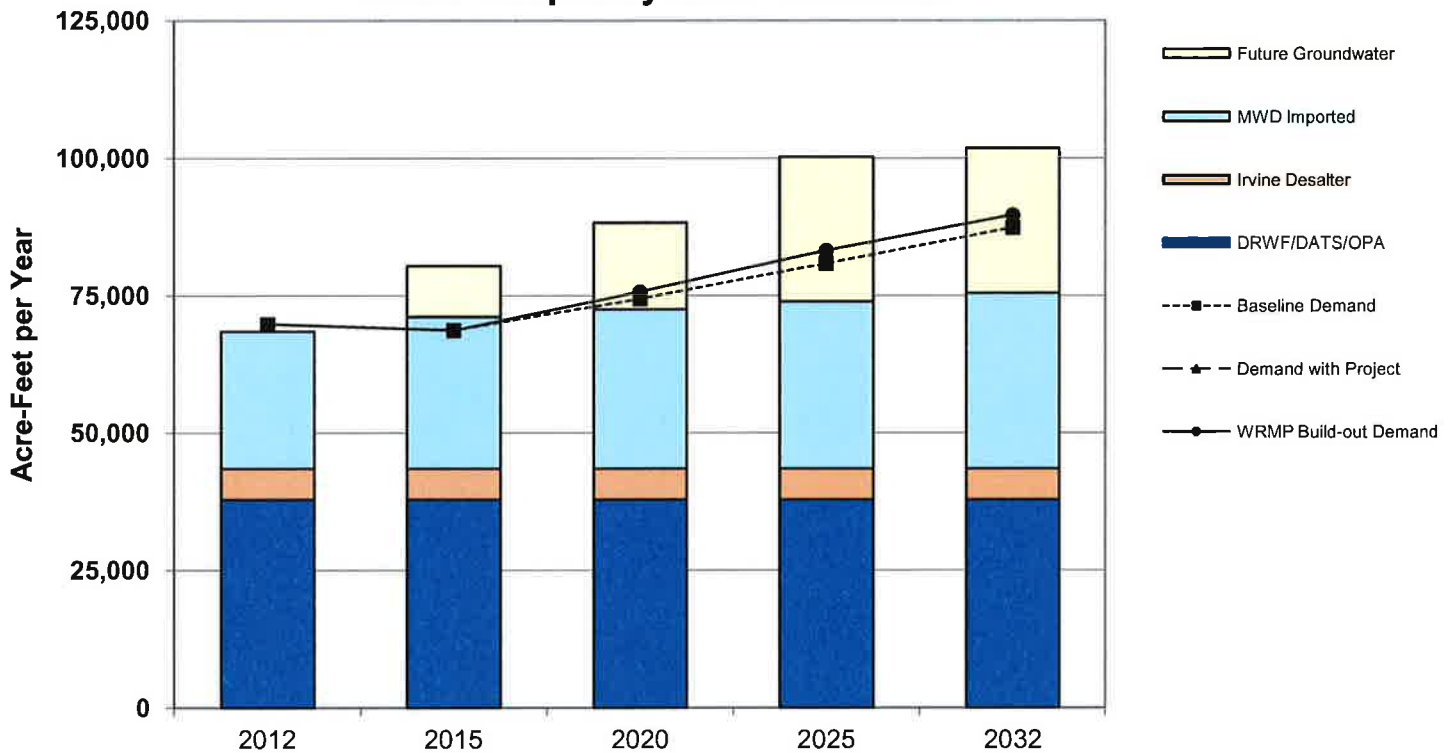


(in acre-feet per year)	2012	2015	2020	2025	2032
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	25,000	27,589	28,968	30,417	31,938
DRWF/DATS/OPA	37,900	37,900	37,900	37,900	37,900
Irvine Desalter	5,640	5,640	5,640	5,640	5,640
Wells 21 & 22	-	6,300	6,300	6,300	6,300
Supplies Under Development					
Future Groundwater	-	9,300	15,800	26,300	26,300
Maximum Supply Capability	68,540	86,729	94,608	106,557	108,078
Baseline Demand	69,830	68,716	74,432	80,791	87,384
Demand with Project	69,825	68,674	75,663	83,202	89,674
WRMP Build-out Demand	69,825	68,674	75,663	83,202	89,674
Reserve Supply with Project	(1,285)	18,055	18,946	23,355	18,404

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan (11/8/05) and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a short-term 10% allocation, Shortage Stage 2 in all of the 5-year increments. However, it is likely that such a scenario would only be temporary. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis. IRWD may also reduce demands by implementing shortage contingency measures as described in the UWMP.

Figure 3a
IRWD Multiple Dry-Year Supply & Demand - Potable Water
Under Temporary MWD Allocation*



(in acre-feet per year)	2012	2015	2020	2025	2032
Current Potable Supplies					
MWD Imported (EOCF#2, AMP, OCF)	25,000	27,589	28,968	30,417	31,938
DRWF/DATS/OPA	37,900	37,900	37,900	37,900	37,900
Irvine Desalter	5,640	5,640	5,640	5,640	5,640
Supplies Under Development					
Future Groundwater	-	9,300	15,800	26,300	26,300
Maximum Supply Capability	68,540	80,429	88,308	100,257	101,778
Baseline Demand	69,830	68,716	74,432	80,791	87,384
Demand with Project	69,825	68,674	75,663	83,202	89,674
WRMP Build-out Demand	69,825	68,674	75,663	83,202	89,674
Reserve Supply with Project	(1,285)	11,755	12,646	17,055	12,104

Notes: Supplies identical to Normal-Year based on Metropolitan's Regional Urban Water Management Plan (11/8/05) and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a short-term 10% allocation, Shortage Stage 2 in all of the 5-year increments. However, it is likely that such a scenario would only be temporary. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis. IRWD may also reduce demands by implementing shortage contingency measures as described in the UWMP.

2. Information concerning supplies

(a)(1) Existing sources of identified water supply for the proposed project: IRWD does not allocate particular supplies to any project, but identifies total supplies for its service area, as shown in the following table:

	Max Day (cfs)	Avg. Annual (AFY)	Annual by Category (AFY)
Current Supplies			
Potable - Imported			
East Orange County Feeder No. 2	41.4	16,652	1
Allen-McColloch Pipeline*	64.7	26,024	1
Orange County Feeder	18.0	7,240	1
			49,916
Potable - Groundwater			
Dyer Road Wellfield	80.0	28,000	2
OPA Well	1.4	1,000	
Deep Aquifer Treatment System-DATS	10.0	8,900	2
Wells 21 & 22	6.0	6,300	2
Irvine Desalter	10.6	5,640	3
			49,840
Total Potable Current Supplies	232.1		99,756
Nonpotable - Reclaimed Water			
MWRP (18 mgd)	23.9	17,340	4
LAWRP (5.5 mgd)	8.3	5,975	4
			23,315
Nonpotable - Imported			
Baker Aqueduct	52.7	15,262	5
Irvine Lake Pipeline	65.0	9,000	6
			24,262
Nonpotable - Groundwater			
Irvine Desalter-Nonpotable	5.4	3,898	7
			3,898
Nonpotable Native			
Irvine Lake	5.5	4,000	8
			4,000
Total Nonpotable Current Supplies	160.8		55,475
Total Combined Current Supplies	392.9		155,231
Supplies Under Development			
Potable Supplies			
Well 106	2.2	1,300	
Well 53	4.5	3,000	
Future OPA Wells	8.0	5,000	
Anaheim wellfield	10.0	6,500	
Wells 51 & 52	9.0	5,500	
Tustin Legacy wells	9.0	5,000	9
			26,300
Total Potable Under Development Supplies	42.7	26,300	
Nonpotable Supplies: Future MWRP&LAWRP Reclaimed	20.0	14,450	10
			14,450
Total Under Development	105.4		40,750
Total Supplies			
Potable Supplies	274.8		126,056
Nonpotable Supplies	180.7		69,925
Total Supplies (Current and Under Development)	455.6		195,981

1 Based on converting maximum day capacity to average by dividing the capacity by a peaking factor of 1.8 (see Footnote 3, page 22).

2 Contract amount - See Potable Supply-Groundwater(iii).

3 Contract amount - See Potable Supply-Groundwater (iv) and (v). Maximum day well capacity is compatible with contract amount.

4 MWRP 18.0 mgd treatment capacity (17,400 AFY RW production) and LAWRP 5.5 mgd tertiary treatment capacity (5,975 AFY)

5 Based on converting maximum day capacity to average by dividing the capacity by a peaking factor of 2.5 (see Footnote 3, page 22).

6 Based on IRWD's proportion of Irvine Lake imported water storage; Actual ILP capacity would allow the use of additional imported water from MWD through the Santiago Lateral.

7 Contract amount - See Nonpotable Supply-Groundwater (i) and (ii). Maximum day well capacity (cfs) is compatible with contract amount.

8 Based on 70 years historical average of Santiago Creek Inflow into Irvine Lake.

9 Estimated combined capacity of wells.

10 Future estimated MWRP & LAWRP reclaimed water production.

*64.7 cfs is current assigned capacity; based on increased peak flow, IRWD can purchase 10 cfs more (see page 23 (b)(1)(iii))

(2) Quantities received in prior years from existing sources identified in (a)(1):

Source	1980	1985	1990	1995	2000	2005	2010
Potable - imported	29,510	43,320	44,401	28,397	36,777	19,306	19,306
Potable - groundwater	827	38	10,215	20,020	20,919	37,160	37,160
Nonpotable - reclaimed	9,196	12,399	11,589	10,518	14,630	15,296	15,296
Nonpotable - groundwater	-	36	816	1,834	2,890	2,285	2,285
Nonpotable - native	11,909	3,587	2,778	5,980	4,949	7,251	7,251
Total	60,998	71,639	94,699	69,082	96,508	86,602	86,602

*Includes water purchased for delivery to storage in Irvine Lake.

(Source: water purchase and production records.)

(b) Required information concerning currently available and under-development water supply entitlements, water rights and water service contracts:

(1) Written contracts or other proof of entitlement.^{3 4}

• POTABLE SUPPLY - IMPORTED⁵

Potable imported water service connections (currently available).

(i) Potable imported water is delivered to IRWD at various service connections to the imported water delivery system of The Metropolitan Water District of Southern California (“MWD”): service connections CM-01A and OC-7 (Orange County Feeder); CM-10, CM-12, OC-38, OC-39, OC-57, OC-58, OC-63 (East Orange County Feeder No. 2); and OC-68, OC-71, OC-72, OC-73/73A, OC-74, OC-75, OC-83, OC-84, OC-87 (Allen-McColloch Pipeline). IRWD’s entitlements regarding service from the MWD delivery system facilities are described in the following paragraphs and summarized in the above Table ((2)(a)(1)). IRWD receives imported water service through Municipal Water District of Orange County (“MWDOC”), a member agency of MWD.

Allen-McColloch Pipeline (“AMP”) (currently available).

(ii) Agreement For Sale and Purchase of Allen-McColloch Pipeline, dated as of July 1, 1994 (Metropolitan Water District Agreement No. 4623) (“AMP Sale Agreement”). Under the AMP Sale Agreement, MWD purchased the Allen-McColloch Pipeline (formerly known as the “Diemer Intertie”) from MWDOC, the MWDOC Water Facilities Corporation and certain agencies, including IRWD and Los Alisos Water District (“LAWD”),⁶ identified as “Participants” therein. Section 5.02 of the AMP Sale Agreement obligates MWD to meet IRWD’s and the other Participants’ requests for deliveries and specified minimum hydraulic grade lines at each connection serving a Participant, subject to availability of water. MWD

³ In some instances, the contractual and other legal entitlements referred to in the following descriptions are stated in terms of flow capacities, in cubic feet per second (“cfs”). In such instances, the cfs flows are converted to volumes of AFY for purposes of analyzing supply sufficiency in this assessment, by dividing the capacity by a peaking factor of 1.8 (potable) or 2.5 (nonpotable), consistent with maximum day peaking factors used in the WRMP. The resulting reduction in assumed available annual AFY volumes through the application of these factors recognizes that connected capacity is provided to meet peak demands and that seasonal variation in demand and limitations in local storage prevent these capacities from being utilized at peak capacity on a year-round basis. However, the application of these factors produces a conservatively low estimate of annual AFY volumes from these connections; additional volumes of water are expected to be available from these sources.

⁴ In the following discussion, contractual and other legal entitlements are characterized as either potable or nonpotable, according to the characterization of the source of supply. Some of the nonpotable supplies surplus to nonpotable demand could potentially be rendered potable by the addition of treatment facilities; however, except where otherwise noted, IRWD has no current plans to do so.

⁵ See Imported Supply - Additional Information, below, for information concerning the availability of the MWD supply.

⁶ IRWD has succeeded to LAWD’s interests in the AMP and other LAWD water supply facilities and rights mentioned in this assessment, by virtue of the consolidation of IRWD and LAWD on December 31, 2000.

agrees to operate the AMP as any other MWD pipeline. MWD has the right to operate the AMP on a “utility basis,” meaning that MWD need not observe capacity allocations of the Participants but may use available capacity to meet demand at any service connection.

The AMP Sale Agreement obligates MWD to monitor and project AMP demands and to construct specified pump facilities or make other provision for augmenting MWD’s capacity along the AMP, at MWD’s expense, should that be necessary to meet demands of all of the Participants (Section 5.08).

(iii) Agreement For Allocation of Proceeds of Sale of Allen-McColloch Pipeline, dated as of July 1, 1994 (“AMP Allocation Agreement”). This agreement, entered into concurrently with the AMP Sale Agreement, provided each Participant, including IRWD, with a capacity allocation in the AMP, for the purpose of allocating the sale proceeds among the Participants in accordance with their prior contractual capacities adjusted to conform to their respective future demands. IRWD’s capacity under the AMP Allocation Agreement (including its capacity as legal successor agency to LAWD) is 64.69 cfs at IRWD’s first four AMP connections, 49.69 cfs at IRWD’s next five downstream AMP connections and 35.01 and 10.00 cfs, respectively at IRWD’s remaining two downstream connections. The AMP Allocation Agreement further provides that if a Participant’s peak flow exceeds its capacity, the Participant shall “purchase” additional capacity from the other Participants who are using less than their capacity, until such time as MWD augments the capacity of the AMP. The foregoing notwithstanding, as mentioned in the preceding paragraph, the allocated capacities do not alter MWD’s obligation under the AMP Sale Agreement to meet all Participants’ demands along the AMP, and to augment the capacity of the AMP if necessary. Accordingly, under these agreements, IRWD can legally increase its use of the AMP beyond the above-stated capacities, but would be required to reimburse other Participants from a portion of the proceeds IRWD received from the sale of the AMP.

(iv) Improvement Subleases (or “FAP” Subleases) [MWDOC and LAWD; MWDOC and IRWD], dated August 1, 1989; 1996 Amended and Restated Allen-McColloch Pipeline Subleases [MWDOC and LAWD; MWDOC and IRWD], dated March 1, 1996. IRWD subleases its AMP capacity, including the capacity it acquired as successor to LAWD. To facilitate bond financing for the construction of the AMP, it was provided that the MWDOC Water Facilities Corporation, and subsequently MWDOC, would have ownership of the pipeline, and the Participants would be sublessees. As is the case with the AMP Sale Agreement, the subleases similarly provide that water is subject to availability.

East Orange County Feeder No. 2 (“EOCF#2”) (currently available).

(v) Agreement For Joint Exercise of Powers For Construction, Operation and Maintenance of East Orange County Feeder No. 2, dated July 11, 1961, as amended on July 25, 1962 and April 26, 1965; Agreement Re Capacity Rights In Proposed Water Line, dated September 11, 1961 (“IRWD MWDOC Assignment Agreement”); Agreement Regarding Capacity Rights In the East Orange County Feeder No. 2, dated August 28, 2000 (“IRWD Coastal Assignment Agreement”). East Orange County Feeder No. 2 (“EOCF#2”), a feeder linking Orange County

with MWD's feeder system, was constructed pursuant to a joint powers agreement among MWDOC (then called Orange County Municipal Water District), MWD, Coastal Municipal Water District ("Coastal"), Anaheim and Santa Ana. A portion of IRWD's territory is within MWDOC and the remainder is within the former Coastal (which was consolidated with MWDOC in 2001). Under the IRWD MWDOC Assignment Agreement, MWDOC assigned 41 cfs of capacity to IRWD in the reaches of EOCF#2 upstream of the point known as Coastal Junction (reaches 1 through 3), and 27 cfs in reach 4, downstream of Coastal Junction. Similarly, under the IRWD Coastal Assignment Agreement, prior to Coastal's consolidation with MWDOC, Coastal assigned to IRWD 0.4 cfs of capacity in reaches 1 through 3 and 0.6 cfs in reach 4 of EOCF#2. Delivery of water through EOCF#2 is subject to the rules and regulations of MWD and MWDOC, and is further subject to application and agreement of IRWD respecting turnouts.

Orange County Feeder (currently available)

(vi) Agreement, dated March 13, 1956. This 1956 Agreement between MWDOC's predecessor district and the Santa Ana Heights Water Company ("SAHWC") provides for delivery of MWD imported supply to the former SAHWC service area. SAHWC's interests were acquired on behalf of IRWD through a stock purchase and IRWD annexation of the SAHWC service area in 1997. The supply is delivered through a connection to MWD's Orange County Feeder designated as OC-7.

(vii) Agreement For Transfer of Interest In Pacific Coast Highway Water Transmission and Storage Facilities From The Irvine Company To the Irvine Ranch Water District, dated April 23, 1984; Joint Powers Agreement For the Construction, Operation and Maintenance of Sections 1a, 1b and 2 of the Coast Supply Line, dated June 9, 1989; Agreement, dated January 13, 1955 ("1955 Agreement"). The jointly constructed facility known as the Coast Supply Line ("CSL"), extending southward from a connection with MWD's Orange County Feeder at Fernleaf Street in Newport Beach, was originally constructed pursuant to a 1952 agreement among Laguna Beach County Water District ("LBCWD"), The Irvine Company (TIC) and South Coast County Water District. Portions were later reconstructed. Under the above-referenced transfer agreement in 1984, IRWD succeeded to TIC's interests in the CSL. The CSL is presently operated under the above-referenced 1989 joint powers agreement, which reflects IRWD's ownership of 10 cfs of capacity. The 1989 agreement obligates LBCWD, as the managing agent and trustee for the CSL, to purchase water and deliver it into the CSL for IRWD. LBCWD purchases such supply, delivered by MWD to the Fernleaf connection, pursuant to the 1955 Agreement with Coastal (now MWDOC).

•POTABLE SUPPLY - GROUNDWATER

(i) Orange County Water District Act, Water Code App., Ch. 40 ("Act"). IRWD is an operator of groundwater-producing facilities in the Orange County Groundwater Basin (the "Basin"). Although the rights of the producers within the Basin vis a vis one another have not been adjudicated, they nevertheless exist and have not been abrogated by the Act (§40-77). The rights consist of

municipal appropriators' rights and may include overlying and riparian rights. The Basin is managed by OCWD under the Act, which functions as a statutorily-imposed physical solution. The Act empowers OCWD to impose replenishment assessments and basin equity assessments on production and to require registration of water-producing facilities and the filing of certain reports; however, OCWD is expressly prohibited from limiting extraction unless a producer agrees (§ 40-2(6) (c)) and from impairing vested rights to the use of water (§ 40-77). Thus, producers may install and operate production facilities under the Act; OCWD approval is not required. OCWD is required to annually investigate the condition of the Basin, assess overdraft and accumulated overdraft, and determine the amount of water necessary for replenishment (§40-26). OCWD has studied the Basin replenishment needs and potential projects to address growth in demand until 2020. This is described in detail in the OCWD Master Plan Report, dated April, 1999. OCWD's analysis has been expanded and updated through 2025 in its Final Draft Long-Term Facilities Plan (January, 2006).

(ii) Irvine Ranch Water District v. Orange County Water District, OCSC No. 795827. A portion of IRWD is outside the jurisdictional boundary of OCWD. IRWD is eligible to annex the Santa Ana River Watershed portion of this territory to OCWD, under OCWD's current annexation policy (Resolution No. 86-2-15, adopted on February 19, 1986 and reaffirmed on June 2, 1999), and anticipates doing so. However, this September 29, 1998, Superior Court ruling indicates that IRWD is entitled to deliver groundwater from the Basin to the IRWD service area irrespective of whether such area is also within OCWD.

***Dyer Road Wellfield (DWRWF) / Deep Aquifer Treatment System (DATS)
(currently available)***

(iii) Agreement For Water Production and Transmission Facilities, dated March 18, 1981, as amended May 2, 1984, September 19, 1990 and November 3, 1999 (the "DRWF Agreement"). The DRWF Agreement, among IRWD, OCWD and Santa Ana, concerns the development of IRWD's Dyer Road Wellfield ("DRWF"), within the Basin. The DRWF consists of 16 wells pumping from the non-colored water zone of the Basin and 2 wells (with colored-water treatment facilities) pumping from the deep, colored-water zone of the Basin (the colored-water portion of the DRWF is sometimes referred to as the Deep Aquifer Treatment System or "DATS".) Under the DRWF Agreement, an "equivalent" basin production percentage (BPP) has been established for the DRWF, currently 28,000 AFY of non-colored water and 8,000 AFY of colored water, provided any amount of the latter 8,000 AFY not produced results in a matching reduction of the 28,000 AFY BPP. Although typically IRWD production from the DRWF does not materially exceed the equivalent BPP, the equivalent BPP is not an extraction limitation; it results in imposition of monetary assessments on the excess production. The DRWF Agreement also establishes monthly pumping amounts for the DRWF. With the addition of the Concentrated Treatment System (CATS), IRWD has increased the yield of DATS.

Irvine Subbasin / Irvine Desalter (currently available)

(iv) First Amended and Restated Agreement, dated March 11, 2002, as

amended June 15, 2006, restating May 5, 1988 agreement (“Irvine Subbasin Agreement”). TIC has historically pumped agricultural water from the Irvine Subbasin. (As in the rest of the Basin of which this subbasin is a part, the groundwater rights have not been adjudicated, and OCWD provides governance and management under the Act.) The 1988 agreement between IRWD and TIC provided for the joint use and management of the Irvine Subbasin. The 1988 agreement further provided that the 13,000 AFY annual yield of the Irvine Subbasin would be allocated 1,000 AFY to IRWD and 12,000 AFY to TIC. Under the restated Irvine Subbasin Agreement, the foregoing allocations were superseded as a result of TIC’s commencement of the building its Northern Sphere Area project, with the effect that the Subbasin production capability, wells and other facilities, and associated rights have been transferred from TIC to IRWD, and IRWD has assumed the production from the Subbasin. In consideration of the transfer, IRWD is required to count the supplies attributable to the transferred Subbasin production in calculating available supplies for the Northern Sphere Area project and other TIC development and has agreed that they will not be counted toward non-TIC development.

A portion of the existing Subbasin water production facilities produce water which is of potable quality. IRWD could treat some of the water produced from the Subbasin for potable use, by means of the Desalter and other projects. Although, as noted above, the Subbasin has not been adjudicated and is managed by OCWD, TIC reserved water rights from conveyances of its lands as development over the Subbasin has occurred, and under the Irvine Subbasin Agreement TIC has transferred its rights to IRWD.

(v) Second Amended and Restated Agreement Between Orange County Water District and Irvine Ranch Water District Regarding the Irvine Desalter Project, dated June 11, 2001, and other agreements referenced therein. This agreement provides for the extraction and treatment of subpotable groundwater from the Irvine Subbasin, a portion of the Basin. As is the case with the remainder of the Basin, IRWD’s entitlement to extract this water is not adjudicated, but the use of the entitlement is governed by the OCWD Act. (See also, discussion of Irvine Subbasin in the preceding paragraph.) A portion of the product water has been delivered into the IRWD potable system, and the remainder has been delivered into the IRWD nonpotable system.

Orange Park Acres (currently available)

On June 1, 2008, through annexation and merger, IRWD acquired the water system of the former Orange Park Acres Mutual Water company, including well [OPA Well]. The well is operated within the Orange County Groundwater Basin.

Wells 21 and 22 (currently available)

IRWD is completing construction of treatment facilities, pipelines and wellhead facilities for Wells 21 and 22. Water supplied through this project will be available by the end of 2012. The wells will be operated within the Orange County Groundwater Basin.

Irvine Wells (under development)

(vi) IRWD is pursuing the installation of production facilities in the west Irvine, Anaheim, Tustin Legacy and Tustin Ranch portions of the Basin. These groundwater supplies are considered to be under development; however, four wells have been drilled and have previously produced groundwater, three wells have been drilled but have not been used as production wells to date, a site for an additional well and treatment facility has been acquired by IRWD. The production facilities can be constructed and operated under the Act; no statutory or contractual approval is required to do so. An agreement with the City of Anaheim would be developed for production within Anaheim. Appropriate environmental review would be conducted for each facility. See discussion of the Act under Potable Supply - Groundwater, paragraph (i), above.

•NONPOTABLE SUPPLY - RECLAIMED

Water Reclamation Plants (currently available)

Water Code Section 1210. IRWD supplies its own reclaimed water from wastewater collected by IRWD and delivered to IRWD's Michelson Water Reclamation Plant (MWRP) and Los Alisos Water Reclamation Plant (LAWRP). MWRP currently has a permitted capacity of 18 million gallons per day (MGD) and LAWRP currently has a permitted capacity of 5.5 MGD. Water Code Section 1210 provides that the owner of a wastewater treatment plant operated for the purposes of treating wastes from a sanitary sewer system holds the exclusive right to the treated effluent as against anyone who has supplied the water discharged into the sewer system. IRWD's permits for the operation of MWRP and LAWRP allow only irrigation and other customer uses of reclaimed water, and do not permit stream discharge of reclaimed water; thus, no issue of downstream appropriation arises, and IRWD is entitled to deliver all of the effluent to meet contractual and customer demands.

Water Reclamation Plant Expansion (under development)

IRWD has prepared a Final Environmental Impact Report for the Michelson Water Reclamation Plant Phase 2 and 3 Capacity Expansion Project (February, 2006) and the expansion project is under construction. With this expansion, IRWD plans to increase its capacity on the existing MWRP site to produce sufficient reclaimed water to meet the projected demand in the year 2032. (Initial upgrades that are within existing permit authorizations and CEQA compliance are completed.) Additional reclamation capacity will augment local nonpotable supplies and improve reliability.

•NONPOTABLE SUPPLY - IMPORTED⁷

Baker Pipeline (currently available)

⁷ See Imported Supply - Additional Information, below, for information concerning the availability of the MWD supply.

Santiago Aqueduct Commission Joint Powers Agreement, dated September 11, 1961, as amended December 20, 1974, January 13, 1978, November 1, 1978, September 1, 1981, October 22, 1986, and July 8, 1999 (the "SAC Agreement"); Agreement Between Irvine Ranch Water District and Carma-Whiting Joint Venture Relative to Proposed Annexation of Certain Property to Irvine Ranch Water District, dated May 26, 1981 (the "Whiting Annexation Agreement"). Service connections OC-13/13A, OC-33/33A. The imported untreated water pipeline initially known as the Santiago Aqueduct and now known as the Baker Pipeline was constructed under the SAC Agreement, a joint powers agreement. The Baker Pipeline is connected to MWD's Santiago Lateral. IRWD's capacity in the Baker Pipeline includes the capacity it subleases as successor to LAWD, as well as capacity rights IRWD acquired through the Whiting Annexation Agreement. (To finance the construction of AMP parallel untreated reaches which were incorporated into the Baker Pipeline, replacing original SAC untreated reaches that were made a part of the AMP potable system, it was provided that the MWDOC Water Facilities Corporation, and subsequently MWDOC, would have ownership, and the participants would be sublessees.) IRWD has 52.70 cfs in the first reach, 12.50 cfs in each of the second, third and fourth reaches and 7.51 cfs in the fifth reach of the Baker Pipeline. Water is subject to availability from MWD.

•NONPOTABLE SUPPLY - NATIVE

Irvine Lake (currently available)

(i) Permit For Diversion and Use of Water (Permit No. 19306) issued pursuant to Application No. 27503; License For Diversion and Use of Water (License 2347) resulting from Application No. 4302 and Permit No. 3238; License For Diversion and Use of Water (License 2348) resulting from Application No. 9005 and Permit No. 5202. The foregoing permit and licenses, jointly held by IRWD (as successor to The Irvine Company (TIC) and Carpenter Irrigation District (CID)) and Serrano Water District (SWD), secure appropriative rights to the flows of Santiago Creek. Under Licenses 2347 and 2348, IRWD and SWD have the right to diversion by storage at Santiago Dam (Irvine Lake) and a submerged dam, of a total of 25,000 AFY. Under Permit No. 19306, IRWD and SWD have the right to diversion by storage of an additional 3,000 AFY by flashboards at Santiago Dam (Irvine Lake). (Rights under Permit No. 19306 may be junior to an OCWD permit to divert up to 35,000 AFY of Santiago Creek flows to spreading pits downstream of Santiago Dam.) The combined total of native water that may be diverted to storage under these licenses and permit is 28,000 AFY. A 1996 amendment to License Nos. 2347, 2348 and 2349 [replaced by Permit No. 19306 in 1984] limits the withdrawal of water from the Lake to 15,483 AFY under the licenses. This limitation specifically references the licenses and doesn't reference water stored pursuant to other legal entitlements. The use and allocation of the native water is governed by the agreements described in the next paragraph.

(ii) Agreement, dated February 6, 1928 ("1928 Agreement"); Agreement, dated May 15, 1956, as amended November 12, 1973 ("1956 Agreement"); Agreement, dated as of December 21, 1970 ("1970 Agreement"); Agreement Between Irvine Ranch Water District and The Irvine Company Relative to Irvine Lake and the

Acquisition of Water Rights In and To Santiago Creek, As Well As Additional Storage Capacity in Irvine Lake, dated as of May 31, 1974 (“1974 Agreement”). The 1928 Agreement was entered into among SWD, CID and TIC, providing for the use and allocation of native water in Irvine Lake. Through the 1970 Agreement and the 1974 Agreement, IRWD acquired the interests of CID and TIC, leaving IRWD and SWD as the two co-owners. TIC retains certain reserved rights. The 1928 Agreement divides the stored native water by a formula which allocates to IRWD one-half of the first 1,000 AF, plus increments that generally yield three-fourths of the amount over 1,000 AF.⁸ The agreements also provide for evaporation and spill losses and carryover water remaining in the Lake at the annual allocation dates. Given the dependence of native water on rainfall, for purposes of this assessment only a small portion of IRWD’s share of the 28,000 AFY of native water rights (4,000 AFY in normal years and 1,000 AFY in single and multiple-dry years) is shown in currently available supplies, based on averaging of historical data. However, IRWD’s ability to supplement Irvine Lake storage with its imported untreated water supplies, described herein, offsets the uncertainty associated with the native water supply.

•**NONPOTABLE SUPPLY - GROUNDWATER**

Irvine Subbasin / Irvine Desalter (currently available)

(i) IRWD’s entitlement to produce nonpotable water from the Irvine Subbasin is included within the Irvine Subbasin Agreement. See discussion of the Irvine Subbasin Agreement under Potable Supply - Groundwater; paragraph (iv), above.

(ii) See discussion of the Irvine Desalter project under Potable Supply - Groundwater, paragraph (v), above. The Irvine Desalter project will produce nonpotable as well as potable water.

•**IMPORTED SUPPLY - ADDITIONAL INFORMATION**

As described above, the imported supply from MWD is contractually subject to availability. To assist local water providers in assessing the adequacy of local water supplies that are reliant in whole or in part on MWD’s imported supply; MWD has provided information concerning the availability of the supplies to its entire service area. In its most recently adopted RUWMP, MWD has extended its planning timeframe out through 2035 to ensure that MWD’s 2010 RUWMP may be used as a source document for meeting requirements for sufficient supplies. In addition, the RUWMP includes “Justifications for Supply Projections” (Appendix A-3) that details the planning, legal, financial, and regulatory basis for including each source of supply in the plan. The RUWMP summarizes MWD’s planning initiatives over the past ten years, which includes the Integrated Resources Plan (IRP), the IRP Update, the Water Surplus and

⁸ The 1956 Agreement provides for facilities to deliver MWD imported water into the Lake, and grants storage capacity for the imported water. By succession, IRWD owns 9,000 AFY of this 12,000 AFY imported water storage capacity. This storage capacity does not affect availability of the imported supply, which can be either stored or delivered for direct use by customers.

Drought Management Plan, Strategic Plan and Rate Structure. The reliability analysis in MWD's IRP Update (October 2010) showed that MWD can maintain reliable supplies under the conditions that have existed in past dry periods throughout the period 2015 through 2035. The RUWMP includes tables that show the region can provide reliable supplies under both the single driest year (1977) and multiple dry years (1990-92) through 2035. MWD has also identified buffer supplies, including additional State Water Project groundwater storage and transfers that could serve to supply the additional water needed.

It is anticipated that MWD will revise its regional supply availability analysis periodically to supplement its RUWMP in years when the RUWMP is not being updated.

IRWD is permitted by the statute to rely upon the water supply information provided by the wholesaler concerning a wholesale water supply source, for use in preparing its UWMPs. In turn, the statute provides for the use of UWMP information to support water supply assessments and verifications. In accordance with these provisions, IRWD is entitled to rely upon the conclusions of the MWD RUWMP. As referenced above under Summary of Results of Demand-Supply Comparisons - Recent Actions on Delta Pumping, MWD has provided additional information on its imported water supply.

MWD's reserve supplies, together with the fact that IRWD relies on MWD supplies as supplemental supplies that need not be used to the extent IRWD operates currently available and under-development local supplies, build a margin of safety into IRWD's supply availability.

(2) Adopted capital outlay program to finance delivery of the water supplies.

All necessary delivery facilities currently exist for the use of the *currently available* and *under-development* supplies assessed herein, with the exception of future groundwater wells, MWRP expansion and IRWD sub-regional and developer-dedicated conveyance facilities necessary to complete the local distribution systems for the Project. IRWD's turnout at each MWD connection and IRWD's regional delivery facilities are sufficiently sized to deliver all of the supply to the sub-regional and local distribution systems.

With respect to future groundwater wells (PR Nos. 10285, 15423, 15427, 15428, 15051 and 15052) and the MWRP Phase 2 expansion (PR. Nos. 20214 and 30214), IRWD adopted its fiscal year 2011/12 capital budget on June 13, 2011 (Resolution No. 2011-20), budgeting portions of the funds for such projects. (A copy is available from IRWD on request.) For these facilities, as well as unbuilt IRWD sub-regional conveyance facilities, the sources of funding are previously authorized general obligation bonds, revenue-supported certificates of participation and/or capital funds held by IRWD Improvement Districts. IRWD has maintained a successful program for the issuance of general obligation bonds and certificates of participation on favorable borrowing terms, and IRWD has received AAA public bond ratings. IRWD has approximately \$601.7 million (water) and \$763.5 million (wastewater) of unissued, voter-approved bond authorization. Certificates of participation do not require voter approval.

Proceeds of bonds and available capital funds are expected to be sufficient to fund all IRWD facilities for delivery of the supplies under development. Tract-level conveyance facilities are required to be donated to IRWD by the Applicant or its successor(s) at time of development.

See also *MWD's RUWMP*, Appendix A.3 Justifications for Supply Projections with respect to capital outlay programs related to MWD's supplies.

(3) Federal, state and local permits for construction of delivery infrastructure.

Most IRWD delivery facilities are constructed in public right-of-way or future right-of-way. State statute confers on IRWD the right to construct works along, under or across any stream of water, watercourse, street, avenue, highway, railway, canal, ditch or flume (Water Code Section 35603). Although this right cannot be denied, local agencies may require encroachment permits when work is to be performed within a street. If easements are necessary for delivery infrastructure, IRWD requires the developer to provide them. The crossing of watercourses or areas with protected species requires federal and/or state permits as applicable.

See also *MWD's RUWMP*, Appendix A.3 Justifications for Supply Projections with respect to permits related to MWD's supplies.

(4) Regulatory approvals for conveyance or delivery of the supplies.

See response to preceding item (3). In addition, reclamation plant expansion will require approval of amendments to IRWD's permits issued by the Regional Water Quality Control Board.

See also *MWD's RUWMP*, Appendix A.3 Justifications for Supply Projections with respect to regulatory approvals related to MWD's supplies.

3. Other users and contractholders (identified supply not previously used).

For each of the water supply sources identified by IRWD, if no water has been received from that source(s), IRWD is required to identify other public water systems or water service contractholders that receive a water supply from, or have existing water supply entitlements, water rights and water service contracts to, that source(s):

Water has been received from all listed sources. A small quantity of Subbasin water is used by Woodbridge Village Association for the purpose of supplying its North and South Lakes. There are no other public water systems or water service contractholders that receive a water supply from, or have existing water supply entitlements, water rights and water service contracts to, the Irvine Subbasin.

4. Information concerning groundwater included in the supply identified for the Project:

(a) Relevant information in the Urban Water Management Plan (UWMP):

See Irvine Ranch Water District 2010 UWMP, sections 4-D through 4-J.

(b) Description of the groundwater basin(s) from which the Project will be supplied:

The Orange County Groundwater Basin ("Basin") is described at pages 3-1 through 3-14 of the OCWD Master Plan Report, dated April, 1999 ("MPR") and in the more recent Groundwater Management Plan ("GMP") at pages 2-1 through 6-33⁹. The rights of the producers within the Basin vis a vis one another have not been adjudicated. The Basin is managed by the Orange County Water District (OCWD) for the benefit of municipal, agricultural and private groundwater producers. OCWD is responsible for the protection of water rights to the Santa Ana River in Orange County as well as the management and replenishment of the Basin. Current production from the Basin is approximately 366,000 AFY.

The Department of Water Resources has not identified the Basin as overdrafted in its most current bulletin that characterizes the condition of the Basin, Bulletin 118 (2003). The efforts being undertaken by OCWD to eliminate long-term overdraft in the Basin are described in the OCWD MPR, including in particular, Chapters 4, 5, 6, 14 and 15 of the MPR. In addition to Orange County Water District (OCWD) reports listed in the Assessment Reference List, OCWD has also prepared a Long Term Facilities Plan ("LTFP") which provides updated information and was received by the OCWD Board in July 2009. The LTFP Chapter 3 describes the efforts being undertaken by OCWD to eliminate long-term overdraft in the Basin.

Although the water supply assessment statute (Water Code Section 10910(f)) refers to elimination of "long-term overdraft," overdraft includes conditions which may be managed for optimum basin storage, rather than eliminated. OCWD's Act defines annual groundwater overdraft to be the quantity by which production exceeds the natural replenishment of the Basin. Accumulated overdraft is defined in the OCWD Act to be the quantity of water needed in the groundwater basin forebay to prevent landward movement of seawater into the fresh groundwater body. However, seawater intrusion control facilities have been constructed by OCWD since the Act was written, and have been effective in preventing landward movement of seawater. These facilities allow greater utilization of the storage capacity of the Basin.

OCWD has invested over \$250 million in seawater intrusion control (injection barriers), recharge facilities, laboratories, and Basin monitoring to effectively manage the Basin. Consequently, although the Basin is defined to be in an "overdraft" condition, it is actually managed to allow utilization of up to 500,000 acre-feet of storage capacity of the basin during dry periods, acting as an underground reservoir and buffer against drought. OCWD has an optimal basin

⁹ OCWD has also prepared a Long Term Facilities Plan which provides updated information which was received and filed by its Board in July 2009.

management target of 100,000 acre-feet of accumulated overdraft provides sufficient storage space to accommodate increased supplies from one wet year while also provide enough water in storage to offset decreased supplies during a two- to three year drought. If the Basin is too full, artesian conditions can occur along the coastal area, causing rising water and water logging, an adverse condition. Since the formation of OCWD in 1933, OCWD has made substantial investment in facilities, Basin management and water rights protection, resulting in the elimination and prevention of adverse long-term “mining” overdraft conditions. OCWD continues to develop new replenishment supplies, recharge capacity and basin protection measures to meet projected production from the basin during normal rainfall and drought periods. (Source: 2009-2010 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization in the Orange County Water District; OCWD MPR, *supra*.)

OCWD's efforts include ongoing replenishment programs and planned capital improvements. It should be noted under OCWD's management of overdraft to maximize its use for annual production and recharge operations, overdraft varies over time as the Basin is managed to keep it in balance over the long term. The Basin is not operated on an annual safe-yield basis. (OCWD MPR, section 3.2 and LTFP, section 6)

(c) Description and analysis of the amount and location of groundwater pumped by IRWD from the Basin for the past five years:

The following table shows the amounts pumped, by groundwater source:

(In AFY)

Year (ending 6/30)	DRWF/DATS/ OPA	Irvine Subbasin (IRWD)	Irvine Subbasin (TIC)	LAWD¹⁰
2011	34,304	7,055	0	0
2010	37,151	8,695	0	3
2009	38,140	7,614	0	0
2008	36,741	4,539	0	16
2007	37,864	5,407	0	6
2006	37,046	2,825	0	268
2005	36,316	2,285	628	357
2004	30,265	1,938	3,079	101
2003	24,040	2,132	4,234	598
2002	25,855	2,533	5,075	744

¹⁰ The water produced from IRWD's Los Alisos wells is not included in this assessment. IRWD is presently evaluating the future use of these wells.

(d) Description and analysis of the amount and location of groundwater projected to be pumped by IRWD from the Basin:

IRWD has a developed groundwater supply of 35,200 AFY from its Dyer Road Wellfield (including the Deep Aquifer Treatment System), in the main portion of the Basin.

Although TIC's historical production from the Subbasin declined as its use of the Subbasin for agricultural water diminished, OCWD's and other historical production records for the Subbasin show that production has been as high as 13,000 AFY. Plans are also underway to expand IRWD's main Orange County Groundwater Basin supply (characterized as *under-development* supplies herein). (See Section 2 (a) (1) herein). IRWD anticipates the development of additional production facilities within both the main Basin and the Irvine Subbasin. However, such additional facilities have not been included or relied upon in this assessment. Additional groundwater development will provide an additional margin of safety as well as reduce future water supply costs to IRWD.

The following table summarizes future IRWD groundwater production from currently available and under-development supplies.

(In AFY)

Year (ending 6/30)	DRWF ¹¹	Future GW ¹²	IDP (Potable)	IDP (Nonpotable)
2015	37,900	15,600	5,640	3,898
2020	37,900	22,100	5,640	3,898
2025	37,900	32,600	5,640	3,898
2032	37,900	32,600	5,640	3,898

(e) If not included in the UWMP, analysis of the sufficiency of groundwater projected to be pumped by IRWD from the Basin to meet to meet the projected water demand of the Project:

See responses to 4(b) and 4(d).

The OCWD MPR and LTFP examined future Basin conditions and capabilities, water supply and demand, and identified projects to meet increased replenishment needs of the basin. With the implementation of OCWD's preferred projects, the Basin yield in the year 2025 would be up to 500,000 AF. The amount that can be produced will be a function of which projects will be

¹¹ See Potable Supply - Groundwater, paragraph (iii), above. DRWF non-colored production above 28,000 AFY and colored water production above 8,000 AFY are subject to contractually-imposed assessments. In addition, seasonal production amounts apply. This also includes 1,000 AFY for the OPA well.

¹² Under development.

implemented by OCWD and how much increased recharge capacity is created by those projects, total demands by all producers, and the resulting Basin Production Percentage (“BPP”) that OCWD sets based on these factors.¹³ Sufficient replenishment supplies are projected by the OCWD MPR to be available to OCWD to meet the increasing demand on the Basin. These supplies include capture of increasing Santa Ana River flows, purchases of replenishment water from MWD, and development of new local supplies. OCWD is moving forward with a number of replenishment supply projects, including the Groundwater Replenishment System project (“GWRS”). The OCWD MPR indicates that the GWRS will produce over 100,000 AFY of new replenishment supply from recycled water.

Production of groundwater can exceed applicable basin production percentages on a short-term basis, providing additional reliability during dry years or emergencies. Additional groundwater production is anticipated by OCWD in the Basin in dry years, as producers reduce their use of imported supplies, and the Basin is “mined” in anticipation of the eventual availability of replenishment water. (OCWD MPR, section 14.6.)

See also, Figures 1-8. IRWD assesses sufficiency of supplies on an aggregated basis, as neither groundwater nor other supply sources are allocated to particular projects or customers. Under the Irvine Subbasin Agreement, IRWD is contractually obligated to attribute the Subbasin supply only to TIC development projects for assessment purposes; however, the agreement does not allocate or assign rights in the Subbasin supply to any project.

5. This Water Supply Assessment is being completed for a project included in a prior water supply assessment. Date of prior assessment: May 24, 2011. Check all of the following that apply:

- Changes in the Project have substantially increased water demand.
- Changes in circumstances or conditions have substantially affected IRWD’s ability to provide a sufficient water supply for the Project.
- Significant new information has become available which was not known and could not have been known at the date of the prior Water Supply Assessment.

6. References

Water Resources Master Plan, Irvine Ranch Water District, March, 2002 (supplemented January, 2004)

2010 Urban Water Management Plan, Irvine Ranch Water District, June, 2011

¹³ OCWD has adopted a basin production percentage of 65% for 2011-12. In prior years OCWD has maintained a basin production percentage that is higher than the current percentage, and IRWD anticipates that such reductions may occur from time to time as a temporary measure employed by OCWD to encourage lower pumping levels as OCWD implements other measures to reduce the current accumulated overdraft in the Basin. Any such reductions are not expected to affect any of IRWD’s currently available groundwater supplies listed in this assessment, which are subject to a contractually-set equivalent basin production percentage as described, or are exempt from the basin production percentage.

Integrated Water Resources Plan Update, Metropolitan Water District of Southern California, July, 2004

Proposed Framework for Metropolitan Water District's Delta Action Plan, Metropolitan Water District of Southern California, May 8, 2007

Board Information Report, Metropolitan Water District of Southern California, October 9, 2007

2007 IRP Implementation Report, Metropolitan Water District of Southern California, October, 2007

Master Plan Report, Orange County Water District, April, 1999

Groundwater Management Plan, Orange County Water District, March, 2004

Final Draft Long-Term Facilities Plan, Orange County Water District, January 2006

2008-2009 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization in the Orange County Water District, Orange County Water District

2009-2010 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization in the Orange County Water District, Orange County Water District

Progress on Incorporating Climate Change into Management of California's Water Resources, California Department of Water Resources, July 2006

Section 15 of the Rules and Regulations – Water Conservation and Water Supply Shortage Program, Irvine Ranch Water District, February 2009

Water Shortage Contingency Plan, Irvine Ranch Water District, February 2009

2010 Integrated Resources Plan Update, Metropolitan Water District of Southern California, October 2010

Regional Urban Water Management Plan, Metropolitan Water District of Southern California, November 2010

Exhibit A

Depiction of Project Area

EXHIBIT "A"

The Project also proposes to implement and potentially enhance some of the improvements to the previously approved Orange County Great Park Sports Park including additional athletic fields and athletic facilities, as well as additional seating within a previously approved soccer stadium.

Vicinity Map

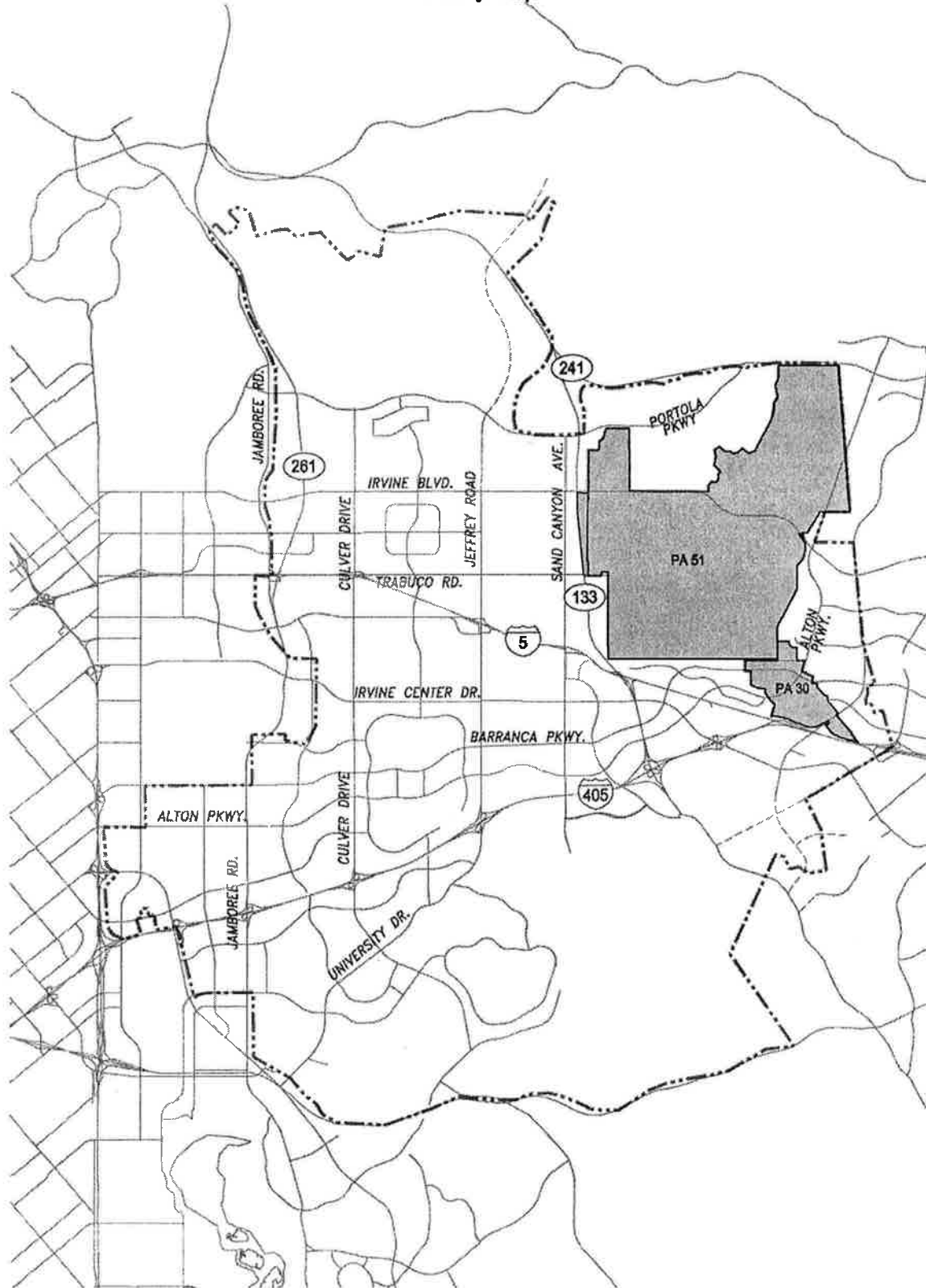


Exhibit B

Uses Included in Project

EXHIBIT "B" ENGINEERING & CONSTRUCTION

April 4, 2012

APR 09 2012

Irvine Ranch Water District
15600 Sand Canyon Avenue
P.O. Box 57000
Irvine, CA 92619-7000

IRVINE RANCH
WATER DISTRICT

Re: Request for Water Supply Availability Assessment (Water Code §10910 *et seq.*)

The City of Irvine hereby requests an assessment of water supply availability for the below-described project. The City has determined that the project is a "project" as defined in Water Code §10912, and has determined that a supplemental environmental impact report is required for the project.

Proposed Project Information

Project Title: Heritage Fields Project 2012- General Plan Amendment and Zone Change (see project description in Exhibit A)

Location of project: Former MCAS El Toro Base, Planning Areas 30 and 51. The boundaries of Planning Area 51 generally include the Eastern Transportation Corridor to the west, the Foothill Transportation Corridor to the east, the Southern California Regional Rail Authority (SCRRA) rail lines to the south, and Irvine Boulevard and the storm channel near Alton Parkway to the north. Planning Area 51 abuts Planning Areas 30 and 32 to the south, Irvine Spectrum 2 – Planning Area 35 to the east, and Planning Areas 9 and 40 to the west. The boundaries of Planning Area 30 generally include Interstate 5 (Santa Ana Freeway) to the south, the SCRRA rail lines to the north, and the Irvine Spectrum to the east and west (Irvine Spectrum 2- Planning Area 35 and Irvine Spectrum 3 - Planning Area 32). See attached Vicinity Map.

- Previous Water Supply Assessment including this project was prepared on: May 24, 2011. This application requests a new Water Supply Assessment, due to the following (check all that apply):
- Changes in the project have substantially increased water demand
- Changes in circumstances or conditions have substantially affected IRWD's ability to provide a sufficient water supply for the project
- Significant new information has become available which was not known and could not have been known at the date of the prior Water Supply Assessment

(Enclose maps and exhibits of the project)

Type of Development:

Residential: No. of dwelling units: 4,894 units (in prior assessment), 3,412 units converted from current non-residential entitlement, and 1,194 new density bonus units (overall total 9,500 units). An additional 889 units can be converted from 535,000 square feet of Multi-Use and 311 new density bonus units associated with this option conversion (potential for up to 1,200 additional units total).

Shopping center or business: No. of employees _____ Sq. ft. of floor space _____

Commercial office: No. of employees _____ Sq. ft. of floor space _____

Hotel or motel: No. of rooms _____

Industrial, manufacturing, processing or industrial park: No. of employees _____
No. of acres _____ Sq. ft. of floor space _____

Mixed use (check and complete all above that apply)

Other: Non-Residential (220,000 square feet of Retail & 2,600,000 square feet of R&D) from current entitlement per previous Water Supply Assessment, 1,318,200 square feet of non-residential Multi-Use and 764,000 square feet of R&D converted from current non-residential entitlement per previous Water Supply Assessment with addition of (1) 2,600 student school and potential enhancements to some of the improvements of the previously approved Orange County Great Park Sports Park including additional athletic fields and athletic facilities, as well as additional seating within a previously approved soccer stadium.

Total acreage of project: per original Water Supply Assessment plus approximately 11 acres between the current western boundary of Planning Area 51 and SR-133 between Trabuco Road and Irvine Blvd

Acreage devoted to landscape: (per original Water Supply Assessment)
Greenbelt _____ golf course _____ parks _____
Agriculture _____ other landscaped areas _____

Number of schools addition of (1) 2,600 student school Number of public facilities _____

Other factors or uses that would affect the quantity of water needed, such as peak flow requirements or potential uses to be added to the project to reduce or mitigate environmental impacts:
Landscaped areas will be irrigated via reclaimed water

What is the current land use of the area subject to a land use change under the project?
Per previous Water Supply Assessment


Is the project included in the existing General Plan? Yes If no, describe the existing General Plan Designation _____

The City acknowledges that IRWD's assessment will be based on the information hereby provided to IRWD concerning the project. If it is necessary for corrected or additional information to be submitted to enable IRWD to complete the assessment, the request will be considered incomplete until IRWD's receipt of the corrected or additional information. If the project, circumstances or conditions change or new information becomes available after the issuance of a Water Supply Assessment, the Water Supply Assessment may no longer be valid. The City will request a new Water Supply Assessment if it determines that one is required.

The City acknowledges that the Water Supply Assessment shall not constitute a "will-serve" or in any way entitle the project applicant to service or to any right, priority or allocation in any supply, capacity or facility, and that the issuance of the Water Supply Assessment shall not affect IRWD's obligation to provide service to its existing customers or any potential future customers including the project applicant. In order to receive service, the project applicant shall be required to file a completed Application(s) for Service and Agreement with the Irvine Ranch Water District on IRWD's forms, together with all fees and charges, plans and specifications, bonds and conveyance of necessary easements, and meet all other requirement as specified therein.

CITY OF IRVINE /COUNTY OF ORANGE
By: 

REQUEST RECEIVED:

Date: April 12, 2012
By: 
Irvine Ranch Water District

REQUEST COMPLETE:


Date: April 23, 2012
By: 
Irvine Ranch Water District

Exhibit A

Project Description: The Project proposes to combine Planning Areas 30 and 51 into a single Planning Area, Planning Area 51, and include the approximately 11 acres between the current western boundary of Planning Area 51 and SR-133 between Trabuco Road and Irvine Blvd, currently in Planning Area 9, in Planning Area 51 so that the Project will be a cohesive development governed by a unified set of land use and development regulations.

Consistent with the goal of unified land use and development regulations, the Heritage Fields Development located in District 6 (zoned 3.2 Transit Oriented Development), and in District 2 and District 3, consisting of 3.2 Transit Oriented Development, 5.4 B General Industrial, and 4.3 Vehicle Related Commercial will be rezoned to 8.1 Trails and Transit Oriented Development, consistent with the balance of the Heritage Fields Development Districts. In addition, a portion of District 5 currently zoned 8.1 Trails and Transit Oriented Development and the 13-acres currently zoned 1.1 Agriculture will be rezoned to 8.1C Trails and Transit Oriented Development (TTOD) to allow for flexible placement of approximately 132 acre wildlife corridor within the area designated as 8.1C TTOD. The approximately 11 acres between the current western boundary of Planning Area 51 and SR-133 between Trabuco Road and Irvine Blvd will be zoned 8.1 TTOD and designed as Orange County Great Park in the General Plan.

Amend the Master Plan of Arterial Highways, General Plan Figure B-1, and other General Plan maps as necessary to eliminate the extension of Rockfield from the Project boundary to Marine Way.

The Project also proposes to amend the General Plan and Zoning Ordinance to allow the following:

- Add 3,412 residential units within Planning Area 51, in addition to the 4,894 units already allocated in Districts 1 North, 1 South, 4, 7, and 8.
- Modify non-residential uses to allow:
 - 3,364,000 square feet of Medical and Science
 - 1,318,200 square feet of Multi-Use
 - The Project proposal includes an option to convert up to 535,000 square feet of the proposed Multi-Use intensity to residential intensity for an additional 889 dwelling units within District 6 and Lot 48 of 2nd Amended VTTM 17008, subject to a vehicle trip limit.
 - 220,000 square feet of Community Commercial
- Grant, pursuant to State law, up to 1,194 additional Density Bonus units (35% of 3,412) plus any additional Density Bonus units associated with the optional conversion and granted pursuant to State law.
- Encourage Accessory Retail within Planning Area 51, as defined in the City of Irvine Zoning Code.
- Revise figures, tables, sections within the General Plan and Zoning Code, as appropriate.

The Project consists of 4,894 already approved dwelling units plus 4,606 additional dwelling units (3,412 base units and 1,194 Density Bonus units) as well as a 2,600 student high school in District 5. The project also includes the option to convert up to 535,000 square feet of Multi-Use to up to 889 base units and 311 Density Bonus units, granted pursuant to State law. The Project will also designate 8.1C TTOD zoning. The current Great Park zoning includes a defined wildlife corridor location with a 1.4 Preservation zoning from Irvine Boulevard south to the boundary of the SCRRA rail lines, consisting of approximately 132 acres. This 8.1C TTOD zoning would provide flexibility for the wildlife corridor to be located appropriately considering planning and compatible land uses within a portion of District 5 and District 6. The wildlife corridor shall consist of approximately 132 acres. Once the exact location is finally determined, the Project would authorize the corridor to then be designated as 1.4 Preservation zoning and all other properties within the 8.1C TTOD zoning will be designated 8.1 Trails and Transit Oriented Development without further Planning Commission action.