APPENDIX I2

Drainage Study

Preliminary Drainage Study

For

Otay Ranch

Village 8 West

Chula Vista Tract No. 09-XX

John A. Hayes, P.E.
R.C.E. # 58003
Expiration Date: June 30, 2014

Prepared For
Otay Land Company, LLC
1903 Wright Place, Suite 220
Carlsbad, CA 92008
(760) 602-3777

Prepared By
Hale Engineering
7910 Convoy Court
San Diego, CA 92111
(858) 715-1420



Date: December 8, 2011

Executive Summary

The following report was prepared in support of the drainage system shown on the Tentative Map entitled "Otay Ranch Village 8 West". Within this report are the necessary hydrologic calculations required for the design of the backbone storm drain system proposed per the project.

Runoff from the project area drains to one of two receiving waters: Wolf Canyon or the Otay River.

Discharges to Wolf Canyon are subject to hydromodification criteria. The calculations within this report are based upon the criteria in the “County of San Diego Hydrology Manual”, 2003 edition and include basin routing calculations for the hydromodification basin proposed as part of the backbone storm drain system. Calculations based upon the criteria in the “County of San Diego Final Hydromodification Management Plan”, 2009 edition (HMP). The detention basin design is based upon the more conservative values calculated via the HMP methodology. Due to the inclusion of the hydromodification basin within the backbone storm drain system, the 100-year storm event post-construction flows volumnes and rates discharging into Wolf Canyon are less than those of the existing condition. Thus, the scour potential is not increased by the project. The channel composition and integrity have been reviewed by the geotechnical engineer, Advanced Geotechnical Solutions, and determined to have low erosive potential[1].

Per the Final Hydromodification Plan, the lower Otay River Valley is listed as a river reach that is exempt from hydromodification analysis. The calculations within this report are based upon the criteria in the “County of San Diego Hydrology Manual”, 2003 edition. The post project peak flow is anticipated to increase over that of the existing condition. However, it is a minor portion of the total flow within the Otay River at that point. The peak flows with the river and those from the discharge point do not coincide; the impact of the increased flow at the discharge point is negligible at peak river flow[2]. To minimize erosion at the outlet point, the proposed outlet point to the Otay river shall consist of a USBR Type IV Energy-Dissipater-Impact Basin at the end of a proposed energy dissipater with additional erosion control provided by a section of 1 ton rip rap. The proposed energy dissipater shall be located above the water surface with the 1 ton rip rap outfall below the calculated 100-year flood surface. The scour potential is not increased by the project. The channel composition and integrity and outlet structure design have been reviewed by the geotechnical engineer, Advanced Geotechnical Solutions, and determined to have low erosive potentials[3].

[1] See Appendix M for the AGS geotechnical opinion letter
[2] See Appendix L for the Hunsaker & Associates Otay River Analysis
[3] See Appendix M for the AGS geotechnical opinion letter

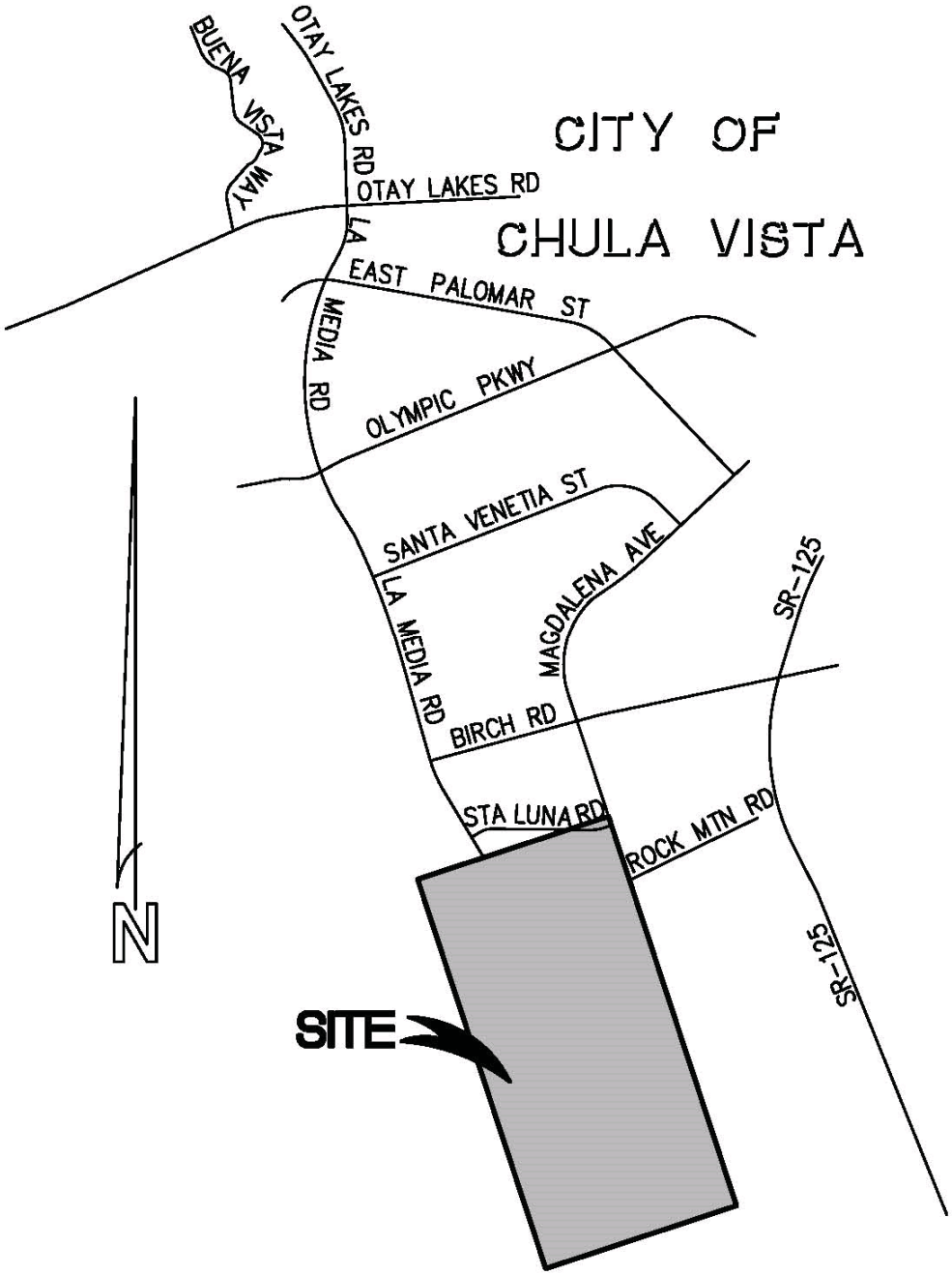
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1 Vicinity Map



2 Introduction

The proposed project is located within the Otay Watershed, specifically the Otay Valley Hydrologic Area. Village 8 West is a 320-acre SPA (Special Planning Area) portion of the larger Otay Valley Parcel of the City of Chula Vista currently used for light agrarian (dry farming) purposes. An existing reservoir occupies a central portion of the property. The Otay Valley Parcel is the largest parcel of Otay Ranch, comprising 9,449 acres bounded by Telegraph Canyon Road on the north, Heritage Road and the Otay Landfill Site on the west, Brown Field on the south, and Lower Otay Lake on the east.

The northern portion of the proposed project will ultimately drain to Wolf Canyon via two of five proposed storm drain systems. The other three storm drain systems drain the remainder of the project to the Otay River southerly of the southern boundary of the proposed project.

This report is prepared in support of the drainage system shown on the Tentative Map entitled "Otay Ranch Village 8 West". Within this report are the necessary hydrologic calculations required for the design of the backbone storm drain system proposed per the project. All preliminary calculations and analyses within this report are carried out in conformance with the criteria in the “County of San Diego Hydrology Manual”, 2003 edition.

The mitigation of peak flow increases in Wolf Canyon is performed in a separate hydromodification analysis (see Appendix I) and is based upon the “County of San Diego Final Hydromodification Management Plan”, 2009 edition (HMP). The study demonstrates that there are no peak flows which exceed the existing flow conditions of storms using historic rain gauge data. The storage routing analysis for project shown in this Hydrology Report is based upon the methodology outlined in the San Diego Hydrology Manual. Refer to Appendix K for this routing analysis and Section 4.2.6 for a comparison of the Wolf Canyon post-project discharge obtained via the two methodologies. Note, the detention basin design is based upon the more conservative values calculated via the HMP methodology.

The discharge to the Otay River is downstream of the Otay reservoir. The first Otay dam failed in an event which degraded the downstream Otay River. Per the Final Hydromodification Plan, the lower Otay River Valley is listed as a river reach that is exempt from hydromodification analysis (see section 6, page 6.5, table 6.1 of the Final HMP; the WQCB approved the Final HMP on July 14, 2010, Resolution No. R9-2010-0066.) Therefore no calculations for hydromodification or storage routing have been performed for discharge into Otay River.

3 Hydrologic Method and Criteria

The Advanced Engineering Software (AES) Rational Method computer program based upon the 2002 City of Chula Vista Subdivision Manual is used in the determination of the 50-year storm event pre- and post-project flow rates.

3.1 Rational Method Criteria and Methodology:

Independent node-link models of each interior drainage basin are created and linked together at confluence points to create a hydrologic model of the project in its entirety. The AES program is capable of performing calculations for 15 hydrologic processes. For simplification, these processes are assigned code numbers that appear in the program results. The code numbers and their significance are as follows:

Code	Subarea Hydrologic Process
1	Confluence analysis at a node
2	Initial subarea analysis
3	Pipe flow travel time (computer-estimated pipe size)
4	Pipe flow travel time (user-specified pipe size)
5	Trapezoidal channel travel time
6	Street flow analysis through a subarea
7	User-specified information at a node
8	Addition of the subarea runoff to mainstream
9	V-Gutter flow through a subarea
10	Copy mainstream data onto a memory bank
11	Confluence a memory bank with the mainstream memory
12	Clear a memory bank
13	Clear the mainstream memory
14	Copy a memory bank onto the mainstream memory
15	Hydrologic data bank storage function

Information obtained from the County of San Diego Hydrology Manual including land use, soil type, runoff coefficients, and rainfall intensity is used to perform the hydrologic analysis. Please see Appendices A and C for the pre- and post-project hydrologic analyses; see Appendices B and D for the respective Drainage Maps. The hydrologic conditions are analyzed using the following guidelines:

Design Storm	2-, 10-, 25-, 50-, and 100-year 6-hour storm
Runoff Coefficients	County of San Diego Hydrology Manual
Soil Type	Varies
Ranfall Intensity	County of San Diego Hydrology Manual

Appendix G contains the excerpts from County of San Diego Manual on which the analyses are based.

4 Hydrologic Results

The AES rational method program results are included in Appendices A, B, D, and E for the pre- and post-project hydrologic analyses. The corresponding Pre- and Post-Drainage Maps are included in Appendices C and F respectively.

4.1 Pre-Project Condition

In the existing condition, the site is composed of 3 drainage areas with three distinct discharge points. Drainage areas A and B drain southwesterly toward outlet points 130 and 320 respectively along the southern boundary of the project; drainage area C drains westerly toward outlet point 400 along the western boundary of the project.

4.1.1 Pre-Project Drainage Area A

Pre-Project Drainage Area A is an 83.9-acre drainage area with a high point of 511.7 and a flow line elevation of 310.0 at outlet Node130. Flow through the drainage area consists of natural mountain channel flow. The flow path from the highest point in the basin to the lowest is 4,340 feet. This flow exits the project limits at the MSCP boundary and continues s'ly along the natural channel to Otay River.

4.1.2 Pre-Project Drainage Area B

Pre-Project Drainage Area B is a 127.1-acre drainage area with a high point of 514.4 and a flow line elevation of 276.7 at outlet Node 320. This basin receives offsite flow from Village 7 Vista Verde; quantities are determined in the Rick Engineering "Drainage Study for McMillin Village 7 Vista Verde" dated November 29, 2004. Offsite flow is modeled in node 300; see Appendix N for supporting data from the Rick Engineering report. Flow through the drainage area consists of natural mountain channel flow. The flow path from the highest point in the basin to the lowest is 4,375 feet. This flow exits the project boundary and continues s'ly along the natural channel to Otay River.

4.1.3 Pre-Project Drainage Area C

Pre-Project Drainage Area C is a 183.6-acre drainage area composed of 89.6 acres of offsite flow and 94.0 acres of onsite flow; with a high point of 430.0 and a flow line elevation of 367.1 at outlet Node 410. This basin receives offsite flow from Otay Ranch Village 7; quantities are determined in the Hunsaker & Associates "Addendum Rough Grading Hydrology Study for Otay Ranch Village 7" dated May 3, 2006. Offsite flow is modeled in node 400; see Appendix N for supporting data from the Hunsaker & Associated report. Flow through the drainage area consists of natural mountain channel flow. The flow path from the highest point in the basin to the lowest is 3,100 feet. This flow exits the project boundary and continues sw'ly along the natural channel to Wolf Creek which is tributary to Otay River.

As described in Section 3, design data from the County of San Diego Hydrology Manual was used with Advanced Engineering Software's (AES) Rational Method Hydrology Computer Program Package in the hydrologic analysis of the pre-project Condition. See appendices for rational method data and drainage map. See table: Hydrologic Data of Pre & Post Project Condition

Please refer to Appendices A and B for the rational method output for Wolf Canyon and the Otay River respectively. Refer to Appendix C for the pre-project drainage map.

4.2 Post-Project Condition

In the post-project condition, the site is comprised of 5 drainage areas. Drainage areas 1, 2 and 3 drain southerly to outlet point 170; drainage areas 4 and 5 drain westerly to outlet point 620.

4.2.1 Post-Project Drainage Area 1

Post-Project Drainage Area 1 is a 36.7-acre drainage area; proposed improvements within this drainage area include mass grading of pads and portions of Streets 'D', 'E', 'H', 'I', & 'K' within Parcel P for future development. Runoff is transported to the proposed storm drain system via proposed catch basins and curb inlets located at intervals within the proposed roadways. This storm drain system ultimately confluences with areas 2 & 3 and conveys s'ly through storm drain to Outlet Node 170 to the Otay River.

4.2.2 Post-Project Drainage Area 2

Post-Project Drainage Area 2 is a 42.3-acre drainage area; proposed improvements within this area include mass grading of pads and portions of Streets 'E', 'M', & 'L' within Parcels T, U, & V for future development. Runoff is transported to the proposed storm drain system via proposed curb inlet located at intervals within the drainage area. This storm drain ultimately confluences with area 1 and conveys s'ly through storm drain to Outlet Node 170 continuing to the Otay River.

4.2.3 Post-Project Drainage Area 3

Post-Project Drainage Area 3 is a 100.3-acre drainage area composed of 20.1 acres of offsite flow and 82.7 acres of onsite flow. A south east segment of Otay Valley Road discharges to the east and is modeled separately in Appendix J. Proposed improvements within this area include mass grading of pads and portions of Streets 'A', 'B', & La Media within Parcels M, O, Q, R, S, & the reservoir for future development. This basin receives offsite flow from Village 7 Vista Verde; quantities are determined in "Drainage Study for McMillin Village 7 Vista Verde" prepared by Rick Engineering. Offsite flow is modeled in node 300. Runoff is transported to the proposed storm drain system via proposed curb inlet located at intervals within the proposed roadways. This storm drain ultimately confluences with area 1 and conveys s'ly through storm drain to Outlet Node 170 continuing to the Otay River. Velocity for the 3 drainage areas is dissipated with a USBR type VI impact basin and 20' rip rap energy dissipater.

Otay Valley Road – The section of road east of Street A does not combine with Drainage areas 1 – 3. This flow is modeled in nodes 700 – 710. See appendix J.

4.2.4 Post-Project Drainage Area 4

Post-Project Drainage Area 4 is a 143.6-acre drainage area composed of 89.6 acres of offsite flow and 54.0 acres of onsite flow; proposed improvements within this drainage area include mass grading of pads & portions of La Media Road, Street 'A', and Main Street within parcels B, C, D, E, F, G (portion), H (portion), and W for future development. This basin receives offsite flow from Otay Ranch Village 7; quantities are determined in “Addendum Rough Grading Hydrology Study for Otay Ranch Village 7” prepared by Hunsaker Engineering. Offsite flow is modeled in node 400. Runoff is transported to the proposed storm drain system via proposed catch basins and curb inlets located at intervals within the proposed roadways. This storm drain system confluences with area 5 and ultimately outlets to an existing natural drainage channel after discharging from a detention basin designed to manage development hydromodification. This discharge confluences drainage areas 4 & 5 with Basin P (representing Lot ‘A’, adjacent land to be developed separately as a park and not included in the hydromodification design). The runoff from Basin P confluences with the project runoff after the hydromodification outfall and is modeled at node 620 in the hydrology study. Discharge outlets through energy dissipaters (impact basin and rip rap) and flows westerly from Outlet Node 620 to Wolf Canyon.

4.2.5 Post-Project Drainage Area 5

Post-Project Drainage Area 5 is a 59.0-acre drainage area; proposed improvements within this drainage area include mass grading of pads & portions of La Media Road, Main Street, and Streets 'A', ‘D’, ‘F’, & ‘G’, and within parcels G (portion), H (portion), I, J, L, & N for future development. Runoff is transported to the proposed storm drain system via proposed catch basins and curb inlets located at intervals within the proposed roadways. This storm drain system confluences with area 4 and ultimately outlets to an existing natural drainage channel running westerly from Outlet Node 620 to Wolf Canyon.

Please refer to Appendices D and E for the rational method output for Wolf Canyon and the Otay River respectively. Refer to Appendix F for the post-project drainage map.

4.2.6 Hydrologic Data of Pre & Post Project Condition

The following table lists the Pre- and Post-Project Hydrology data for the Wolf Canyon discharge point as determined per the County of San Diego Hydrology Manual Methodology.

		Wolf Canyon				
		Pre Project	Post Project			
		Qe	Flow Into Detention Basin **Q**p	Flow Out Of Detention Basin **Q**p	Lot 'A' **Q**p	Total **Q**t
Modeling Node		410	600		810	820
Tributary Basins		C	4,5	4,5	Lot 'A'	
Area (acres)		183.6	202.6	202.6	16.3	
2-Year Storm	**Q** (cfs)	155.6	243.8	42.6	18.4	61.0
	Tc (min)	15.4	13.8			
10-Year Storm	**Q** (cfs)	246.0	380.1	136.4	28.7	165.1
	Tc (min)	14.9	13.6			
25-Year Storm	**Q** (cfs)	261.2	402.8	157.2	30.5	187.7
	Tc (min)	14.8	13.5			
50-Year Storm	**Q** (cfs)	322.3	493.8	241.2	37.4	278.6
	Tc (min)	14.6	13.5			
100-Year Storm	**Q** (cfs)	368.3	559.3	313.4	42.4	355.8
	Tc (min)	14.5	13.5			

The following table lists the Pre- and Post-Project Hydrology data for the Wolf Canyon discharge point as determined by HSPF in accordance with the criteria per the County of San Diego Final Hydromodification Management Plan (HMP).

		Wolf Canyon	
		Pre Project **Q**e	Post Project (Out of Detention Basin) **Q**p
Tributary Basins		C	4,5
Area (acres)		183.6	202.6
2-Year Storm	**Q** (cfs)	28.6	17.1
5-Year Storm	**Q** (cfs)	39.0	31.8
10-Year Storm	**Q** (cfs)	55.6	40.1
25-Year Storm	**Q** (cfs)	93.0	63.9

Revised 12/8/2011

Note, the detention basin design is based upon the more conservative values calculated via the HMP methodology.

The following table lists the Pre- and Post-Project Hydrology data for the Otay River discharge as determined per the County of San Diego Hydrology Manual Methodology.

		Otay River			
		Pre Project **Q**e			Post Project **Q**p
Modeling Node		130	330		165
Tributary Basins		A	B	A+B	1-3
Area (acres)		83.9	127.1	211.0	179.3
2-Year Storm	**Q** (cfs)	47.8	70.8	118.6	155.5
	Tc (min)	18.1	30.6		22.2
10-Year Storm	**Q** (cfs)	78.7	112.5	191.2	243.9
	Tc (min)	16.4	28.6		21.5
25-Year Storm	**Q** (cfs)	84.0	119.5	203.5	258.7
	Tc (min)	16.2	28.4		21.4
50-Year Storm	**Q** (cfs)	105.7	147.7	253.4	317.9
	Tc (min)	15.5	27.6		21.2
100-Year Storm	**Q** (cfs)	122.3	169.1	291.4	362.5
	Tc (min)	15.0	27.1		21.0

The proposed outlet point to the Otay river will consist of a USBR Type IV Energy-Dissipater-Impact Basin at the end of a proposed energy dissipater with additional erosion control provided by a section of 1 ton rip rap. The proposed energy dissipater shall be located above the water surface with the 1 ton rip rap outfall below the calculated 100-year flood surface. Per the above table, the post project peak flow is 362.5 cfs with a peak flow time of 21 minutes. Per the Hunsaker and Associates analysis included in Appendix L, for a 100-year 24-hour storm event the Otay River has a peak discharge of 20,161 CFS and a time of peak flow of 21 hours 5 minutes at the Village 8 outlet point. As shown above, the post project peak flow is anticipated to increase over that of the existing condition. However, it is a minor portion of the total flow within the Otay River at that point. The peak flows with the river and those from the discharge point do not coincide; the impact of the increased flow at the discharge point is negligible at peak river flow. It is anticipated that the increase in discharge from the Village 8 West outlet point will not increase the erosion potential of the downstream Otay River Channel.

4.2.7 Drainage Areas 4 & 5 Basin Routing Results

Refer to the Hydromodification Study (Appendix I) for storm system improvements as well as pre-project discharge vs. post-project discharge results. The Hydromodification Management Plan was developed to manage increases in runoff discharge rates and durations from all priority projects, where increases are likely to cause channel erosion increases, sediment pollution, or other impacts to beneficial use waterbodies. Hydromodification describes change to a waterbody's physical structure as well as its natural function. These changes can cause problems such as changes in flow, increased sedimentation, higher water temperature, lower dissolved oxygen, degradation of aquatic habitat structure, loss of fish and other aquatic populations, and decreased water quality. There are 3 categories: (1) channelization and channel modification, (2) dams, and (3) streambank and shoreline erosion. This project has channelization and channel modification for flood control and drainage. The timing and delivery of pollutants, including sediment, and increased flows are managed in design. The basic element is an engineered detention basin and outflow control device that is modeled by storage routing processes to achieve the elimination of storm water flowrate increases in all storm events. The HMP for the County of San Diego prepared by Brown and Caldwell is the guiding document. Wolf Canyon flows are mitigated by this process to eliminate increases in erosion.

Wolf Canyon Scour – The flows discharging into Wolf Canyon match existing conditions as explained above. The scour potential is not increased by the project. The channel composition and integrity have been reviewed by the geotechnical engineer and determined to have low erosive potential. See Appendix G for the HEC-RAS channel flow analysis. See Appendix M for the geotechnical opinion letter by Advanced Geotechnical Solutions.

Reservoir Jurisdiction – The project basin is not large enough or high enough to be categorized as jurisdictional size under the division of Safety of Dams. See chart in Appendix G.

Otay River Scour - For the Otay River discharge, velocity and flow concentration are addressed with velocity dissipation design at a discharge point near the existing flow concentrations within natural channels. The discharge enters Otay River in a mild sloping channel bottom. These velocities are reduced through the impact basin and a rip rap energy dissipater mitigates the high erosivity of the storm culvert flow. See calculations and explanation below.

Otay River scour was addressed in a previous study submitted to the city. See Appendix L, portion of reference report, “TM Drainage Study for Otay Ranch Village 9” by Hunsaker Engineering, submitted to the City of Chula Vista. This upstream project used a similar design with energy dissipaters; Type VI impact dissipator equivalent to RSD D-41 discharging to a rip rap energy dissipator per RSD D-40. The hydrology of Otay River was modeled in HEC-RAS, resulting in a 100 year 24 hour design storm flowrate and velocity of Q=19,400 cfs and V=6.4fps. This information is used to evaluate the stability of the energy dissipater in a flowing channel. This velocity is not fast enough to produce lateral forces capable of compromising the dissipaters. Further armoring of the dissipator is possible if the need is determined during final engineering.

Channel Calculator
100 year storm event
Rip rap energy dissipator

Given Input Data:

Shape	Rectangular
Solving for	Depth of Flow
Flowrate	362.0000 cfs
Slope	0.0160 ft/ft
Manning's n	0.0450
Height	48.0000 in
Bottom width	240.0000 in

Computed Results:

Depth	31.7743 in
Velocity	6.8357 fps
Full Flowrate	672.8386 cfs
Flow area	52.9571 ft2
Flow perimeter	303.5485 in
Hydraulic radius	25.1222 in
Top width	240.0000 in
Area	80.0000 ft2
Perimeter	336.0000 in
Percent full	66.1964 %

Channel Calculator
10 year storm event
Rip rap energy dissipator

Given Input Data:

Shape	Rectangular
Solving for	Depth of Flow
Flowrate	244.0000 cfs
Slope	0.0160 ft/ft
Manning's n	0.0450
Height	48.0000 in
Bottom width	240.0000 in

Computed Results:

Depth	24.5962 in
Velocity	5.9521 fps
Full Flowrate	672.8386 cfs
Flow area	40.9936 ft2
Flow perimeter	289.1924 in
Hydraulic radius	20.4123 in
Top width	240.0000 in
Area	80.0000 ft2
Perimeter	336.0000 in
Percent full	51.2420 %

RCP flow velocity – Maximum velocity in the Otay outfall pipe will approach 40 fps. High velocity is not a concern with clear water in RCP. There are not regional experiences with scour being a lifetime issue. The storm drain system does not anticipate conveying significant volumes of sediment or coarse materials that would be a scour concern. Thicker pipe and other options to ensure long pipe life can be explored in final engineering.

Conclusions

This Preliminary Drainage Study contains pre- and post-project hydrologic analyses for the 2-, 10-, 25-, 50-, & 100-year, 6-hour storm events. These analyses are used in the design and sizing of the backbone storm drain infrastructure. The design also manages the Wolf Canyon hydromodification due to channelization with a detention basin. The design manages erosive potential of high flow velocity at the point of discharge into the Otay River with an engineered energy dissipater.

APPENDIX I3

Hydromodification Study

Hydromodification Study

For

Otay Ranch

Village 8 West

Chula Vista Tract No. 09-XX

John A. Hayes, P.E.
R.C.E. # 58003
Expiration Date: June 30, 2014

Prepared For
Otay Land Company, LLC
1903 Wright Place, Suite 220
Carlsbad, CA 92008
(760) 602-3777

Prepared By
Hale Engineering
7910 Convoy Court
San Diego, CA 92111
(858) 715-1420



Date: August 26, 2011

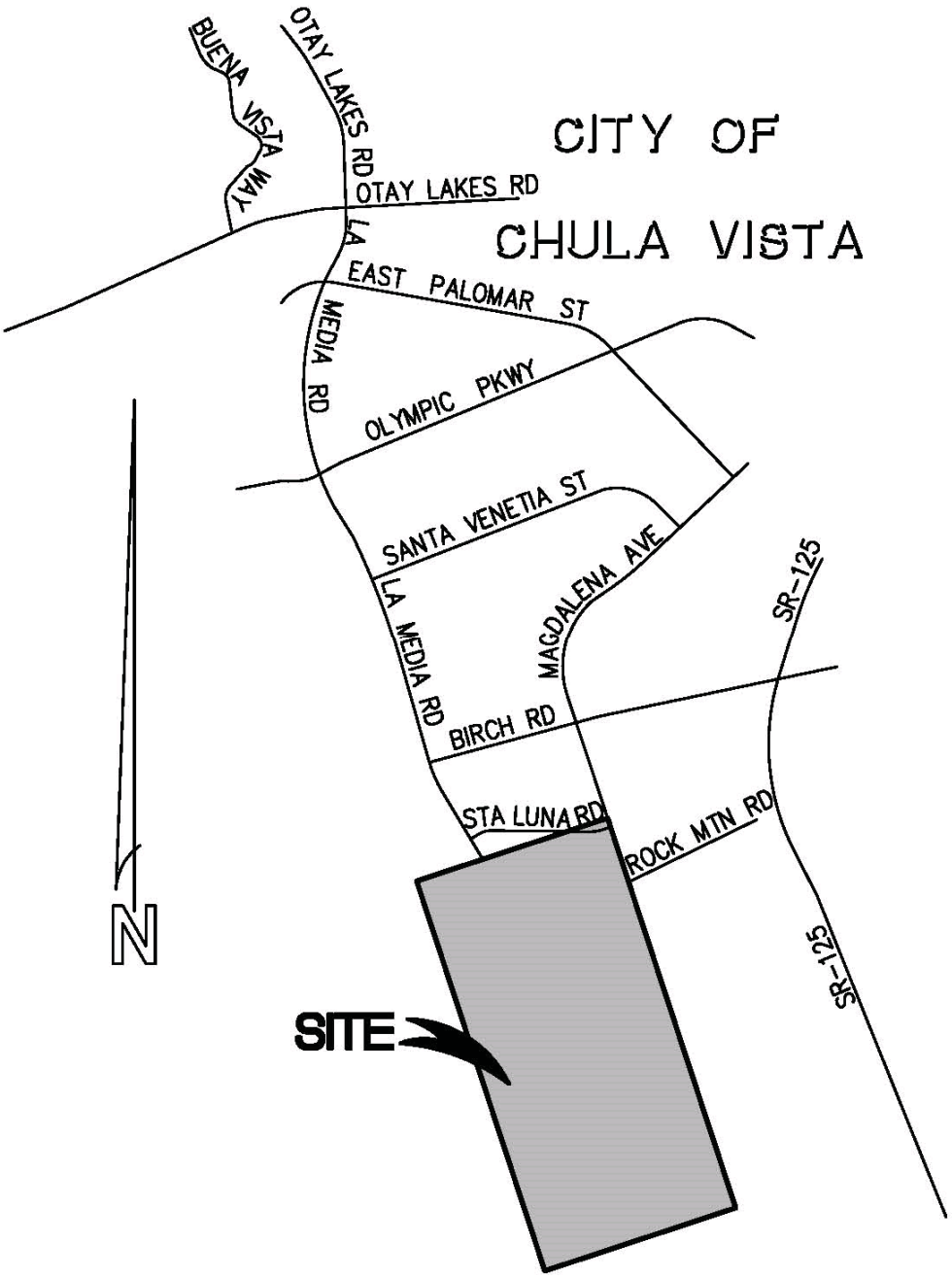
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Appendices

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Appendix 3 San Diego Hydrology Model (SDMH) Program Results
Appendix 4 Outlet Structure Details and Calculations
Appendix 5 HEC-HMS routing results

1 Vicinity Map



2 Introduction

The proposed project is located within the Otay Watershed, specifically the Otay Valley Hydrologic Area. Village 8 West is a 320-acre SPA (Special Planning Area) portion of the larger Otay Valley Parcel of the City of Chula Vista currently used for light agrarian and grazing purposes. An existing reservoir occupies a central portion of the property. The Otay Valley Parcel is the largest parcel of Otay Ranch, comprising 9,449 acres bounded by Telegraph Canyon Road on the north, Heritage Road and the Otay Landfill Site on the west, Brown Field on the south, and Lower Otay Lake on the east.

The northern portion of the proposed project will ultimately drain to Wolf Canyon via two of five proposed storm drain systems. The other three storm drain systems drain the remainder of the project to the Otay River southerly of the southern boundary of the proposed project.

The discharge to the Otay River is downstream of the Otay reservoir. The first Otay dam failed in an event which degraded the downstream Otay River. Per the Final Hydromodification, the lower Otay River Valley is listed as a river reach that is exempt from hydromodification analysis (see section 6, page 6.6, table 6.1 of the Final HMP dated March 2011, Therefore no calculations for hydromodification or storage routing have been performed for discharge into Otay River. Within this report are the necessary hydromodification calculations required for the design of the detention basin proposed per the project.

The design of the backbone storm drain system is performed in a separate hydrologic analysis. Refer to the "Preliminary Drainage Study for Otay Ranch Village 8 West" for the project storm drain design.

3 Hydromodification Method and Criteria

Clear Creek Solution, Inc's San Diego Hydrology Model (SDHM) software program is adapted from Western Washington Hydrology Manual (WWHM) Version 3, but has been modified to represent San Diego County hydrology and enhanced to be able to size other types of control measures and low impact development (LID) techniques for flow reduction as well.

3.1 Hydromodification Methodology:

The SDHM software architecture and methodology is the same as that developed for BAHM (Bay Area Hydrology Model) and WWHM and uses HSPF as its computational engine. Like BAHM and WWHM, SDHM is a tool that generates flow duration curves for the pre- and post-project condition and then sizes a flow duration control pond/basin or vault and outlet structure to match the pre-project curve.

The HSPF hydrology parameter values used in SDHM are based on calibrated watersheds. SDHM incorporates the rain gage data provided on the Project Clean Water website; the Lower Otay rain gage data is used in the calculations provided within this report. SDHM runs HSPF to generate an hourly runoff time series from the available rain gauge data over a number of years. Stormwater runoff is computed for both pre-project and post-project land use conditions. Then, SDHM routes the post-project stormwater runoff through the proposed stormwater. SDHM uses the pre-project peak flood value for each water year to compute the pre-project 2- through 100-year flood frequency values[1]. The post-project runoff 2- through 100-year flood frequency values are computed at the outlet of the proposed stormwater facility. The model routes the post-project runoff through the stormwater facility. As with the pre-project peak flow values, the maximum post-project flow value for each water year is selected by the model to compute the developed 2- through 100-year flood frequency. The pre-project 2-year peak flow is multiplied by 10% to set the lower limit of the erosive flows, in accordance with the current HMP performance criteria[2]. The pre-project 10-year peak flow is the upper limit. A comparison of the pre-project and post-project flow duration curves is conducted for 100 flow levels between the lower limit and the upper limit. The model counts the number of hours that pre-project flows exceed each of the flow levels during the entire simulation period. The model does the same analysis for the post-project mitigated flows.

[1] The actual flood frequency calculations are made using the Weibull ranking procedure described in Bulletin 17B (United States Water Resources Council, 1981).

[2] In SDHM, this low flow limit is a user-defined variable, to allow flexibility pending potential changes in regulatory requirements.

4 Hydromodification Results

The SDHM program results are included in Appendix 3. The computed flow rates for the Wolf Canyon discharge point of compliance are as follows:

	Storm Event			
	2-Year	5-Year	10-Year	25-Year
Pre-Project Flow (cfs)	28.6	39.0	55.6	93.0
Post-Project Flow (cfs)	17.1	31.8	40.1	63.9

The post-project flows shown above are calculated based on the inclusion of a detention basin with the following design parameters:

- Total Storage Volume = 23.3 Acre-feet
- Depth = 24' feet
- Side Slope = 2:1 (Horizontal: Vertical)
- Outlet Structures See Section 4
- SSD (Stage, Storage, Discharge) Table provided in report
- Developed flows calculated for the various return periods using the Modified Rational Method (per County of SD Hydrology manual) are higher than those calculated by HSPF. The higher flow values were routed through the basin using HEC-HMS 3.3 to verify capacity. The results are provided in this report. (See Section 5)
- No manual infiltration assumed.

4.1 Pre-Developed Condition

In the pre-developed condition, a 183.6-acre drainage area outlets at the point of compliance of Wolf Canyon. This basin is composed of the northern portion of Village 8 West and a portion of Otay Ranch Village 7. In the pre-developed condition, the northern portion of Village 8 west is undeveloped while the tributary portion of Otay Ranch Village 7 contains a high school and associated roadways. Land uses of the pre-developed drainage area breakdown as follows:

- C, D, Grass, Site (10-20%) = 31.4 acres
- C, D, Dirt, ST (10-20%) = 94.0 acres
- C, D, Urban, Flat (0-5%) = 20.0 acres
- Roads, Mod (5-10%) = 14.3 acres
- Roof Area = 5.0 acres
- Hardscape, Flat (0-5%) = 18.9 acres

See Appendix 1 Hydro-Modification Pre-Developed Land Use Exhibit for the locations of the various land use types in the drainage area.

As described in Section 3, design data from Project Clean Water was used with Clear Creek Solution, Inc's San Diego Hydrological Model (SDHM) software in the hydromodification analysis of the Pre-Developed Condition.

4.2 Developed Condition

In the developed condition, a 202.6-acre drainage area outlets at the point of compliance of Wolf Canyon. This basin is composed of the northern portion of Village 8 West and a portion of Otay Ranch Village 7. In the developed condition, the northern portion of Village 8 west is developed with graded pads for future development and associated paved roadways and the tributary portion of Otay Ranch Village 7 shall continue to house the existing high school and associated roadways. Land uses of the developed drainage area breakdown as follows:

- C, D, Grass, Site (0-5%) = 2.5 acres
- C, D, Grass, Site (10-20%) = 32.4 acres
- C, D, Grass, Site (> 20%) = 12.0 acres
- C, D, Urban, Flat (0-5%) = 37.0 acres
- Roads, Mod (5-10%) = 36.2 acres
- Roof Area = 12.6 acres
- Hardscape, Flat (0-5%) = 18.9 acres
- Parking, Flat (0-5%) = 51.0 acres

See Appendix 2 Hydro-Modification Development Land Use Exhibit for the locations of the various land use types in the drainage area.

As described in Section 3, design data from Project Clean Water was used with Clear Creek Solution, Inc's San Diego Hydrological Model (SDHM) software in the hydromodification analysis of the Developed Condition.

5 Conclusions

This Hydromodification Study contains analyses for the 2-, 10-, 25-, and 50-year, storm events. These analyses are used in the design and sizing of the proposed detention basin upstream of the Wolf Canyon point of compliance. This basin is for flow control only; see the Water Quality Technical Report for storm water runoff treatment BMP's. With the inclusion of the proposed detention basin, post-project flow rates at the point of compliance of the Wolf Canyon discharge shall be less than pre-project rates for the 2-, 5-, 10-, and 50-year storms.

SECTION 1

HYDRO-MODIFCATION PREDEVELOPED LAND USE EXHIBIT

OTAY RANCH, VILLAGE 8 WEST

CITY OF CHULA VISTA, CALIFORNIA, TRACT NO. 09-___



LAND USE	COLOR/TOTAL AREA
C,D, GRASS, STE(10-20%)	31.4 AC
C,D, DIRT, ST(10-20%)	78.3 AC
C,D, DIRT, ST(10-20%) PROPORTIONED FOR FUTURE PARK	15.7 AC
C,D, URBAN, FLAT(0-5%)	20.0 AC
ROADS, MOD(5-10%)	14.0 AC
ROOF AREA	5.0 AC
HARDSCAPE, FLAT(0-5%)	18.9 AC
TOTAL:	183.6 AC

SCALE: 1" = 300'

300 0 300 600 900

SCALE 1" = 300'

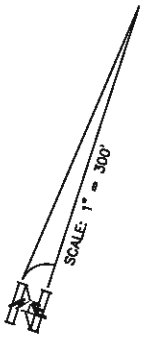
SECTION 2

HYDRO-MODIFCATION DEVELOPED LAND USE EXHIBIT

OTAY RANCH, VILLAGE 8 WEST

CITY OF CHULA VISTA, CALIFORNIA, TRACT NO. 09-___





LAND USE	COLOR/TOTAL AREA
C,D, GRASS, FLAT(0-5%)	2.5 AC
C,D, GRASS, STE(10-20%)	32.4 AC
C,D, GRASS, STE()20%)	12.0 AC
C,D, URBAN, FLAT(0-5%)	37.0 AC
ROADS, MOD(5-10%)	36.2 AC
ROOF AREA	12.8 AC
HARDSCAPE, FLAT(0-5%)	18.9 AC
PARKING, FLAT(0-5%)	51.0 AC
TOTAL:	202.8 AC

ON-SITE AREA CONTRIBUTION

ROADS, MOD(5-10%)=20.9 AC
C,D, GRASS, STE()20%)-SLOPES= 11.9 AC
TC PAD AREAS=63.8 AC (80% IMPERVIOUS)=
- PARKING, FLAT(0-5%)=51.0 AC
- C,D, URBAN, FLAT(0-5%)=12.8 AC

SF LOTS AREA=15.2 AC (50% IMPERVIOUS)
- ROOF=7.6 AC
- C,D, URBAN, FLAT(0-5%)=7.6 AC

PARKS=C,D, GRASS, FLAT(0-5%)=2.5 AC

300 0 300 600 900

SCALE 1" = 300'

SECTION 3

SDHM2011
PROJECT REPORT

Project Name: V8 WEST-park
Site Name : V8W
Site Address: LA MEDIA
City : Chula Vista
Report Date : 8/1/2011
Gage : LWR OTAY
Data Start : 10/01/1959
Data End : 09/30/2004
Precip Scale: 1.00
Version : 2011/06/22

PREDEVELOPED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

Pervious Land Use	Acres
C D,Grass,Ste(10-20)	31.4
C D,Dirt, St(10-20%)	78.3
C D,Urban,Flat(0-5%)	20

Impervious Land Use	Acres
Roads,Mod(5-10%)	14.3
Roof Area	5
Sidewalks,Flat(0-5%)	18.9

Element Flows To:
Surface **Interflow** **Groundwater**

Name : Existing Park Area
Bypass: No

GroundWater: No

Pervious Land Use	Acres
C D,Dirt, St(10-20%)	15.7

Impervious Land Use	Acres

Element Flows To:
Surface **Interflow** **Groundwater**

MITIGATED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

Pervious Land Use	Acres
C D,Grass,Ste(10-20)	32.4

C D,Urban,Flat(0-5%)	37
C D,Grass,Flat(0-5%)	2.5
C D,Grass,Very(>20%)	12

Impervious Land Use	Acres
Roads,Mod(5-10%)	36.2
Roof Area	12.6
Sidewalks,Flat(0-5%)	18.9
Parking,Flat(0-5%)	51

Element Flows To:

Surface	Interflow	Groundwater
SSD Table 1	SSD Table 1	

Name : SSD Table 1
Depth: 24 ft.

Element Flows To:

Outlet 1	Outlet 2
Culvert 1	

SSD Table Hydraulic Table

Stage (ft)	Area (ac)	Volume (ac-ft)	Manual	NotUsed	NotUsed	NotUsed	NotUsed
0.000	0.557	0.000	0.000	0.000	0.000	0.000	0.000
1.000	0.590	0.573	0.657	0.000	0.000	0.000	0.000
2.000	0.624	1.180	0.929	0.000	0.000	0.000	0.000
3.000	0.659	1.822	1.137	0.000	0.000	0.000	0.000
4.000	0.695	2.499	1.313	0.000	0.000	0.000	0.000
5.000	0.732	3.212	1.468	0.000	0.000	0.000	0.000
6.000	0.770	3.963	1.608	0.000	0.000	0.000	0.000
7.000	0.808	4.752	1.737	0.000	0.000	0.000	0.000
8.000	0.848	5.580	1.857	0.000	0.000	0.000	0.000
9.000	0.889	6.448	1.970	0.000	0.000	0.000	0.000
10.000	0.930	7.357	3.390	0.000	0.000	0.000	0.000
11.00	0.972	8.309	4.035	0.000	0.000	0.000	0.000
12.00	1.016	9.303	7.175	0.000	0.000	0.000	0.000
13.00	1.060	10.34	8.708	0.000	0.000	0.000	0.000
14.00	1.105	11.42	15.19	0.000	0.000	0.000	0.000
15.00	1.151	12.55	26.32	0.000	0.000	0.000	0.000
16.00	1.198	13.73	50.60	0.000	0.000	0.000	0.000
17.00	1.246	14.95	63.01	0.000	0.000	0.000	0.000
18.00	1.295	16.22	89.67	0.000	0.000	0.000	0.000
19.00	1.345	17.54	128.8	0.000	0.000	0.000	0.000
20.00	1.395	18.91	176.0	0.000	0.000	0.000	0.000
21.00	1.447	20.33	229.8	0.000	0.000	0.000	0.000
22.00	1.501	21.80	304.6	0.000	0.000	0.000	0.000
23.00	1.556	23.33	435.4	0.000	0.000	0.000	0.000

Name : Culvert 1
Discharge Structure
Riser Height: 0 ft.
Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

Name : Lot A: Park
Bypass: No

GroundWater: No

Pervious Land Use	Acres
C D,Grass,Flat(0-5%)	10.4

Impervious Land Use	Acres
Roads,Flat(0-5%)	5.6

Element Flows To:

Surface	Interflow	Groundwater
Culvert 2	Culvert 2	

Name : Culvert 2

Discharge Structure

Riser Height: 0 ft.

Riser Diameter: 0 in.

Element Flows To:

Outlet 1	Outlet 2

ANALYSIS RESULTS

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	28.552977
5 year	38.963207
10 year	55.647814
25 year	92.968818

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	17.108301
5 year	31.799082
10 year	40.11682
25 year	63.861616

POC #1
The Facility PASSED

The Facility PASSED.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
2.8553	1891	1871	98	Pass
3.3886	1409	1489	105	Pass
3.9218	1125	1027	91	Pass
4.4551	980	800	81	Pass
4.9883	837	702	83	Pass
5.5216	770	635	82	Pass
6.0548	691	589	85	Pass
6.5881	616	521	84	Pass
7.1214	533	443	83	Pass
7.6546	460	394	85	Pass
8.1879	409	334	81	Pass
8.7211	374	285	76	Pass
9.2544	336	256	76	Pass
9.7876	311	234	75	Pass
10.3209	275	216	78	Pass

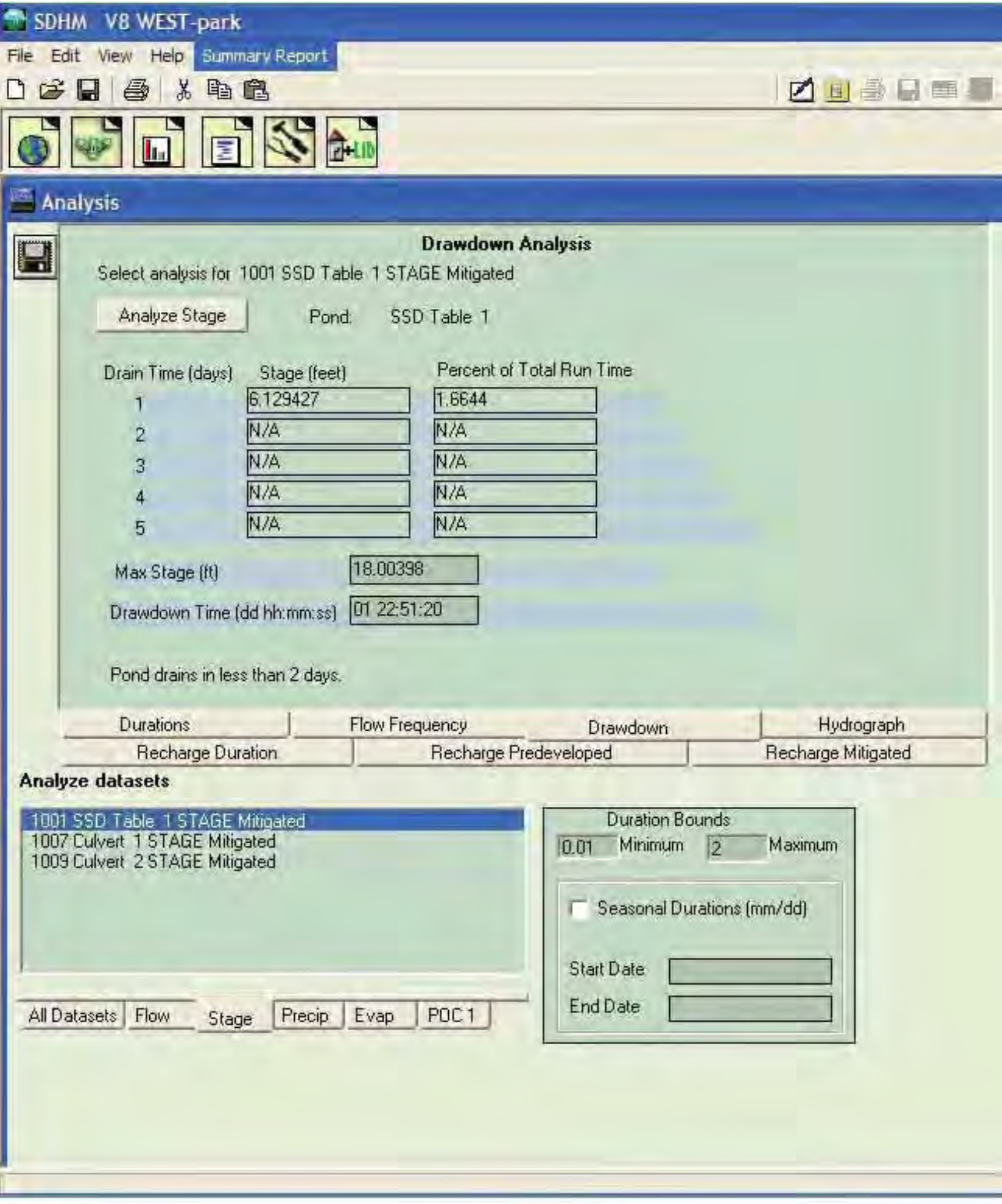
10.8542	249	201	80	Pass
11.3874	227	189	83	Pass
11.9207	208	179	86	Pass
12.4539	198	171	86	Pass
12.9872	186	163	87	Pass
13.5205	179	157	87	Pass
14.0537	164	149	90	Pass
14.5870	154	140	90	Pass
15.1202	146	130	89	Pass
15.6535	137	126	91	Pass
16.1867	130	118	90	Pass
16.7200	126	113	89	Pass
17.2533	117	108	92	Pass
17.7865	111	99	89	Pass
18.3198	108	92	85	Pass
18.8530	104	87	83	Pass
19.3863	100	83	83	Pass
19.9195	94	83	88	Pass
20.4528	92	75	81	Pass
20.9861	86	69	80	Pass
21.5193	79	67	84	Pass
22.0526	74	60	81	Pass
22.5858	73	56	76	Pass
23.1191	68	52	76	Pass
23.6523	63	50	79	Pass
24.1856	62	48	77	Pass
24.7189	58	47	81	Pass
25.2521	54	44	81	Pass
25.7854	52	42	80	Pass
26.3186	49	41	83	Pass
26.8519	45	38	84	Pass
27.3852	44	37	84	Pass
27.9184	43	35	81	Pass
28.4517	41	34	82	Pass
28.9849	38	34	89	Pass
29.5182	36	34	94	Pass
30.0514	32	31	96	Pass
30.5847	31	30	96	Pass
31.1180	30	28	93	Pass
31.6512	28	23	82	Pass
32.1845	25	22	88	Pass
32.7177	23	21	91	Pass
33.2510	22	18	81	Pass
33.7842	21	18	85	Pass
34.3175	21	17	80	Pass
34.8508	19	15	78	Pass
35.3840	18	14	77	Pass
35.9173	18	13	72	Pass
36.4505	18	12	66	Pass
36.9838	17	12	70	Pass
37.5171	17	12	70	Pass
38.0503	16	12	75	Pass
38.5836	16	12	75	Pass
39.1168	15	10	66	Pass
39.6501	13	9	69	Pass
40.1833	13	9	69	Pass
40.7166	13	9	69	Pass
41.2499	13	9	69	Pass
41.7831	12	9	75	Pass
42.3164	12	9	75	Pass
42.8496	12	9	75	Pass
43.3829	12	9	75	Pass
43.9161	11	9	81	Pass
44.4494	11	9	81	Pass
44.9827	11	8	72	Pass
45.5159	11	8	72	Pass
46.0492	11	8	72	Pass
46.5824	11	8	72	Pass
47.1157	10	8	80	Pass
47.6489	10	8	80	Pass
48.1822	10	8	80	Pass
48.7155	9	8	88	Pass
49.2487	9	8	88	Pass

49.7820	9	8	88	Pass
50.3152	9	8	88	Pass
50.8485	9	8	88	Pass
51.3818	9	7	77	Pass
51.9150	9	7	77	Pass
52.4483	9	6	66	Pass
52.9815	8	5	62	Pass
53.5148	8	5	62	Pass
54.0480	8	5	62	Pass
54.5813	8	5	62	Pass
55.1146	8	5	62	Pass
55.6478	6	4	66	Pass

Water Quality BMP Flow and Volume for POC #1
On-line facility volume: 0 **acre-feet**
On-line facility target flow: 0 **cfs.**
Adjusted for 15 min: 0 **cfs.**
Off-line facility target flow: 0 **cfs.**
Adjusted for 15 min: 0 **cfs.**

Perlnd and Implnd Changes
No changes have been made.

This program and accompanying documentation is provided 'as-is' without warranty of any kind. The entire risk regarding the performance and results of this program is assumed by the user. Clear Creek Solutions, Inc. disclaims all warranties, either expressed or implied, including but not limited to implied warranties of program and accompanying documentation. In no event shall Clear Creek Solutions, Inc. be liable for any damages whatsoever (including without limitation to damages for loss of business profits, loss of business information, business interruption, and the like) arising out of the use of, or inability to use this program even if Clear Creek Solutions, Inc. has been advised of the possibility of such damages.


SDHM V8 WEST-park
File Edit View Help Summary Report
Analysis
Drawdown Analysis
Select analysis for 1001 SSD Table 1 STAGE Mitigated
Analyze Stage
Pond: SSD Table 1
Drain Time (days)
Stage (feet)
Percent of Total Run Time
1
6.129427
1.6644
2
N/A
N/A
3
N/A
N/A
4
N/A
N/A
5
N/A
N/A
Max Stage (ft)
18.00398
Drawdown Time (dd hh:mm:ss)
01 22:51:20
Pond drains in less than 2 days.
Durations
Flow Frequency
Drawdown
Hydrograph
Recharge Duration
Recharge Predeveloped
Recharge Mitigated
Analyze datasets
1001 SSD Table 1 STAGE Mitigated
1007 Culvert 1 STAGE Mitigated
1009 Culvert 2 STAGE Mitigated
All Datasets
Flow
Stage
Precip
Evap
POC 1
Duration Bounds
0.01
Minimum
2
Maximum
Seasonal Durations (mm/dd)
Start Date
End Date

SECTION 4

By selecting the appropriate notch type the user is then given the option to enter the appropriate notch type dimensions.

Riser and orifice equations used in SDHM are provided below.

Headr = the water height over the notch/orifice bottom.
q = discharge

1 Riser Head Discharge:

Head = water level above riser
q = 9.739 * Riser Diameter * Head ^ 1.5

2 Orifice Equation:
q = 3.782 * (Orifice Diameter) ^ 2 * SQRT(Headr)

3 Rectangular Notch:
b = NotchWidth *- (1- 0.2 * Headr)
where b >= 0.8
q = 3.33 * b * Headr ^ 1.5

Sutro:
Wh = Top Width + {(Bottom Width- Top Width)/Notch Height }* Headr
Wd = Bottom Width - Wh (the difference between the bottom and top widths)

Q1 = (rectangular notch q where Notch Width = Wh)
Q2 = (rectangular notch q where Notch Width = Wd)

q = Q1 + Q2 / 2

V-Notch:
Notch Bottom = height from bottom of riser to bottom of notch
Theta = Notch Angle

a = 2.664261 - 0.0018641 * Theta + 0.00005761 * Theta ^2
b = -0.48875 + 0.003843 * Theta - 0.000092124 * Theta ^2
c = 0.3392 - 0.0024318 * Theta + 0.00004715 * Theta ^2

YoverH = Headr / (NotchBottom + Headr)
Coef = a + b * Headr + c * Headr ^2

q = (Coef * Tan(Theta / 2)) * (Headr ^ (5 / 2))

These equations are provided from the Washington State Department of Ecology's 2005 *Stormwater Management Manual for Western Washington.* The outlet designs are shown

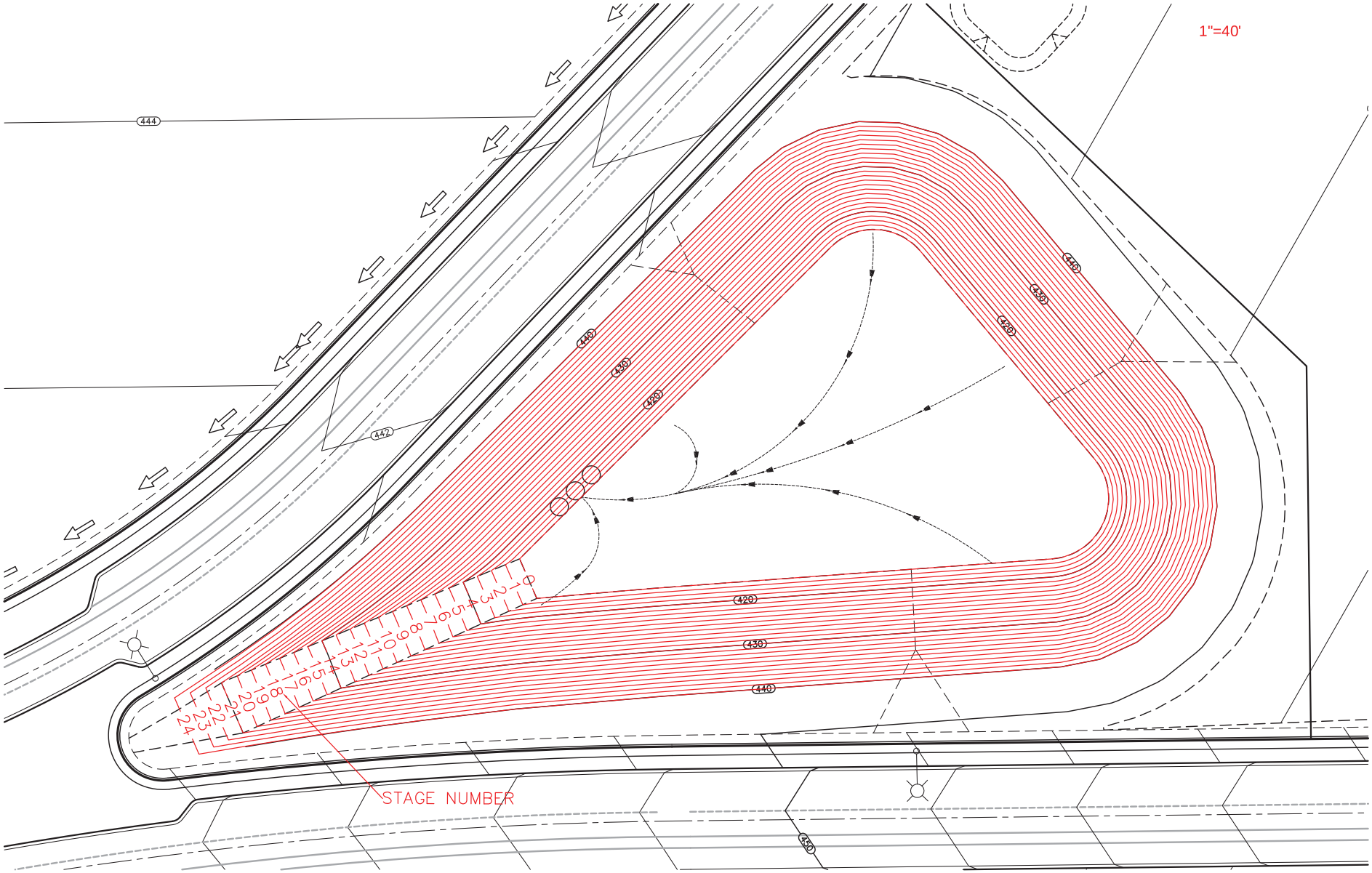
STAGE STORAGE OUTFLOW CALCULATIONS

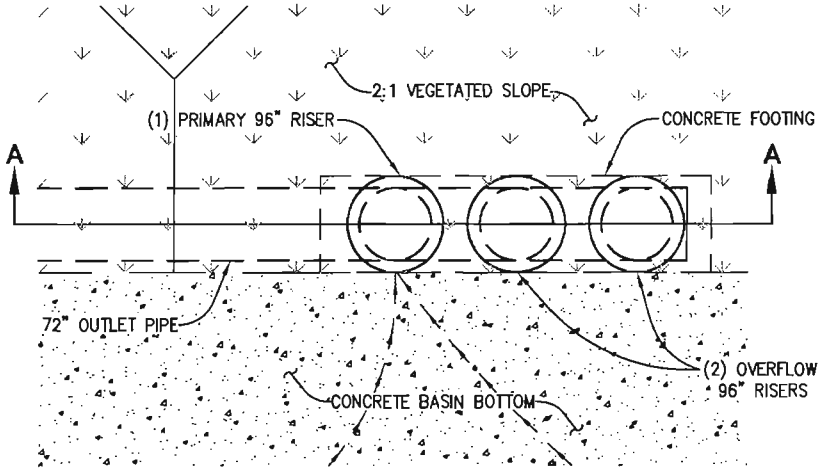
stage	5"@ 0.0	5"@9	5"@9	10"@ 13	10"@ 15	10"@15	10"@16	10"@16	o	10"@17	10"@17	10"@17	10"@17	10"@17	10"@17	10"@17	4x5 weir (hxw)		FLOW TOTAL
0	0			0	0.000	0.000	0.000	0.000	0.000									0	0.00000
1	0.656597			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0.65660
2	0.928568			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0.92857
3	1.137259			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1.13726
4	1.313194			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1.31319
5	1.468196			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1.46820
6	1.608328			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1.60833
7	1.737193			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1.73719
8	1.857137			0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1.85714
9	1.969791	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1.96979
10	2.076342	0.656597	0.656597	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	3.38954
11	2.177686	0.928568	0.928568	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	4.03482
12	2.274519	1.137259	1.137259	2.626388	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	7.17543
13	2.367395	1.313194	1.313194	3.714274	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	8.70806
14	2.456761	1.468196	1.468196	4.549039	2.626	2.626	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	15.19497
15	2.54299	1.608328	1.608328	5.252777	3.714	3.714	2.626	2.626	2.626	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	26.32014
16	2.626388	1.737193	1.737193	5.872784	4.549	4.549	3.714	3.714	3.714	2.626	2.626	2.626	2.626	2.626	2.626	2.626	0	0	50.59917
17	2.707219	1.857137	1.857137	6.433312	5.253	5.253	4.549	4.549	4.549	3.714	3.714	3.714	3.714	3.714	3.714	3.714	0	0	63.00739
18	2.785706	1.969791	1.969791	6.948771	5.873	5.873	5.253	5.253	5.253	4.549	4.549	4.549	4.549	4.549	4.549	4.549	16.65		89.67123
19	2.86204	2.076342	2.076342	7.428549	6.433	6.433	5.873	5.873	5.873	5.253	5.253	5.253	5.253	5.253	5.253	5.253	47.09331		128.79100
20	2.936392	2.177686	2.177686	7.879166	6.949	6.949	6.433	6.433	6.433	5.873	5.873	5.873	5.873	5.873	5.873	5.873	86.51593		175.99383
21	3.008906	2.274519	2.274519	8.30537	7.429	7.429	6.949	6.949	6.949	6.433	6.433	6.433	6.433	6.433	6.433	6.433	133.2		229.79991
22	3.079714	2.367395	2.367395	8.710746	7.879	7.879	7.429	7.429	7.429	6.949	6.949	6.949	6.949	6.949	6.949	6.949	201.373		304.58363
23	3.148929	2.456761	2.456761	9.098078	8.305	8.305	7.879	7.879	7.879	7.429	7.429	7.429	7.429	7.429	7.429	7.429	326.0223		435.43091
24	3.216656	2.54299	2.54299	9.469579	8.711	8.711	8.305	8.305	8.305	7.879	7.879	7.879	7.879	7.879	7.879	7.879	487.4372		602.70118

SSD Table Hydraulic Table

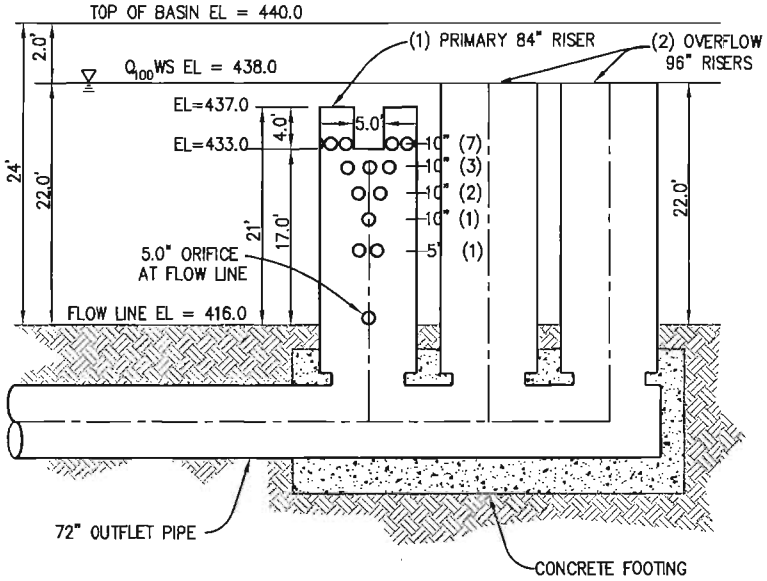
Stage (ft)	Area (ac)	Volume (ac-ft)	Manual	NotUsed	NotUsed	NotUsed	NotUsed
0.000	0.557	0.000	0.000	0.000	0.000	0.000	0.000
1.000	0.590	0.573	0.657	0.000	0.000	0.000	0.000
2.000	0.624	1.180	0.929	0.000	0.000	0.000	0.000
3.000	0.659	1.822	1.137	0.000	0.000	0.000	0.000
4.000	0.695	2.499	1.313	0.000	0.000	0.000	0.000
5.000	0.732	3.212	1.468	0.000	0.000	0.000	0.000
6.000	0.770	3.963	1.608	0.000	0.000	0.000	0.000
7.000	0.808	4.752	1.737	0.000	0.000	0.000	0.000
8.000	0.848	5.580	1.857	0.000	0.000	0.000	0.000
9.000	0.889	6.448	1.970	0.000	0.000	0.000	0.000
10.000	0.930	7.357	3.390	0.000	0.000	0.000	0.000
11.00	0.972	8.309	4.035	0.000	0.000	0.000	0.000
12.00	1.016	9.303	7.175	0.000	0.000	0.000	0.000
13.00	1.060	10.34	8.708	0.000	0.000	0.000	0.000
14.00	1.105	11.42	15.19	0.000	0.000	0.000	0.000
15.00	1.151	12.55	26.32	0.000	0.000	0.000	0.000
16.00	1.198	13.73	50.60	0.000	0.000	0.000	0.000
17.00	1.246	14.95	63.01	0.000	0.000	0.000	0.000
18.00	1.295	16.22	89.67	0.000	0.000	0.000	0.000
19.00	1.345	17.54	128.8	0.000	0.000	0.000	0.000
20.00	1.395	18.91	176.0	0.000	0.000	0.000	0.000
21.00	1.447	20.33	229.8	0.000	0.000	0.000	0.000
22.00	1.501	21.80	304.6	0.000	0.000	0.000	0.000
23.00	1.556	23.33	435.4	0.000	0.000	0.000	0.000

STAGE NO.	AREA (ACRES)	STORAGE(AC-FT) (Using End Area)
0	0.55674705	0
1	0.58991704	0.573332045
2	0.6240099	1.180295515
3	0.65902564	1.821813285
4	0.69496425	2.49880823
5	0.73182573	3.21220322
6	0.76961009	3.96292113
7	0.80831732	4.751884835
8	0.84794742	5.580017205
9	0.8885004	6.448241115
10	0.92997625	7.35747944
11	0.97237497	8.30865505
12	1.01569656	9.302690815
13	1.05994103	10.34050961
14	1.10510838	11.42303432
15	1.15119859	12.5511878
16	1.19821168	13.72589294
17	1.24614765	14.9480726
18	1.29500648	16.21864967
19	1.34478819	17.538547
20	1.39549277	18.90868748
21	1.44711942	20.32999358
22	1.50078879	21.80394768
23	1.55556402	23.33212409
24	1.61144513	24.91562866


1"=40'
444
442
440
430
420
450
STAGE NUMBER



PLAN VIEW
NO SCALE



SECTION A-A
NO SCALE

DETENTION RISER DETAIL

SECTION 5

Project: parcel b

Simulation Run: Q2(6HR) Reservoir: Reservoir-1

Start of Run:	01Nov2009, 00:00	Basin Model:	Basin 1
End of Run:	06Nov2009, 00:00	Meteorologic Model:	Q2
Compute Time:	01Aug2011, 10:17:41	Control Specifications:	6 HOUR

Volume Units: IN

Computed Results

Peak Inflow :	245.6 (CFS)	Date/Time of Peak Inflow :	01Nov2009, 04:12
Peak Outflow :	42.6 (CFS)	Date/Time of Peak Outflow :	01Nov2009, 04:50
Total Inflow :	1.08 (IN)	Peak Storage :	13.3 (AC-FT)
Total Outflow :	1.07 (IN)	Peak Elevation :	431.7 (FT)

Project: parcel b

Simulation Run: Q10(6HR) Reservoir: Reservoir-1

Start of Run:	01Nov2009, 00:00	Basin Model:	Basin 1
End of Run:	06Nov2009, 00:00	Meteorologic Model:	Q10
Compute Time:	01Aug2011, 10:20:54	Control Specifications:	6 HOUR

Volume Units: IN

Computed Results

Peak Inflow :	381.5 (CFS)	Date/Time of Peak Inflow :	01Nov2009, 04:12
Peak Outflow :	136.4 (CFS)	Date/Time of Peak Outflow :	01Nov2009, 04:32
Total Inflow :	1.67 (IN)	Peak Storage :	17.8 (AC-FT)
Total Outflow :	1.67 (IN)	Peak Elevation :	435.2 (FT)

Project: parcel b

Simulation Run: Q25(6HR) Reservoir: Reservoir-1

Start of Run:	01Nov2009, 00:00	Basin Model:	Basin 1
End of Run:	06Nov2009, 00:00	Meteorologic Model:	Q25
Compute Time:	01Aug2011, 10:18:24	Control Specifications:	6 HOUR

Volume Units: IN

Computed Results

Peak Inflow :	404.2 (CFS)	Date/Time of Peak Inflow :	01Nov2009, 04:12
Peak Outflow :	157.2 (CFS)	Date/Time of Peak Outflow :	01Nov2009, 04:30
Total Inflow :	1.77 (IN)	Peak Storage :	18.4 (AC-FT)
Total Outflow :	1.77 (IN)	Peak Elevation :	435.6 (FT)

Project: parcel b

Simulation Run: Q50(6HR) Reservoir: Reservoir-1

Start of Run:	01Nov2009, 00:00	Basin Model:	Basin 1
End of Run:	06Nov2009, 00:00	Meteorologic Model:	Q50
Compute Time:	01Aug2011, 10:19:12	Control Specifications:	6 HOUR

Volume Units: IN

Computed Results

Peak Inflow :	493.4 (CFS)	Date/Time of Peak Inflow :	01Nov2009, 04:12
Peak Outflow :	241.2 (CFS)	Date/Time of Peak Outflow :	01Nov2009, 04:26
Total Inflow :	2.16 (IN)	Peak Storage :	20.6 (AC-FT)
Total Outflow :	2.16 (IN)	Peak Elevation :	437.2 (FT)

Project: parcel b

Simulation Run: Q100 (6HR) Reservoir: Reservoir-1

Start of Run:	01Nov2009, 00:00	Basin Model:	Basin 1
End of Run:	06Nov2009, 00:00	Meteorologic Model:	Q100
Compute Time:	28Jun2011, 16:52:12	Control Specifications:	6 HOUR

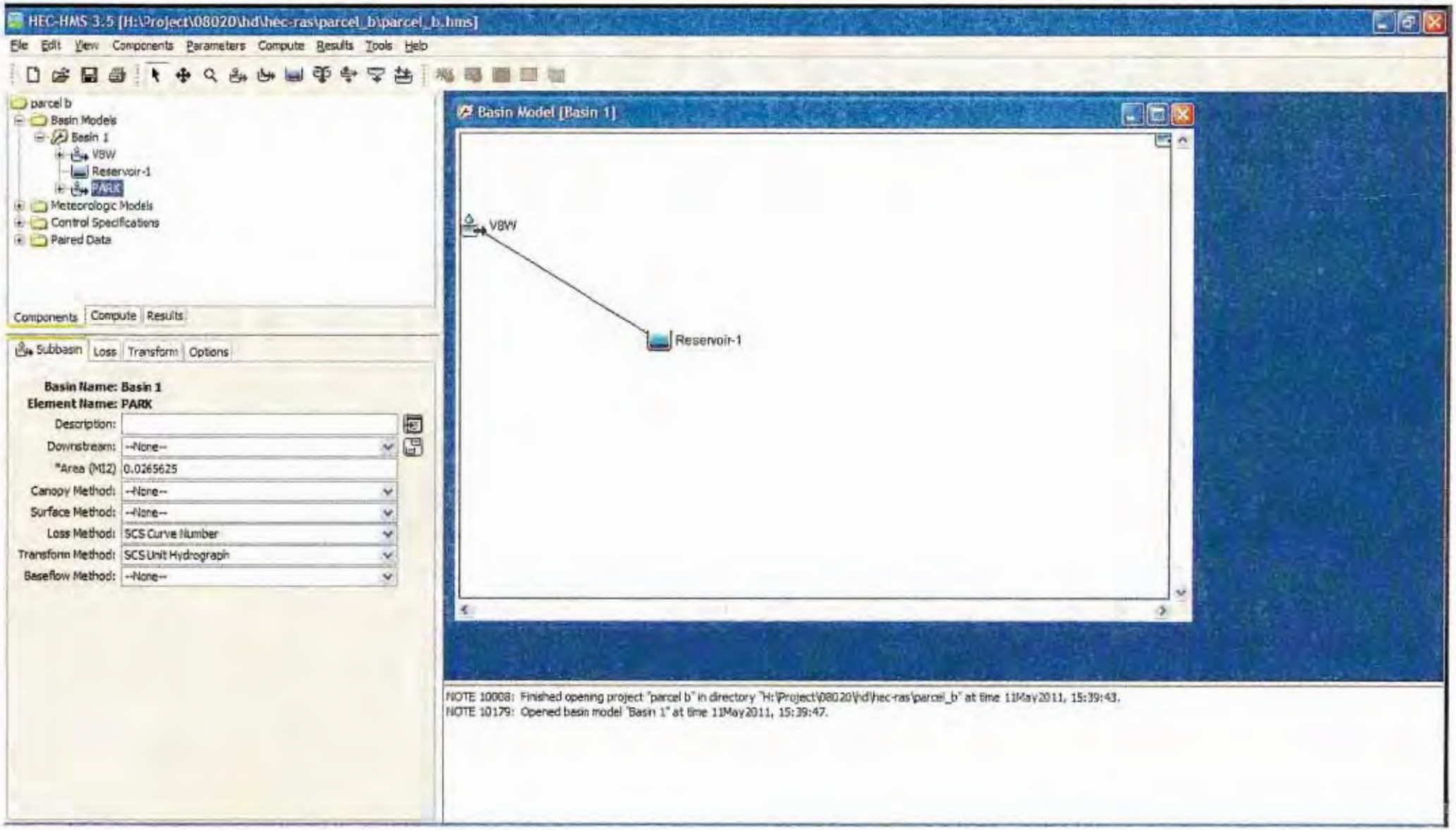
Volume Units: IN

Computed Results

Peak Inflow :	561.7 (CFS)	Date/Time of Peak Inflow :	01Nov2009, 04:12
Peak Outflow :	313.4 (CFS)	Date/Time of Peak Outflow :	01Nov2009, 04:24
Total Inflow :	2.46 (IN)	Peak Storage :	21.9 (AC-FT)
Total Outflow :	2.46 (IN)	Peak Elevation :	438.1 (FT)


Subbasin
Loss
Transform
Options
Basin Name: Basin 1
Element Name: V8W
Description:
Downstream: Reservoir-1
*Area (MI2) 0.3165625
Canopy Method: --None--
Surface Method: --None--
Loss Method: SCS Curve Number
Transform Method: SCS Unit Hydrograph
Baseflow Method: --None--


Components
Compute
Results
Subbasin
Loss
Transform
Options
Basin Name: Basin 1
Element Name: V8W
Initial Abstraction (IN)
0.0
*Curve Number:
90
*Impervious (%)
95


HEC-HMS 3.5 [H:\Project\08020\hd\hec-ras\parcel_b\parcel_b.hms]
File Edit View Components Parameters Compute Results Tools Help
parcel b
Basin Models
Basin 1
V8W
Reservoir-1
PARK
Meteorologic Models
Control Specifications
Paired Data
Components Compute Results
Subbasin Loss Transform Options
Basin Name: Basin 1
Element Name: PARK
Description:
Downstream: --None--
*Area (MI2) 0.0265625
Canopy Method: --None--
Surface Method: --None--
Loss Method: SCS Curve Number
Transform Method: SCS Unit Hydrograph
Baseflow Method: --None--
Basin Model [Basin 1]
V8W
Reservoir-1
NOTE 10008: Finished opening project "parcel b" in directory "H:\Project\08020\hd\hec-ras\parcel_b" at time 11May2011, 15:39:43.
NOTE 10179: Opened basin model "Basin 1" at time 11May2011, 15:39:47.

APPENDIX J

Phase I Environmental Site Assessment



PHASE I
ENVIRONMENTAL SITE ASSESSMENT

OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

PREPARED FOR:

OTAY LAND COMPANY
1903 WRIGHT PLACE, SUITE 220
CARLSBAD, CALIFORNIA 92008

PREPARED BY:

GEOCON INCORPORATED
6960 FLANDERS DRIVE
SAN DIEGO, CALIFORNIA 92121-2974

GEOCON

GEOCON PROJECT NO. 09836-06-01

MARCH 25, 2010
REVISED MARCH 22, 2011

GEOCON
INCORPORATED
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. 09836-06-01
March 25, 2010
Revised March 22, 2011

Mr. Jeff O'Connor
Otay Land Company
1903 Wright Place, Suite 220
Carlsbad, California 92008

Subject: OTAY RANCH VILAGE 8 WEST
CHULA VISTA, CALIFORNIA
PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Dear Mr. O'Connor:

As you requested on behalf of the Otay Land Company, Geocon Incorporated (Geocon) has performed a Phase I Environmental Site Assessment (ESA) of the approximate 320-acre property identified as Otay Ranch Village 8 West located south of La Media Road and Santa Luna Street intersection (the Site) within the Otay Ranch Development in Chula Vista, California. The Site is further identified by County of San Diego Assessor's Parcel Numbers 644-070-12 and 644-070-13. The Site is located west of the State Route 125 (SR-125) and north of Wiley Road. A parcel owned by the City of San Diego is enclosed within the central portion of the Site.

You requested a Phase I ESA to provide information regarding the potential for existing hazardous material/waste impacts at the Site prior to developing the Site. The accompanying report presents the details of Geocon's Phase I ESA. The assessment revealed no evidence of recognized environmental conditions on the Site with the exception of the possible presence of pesticides/herbicides in shallow soil from the historical agricultural use of the Site. Given the proposed residential and potential future school uses, Geocon recommends conducting a limited soil assessment for pesticides/herbicides and arsenic at the Site in accordance with DTSC Guidance documents prior to site development activities.

Geocon appreciates the opportunity to have performed this Phase I ESA for the Otay Land Company. Please contact Geocon if you have any questions concerning this report or if Geocon may be of further service.

Very truly yours,

GEOCON INCORPORATED

Matthew W. Lesh
Project Geologist

Joseph J. Vettel
GE 2401

MWL:JJV:dmc

(2) Addressee

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A. Geocon Proposal No. EP-2010-009 and Cost Estimate for revised Phase I Environmental Site Assessment to address comments from City of Chula Vista
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C. EDR Radius Map
D. EDR Certified Sanborn Map Report
E. EDR Historical Aerial Photographs
F. EDR Historical Topographic Maps
G. EDR City Directory Abstract
H. Agency Records

PHASE I ENVIRONMENTAL SITE ASSESSMENT

1. INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) of the approximately 320-acre property located to the west of the State Route 125 (SR-125) within the Otay Ranch South Development (the Site) in Chula Vista, California. The Phase I ESA was performed at the request of the Otay Land Company (the Client). The Phase I ESA was requested by the Client prior to developing the Site.

1.1 Purpose and Objectives

The purpose of the Phase I ESA was to identify "recognized environmental conditions" (RECs) and "historical RECs" as defined by the American Society for Testing and Materials (ASTM) Designation E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* Section 1.1.1 of the ASTM Standard E 1527-05 defines a REC as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property." The term as further defined by ASTM "is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." Section 3.2.39 defines "Historical REC" as an "environmental condition, which in the past would have been considered a REC, but which may or may not be considered a REC currently."

The Phase I ESA was also conducted in accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 312 titled *Standards and Practices for All Appropriate Inquiries,* as required under Sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of conducting an all appropriate inquiries investigation into the previous ownership and uses of a property is to meet the provisions necessary for the landowner, contiguous property owner, and/or bona fide prospective purchaser to qualify for certain landowner liability protections under CERCLA.

The main components of this report and their objectives, as specified by the referenced standards, include the following:

- **Physical Setting:** The objective of reviewing physical setting references was to obtain information concerning the topographic, geologic, and hydrogeologic characteristics of the Site and vicinity. Such information may be indicative of the direction and/or extent that a contaminant could migrate in the event of a spill or release.

- **Records Review:** The objective of the records review was to obtain information that could potentially help identify RECs at or potentially affecting the Site. Geocon reviewed publicly available federal, state, and local regulatory agency records for the Site.

- **Site History:** The objective of consulting historical references was to assess previous uses of the Site and surrounding area to identify those that could have led to RECs on or near the Site. Historical sources reviewed included aerial photographs, topographic maps, and city directories. In addition, Geocon conducted interviews with persons who were expected to be reasonably knowledgeable about historical uses of the Site.

- **Site Reconnaissance:** The objective of the site reconnaissance was to observe site conditions and activities for indications of evidence of RECs. Offsite properties and features were also viewed, but solely from the vantage of the Site and public thoroughfares.

1.2 Scope of Services

The scope of services was performed in general accordance with ASTM Designation E 1527-05, Geocon Incorporated's (Geocon's) proposal no. EP-2010-009 dated February 10, 2010, and Geocon's cost estimate for a revised Phase I ESA to address comments from the City of Chula Vista. A copy of Geocon's proposal and cost estimate are presented in Appendix A.

1.3 Report Limitations

The Phase I ESA report has been prepared exclusively for the Client, the Otay Land Company. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report and will require an update to reflect recent records/site visits.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance, a review of the specified regulatory records, and a review of the historical usage of the Site, as presented in this report. The Client should also understand that wetlands, asbestos-containing building materials, lead-containing paint, lead in drinking water, radon, mercury related to mining activities, methane, and mold surveys were not included in the scope of services for this Phase I ESA. Assessment for potential naturally occurring hazards such as asbestos and arsenic also was not included.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the ESA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either express or implied. Geocon strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

1.4 Data Gaps

A data gap is defined by ASTM Standard E 1527-05 as "a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information." Data gaps could include such things as insufficient historical information, the inability to interview persons with direct site knowledge (e.g., the owner(s), past owner(s), tenants, workers, etc.) or the lack of access to all parts of a site during the site reconnaissance.

Geocon did not review Sanborn Maps for the Site since Environmental Data Resources, Inc. (EDR) stated that Sanborn Map coverage was not available. Geocon did not review a chain-of-title report because one was not provided by the Otay Land Company. Geocon submitted a request to the San Diego Air Pollution Control District for records pertaining to the Site. To date, Geocon has not received a response from them regarding the Site. Pertinent information, if any, will be forwarded to the Client when received. Based on Geocon's review of available historical and other information, Geocon does not feel that the inability to review these items caused a significant data gap.

2. SITE DESCRIPTION

This section provides information regarding the location and physical characteristics of the Site including its size, topography, geologic, soil, and hydrogeologic conditions.

2.1 Location and Legal Description

The Site is comprised of two contiguous parcels totaling approximately 320 acres in the Otay Ranch development area in Chula Vista, California (Figure 1). The site parcels are identified by the San Diego County Assessor's Parcel Numbers (APNs) 644-070-012 and 644-070-013. A parcel owned by the City of San Diego is located within the central portion of the Site and is entirely bounded by the Site.

The Site is rectangular in shape and is located approximately 2,500 feet west of the SR-125 and approximately 2,000 feet north of Wiley Road. The northeastern corner of the property is bounded by Magdalena Avenue and Santa Luna Street, within the Otay Ranch development. The Site is located within a portion of the former Estudillo Spanish land grant in Township 18 South, Range 1 West, San Bernardino Base and Meridian on the United States Geological Survey's (USGS) *Otay Mesa, California, 7.5-minute Topographic Map.*

2.2 Site and Vicinity General Characteristics

The Site is generally undeveloped land and agricultural fields used for dry farming. It is located in an area developed with a mix of residential, agricultural, school and retail uses. A City of San Diego reservoir is located in a parcel within the site boundaries. A Site Plan depicting the site boundaries

and features, proposed offsite improvements (storm drain, sewer, and recreational trail), and surrounding properties is presented as Figure 2.

2.2.1 Topography

The topography of the Site is characterized by low relief hills and incised drainages. Based on review of the USGS topographic map, site elevations range from approximately 300 feet above mean sea level along the southern site boundary to a high elevation of approximately 620 feet in the central portion of the site, and decreasing again to approximately 360 feet near the northern site boundary. Observations of topography during the site reconnaissance (Section 6.0) were that the Site slopes in all directions from a high point in the west-central portion of the Site (adjacent to Rock Mountain), but predominantly toward the south and north with a total relief of more than 300 feet.

2.2.2 Geologic Conditions

The Site is located in the Peninsular Ranges geomorphic province of Southern California (Norris and Webb, 1990). This geomorphic province encompasses an area that extends 125 miles from the Transverse Ranges and the Los Angeles Basin south to the Mexican Border and beyond another 775 miles to the tip of Baja California. In general, the province consists of rugged mountains underlain by Mesozoic igneous and metamorphic rocks to the east, and a dissected coastal plain underlain by Cenozoic sediments to the west. The province varies in width from approximately 30 to 100 miles, and is traversed by a group of faults and fault zones trending roughly northwest.

Information concerning the surface geologic conditions at and in proximity to the Site was obtained from a review of the *Geologic Map of the Otay Mesa 7.5' Quadrangle, San Diego County, California* (California Geological Survey, 2002). The geologic map indicates that the Site is underlain by four geologic units. The northern and eastern portions of the Site are underlain by the Oligocene to Miocene Otay Formation. The Otay Formation is a poorly indurated, massive sandstone, siltstone and claystone, interbedded with bentonite lenses. The southwestern portion of the Site is underlain by Jurassic to Cretaceous metamorphosed volcanic and sedimentary rocks. The southernmost portion of the Site is underlain by Pleistocene alluvial flood plain deposits (typically gravelly sandy silt and clay), overlying Oligocene to Miocene cemented bouldery conglomerate of the Otay Formation. A portion of the Otay Mesa 7.5' Quadrangle Geologic Map is presented as Figure 3.

Geocon obtained information concerning the soil conditions in proximity to the Site from review of the Natural Resources Conservation Service (NRCS), Soil Data Mart digital map of the Soil Survey of San Diego County, 2007 (http://soildatamart.nrcs.usda.gov/). The soil survey indicates that the site soil to a depth of 5 feet is characterized as six soil units: Diablo clay, 2 to 9 percent slopes (Soil Unit DaC); Diablo clay, 9 to 15 percent slopes (Soil Unit DaD); Las Posas stony fine sandy loam, 30 to 65 percent slopes (Soil Unit LrG); Linne clay loam, 9 to 30 percent slopes (Soil Unit LsE); Olivenhain

cobbly loam, 2 to 9 percent slopes (Soil Unit OhC); and Olivenhain cobbly loam, 9 to 30 percent slopes (OhE).

In general, the soil in the northern and central portion of the Site is characterized by clay to silty clay loam (CH-CL) to a depth of 32 to 37 inches and is underlain by weathered bedrock of the Otay Formation. Soils in the western and southern portions of the Site are characterized by stony fine sandy loam (SC-SM) to cobbly clay loam (CL-ML) with weathered metavolcanic bedrock present in the southwestern portion of the Site at a depth of approximately 33 inches. Surficial soil observed on the Site during the site reconnaissance consists of brown clayey fine sand. A portion of the NRCS soil survey map for the site vicinity is presented as Figure 4.

2.2.3 Hydrologic and Hydrogeologic Conditions

Drainages with seasonal streams are present across the northern portion of the Site and the south central portion of the Site. A concrete enclosed reservoir owned by the City of San Diego is present in a parcel enclosed by the site boundaries. The reservoir is approximately 250 feet wide and 420 feet long.

Based on the site topography and elevation, depth to groundwater is anticipated to range from approximately 80 to more than 200 feet. Groundwater flow direction in the northern portion of the Site is expected to be to the north toward an unnamed drainage. Groundwater flow direction in the southern portion of the Site is expected to be to the south via an unnamed drainage toward the Otay River.

2.3 Current and Planned Uses of the Site

Currently the Site is generally used for agricultural land. Planned uses of the Site include residential and retail development with associated road and utility infrastructure. In addition, portions of the Site are presently being considered as the future locations of schools however, Geocon understands that any future school projects are currently in preliminary planning stages and have not been finalized. A more detailed description of the current use of the Site is presented in Section 6.0.

2.4 Descriptions of Structures, Roads, Other Improvements on the Site

The San Diego-Otay pipe -lines (formerly the Tunnel Aqueduct) extend across the Site from the east-central site boundary to the northwestern corner of the site. An unnamed pipeline extends across the Site from the southern site boundary to the east-central site boundary and connects with the San Diego-Otay pipelines at what is referred to as the "Coronado Y" (Figure 2). The pipelines are underground and are part of the San Diego Second Aqueduct system that transports

water from the Colorado River to the San Diego metropolitan area (Otay Water District website, http://www.otaywater.gov/owd/pages/resources/resourcesHome.aspx).

The Site has several dirt roads, primarily in the northern, eastern and southern portions of the Site. The City reservoir is accessed by a dirt road that extends from La Media Road adjacent to the northern site boundary.

Geocon did not observe other wells or utilities onsite. Further description of site structures and other improvements is presented in Section 6.0.

2.5 Current Uses of Adjoining Properties

The northeastern site boundary is bordered by Santa Luna Street and Magdalena Avenue and Olympian High School is east of Magdalena Avenue. Agricultural land is adjacent to the east and south of the Site. SR-125 is less than ½-mile east of the Site and Wiley road is approximately 1,000 feet south of the Site. Undeveloped land is adjacent to the west of the Site. A rock quarry operation is located approximately 1/3-mile southwest of the Site.

3. USER–PROVIDED INFORMATION

This section provides responses to inquiries made to the Client for site information. The Client was asked if they know of previous environmental reports or documents that may exist and, if so, whether copies could be provided. They were also asked if they have knowledge of legal or administrative proceedings involving the Site. The Client completed a user's questionnaire regarding these items a copy of which is included in Appendix B.

3.1 Title, Appraisal and Sale Agreement Records

The Client did not provide a preliminary title report for the Site. The Site was purchased by the Client in 1998.

3.2 Environmental Liens or Activity and Use Limitations

The Client stated that they are unaware of any environmental liens on, or use limitations for, the Site.

3.3 Specialized Knowledge

The Client indicated that pesticides have not recently been used. Herbicides have recently been used to reduce weed coverage and fire risk.

3.4 Commonly Known or Reasonably Ascertainable Information

The Client stated that the City of San Diego has an easement across the Site for the San Diego – Otay pipelines that traverse the site from southeast to the northern property boundary and the reservoir parcel in the center of the Site.

3.5 Owner, Property Manager, and Occupant Information

Geocon interviewed Mr. Jeff O'Connor, an employee of the Otay Land Company. Interview information is presented in Section 7.0.

3.6 Valuation Reduction for Environmental Issues

The Client indicated that pesticides and herbicides may have historically been used onsite in the mid to late 1900's. The Client purchased the Site in 1998 but did not provide information regarding the purchase price.

3.7 Reason for Performing Phase I

A Phase I ESA was requested by the Client to obtain information regarding the potential for existing hazardous substances/petroleum hydrocarbon impacts at the Site prior to development.

4. RECORDS REVIEW

This section summarizes Geocon's review of readily available agency records for the Site and properties in the surrounding vicinity.

4.1 Standard Environmental Record Sources

Environmental Data Resources, Inc. (EDR) performed a search of federal, state, and local databases for the Site and surrounding area. The search distance for the review extended approximately one mile from the property boundaries of the Site. Referenced distances are based on field observations and may differ from those reported by EDR. A copy of the report entitled *The EDR Radius Map Report, Otay Ranch Village 8 West*, dated February 15, 2011, is presented in Appendix C. The following table lists the databases searched that resulted in identified listings within the search radius.

Database Name	Search Radius (Mile)	Number of Listings
STATE AND LOCAL DATABASES		
ENVIROSTOR (EnviroStor Database)	1	3

4.1.1 Site

The Site was not listed in the databases searched for this assessment.

4.1.2 Nearby Properties

This section summarizes information for properties reported to be within one mile of the Site that are listed on the EnviroStor database and the status of the properties.

ENVIROSTOR. The Department of Toxic Substances Control's (DTSC) Site Mitigation and Brownfields Resuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The following two facilities are referenced within one mile of the Site:

- Otay Ranch Village Seven, approximately 3,200 feet north of the Site (listed twice);
- Otay Ranch Village 11 S-1, approximately 7,500 feet northeast of the Site.

The facility listed as Otay Ranch Village Seven, approximately 3,200 feet north of the Site, is listed as having local agency oversight; however, no further information is provided in the EDR report regarding oversight by the local agency. The EnviroStor website (www.envirostor.dtsc.ca.gov) lists the status of the case as "no further action" as of December 2, 2008. This facility is also listed in the database as a school investigation site as part of the DTSC's Site Mitigation and Brownfields Reuse Program. Past uses of this property are reported as agricultural. The school site is listed as "no further action" as of March 8, 2007. Additional information regarding Otay Ranch Village Seven is included in Section 4.4.

The facility listed as Otay Ranch Village 11 S-1, approximately 7,500 feet northeast of the Site, is also listed in the database as a school investigation site as part of the DTSC's Site Mitigation and Brownfields Reuse Program. Past uses of this property are reported as educational. Reportedly, multiple phases of investigation were conducted related to the presence of methane in fill soil at this property. The school site is listed as "no further action" as of April 7, 2007. Based on the distance of this property from the Site and regulatory status, no significant adverse impact to the Site is expected from this potential future school facility.

4.2 Orphan Summary

The Orphan Summary identifies properties that have incomplete address information and therefore could not be accurately plotted. The Orphan Summary lists 30 properties. The following properties are located within approximately one mile of the Site:

- Olympian High School, adjacent to the northeast site boundary;
- Former Otay Skeet and Trap Range, approximately one mile southwest of the Site.

Olympian High School is listed on the HAZNET database. The HAZNET database is generated by the California Environmental Protection Agency and lists facility and waste manifests received by the DTSC. Based on the lack of any reported incidents or violations, no adverse impact to the Site is expected from this facility.

According to the ENVIROSTOR webpage, the Former Otay Skeet and Trap Range operated from the mid-1960s to the mid-1990s. As of October 2006 the facility was under the oversight of the DTSCs Site Cleanup Program. Potential contaminants of concern include lead, perchlorate and polynuclear aromatic hydrocarbons (PAHs) in the soil and nearby floodplain of the Otay River. Based on the media impacted and distance from the Site, no adverse impact to the Site is expected from this facility.

4.3 Additional Environmental Record Sources

Geocon performed a search of additional readily available environmental record sources. The search distance for the review extended approximately one mile from the Site. A summary of Geocon's findings is presented below.

4.3.1 GeoTracker Website

Additional environmental record sources included review of the SWRCB GeoTracker website for facilities within ¼-mile of the Site. No listings were found within ¼-mile of the Site.

4.3.2 State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR)

The State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) website (http://www.conservation.ca.gov/dog/Pages/Index.aspx) depicts one active well approximately 3 miles northeast of the Site adjacent to Olympic Parkway and Eastlake Parkway (DOGGR, 2010). The well is operated by Todd & Clark and is listed as a production well. Based on the distance from the Site, this well is not anticipated to have impacted the Site.

4.3.3 County of San Diego Department of Agriculture, Weights and Measures

Geocon submitted a request to the County of San Diego, Department of Agriculture, Weights and Measures-Pesticide Use Enforcement Division regarding restricted pesticide use at the Site. According to the County, no records are on file for addresses adjacent to the Site.

4.3.4 San Diego Air Pollution Control District

Geocon submitted a request to the San Diego Air Pollution Control District for records pertaining to the Site. To this date, Geocon has not received a response from them. Pertinent information, if any, will be forwarded to the Client when received.

4.3.5 County of San Diego DEH

Geocon submitted a request to the San Diego County DEH for records pertaining to the Site. According to the DEH, no records are on file for addresses adjacent to the Site. According to the DEH, no records are on file for the parcel associated with this Site (Appendix H).

4.3.6 Water and Sewer

Geocon contacted a representative of the Otay Water District to obtain information pertaining to the reported source of water and method of sewage disposal for the Site, the location and depth of wells for the area, and any reported local drinking water contamination problems. Geocon was informed that water for properties in the vicinity of the Site is supplied by the Otay Water District, which receives water from the Metropolitan Water District of Southern California (MWD) and the San Diego County Water Authority (CWA) from the Colorado River. In addition, the City representative was not aware of reported drinking water contamination problems or of municipal drinking water wells on the Site or in the site vicinity. The Otay Water District representative informed us that the Otay pipelines on the Site are managed by the City of San Diego.

Municipal sewage in the site vicinity is received by the South Bay Water Reclamation Plant (SBWRP), which is owned and operated in conjunction with the City of San Diego Metropolitan Wastewater Department and the Otay Water District. The wastewater is then pumped to the Point Loma Wastewater Treatment Plant Treatment Facility.

4.3.7 MSCP Subarea Plan and Bombing Range

Geocon reviewed the City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea map dated February 2003 provided by the City of Chula Vista. Based upon Geocon's review of the map, the majority of the Site is designated as "development area" and the southwestern corner of the

Site appears to be designated as "100% Conservation Area – Habitat Preserve". The parcel in the center of the Site is designated as public land.

Geocon also reviewed the *Final Site Inspection Report Former Brown Field Bombing Range, San Diego County, California,* prepared by Parsons dated December 2007. Included in the report are site plans that depict the location of the former bombing range, the bomb and aerial rocket target boundaries, and the extent of the Formerly Used Defense Sites (FUDS) property boundary. These features are shown on Figure 2 and are located a minimum of approximately 1-mile to the east-southeast of the Site and of any proposed offsite improvements (sewer, storm drain, and recreation trail). Based on the distance of this facility from the Site, no adverse impact to the Site is expected.

4.4 Previous Environmental Documents/Reports

Geocon reviewed the *Phase I Environmental Site Assessment, Otay Ranch Village 7 and Village 4 Community Park, Chula Vista, California,* prepared by Geocon dated May 17, 2004 in preparation of this Phase I ESA. Geocon's report addressed approximately 180 acres of land located adjacent to the northwestern portion of the Site (Village 4 Community Park) and approximately 3,200 feet to the north of the Site (Village 7). In addition to the results of the Phase I, the report included the results of a limited pesticide assessment conducted at the property in 2004 and the guidelines of a soil reuse plan for the property. Pertinent information form the report is summarized below:

- Geocon's review of aerial photographs and additional information reviewed during the preparation of the report indicated that the property had been historically used for agricultural crop production and cattle ranching. Based on the historic agricultural use, Geocon recommended conducting limited shallow (depths from 0 to 3 feet) soil sampling and analysis for organochlorine pesticides (OCPs). Reported concentrations of OCPs were compared to the Environmental Protection Agency (EPA) *Region 9 Preliminary Remediation Goals (PRGs),* the applicable screening level document for soil at the time of the report. In addition, reported concentrations were compared to the Total Threshold Limit Concentration (TTLC) for each reported constituent to determine if any soils would require disposal as hazardous waste. Soil sampling activities were conducted at the property from January to March 2004.

- Twenty-eight composite surface soil samples from the property were analyzed for OCPs. Eleven of the 13 composite surface soil samples from Village 7 and all 15 composite soil samples from Village 4 Community Park exhibited concentrations of toxaphene exceeding ¼ of the residential PRG. Concentrations of the toxaphene ranged from below the laboratory detection limit of 0.085 mg/kg to 5.3 mg/kg. Concentrations of DDE and DDT were also detected in one or more composite samples at or above ¼ their respective residential PRG.

- A total of 241 discrete soil samples from the Site were analyzed for OCPs. Concentrations of DDD, DDE, DDT, and/or toxaphene were detected at or above the laboratory detection limits

in 223 of the 241 discrete samples. The distribution of DDD, DDE, DDT, and toxaphene in soil samples is summarized as follows.

- DDD was detected in 48 soil samples at concentrations ranging from 0.0022 mg/kg to 0.16 mg/kg. Concentrations of DDD did not exceed the residential PRG or TTLC in any of the 241 discrete soil samples analyzed from the Site.

- DDE was detected in 223 soil samples at concentrations ranging from 0.0021 mg/kg to 6.1 mg/kg. Concentrations of DDE exceeded the TTLC in 44 of the 241 discrete soil samples analyzed from the Site. Concentrations of DDE exceeded the residential PRG in 23 soil samples.

- DDT was detected in 197 soil samples at concentrations ranging from 0.0021 mg/kg to 1.7 mg/kg. Concentrations of DDT exceeded the TTLC in 2 of the 241 discrete soil samples analyzed from the Site. Concentrations of DDD exceeded the residential PRG in only one of the soil samples analyzed from the Site.

- Toxaphene was detected in 172 soil samples at concentrations ranging from 0.088 mg/kg to 13 mg/kg. Concentrations of toxaphene exceeded the TTLC in 12 of the 241 discrete soil sample analyzed from the Site. Concentrations of toxaphene exceeded the residential PRG in 109 soil samples from the Site.

- Based upon statistical analysis of the reported concentrations of DDD, DDE, DDT, and toxaphene and the TTLC for each constituent, we concluded that soils at the property would not be classified as hazardous waste. Based on volume calculations of soil at or exceeding the residential PRG, Geocon determined that approximately 350,000 cubic yards of soil would warrant special management during site grading.

- Due to the non-hazardous waste levels of pesticides in soil, Geocon recommended reusing the soils onsite in accordance with waste discharge requirements promulgated by the Regional Water Quality Control Board (RWQCB). Geocon recommended that a report of waste discharge be filed with the RWQCB prior to any site grading. Excavated soils with concentrations of OCPs exceeding the PRGs would be placed as deep fills at the property during grading in accordance with the following provisions:

  - Soil containing concentrations of OCPs above the residential PRGs should only be used in fills where encapsulation by a minimum of 10 feet of soil that does not exhibit concentrations of OCPs above the residential PRGs is available.

  - Soil containing concentrations of OCPs above the residential PRGs should not be placed adjacent to slopes exceeding (steeper than) a ratio of 1 vertical to 2 horizontal.

  - Soil containing concentrations of OCPs at or above the residential PRGs should not be placed within 5 feet of an engineered drainage structure or the groundwater table.

Geocon reviewed the *Preliminary Environmental Assessment of Two Parcels in Chula Vista, California, 1. Otay Ranch – Otay Valley Parcel, 2. Otay Ranch – Proctor Valley/Jamul Parcel,* dated October 14, 1998, prepared by GeoRemediation Inc. (GRI) in preparation of this Phase I ESA. GRIs report addresses two parcels within Otay Ranch - one in Otay Valley and one in Proctor Valley/Jamul. The Site is referenced in the report as Parcel B of the Otay Valley area.

- According to GRI, environmental concerns within the Otay Valley area consisted of a firearms range that was identified on Otay Valley Parcel A, an aboveground storage tank that was noted on Parcel A, the Brown Field bombing range that was identified adjacent to the southwestern corner of Parcel D, and an area of excavation that was noted near the ranch buildings on Parcel A. Environmental concerns were not identified on Parcel B.

- GRI noted that portions of the properties identified in their report, including Parcel B have been used for agricultural purposes, and noted that from 1944 to 1974, DDT and related compounds were used on agricultural properties in the State of California. According to the *Agricultural Source of DDT Residues in California's Environment,* prepared by the California Department of Food and Agriculture (1985) detectable concentrations of at least one of the DDT family of compounds was detected in soil samples collected from throughout the state's agricultural areas and analyzed for pesticides. The report states that the residues are from the legal application of the pesticides between the mid-1940s to 1974. The GRI report also notes that "areas of the properties that will undergo extensive grading during development will have a greatly reduced potential for DDT concentrations".

Geocon reviewed the *Environmental Site Assessment of the Otay Valley Parcels and the Proctor Valley/Jamul Parcels, Otay Ranch, San Diego County, California,* prepared by GRI dated January 13, 1999 in preparation of this Phase I ESA. GRIs report addressed approximately 4,735 acres of land, which included the Site referenced as Parcel B.

- At the time that the report was prepared, the northern portion of Parcel B consisted mostly of agricultural land with natural land in the southern portion of the parcel. The reservoir and the aqueducts were present onsite. GRI stated that they did not observe any significant environmental concerns associated with Parcel B. Other parcels referenced in the report were identified to be used as a former skeet shooting range, or a former military aerial bombing range, but these ranges were not identified on Parcel B (the Site).

- Based on GRIs review of the aerial photographs, they observed the aqueduct and reservoir located on Parcel B).

- GRI also noted sand and gravel mining activities in the river bottom near Parcel C in the 1972 and 1978 aerial photographs, and noted mention of mining operations in previously reviewed documents from approximately 1923 to 1980.

- GRI reviewed previous reports that discussed the potential for pesticide and herbicide contamination in Otay Ranch. The report that GRI reviewed determined that only the irrigated cropland in Otay Ranch has potential to be impacted by pesticides and herbicides. The report noted that between the years 1944 and 1974, DDT and related compounds were widely applied to agricultural properties. Based upon GRIs review, they did not observe cropland on the properties. However, pesticides and herbicides, and other chemicals were stored at the ranch operations center located approximately ¾ mile northwest of Parcel B. GRI stated that chemicals stored at the ranch "may have unintentionally been transported to other areas of the ranch". GRI stated that "this finding should not be considered a significant environmental threat to the subject site because areas that will undergo extensive excavation and grading during development will have a greatly reduced potential for DDT concentrations".

- The Brown Field aerial bombing range was not identified on the properties assessed in GRI's report, including Parcel B. GRI reviewed a report that recommended "having the U.S. Army or other appropriate entity conduct a survey of the bombing range to identify the presence of unexploded ordinance" based on the distance from the bombing range to the property.

- GRI did not recommend additional research or investigations at the time the report was prepared, but did recommend if chemically stained soils are discovered during site development, a qualified environmental assessor should investigate the stains.

5. HISTORICAL USE

This section summarizes information obtained from a variety of sources regarding the historical uses of the Site and identifies historical uses that could have led to RECs. The sources of information included historical aerial photographs and historical topographic maps provided by EDR.

5.1 Sanborn, Inc. Fire Insurance Maps

According to EDR's Sanborn Map Report dated March 9, 2010 (Appendix D), Sanborn maps do not exist for the Site or site vicinity.

5.2 Aerial Photographs

Historical aerial photographs for the years 1953, 1964, 1974, 1989, 1994, 2002, 2003, 2005, and 2009 provided by EDR, the California Environmental Resources Evaluation System (CERES) Geospatial Data Library (http://atlas.ca.gov/) and the ESRI ArcGIS Desktop Resources webpage (http://resources.esri.com/arcgisdesktop/index.cfm?fa=content) were reviewed for indications of past land uses that had the potential to have impacted the Site through the use, storage or disposal of hazardous substances (Appendix E). The following table summarizes the observations of the Site and adjacent properties on the aerial photographs.

Year	Observations	
	Site	Adjacent Properties
1953 (1" = 1000')	The northern, central, and eastern portions of the Site appear to have been cultivated fields. Several dirt roads extended across the eastern, northern and southern portions of the Site.	Surrounding properties appear to have been cultivated fields and undeveloped land. Dirt roads were present to the north, east, and west of the Site and Wiley Road appears to have been present to the south of the Site.
1963 (1" = 1000')	The Site appears as observed on the 1953 photo.	Surrounding properties appear as observed on the 1953 photo with the exception of what appears to be minor grading activities to the south of Wiley Road.
1974 (1" = 1000')	The Site appears as observed on the 1964 photo with the exception of a triangular-shaped earthen berm located in the central portion of the Site, adjacent to the City of San Diego property. A reservoir is present in the City of San Diego property in its present day configuration.	Surrounding properties appear as observed on the 1964 photo with the exception of structures associated with the agricultural fields were present to the east and northeast of the Site.
1989 (1" = 1000')	The Site appears as observed on the 1974 photo with the exception of disturbed soil in the northern portion of the Site.	Surrounding properties appear as observed on the 1974 photo.
1994 (1" = 1000')	The Site appears as observed on the 1989 photo.	Surrounding properties appear as observed on the 1989 photo.
2002 (1" = 1000')	The Site appears as observed on the 1994 photo.	Surrounding properties appear as observed on the 1994 photo with the exception of a structure associated with agricultural fields north of the Site.
2003 (1"= 312')	The Site appears as observed on the 2002 photos.	Surrounding properties appear as observed on the 2002 photo with the exception of a rock quarry operation to the southwest of the Site. Grading associated with residential development was present to the north of the Site.
2005 (1" = 604')	The Site appears the same as observed on the 2003 photo.	Additional grading for residential, street and school developments was adjacent to the northeastern corner of the Site. Grading for the SR-125 was present to the northeast of the Site.
2009 (1" = 312')	The Site appears as observed on the 2005 photo.	Paved roads were present along the northeastern corner of the Site boundary. A school and residential neighborhoods were located to the north and northeast of the Site. Additional grading for residential development was present to the northwest of the Site. The SR-125 to the east of the Site was paved.

No evidence of RECs on the Site was observed in the aerial photos. However, past agricultural use suggests that residual concentrations of pesticides/herbicides and arsenic may be present in soil beneath the Site and surrounding properties.

5.3 Topographic Maps

Historical topographic maps for the years 1903, 1904, 1955, 1971, and 1996 provided by EDR were reviewed (Appendix F). The following table summarizes the observations of the Site and adjacent properties on the historical topographic maps.

Year	Observations	
	Site	Adjacent Properties
1903 (1:125,000)	Land use is not depicted on the map. Several dirt roads are depicted on the Site. No structures are depicted on the Site.	No land use or structures are depicted on surrounding properties. Dirt roads are depicted to the north, south, east and west of the Site. Poggi Canyon Road is depicted to the north of the Site. Lower Otay Reservoir is shown to the east of the Site and the Otay River is depicted to the south of the Site.
1904 (1:250,000)	Similar to the 1903 map.	Similar to the 1903 map.
1955 (1:62,500)	Land use is not depicted on the map. Two aqueducts are depicted on the southern and eastern portion of the Site. The aqueducts are depicted to intersect near the east central site boundary at the Coronado "Wye". Several dirt roads are depicted on the Site.	The Otay Ranch with several buildings is depicted north of the Site. Undeveloped land is east, south and west of the Site. Dirt roads are depicted to the north, east, south and west of the Site.
1955 (1:24,000)	Similar to the 1955 (1:62,500) map.	Similar to the 1955 (1:62,500) map.
1971 (1:24,000)	Similar to the 1955 (1:24,000) map.	Similar to the 1955 (1:24,000) map. A reservoir is depicted within the City of San Diego property on the central portion of the Site.
1996 (1:24,000)	Similar to the 1971 map.	Similar to the 1971 map with the exception of a gravel pit depicted to the southwest of the Site.

The topographic maps do not depict land uses that would suggest the presence of RECs on the Site or adjacent properties.

5.4 City Directory

City directories can assist in evaluating potential liability on a Site from past activities based on names of businesses, which might suggest the use, storage, or disposal of petroleum or hazardous substances. The Site is not associated with an address, so the nearest adjacent historical site address

of 100 Wiley Road was checked. EDR searched the Haines Criss-Cross Directory for the years 1980, 1985, 1990, 1995, 2001, and 2007 (Appendix G). No information regarding the Site or adjacent properties was identified in the City Directory search.

6. SITE RECONNAISSANCE

This section summarizes observations of the Site and surrounding properties made during the site reconnaissance.

6.1. Methodology and Limiting Conditions

Geocon performed the site reconnaissance on December 7, 2010 by driving unimproved roads on the Site in a four-wheel drive vehicle and stopping in a various areas to walk the Site. Geocon was accompanied by Mr. Jeff O'Connor, the Client representative and had access to all areas of the Site. The offsite survey was performed by making observations of areas of proposed offsite improvements (storm drain, sewer, and recreational trail) on the southern adjacent parcel (Figure 2). In addition, the offsite survey included making observations of adjacent properties from the Site. Weather on the day of the site reconnaissance was clear with temperatures in the 60s. There were no limiting conditions to Geocon's ability to observe the Site or surrounding properties. Photos of various site features and offsite properties are appended.

6.2 General Site Setting

The Site is bounded to the north and northeast by residential and school developments, to the east and south by agricultural fields, and to the west by undeveloped land. The northeastern portion of the Site is bounded by La Media Road, Santa Luna Street, Magdalena Avenue and Rock Mountain Road. In general, the area is undergoing a significant change from predominantly agricultural to a mix of residential, school and retail developments.

6.3 Onsite Survey

Geocon accessed the Site from a gate on the northern boundary of the Site where La Media Road terminates (Photograph No. 1). The Site is currently used for dry farming. Agricultural fields are located in the northern, central, and southern portions of the Site (Photograph No. 2). A service road is located west of the pipeline and provides access to the southern portion of the Site and the City of San Diego reservoir. (Photograph Nos. 3 and. 4). According to the plans provided by the Client and the parcel map, two aqueducts cross the Site: one from the northwestern corner to the eastern site boundary (the former Tunnel Aqueduct, now called the San Diego-Otay pipelines) and one from the southern site boundary to the eastern site boundary. Markers and equipment related to the aqueduct,

such as aqueduct access vaults and air vacuums, were observed east of the access road. Wood and barb-wire fences, concrete brow ditches, and additional unpaved access roads were observed traversing the property.

The reservoir is located within a parcel owned by the City of San Diego and is entirely enclosed within the site boundaries. The reservoir is approximately 420 feet long by 250 feet wide (Photograph No. 5). Geocon observed a piece of agricultural equipment that appeared to be a sprayer located south of the reservoir and west of the service road. Approximately 100 feet east of the service road is the location of a proposed 50-foot easement for storm drain and sewer utilities and a 15-foot wide recreation trail (Photograph No. 6). Geocon did not observe stained soil, evidence of pits, storage tanks, underground utilities, or stressed vegetation (except from a lack of watering), on the Site or in the area of the proposed utility/trail easement. Geocon observed dry farming on the Site which may have included the use of pesticides or herbicides.

6.4 Offsite Survey

Properties within the site vicinity are developed with residential, agricultural, retail and school uses. This section provides brief descriptions and photos of adjacent properties.

North

North and northeast of the Site are La Media Road, Santa Luna Street, Magdalena Avenue and Rock Mountain Road. A vacant and graded area of land for future residential development is located north of Santa Luna Street. (Photograph Nos. 7 and 8). There were no obvious indications that the adjacent developments had negatively impacted the Site.

East

Olympian High School is located east of Magdalena Avenue and north of Rock Mountain Road (Photograph No. 9). Dry farmed fields are located east of the Site and SR-125 is located east of the agricultural land (Photograph No. 2). There were no obvious indications that the agricultural land has the potential to have negatively impacted the Site.

South

The service road that provides access to the Site continues south to the southern adjacent parcel where it connects to Wiley Road. Geocon observed the location where the proposed storm drains extend offsite and tie into the Otay River, the proposed sewer ties into the main beneath Wiley Road, and the proposed recreation trail connects to Wiley Road (Photograph No. 10). Agricultural land use

and vacant undeveloped land is adjacent to the south of the Site. There were no obvious indications that the agricultural or undeveloped land has the potential to have negatively impacted the Site.

West

Undeveloped land is adjacent to the west of the Site (Photograph No. 11). An active hardrock quarry is approximately ¼ mile southwest of the Site. The Otay Sanitary Landfill is approximately one mile west of the Site. There were no obvious indications that the land uses west of the Site had negatively impacted the Site.

No RECs were observed on the surrounding properties that appear to have the potential to have a negative impact on the Site.

7. INTERVIEWS

Geocon contacted Mr. Jeff O'Connor, employee of the owner of the two site parcels, for information regarding past use of the Site. Mr. O'Connor indicated that pesticides were reportedly used onsite when the Site was used to grow tomatoes from the early 1970s to early 1980s. Mr. O'Connor stated that Site has been used for dry farming since 1999 and that herbicides have been and are currently used on the Site to reduce weed coverage and fire risk. Mr. O'Connor indicated that pesticides have not been recently used on the Site.

Mr. O'Connor stated that stormwater flows from the adjacent school and roads into the northeastern portion of the Site. He also noted that the City of San Diego has large water transmission mains located on Site (O'Connor, 2010). More detailed information regarding the aqueducts is provided in Section 6.3.

8. SUMMARY OF FINDINGS

Geocon has performed a Phase I ESA, in general conformance with the scope and limitations of ASTM E 1527-05, of the approximate 320-acre property identified as Otay Ranch Village 8 West located south of La Media Road and Santa Luna Street intersection, west of the State Route 125 (SR-125), and north of Wiley Road in the Otay Ranch Development in Chula Vista, California. The Site is further identified by County of San Diego APNs 644-070-12 and 644-070-13. A parcel owned by the City of San Diego is enclosed within the central portion of the Site. The northern, central, and eastern portions of Site are used for agricultural purposes and the southwestern portion of the Site is undeveloped. The Site is located in an area developed with a mix of residential, agricultural, school and commercial uses.

The Site has topographic relief of approximately 300 feet sloping from a high point in the central portion of the Site to low points near the northern and southern site boundaries. The Site is underlain by four geologic units. The northern and eastern portions of the Site are underlain by the Oligocene to Miocene Otay Formation. The southwestern portion of the Site is underlain by Jurassic to Cretaceous metamorphosed volcanic and sedimentary rocks and the southernmost portion of the Site is underlain by Pleistocene alluvial flood plain deposits. Surficial soil observed on the Site consists of brown clayey fine sand.

Drainages with seasonal streams are present across the northern portion of the Site and the south central portion of the Site. A 250 feet wide by 420 feet long concrete tank-type reservoir owned and operated by the City of San Diego is present in the City of San Diego-owned parcel enclosed within the central portion of the Site. . The San Diego-Otay pipelines extend across the Site from the northwestern corner to the eastern site boundary. An unnamed aqueduct extends across the Site from southern site boundary and intersects the San Diego-Otay pipelines near the eastern site boundary at the Coronado "Wye". The pipelines are part of the San Diego Second Aqueduct system that transports water from the Colorado River to the San Diego Metropolitan area.

Based on the interview with the Client and review of historical land use information (e.g., historical aerial photographs and topographic maps) past use of the Site was predominately agricultural (tomato crops in the 1970s and '80s and dry farming more recently). Residual pesticides/herbicides in soil from past agricultural use may be present in the soil on the Site.

The DOGGR website depicts one active gas well approximately 3 miles northeast of the site. If impacts from drilling or any production occurred, they are unlikely to have impacted the Site given the distance to the Site.

During Geocon's site reconnaissance, Geocon observed dry farming agricultural fields in the northern, central, and southern portions of the Site. Geocon also observed a service road that provided access to the pipelines, City of San Diego reservoir, and the southern portion of the Site. Wood and barb-wire fences, concrete brow ditches, and additional unpaved access roads were observed traversing the property. Approximately 100 feet east of the service road is the location of a proposed 50-foot easement for storm drain and sewer utilities and a 15-foot wide recreation trail. In addition, Geocon observed the area where the proposed improvements (utilities and recreation trail) extend offsite onto the southern adjacent parcel.

Geocon did not observe stained soil, evidence of pits, storage tanks, underground utilities, or stressed vegetation (except from a lack of watering), on the Site or in the area of proposed offsite improvements. Geocon observed dry farming on the Site which may have included the use of pesticides or herbicides.

Offsite properties are developed with a mix of residential, school, retail and agricultural uses. No RECs were observed on adjoining properties.

9. CONCLUSIONS AND RECOMMENDATIONS

Geocon has performed a Phase I ESA, in general conformance with the scope and limitations of ASTM E 1527-05, for the vacant property referenced as Otay Ranch Village 8 West. Exceptions to, or deletions from, this practice are described in Section 1.4 of this report.

The assessment has revealed no evidence of RECs on the Site with the exception of the possible presence of pesticides/herbicides in shallow soil from the historical agricultural use of the Site. According to the Client, pesticides were reportedly used on tomato crops grown on the Site during the 1970s and 1980s. Herbicides reportedly have historically been and are currently used onsite, but pesticides have not recently been used onsite.

Research conducted by the California Department of Food and Agriculture indicates that detectable concentrations of at least one of the DDT family of compounds (DDT, DDD, DDE) have been found in soil throughout California's agricultural areas associated with the application of pesticides from 1944 to 1974. According to the San Diego County Department of Agriculture, Weights, and Measures permits, the pesticide 2,4-D Amine was applied to adjacent parcels to the west and east of the Site.

It does not appear that an assessment of soil on the Site for pesticides has been conducted. Based on the reported historical use of pesticides at the Site and the identification of pesticide impacted soil in the site vicinity, the potential exists for the onsite soils to be impacted with elevated levels of pesticides. Elevated levels of pesticides in the near surface soils as the Site could result in an increased health risk to future inhabitants of the proposed development. Therefore, Geocon recommends conducting a limited assessment of shallow soil on the Site to determine if residual pesticides, herbicides, and/or arsenic are present. The assessment is recommended to include analysis for OCPs that include compounds such as DDD, DDE, DDT, and toxaphene, which have been historically identified at concentrations that exceed DTSC soil screening levels for residential land use at properties in the site vicinity.

Given the residential and potential future school land use proposed for the Site, Geocon recommends conducting the limited soil assessment in accordance with DTSC Guidance documents. The assessment report is recommended to include the indentified chemicals of concern at the Site, their concentrations compared to DTSC soil screening levels for residential land use, and identification of areas that may require mitigation. Based on the results of the soil assessment, Geocon may recommend preparing a Soil Reuse Plan prior to site development. The Soil Reuse Plan is recommended to include a determination of the suitability of the soils for onsite or offsite reuse and

any special handling provisions that should be incorporated as part of the site grading activities. Geocon recommends that the results of the limited soil assessment and the Soil Reuse Plan (if prepared) be submitted to the County of San Diego DEH and/or the RWQCB for review and approval, prior to implementation.

10. REFERENCES

American Society for Testing and Materials (ASTM) Designation E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, 2005.

California Environmental Resources Evaluation System (CERES) Geospatial Data Library accessed March 15, 2010, http://atlas.ca.gov/.

California Geological Survey, *Geologic Map of the Otay Mesa 7.5' Quadrangle, San Diego County, California*, 2002.

Division of Oil, Gas & Geothermal Resources – DOGGR Home Page, State of California Department of Conservation, http://maps.conservation.ca.gov/doms/index.html, March 17, 2010.

DTSC's ENVIROSTOR website accessed March 16, 2010, http://www.envirostor.dtsc.ca.gov/public/.

ESRI ArcGIS Desktop Resources webpage, accessed March 17, 2010, http://resources.esri.com/arcgisdesktop/index.cfm?fa=content.

Geotracker, 2009. California State Water Resources Board. <http://geotracker.swrcb.ca.gov/>.

Otay Water District website, accessed March 16, 2010, http://www.otaywater.gov/owd/pages/resources/resourcesHome.aspx.

United States Department of Agriculture, Natural Resources Conservation Service (NRCS), Soil Data Mart digital map of the Soil Survey of San Diego County, 2007, http://soildatamart.nrcs.usda.gov/.

United States Geological Survey, *Otay Mesa 7.5-minute Topographic Map*, 1996.

11. QUALIFICATIONS

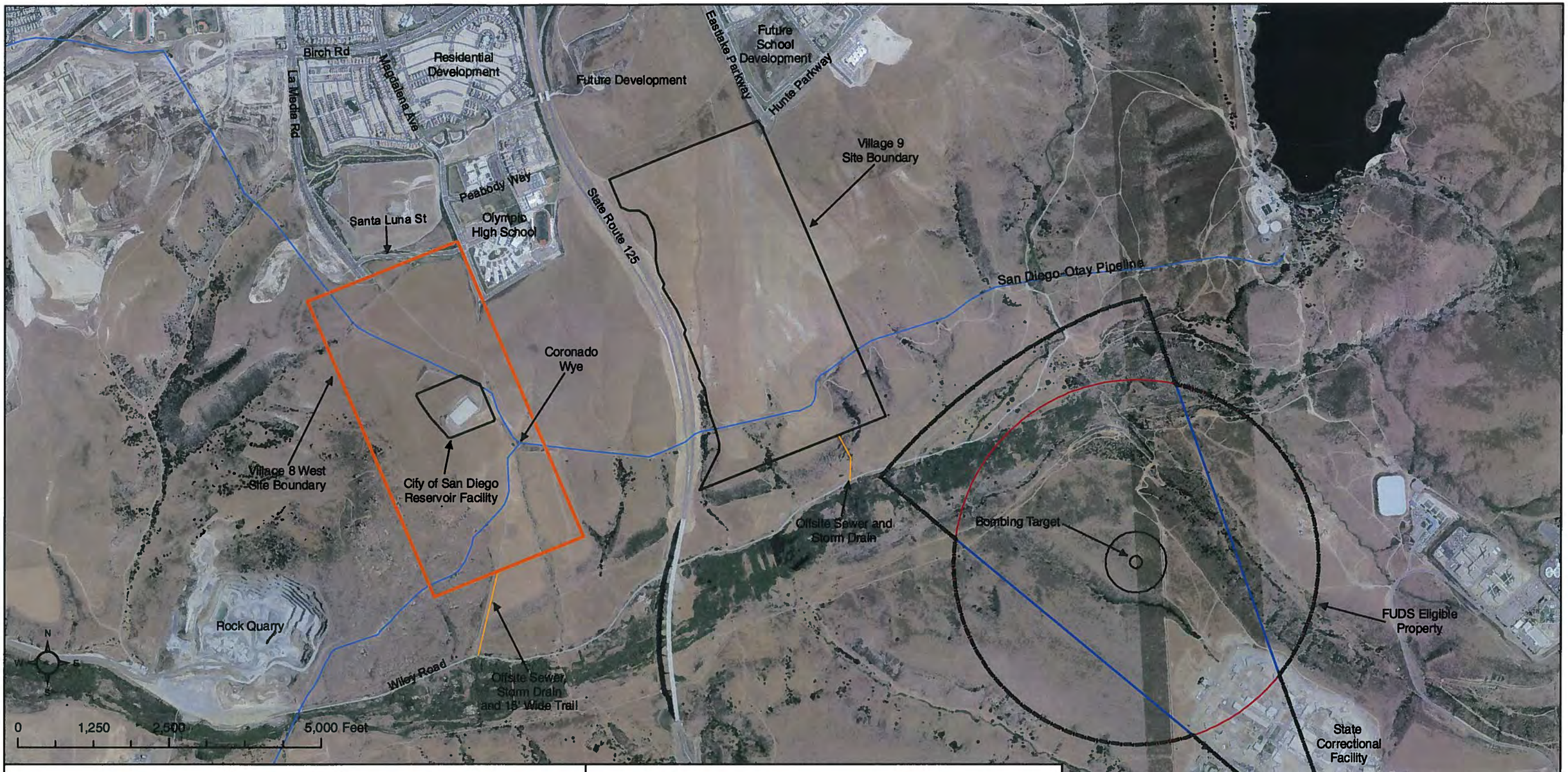
This Phase I ESA report was prepared by Mr. Matthew Lesh and Mr. Joseph Vettel. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR Part 312. We have the specific qualifications based on education, training, and experience, to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



VICNITY MAP - OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

GEOCON

JOB NO. 09836-06-01
MARCH, 2011
FIGURE 1



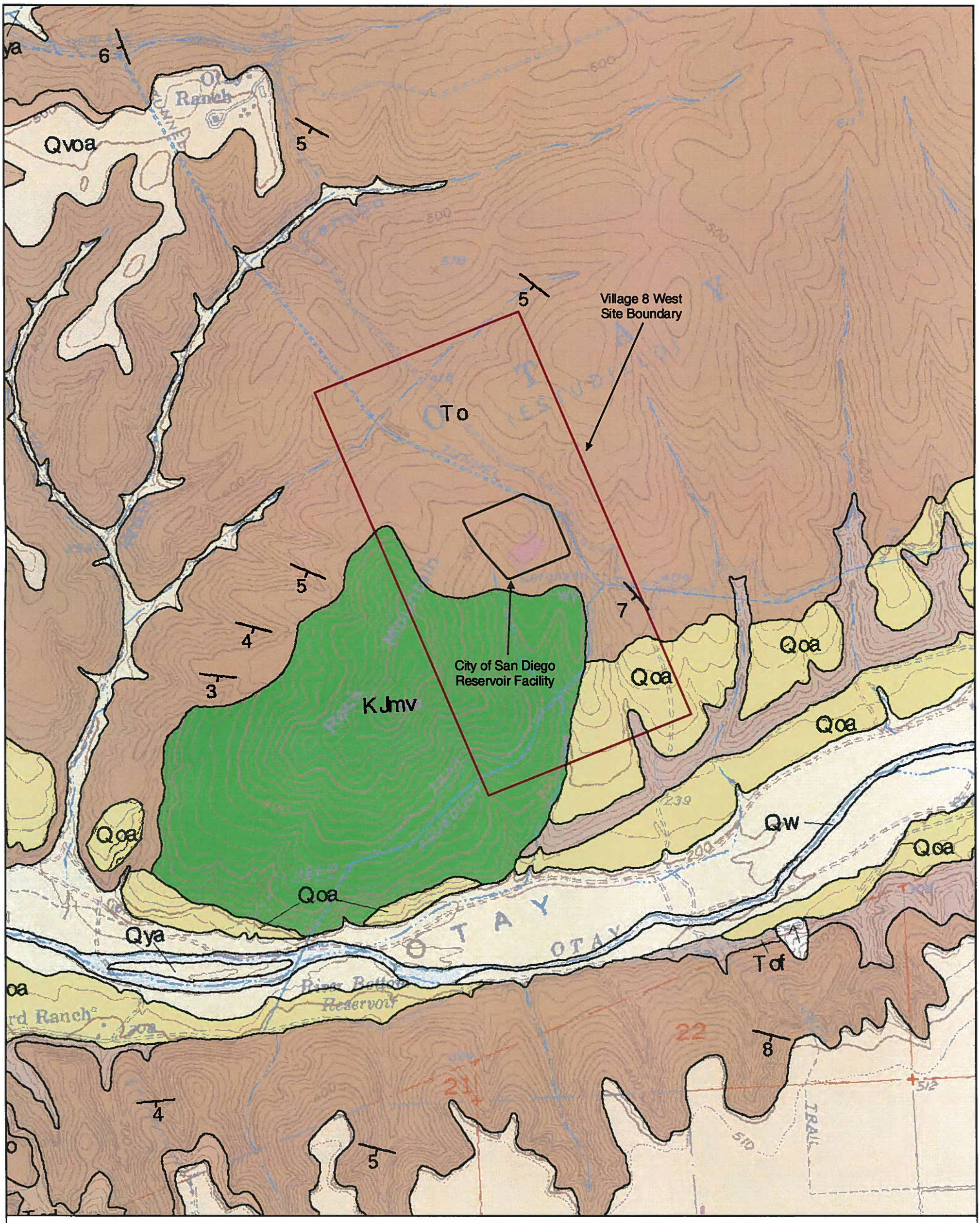
SITE MAP - OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

GEOCON

JOB NO. 09836-06-02
MARCH, 2011
FIGURE 2

- Bombing Target
- Approximate FUDS-eligible Property Boundary
- Aerial Rocket Range Boundary
- Bomb Target Boundary

FUDS Property Reference: Final Site Inspection Report, Former Brown Field Bombing Range, San Diego County, California, Figure ES.1, Prepared by Parsons, December 2007.



Site Geologic Units

Qoa - Alluvial deposits (late to Middle Pleistocene)
To - Otay Formation (Oligocene to Miocene)
Tof - Otay Formation - fanglomerate facies (Oligocene to Miocene)
KJmv - Metavolcanic rocks (Jurassic and Cretaceous)

Map Reference: Geologic Map of the Otay Mesa 7.5' Quadrangle, San Diego County, Califorina, California Geological Survey, 2002.

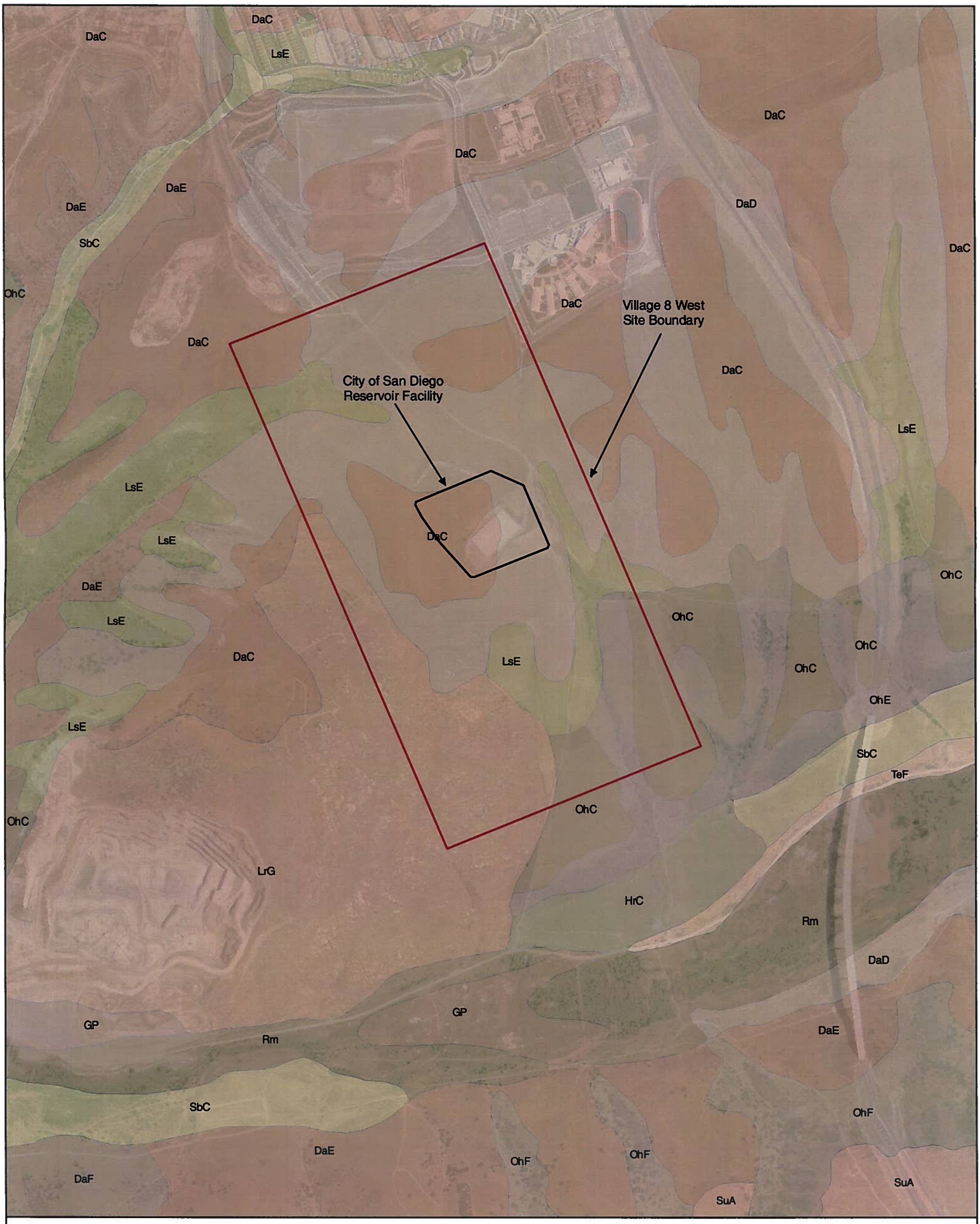
0 875 1,750 3,500 Feet

N W E S

GEOLOGIC MAP - OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

GEOCON

JOB NO. 09836-06-01
MARCH 2011
FIGURE 3



Site Soil Units

DaC - Diablo clay, 2 to 9 percent slopes
DaD - Diablo clay, 9 to 15 percent slopes
LrG - Las Posas stony fine sandy loam, 30 to 65 percent slopes
LsE - Linne clay loam, 9 to 30 percent slopes
OhC - Olivenhain cobble loam, 2 to 9 percent slopes
OhE - Olivenhain cobbly loam, 9 to 30 percent slopes

Map Reference: Soil Survey of San Diego County, digital map, Natural Resources Conservation Service, 2007.

0 750 1,500 3,000 Feet

N W E S

SOILS MAP - OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

GEOCON

JOB NO. 09836-06-01
MARCH 2011
FIGURE 4



Photograph #1
Southern view of the gate entrance to the Site at the termination of La Media Road.



Photograph #2
Southwest view of the Site near the City of San Diego Reservoir.

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SITE PHOTOGRAPHS

OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

PROJECT NO. 09836-06-01



Photograph #3
Southern view of the Site with the service road trending north/south.



Photograph #4
View of the utilities associated with the aqueduct that traverses the site from east to west and north to south. State Route 125 is visible in the background.

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CHULA VISTA, CALIFORNIA

PROJECT NO. 09836-06-01



Photograph #5
View of the chain link and barbed-wire fence surrounding the City of San Diego's reservoir.



Photograph #6
View north of the southern portion of the property where the utility/recreation trail easement will be located.

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SITE PHOTOGRAPHS

OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

PROJECT NO. 09836-06-01



Photograph #7
View of the northwestern adjacent undeveloped property.



Photograph #8
View of the northwestern adjacent property.

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OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

PROJECT NO. 09836-06-01



Photograph #9
View of the vacant eastern adjacent property and lympic High School.



Photograph #10
View north of the service road on the Site. The service road will provide service to the proposed storm drain, sewer, and recreation trail improvements.

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OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

PROJECT NO. 09836-06-01



Photograph #11
View of the western adjacent property.

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SITE PHOTOGRAPHS

OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA

PROJECT NO. 09836-06-01

APPENDIX A

Project No. 09836-06-01
December 10, 2010

BY E-MAIL AND U. S. MAIL

Mr. Jeff O'Connor
Otay Land Company
1903 Wright Place, Suite 220
Carlsbad, California 92008

Subject: OTAY RANCH VILLAGE 8 WEST
CHULA VISTA, CALIFORNIA
COST ESTIMATE FOR REVISED PHASE I ENVIRONMENTAL SITE ASSESSMENT TO ADDRESS COMMENTS FROM CITY OF CHULA VISTA

Dear Mr. O'Conner:

In accordance with your request and on behalf of Otay Land Company (the Client), we present this cost estimate to revise the Phase I Environmental Site Assessment (ESA) for the approximate 320-acre property identified as Otay Ranch Village 8 West located south of La Media Road and Santa Luna Street intersection (the Site) in Chula Vista, California. The Site is further identified by County of San Diego Assessor's Parcel Numbers 644-070-12 and 644-070-13. The revision has been requested by the Client to address review comments from the City of Chula Vista.

PURPOSE AND SCOPE OF SERVICES

We propose to perform a site reconnaissance and preliminary research to estimate the potential for existing impacts to the Site (i.e., levels of hazardous materials/wastes likely to warrant mitigation pursuant to current regulatory guidelines) from the presence of hazardous materials/wastes on or within the vicinity of the Site. The guidelines used for the definition of hazardous materials/wastes are referenced in the California Code of Regulations (CCR), Title 22, Division 4.5. The proposed scope of services for the Phase I ESA will be conducted in general accordance with the American Society for Testing and Materials (ASTM) *Standard Practice E 1527-05*. The Phase I ESA also will be conducted in general accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 312 titled *Standards and Practices for All Appropriate Inquiries*, as required under Sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of conducting an All Appropriate Inquiries (AAI) investigation into the previous ownership and uses of a property is to meet the provisions necessary for the landowner, contiguous property owner, and/or bona fide prospective purchaser to qualify for certain landowner liability protections under CERCLA.

In order to perform the Phase I ESA in accordance with ASTM and AAI guidelines, we request that, if possible, the Client provide the following information:

- Permission to enter the Site.
- Names and telephone numbers of persons familiar with the Site.
- A description of the planned use of the Site.
- Any specialized knowledge regarding the Site.
- Any commonly known or reasonably ascertainable information regarding the Site.
- Any site-related documents.
- An historical chain-of-title report from a title company (as an alternative, we can order an environmental lien report for an additional fee).
- An evaluation of the relationship of the purchase price of the Site to the fair market value of the Site if the Site was not affected by hazardous substances.

The specific scope of work to be conducted for the Phase I ESA is discussed below.

- Perform a visual survey of the adjacent properties from the Site and from public thoroughfares to observe general types of existing land use surrounding the Site. Perform a visual reconnaissance of the Site for indicators of hazardous materials, hazardous wastes, or soil and/or groundwater impacts on the Site. The indicators referenced include, but are not limited to, 55-gallon drums, underground and aboveground storage tanks, chemical containers, waste storage and disposal areas, industrial facilities, discolored surface soil, electrical transformers that may contain polychlorinated biphenyls (PCBs), and areas conspicuously absent of vegetation. The Client will be responsible for providing us with a site plan that clearly depicts the site boundary. The Client will also be responsible for obtaining permission for our personnel to enter the Site. Our ability to complete the assessment described herein may be hindered if access is unavailable to any portion of the Site. Provisions for an assessment of wetlands, earthquake faults, asbestos, lead-containing paint, lead in drinking water, mold, burn ash, radon gas, methane gas, and building vapor intrusion are not included in this scope of services.
- Perform a visual survey of the adjacent properties from the Site and from public thoroughfares to observe general types of existing land use surrounding the Site.
- Review and interpret U. S. Geological Survey (USGS) topographic maps to obtain information relative to the topography and physical setting of the Site, and previous development and uses of the Site and properties within approximately 1/4-mile of the Site.
- Review pertinent and reasonably obtainable information sources to evaluate physiographic, geologic, and hydrogeologic conditions in the vicinity of the Site. The review will not include or address earthquake faults on the Site or in the Site's vicinity.
- Review publicly-available historical sources of information pertaining to the Site and nearby properties. Such sources of information may include the following: aerial photographs,

building permits, historical city directories, topographic maps, and Sanborn fire insurance maps. Research of these sources will be conducted from the present back to when the property first contained structures or was used for residential, agricultural, commercial, industrial, or governmental purposes.

- Conduct interviews by telephone or in writing with representatives of the current owner(s) and occupant(s) of the Site to evaluate if present or past occupants have used, generated, stored, or disposed of hazardous materials/wastes onsite. In order to obtain information regarding the past occupants and uses of the Site, it may be necessary for us also to interview past owners and/or occupants of the Site. The names and telephone numbers of the contacts for the above interviews are to be provided by the Client.

- Review documents provided by the Client, and at the Client's discretion. Potentially useful documents may include previously prepared geotechnical, geologic, and environmental reports; site plans; plot plans; tenant lists; and correspondence with regulatory agencies. The Client is required to provide the following information/documentation for the Phase I ESA, if available: information regarding liens recorded against the Site for environmental cleanup activities; documentation regarding any land use or activity limitations pertaining to the Site (e.g., building restrictions, water treatment systems); any specialized knowledge pertaining to environmental conditions associated with the Site, based on the Client's knowledge of the Site or the area in which the Site is located; and information regarding whether the purchase price for the Site is significantly different from the fair market value and, if so, the reason for the difference.

- If requested, review recorded land title records for the Site in accordance with the requirements identified in *40 CFR Part 312*. A 50-year chain-of-title report must be obtained from a title company by the Client, and at the Client's expense, if we are to perform this task. The purpose of obtaining a chain-of-title report is to assess whether any requirements regarding engineering and institutional controls have been recorded for the Site, and whether any land use restrictions and/or environmental cleanup liens are associated with the Site.

- Conduct a search of federal, state, and local databases for the Site and surrounding area to obtain information regarding the potential presence of hazardous materials/wastes on the Site or on properties located within the approximate distances specified by *ASTM Standard Practice E 1527-05* and *40 CFR Part 312*. The records searched will include registries or publicly available lists of recorded engineering and institutional controls, and recorded land use restrictions that may impact the Site.

- Contact local public agencies by telephone or in writing to acquire readily obtainable information regarding underground storage tank permits, agriculturally-related permits and violations, air emission permits and violations, source of water and method of sewage disposal, location and depth of nearest drinking water wells, and electrical transformers. The information will be obtained for the Site only. The agencies contacted may include, but will not necessarily be limited to, the local fire department, air pollution control agency, agriculture department, water and sewer agencies, and gas and/or electric utility companies.

- Review reasonably obtainable regulatory agency files for the Site, if available, and/or properties in the vicinity of the Site whose environmental conditions might potentially impact the Site. These properties will be identified based on our review of the above-referenced databases and our visual reconnaissance activities. We will review regulatory agency files for up to four (4) properties of potential environmental concern located in/near the boundaries of the Site. If we determine that additional file review activities are warranted, the Client will be

contacted for authorization prior to performing the additional activities and our fee will be adjusted accordingly.

- Prepare a report summarizing the findings of the Phase I ESA. The report will qualitatively describe the potential for environmental impairment at the Site. If necessary, the report will also provide recommendations for additional environmental services (e.g., a Phase II ESA), based on the findings of the Phase I ESA. The report will identify any "data gaps" (i.e., lack of or inability to obtain information required by *ASTM Standard Practice E 1527-05* and *40 CFR Part 312*). If the data gaps influence our ability to render an opinion regarding the environmental condition of the Site, the report will comment on the significance of the data gap(s).

Please note that *40 CFR Part 312* requires that, in addition to the Phase I ESA, the activities described below be conducted by the prospective purchaser of the property in order for the purchaser to qualify for liability protection under CERCLA. It is the responsibility of the prospective purchaser to:

- conduct a search for the existence of environmental cleanup liens against the Site filed or recorded under federal, tribal, state, or local law;
- consider the specialized knowledge the prospective purchaser has of the Site, the area surrounding the Site, the conditions of adjoining properties, and any other experience relevant to the environmental condition of the Site;
- consider the relationship of the purchase price of the Site to the value of the Site if it were not contaminated; and
- consider commonly known or reasonably ascertainable information within the local community about the Site to the extent not otherwise obtained during the preparation of the Phase I ESA.

These activities are **not** included in the scope of work for this assessment.

COST ESTIMATE AND SCHEDULE

We propose to perform the scope-of-work for the revised Phase I ESA on a "lump sum" basis for a fee of $, not including an environmental lien report. The final report will be provided to you within approximately 7 business days after receipt of written authorization to proceed.
The fee includes the following:

Report Revision	$
20 hardcopies and an electronic copy of the final report	$
TOTAL ESTIMATED FEE	**$**

Additional copies of the final report may be requested for an additional fee of $50. If less than 20 copies are requested, a revised invoice will be submitted to reflect a $50 credit per report.

Consultation services rendered after the issuance of the report and/or charges required for reviewing and copying regulatory records would be billed on a "time and materials" basis in accordance with

the enclosed *2006 Schedule of Fees for Environmental Services*, which are incorporated into and made a part of this cost estimate, and would be additive to the proposed fee.

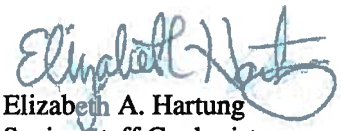
It is mutually agreed between us and the Client that all services afforded and work we perform are provided pursuant to Civil Code Section 2782, *et. seq.*, and such agreement is expressly integrated into and made a part of any and all contracts or agreements entered into between the parties.

Please carefully review the contents of this cost estimate and the enclosed *Schedule of Fees.* If they meet with your approval, please execute the enclosed work agreement.

We appreciate the opportunity to assist you on this project. Please call us if you have any questions.

Very truly yours,

GEOCON INCORPORATED



Elizabeth A. Hartung
Senior Staff Geologist

EAH:dmc

Enclosure: 2006 Schedule of Fees

(1) Addresse

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Proposal No. EP-2010-009
February 10, 2010

BY E-MAIL AND U. S. MAIL

Mr. Jeff O'Connor
Otay Land Company
1903 Wright Place, Suite 220
Carlsbad, California 92008

Subject: OTAY RANCH SOUTH, PARCEL B
CHULA VISTA, CALIFORNIA
PROPOSAL FOR PHASE I ENVIRONMENTAL SITE ASSESSMENT

Dear Mr. O'Conner:

In accordance with your request and on behalf of Otay Land Company (the Client), we present this proposal to conduct Phase I Environmental Site Assessment (ESA) for Parcel B of the Otay Ranch South development located south of La Media Road and Santa Luna Street intersection in Chula Vista, California (the Site). The Site is further identified by County of San Diego Assessor's Parcel Numbers 644-070-12 and 644-070-14, which are comprised of 4.02 acres and 282.82 acres, respectively.

PURPOSE AND SCOPE OF SERVICES

We propose to perform a site reconnaissance and preliminary research to estimate the potential for existing impacts to the Site (i.e., levels of hazardous materials/wastes likely to warrant mitigation pursuant to current regulatory guidelines) from the presence of hazardous materials/wastes on or within the vicinity of the Site. The guidelines used for the definition of hazardous materials/wastes are referenced in the California Code of Regulations (CCR), Title 22, Division 4.5. The proposed scope of services for the Phase I ESA will be conducted in general accordance with the American Society for Testing and Materials (ASTM) *Standard Practice E 1527-05*. The Phase I ESA also will be conducted in general accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 312 titled *Standards and Practices for All Appropriate Inquiries*, as required under Sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of conducting an All Appropriate Inquiries (AAI) investigation into the previous ownership and uses of a property is to meet the provisions necessary for the landowner, contiguous property owner, and/or bona fide prospective purchaser to qualify for certain landowner liability protections under CERCLA.

In order to perform the Phase I ESA in accordance with ASTM and AAI guidelines, we request that, if possible, the Client provide the following information:

- Permission to enter the Site.
- Names and telephone numbers of persons familiar with the Site.
- A description of the planned use of the Site.
- Any specialized knowledge regarding the Site.
- Any commonly known or reasonably ascertainable information regarding the Site.
- Any site-related documents.
- An historical chain-of-title report from a title company (as an alternative, we can order an environmental lien report for an additional fee).
- An evaluation of the relationship of the purchase price of the Site to the fair market value of the Site if the Site was not affected by hazardous substances.

The specific scope of work to be conducted for the Phase I ESA is discussed below.

- Perform a visual survey of the adjacent properties from the Site and from public thoroughfares to observe general types of existing land use surrounding the Site. Perform a visual reconnaissance of the Site for indicators of hazardous materials, hazardous wastes, or soil and/or groundwater impacts on the Site. The indicators referenced include, but are not limited to, 55-gallon drums, underground and aboveground storage tanks, chemical containers, waste storage and disposal areas, industrial facilities, discolored surface soil, electrical transformers that may contain polychlorinated biphenyls (PCBs), and areas conspicuously absent of vegetation. The Client will be responsible for providing us with a site plan that clearly depicts the site boundary. The Client will also be responsible for obtaining permission for our personnel to enter the Site. Our ability to complete the assessment described herein may be hindered if access is unavailable to any portion of the Site. Provisions for an assessment of wetlands, earthquake faults, asbestos, lead-containing paint, lead in drinking water, mold, burn ash, radon gas, methane gas, and building vapor intrusion are not included in this scope of services.
- Perform a visual survey of the adjacent properties from the Site and from public thoroughfares to observe general types of existing land use surrounding the Site.
- Review and interpret U. S. Geological Survey (USGS) topographic maps to obtain information relative to the topography and physical setting of the Site, and previous development and uses of the Site and properties within approximately 1/4-mile of the Site.
- Review pertinent and reasonably obtainable information sources to evaluate physiographic, geologic, and hydrogeologic conditions in the vicinity of the Site. The review will not include or address earthquake faults on the Site or in the Site's vicinity.
- Review publicly-available historical sources of information pertaining to the Site and nearby properties. Such sources of information may include the following: aerial photographs, building permits, historical city directories, topographic maps, and Sanborn fire insurance maps. Research of these sources will be conducted from the present back to when the property

first contained structures or was used for residential, agricultural, commercial, industrial, or governmental purposes.

- Conduct interviews by telephone or in writing with representatives of the current owner(s) and occupant(s) of the Site to evaluate if present or past occupants have used, generated, stored, or disposed of hazardous materials/wastes onsite. In order to obtain information regarding the past occupants and uses of the Site, it may be necessary for us also to interview past owners and/or occupants of the Site. The names and telephone numbers of the contacts for the above interviews are to be provided by the Client.

- Review documents provided by the Client, and at the Client's discretion. Potentially useful documents may include previously prepared geotechnical, geologic, and environmental reports; site plans; plot plans; tenant lists; and correspondence with regulatory agencies. The Client is required to provide the following information/documentation for the Phase I ESA, if available: information regarding liens recorded against the Site for environmental cleanup activities; documentation regarding any land use or activity limitations pertaining to the Site (e.g., building restrictions, water treatment systems); any specialized knowledge pertaining to environmental conditions associated with the Site, based on the Client's knowledge of the Site or the area in which the Site is located; and information regarding whether the purchase price for the Site is significantly different from the fair market value and, if so, the reason for the difference.

- If requested, review recorded land title records for the Site in accordance with the requirements identified in *40 CFR Part 312*. A 50-year chain-of-title report must be obtained from a title company by the Client, and at the Client's expense, if we are to perform this task. The purpose of obtaining a chain-of-title report is to assess whether any requirements regarding engineering and institutional controls have been recorded for the Site, and whether any land use restrictions and/or environmental cleanup liens are associated with the Site.

- Conduct a search of federal, state, and local databases for the Site and surrounding area to obtain information regarding the potential presence of hazardous materials/wastes on the Site or on properties located within the approximate distances specified by *ASTM Standard Practice E 1527-05* and *40 CFR Part 312*. The records searched will include registries or publicly available lists of recorded engineering and institutional controls, and recorded land use restrictions that may impact the Site.

- Contact local public agencies by telephone or in writing to acquire readily obtainable information regarding underground storage tank permits, agriculturally-related permits and violations, air emission permits and violations, source of water and method of sewage disposal, location and depth of nearest drinking water wells, and electrical transformers. The information will be obtained for the Site only. The agencies contacted may include, but will not necessarily be limited to, the local fire department, air pollution control agency, agriculture department, water and sewer agencies, and gas and/or electric utility companies.

- Review reasonably obtainable regulatory agency files for the Site, if available, and/or properties in the vicinity of the Site whose environmental conditions might potentially impact the Site. These properties will be identified based on our review of the above-referenced databases and our visual reconnaissance activities. We will review regulatory agency files for up to four (4) properties of potential environmental concern located in/near the boundaries of the Site. If we determine that additional file review activities are warranted, the Client will be contacted for authorization prior to performing the additional activities and our fee will be adjusted accordingly.

- Prepare a report summarizing the findings of the Phase I ESA. The report will qualitatively describe the potential for environmental impairment at the Site. If necessary, the report will also provide recommendations for additional environmental services (e.g., a Phase II ESA), based on the findings of the Phase I ESA. The report will identify any "data gaps" (i.e., lack of or inability to obtain information required by *ASTM Standard Practice E 1527-05* and *40 CFR Part 312*). If the data gaps influence our ability to render an opinion regarding the environmental condition of the Site, the report will comment on the significance of the data gap(s).

Please note that *40 CFR Part 312* requires that, in addition to the Phase I ESA, the activities described below be conducted by the prospective purchaser of the property in order for the purchaser to qualify for liability protection under CERCLA. It is the responsibility of the prospective purchaser to:

- conduct a search for the existence of environmental cleanup liens against the Site filed or recorded under federal, tribal, state, or local law;

- consider the specialized knowledge the prospective purchaser has of the Site, the area surrounding the Site, the conditions of adjoining properties, and any other experience relevant to the environmental condition of the Site;

- consider the relationship of the purchase price of the Site to the value of the Site if it were not contaminated; and

- consider commonly known or reasonably ascertainable information within the local community about the Site to the extent not otherwise obtained during the preparation of the Phase I ESA.

These activities are **not** included in the scope of work for this assessment.

PROPOSED FEE AND SCHEDULE

We propose to complete the Phase I ESA on a "lump sum" basis for a fee of $, not including an environmental lien report. If site conditions significantly different than those provided to us for purposes of preparing this proposal are identified or as additional information is obtained, it may become necessary to revise the scope of services and associated fee.

The fee is valid for a period of 60 days from the date of this proposal. The fee includes the submittal of two hardcopies and an electronic copy of the final report. Additional copies of the final report may be requested for an additional administrative fee. The final report will be provided to you within approximately 7 business days after receipt of written authorization to proceed.

Consultation services rendered after the issuance of the report and/or charges required for reviewing and copying regulatory records would be billed on a "time and materials" basis in accordance with the enclosed *2006 Schedule of Fees for Environmental Services/Terms and Conditions*, which are incorporated into and made a part of this proposal, and would be additive to the proposed fee.

It is mutually agreed between us and the Client that all services afforded and work we perform are provided pursuant to Civil Code Section 2782, *et. seq.*, and such agreement is expressly integrated into and made a part of any and all contracts or agreements entered into between the parties.

EXECUTION OF CONTRACT

Please carefully review the contents of this proposal and the enclosed *Terms and Conditions for Performance of Services (Terms)*. If they meet with your approval, execute both copies of the *Terms* and return both copies to our office. We will then endorse the documents and return one fully executed copy to you. We will commence with the scope of services outlined herein upon receipt of your written authorization. Services we provide will be pursuant to the *Terms* and *2006 Schedule of Fees for Environmental Services* until or unless a mutually agreed upon, negotiated contract is finalized.

We appreciate the opportunity to assist you on this project. Please call us if you have any questions.

Sincerely,

GEOCON INCORPORATED

Jack Keener
Manager, Environmental Services

JWK:sc

(1) Addressee

Enclosures: Terms; 2006 Schedule of Fees

APPENDIX B

(B)

PROPERTY BACKGROUND INFORMATION QUESTIONNAIRE FOR SITE OWNER, OCCUPANT, OR REPRESENTATIVE

SITE ADDRESS: ~~Paums Reservation Road from Route 76 to Adams Drive~~
Revise Address.

***Please elaborate on any question answered "yes."**

1) Describe the current uses of the Site.
VACANT LAND Being 'DRY Farmed' PREVIOUSLY CATTLE RANCH

2) How long has the Site been used for theses purposes?
SINCE About 1946

3) How long have you occupied the Site?
Owned SINCE LATE 1998

4) List the existing structures on the property and their age.
No structures. Some City of San Diego water facilities Such As Pipes and Values in Easements.

5) Describe the past uses, owners, and operators of the Site. (Be as detailed as possible and note approximate time periods.) SINCE 1999 - DRY FARMING. FROM 1946 to 1999 DRY FARMING & CATTLE Ranching

6) Utilities including electricity, natural gas, water, sewer, and trash removal are provided to the Site by which utility/companies.

Water -
Sewer -
Electricity -
Natural Gas -
Trash –

NONE - VACANT

7) What type of heating, ventilating, and air conditioning (HVAC) system is located at the Site and how is the HVAC system powered?
N/A

8) Have the Site or adjoining properties been used for industrial activities, such the following? (Please note that an adjoining property is a property that is contiguous with, or directly across the street from the Site.)

Gasoline Station [ ] Yes [✓] No
Printing Facility [ ] Yes [✓] No
Metal Plating Manufacturing [ ] Yes [✓] No
Landfill [ ] Yes [✓] No
Motor Repair Facility [ ] Yes [✓] No
Dry Cleaners [ ] Yes [✓] No
Junkyard [ ] Yes [✓] No
Waste Treatment [ ] Yes [✓] No

Storage, Disposal, or Recycling Facility [ ] Yes [✓] No

Describe other industrial activities, if any.
FARMING WITH POSSIBLE USE OF HERBICIDES/PESTICIDES.

9) Have any hazardous substances, petroleum products, unidentified waste materials, tires, automotive or industrial batteries, or other waste materials been dumped aboveground, buried, or burned on the Site?

[ ] Yes [✓] No

10) Have any of the following items been stored on the Site in containers greater than 5 gallons?

Paint [ ] Yes [✓] No
Chemicals [ ] Yes [✓] No
Pesticides [✓] Yes [ ] No → FOR FARMING PURPOSES.

11) Are hazardous wastes generated at the Site? If yes, describe the means of disposal and frequency of disposal.

[ ] Yes [✓] No

12) Have petroleum products been stored on the Site or transferred across the Site in pipelines, either above or belowground?

[ ] Yes [✓] No

13) Has fill dirt been brought onto the Site from an offsite source?

[ ] Yes [✓] No

14) Is there evidence that the fill dirt in Question 10 may be contaminated?

[ ] Yes [ ] No N/A

15) Are there currently any pits, ponds, or lagoons on the Site?

[ ] Yes [✓] No

16) Have any pits, ponds, or lagoons previously existed on the Site?

[ ] Yes [✓] No

17) Are there currently areas on the Site with stained soil?

[ ] Yes [✓] No

18) Have stained soils previously existed on the Site?
[ ] Yes [✓] No

19) Do chemical-containing underground or aboveground storage tanks exist, or have they existed previously on the Site?

[ ] Yes [✓] No

20) Do fill pipes, vent pipes, or access ways indicating the presence of current or former underground storage tanks exist on the Site?

[ ] Yes [✓] No

21) Have fill pipes or vent pipes which may indicate the presence of a current or former underground storage tank been removed from the Site?

[ ] Yes [✓] No

22) Are floor drains stained with anything other than water in any area on the Site?

[ ] Yes [✓] No

23) Do floor drains on the Site emit foul odors?

[ ] Yes [✓] No

24) Is the Site served by a private well or a non-public water source?

[ ] Yes [✓] No

25) Are contaminants known to exist in any private well or non-public water system serving the Site?

[ ] Yes [✓] No

26) Does the Site discharge wastewater, other than domestic wastewater or storm water, into the sewer?

[ ] Yes [✓] No

27) Other than permission for domestic hookup, have any city, county, or local permits for wastewater discharge been issued to the Site?

[ ] Yes [✓] No

28) Does a septic tank exist, or has one existed previously on the Site?

[ ] Yes [✓] No

29) Do cesspools or cisterns currently exist on the Site?

[ ] Yes [✓] No

30) Have cesspools or cisterns previously existed on the Site?

[ ] Yes [✓] No

31) Other than storm water, does the Site discharge waste water onto the neighboring Site?

[ ] Yes [✓] No

32) Is there a transformer or capacitor that may contain PCBs on the Site?

[ ] Yes [✓] No

33) Is there any hydraulic equipment such as automobile lifts or elevators on the Site?

[ ] Yes [✓] No

34) Are PCBs contained in hydraulic oil associated with hydraulic equipment located on the Site?

[ ] Yes [✓] No

35) Has an asbestos and/or lead-based paint survey been conducted at the Site? If so, what were the findings?

[ ] Yes [✓] No

36) Other than small quantities of legal pesticides used for landscape maintenance (e.g., Roundup), have pesticides, herbicides, or insecticides been applied on the Site?

[✓] Yes [ ] No

37) Are you aware of any environmental liens against the Site that are filed or recorded under federal, tribal, state, or local law?

[ ] Yes [✓] No

38) Have any environmental violations or citations associated with activities conducted on the Site been issued?

[ ] Yes [✓] No

39) Has the Site been included in other environmental assessments? If so, can copies of the reports be provided?

[✓] Yes [ ] No

40) Have other environmental assessments identified hazardous substances or petroleum products that exist, or may have existed on the Site?

[✓] Yes [ ] No GEOREMEDIATION OCT 14, 1998
GEO REMEDIATION JAN. 13, 1999

41) Are there any pending law suits that involve the release or threatened release of hazardous substances associated with the Site?

[ ] Yes [✓] No

42) Are you aware of any activity and land use limitations, such as engineering controls, land use restrictions or institutional controls that are in place on the Site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

[ ] Yes [✓] No

43) Are you aware of any commonly known or reasonably ascertainable information about the Site that would help the environmental professional to identify conditions indicative of hazardous substance releases or threatened hazardous substance releases?

[✓] Yes [ ] No PREVIOUS PHASE I ASSESSMENT See QUESTION 40

44) Do you have any specialized knowledge or experience related to the Site or nearby properties, including the knowledge of the chemicals and processes used by this type of business?

[ ] Yes [✓] No

45) Based in your knowledge or experience related to the Site, are there any obvious indicators that point to the presence or likely presence of contamination at the Site?

[ ] Yes [✓] No

46) If the purchase price of the Site was below fair market value, did this occur because contamination was/is known or believed to be present on the Site?

[ ] Yes [✓] No [ ] N/A

JEFF W. O'CONNOR — NAME (IN PRINT)

3/19/10 — DATE

SIGNATURE

[✓] Owner [ ] Occupant [ ] Owner Representative

***When complete, return questionnaire via email, fax, and/or mail to the following:**

Mr. Nick Johnson
Geocon Consultants, Inc.
6970 Flanders Drive
San Diego, California 92121
johnson@geoconinc.com
(858) 558-8437 FAX

APPENDIX C

Otay Ranch Village 8 West
Assesment
Chula Vista, CA 91915

Inquiry Number: 2992307.1s
February 15, 2011

The EDR Radius Map™ Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

ASSESMENT
CHULA VISTA, CA 91915

COORDINATES

Latitude (North):	32.604200 - 32° 36' 15.1"
Longitude (West):	116.978300 - 116° 58' 41.9"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	502036.2
UTM Y (Meters):	3607220.2
Elevation:	449 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	32116-E8 OTAY MESA, CA
Most Recent Revision:	1991

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

EXECUTIVE SUMMARY

Federal CERCLIS list

CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal Institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report
SLIC..... Statewide SLIC Cases
SAN DIEGO CO. SAM..... Environmental Case Listing
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Properties

INDIAN VCP..... Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory
WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs
HIST Cal-Sites..... Historical Calsites Database
SCH..... School Property Evaluation Program
Toxic Pits..... Toxic Pits Cleanup Act Sites
CDL..... Clandestine Drug Labs
San Diego Co. HMMD..... Hazardous Materials Management Division Database
US HIST CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST..... Facility Inventory Database
HIST UST..... Hazardous Substance Storage Container Database
SWEEPS UST..... SWEEPS UST Listing

Local Land Records

LIENS 2..... CERCLA Lien Information
LUCIS..... Land Use Control Information System
LIENS..... Environmental Liens Listing
DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CHMIRS..... California Hazardous Material Incident Report System
LDS..... Land Disposal Sites Listing
MCS..... Military Cleanup Sites Listing

Other Ascertainable Records

RCRA-NonGen..... RCRA - Non Generators
DOT OPS..... Incident and Accident Data
DOD..... Department of Defense Sites
FUDS..... Formerly Used Defense Sites
CONSENT..... Superfund (CERCLA) Consent Decrees

EXECUTIVE SUMMARY

ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
CA BOND EXP. PLAN	Bond Expenditure Plan
WDS	Waste Discharge System
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE	Hazardous Waste & Substance Site List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
FINANCIAL ASSURANCE	Financial Assurance Information Listing
PCB TRANSFORMER	PCB Transformer Registration Database
PROC	Certified Processors Database
MWMP	Medical Waste Management Program Listing
COAL ASH DOE	Sleam-Electric Plan Operation Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations	EDR Proprietary Historic Gas Stations
EDR Historical Cleaners	EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 11/08/2010 has revealed that there are 3 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
OTAY RANCH VILLAGE SEVEN Status: Refer: 1248 Local Agency	BIRCH RD/MAGDALENA AVE.	NNW 1/2 - 1 (0.608 mi.)	A1	8
OTAY RANCH VILLAGE 7 Status: No Further Action	***SOUTHEAST OF BIRCH ROAD***	***NNW 1/2 - 1 (0.608 mi.)***	***A2***	***9***
OTAY RANCH VILLAGE 11 S-1 Status: No Further Action	***WINDINGWALK STREET/OLYM***	***NW 1/2 - 1 (0.929 mi.)***	***3***	***11***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 30 records.

Site Name	Database(s)
OTAY RANCH VILLAGE 2 R5	NPDES
TAVERA OTAY RANCH VILLAGE 2 R14	NPDES
OTAY RNCH VILLAGE 6 NEIGHBORHO	NPDES
MACARONI GRILL OTAY RANCH	NPDES
CHILIS GRILL & BAR OTAY RANCH CA	NPDES
VILLAGE 11 NEIGH R 24 25 AGAVE & S	NPDES
PROVENCE AT ROLLING HILLS RANCH	NPDES
OTAY RNCH VILLAGE 11	NPDES
OTAY RNCH VILLAGE 6 R 2A	NPDES
OTAY RANCH VILLAGE 11 PHASE 3 NEIG	NPDES
EASTLAKE VILLAGE	NPDES
SAN MIGUEL RANCH	NPDES
SAN MIGUEL RANCH PLANNING AREA K B	NPDES
SAN MIGUEL RANCH J 1 MONTECITO	NPDES
SAN MIGUEL RANCH 3 PLANNING AREA L	NPDES
OTAY RANCH VILLAGE 2 R 13	NPDES
OTAY WATER TREATMENT PLANT	NPDES
APACHE SERV LDFL	CERC-NFRAP
PARADISE MARSH BURN SITE/GUN POWDE	SWF/LF
SHINOHARA II	SWF/LF
FORMER OTAY SKEET AND TRAP SHOOTIN	FINDS, HAZNET
KIEWIT PACIFIC CO - OTAY JOB	HAZNET
FORMER OTAY SKEET AND TRAP SHOOTIN	RCRA-LQG
HANSON ROCK QUARRY EAST END OF OTA	ERNS
MARINA PKWY CA YACHT MARINA G DOCK	ERNS
42 KINGSTON WEST CT	ERNS
998 WEST MISSION BAY DRIVE	ERNS
OTAY RANCH PARCEL A SHOOTING RANGE	SLIC
OTAY RANCH CONVEYANCE	SLIC
OTAY RANCH PARCEL A SHOOTING RANGE	SAN DIEGO CO. SAM

OVERVIEW MAP - 2992307.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

N

SITE NAME: Otay Ranch Village 8 West	CLIENT: Geocon Env. Consultants, Inc.
ADDRESS: Assesment	CONTACT: Elizabeth Hartung
Chula Vista CA 91915	INQUIRY #: 2992307.1s
LAT/LONG: 32.6042 / 116.9783	DATE: February 15, 2011 3:57 pm

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DETAIL MAP - 2992307.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

SITE NAME: Otay Ranch Village 8 West	CLIENT: Geocon Env. Consultants, Inc.
ADDRESS: Assesment	CONTACT: Elizabeth Hartung
Chula Vista CA 91915	INQUIRY #: 2992307.1s
LAT/LONG: 32.6042 / 116.9783	DATE: February 15, 2011 3:57 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
FEDERAL FACILITY		1.000	0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE		1.000	0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR		1.000	0	0	0	3	NR	3
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	0	0	0	NR	NR	0
SLIC		0.500	0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SAN DIEGO CO. SAM		0.500	0	0	0	NR	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP		0.500	0	0	0	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
HAULERS		TP	NR	NR	NR	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
HIST Cal-Sites		1.000	0	0	0	0	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
San Diego Co. HMMD		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST		0.250	0	0	NR	NR	NR	0
HIST UST		0.250	0	0	NR	NR	NR	0
SWEEPS UST		0.250	0	0	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
DEED		0.500	0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS		TP	NR	NR	NR	NR	NR	0
LDS		TP	NR	NR	NR	NR	NR	0
MCS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	0	0	NR	NR	NR	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN		1.000	0	0	0	0	NR	0
WDS		TP	NR	NR	NR	NR	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
HIST CORTESE		0.500	0	0	0	NR	NR	0
Notify 65		1.000	0	0	0	0	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
HWP		1.000	0	0	0	0	NR	0
HWT		0.250	0	0	NR	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
FINANCIAL ASSURANCE		TP	NR	NR	NR	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
PROC		0.500	0	0	0	NR	NR	0
MWMP		0.250	0	0	NR	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0
EDR Historical Auto Stations		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Historical Cleaners		0.250	0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
NNW
1/2-1
0.608 mi.
3210 ft.

OTAY RANCH VILLAGE SEVEN
BIRCH RD/MAGDALENA AVE.
CHULA VISTA, CA 91910

Site 1 of 2 in cluster A

ENVIROSTOR **S106797702**
N/A

Relative:
Higher

Actual:
527 ft.

ENVIROSTOR:

Site Type:	Evaluation
Site Type Detailed:	Evaluation
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Cypress
Facility ID:	37010045
Site Code:	Not reported
Assembly:	78
Senate:	39
Special Program:	Not reported
Status:	Refer: 1248 Local Agency
Status Date:	6/3/2004
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not Applicable
Latitude:	0
Longitude:	0
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	37010045
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

A2 **OTAY RANCH VILLAGE 7** **SCH** **S107736976**
NNW **SOUTHEAST OF BIRCH ROAD AND MAGDALENA AVENUE** **ENVIROSTOR** **N/A**
1/2-1 **CHULA VISTA, CA 91913**
0.608 mi.
3210 ft. **Site 2 of 2 in cluster A**

Relative: **Higher**

Actual: **527 ft.**

SCH:

Facility ID:	60000253
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	11
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Mitigation And Brownfield Reuse Program
Project Manager:	AMIT PATHAK
Supervisor:	Shahir Haddad
Division Branch:	Cleanup Cypress
Site Code:	404692
Assembly:	77
Senate:	40
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	3/8/2007
Restricted Use:	NO
Funding:	School District
Latitude:	33.153599999999997
Longitude:	-116.95869999999999
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	30001, 30003, 30004, 30006, 30007, 30008, 30010
Confirmed COC:	30001-NO,30003-NO,30004-NO,30006-NO,30007-NO,30008-NO,30010-NO
Potential Description:	SOIL
Alias Name:	404692
Alias Type:	Project Code (Site Code)
Alias Name:	60000253
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	2006-06-06 00:00:00
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	2007-03-07 00:00:00
Comments:	CRU Memo
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	2006-04-20 00:00:00
Comments:	PEA Required.
Completed Area Name:	PROJECT WIDE

OTAY RANCH VILLAGE 7 (Continued) **S107736976**

Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	2006-07-13 00:00:00
Comments:	Field work completed on 7/17/06.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	2006-10-18 00:00:00
Comments:	DTSC issued a No Further action determination based on a Preliminary Environmental Assessment report.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

ENVIROSTOR:

Site Type:	School Investigation
Site Type Detailed:	School
Acres:	11
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	AMIT PATHAK
Supervisor:	Shahir Haddad
Division Branch:	Cleanup Cypress
Facility ID:	60000253
Site Code:	404692
Assembly:	77
Senate:	40
Special Program:	Not reported
Status:	No Further Action
Status Date:	3/8/2007
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	School District
Latitude:	33.153599999999997
Longitude:	-116.95869999999999
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	30001, 30003, 30004, 30006, 30007, 30008, 30010
Confirmed COC:	30001-NO,30003-NO,30004-NO,30006-NO,30007-NO,30008-NO,30010-NO
Potential Description:	SOIL
Alias Name:	404692
Alias Type:	Project Code (Site Code)
Alias Name:	60000253
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

OTAY RANCH VILLAGE 7 (Continued) **S107736976**

Completed Document Type:	Environmental Oversight Agreement
Completed Date:	2006-06-06 00:00:00
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	2007-03-07 00:00:00
Comments:	CRU Memo
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	2006-04-20 00:00:00
Comments:	PEA Required.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	2006-07-13 00:00:00
Comments:	Field work completed on 7/17/06.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	2006-10-18 00:00:00
Comments:	DTSC issued a No Further action determination based on a Preliminary Environmental Assessment report.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

3
NW
1/2-1
0.929 mi.
4904 ft.

OTAY RANCH VILLAGE 11 S-1 **SCH S107736975**
WINDINGWALK STREET/OLYMPIC PARKWAY/DISCOVERY FALLS D **ENVIROSTOR N/A**
CHULA VISTA, CA 91915

Relative:
Higher

Actual:
498 ft.

SCH:

Facility ID:	60000102
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	9.0999999999999996
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Mitigation And Brownfield Reuse Program
Project Manager:	ANGELA GARCIA
Supervisor:	Shahir Haddad

OTAY RANCH VILLAGE 11 S-1 (Continued) **S107736975**

Division Branch:	Cleanup Cypress
Site Code:	404640
Assembly:	78
Senate:	40
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	4/3/2007
Restricted Use:	NO
Funding:	School District
Latitude:	32.622579999999999
Longitude:	-116.957773
APN:	NONE SPECIFIED
Past Use:	* EDUCATIONAL SERVICES
Potential COC:	30001, 30006, 30007, 30008
Confirmed COC:	30001-NO,30006-NO,30007-NO,30008-NO
Potential Description:	SOIL
Alias Name:	CHULA VISTA ESD-OTAY RANCH VILLAGE 11 S1
Alias Type:	Alternate Name
Alias Name:	404640
Alias Type:	Project Code (Site Code)
Alias Name:	60000102
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	2005-11-10 00:00:00
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	2007-04-03 00:00:00
Comments:	CRU memo completed.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	2007-03-26 00:00:00
Comments:	Signed Agreement sent (FedEx) to District.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	2006-01-26 00:00:00
Comments:	Conditionally approved the PEA Workplan
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	2006-04-17 00:00:00
Comments:	DTSC issued a Further Action determination based on the Preliminary Environmental Assessment report. DTSC requested further investigation of methane gas in fill material.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

OTAY RANCH VILLAGE 11 S-1 (Continued) **S107736975**

Completed Document Type:	Supplemental Site Investigation Workplan
Completed Date:	2006-03-16 00:00:00
Comments:	DTSC approved the Preliminary Environmental Assesssment Technical Memorandum for implementation.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	2005-10-11 00:00:00
Comments:	Based on the information provided in the Phase one report, PEAR is required.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	2006-06-07 00:00:00
Comments:	DTSC issued a Futher action determination based on a supplemental site investigation report. DTSC requested methane mitigation on the Site.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Workplan
Completed Date:	2006-10-20 00:00:00
Comments:	DTSC submitted conditional approval on the SSI-TM report.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	2007-03-14 00:00:00
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

ENVIROSTOR:

Site Type:	School Investigation
Site Type Detailed:	School
Acres:	9.0999999999999996
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	ANGELA GARCIA
Supervisor:	Shahir Haddad
Division Branch:	Cleanup Cypress
Facility ID:	60000102
Site Code:	404640
Assembly:	78
Senate:	40
Special Program:	Not reported

OTAY RANCH VILLAGE 11 S-1 (Continued) **S107736975**

Status:	No Further Action
Status Date:	4/3/2007
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	School District
Latitude:	32.622579999999999
Longitude:	-116.957773
APN:	NONE SPECIFIED
Past Use:	* EDUCATIONAL SERVICES
Potential COC:	30001, 30006, 30007, 30008
Confirmed COC:	30001-NO,30006-NO,30007-NO,30008-NO
Potential Description:	SOIL
Alias Name:	CHULA VISTA ESD-OTAY RANCH VILLAGE 11 S1
Alias Type:	Alternate Name
Alias Name:	404640
Alias Type:	Project Code (Site Code)
Alias Name:	60000102
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	2005-11-10 00:00:00
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	2007-04-03 00:00:00
Comments:	CRU memo completed.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	2007-03-26 00:00:00
Comments:	Signed Agreement sent (FedEx) to District.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	2006-01-26 00:00:00
Comments:	Conditionally approved the PEA Workplan
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	2006-04-17 00:00:00
Comments:	DTSC issued a Further Action determination based on the Preliminary Environmental Assessment report. DTSC requested further investigation of methane gas in fill material.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Workplan
Completed Date:	2006-03-16 00:00:00
Comments:	DTSC approved the Preliminary Environmental Assesssment Technical Memorandum for implementation.

OTAY RANCH VILLAGE 11 S-1 (Continued) **S107736975**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	2005-10-11 00:00:00
Comments:	Based on the information provided in the Phase one report, PEAR is required.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	2006-06-07 00:00:00
Comments:	DTSC issued a Futher action determination based on a supplemental site investigation report. DTSC requested methane mitigation on the Site.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Workplan
Completed Date:	2006-10-20 00:00:00
Comments:	DTSC submitted conditional approval on the SSI-TM report.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	2007-03-14 00:00:00
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 30 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CHULA VISTA	S109349401	PARADISE MARSH BURN SITE/GUN POWDE	TB 69-B3 TIDELANDS AVE		SWF/LF
CHULA VISTA	S109453032	OTAY RANCH VILLAGE 2 R5	BTW HERITAGE RD / MEDIA RD		NPDES
CHULA VISTA	S109460409	TAVERA OTAY RANCH VILLAGE 2 R14	BTWN SANTA VICTORIA RD / LA	91913	NPDES
CHULA VISTA	99648195	HANSON ROCK QUARRY EAST END OF OTA	HANSON ROCK QUARRY EAST END OF		ERNS
CHULA VISTA	S108407163	OTAY RANCH PARCEL A SHOOTING RANGE	5350 HERITAGE RD	91913	SAN DIEGO CO. SAM
CHULA VISTA	S106874813	OTAY RANCH PARCEL A SHOOTING RANGE	5350 HERITAGE RD	91913	SLIC
CHULA VISTA	1008905044	FORMER OTAY SKEET AND TRAP SHOOTIN	5350 HERITAGE ROAD	91913	FINDS, HAZNET
CHULA VISTA	1008402406	FORMER OTAY SKEET AND TRAP SHOOTIN	5350 HERITAGE ROAD	91913	RCRA-LQG
CHULA VISTA	S100737007	KIEWIT PACIFIC CO - OTAY JOB	1270 E LAKE PKWY	91915	HAZNET
CHULA VISTA	S109453042	OTAY RNCH VILLAGE 6 NEIGHBORHO	MADALENA AVE / EAST PALOMAR	91913	NPDES
CHULA VISTA	99608258	MARINA PKWY CA YACHT MARINA G DOCK	MARINA PKWY CA YACHT MARINA G		ERNS
CHULA VISTA	S109449326	MACARONI GRILL OTAY RANCH	NWC BRICH RD / EASTLAKE PARK	91913	NPDES
CHULA VISTA	S109439621	CHILIS GRILL & BAR OTAY RANCH CA	NWC BIRCH RD / EASTLAKE PKWY	91913	NPDES
CHULA VISTA	S109464260	VILLAGE 11 NEIGH R 24 25 AGAVE & S	S OF OLYMPIC PKWY / R 24 & R		NPDES
CHULA VISTA	S109455057	PROVENCE AT ROLLING HILLS RANCH	N OF PROCTOR VALLEY RD EAST OF		NPDES
CHULA VISTA	S109453041	OTAY RNCH VILLAGE 11	OLYMPIC PARKWAY		NPDES
CHULA VISTA	S109453043	OTAY RNCH VILLAGE 6 R 2A	OLYMPIC PKWY / BIRCH RD		NPDES
CHULA VISTA	S109453026	OTAY RANCH VILLAGE 11 PHASE 3 NEIG	OTAY RANCH VILLAGE		NPDES
CHULA VISTA	S109442419	EASTLAKE VILLAGE	S OTAY LAKE RD W SAN DIEGO AQU	91913	NPDES
CHULA VISTA	1003878449	APACHE SERV LDFL	4551 OTAY VALLEY RD		CERC-NFRAP
CHULA VISTA	S105155605	SHINOHARA II	OTAY VALLEY ROAD		SWF/LF
CHULA VISTA	S109457224	SAN MIGUEL RANCH	PLANNING AREA J2		NPDES
CHULA VISTA	S110505121	OTAY RANCH CONVEYANCE	0 PROCTOR VALLEY OF RD S	91915	SLIC
CHULA VISTA	S109457227	SAN MIGUEL RANCH PLANNING AREA K B	SAN MIGUEL RANCH		NPDES
CHULA VISTA	S109457226	SAN MIGUEL RANCH J 1 MONTECITO	SAN MIGUEL RANCH RD / PROCTO		NPDES
CHULA VISTA	S109457225	SAN MIGUEL RANCH 3 PLANNING AREA L	SAN MIGUEL RANCH		NPDES
CHULA VISTA	S109453030	OTAY RANCH VILLAGE 2 R 13	SEC OF SANTA VICTORIA RD / S	91913	NPDES
CHULA VISTA	S110043052	OTAY WATER TREATMENT PLANT	1500 WUESTE RD	91915	NPDES
SAN DIEGO COUNTY	2008877534	42 KINGSTON WEST CT	42 KINGSTON WEST CT		ERNS
SAN DIEGO COUNTY	2008902067	998 WEST MISSION BAY DRIVE	998 WEST MISSION BAY DRIVE		ERNS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 01/13/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 15

Source: EPA
Telephone: N/A
Last EDR Contact: 01/13/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 01/13/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 15

Source: EPA
Telephone: N/A
Last EDR Contact: 01/13/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 01/13/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 15

Source: EPA
Telephone: N/A
Last EDR Contact: 01/13/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/30/2010
Date Data Arrived at EDR: 10/01/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 119

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 12/30/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPAa??s Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2009
Date Data Arrived at EDR: 01/15/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/11/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 06/23/2009
Date Data Arrived at EDR: 09/02/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 19

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 12/01/2010
Next Scheduled EDR Contact: 03/14/2011
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/25/2010
Date Data Arrived at EDR: 06/02/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 124

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 01/06/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 01/06/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 01/06/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 01/06/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 01/05/2011
Date Data Arrived at EDR: 01/14/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/05/2011
Date Data Arrived at EDR: 01/14/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 07/09/2010
Date Data Arrived at EDR: 07/09/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 39

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 01/07/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 11/08/2010
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/08/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 11/08/2010
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/08/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System
Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/22/2010
Date Data Arrived at EDR: 11/23/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 63

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/23/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 12/22/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 01/03/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 12/06/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 05/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 12/16/2010
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 12/16/2010
Date Data Arrived at EDR: 12/16/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 02/04/2011
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 01/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 12/16/2010
Date Data Arrived at EDR: 12/16/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 02/04/2011
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 12/16/2010
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 01/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 01/03/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 02/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 02/07/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/12/2010
Date Data Arrived at EDR: 11/12/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 77

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/01/2010
Date Data Arrived at EDR: 11/05/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 84

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/03/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 11/16/2010
Date Data Arrived at EDR: 11/19/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/04/2010
Date Data Arrived at EDR: 11/05/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/27/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 11/19/2010
Date Data Arrived at EDR: 11/19/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/04/2009
Date Data Arrived at EDR: 05/04/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 64

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 05/04/2010
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

State and tribal registered storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/16/2010
Date Data Arrived at EDR: 12/16/2010
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 02/04/2011
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 01/10/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/12/2010
Date Data Arrived at EDR: 11/12/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 77

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/19/2010
Date Data Arrived at EDR: 11/19/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 70

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 11/16/2010
Date Data Arrived at EDR: 11/19/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 12/02/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 57

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/03/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/10/2010
Date Data Arrived at EDR: 12/01/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 58

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/11/2010
Date Data Arrived at EDR: 02/11/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 60

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/27/2010
Date Data Arrived at EDR: 08/30/2010
Date Made Active in Reports: 10/04/2010
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/01/2010
Date Data Arrived at EDR: 11/05/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/03/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 11/08/2010
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/08/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 06/24/2010
Date Data Arrived at EDR: 06/25/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/30/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 12/22/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 11/18/2010
Date Data Arrived at EDR: 12/23/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 36

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/23/2010
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/22/2010
Date Data Arrived at EDR: 11/23/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 63

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/23/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 02/08/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/07/2010
Date Data Arrived at EDR: 06/18/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 60

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 12/08/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 11/08/2010
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/08/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 08/19/2010
Date Data Arrived at EDR: 08/23/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 02/07/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 12/06/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/06/2010
Date Data Arrived at EDR: 05/11/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

LUCIS: Land Use Control Information System
LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/22/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Varies

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 12/08/2010
Date Data Arrived at EDR: 12/09/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/14/2010
Date Data Arrived at EDR: 12/14/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 42

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/14/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/06/2010
Date Data Arrived at EDR: 04/07/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 50

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/05/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/21/2010
Date Made Active in Reports: 08/20/2010
Number of Days to Update: 30

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 12/16/2010
Date Data Arrived at EDR: 12/16/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 40

Source: State Water Quality Control Board
Telephone: 866-480-1028
Last EDR Contact: 02/04/2011
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 12/16/2010
Date Data Arrived at EDR: 12/16/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 40

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 02/04/2011
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 01/06/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/12/2010
Date Data Arrived at EDR: 02/09/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 62

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/11/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 01/21/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/13/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 10/29/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 91

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/03/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 06/01/2010
Date Data Arrived at EDR: 06/16/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 62

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 02/03/2011
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/21/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 99

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/29/2010
Next Scheduled EDR Contact: 03/14/2011
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/04/2010
Date Data Arrived at EDR: 09/09/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/29/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/13/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 36

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 12/17/2010
Next Scheduled EDR Contact: 03/14/2011
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/29/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 11/29/2010
Next Scheduled EDR Contact: 03/14/2011
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 11/29/2010
Next Scheduled EDR Contact: 03/14/2011
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/06/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 04/24/2010
Date Data Arrived at EDR: 04/29/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 18

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 12/23/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 02/01/2010
Date Data Arrived at EDR: 04/22/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 109

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/21/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/18/2010
Date Data Arrived at EDR: 04/06/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 51

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/13/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/13/2010
Date Data Arrived at EDR: 07/14/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/13/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/14/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 41

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 02/25/2010
Date Made Active in Reports: 05/12/2010
Number of Days to Update: 76

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/30/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/29/2010
Next Scheduled EDR Contact: 03/14/2011
Data Release Frequency: Quarterly

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/22/2010
Date Data Arrived at EDR: 11/23/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 66

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/23/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 01/04/2011
Date Data Arrived at EDR: 01/05/2011
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 20

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 01/05/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/22/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/15/2010
Date Data Arrived at EDR: 09/16/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 13

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 12/13/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 01/03/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/07/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 36

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/19/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 10/18/2010
Number of Days to Update: 19

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/30/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/21/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/07/2011
Next Scheduled EDR Contact: 05/09/2011
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 11/17/2010
Date Data Arrived at EDR: 12/23/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 36

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/23/2010
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 12/09/2010
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 39

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/14/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Varies

COAL ASH DOE: Steam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/18/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 11/09/2009
Date Data Arrived at EDR: 12/18/2009
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/21/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/17/2011
Date Data Arrived at EDR: 01/18/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 10

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/18/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/09/2010
Date Data Arrived at EDR: 08/11/2010
Date Made Active in Reports: 08/20/2010
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/10/2010
Next Scheduled EDR Contact: 02/21/2011
Data Release Frequency: Quarterly

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 09/27/2010
Date Data Arrived at EDR: 09/28/2010
Date Made Active in Reports: 10/18/2010
Number of Days to Update: 20

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 01/10/2011
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Varies

FINANCIAL ASSURANCE: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 03/01/2007
Date Data Arrived at EDR: 06/01/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 02/04/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/21/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: N/A

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/04/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/06/2011
Date Data Arrived at EDR: 01/07/2011
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 18

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/03/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/06/2011
Date Data Arrived at EDR: 01/07/2011
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 13

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/03/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/22/2010
Date Data Arrived at EDR: 11/23/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 63

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 02/07/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/14/2011
Date Data Arrived at EDR: 01/18/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 10

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 01/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 12/22/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/28/2010
Date Data Arrived at EDR: 12/14/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 42

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/25/2010
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 11/17/2010
Number of Days to Update: 21

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/24/2011
Next Scheduled EDR Contact: 05/09/2011
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 11/22/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/09/2010
Date Data Arrived at EDR: 02/12/2010
Date Made Active in Reports: 03/04/2010
Number of Days to Update: 20

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/25/2010
Next Scheduled EDR Contact: 05/09/2011
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 10/26/2010
Date Data Arrived at EDR: 11/01/2010
Date Made Active in Reports: 11/18/2010
Number of Days to Update: 17

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/24/2011
Next Scheduled EDR Contact: 05/06/2011
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/22/2010
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 11/18/2010
Number of Days to Update: 22

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/17/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/28/2010
Date Data Arrived at EDR: 11/16/2010
Date Made Active in Reports: 11/18/2010
Number of Days to Update: 2

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 01/10/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/06/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/06/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: No Update Planned

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 11/03/2010
Date Data Arrived at EDR: 11/19/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 70

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/03/2010
Date Data Arrived at EDR: 11/19/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 70

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/03/2010
Date Data Arrived at EDR: 11/19/2010
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 62

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/15/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/13/2010
Date Data Arrived at EDR: 09/14/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 15

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 12/13/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 12/08/2010
Date Data Arrived at EDR: 12/09/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 50

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 12/08/2010
Date Data Arrived at EDR: 12/09/2010
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 42

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/03/2010
Date Data Arrived at EDR: 01/20/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 8

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/10/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/03/2010
Date Data Arrived at EDR: 01/20/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 8

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/10/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 12/08/2010
Date Data Arrived at EDR: 12/09/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 50

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/09/2010
Date Data Arrived at EDR: 09/15/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 14

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/21/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 11/16/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 70

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/31/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 12/21/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 12/14/2010
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 37

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 12/29/2010
Date Data Arrived at EDR: 01/04/2011
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 16

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/23/2010
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 11/22/2010
Date Data Arrived at EDR: 11/23/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 66

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/17/2010
Date Data Arrived at EDR: 12/20/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 39

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/17/2010
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 05/29/2009
Date Data Arrived at EDR: 06/01/2009
Date Made Active in Reports: 06/15/2009
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 12/06/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/31/2009
Date Data Arrived at EDR: 08/31/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 18

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/14/2011
Next Scheduled EDR Contact: 05/30/2011
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 12/08/2010
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 42

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/06/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 12/08/2010
Date Data Arrived at EDR: 12/29/2010
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 22

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/06/2010
Next Scheduled EDR Contact: 03/21/2011
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/05/2011
Date Data Arrived at EDR: 01/07/2011
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 21

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 01/03/2011
Next Scheduled EDR Contact: 04/18/2011
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 12/13/2010
Date Data Arrived at EDR: 12/14/2010
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 37

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/13/2010
Next Scheduled EDR Contact: 03/28/2011
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 10/26/2010
Date Data Arrived at EDR: 11/30/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 59

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/22/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 10/05/2009
Date Made Active in Reports: 10/13/2009
Number of Days to Update: 8

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/10/2011
Next Scheduled EDR Contact: 04/25/2011
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/22/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 12/20/2010
Date Made Active in Reports: 01/20/2011
Number of Days to Update: 31

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/20/2010
Next Scheduled EDR Contact: 04/04/2011
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 10/05/2010
Date Data Arrived at EDR: 10/15/2010
Date Made Active in Reports: 11/18/2010
Number of Days to Update: 34

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 01/10/2011
Next Scheduled EDR Contact: 04/11/2011
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 12/01/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/22/2010
Date Made Active in Reports: 08/26/2010
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/21/2011
Next Scheduled EDR Contact: 05/02/2011
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/28/2010
Date Data Arrived at EDR: 11/09/2010
Date Made Active in Reports: 12/17/2010
Number of Days to Update: 38

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/09/2011
Next Scheduled EDR Contact: 05/23/2011
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 11/22/2010
Next Scheduled EDR Contact: 03/07/2011
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/19/2010
Date Made Active in Reports: 08/26/2010
Number of Days to Update: 38

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/29/2010
Next Scheduled EDR Contact: 03/14/2011
Data Release Frequency: Annually

APPENDIX D

Otay Ranch South
Magdalena Ave And Rock Mountain Road
Chula Vista, CA 91913

Inquiry Number: 2715719.3
March 15, 2010

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

3/15/10

Site Name:
Otay Ranch South
Magdalena Ave And Rock
Chula Vista, CA 91913

Client Name:
Geocon Env. Consultants, Inc.
6970 Flanders Drive
San Diego, CA 92121

EDR Inquiry # 2715719.3

Contact: Elizabeth Hartung

EDR® Environmental Data Resources Inc

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Certified Sanborn Results:

Site Name: Otay Ranch South
Address: Magdalena Ave And Rock Mountain Road
City, State, Zip: Chula Vista, CA 91913
Cross Street:
P.O. # 09836-06-01
Project: Otay Ranch South
Certification # D23B-4C56-9C7E

Sanborn® Library search results
Certification # D23B-4C56-9C7E

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- ✓ Library of Congress
- ✓ University Publications of America
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APPENDIX E

Otay Ranch Village 8 West
Assesment
Chula Vista, CA 91915

Inquiry Number: 2992459.1
February 17, 2011

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography February 17, 2011

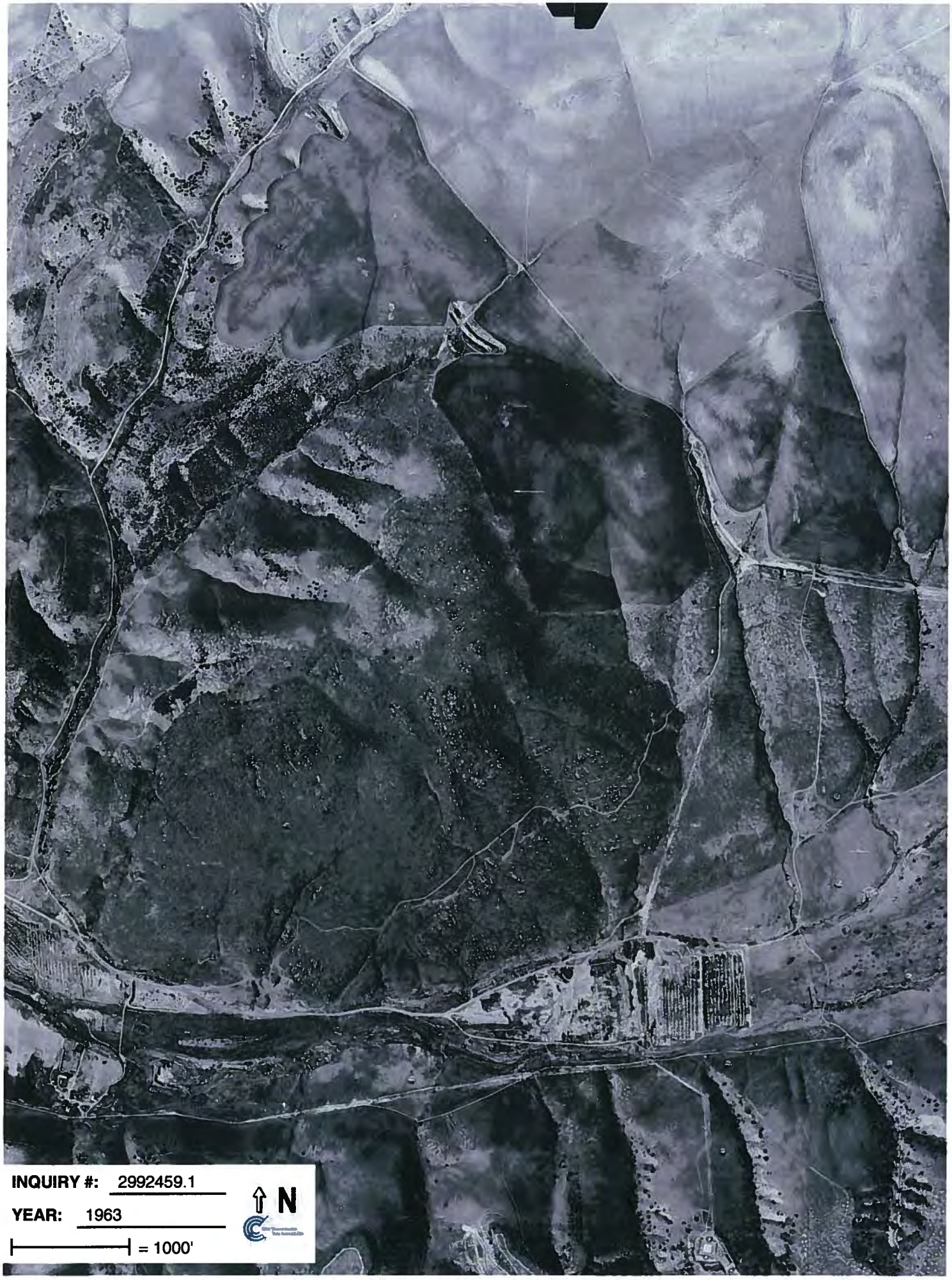
Target Property:

Assesment

Chula Vista, CA 91915

Year	*Scale*	*Details*	*Source*
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953	Park
1963	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1963	Cartwright
1974	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1974	AMI
1989	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS
2005	Aerial Photograph. Scale: 1"=604'	Flight Year: 2005	EDR


INQUIRY #: 2992459.1
YEAR: 1953
= 1000'
N


INQUIRY #: 2992459.1
YEAR: 1963
= 1000'
N


INQUIRY #: 2992459.1
YEAR: 1974
= 1000'
N


INQUIRY #: 2992459.1
YEAR: 1989
= 1000'
N


INQUIRY #: 2992459.1
YEAR: 1994
= 1000'
N


INQUIRY #: 2992459.1
YEAR: 2002
= 1000'
N


INQUIRY #: 2992459.1
YEAR: 2005
= 604'
N

APPENDIX F

Otay Ranch South
Magdalena Ave And Rock Mountain Road
Chula Vista, CA 91913

Inquiry Number: 2715719.4
March 09, 2010

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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Historical Topographic Map



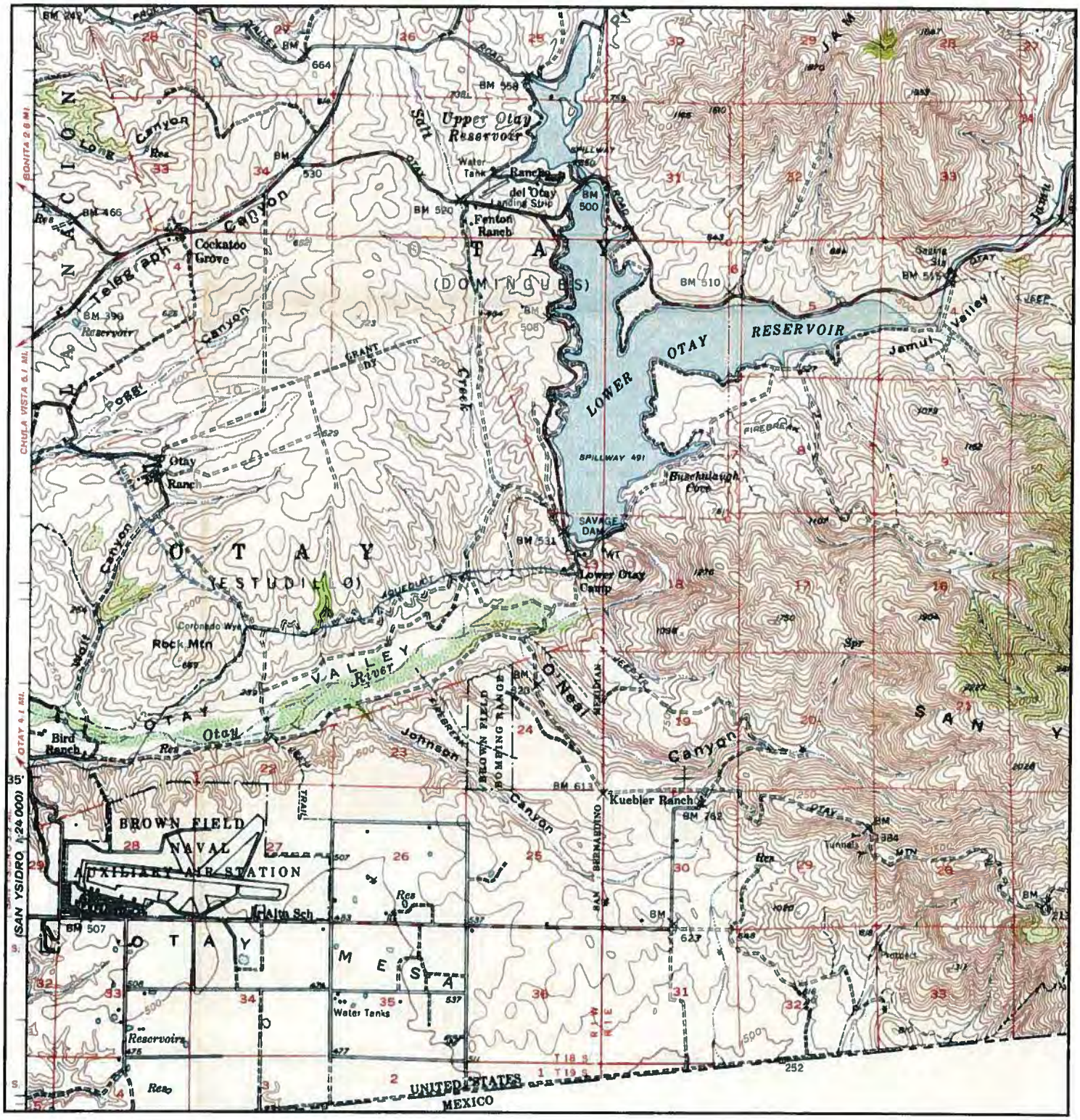
N	TARGET QUAD NAME: CUYAMACA MAP YEAR: 1903 SERIES: 30 SCALE: 1:125000	SITE NAME: Otay Ranch South ADDRESS: Magdalena Ave And Rock Mountain Road Chula Vista, CA 91913 LAT/LONG: 32.6072 / 116.9687	CLIENT: Geocon Env. Consultants, Inc. CONTACT: Elizabeth Hartung INQUIRY#: 2715719.4 RESEARCH DATE: 03/09/2010

Historical Topographic Map



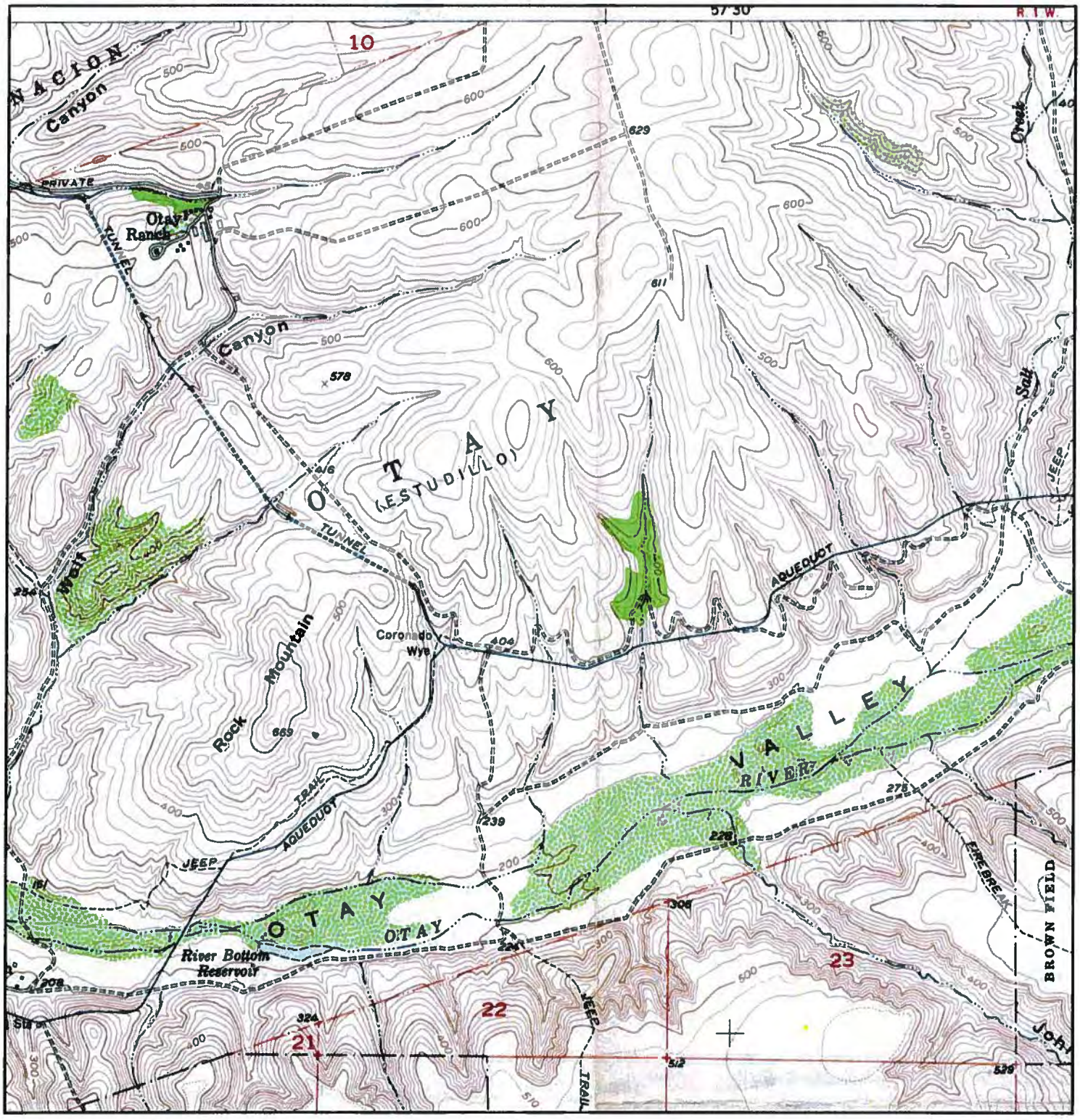
N	TARGET QUAD		SITE NAME:	Otay Ranch South	CLIENT:	Geocon Env. Consultants, Inc.
	NAME:	SOUTHERN CA SHEET 2	ADDRESS:	Magdalena Ave And Rock Mountain Road	CONTACT:	Elizabeth Hartung
	MAP YEAR:	1904		Chula Vista, CA 91913	INQUIRY#:	2715719.4
	PHOTOREVISED FROM:	1968	LAT/LONG:	32.6072 / 116.9687	RESEARCH DATE:	03/09/2010
	SERIES:	60				
	SCALE:	1:250000				

Historical Topographic Map



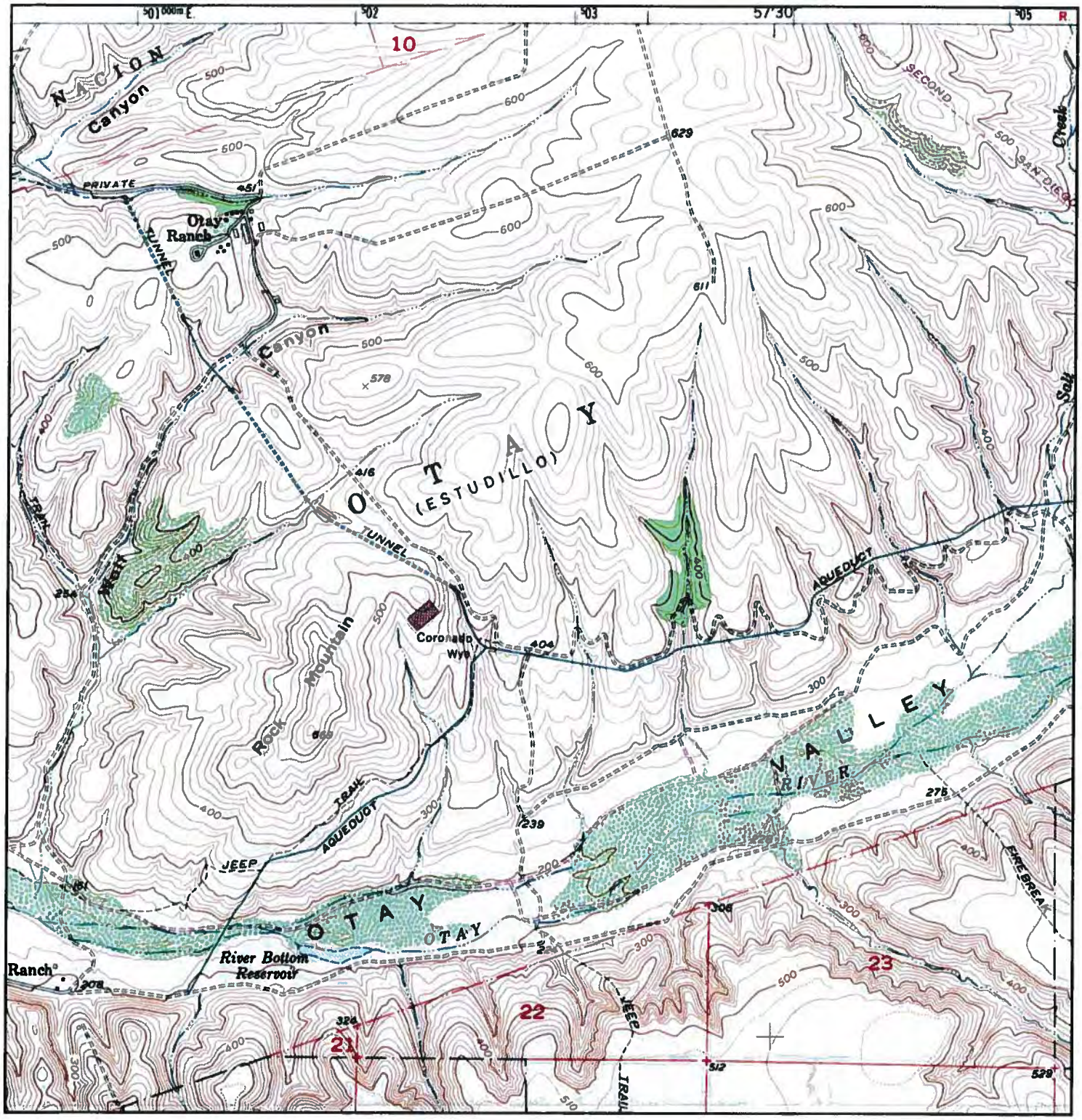
N	TARGET QUAD NAME: JAMUL MAP YEAR: 1955 SERIES: 15 SCALE: 1:62500	SITE NAME: Otay Ranch South ADDRESS: Magdalena Ave And Rock Mountain Road Chula Vista, CA 91913 LAT/LONG: 32.6072 / 116.9687	CLIENT: Geocon Env. Consultants, Inc. CONTACT: Elizabeth Hartung INQUIRY#: 2715719.4 RESEARCH DATE: 03/09/2010

Historical Topographic Map



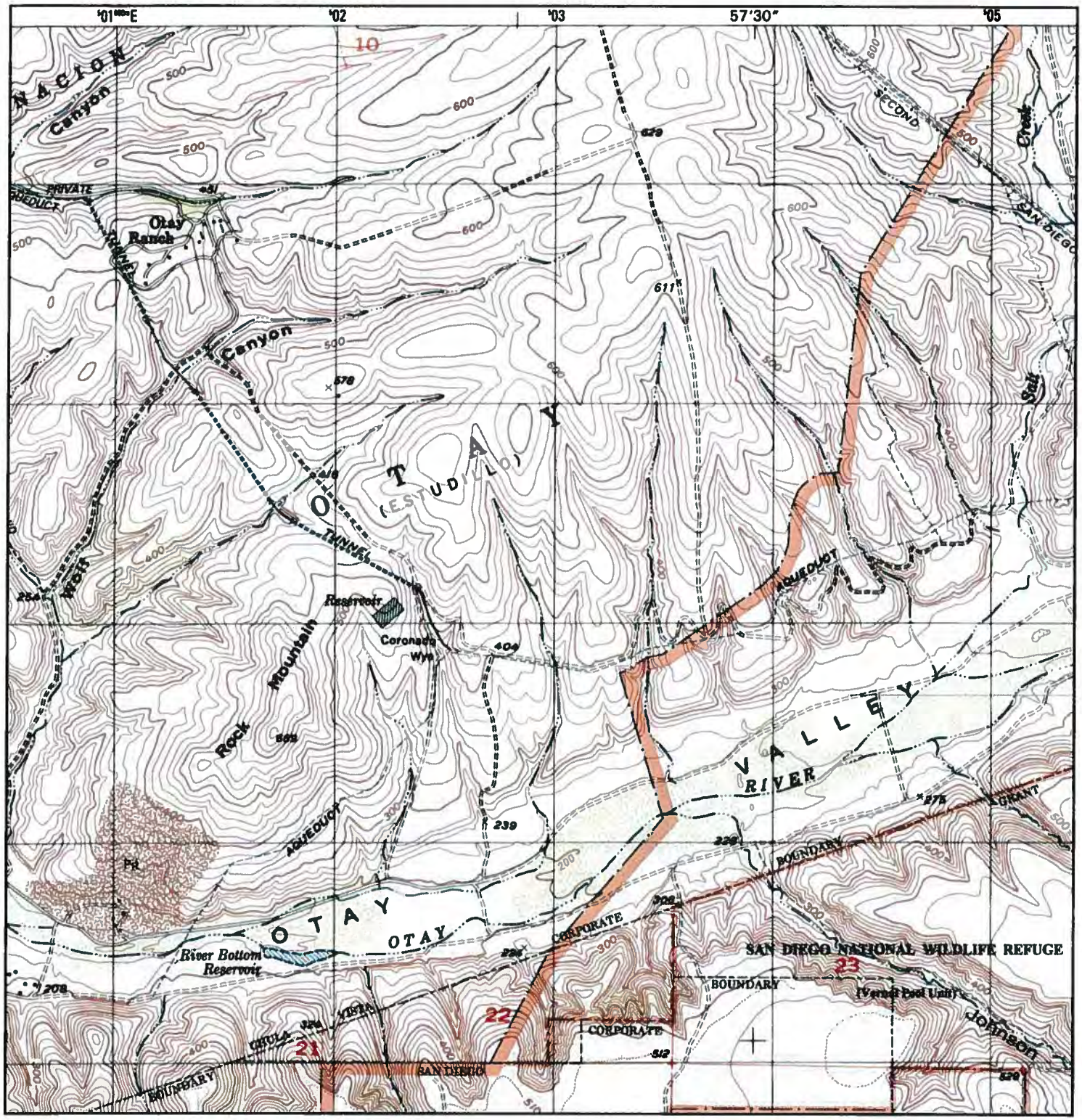
N	TARGET QUAD		SITE NAME:	Otay Ranch South	CLIENT:	Geocon Env. Consultants, Inc.
	NAME:	OTAY MESA	ADDRESS:	Magdalena Ave And Rock Mountain Road	CONTACT:	Elizabeth Hartung
	MAP YEAR:	1955		Chula Vista, CA 91913	INQUIRY#:	2715719.4
	SERIES:	7.5	LAT/LONG:	32.6072 / 116.9687	RESEARCH DATE:	03/09/2010
	SCALE:	1:24000				

Historical Topographic Map



N	TARGET QUAD NAME: OTAY MESA MAP YEAR: 1971 PHOTOREVISED FROM:1955 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Otay Ranch South ADDRESS: Magdalena Ave And Rock Mountain Road Chula Vista, CA 91913 LAT/LONG: 32.6072 / 116.9687	CLIENT: Geocon Env. Consultants, Inc. CONTACT: Elizabeth Hartung INQUIRY#: 2715719.4 RESEARCH DATE: 03/09/2010

Historical Topographic Map



N	TARGET QUAD NAME: OTAY MESA MAP YEAR: 1996 SERIES: 7.5 SCALE: 1:24000	SITE NAME: ADDRESS: LAT/LONG:	Otay Ranch South Magdalena Ave And Rock Mountain Road Chula Vista, CA 91913 32.6072 / 116.9687	CLIENT: CONTACT: INQUIRY#: RESEARCH DATE:	Geocon Env. Consultants, Inc. Elizabeth Hartung 2715719.4 03/09/2010

APPENDIX G

Otay Ranch South
100 Wiley Rd
Chula Vista, CA 91913

Inquiry Number: 2715719.6
March 22, 2010

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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2009 Enhancements to EDR City Directory Abstract

New for 2009, the EDR City Directory Abstract has been enhanced with additional information and features. These enhancements will make your city directory research process more efficient, flexible, and insightful than ever before. The enhancements will improve the options for selecting adjoining properties, and will speed up your review of the report.

City Directory Report. Three important enhancements have been made to the EDR City Directory Abstract:

1. *Executive Summary.* The report begins with an Executive Summary that lists the sources consulted in the preparation of the report. Where available, a parcel map is also provided within the report, showing the locations of properties researched.

2. *Page Images.* Where available, the actual page source images will be included in the Appendix, so that you can review them for information that may provide additional insight. EDR has copyright permission to include these images.

3. *Findings Listed by Location.* Another useful enhancement is that findings are now grouped by address. This will significantly reduce the time you need to review your abstracts. Findings are provided under each property address, listed in reverse chronological order and referencing the source for each entry.

Options for Selecting Adjoining Properties. Ensuring that the right adjoining property addresses are searched is one of the biggest challenges that environmental professionals face when conducting city directory historical research. EDR's new enhancements make it easier for you to meet this challenge. Now, when you place an order for the EDR City Directory Abstract, you have the following choices for determining which addresses should be researched.

1. *You Select Addresses and EDR Selects Addresses.* Use the "Add Another Address" feature to specify the addresses you want researched. Your selections will be supplemented by addresses selected by EDR researchers using our established research methods. Where available, a digital map will be shown, indicating property lines overlaid on a color aerial photo and their corresponding addresses. Simply use the address list below the map to check off which properties shown on the map you want to include. You may also select other addresses using the "Add Another Address" feature at the bottom of the list.

2. *EDR Selects Addresses.* Choose this method if you want EDR's researchers to select the addresses to be researched for you, using our established research methods.

3. *You Select Addresses.* Use this method for research based solely on the addresses you select or enter into the system.

4. *Hold City Directory Research Option.* If you choose to select your own adjoining addresses, you may pause production of your EDR City Directory Abstract report until you have had a chance to look at your other EDR reports and sources. Sources for property addresses include: your Certified Sanborn Map Report may show you the location of property addresses; the new EDR Property Tax Map Report may show the location of property addresses; and your field research can supplement these sources with additional address information. To use this capability, simply click "Hold City Directory research" box under "Other Options" at the bottom of the page. Once you have determined what addresses you want researched, go to your EDR Order Status page, select the EDR City Directory Abstract, and enter the addresses and submit for production.

Questions? Contact your EDR representative at 800-352-0050. For more information about all of EDR's 2009 report and service enhancements, visit www.edrnet.com/2009enhancements

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2007	Haines Criss-Cross Directory	-	-	-	-
2001	Haines Criss-Cross Directory	-	-	-	-
1995	Haines Criss-Cross Directory	-	-	-	-
1990	Haines Criss-Cross Directory	-	-	-	-
1985	Haines Criss-Cross Directory	-	-	-	-
1980	Haines Criss-Cross Directory	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

100 Wiley Rd
Chula Vista, CA 91913

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Addresses Found

FINDINGS

STREET NOT LISTED IN RESEARCH SOURCE

The following Streets were researched for this report, and the Streets were not listed in the research source.

Street Researched	Street Not Listed in Research Source
Wiley Rd	2007, 2001, 1995, 1990, 1985, 1980

APPENDIX H

ROBERT G. ATKINS

AGRICULTURAL COMMISSIONER/ SEALER OF WEIGHTS AND MEASURES

County of San Diego

DEPARTMENT OF AGRICULTURE, WEIGHTS AND MEASURES
5555 Overland Avenue, Suite 3101, San Diego, CA 92123-1256
http://www.sdcawm.org

AGRICULTURE
(858) 694-2739
FAX (858) 495-5012

WEIGHTS & MEASURES
(858) 694-2778
FAX (858) 505-6484

COUNTY VETERINARIAN
(858) 694-2838
FAX (858) 571-4268

SAN MARCOS OFFICE
(760) 752-4700
FAX (760) 752-4703

March 22, 2010

Elizabeth A Hartung
Geocon
6960 Flanders Drive
Sann Diego, CA 92121-2974

PUBLIC INFORMATION NUMBER: **10-RP0064**

Dear Ms. Hartung:

In response to your request, pesticide use records for 2007through 2010 were reviewed and no pesticide records for the sites requested was located. Please see the attached request for Public Information.

Please note our records reflect pesticides used in agricultural settings. No other pesticide uses are required to be reported by site. Therefore, our records only include sites where an agricultural commodity was produced at the site in the last four years, and where pesticide use was reported to this department. Our records do not include information on pesticides used in urban settings.

If you need to determine the presence or absence of pesticide residues at a location, you should contact an approved lab. We can provide a list of approved labs, which would provide such a service.

Sincerely,

NGANHA DANG
Deputy Ag Commissioner/Sealer
ND: tmt

10-RP0064

COUNTY OF SAN DIEGO
DEPARTMENT OF AGRICULTURE, WEIGHTS AND MEASURES
REQUEST FOR PUBLIC INFORMATION

A. REQUESTOR:

DATE:

COMPANY:

GEOCON INCORPORATED GEOTECHNICAL CONSULTANTS

Elizabeth A. Hartung
Staff Geologist

6960 Flanders Drive
San Diego, CA 92121-2974
Tel. (858) 558-6900
Fax (858) 558-6159
Mobile (619) 818-0585
hartung@geoconinc.com

PHONE NUMBER (DAYTIME):

STREET ADDRESS:

ZIPCODE:

MAILING ADDRESS:

ZIPCODE:

E-MAIL ADDRESS:

B. I request the following information that is maintained at the County of San Diego, Department of Agriculture, Weights and Measures, located at 5555 Overland Avenue, Suite 3101, San Diego, California 92123-1256 or 334 Via Vera Cruz, Suite 150, San Marcos, 92078 pertaining to:

[ ] WEIGHTS/MEASURES [X] PESTICIDE REGULATION [ ] PEST EXCLUSION/NURSERY [ ] Other:

APNS 644-070-10
-12
-14

No addresses in Chula Vista, CA
- Located S of La Media & Santa Luna St
- E of 125 Hwy S of Hunte Parkway

(Attach Additional Sheet If Required)

C. I request this information in the following format:

[ ] REVIEW
Hourly rate of supervisor or manager administering records review.

[ ] COPY
$.20 per 8½ x 11 page for first copy; $.30 per copy for subsequent copies of same page.

[ ] DISK
$2.50 per disk; $38.50 per hour.

[ ] CASSETTE TAPE
$1.25 per tape; $9.63 per hour.

[ ] FAX
No Fee (10 page limit)

[X] E-MAIL
No Fee (If electronic format available.)

D. My request for the review of the identified data, files and/or records is not in any way connected with nor pertaining to Division 3.6 (commencing with Section 810) of Title I of the Government Code regarding pending claims or litigation to which the County is a party to.

I understand that certain records are specifically exempted (under Chapter 1798 of the California Civil Code and Chapter 6250 of the California Government Code) from the general rule of accessibility and that it is the policy of the Department of Agriculture, Weights and Measures that data, files and/or records falling in this category will not be released for my review until specific approval is granted by the Agricultural Commissioner/Sealer of Weights and Measures. On this basis I do hereby specifically request the Agricultural Commissioner/Sealer of Weights and Measures immediate review of this request insofar as it relates to those items that the Department of Agriculture, Weights and Measures feels are classified as exempted materials.

Signature of Requestor: _____

Please complete all boxes A - D - Thank-you

AWM 029 (08/06)

FAX

Date

Number of pages including cover sheet 2

TO:
Tina Thomas
Department of Agriculture,
Weights and Measures
Public Records

Phone 858.694.3622
Fax Phone 858.694.3845

CC:
Fax Phone

FROM:
Elizabeth Hartung
Staff Geologist
Geocon Incorporated
6960 Flanders Drive
San Diego, CA 92121-2974
hartung@geocontnc.com

Phone 858.558.6900
Fax Phone 858.558.6159

REMARKS: ☐ Urgent ☐ For your review ☒ Reply ASAP ☐ Please Comment

Subject: Request for Public Records

APNs 644-070-10
644-070-12
644-070-14

3/19

OFFICE USE ONLY
File #
Request# 3-171
No Records ✓

County of San Diego

GARY W. ERBECK
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(619) 338-2222 FAX (619) 237-8447
1-800-253-9933

RICHARD HAAS
ASSISTANT DIRECTOR

REQUEST TO REVIEW PUBLIC RECORDS FOR THE SITE ASSESSMENT AND MITIGATION PROGRAM AND HAZARDOUS MATERIALS DIVISION

Requestor Name: Ms. Elizabeth Hartung

Phone: (858)558-6900x FAX: (858)558-6159x

Company Name: Geocon, Inc.

Mailing Address: 6960 Flanders Drive, San Diego, California 92121
(You may attach a business card/overprint with business card if preferred.)

A request is made to review public records information. Public records information may be accessed from the DEH website at www.sdcounty.ca.gov/deh/. Separate forms are needed for each address. Fax your completed form to Public Records Program at (619-237-8447) or attach completed form and e-mail to Attn: Public Records Program. The following information is required so that our files may be accurately searched:

Exact Address (Street, City and Zip Code) or 644-070-14 Assessor's Parcel Number

Optional information (Establishment Permit Number, business name, etc.)

If you indicate the purpose of your search, it will help us identify all the records you wish to review. If you know the program file you want to review, please check below:

- ☒ Environmental Assessment Phase I/II
- ☐ Purchasing/Selling Property
- ☒ Hazardous Materials Permit & Underground Storage Tank Files
- ☒ Site Assessment and Mitigation Release(s)
- ☒ SAM Closure Letter/Report
- ☐ Other

OFFICE USE ONLY BELOW THIS LINE				
Inactive File #_____	Iron Mtn #_____	#_____	#_____	#_____

Files reviewed by: _____ of _____ Date: _____

Files copied for: _____ of _____ Date: _____

Request cancelled by: _____ Date: _____

Photocopies _____ Cost _____ Picked up/mailed on _____ By _____

DEH complies fully with the California Public Records Act and the Federal Freedom of Information Act. Every properly completed request will be processed in the order it is received. After the files you have requested are retrieved from storage, an appointment will be scheduled so that you may review DEH records. Photocopies of file items may be requested. A fee of $.15 per page is charged to cover cost of copies.

A search for DEH records checked above has been conducted and NO PUBLIC RECORDS for the address you requested were found.

3/22/10

3/19

OFFICE USE ONLY
File #
Request# 3-172
No Records V

County of San Diego

GARY W. ERBECK
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(619) 338-2222 FAX (619) 237-8447
1-800-253-9933

RICHARD HAAS
ASSISTANT DIRECTOR

REQUEST TO REVIEW PUBLIC RECORDS FOR THE SITE ASSESSMENT AND MITIGATION PROGRAM AND HAZARDOUS MATERIALS DIVISION

Requestor Name: Ms. Elizabeth Hartung

Phone: (858)558-6900x FAX: (858)558-6159x

Company Name: Geocon, Inc.

Mailing Address: 6960 Flanders Drive, San Diego, California 92121
(You may attach a business card/overprint with business card if preferred.)

A request is made to review public records information. Public records information may be accessed from the DEH website at www.sdcounty.ca.gov/deh/. Separate forms are needed for each address. Fax your completed form to Public Records Program at (619-237-8447) or attach completed form and e-mail to Attn: Public Records Program. The following information is required so that our files may be accurately searched:

Exact Address (Street, City and Zip Code) or 644-070-12 Assessor's Parcel Number

Optional Information (Establishment Permit Number, business name, etc.)

If you indicate the purpose of your search, it will help us identify all the records you wish to review. If you know the program file you want to review, please check below:

- ☒ Environmental Assessment Phase I/II
- ☐ Purchasing/Selling Property
- ☒ Hazardous Materials Permit & Underground Storage Tank Files
- ☒ Site Assessment and Mitigation Release(s)
- ☒ SAM Closure Letter/Report
- ☐ Other

OFFICE USE ONLY BELOW THIS LINE

Inactive File #	Iron Mtn #	#	#	#

Files reviewed by: _____ of _____ Date: _____

Files copied for: _____ of _____ Date: _____

Request cancelled by: _____ Date: _____

Photocopies _____ Cost _____ Picked up/mailed on _____ By _____

DEH complies fully with the California Public Records Act and the Federal Freedom of Information Act. Every properly completed request will be processed in the order it is received. After the files you have requested are retrieved from storage, an appointment will be scheduled so that you may review DEH records. Photocopies of file items may be requested. A fee of $.15 per page is charged to cover cost of copies.

A search for DEH records checked above has been conducted and NO PUBLIC RECORDS for the address you requested were found.

J Ellman 3-22-10

APPENDIX K1

Water Supply Assessment Verification

MINUTES FROM THE
BOARD OF DIRECTORS MEETING OF THE
OTAY WATER DISTRICT
DISCUSSING THE WATER SUPPLY ASSESSMENT AND VERIFICATION REPORTS
FOR THE OTAY RANCH VILLAGE 8 WEST
AND OTAY RANCH VILLAGE 9 PROJECTS

January 5, 2011

Staff presented for the Board of Directors consideration the Water Supply Assessment and Verification Reports (WSA&V) for the Otay Ranch Village 8 West and Otay Ranch Village 9 Projects at a meeting held on January 5, 2011. Staff reviewed the projects and the status of the current water supply in detail and indicated that the WSA&V Reports demonstrate and document that sufficient water supplies are planned for and are intended to be available over the next 20 years to meet the demand requirements of the proposed projects.

A motion was made by Director Croucher, seconded by Director Robak and carried with the following vote:

Ayes:	Directors Bonilla, Croucher, Gonzalez, Lopez and Robak
Noes:	None
Abstain:	None
Absent:	None

to approve staffs' recommendation.

I, Susan Cruz, District Secretary of the OTAY WATER DISTRICT do hereby certify that the foregoing action was taken by the Board of Directors of the OTAY WATER DISTRICT at a regularly scheduled meeting, held the 5th day of January, 2011.

District Secretary of the Otay Water District and the Board of Directors Thereof

OTAY WATER DISTRICT

WATER SUPPLY ASSESSMENT AND VERIFICATION REPORT

Otay Ranch Village 8 West

Prepared by:

Robert Kennedy, P.E.
Associate Civil Engineer
Otay Water District
in consultation with
Dexter Wilson Engineering, Inc.
and
San Diego County Water Authority

November 2010

Otay Water District
Water Supply Assessment and Verification Report
November 2010

Otay Ranch Village 8 West

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Otay Ranch Village 8 West 1

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Appendix A: Otay Ranch Village 8 West Regional Location Map
Appendix B: Otay Ranch Village 8 West Proposed Development Plan

Otay Water District
Water Supply Assessment and Verification Report
November 2010

Otay Ranch Village 8 West

Executive Summary

The Otay Water District (WD) prepared this Water Supply Assessment and Verification Report (WSA&V Report) at the request of the City of Chula Vista (City) for the Otay Ranch Village 8 West project. The Otay Land Company submitted an entitlement application to the City for the development of the Village 8 West project. Homefed Corporation, a Delaware Corporation is the parent company to the Otay Land Company, a Delaware Limited Liability Company.

The Village 8 West project is included within a land use planning document known as the Otay Ranch General Development Plan/Sub-regional Plan (Otay Ranch GDP). The County of San Diego and City of Chula Vista jointly prepared and adopted the Otay Ranch GDP. The Village 8 West project is located within what is defined as the Otay River Parcel of the Otay Ranch GDP. The project is a part of the designated 14 villages and five planning areas within the Otay Ranch GDP area. The Chula Vista City Council and the San Diego County Board of Supervisors adopted the Otay Ranch GDP on October 28, 1993, which was accompanied by a Program Environmental Impact Report EIR-90-01 (SCH #89010154). As the Otay Ranch area has developed over time, the Otay Ranch GDP has been periodically amended to address land use and circulation element issues specific to individual Villages. Similar amendments and density transfers are proposed to applicable sections of the Otay Mesa GDP to implement this Sectional Planning Area for the Otay Ranch Village 8 West Project.

The Otay Land Company proposed development concept for the approximately 320 acre project is generally planned as a combination of land uses consisting of single and multi family residential neighborhoods, mixed use sites, an elementary school, middle school, a community purpose facility, open space, circulation elements, and parks. The project site is designated for 2,050 total residential units and up to 300,000 square feet of retail/commercial. Typically a development project of this magnitude is constructed in several phases over many years.

The expected demands for the Otay Ranch Village 8 West Project is 0.79 million gallons per day (mgd) or about 881 acre feet per year (ac-ft/yr). This is 147 acre-foot per year higher than the demand estimate in the District's 2009 WRMP. The Otay Land Company retained PBS&J to update the 2009 WRMP to include the entitlement densities and intensities of

development proposed with the Otay Ranch Village 8 West Project. The District's 2009 WRMP updated November, 2010 includes the 881 acre-foot per year demand estimate in the District's demand projections that was forwarded to the Water Authority for inclusion in their UWMP update. The projected recycled water demand for the proposed project is approximately 0.137 mgd or about 154 ac-ft/yr, representing about 17% of total project water demand.

The Water Authority and Metropolitan have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and Metropolitan update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their Urban Water Management Plans (UWMP). Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, nor Metropolitan jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations or revised land use plans typically result in creating higher demand and supply requirements than anticipated. The Otay WD, Water Authority, and Metropolitan next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions.

The California Urban Water Management Planning Act (Act), which is included in the California Water Code, requires all urban water suppliers within the state to prepare an UWMP and update it every five years. The purpose and importance of the UWMP has evolved since it was first required 25 years ago. State agencies and the public frequently use the document to determine if agencies are planning adequately to reliably meet future demands. As such, UWMPs serve as an important element in documenting supply availability for the purpose of compliance with state laws, Senate Bills 610 and 221, linking water supply sufficiency to large land-use development approval. Agencies must also have a UWMP prepared, pursuant to the Act, in order to be eligible for state funding and drought assistance.

The Water Authority has started their update to their 2005 UWMP however a new legislative mandate, SBX 7-7 (2009) requires retail agencies to report their target for a 20 percent reduction in urban per capita use by December 31, 2020. To address the new per capita water use reduction measures, the bill grants a 6-month extension to urban retail water suppliers to submit their approved UWMP to the California Department of Water Resources (DWR) by July 1, 2011. As a wholesale supplier, the Water Authority did not receive the extension and is currently required to submit its UWMP to DWR by December 31, 2010. However, Senate Bill 1478 corrects language in SBX 7-7 to grant wholesale suppliers the same 6-month

extension on their UWMPs. Should this bill pass, the Water Authority's submittal date for the next UWMP Update would be July 1, 2011.

The District's 2009 WRMP updated November, 2010 now includes the 881 acre-foot per year demand estimate in the District's demand projections that was forwarded to the Water Authority for inclusion in their UWMP update. SANDAG and the City of Chula Vista have also confirmed the Land Offer Agreement that forms the basis for this SPA entitlement was included in the Series 12 update that has been forwarded to both Metropolitan and the Water Authority for their future UWMP updates. Thie Series 12 update was also used by Metropolitan for their demand projections for their 2010 Integrated Resource Plan (IRP) Update.

Metropolitan's IRP identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2010 update to the IRP (2010 IRP Update) includes a planning buffer supply intended to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, Metropolitan periodically evaluates supply development to ensure that the region is not under or over developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate water supplies to meet future demands.

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta issues and the recent drought impacting the western states. Challenges such as these essentially always will be present. The regional water supply agencies, the Water Authority and Metropolitan, along with Otay WD nevertheless fully intend to have sufficient, reliable supplies to serve demands.

In Section II.4 of their 2005 Regional Urban Water Management Plan (2005 RUWMP), Metropolitan states that through effective management of its water supply, they fully expect to be 100 percent reliable in meeting all non-discounted non-interruptible demands throughout the next twenty-five years. Metropolitan's 2005 RUWMP identifies potential reserve supplies in the supply capability analysis (Tables II-7, II-8, and II-9), which could be available to meet the unanticipated demands such as those related to the densification of the Village 8 West project.

In evaluating the availability of sufficient water supply, the Village 8 West project proponents are required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay Water district Board in May 2010. These water supply projects are in addition to those identified as

sustainable supplies in the current Water Authority and Metropolitan UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are in response to the regional water supply issues. These new additional water supply projects are not currently developed and are in various stages of the planning process. A few examples of these alternative water supply projects include the Middle Sweetwater River Basin Groundwater Well project, the North District Recycled Water Supply Concept, the Rosarito Ocean Desalination Facility project, and the Rancho del Rey Groundwater Well project. The Water Authority and Metropolitan next forecast and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written water supply assessment and verification report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 9 of the Water Authority's 2005 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, completed in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

The WSA&V Report identifies and describes the processes by which water demand projections for the proposed Village 8 West project will be fully included in the water demand and supply forecasts of the Urban Water Management Plans and other water resources planning documents of the Water Authority and Metropolitan. Water supplies necessary to serve the demands of the proposed project, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the Village 8 West project WSA&V Report and will be included in the future water supply planning documents of the Water Authority and Metropolitan. The proposed potable water demand projections and supply requirements for the proposed Village 8 West project are included in the Otay WD 2009 WRMP updated November, 2010 but have not been included in older water resources planning documents of the Otay WD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the proposed Village 8 West project. The WSA&V Report demonstrates and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal

conditions and in single and multiple dry years to meet the projected demand of the proposed Village 8 West project and the existing and other planned development projects to be served by the Otay WD.

Accordingly, after approval of a WSA&V Report for the Village 8 West project by the Otay WD Board of Directors (Board), the WSA&V Report may be used to comply with the requirements of the legislation enacted by Senate Bills 610 and 221 as follows:

1. Senate Bill 610 Water Supply Assessment: The Otay WD Board approved WSA&V Report may be incorporated into the California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) compliance process for the Village 8 West project as a water supply assessment report consistent with the requirements of the legislation enacted by SB 610. The City as lead agency under CEQA for the Village 8 West project EIR may cite the approved WSA&V Report as evidence that a sufficient water supply is planned for and is intended to be made available to serve the Village 8 West project.

2. Senate Bill 221 Water Supply Verification: The Otay WD Board approved WSA&V Report may be incorporated into the City's Tentative Map approval process for the Village 8 West project as a water supply verification report, consistent with the requirements of the legislation enacted by SB 221. The City, within their process of approving the Village 8 West project's Tentative Map, may cite the approved WSA&V Report as verification of intended sufficient water supply to serve the Village 8 West project.

Section 1 - Purpose

The Otay Land Company submitted an entitlement application to the City of Chula Vista (City) for the development of the Otay Ranch Village 8 West project. The City requested that Otay Water District (WD) prepare a Water Supply Assessment and Verification Report (WSA&V Report) for the Village 8 West project. The Village 8 West project description is provided in Section 3 of this WSA&V Report.

This WSA&V Report for the Village 8 West project has been prepared by the Otay WD in consultation with Dexter Wilson Engineering, Inc., the San Diego County Water Authority (Water Authority), and the City pursuant to Public Resources Code Section 21151.9 and California Water Code Sections 10631, 10656, 10910, 10911, 10912, and 10915 referred to as Senate Bill (SB) 610 and Business and Professions Code Section 11010 and Government Code Sections 65867.5, 66455.3, and 66473.7 referred to as SB 221. SB 610 and SB 221 amended state law, effective January 1, 2002, intending to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires that the water purveyor of the public water system prepare a water

supply assessment to be included in the California Environmental Quality Act (CEQA) environmental documentation and approval process of certain proposed projects. SB 221 requires affirmative written verification from the water purveyor of the public water system that sufficient water supplies are to be available for certain residential subdivisions of property prior to approval of a tentative map. The requirements of SB 610 and SB 221 are being addressed by this WSA&V Report.

The City also requested, since the requirements of SB 610 and SB 221 are substantially similar, that Otay WD prepare both the water supply assessment and verification concurrently.

This WSA&V Report evaluates water supplies that are planned to be available during normal, single dry year, and multiple dry water years during a 20-year planning horizon to meet existing demands, expected demands of the Village 8 West project, and reasonably foreseeable planned future water demands served by Otay WD. The Otay WD Board of Directors approved WSA&V Report is planned to be used by the City in its evaluation of the Village 8 West project under the CEQA and Tentative Map approval processes.

Section 2 - Findings

The Otay WD prepared this WSA&V Report at the request of the City for the Otay Ranch Village 8 West project. The Otay Land Company submitted an entitlement application to the City for the development of the Village 8 West project.

The Water Authority and Metropolitan have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and Metropolitan update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, nor Metropolitan jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations or revised land use plans typically result in creating higher demand and supply requirements than anticipated. The Otay WD, the Water Authority, and Metropolitan next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions.

This process is utilized by the Water Authority and Metropolitan to document the water supplies necessary to serve the demands of the proposed Village 8 West project, along with existing and other projected future users, as well as the actions necessary to develop these supplies. Through this process the necessary demand and supply information is thus assured to be identified and incorporated within the water supply planning documents of the Water Authority and Metropolitan.

To fully quantify probable demands to be served by the Water Authority, lands with impending or proposed applications for annexation into the Otay WD, Water Authority, and Metropolitan service areas are identified in the Water Authority 2005 UWMP. Working with its member agencies, the Water Authority identified potential near-term annexations as being parcels that may be annexed to the Otay WD, Water Authority, and Metropolitan within the next five years. Estimated water demands for those parcels were provided to the Water Authority by the member agency or project proponent and were then added to the Water Authority forecast. The Water Authority included the sum of the projected potable and recycled water demands for these projects as a potable water demand within their 2005 UWMP to provide for more comprehensive supply planning and assist member agencies such as Otay WD in complying with Senate Bills 610 and 221. Tables 2-2 and 2-9 within the Water Authority 2005 UWMP provides projected demand information for the anticipated pending annexations and water demand projections prior to the current densification proposal for the Village 8 West project.

In evaluating the availability of sufficient water supply, the Village 8 West project proponents are required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay Water District Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and Metropolitan UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are in response to the regional water supply issues related to the Sacramento-San Joaquin Delta and the current ongoing western states drought conditions. These new additional water supply projects are not currently developed and are in various stages of the planning process. A few examples of these alternative water supply projects include the Middle Sweetwater River Basin Groundwater Well project, the North District Recycled Water Supply Concept, the Rosarito Ocean Desalination Facility project, and the Rancho del Rey Groundwater Well project. The Water Authority and Metropolitan next forecast and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

Water supplies necessary to serve the demands of the proposed Village 8 West project, along with existing and other reasonably foreseeable projected future users, as well as the actions necessary and status to develop these supplies, will be identified and included within the water supply planning documents of the Water Authority and Metropolitan. This WSA&V Report demonstrates and verifies that with development of the resources currently identified and those that may be additional acquired, that there is sufficient water supplies being planned

for and is intended to be developed over the next 20-year planning horizon to meet the projected demand of the proposed Village 8 West project and the existing and other reasonably foreseeable planned development projects within the Otay WD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, proposed water supply projects, or agreements relevant to the identified water supply needs for the proposed Village 8 West project. This WSA&V Report incorporates by reference the current Urban Water Management Plans and other water resources planning documents of the Otay WD, the Water Authority, and Metropolitan. The Otay WD prepared this WSA&V to verify and document that sufficient water supplies are being planned for and are intended to be acquired to meet projected water demands of the Village 8 West project and the existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal supply years, and in single dry and multiple dry years.

Based on a normal water supply year, the five-year increments for a 20-year projection indicate projected water supply is being planned for and is intended to be acquired to meet the estimated water demand of the Otay WD (38,774 acre-feet (ac-ft) in 2005 to 72,853 ac-ft in 2025 per the Otay WD 2005 UWMP). Based on dry year forecasts, the estimated water supply is also being planned for and is intended to be acquired to meet the projected water demand, during single dry and multiple dry year scenarios. On average, the dry-year demands are about 7% higher than the normal demands. Using this model, the projected single dry year necessary supply requirement for 2010 is 53,299 ac-ft and for multiple dry years beginning in 2007, 46,212 ac-ft, 48,574 ac-ft, and 50,936 ac-ft, respectively, is necessary to meet demand. The Otay WD recycled water supply is assumed to be drought-proof and not subject to reduction during dry periods.

Together, these findings demonstrate and verify that sufficient water supplies are being planned for and are intended to be acquired, as well as the actions necessary and status to develop these supplies are and will be further documented, to serve the proposed Village 8 West project and the existing and other reasonably foreseeable planned projects within the Otay WD in both normal and single and multiple dry year forecasts for a 20-year planning horizon.

Section 3 - Project Description

The Otay Ranch Village 8 West project is located within the City of Chula Vista, California. Refer to Appendix A for a regional location map of the proposed project.

The Village 8 West project is included within a land use planning document known as the Otay Ranch General Development Plan/Sub-regional Plan (Otay Ranch GDP). The County of San Diego and City of Chula Vista jointly prepared and adopted the Otay Ranch GDP. The

Village 8 West project is located within what is defined as the Otay River Parcel of the Otay Ranch GDP. The project is a part of the designated 14 villages and five planning areas within the Otay Ranch GDP area. The Otay Ranch Village 8 West Project entitlement approval is dependent on the City's eventual adoption of their Sectional Planning Area Plan (SPA). The Land Offer Agreement between the City and the Otay Land Company per document recorded April 24, 2008 as document No. 2008-0218696 forms the basis for the SPA entitlement densities and intensities of development.

The Chula Vista City Council and the San Diego County Board of Supervisors adopted the Otay Ranch GDP on October 28, 1993, which was accompanied by a Program Environmental Impact Report EIR-90-01 (SCH #89010154).

The approximately 23,000 acre Otay Ranch is a master-planned community that includes a broad range of residential, commercial, retail, and industrial development interwoven with civic and community uses, such as libraries, parks, and schools, together with an open space preserve system consisting of approximately 11,375 acres.

The Otay Land Company proposed development concept for the approximately 320 acre Village 8 West project is planned as a combination of land uses as shown in Table 1.

Table 1
Otay Ranch Village 8 West Proposed Land Uses[1]

Location	Land Use Description	Area	Dwelling Units
Village 8 West	Single-Family Residential	114 acres	621 units
Village 8 West	Multi-Family Residential	29.5 acres	530 units
Village 8 West	Mixed Use	42.2 acres[2]	899 units
Village 8 West	Community Purpose	5.8 acres	
Village 8 West	Schools	32.4 acres	
Village 8 West	Parks	28.0 acres	
Village 8 West	Open Space	19.1 acres	
Village 8 West	City of San Diego	19.6 acres	
Village 8 West	Circulation	29.5 acres	
Totals		**320.1 acres**	**2,050 units**

[1] Source: Dexter Wilson Engineering, Inc., "Overview of Water Service for Otay Ranch Village 8 West," November 2010.
[2] The City has estimated that 14.5 acres will be commercial with a maximum of 300,000 SF of commercial.

The proposed development within Village 8 West consists of 2,050 mixed density residential units, retail commercial, a middle school, elementary school, community purpose facility, parks, and opens space. The project surrounds the City of San Diego South San Diego

Reservoir which will remain in place. Typically a development project of this magnitude is constructed in several phases over many years. Refer to Appendix B for the proposed development plan of the Village 8 West project.

The City has identified discretionary actions and/or permit approval requirements for the Village 8 West project. The projected potable and recycled water demands and resulting water supply requirements associated with the Village 8 West project have considered the discretionary actions and/or permit approvals and are incorporated into and used in this WSA&V Report. The water demands for the proposed Village 8 West project are provided in Section 5 – Historical and Projected Water Demands.

Section 4 – Otay Water District

The Otay WD is a municipal water district formed in 1956 pursuant to the Municipal Water District Act of 1911 (Water Code §§ 71000 et seq.). The Otay WD joined the Water Authority as a member agency in 1956 to acquire the right to purchase and distribute imported water throughout its service area. The Water Authority is an agency responsible for the wholesale supply of water to its 24 public agency members in San Diego County.

The Otay WD currently relies on the Water Authority for 100 percent of its treated potable water supply. The Water Authority is the agency responsible for the supply of imported water into San Diego County through its membership in Metropolitan. The Water Authority currently obtains the vast majority of its imported supply from Metropolitan, but is in the process of diversifying its available supplies.

The Otay WD provides water service to residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses. In addition to providing water throughout its service area, Otay WD also provides sewage collection and treatment services to a portion of its service area known as the Jamacha Basin. The Otay WD also owns and operates the Ralph W. Chapman Water Reclamation Facility (RWCWRF) which has an effective treatment capacity of 1.2 million gallons per day (mgd) or about 1,300 acre feet per year (ac-ft/yr) to produce recycled water. On May 18, 2007 an additional source of recycled water supply, at least 6 mgd or about 6,720 ac-ft/yr, became available to Otay WD from the City of San Diego's South Bay Water Reclamation Plant (SBWRP).

The Otay WD jurisdictional area is generally located within the south central portion of San Diego County and includes approximately 125 square miles. The Otay WD serves portions of the unincorporated communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, and Otay Mesa, the eastern portion of the City of Chula Vista and a portion of the City of San Diego on Otay Mesa. The Otay WD jurisdiction boundaries are roughly bounded on the north by the Padre Dam Municipal Water District, on the northwest by the Helix Water District, and on the west by the South Bay Irrigation District (Sweetwater

Authority) and the City of San Diego. The southern boundary of Otay WD is the international border with Mexico.

The planning area addressed in the Otay WD 2009 Water Resources Master Plan (2009 WRMP) and the Otay WD revised 2005 Urban Water Management Plan (2005 UWMP) includes the land within the jurisdictional boundary of the Otay WD and those areas outside of the present Otay WD boundaries considered to be in the Area of Influence of the Otay WD. Figure 2-1 contained within the Otay WD 2009 WRMP shows the jurisdictional boundary of the Otay WD and the Area of Influence. The planning area is approximately 143 square miles, of which approximately 125 square miles are within the Otay WD current boundaries and approximately 18 square miles are in the Area of Influence. The area east of Otay WD is rural and currently not within any water purveyor jurisdiction and potentially could be served by the Otay WD in the future if the need for imported water becomes necessary, as is the case for the Area of Influence.

The City of Chula Vista, the City of San Diego, and the County of San Diego are the three land use planning agencies within the Otay WD jurisdiction. Data on forecasts for land use planning, demographics, economic projections, population, and the future rate of growth within Otay WD were obtained from the San Diego Association of Governments (SANDAG). SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information through the year 2050. Population growth within the Otay WD service area is expected to increase from the 2005 figure of approximately 179,000 to an estimated 268,000 by 2025, and is estimated to be 277,000 at ultimate build out. Land use information used to develop water demand projections are based upon Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan, East Otay Mesa Specific Plan Area, San Diego County Community Plans, and City of San Diego, City of Chula Vista, and County of San Diego General Plans.

The Otay WD long-term historic growth rate has been approximately 3% per year. Up until the recent economic downturn growth was occurring at a faster rate due to accelerated residential development in the eastern portion of the City of Chula Vista. The growth rate has significantly slowed and it is expected to slow as the inventory of developable land is diminished.

Climatic conditions within the Otay WD service area are characteristically Mediterranean near the coast, with mild temperatures year round. Inland areas are both hotter in summer and cooler in winter, with summer temperatures often exceeding 90 degrees and winter temperatures occasionally dipping to below freezing. Most of the region's rainfall occurs during the months of December through March. Average annual rainfall is approximately 9.4 inches per year.

Historic climate data were obtained from the Western Regional Climate Center for Station 042706 (El Cajon). This station was selected because its annual temperature variation is representative of most of the Otay WD service area. While there is a station in the City of

Chula Vista, the temperature variation at the City of Chula Vista station is more typical of a coastal environment than the conditions in most of the Otay WD service area.

4.1 Urban Water Management Plan

In accordance with the California Urban Water Management Planning Act, the Otay WD Board of Directors adopted an Urban Water Management Plan in December 2005 and it was subsequently submitted to the California Department of Water Resources (DWR). DWR required Otay WD to make revisions to the submitted plan. The Otay WD Board of Directors adopted the revised Otay WD 2005 UWMP in July 2007. As required by law, the Otay WD 2005 UWMP includes projected water supplies required to meet future demands through 2030. In accordance with Water Code Section 10910 (c)(2) and Government Code Section 66473.7 (c)(3), information from the Otay WD 2005 UWMP along with supplemetal information from the Otay WD 2009 WRMP updated November, 2010 have been utilized to prepare this WSA&V Report and are incorporated herein by reference.

Section 5 – Historical and Projected Water Demands

The projected demands for Otay WD are based on Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan, the East Otay Mesa Specific Plan Area, San Diego County Community Plans, and City of San Diego, City of Chula Vista, and County of San Diego General Plans. This land use information is also used by SANDAG as the basis for its most recent forecast data. This land use information is utilized in the preparation of the Otay WD 2009 WRMP updated November, 2010 , and Otay WD 2005 UWMP to develop the forecasted demands and supply requirements.

In 1994, the Water Authority selected the Institute for Water Resources-Municipal and Industrial Needs (MAIN) computer model to forecast municipal and industrial water use for the San Diego region. The MAIN model uses demographic and economic data to project sector-level water demands (i.e. residential and non-residential demands). This econometric model has over a quarter of a century of practical application and is used by many cities and water agencies throughout the United States. The Water Authority's version of the MAIN model was modified to reflect the San Diego region's unique parameters and is known as CWA-MAIN.

The foundation of the water demand forecast is the underlying demographic and economic projections. This was a primary reason, why, in 1992 the Water Authority and SANDAG entered into a Memorandum of Agreement (MOA), in which the Water Authority agreed to use the SANDAG current regional growth forecast for water supply planning purposes. In addition, the MOA recognizes that water supply reliability must be a component of San Diego County's regional growth management strategy required by Proposition C, as passed by the San Diego County voters in 1988. The MOA ensures a strong linkage between local general

plan land use forecasts and water demand projections and resulting supply needs for the San Diego region.

Consistent with the previous CWA-MAIN modeling efforts, on February 26, 2010, the SANDAG Board of Directors accepted the Series 12: 2050 Regional Growth Forecast. The 2050 Regional Growth Forecast will be used by SANDAG as the foundation for the next Regional Comprehensive Plan update. SANDAG forecasts also are used by local governments for planning, including the San Diego County Water Authority 2010 Urban Water Management Plan update. The SANDAG Series 12: 2050 Regional Growth Forecast included the Land Offer Agreement between the City and the Otay Land Company that forms the basis for the SPA entitlement densities and intensities of development for this project.

The municipal and industrial forecast also included an updated accounting of projected conservation savings based on projected regional implementation of the California Urban Water Conservation Council (CUWCC) Best Management Practices and SANDAG demographic information for the period 2005 through 2030. These savings estimates were then factored into the baseline municipal and industrial demand forecast.

A separate agricultural model, also used in prior modeling efforts, was used to forecast agricultural water demands within the Water Authority service area. This model estimates agricultural demand to be met by the Water Authority's member agencies based on agricultural acreage projections provided by SANDAG, crop distribution data derived from the Department of Water Resources and the California Avocado Commission, and average crop-type watering requirements based on California Irrigation Management Information System data.

The Water Authority and Metropolitan update their water demand and supply projections within their jurisdictions utilizing the SANDAG most recent growth forecast to project future water demands. This provides for the important strong link between demand and supply projections to the land use plans of the cities and the county. This provides for consistency between the retail and wholesale agencies water demand projections, thereby ensuring that adequate supplies are and will be planned for the Otay WD existing and future water users. Existing land use plans, any revisions to land use plans, and annexations are captured in the SANDAG updated forecasts. The Water Authority and Metropolitan will update their demand forecasts based on the SANDAG most recent forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports consistent with Senate Bills 610 and 221 for proposed land use developments that either have pending or proposed annexations into the Otay WD, Water Authority, and Metropolitan or that have revised land use plans than originally anticipated. The Water Authority and Metropolitan next forecast and supply planning documents would then capture any increase or decrease in demands caused by annexations or revised land use plans.

In evaluating the availability of sufficient water supply, the Village 8 West project proponents are required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay Water District Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and Metropolitan UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are in response to the regional water supply issues related to climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current ongoing western states drought conditions. These new additional water supply projects are not currently developed and are in various stages of the planning process. A few examples of these alternative water supply projects include the Middle Sweetwater River Basin Groundwater Well project, the North District Recycled Water Supply Concept, the Rosarito Ocean Desalination Facility project, and the Rancho del Rey Groundwater Well project. The Water Authority and Metropolitan next forecast and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

In addition, Metropolitan's 2005 Regional Urban Water Management Plan identified potential reserve supplies in the supply capability analysis (Tables II-7, II-8, and II-9), which could be available to meet any unanticipated demands. The Water Authority and Metropolitan next forecast and supply planning documents would capture any increase in necessary supply resources resulting from any new water supply resources.

To fully quantify probable demands served by the Water Authority, lands with impending or proposed applications for annexation to the Otay WD, Water Authority, and Metropolitan service areas are identified in the Water Authority 2005 Updated Urban Water Management Plan (2005 UWMP). Working with its member agencies, the Water Authority identified potential near-term annexations as being parcels that may be annexed to the Otay WD, Water Authority, and Metropolitan within the next five years. Estimated water demands for those parcels were provided to the Water Authority by the member agency or project proponent and then added to the Water Authority forecast. The Water Authority included the potential near-term annexation land areas projected potable water demands within their 2005 UWMP to provide for more comprehensive supply planning and assist member agencies such as Otay WD in complying with Senate Bills 610 and 221. Tables 2-2 and 2-9 within the Water Authority 2005 UWMP provides projected demand information for the anticipated pending annexations.

The Otay WD water demand projection methodology utilizes a component land use approach. This is done by applying representative values of water use to the acreage of each land use type and then aggregating these individual land use demand projections into an overall total demand for the Otay WD. This is called the water duty method, and the water duty is the amount of water used in acre-feet per acre per year. This approach is used for all the land use types except residential development where a demand per dwelling unit was applied. In addition, commercial and industrial water use categories

are further subdivided by type including separate categories for golf courses, schools, jails, prisons, hospitals, etc. where specific water demands are established.

To determine water duties for the various types of land use, the entire water meter database of the Otay WD is utilized and sorted by the appropriate land use types. The metered consumption records are then examined for each of the land uses, and water duties are determined for the various types of residential, commercial, industrial, and institutional land uses. For example the water duty factors for commercial and industrial land uses are estimated using 1,785 and 893 gallons per day per acre, respectively. Residential water demand is established based on the same data but computed on a per-dwelling unit basis. The focus is to ensure that for each of the residential land use categories (very low, low, medium, and high densities), the demand criteria used is adequately represented based upon actual data. This method is used because residential land uses constitute a substantial percentage of the total developable planning area of the Otay WD.

By applying the established water duties to the proposed land uses, the projected water demand for the entire Otay WD planning area at ultimate development is determined. Projected water demands for the intervening years were determined using growth rate projections consistent with data obtained from SANDAG and the experience of the Otay WD.

The historical and projected potable water demands for Otay WD are shown in Table 2.

Table 2
Historical and Projected Potable Water Fiscal Year Demands (acre-feet)
Incorporating Water Conservation BMP Efforts[1]

Water Use Sectors	1995	2000	2005	2010	2015	2020	2025	2030
Single Family Residential	10,604	15,331	19,850	25,442	29,130	33,316	37,211	42,089
Multi-Family Residential	1,880	1,986	2,893	3,708	4,245	4,855	5,423	6,134
Commercial & Industrial	1,650	3,043	1,549	1,986	2,274	2,600	2,904	3,285
Institutional & Governmental	1,680	2,089	2,115	2,711	3,104	3,550	3,965	4,485
Landscape	3,983	6,256	8,512	10,910	12,491	14,286	15,956	18,048
Agricultural	487	171	2,268	2,907	3,328	3,806	4,251	4,809
Known Losses	*	*	511	655	749	857	957	1,083
System Losses	*	1,733	1,076	1,494	1,711	1,957	2,186	2,472
Totals	**20,284**	**30,609**	**38,774**	**49,813**	**57,032**	**65,227**	**72,853**	**82,405**

[1] Source: The Otay WD 2005 UWMP.
* Known losses (i.e. unaccounted for water in the Otay WD 2005 UWMP) and system losses unavailable.

The historical and projected recycled water demands for Otay WD are shown in Table 3.

Table 3
Historical and Projected Recycled Water Fiscal Year Demands (acre-feet)
Incorporating Water Conservation BMP Efforts[1]

Water Use Sector	1995	2000	2005	2010	2015	2020	2025	2030
Landscape	614	1,274	1,155	4,040	4,684	5,430	6,294	7,297
Totals	**614**	**1,274**	**1,155**	**4,040**	**4,684**	**5,430**	**6,294**	**7,297**

[1] Source: The Otay WD 2005 UWMP.

Using the land use demand projection criteria as established in the Otay WD 2009 WRMP updated November, 2010 , the current projected potable water demand for the proposed Village 8 West project is shown in Table 4, which totals approximately 0.79 mgd or about 881 ac-ft/yr.

Table 4
Otay Ranch Village 8 West Projected Potable
Water Annual Average Demands[1]

Location	Land Use Description	Dwelling Units	Demand (gpd)
Village 8 West	Single-Family Residential	621 units	310,500
Village 8 West	Multi-Family/Mixed Use	1,429 units	364,395
Village 8 West	Mixed Use – Retail		42,000
Village 8 West	Community Purpose		4,140
Village 8 West	Schools		46,270
Village 8 West	Parks – Potable		19,270
Village 8 West	Open Space		0
Village 8 West	City of San Diego		0
Village 8 West	Circulation		0
Totals		**2,050 units**	**786575**

[1] Source: Dexter Wilson Engineering, Inc., "Overview of Water Service for Otay Ranch Village 8 West," November 2010

This projection of potable water demand for Village 8 West is included in the 2009 WRMP updated November, 2010.

The current projected recycled water demand for the proposed Village 8 West project is provided in Table 5, which totals approximately 0.137 mgd or about 154 ac-ft/yr, representing about 17% of total Village 8 West project demand.

Table 5
Otay Ranch Village 8 West Projected Recycled Water Annual Average Demands[1]

Location	Land Use Description	Area	Demand (gpd)
Village 8 West	Multi-Family Residential	29.5 acres	9,480
Village 8 West	CPF	5.8 acres	1,290
Village 8 West	Mixed Use	42.2 acres	9,050
Village 8 West	Parks	28.0 acres	60,340
Village 8 West	Schools	32.4 acres	14,010
Village 8 West	Irrigated Open Space	20.0 acres	43,100
Totals		**157.9 acres**	**137,270**

[1] Source: Dexter Wilson Engineering, Inc., "Overview of Water Service for Otay Ranch Village 8 West," November 2010

5.1 Demand Management (Water Conservation)

Demand management, or water conservation is a critical part of the Otay WD 2005 UWMP and its long term strategy for meeting water supply needs of the Otay WD customers. Water conservation, is frequently the lowest cost resource available to any water agency. The goals of the Otay WD water conservation programs are to:

- Reduce the demand for more expensive, imported water.
- Demonstrate continued commitment to the Best Management Practices (BMP).
- Ensure a reliable water supply.

The Otay WD is signatory to the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council (CUWCC) in 1991 in an effort to reduce California's long-term water demands. Water conservation programs are developed and implemented on the premise that water

conservation increases the water supply by reducing the demand on available supply, which is vital to the optimal utilization of a region's water supply resources. The Otay WD participates in many water conservation programs designed and typically operated on a shared cost participation program basis among the Water Authority, Metropolitan, and their member agencies. The demands shown in Tables 2, 3, 4, and 5 take into account implementation of water conservation measures within Otay WD.

As one of the first signatories to the MOU Regarding Urban Water Conservation in California, the Otay WD has made BMP implementation for water conservation the cornerstone of its conservation programs and a key element in its water resource management strategy. As a member of the Water Authority, Otay WD also benefits from regional programs performed on behalf of its member agencies. The BMP programs implemented by Otay WD and regional BMP programs implemented by the Water Authority that benefit all their member agencies are addressed in the Otay WD 2005 UWMP. In partnership with the Water Authority, the County of San Diego, City of San Diego, City of Chula Vista, and developers, the Otay WD water conservation efforts are expected to grow and expand. The resulting savings directly relate to additional available water in the San Diego County region for beneficial use within the Water Authority service area, including the Otay WD.

Additional conservation or water use efficiency measures or programs practiced by the Otay WD include the following:

- Supervisory Control and Data Acquisition System

The Otay WD implemented and has operated for many years a Supervisor Control and Data Acquisition (SCADA) system to control, monitor, and collect data regarding the operation of the water system. The major facilities that have SCADA capabilities are the water flow control supply sources, transmission network, pumping stations, and water storage reservoirs. The SCADA system allows for many and varied useful functions. Some of these functions provide for operating personnel to monitor the water supply source flow rates, reservoir levels, turn on or off pumping units, etc. The SCADA system aids in the prevention of water reservoir overflow events and increases energy efficiency.

- Water Conservation Ordinance

California Water Code Sections 375 et seq. permit public entities which supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving water supplies of such public entity. The Otay WD Board of Directors established a comprehensive water conservation program pursuant to California Water Code Sections 375 et seq., based upon the need to conserve water supplies and to avoid or minimize the effects of any future shortage. A water shortage could exist based upon the occurrence of one or more of the following conditions:

1. A general water supply shortage due to increased demand or limited supplies.
2. Distribution or storage facilities of the Water Authority or other agencies become inadequate.
3. A major failure of the supply, storage, and distribution facilities of Metropolitan, Water Authority, and/or Otay WD.

The Otay WD water conservation ordinance finds and determines that the conditions prevailing in the San Diego County area require that the available water resources be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented and that the conservation of such water be encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of the people of the Otay WD and for the public welfare.

As a signatory to the MOU Regarding Urban Water Conservation in California, the Otay WD is required to submit biannual reports that detail the implementation of current water conservation practices. The Otay WD voluntarily agreed to implement the fourteen water conservation Best Management Practices beginning in 1992. The Otay WD submits its report to the CUWCC every two years. The Otay WD BMP Reports for 2001 to 2004, as well as the BMP Coverage Report for 2003-04, are included in the Otay WD 2005 UWMP.

The Village 8 West project will implement the CUWCC Best Management Practices for water conservation such as installation of ultra low flow toilets, development of a water conversation plan, and potential beneficial use of recycled water, all of which are typical requirements of development projects within the City of Chula Vista.

Section 6 - Existing and Projected Supplies

The Otay WD currently does not have an independent raw or potable water supply source. The Otay WD is a member public agency of the Water Authority. The Water Authority is a member public agency of Metropolitan. The statutory relationships between the Water Authority and its member agencies, and Metropolitan and its member agencies, respectively, establish the scope of the Otay WD entitlement to water from these two agencies.

The Water Authority through two delivery pipelines, referred to as Pipeline No. 4 and the La Mesa Sweetwater Extension Pipeline, currently supply the Otay WD with 100 percent of its potable water. The Water Authority in turn, currently purchases the majority of its water from Metropolitan. Due to the Otay WD reliance on these two agencies, this WSA&V Report includes referenced documents that contain information on the existing and projected supplies, supply programs, and related projects of the Water Authority and Metropolitan. The Otay WD, Water Authority, and Metropolitan are actively pursuing programs and projects to diversify their water supply resources.

The description of local recycled water supplies available to the Otay WD is also discussed below.

6.1 Metropolitan Water District of Southern California 2005 Regional Urban Water Management Plan

In November 2005, Metropolitan adopted its 2005 Regional Urban Water Management Plan (RUWMP). The 2005 RUWMP provides Metropolitan's member agencies, retail water utilities, cities, and counties within its service area with, among other things, a detailed evaluation of the supplies necessary to meet future demands, and an evaluation of reasonable and practical efficient water uses, recycling, and conservation activities. During the preparation of the 2005 RUWMP, Metropolitan also utilized the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority service area.

6.1.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

Metropolitan is a wholesale supplier of water to its member public agencies and obtains its supplies from two primary sources: the Colorado River, via the Colorado River Aqueduct (CRA), which it owns and operates, and Northern California, via the State Water Project (SWP). The 2005 RUWMP documents the availability of these existing supplies and additional supplies necessary to meet future demands.

6.1.1.1 Metropolitan Supplies

Metropolitan's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2010 update to the IRP (2010 IRP Update) includes a planning buffer supply intended to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, Metropolitan periodically evaluates supply development to ensure that the region is not under or over-developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

In November 2005, Metropolitan adopted its 2005 RUWMP in accordance with state law. The resource targets included in the preceding 2004 IRP Update serve as the foundation for the planning assumptions used in the 2005 RUWMP. Metropolitan's 2005 RUWMP contains a water supply reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 25-year period in average, single dry year, and multiple dry year periods. As part of this process, Metropolitan also uses the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority's service area.

As stated in Metropolitan's 2005 RUWMP, that plan may be used as a source document for meeting the requirements of SB 610 and SB 221 until the next scheduled update is completed in 2010. The 2005 RUWMP includes a "Justifications for Supply Projections" in Appendix A.3, that provides detailed documentation of the planning, legal, financial, and regulatory basis for including each source of supply in the plan. A copy of Metropolitan's 2005 RUWMP can be found on the World Wide Web at the following site address: www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2005.pdf.

SANDAG has included the increase in density from this project in their latest Series 12 Update. Now that Metropolitan has update their IRP, both Metropolitan and the Water Authority will be updating their UWMPs. The UWMP for both Metropolitan and the Water Authority will include the increase in demand projections included in SANDAG's Series 12 Update and from the projections from Otay WD 2009 WRMP updated November, 2010.

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current western states drought conditions. Challenges such as these essentially always will be present. The regional water supply agencies, the Water Authority and Metropolitan, along with Otay WD nevertheless fully intend to have sufficient, reliable supplies to serve demands.

6.1.1.2 Pipeline 6

Metropolitan completed its System Overview Study (SOS) in fall 2005. The SOS determines if Metropolitan's current system is capable of delivering the supplies to meet the demands shown in its 2004 IRP Update.

Pipeline 6 is included in the SOS as an untreated water pipeline to deliver additional Metropolitan supplies to the San Diego County region. The addition of Pipeline 6 would allow the Water Authority and Metropolitan to convert one of the existing untreated water pipelines to a treated water pipeline. With the conversion, the capacity to import both treated and untreated water would increase significantly, thereby enabling Metropolitan to increase both treated and untreated imported water delivery capacity to the San Diego County region.

Based on current planning assumptions of the Water Authority and Metropolitan, new imported supplies delivered though Pipeline 6 would be required no earlier than 2018, absent development of new supplies from seawater desalination or some combination of new local supplies, totaling 56,000 ac-ft/yr (see Section 6.2.1 below). With development of 56,000 ac-ft/yr, Pipeline 6 would not be needed until 2023. Based on a nine-year lead time requested by Metropolitan, a decision to proceed with Pipeline 6 would need to be communicated to Metropolitan by 2014. Activities associated with implementation of Pipeline 6 include the following:

- Coordination between Metropolitan and the Water Authority regarding planning and design of Pipeline 6 is ongoing.

- An alignment for the entire approximately 30-mile pipeline was identified in the original 1993 Environmental Impact Report. Metropolitan is conducting a feasibility study to revisit the 1993 alignment and evaluate alternative alignments north of the San Luis Rey River in light of changed conditions since 1993. The Water Authority plans to conduct a similar feasibility study of Pipeline 6 alignments south of the San Luis Rey River. Based on these updated feasibility studies, an updated environmental analysis for the project is also planned.

6.1.2 Metropolitan Capital Investment Plan

As part of Metropolitan's annual budget approval process, a Capital Investment Plan is prepared. The cost, purpose, justification, status, progress, etc. of Metropolitan's infrastructure projects to deliver existing and future supplies are documented in the Capital Investment Plan. The financing of these projects is addressed as part of the annual budget approval process.

Metropolitan's Capital Investment Plan includes a series of projects identified from Metropolitan studies of projected water needs, which, when considered along with operational demands on aging facilities and new water quality regulations, identify the capital projects needed to maintain infrastructure reliability and water quality standards, improve efficiency, and provide future cost savings. All projects within the Capital Investment Plan are evaluated against an objective set of criteria to ensure they are aligned with the Metropolitan's goals of supply reliability and quality.

6.2 San Diego County Water Authority Regional Water Supplies

The Water Authority has adopted plans and is taking specific actions to develop adequate water supplies to help meet existing and future water demands within the San Diego region. This section contains details on the supplies being developed by the Water Authority. A summary of recent actions pertaining to development of these supplies includes:

- In accordance with the Urban Water Management Planning Act, the Water Authority adopted their 2005 UWMP in November 2005 and updated the 2005 UWMP in April 2007 that identifies a diverse mix of local and imported water supplies to meet future demands. A copy of the updated Water Authority 2005 UWMP can be found on the World Wide Web at www.sdcwa.org.

- Deliveries of conserved agricultural water from the Imperial Irrigation District (IID) to San Diego County have increased annually since 2003, with 70,000 ac-ft of deliveries in Fiscal Year (FY) 2010.

- As part of the October 2003 Quantification Settlement Agreement (QSA), the Water Authority was assigned Metropolitan's rights to 77,700 ac-ft/yr of conserved water from the All-American Canal (AAC) and Coachella Canal (CC) lining projects. The Water Authority has begun implementation of these projects, with the CC project now complete and deliveries being made to the San Diego County region.

Through implementation of the Water Authority and member agency planned supply projects, along with reliable imported water supplies from Metropolitan, the region anticipates having adequate supplies to meet existing and future water demands.

To ensure sufficient supplies to meet projected growth in the San Diego region, the Water Authority uses the SANDAG most recent regional growth forecast in calculating regional water demands. The SANDAG regional growth forecast is based on the plans and policies of the land-use jurisdictions with San Diego County. The existing and future demands of the member agencies are included in the Water Authority's projections.

6.2.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The Water Authority currently obtains imported supplies from Metropolitan, conserved water from the CC lining project, and an increasing amount of conserved agricultural water from IID. Of the twenty-seven member agencies that purchase water supplies from Metropolitan, the Water Authority is Metropolitan's largest customer. In FY 2006, the Water Authority purchased 577,944 ac-ft from Metropolitan, an increase of approximately 4,000 ac-ft over the FY 2005 amount.

Section 135 of Metropolitan's Act defines the preferential right to water for each of its member agencies. As calculated by Metropolitan, the Water Authority's FY 2006 preferential right is 16.46% of Metropolitan's supply, while the Water Authority accounted for approximately 25% of Metropolitan's water sales. Under preferential rights, Metropolitan could allocate water without regard to historic water purchases or dependence on Metropolitan. The Water Authority and its member agencies are taking measures to reduce dependence on Metropolitan through development of additional supplies and a water supply portfolio that would not be jeopardized by a preferential rights allocation. Metropolitan has stated, consistent with Section 4202 of its Administrative Code that it is prepared to provide the Water Authority's service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When and as additional water resources are required to meet increasing needs, Metropolitan stated it will be prepared to deliver such supplies. In Section II.4 of their 2005 RUWMP, Metropolitan states that through effective management of its water supply, they fully expect to be 100 percent reliable in meeting all non-discounted non-interruptible demands throughout the next twenty-five years.

The Water Authority has made large investments in Metropolitan's facilities and will continue to include imported supplies from Metropolitan in the future resource mix. As discussed in

the Water Authority's 2005 UWMP, the Water Authority and its member agencies are planning to diversify the San Diego regions supply portfolio and reduce purchases from Metropolitan.

As part of the Water Authority's diversification efforts, the Water Authority is now taking delivery of conserved agricultural water from IID and water saved from the CC lining project. The Water Authority is currently implementing the AAC lining projects. Table 6 summarizes the planned yields from these supply projects, with detailed information included in the sections to follow. Deliveries from Metropolitan are also included in Table 6, which is further discussed in Section 6.1 above. The Water Authority's member agencies provided the verifiable local supply targets for groundwater, groundwater recovery, recycled water, and surface water, which are discussed in more detail in Section 5 of the Water Authority's 2005 UWMP.

Table 6
Projected Verifiable Water Supplies – Water Authority Service Area
Normal Year (acre feet)

Water Supply Sources	2010	2015	2020	2025	2030
Water Authority Supplies					
Metropolitan Supplies	445,858	399,855	331,374	342,870	372,922
Water Authority/IID Transfer	70,000	100,000	190,000	200,000	200,000
AAC and CC Lining Projects	77,700	77,700	77,700	77,700	77,700
Member Agency Supplies					
Local Surface Water	59,649	59,649	59,649	59,649	59,649
Recycled Water	33,668	40,662	45,548	46,492	47,584
Seawater Desalination	0	34,689	36,064	37,754	40,000
Groundwater	17,175	18,945	19,775	19,775	19,775
Groundwater Recovery	11,400	11,400	11,400	11,400	11,400
Total Projected Supplies	715,450	742,900	771,510	795,640	829,030

Source: The Water Authority 2005 Urban Water Management Plan.

Section 5 of the Water Authority's 2005 UWMP also includes a discussion on the local supply target for seawater desalination. Seawater desalination supplies represent a significant future local resource in the Water Authority's service area. Poseidon Resources is pursuing the development of a local, privately owned desalination project located adjacent to the Encina Power Station. As of June 2007, Poseidon has contracted with the Carlsbad Municipal Water District (MWD) (up to 28,000 ac-ft/yr depending on demands), Valley Center MWD (7,500 ac-ft/yr), Rincon Del Diablo MWD (4,000 ac-ft/yr), and Sweetwater Authority (2,400 ac-ft/yr) to supply up to 41,900 ac-ft/yr of desalinated seawater. The verifiable seawater desalination figure is based on the contract amounts and projected seawater desalination deliveries to Carlsbad MWD. As shown in Table 6, the verifiable projected local seawater desalination supplies vary each year based on the Carlsbad MWD demands (which are less than their desalinated seawater contract amount of 28,000 ac-ft/yr). There are several

contingencies related to Poseidon's agreements with these member agencies and the Water Authority that must be satisfied before implementation of the project and its ultimate yield can be determined. These contingencies include obtaining legal entitlements for construction of the project, determination of mutually acceptable delivery interconnection points and delivery charge, and engagement of a third party exchange agency partner where physical delivery to the contracting agency is not practical. The Water Authority is negotiating specific elements for a water purchase agreement with Poseidon which include water purchase price, allocation of risk and options to eventually purchase the project's pipeline and the entire desalination plant. This agreement will supersede the contracts Poseidon has negotiated with the four Districts. Before negotiations begin on a final agreement, Poseidon must secure sufficient financial commitments from private investors to meet requirements for fully funding project construction. In addition, Poseidon must execute all agreements for construction and operation of the project and finalize the documents needed to finance the project in the bond market.

The Water Authority's existing and planned supplies from the IID transfer and canal lining projects are considered "drought-proof" supplies and should be available at the yields shown in Table 6 in normal, single dry, and multi dry year scenarios. For dry year yields from Metropolitan supplies, refer to Metropolitan's 2005 RUWMP, discussed in Section 6.1 above.

As part of preparation of a written water supply assessment and/or verification report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 9 of the Water Authority's 2005 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, completed in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

6.2.1.1 Water Authority-Imperial Irrigation District Water Conservation and Transfer Agreement

The QSA was signed in October 2003, and resolves long-standing disputes regarding priority and use of Colorado River water and creates a baseline for implementing water transfers. With approval of the QSA, the Water Authority and IID were able to implement their Water Conservation and Transfer Agreement. This agreement not only provides reliability for the San Diego region, but also assists California in reducing its use of Colorado River water to its legal allocation.

On April 29, 1998, the Water Authority signed a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Authority-IID Water Conservation and Transfer Agreement (Transfer Agreement) is the largest agriculture-to-urban water transfer in United States history. Colorado River water will be conserved by Imperial Valley farmers who voluntarily participate in the program and then transferred to the Water Authority for use in San Diego County.

Implementation Status

On October 10, 2003, the Water Authority and IID executed an amendment to the original 1998 Transfer Agreement. This amendment modified certain aspects of the 1998 Agreement to be consistent with the terms and conditions of the QSA and related agreements. It also modified other aspects of the agreement to lessen the environmental impacts of the transfer of conserved water. The amendment was expressly contingent on the approval and implementation of the QSA, which was also executed on October 10, 2003.

On November 5, 2003, IID filed a complaint in Imperial County Superior Court seeking validation of 13 contracts associated with the Transfer Agreement and the QSA. Imperial County and various private parties filed additional suits in Superior Court, alleging violations of the California Environmental Quality Act (CEQA), the California Water Code, and other laws related to the approval of the QSA, the water transfer, and related agreements. The lawsuits have been coordinated for trial. The IID, Coachella Valley Water District, Metropolitan, the Water Authority, and State are defending these suits and coordinating to seek validation of the contracts. Implementation of the transfer provisions is proceeding during litigation. For further information regarding the litigation and current progress, please contact the Water Authority's General Counsel.

Expected Supply

Deliveries into San Diego County from the transfer began in 2003 with an initial transfer of 10,000 ac-ft. The Water Authority received 20,000 ac-ft in 2004, 30,000 in 2005, and 40,000 in 2006. The quantities will increase annually to 200,000 ac-ft by 2021 then remain fixed for the duration of the Transfer Agreement. The initial term of the Transfer Agreement is 45 years, with a provision that either agency may extend the agreement for an additional 30-year term.

During dry years, when water availability is low, the conserved water will be transferred under the IID Colorado River rights, which are among the most senior in the Lower Colorado River Basin. Without the protection of these rights, the Water Authority could suffer delivery cutbacks. In recognition for the value of such reliability, the 1998 contract required the Water Authority to pay a premium on transfer water under defined regional shortage circumstances. The shortage premium period duration is the period of consecutive days during which any of the following exist: 1) a Water Authority shortage; 2) a shortage condition for the Lower Colorado River as declared by the Secretary; and 3) a Critical Year. Under terms of the October 2003

amendment, the shortage premium will not be included in the cost formula until Agreement Year 16.

Transportation

The Water Authority entered into a water exchange agreement with Metropolitan on October 10, 2003, to transport the Water Authority-IID transfer water from the Colorado River to San Diego County. Under the exchange agreement, Metropolitan will take delivery of the transfer water through its Colorado River Aqueduct. In exchange, Metropolitan will deliver to the Water Authority a like quantity and quality of water. The Water Authority will pay Metropolitan's applicable wheeling rate for each acre-foot of exchange water delivered. According to the water exchange agreement, Metropolitan will make delivery of the transfer water for 35 years, unless the Water Authority elects to extend the agreement another 10 years for a total of 45 years.

Cost/Financing

The costs associated with the transfer are proposed to be financed through the Water Authority's rates and charges. In the agreement between the Water Authority and IID, the price for the transfer water started at $258 per acre-foot and increases by a set amount for the first five years. The 2005 price for transfer water is $276 per acre-foot. Procedures are in place to evaluate and determine market-based rates following the first five-year period.

In accordance with the October 2003 amended exchange agreement between Metropolitan and the Water Authority, the initial cost to transport the conserved water was $253 per acre-foot. Thereafter, the price would be equal to the charge or charges set by Metropolitan's Board of Directors pursuant to applicable laws and regulation, and generally applicable to the conveyance of water by Metropolitan on behalf of its member agencies. The transportation charge in 2005 was $258 per acre-foot.

The Water Authority is providing $10 million to help offset potential socioeconomic impacts associated with temporary land fallowing. IID will credit the Water Authority for these funds during years 16 through 45. At the end of the fifth year of the transfer agreement (2007), the Water Authority will prepay IID an additional $10 million for future deliveries of water. IID will credit the Water Authority for this up-front payment during years 16 through 30.

As part of implementation of the QSA and water transfer, the Water Authority also entered into an environmental cost sharing agreement. The agreement specifies that the Water Authority will contribute $64 million for the purpose of funding environmental mitigation costs and contributing to the Salton Sea Restoration Fund.

Written Contracts or Other Proof

The supply and costs associated with the transfer are based primarily on the following documents:

Agreement for Transfer of Conserved Water by and between IID and the Water Authority (April 29, 1998). This Agreement provides for a market-based transaction in which the Water Authority would pay IID a unit price for agricultural water conserved by IID and transferred to the Water Authority.

Revised Fourth Amendment to Agreement between IID and the Water Authority for Transfer of Conserved Water (October 10, 2003). Consistent with the executed Quantification Settlement Agreement (QSA) and related agreements, the amendments restructure the agreement and modify it to minimize the environmental impacts of the transfer of conserved water to the Water Authority.

Amended and Restated Agreement between Metropolitan and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the transfer water to the Water Authority.

Environmental Cost Sharing, Funding, and Habitat Conservation Plan Development Agreement among IID, Coachella Valley Water District (CVWD), and Water Authority (October 10, 2003). This Agreement provides for the specified allocation of QSA-related environmental review, mitigation, and litigation costs for the term of the QSA, and for development of a Habitat Conservation Plan.

Quantification Settlement Agreement Joint Powers Authority Creation and Funding Agreement (October 10, 2003). The purpose of this agreement is to create and fund the QSA Joint Powers Authority and to establish the limits of the funding obligation of CVWD, IID, and Water Authority for environmental mitigation and Salton Sea restoration pursuant to SB 654 (Machado).

Federal, State, and Local Permits/Approvals

Federal Endangered Species Act Permit. The U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion on January 12, 2001, that provides incidental take authorization and certain measures required to offset species impacts on the Colorado River regarding such actions.

State Water Resources Control Board (SWRCB) Petition. SWRCB adopted Water Rights Order 2002-0016 concerning IID and Water Authority's amended joint petition for approval of a long-term transfer of conserved water from IID to the Water Authority and to change the point of diversion, place of use, and purpose of use under Permit 7643.

Environmental Impact Report (EIR) for Conservation and Transfer Agreement. As lead agency, IID certified the Final EIR for the Conservation and Transfer Agreement on June 28, 2002.

U. S. Fish and Wildlife Service Draft Biological Opinion and Incidental Take Statement on the Bureau of Reclamation's Voluntary Fish and Wildlife Conservation Measures and Associated

Conservation Agreements with the California Water Agencies (12/18/02). The U. S. Fish and Wildlife Service issued the biological opinion/incidental take statement for water transfer activities involving the Bureau of Reclamation and associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

Addendum to EIR for Conservation and Transfer Agreement. IID as lead agency and Water Authority as responsible agency approved addendum to EIR in October 2003.
Environmental Impact Statement (EIS) for Conservation and Transfer Agreement. Bureau of Reclamation issued a Record of Decision on the EIS in October 2003.

CA Department of Fish and Game California Endangered Species Act Incidental Take Permit #2081-2003-024-006). The California Department of Fish and Game issued this permit (10/22/04) for potential take effects on state-listed/fully protected species associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

California Endangered Species Act (CESA) Permit. A CESA permit was issued by California Department of Fish and Game (CDFG) on April 4, 2005, providing incidental take authorization for potential species impacts on the Colorado River.

6.2.1.2 All-American Canal and Coachella Canal Lining Projects

As part of the QSA and related contracts, the Water Authority was assigned Metropolitan's rights to 77,700 ac-ft/yr of conserved water from projects that will line the All-American Canal (AAC) and Coachella Canal (CC). The projects will reduce the loss of water that currently occurs through seepage, and the conserved water will be delivered to the Water Authority. This conserved water will provide the San Diego region with an additional 8.5 million acre-feet over the 110-year life of the agreement.

Implementation Status

Earthwork for the Coachella Canal lining project began in November 2004 and involves approximately 37 miles of canal. National Environmental Policy Act (NEPA) and CEQA documentation is complete, including an amended Record of Decision by the U.S. Bureau of Reclamation (USBR). The amendment was required after revising the project design: instead of lining the canal in place, the project entailed the construction of a parallel canal. The project was completed in 2006, and deliveries of conserved water started in 2007.

The lining project consists of constructing a concrete-lined canal parallel to 24 miles of the existing AAC from Pilot Knob to Drop 3. NEPA and CEQA documentation is complete, environmental mitigation measures have been identified, and Endangered Species Act consultations are pending. Construction of the project began in 2007 and was completed earlier this year.

In July 2005, a lawsuit (*CDEM v United States*, Case No. CV-S-05-0870-KJD-PAL) was filed in the U. S. District Court for the District of Nevada on behalf of U.S. and Mexican groups challenging the lining of the AAC. The lawsuit, which names the Secretary of the Interior as a defendant, claims that seepage water from the canal belongs to water users in Mexico. California water agencies note that the seepage water is actually part of California's Colorado River allocation and not part of Mexico's allocation. The plaintiffs also allege a failure by the United States to comply with environmental laws. Federal officials have stated that they intend to vigorously defend the case.

Expected Supply

The AAC lining project will yield 67,700 acre-feet per year of Colorado River water for allocation upon completion of construction. The CC lining project will yield 26,000 acre-feet of Colorado River water each year available for allocation upon completion of construction. The October 10, 2003, Allocation Agreement states that 16,000 acre-feet per year of conserved CC lining water will be allocated to the San Luis Rey Indian Water Rights Settlement Parties. The remaining amount, 10,000 acre-feet per year from the CC lining conserved water plus the 67,700 acre-feet per year AAC lining conserved water totaling 77,700 acre-feet per year, will be available to the Water Authority. According to the Allocation Agreement, IID has call rights to a portion (5,000 acre-feet per year) of the conserved water upon termination of the QSA for the remainder of the 110 years of the Allocation Agreement and upon satisfying certain conditions. The term of the QSA is for up to 75 years.

Transportation

The October 10, 2003, Exchange Agreement between the Water Authority and Metropolitan also provides for the delivery of the conserved water from the canal lining projects. The Water Authority will pay Metropolitan's applicable wheeling rate for each acre-foot of exchange water delivered. In the Agreement, Metropolitan will deliver the canal lining water for the term of the Allocation Agreement (110 years).

Cost/Financing

Under California Water Code Section 12560 et seq., the Water Authority will receive $200 million in state funds for construction of the projects. In addition, under California Water Code Section 79567, $20 million from Proposition 50 is also available for the lining projects. Additionally, the Water Authority will receive $35 million for groundwater conjunctive use projects as part of the agreement. The Water Authority would be responsible for additional expenses above the funds provided by the state.

The rate to be paid to transport the canal lining water will be eqnal to the charge or charges set by Metropolitan's Board of Directors pursuant to applicable law and regulation and generally applicable to the conveyance of water by Metropolitan on behalf of its member agencies.

In accordance with the Allocation Agreement, the Water Authority will also be responsible for a portion of the net additional Operation, Maintenance, and Repair (OM&R) costs for the lined canals. Any costs associated with the lining projects as proposed, are to be financed through the Water Authority's rates and charges.

Written Contracts or Other Proof

The expected supply and costs associated with the lining projects are based primarily on the following documents:

U.S. Public Law 100-675 (1988). Authorized the Department of the Interior to reduce seepage from the existing earthen AAC and CC. The law provides that conserved water will be made available to specified California contracting water agencies according to established priorities.

California Department of Water Resources - Metropolitan Funding Agreement (2001). Reimburse Metropolitan for project work necessary to construct the lining of the CC in an amount not to exceed $74 million. Modified by First Amendment (2004) to replace Metropolitan with the Authority. Modified by Second Amendment (2004) to increase funding amount to $83.65 million, witb addition of funds from Proposition 50.

California Department of Water Resources - IID Funding Agreement (2001). Reimburse IID for project work necessary to construct a lined AAC in an amount not to exceed $126 million.

Metropolitan - CVWD Assignment and Delegation of Design Obligations Agreement (2002). Assigns design of the CC lining project to CVWD.

Metropolitan - CVWD Financial Arrangements Agreement for Design Obligations (2002). Obligates Metropolitan to advance funds to CVWD to cover costs for CC lining project design and CVWD to invoice Metropolitan to permit the Department of Water Resources to be billed for work completed.

Allocation Agreement among the United States of America, The Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District (October 10, 2003). This agreement includes assignment of Metropolitan's rights and interest in delivery of 77,700 acre-feet of Colorado River water previously intended to be delivered to Metropolitan to the Water Authority. Allocates water from the AAC and CC lining projects for at least 110 years to the Water Authority, the San Luis Rey Indian Water Rights Settlement Parties, and IID, if it exercises its call rights.

Amended and Restated Agreement between Metropolitan and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the conserved canal lining water to the Water Authority.

Agreement between Metropolitan and Water Authority regarding Assignment of Agreements related to the AAC and CC Lining Projects. This agreement was executed in April 2004 and assigns Metropolitan's rights to the Water Authority for agreements that had been executed to facilitate funding and construction of the AAC and CC lining projects:
Assignment and Delegation of Construction Obligations for the Coachella Canal Lining Project under the Department of Water Resources Funding Agreement No. 4600001474 from the San Diego County Water Authority to the Coachella Valley Water District, dated September 8, 2004.

Agreement Regarding the Financial Arrangements between the San Diego County Water Authority and Coachella Valley Water District for the Construction Obligations for the Coachella Canal Lining Project, dated September 8, 2004.

Agreement No. 04-XX-30-W0429 Among the United States Bureau of Reclamation, the Coachella Valley Water District, and the San Diego County Water Authority for the Construction of the Coachella Canal Lining Project Pursuant to Title II of Public Law 100-675, dated October 19, 2004.

California Water Code Section 12560 et seq. This Water Code Section provides for $200 million to be appropriated to the Department of Water Resources to help fund the canal lining projects in furtherance of implementing California's Colorado River Water Use Plan.

California Water Code Section 79567. This Water Code Section identifies $20 million as available for appropriation by the California Legislature from the Water Security, Clean Drinking Water, Coastal, and Beach Protection Fund of 2002 (Proposition 50) to DWR for grants for canal lining and related projects necessary to reduce Colorado River water use. According to the Allocation Agreement, it is the intention of the agencies that those funds will be available for use by the Water Authority, IID, or CVWD for the AAC and CC lining projects.

California Public Resources Code Section 75050(b)(1). This section identifies up to $36 million as available for water conservation projects that implement the Allocation Agreement as defined in the Quantification Settlement Agreement.

Federal, State, and Local Permits/Approvals

AAC Lining Project Final EIS/EIR (March 1994). A final EIR/EIS analyzing the potential impacts of lining the AAC was completed by the Bureau of Reclamation (Reclamation) in March 1994. A Record of Decision was signed by Reclamation in July 1994, implementing the preferred alternative for lining the AAC. A re-examination and analysis of these environmental

compliance documents by Reclamation in November 1999 determined that these documents continued to meet the requirements of the NEPA and the CEQA and would be valid in the future.

CC Lining Project Final EIS/EIR (April 2001). The final EIR/EIS for the CC lining project was completed in 2001. Reclamation signed the Record of Decision in April 2002. An amended Record of Decision has also been signed to take into account revisions to the project description.

Mitigation, Monitoring, and Reporting Program for Coachella Canal Lining Project, SCH #1990020408; prepared by Coachella Valley Water District, May 16, 2001.

Environmental Commitment Plan for the Coachella Canal Lining Project, approved by the US Bureau of Reclamation (Boulder City, NV) on March 4, 2003.

Environmental Commitment Plan and Addendum to the All-American Canal Lining Project EIS/EIR California State Clearinghouse Number SCH 90010472 (June 2004, prepared by IID).

Addendum to Final EIS/EIR and Amendment to Environmental Commitment Plan for the All-American Canal Lining Project (approved June 27, 2006, by IID Board of Directors).

6.2.2 Water Authority Capital Improvement Program and Financial Information

The Water Authority's capital improvement program (CIP) budget document includes a description of each of the projects and programs being implemented to ensure existing and future facilities are adequate to deliver water supplies throughout the region. The project costs, along with information on the activities that need to be completed, are included in the CIP document. The Water Authority's Master Plan identifies future facilities and other improvements to the Water Authority's system that are necessary to maintain reliability throughout the region. A programmatic environmental impact report was certified by the Water Authority Board of Directors for the Master Plan in November 2003. Projects identified in the Master Plan will be included in the CIP based on Water Authority Board of Directors' approval. Information on the Water Authority's most recent CIP can be found on the World Wide Web at www.sdcwa.org/infra/cip.phtml.

One of the highest priority projects identified in the Master Plan is the development of additional treatment capacity within the region. During recent summers, the Water Authority experienced peak-demand conditions that have exceeded the region's rated treatment capacity. The Master Plan recommended development of an additional 50 mgd of treatment capacity immediately and another 50 mgd capacity by 2010. In response to this recommendation, the Water Authority board of directors in September 2005, approved construction of a 100 mgd water treatment plant. The water treatment plant was completed and placed into operation in 2008.

The Master Plan also identified carryover storage as a way to improve water supply reliability for the region. The Water Authority identified the three main benefits of carryover storage as: 1) enhance water supply reliability by providing a reliable and readily available source of water during periods of potential shortage, such as during dry years; 2) increase system efficiency by providing operational flexibility to serve above normal demands, such as those occurring in dry years, from storage rather than by the over-sizing of the Water Authority's imported water transmission facilities; and 3) better management of water supplies to allow the Water Authority to accept additional imported deliveries during periods of availability, such as during wet years, to ensure water availability during dry years. The Water Authority prepared an EIR/EIS for a carryover storage project, with the preferred alternative being an expansion of the San Vicente Reservoir.

The Water Authority Board of Directors is provided a semi-annual and annual report on the status of development of the CIP projects. As described in the Water Authority's biennial budget, a combination of long and short term debt and cash (pay-as-you-go) will provide funding for capital improvements. Additional information is included in the Water Authority's biennial budget, which also contains selected financial information and summarizes the Water Authority's investment policy.

6.3 Otay Water District

The Otay WD 2009 Water Resources Master Plan updated November, 2010 and revised 2005 Urban Water Management Plan contain comparisons of projected supply and demands through the year 2030. Projected potable water resources to meet planned demands as documented were planned to be supplied entirely with imported water received from the Water Authority. Recycled water resources to meet projected demands are planned to be supplied from local wastewater treatment plants. The Otay WD currently has no local supply of raw water, potable water, or groundwater resources.

The development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by the Otay WD have evolved and are planned to occur in response to the regional water supply issues. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and Metropolitan UWMP, IRP, Master Plans, and other planning documents. These new additional water supply projects are not currently developed and are in various stages of the planning process. These local and regional water supply projects will allow for less reliance upon imported water and are considered a new water supply resource for the Otay WD.

The Otay WD expansion of the market areas for the use of recycled water within the watersheds upstream of the Sweetwater Reservoir, Otay Mesa, and the Lower Otay Reservoir will increase recycled water use and thus require less dependence on imported water for irrigation purposes.

The supply forecasts contained within this WSA&V Report do consider development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by the Otay WD.

6.3.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The availability of sufficient potable water supplies and plans for acquiring additional potable water supplies to serve existing and future demands of the Otay WD is founded upon the preceding discussions regarding Metropolitan's and the Water Authority's water supply resources and water supplies to be acquired by the Otay WD. Historic imported water deliveries from the Water Authority to Otay WD and recycled water deliveries from the Otay WD Ralph W. Chapman Water Reclamation Facility (RWCWRF) are shown in Table 7. Since the year 2000 through mid May 2007, recycled water demand has exceeded the recycled water supply capability typically in the summer months. The RWCWRF is limited to a maximum production of about 1,300 ac-ft/yr. The recycled water supply shortfall had been met by supplementing with potable water into the recycled water storage system as needed by adding potable water supplied by the Water Authority. On May 18, 2007 an additional source of recycled water supply from the City of San Diego's South Bay Water Reclamation Plant (SBWRP) became available. The supply of recycled water from the SBWRP is a result of essentially completing construction and commencement of operations of the transmission, storage, and pump station systems necessary to link the SBWRP recycled water supply source to the existing Otay WD recycled water system.

Table 7
Historic Imported and Local Water Supplies
Otay Water District

Calendar Year	Imported Water (acre-feet)	Recycled Water (acre-feet)	Total (acre-feet)
1980	12,558	0	12,558
1985	14,529	0	14,529
1990	23,200	0	23,200
1995	20,922	614	21,536
2000	30,936	948	31,884
2005	40,322	1,227	41,549
2009	37,566	4,533	42,099

Source: Otay WD operational records.

6.3.1.1 Imported and Regional Supplies

The availability of sufficient imported and regional potable water supplies to serve existing and planned uses within Otay WD is demonstrated in the above discussion on Metropolitan and the Water Authority's water supply reliability. The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of

its member agencies with adequate supplies of water to meet their expanding and increasing needs." The Water Authority provides between 75 to 95 percent of the total supplies used by its 24 member agencies, depending on local weather and supply conditions. In calendar year 2009 the supply to Otay WD was 37,566 ac-ft of supply from the Water Authority. An additional 4,533 ac-ft of recycled water from the City of San Diego and from the District's Ralph W. Chapman Water Reclamation Facility. The demand for potable water within the Otay WD is expected to increase to about 72,900 ac-ft by 2025 as per the Otay WD 2005 UWMP. These figures take into account the amount of local supply (i.e. groundwater, conservation, recycling, etc.) that is expected to meet demands within Otay WD service area.

Potable Water System Facilities

The Otay WD continues to pursue diversification of its water supply resources to increase reliability and flexibility. The Otay WD also continues to plan, design, and construct potable water system facilities to obtain these supplies and to distribute potable water to meet customer demands. The Otay WD has successfully negotiated two water supply diversification agreements that enhance reliability and flexibility, which are briefly described as follows.

- The Otay WD entered into an agreement with the City of San Diego, known as the Otay Water Treatment Plant (WTP) Agreement. The Otay WTP Agreement provides for raw water purchase from the Water Authority and treatment by the City of San Diego at their Otay WTP for delivery to Otay WD. The supply system link to implement the Otay WTP Agreement to access the regions raw water supply system and the local water treatment plant became fully operational in August 2005. This supply link consists of the typical storage, transmission, pumping, flow measurement, and appurtenances to receive and transport the treated water to the Otay WD system. The City of San Diego obligation to supply 10 mgd of treated water under the Otay WTP Agreement is contingent upon there being available 10 mgd of surplus treatment capacity in the Otay WTP until such time as Otay WD pays the City of San Diego to expand the Otay WTP to meet the Otay WD future needs. In the event that the City of San Diego's surplus is projected to be less than 10 mgd the City of San Diego will consider and not unreasonably refuse the expansion of the Otay WTP to meet the Otay WD future needs. The Otay WTP existing rated capacity is 40 mgd with an actual effective capacity of approximately 34 mgd. The City of San Diego's typical demand for treated water from the Otay WTP is approximately 20 mgd. It is at the City of San Diego's discretion to utilize either imported raw water delivered by the Water Authority Pipeline No. 3 or local water stored in Lower Otay Reservoir for treatment to supply the Otay WD demand.

- The Otay WD entered into an agreement with the Water Authority, known as the East County Regional Treated Water Improvement Program (ECRTWIP Agreement). The ECRTWIP Agreement provides for transmission of raw water to the Helix WD R. M. Levy WTP for treatment and delivery to Otay WD. The supply system link to implement the ECRTWIP Agreement is complete allowing access to the regions raw water supply

system and the local water treatment plant. This supply link consists of the typical transmission, pumping, storage, flow control, and appurtenances to receive and transport the potable water from the R. M. Levy WTP to Otay WD. The Otay WD is required to take a minimum of 10,000 ac-ft/yr of treated water from the R.M. Levy WTP supplied from the regions raw water system.

Cost and Financing

The capital improvement costs associated with water supply and delivery are financed through the Otay WD water meter capacity fee, New Water Supply Fee, and user rate structures. The Otay WD potable water sales revenue are used to pay for the wholesale cost of the treated water supply and the operating and maintenance expenses of the potable water system facilities.

Written Agreements, Contracts, or Other Proof

The supply and cost associated with deliveries of treated water from the Otay WTP and the R.M. Levy WTP is based on the following documents.

Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the City of San Diego and the Otay Water District. The Otay WD entered into an agreement dated January 11, 1999 with the City of San Diego that provides for 10 mgd of surplus treated water to the Otay WD from the existing Otay WTP capacity. The agreement allows for the purchase of treated water on an as available basis from the Otay WTP. The Otay WD pays the Water Authority at the prevailing raw water rate for raw water and pays the City of San Diego at a rate equal to the actual cost of treatment to potable water standards.

Agreement between the San Diego County Water Authority and Otay Water District Regarding Implementation of the East County Regional Treated Water Improvement Program. The ECRTWIP Agreement requires the purchase of at least 10,000 ac-ft per year of potable water from the Helix WD R.M. Levy WTP at the prevailing Water Authority treated water rate. The ECRTWIP Agreement is dated April 27, 2006.

Agreement between the San Diego County Water Authority and Otay Water District for Design, Construction, Operation, and Maintenance of the Otay 14 Flow Control Facility Modification. The Otay WD entered into the Otay 14 Flow Control Facility Modification Agreement dated January 24, 2007 with the Water Authority to increase the physical capacity of the Otay 14 Flow Control Facility. The Water Authority and Otay WD to 50% share the capital cost to expand its capacity from 8 mgd to 16 mgd.

Federal, State, and Local Permits/Approvals

The Otay WD acquired all the permits for the construction of the pipeline and pump station associated with the Otay WTP supply source and for the 640-1 and 640-2 water storage

reservoirs project associated with the ECRTWIP Agreement through the typical planning, environmental approval, design, and construction processes.

The transmission main project constructed about 26,000 feet of a 36-inch diameter steel pipeline from the Otay 14 Flow Control Facility to the 640-1 and 640-2 Reservoirs project. The Otay 14 Flow Control Facility modification increased the capacity of the existing systems from 8 mgd to 16 mgd. CEQA documentation is complete for both projects. Construction of both of these projects was completed October 2010.

The City of San Diego and the Helix Water District are required to meet all applicable federal, state, and local health and water quality requirements for the potable water produced at the Otay WTP and the R.M. Levy WTP respectively.

6.3.1.2 Recycled Water Supplies

Wastewater collection, treatment, and disposal services provided by the Otay WD is limited to a relatively small area within what is known as the Jamacha Basin, located within the Middle Sweetwater River Basin watershed upstream of the Sweetwater Reservoir and downstream of Loveland Reservoir. Water recycling is defined as the treatment and disinfection of municipal wastewater to provide a water supply suitable for non-potable reuse. The Otay WD owns and operates the Ralph W. Chapman Water Reclamation Facility, which produces recycled water treated to a tertiary level for landscape irrigation purposes. The recycled water market area of the Otay WD is located primarily within the eastern area of the City of Chula Vista and on the Otay Mesa. The Otay WD distributes recycled water to a substantial market area that includes but is not limited to the U.S. Olympic Training Center, the EastLake Golf Course, and other development projects.

The Otay WD projects that annual average demands for recycled water will increase to about 6,294 ac-ft/yr by 2025 and are estimated to approach 10,000 ac-ft/yr at ultimate build out. About 1,300 ac-ft/yr of supply is generated by the RWCWRF, with the remainder planned to be supplied to Otay WD by the City of San Diego's SBWRP.

North District Recycled Water Concept

The Otay WD is a recognized leader in the use of recycled water for irrigation and other commercial uses. The Otay WD continues the quest to investigate all viable opportunities to expand the successful recycled water program into areas that are not currently served. One of these areas is in the portion of the service area designated as the North District, located within the Middle Sweetwater River Basin watershed upstream of the Sweetwater River. The close proximity of the recycled water markets in the North District to the Otay WD's source of recycled water, the RWCWRF, means that the distribution system to serve this area could be constructed relatively cost effectively. This makes the North District a logical location for the expansion of the Otay WD's recycled water system and market area.

The purpose of the North District Recycled Water System Development Project, Phase I Concept Study, is to identify the feasibility of using recycled water in the North District and to investigate and assess any limitations or constraints to its use. The Phase I study components of the North District Recycled Water Concept encompassed the preparation of six technical memorandums including the project definition, a discussion of the regulatory process, a discussion of the protection of the watershed that would be affected by recycled water use in the North District, identification of stakeholders, public outreach, and an implementation plan.

Several opportunities that could be realized with the implementation of the use of recycled water in the North District were identified. These include a reduction of demand on the potable water system and maximizing recycled water resources which in turn minimizes treated wastewater discharges to the local ocean outfall. Other opportunities are a possible partnership with Sweetwater Authority to monitor any benefits and impacts of increased recycled water use in the watershed and stakeholder outreach to resolve any water quality concerns and to retain consumer confidence. Also identified were two major constraints associated with the North District Recycled Water System Development Project. One constraint is the water quality objectives for the Middle Sweetwater Basin that will affect the effluent limitations for the recycled water produced at the RWCWRF. At this time, the effluent limit that is of concern is total nitrogen. An examination as to how the treatment process might be modified to enhance nitrogen removal and an action plan is being developed. The other major constraint is the cost of the infrastructure needed to convey and store recycled water in the North District. These costs are estimated to be in the range of $14 to $15 million dollars.

There are two additional phases proposed for the North District Recycled Water System Development Project. Phase II would include further investigation of the issues identified in Phase I as requiring further study. These include stakeholder outreach, regulatory issues, and facility planning. The third phase of the effort would include the facility planning, permitting, environmental compliance, design, and construction of the improvements necessary for delivery of recycled water to the North District markets.

The estimated amount of imported water saved at full implementation of the North District Recycled Water System Development Project is 800 ac-ft/yr. This saved imported water could than be used to offset new potable water demands.

Recycled Water System Facilities

The Otay WD has and continues to construct recycled water storage, pumping, transmission, and distribution facilities to meet projected recycled water market demands. For nearly 20 years, millions of dollars of capital improvements have been constructed. The supply link consisting of a transmission main, storage reservoir, and a pump station to receive and transport the recycled water from the City of San Diego's SBWRP are complete and recycled water deliveries began on May 18, 2007.

Cost and Financing

The capital improvement costs associated with the recycled water supply and distribution systems are financed through the Otay WD water meter capacity fee and user rate structures. The Otay WD recycled water sales revenue, along with Metropolitan and the Water Authority's recycled water sales incentive programs are used to help offset the costs for the wholesale purchase and production of the recycled water supply, the operating and maintenance expenses, and the capital costs of the recycled water system facilities.

Written Agreements, Contracts, or Other Proof

The supply and cost associated with deliveries of recycled water from the SBWRP is based on the following document.

Agreement between the Otay Water District and the City of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant. The agreement provides for the purchase of at least 6,721 ac-ft per year of recycled water from the SBWRP at an initial price of $350 per acre-foot. The Otay WD Board of Directors approved the final agreement on June 4, 2003 and the San Diego City Council approved the final agreement on October 20, 2003.

Federal, State, and Local Permits/Approvals

The Otay WD has in place an agreement with Metropolitan for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. Also, the Otay WD has in place an agreement with the Water Authority for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. The Water Authority sales incentive agreement was approved by Water Authority on July 26, 2007 and by Otay WD on August 1, 2007. All permits for the construction of the recycled water facilities to receive, store, and pump the SBWRP supply have been acquired through the typical planning, environmental approval, design, and construction processes.

The California Regional Water Quality Control Board San Diego Region (RWQCB) "Master Reclamation Permit for Otay Water District Ralph W. Chapman Reclamation Facility" was adopted on May 9, 2007 (Order No. R9-2007-0038). This order establishes master reclamation requirements for the production, distribution, and use of recycled water in the Otay WD service area. The order includes the use of tertiary treated water produced and received from the City of San Diego's SBWRP. Recycled water received from and produced by the SBWRP is regulated by Regional Board Order No. 2000-203 and addenda. The City of San Diego is required to meet all applicable federal, state, and local health and water quality requirements for the recycled water produced at the SBWRP and delivered to Otay WD in conformance with Order No. 2000-203.

6.3.1.3 Potential Groundwater Supplies

The Otay WD 2005 UWMP and the Otay WD March 2007 Integrated Water Resources Plan (2007 IRP) both contain a description of the development of potential groundwater supplies. Over the past several years, Otay WD has studied numerous potential groundwater supply options that have shown, through groundwater monitoring well activities, poor quality water and/or insufficient yield from the basins at a cost effective level. The Otay WD has a few capital improvement program projects to continue the quest to develop potential groundwater resources. Local Otay WD groundwater supply development is currently considered as a viable water supply resource to meet projected demands.

The development and/or acquisition of potential groundwater supply projects by the Otay WD have evolved and have been resurrected in response to the regional water supply issues related to water source supply conditions. Local ground water supply projects will allow for less reliance upon imported water, achieve a level of independence of the regional wholesale water agencies, and diversify the Otay WD's water supply portfolio consistent the Otay WD 2007 IRP.

In recognition of the need to develop sufficient alternative water supplies, the Otay WD has adopted a New Water Supply Fee and is planning to take the next step towards development of production groundwater well projects.

There are four groundwater well projects that the Otay WD is actively pursuing to develop as new local water supplies. They are known as the Middle Sweetwater River Basin Groundwater Well, the Otay Mesa Lot 7 Groundwater Well, the Rancho del Rey Groundwater Well, and the Otay River Groundwater Well Desalination project.

Middle Sweetwater River Basin Groundwater Well

The Middle Sweetwater River Basin Groundwater Well is a new additional water supply project had been thoroughly studied and documented in the 1990's. The Middle Sweetwater River Basin is located within the Sweetwater River watershed and is that reach of the river from Sweetwater Reservoir to the upstream Loveland Reservoir. The next step in development of the Middle Sweetwater River Basin Groundwater Well is the implementation of a pilot well project.

The Otay WD in cooperation with Sweetwater Authority and the Water Authority prepared a water resources audit for the Middle Sweetwater River Groundwater Basin in June 1991. The document was prepared by NBS Lowry and is entitled "Middle Sweetwater River System Study Water Resources Audit". The report was prepared as part of an overall study to identify and evaluate water management alternatives within the Middle Sweetwater River System (MSRS). The report graphically summarizes water resources data for the MSRS.

The Otay WD in cooperation with Sweetwater Authority and the Water Authority prepared an alternatives evaluation study of the Middle Sweetwater River System Study Water Resources Audit in May 1993. The document was prepared by Michael R. Welch and is entitled "Middle Sweetwater River System Study Alternatives Evaluation". The overall goal of the study was to identify physical projects and/or management strategies which could enhance the availability and quality of surface and ground waters within the MSRS.

The Otay WD prepared potential conjunctive use strategies for the Middle Sweetwater River Basin in September 1994. A report was prepared by Michael R. Welch and is entitled "Middle Sweetwater River Basin Conjunctive Use Alternatives". The report was prepared for the consideration of the Otay WD and Sweetwater Authority. The conceptual level planning information within report identifies and evaluates eight conjunctive use alternatives within the Middle Sweetwater River Basin.

The ultimate objective of the Otay WD is to develop a groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of potable water as a local supply.

The purpose of the Middle Sweetwater River Basin Groundwater Well Pilot project is to identify the feasibility of developing a groundwater resource production system and to determine and assess any limitations or constraints that may arise.

The Middle Sweetwater River Basin Groundwater Well Pilot Project scope of work will accomplish six primary goals as follows:

- Update project setting
- Update applicable project alternatives analysis
- Prepare groundwater well pilot project implementation plan
- Construct and test pilot monitoring and extraction wells
- Provide recommendations regarding costs and feasibility to develop a groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of potable water
- Prepare groundwater well production project implementation plan and scope of work

The groundwater conjunctive use concept planned to be developed is described as the extraction of the quantity of water from the groundwater basin that was placed there by customers of the Otay WD by means of their use of imported treated water that contributed to the overall volume of groundwater within the basin. This quantity has been estimated to be on the order of 12.5% of the total consumption of the Otay WD customers within that basin as measured by their water meters. In the 1994/1995 time frame 810 ac-ft/yr was the estimated quantity that was placed into the groundwater basin. Currently, that 12.5% quantity could be on the order of 1,000 ac-ft/yr. The scope of work is planned to address this Phase I concept while further development of the groundwater basin as an additional supply resource is appropriately considered.

Further development of the groundwater basin to enhance the total groundwater production could be accomplished by the Otay WD by means of additional extraction of water from the basin that is placed there by means of either injection and/or spreading basins using imported untreated water as the resource supply (Phase II). The existing La Mesa Sweetwater Extension Pipeline, owned by the Water Authority, once converted to an unreated water deliver system, could be the conveyance system to transport untreated water for this conjunctive use concept.

These two distinct water resource supply conjunctive use concepts will be addressed so they may coexist and to allow for their development as separate phases.

The scope of work to complete Middle Sweetwater River Basin Groundwater Well Pilot Project consists of many major tasks and is to address the groundwater supply concepts outlined above. The detailed scope of work and draft request for proposal has been prepared. It is anticipated that the consultant fee for the entire scope of work, could cost an estimated $2,000,000, which includes a contingency and may take up to two years to complete.

The primary desired outcome of the Middle Sweetwater River Basin Groundwater Well Pilot Project is for an engineering consultant to determine and make recommendations if it is financially prudent and physically feasible to develop a Phase I groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of up to 1,500 ac-ft/yr of potable water for the Otay WD. If it is deemed that a Middle Sweetwater River Basin Groundwater Well Production Project is viable then the consultant will develop and provide a groundwater well production project implementation plan and related scope of work.

Otay Mesa Lot 7 Groundwater Well

In early 2001 the Otay WD was approached by a landowner representative about possible interest in purchasing an existing well or alternatively, acquiring groundwater supplied from the well located on Otay Mesa. The landowner, National Enterprises, Inc., reportedly stated that the well could produce 3,200 ac-ft/yr with little or no treatment required prior to introducing the water into the Otay WD potable water system or alternatively, the recycled water system. In March 2001 authorization to proceed with testing of the Otay Mesa Lot 7 Groundwater Well was obtained and the Otay WD proceeded with the investigation of this potential groundwater supply opportunity.

The May 2001 Geoscience Support Services, Inc. completed for the Otay WD the preparation of a report entitled, "Otay Mesa Lot 7 Well Investigation," to assess the Otay Mesa Lot 7 Well. The scope of work included a geohydrologic evaluation of the well, analyses of the water quality samples, management and review of the well video log, and documentation of well pump testing.

The primary findings, as documented in the report, formed the basis of the following recommendations:

- For the existing well to be use as a potable water supply resource, a sanitary seal must be installed in accordance with the CDPH guidelines.
- Drawdown in the well must be limited to avoid the possibility of collapsing the casing.
- Recover from drawdown from pumping is slow and extraction would need to be terminated for up to 2 days to allow for groundwater level recovery.
- The well water would need to be treated and/or blended with potable water prior to introduction into the potable water distribution system.

In October 2001, the outcome and recommendations of the Geoscience Support Services, Inc. Otay Mesa Lot 7 Well efforts were presented to the Otay WD Board of Directors. The existing Otay Mesa Lot 7 Well, based upon the above findings, was determined not to be a reliable municipal supply of potable water and that better water quality and quantity perhaps could be discovered deeper or at an alternative location within the San Diego Formation.

The Otay WD is continuing to pursue the Otay Mesa groundwater well opportunity with due consideration of the recommendations of the existing report and plans to develop a groundwater well production facility to extract perhaps at least 600 ac-ft/yr. The steps necessary to put such a well into production are as follows:

- Review the results of available water quality data, video survey for casing and screen condition, and pump testing.
- Investigate, discover, and confirm a reliable sufficient quality and quantity of source water.
- Establish feasibility and cost effectiveness of a production well system.
- Negotiate the purchase of a well site.
- Proceed with the planning, environmental compliance, permitting, design, and construction of a groundwater well production system.

Rancho del Rey Groundwater Well

In 1991, the McMillin Development Company drilled the Rancho del Rey Groundwater Well to augment grading water supplies for their Rancho del Rey development projects. Although the well was considered a "good producer," little was known regarding its water quality and sustainable yield for the water was used solely for earthwork (i.e. dust control and soil compaction). The well was drilled to 865 feet, with a finished depth of 830 feet and produced approximately 400 ac-ft/yr of low quality water for four years until its use was discontinued in April 1995 as McMillin Development Company no longer needed the well. McMillin Development Company had previously notified the Otay WD of its intent to sell off the groundwater well asset.

The Otay WD continued discussions with McMillin Development Company and decided to determine if the Otay WD could use the water from the well and establish if purchase the property along with the existing well were appropriate. The Otay WD retained Quality Assurance Laboratories to conduct water quality testing in February 1995. It was established that the water from the well had a high total dissolved solids levels that exceeded well over 2,000 milligrams per liter. The Otay WD also retained engineering and well drilling firms, Barrett Consulting Group and Multi Water Systems respectively, which performed pump draw down tests in December 1995. The results of these efforts established the well's long term yield to be about 629 ac-ft/yr. In February 1996 the Otay WD retained Boyle Engineering Corporation to prepare a feasibility study to compare alternatives for treating and using the groundwater and to provide a benefit/cost analysis. The September 1996 Boyle Engineering Corporation, "Groundwater Treatment Feasibility Study Rancho del Ray Well Site," report concluded that a Rancho del Rey Groundwater Well project could be feasible. It was established that both capital and operation and maintenance costs would require the well to produce at least 700 ac-ft/yr for a minimum of ten years to make the project economically viable. In October 1997 the Otay WD became owners of the property and well.

In May 1997 the Otay WD prepared and submitted to CDPH an Application for an Amended Operating Permit to add as a source water supply the Rancho del Rey Groundwater Well. The CDPH established that it would not issue an amended permit for the operation of the Rancho del Rey Groundwater Well and any related treatment facilities until the system design and specifications have been reviewed and approved and the facilities must pass field inspection following construction.

In April 1998 the Otay WD received four proposals from consultants interested in designing the project. These proposals came in at almost double the estimated cost and in March 2000 the Otay WD decided to suspend further work on the developing the Rancho del Rey Groundwater Well until the project becomes economically viable or other circumstance would make it desirable to pursue development of the well.

In 2008 the Otay WD decided to reestablish the pursuit of the Rancho del Rey Groundwater Well project based upon the current water supply and water pricing conditions. The steps necessary to put such a well into production are as follows:

- Review the results of available data, tests, reports, etc.
- Reevaluate the cost effectiveness of a production well system.
- Proceed with the planning, environmental compliance, permitting, design, and construction of a groundwater well production system.

Otay River Groundwater Desalination Facility

Many local entities in San Diego County have studied the San Diego Formation and are interested in its potable water supply potential. These include the Sweetwater Authority, the Water Authority, City of San Diego, Otay WD, and the United Stated Geological Service.

The San Diego Formation extends from the California-Mexico border to near Mission Bay in San Diego County, a distance of approximately 16 miles and from the coast to approximately six miles inland.

What is known about the San Diego Formation is that the geology is complex, and at present, only partly understood. The heterogeneity of the aquifer makes it extremely difficult to accurately predict groundwater flow or well performance. Few, if any, investigations have been performed on the San Diego Formation in the Otay River Valley. Most of the knowledge is based in the Sweetwater River Valley and the Tijuana River Valley. Therefore, the Otay River Groundwater Desalination Facility (Otay River) project would produce valuable and useful data to aid in characterizing the San Diego Formation that could ultimately lead to the production of potable water.

The objective of Otay WD and Sweetwater Authority is to plan, and potentially permit, design, and construct an Otay River project within the Lower Otay River Basin capable of producing a sustainable yield of potable water as a local supply. The Lower Otay River Basin is located within the Otay River watershed and is that reach of the river below the Lower Otay Reservoir. The San Diego Formation is the principal aquifer in the South San Diego Bay area and underlies the Otay River Basin and other river basins.

The purpose of the Otay River project is to increase the quantity of local water supply within the South San Diego Bay region by development of a brackish groundwater well and desalination production system to extract, to the maximum extent practical, groundwater from the San Diego Formation; thereby, reducing imported and treated water demand from the Water Authority and Metropolitan.

The development of the Otay River project is being developed in a phased approach. The Sweetwater Authority and Otay WD are proceeding with the Otay River project and are participating in all phases of development and intend share equally all aspects and outcomes such as costs, risks, water supply, benefits, etc.

The Otay River project effort is currently being accomplished in two phases. Phase I, which is well underway, is envisioned as the planning and feasibility aspects of the project intended to determine the viability of extracting brackish groundwater from the San Diego Formation with the purpose to eventually construct brackish groundwater desalination treatment and transport facilities. Phase II is envisioned as proceeding with a pilot project, environmental compliance, permitting, design, construction, operation, maintenance, and other requirements of the Otay River project production and transport facilities to treat the groundwater and deliver the produced potable water to customers of both Sweetwater Authority and Otay WD. Proceeding with Phase II is dependent upon the outcomes of the Phase I efforts.

In 2006, Sweetwater Authority, in partnership with Otay WD received notification from the California Department of Water Resources (DWR) that Sweetwater Authority had been selected to receive a matching grant for the Otay River Basin Brackish Groundwater

Desalination Study. The grant amount from DWR is $242,000. The combined Sweetwater Authority and Otay WD contribution is $357,000, for a total of $599,000 to accomplish the DWR grant study. Through the Otay River Basin Brackish Groundwater Desalination Study, Sweetwater Authority and Otay WD will determine the feasibility of extracting brackish groundwater from the San Diego Formation. A portion of the work involves the United States Geological Society (USGS) services to construct multi-depth monitoring wells near the Otay River. The monitoring wells have been constructed.

In 2007, Sweetwater Authority , in partnership with Otay WD received notification from the Water Authority that Sweetwater Authority had been selected to receive a matching grant from the Water Authority Local Investigations and Studies Assistance (LISA) grant funding program for the USGS Study of the San Diego Formation for Potential In-lieu Conjunctive Use concept. The grant amount is $1,500,000. The combined Sweetwater Authority and Otay WD contribution is $1,500,000, for a total of $3,000,000 to complete the LISA grant study.

The USGS Study of the San Diego Formation for Potential In-lieu Conjunctive Use effort has two primary objectives as follows.

- Develop an integrated, comprehensive understanding of the geology and hydrology of the San Diego Formation and the overlying alluvial deposits. With this understanding, the sustainable yield of the San Diego Formation can be determined founded upon good science.
- Use this understanding to evaluate use of the alluvial deposits and the San Diego Formation for an in-lieu conjunctive use project for expanded extraction.

The study phase, Phase I, of the Otay River project is to collect necessary geologic, groundwater, and water quality data that can be used to determine the safe yield from the aquifer and to develop a solidified plan for completing a Otay River project that could potentially yield at least 4,500 ac-ft/yr of desalinated potable water.

The achievable goals of the Otay River project are as follows:

- Obtain valuable well data that can be used to determine the hydro geological condition of the San Diego Formation in the Otay River Basin.
- Determine the water quality of the aquifer in this region.
- Conceptually layout the facilities needed to collect, treat, and deliver desalinated water to potable water customers of Sweetwater Authority and Otay WD.
- Develop a long-range monitoring program for well development and an implementation plan that clearly identifies the steps needed to complete the ultimate project.

The Otay River project will allow the partnering each agency to complete a significant step towards developing a new potable water source from brackish groundwater that is currently not used.

6.3.1.4 Potential Ocean Desalination Supplies

The Otay WD is currently investigating the feasibility of purchasing desalinated water from a seawater reverse osmosis plant that is planned to be located in Rosarito, Mexico. This project is known as the Rosarito Ocean Desalination Facility (Rosarito) project. The treatment facility is intended to be designed, constructed, and operated in Mexico by a third party. On June 21, 2010 a report was prepared for the Otay WD by Camp Dresser & McKee, Inc. entitled Rosarito Desalination Facility Conveyance and Disinfection System Project.

The Rosarito Desalination Facility Conveyance and Disinfection System Project report discusses the likely issues to be considered in terms of water treatment and monitoring, potential conveyance options within the United States from the international border to potential delivery points, and environmental, institutional, and permitting considerations for Otay WD to import the Rosarito project product water as a new local water supply resource. The three main treatment considerations addressed are:

- Treatment required for a reliable, high quality source, which blends effectively with the existing water supply.
- Treatment and monitoring required for compliance with the California Department of Public Health (CDPH) regulations.
- Treatment required for public perception concerns.

While the treatment facility for the Rosarito project will likely not be designed or operated by the Otay WD as the lead agency, it is important that Otay WD maintain involvement with the planning, design, and construction of the facility to ensure that the implemented processes provide a product water of acceptable quality for distribution and use within the Otay WD system as well as in other agencies' systems in the region that may use the product water, e.g. City of San Diego, the Water Authority, etc. A seawater reverse osmosis treatment plant removes constituents of concern from the seawater, producing a water quality that far exceeds established United States and California drinking water regulations for most parameters, however, a two-pass treatment system may be required to meet acceptable concentrations of boron and chlorides, similar to the levels seen within the existing Otay WD supply sources. The Rosarito Desalination Facility Conveyance and Disinfection System Project report addresses product water quality that is considered acceptable for public health and distribution.

The Otay WD, or any other potential participating agencies, will be required to get approval from the CDPH in order to use the desalinated seawater as a water source. Three alternatives approaches are identified for getting this approval: 1) Certification of the Rosarito project in Mexico by CDPH; 2) Disinfection treatment only in the United States, receiving a waiver of

specific filtration requirements through CDPH; and 3) Full filtration and disinfection treatment of water entering the United States with waiver of certain typical Watershed Sanitary Survey requirements. These alternatives vary in their cost and their likelihood of meeting CDPH approval.

The Rosarito Desalination Facility Conveyance and Disinfection System Project report addresses two supply targets for the desalinated water (i.e. local and regional). The local alternative assumes that only Otay WD would participate and receive desalinated water, while the regional alternative assumes that other regional and/or local agencies would also participated in the Rosarito project.

On November 3, 2010, the District authorized the General Manager to enter into an agreement with AECOM for the engineering design, environmental documentation, and the permitting for the construction of the conveyance pipeline, pump station, and disinfection facility to be constructed within the District. The supply target is assumed to be 50 mgd.

The Otay WD is proceeding with negotiations among the parties to establish water supply resource acquisition terms through development of a Principles of Understanding document.

6.3.2 Otay WD Capital Improvement Program

The Otay WD plans, designs, constructs, and operates water system facilities to acquire sufficient supplies and to meet projected ultimate demands placed upon the potable and recycled water systems. In addition, the Otay WD forecasts needs and plans for water supply requirements to meet projected demands at ultimate build out. The necessary water facilities and water supply projects are implemented and constructed when development activities proceed and require service to achieve timely and adequate cost effective water service.

New water facilities that are required to accommodate the forecasted growth within the entire Otay WD service area are defined and described within the Otay WD 2009 WRMP updated November, 2010 . These facilities are incorporated into the annual Otay WD Six Year Capital Improvement Program (CIP) for implementation when required to support development activities. As major development plans are formulated and precede through the land use jurisdictional agency approval processes, Otay WD prepares water system requirements specifically for the proposed development project consistent with the Otay WD 2009 WRMP updated November, 2010 . These requirements document, define, and describe all the potable water and recycled water system facilities to be constructed to provide an acceptable and adequate level of service to the proposed land uses, as well as the financial responsibility of the facilities required for service. The Otay WD funds the facilities identified as CIP projects. Established water meter capacity fees and user rates are collected to fund the CIP project facilities. The developer funds all other required water system facilities to provide water service to their project.

Section 7 – Conclusion: Availability of Sufficient Supplies

The Village 8 West project is located within the jurisdictions of the Otay WD, the Water Authority, and Metropolitan, and is eligible to utilize imported water supply (i.e. to obtain imported water supply service).

The Water Authority and Metropolitan have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the SANDAG updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and Metropolitan update their demand forecasts and supply needs approximately every five years to coincide with preparation of their urban water management plans based on the most recent SANDAG forecast. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, nor Metropolitan jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations or revised land use plans typically result in creating higher demand and supply requirements than anticipated. The Water Authority and Metropolitan next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions such as the proposed densification of the Village 8 West project.

Metropolitan's Integrated Resources Plan identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2010 IRP Update includes a planning buffer supply intended to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, Metropolitan periodically evaluates supply development to ensure that the region is not under or over-developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

In Section II.4 of their 2005 Regional Urban Water Management Plan, Metropolitan states that through effective management of its water supply, they fully expect to be 100 percent reliable in meeting all non-discounted non-interruptible demands throughout the next twenty-five years. Metropolitan's 2005 RUWMP identifies potential reserve supplies in the supply capability analysis (Tables II-7, II-8, and II-9), which could be available to meet the unanticipated demands such as those related to the densification of the Village 8 West project.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written water supply assessment and/or verification report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 9 of the Water Authority's 2005 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, completed in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

This WSA&V Report identifies and describes the processes by which water demand projections for the proposed Village 8 West project will be fully included in the water demand and supply forecasts of the Urban Water Management Plans and other water resources planning documents of the Water Authority and Metropolitan. Water supplies necessary to serve the demands of the proposed Village 8 West project, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the Village 8 West project WSA&V Report and will be included in the future water supply planning documents of the Water Authority and Metropolitan.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the proposed Village 8 West project. The WSA&V Report demonstrates and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the proposed Village 8 West project and the existing and other planned development projects to be served by the Otay WD.

Table 8 presents the forecasted balance of water demands and required supplies for the Otay WD service area under average or normal year conditions.

Table 8
Projected Balance of Water Supplies and Demands
Normal Year Conditions (acre feet)

Description	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Water Authority Supply	45,772	52,349	59,799	66,560	75,108
Recycled Water Supply	4,040	4,684	5,430	6,294	7,297
Groundwater Supply	0	0	0	0	0
Total Required Supply	**49,812**	**57,033**	**65,229**	**72,854**	**82,405**
Total Projected Demand	**49,812**	**57,033**	**65,229**	**72,854**	**82,405**
Supply Deficit	**0**	**0**	**0**	**0**	**0**

Table 9 presents the forecasted balance of water demands and supplies for the Otay WD service area under single dry year conditions. Table 9 presents the forecasted balance of water demands and required supplies for the Otay WD service area under average or normal year conditions. The OWD 2005 UWMP demand projection for FY 2010 of 49,812 acre feet is substantially higher than the actual demand for that fiscal year. The total actual demand for FY 2010 was 36,500 acre feet. The demand for FY 2010 is 6,500 acre feet lower than the peak demand of FY 2006 of 43,000 acre feet. The drop in demand is a result of the unit price of water, the conservation efforts of users as a result of the prolonged drought, and the economy.

Table 9
Projected Balance of Water Supplies and Demands
Single Dry Year Conditions (acre feet)

Description	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Water Authority Supply	49,259	56,341	64,365	71,660	80,876
Recycled Water Supply	4,040	4,684	5,430	6,294	7,297
Groundwater Supply	0	0	0	0	0
Total Required Supply	**53,299**	**61,025**	**69,795**	**77,954**	**88,173**
Total Projected Demand	**53,299**	**61,025**	**69,795**	**77,954**	**88,173**
Supply Deficit	**0**	**0**	**0**	**0**	**0**

Dry year demands assumed to generate a 7% increase in demand over normal conditions for each year in addition to new demand growth.

Table 10 presents the forecasted balance of water demands and supplies for the Otay WD service area under multiple dry year conditions for the five year period ending in 2015.

Multiple dry year conditions for periods ending 2020, 2025, and 2030 are provided in the Otay WD 2005 UWMP.

Table 10
Projected Balance of Water Supplies and Demands
Multiple Dry Year Conditions (acre feet)

Description	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Water Authority Supply	50,675	52,091	53,509	54,925	56,341
Recycled Water Supply	4,169	4,298	4,426	4,555	4,684
Groundwater Supply	0	0	0	0	0
Total Required Supply	**54,844**	**56,389**	**57,935**	**59,480**	**61,025**
Total Projected Demand	**54,844**	**56,389**	**57,935**	**59,480**	**61,025**
Supply Deficit	**0**	**0**	**0**	**0**	**0**

Dry year demands assumed to generate a 7% increase in demand over normal conditions for each year in addition to new demand growth.

The projected potable demand and supply requirements shown the Tables 8, 9, and 10 are from the Otay WD 2005 UWMP. Hot, dry weather may generate urban water demands that are about 7 percent greater than normal. This percentage was utilized to generate the dry year demands shown in Tables 9 and 10. The recycled water supplies are assumed to experience no reduction in a dry year.

This WSA&V Report demonstrates and verifies that sufficient water supplies are planned for and are intended to be acquired as well as the actions necessary and status to develop these supplies are documented to meet projected water demands of the Village 8 West project and the existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal and in single and multiple dry years.

Source Documents

City of Chula Vista, October 15, 2010, Otay Ranch Village 8 West SB 610 and SB 221 Compliance request letter received October 19, 2010.

City of Chula Vista, "Otay Ranch General Development Plan/Sub-regional Plan, The Otay Ranch Joint Planning Project," October 1993 amended June 1996.

County of San Diego, "East Otay Mesa Specific Plan Area," adopted July 27, 1994.

Otay Water District, "2009 Water Resources Master Plan Update," Dated November, 2010.

MWH Americas, Inc. and Otay Water District, "Otay Water District 2005 Urban Water Management Plan," December 2005 amended July 2007.

Camp Dresser & McKee, Inc., "Otay Water District Integrated Water Resources Plan," March 2007

San Diego County Water Authority, "Urban Water Management Plan 2005 Update," November 2005 amended May 2007.

Metropolitan Water District of Southern California, "Regional Urban Water Management Plan," November 2005.

Dexter Wilson Engineering, Inc., "Overview of Water Service for Otay Ranch Village 8 West," November 2010.

Dexter Wilson Engineering, Inc., "Otay Ranch Village 8 West Water Conservation Plan," November 2010.

Camp Dresser & McKee, Inc., "Rosarito Desalination Facility Conveyance and Disinfection System Project," June 21, 2010.

PBS&J, "Draft Otay Water District North District Recycled Water System Development Project, Phase I Concept Study," December 2008.

NBS Lowry, "Middle Sweetwater River System Study Water Resources Audit," June 1991.

Michael R. Welch, "Middle Sweetwater River System Study Alternatives Evaluation," May 1993.

Michael R. Welch, "Middle Sweetwater River Basin Conjunctive Use Alternatives," September 1994.

Geoscience Support Services, Inc., "Otay Mesa Lot 7 Well Investigation," May 2001.

Boyle Engineering Corporation, "Groundwater Treatment Feasibility Study Ranch del Ray Well Site," September 1996.

Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the City of San Diego and the Otay Water District.

Agreement between the San Diego County Water Authority and Otay Water District regarding Implementation of the East County Regional Treated Water Improvement Program.

Agreement between the San Diego County Water Authority and Otay Water District for Design, Construction, Operation, and Maintenance of the Otay 14 Flow Control Facility Modification.

Agreement between the Otay Water District and the City of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant.

Appendix A

Otay Ranch Village 8 West Regional Location Map

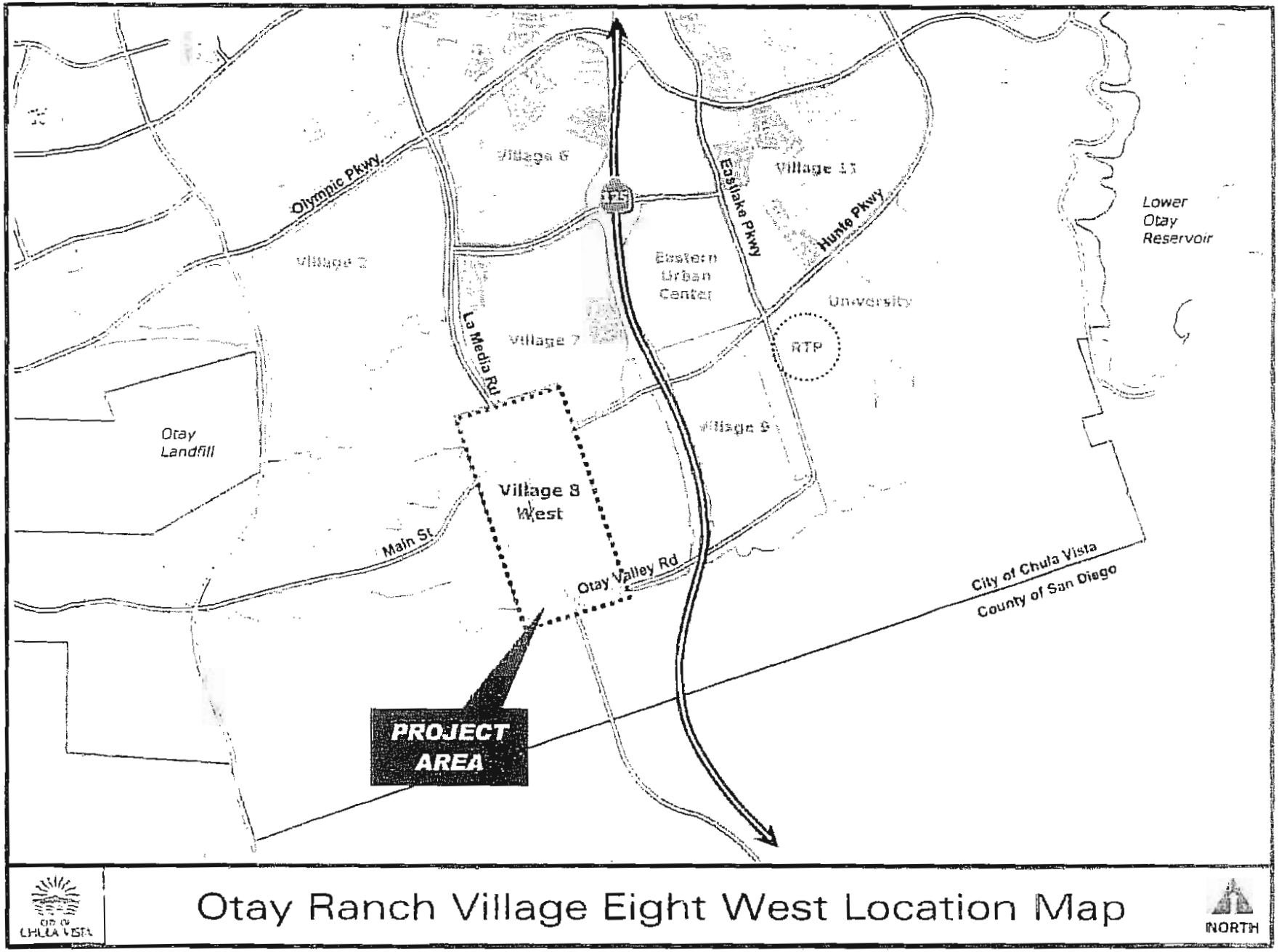
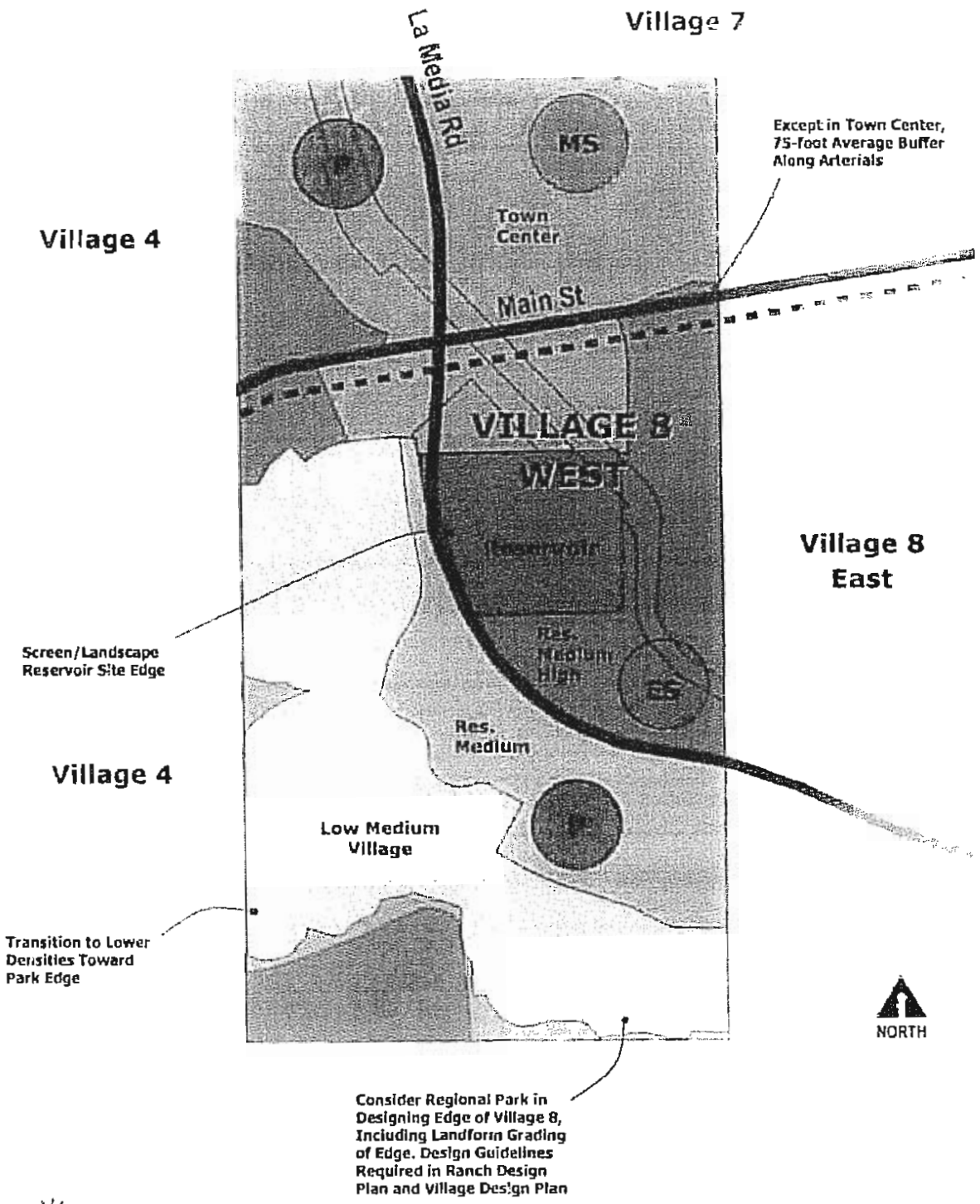

Olympic Pkwy
Village 6
Village 11
Eastlake Pkwy
Hunte Pkwy
Lower
Otay
Reservoir
Village 2
Eastern
Urban
Center
University
La Media Rd
Village 7
RTP
Otay
Landfill
Village 8
West
Village 9
Main St
Otay Valley Rd
City of Chula Vista
County of San Diego
PROJECT
AREA
CITY OF
CHULA VISTA
Otay Ranch Village Eight West Location Map
NORTH

Figure 1

Appendix B

Otay Ranch Village 8 West Proposed Development Plan



CITY OF CHULA VISTA

Figure 2

Village Eight West Proposed General Plan Land Use Map

CITY OF CHULA VISTA

Development Services Department

October 15, 2010

Bob Kennedy, Planning Engineer
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, CA 91977-7299

Subject: **SB 610 and SB 221 Compliance – Village 8 West Sectional Planning Area Plan (File No. EIR-10-03)**

Dear Mr. Kennedy:

Pursuant to discussions between you and City of Chula Vista (City) staff, it is the City's understanding that the Otay Water District (OWD) is currently unable to complete the Water Supply Assessment and a Verification of Sufficient Water Supply (WSA&V Report) for the Otay Ranch Village 8 West Sectional Planning Area (SPA) Plan requested by the City in a letter dated April 13, 2010. We understand that during the preparation of the requested WSA&V Report, OWD received a water services technical report through the Applicant's engineering consultant Dexter Wilson Engineering (DWE). As noted in your letter dated June 29, 2010, the information contained in the draft water services technical report was not consistent with the land use allocation data provided to you in the City's original request.

The City was unaware at that time that a draft report had been provided to OWD through the Applicant's engineering consultant. More importantly, the report that OWD had received had not yet been reviewed or approved by the City. We understand that the difference in information between the city's April WSA&V Report request letter and the DWE report has resulted in complications related to completing the WSA&V Report for Village 8 West. In the future, and to avoid this circumstance again, the City respectfully requests that any requests for additional information or technical reports be directed through the City.

Based on these facts, the City rescinds the April 13, 2010 request for a WSA&V Report pursuant to SB 610 and SB 221, and will re-submit to OWD a new request for the report. The City has worked very closely with the Applicant to reconcile the inconsistencies and

is confident that the aforementioned re-submittal will adequately addressed the issues identified in OWD's correspondence dated June 29, 2010.

In our recent discussions, OWD indicated that they have continued to draft the previously requested WSA&V Report with the intent to expedite the process once the City and Applicant have concurrence regarding unit allocations and associated acreages. It is also our understanding that OWD will strive to complete the forthcoming WSA&V Report for the Otay Ranch Village 8 West project by the end October in order to place the item on the OWD's Engineering, Operations, and Water Resources Committee's (Committee) November Agenda. The City understands that, following the Committee's action, the WSA&V Report must also go to OWDs Board of Directors (Board) for approval and that the next Board meeting is scheduled for January 5, 2011.

If you have any questions regarding this letter or need additional information regarding the project, please contact either Tom Adler, Senior Civil Engineer, at (619) 409-5483 or myself at (619) 476-2329.

Sincerely,

Glen Laube
Associate Planner

Cc: Jim Peasley, Planning Engineer, Otay Water District
Scott Donaghe, Principal Planner
Tom Adler, Principal Engineer
Marni Borg, Environmental Projects Manger
Curt Noland, Otay Land Company, LLC

CITY OF CHULA VISTA

Development Services Department

October 15, 2010

Bob Kennedy, Planning Engineer
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, CA 91978-2096

Subject: **Replacement Request for a Water Supply Assessment and Verification of Sufficient Water Supply for the Village 8 West Sectional Planning Area Plan (File No. EIR-10-03)**

Dear Mr. Kennedy,

The City of Chula Vista has received an entitlement application for the Otay Ranch Village 8 West Sectional Planning Area (SPA) Plan. An Environmental Impact Report (EIR) is being prepared for the entitlement application. The City issued a request for a Water Supply Assessment and Verification of Sufficient Water Supply (WSA&V) to the Otay Water District (OWD) on April 13, 2010. In accordance with a letter dated October 15, 2006, the City rescinded the previous WSA&V request.

Senate Bill (SB) 610 and SB 221 require a Lead Agency to request the purveyor of a public water system that will serve a proposed development that meets the minimum threshold size defined by the state, prepare a Water Supply Assessment and Verification (WSA&V) Report. This letter formally replaces the April 2010 request for OWD to prepare a WSA&V Report pursuant to SB 610 and SB 221 for the proposed project. The entitlement request is described below.

Village 8 West SPA Plan Application

Village 8 West involves one, 320-acre ownership within the approximately 496-acre Village 8. The Village 8 West SPA Plan area is bound by Villages Four and Seven on the north, Village 8 East on the east, the Otay River Valley on the south, and Village Four on the west (Figure 1). The future southern extension of La Media Road traverses this village.

The proposed Village 8 West SPA Plan would provide for a maximum of 621 single-family and 1,429 multi-family residential units. Village 8 West also includes a town center containing 14.5 acres of commercial uses (mixed with office and residential uses), 28 acres of park land, 5.8 acres of Community Purpose Facility (CPF) uses, 32.4 acres for public schools (elementary and junior high), a transit stop, and affordable housing. The proposed project would not require a General Plan or General Development Plan (GP/GDP) Amendment because GP/GDP Amendments that would accommodate the proposed project are being processed separately with the University Villages General Plan Update and Supplemental EIR. The land uses proposed for Village 8 West are summarized in Table 1 below. In addition, the proposed General Plan Land Use diagram for Village 8 West is depicted in Figure 2.

Otay Ranch Village 8 West Land Use Summary	
Land Use	**Quantity**
Single Family	621 units
Multi-family	1,429 units
Schools	32.4 acres
Commercial	300,000 square feet
Community Purpose Facility (CPF)	5.8 acres
Parks	28.0 acres

It is the City's understanding based on conversations with OWD staff, that OWD is updating its 2009 Water Resources Master Plan. It is also our understanding that OWD will continue to prepare the WSA&V Report for Village 8 West concurrently with the Master Plan Update and will strive to get the WSA&V Report to the OWD Board of Directors for approval in January 2011.

Please be advised that the City has not approved a Water Services Report for Village 8 West SPA Plan. It is the City's understanding that a draft report is being prepared by Dexter Wilson Engineering that will confirm the land use allocations and associated water demands. The City has been informed that a draft report is expected in a few weeks.

If you have any questions regarding this request or need additional information regarding the project, please contact either Tom Adler, Senior Civil Engineer, at (619) 409-5483 or myself at (619) 476-2329.

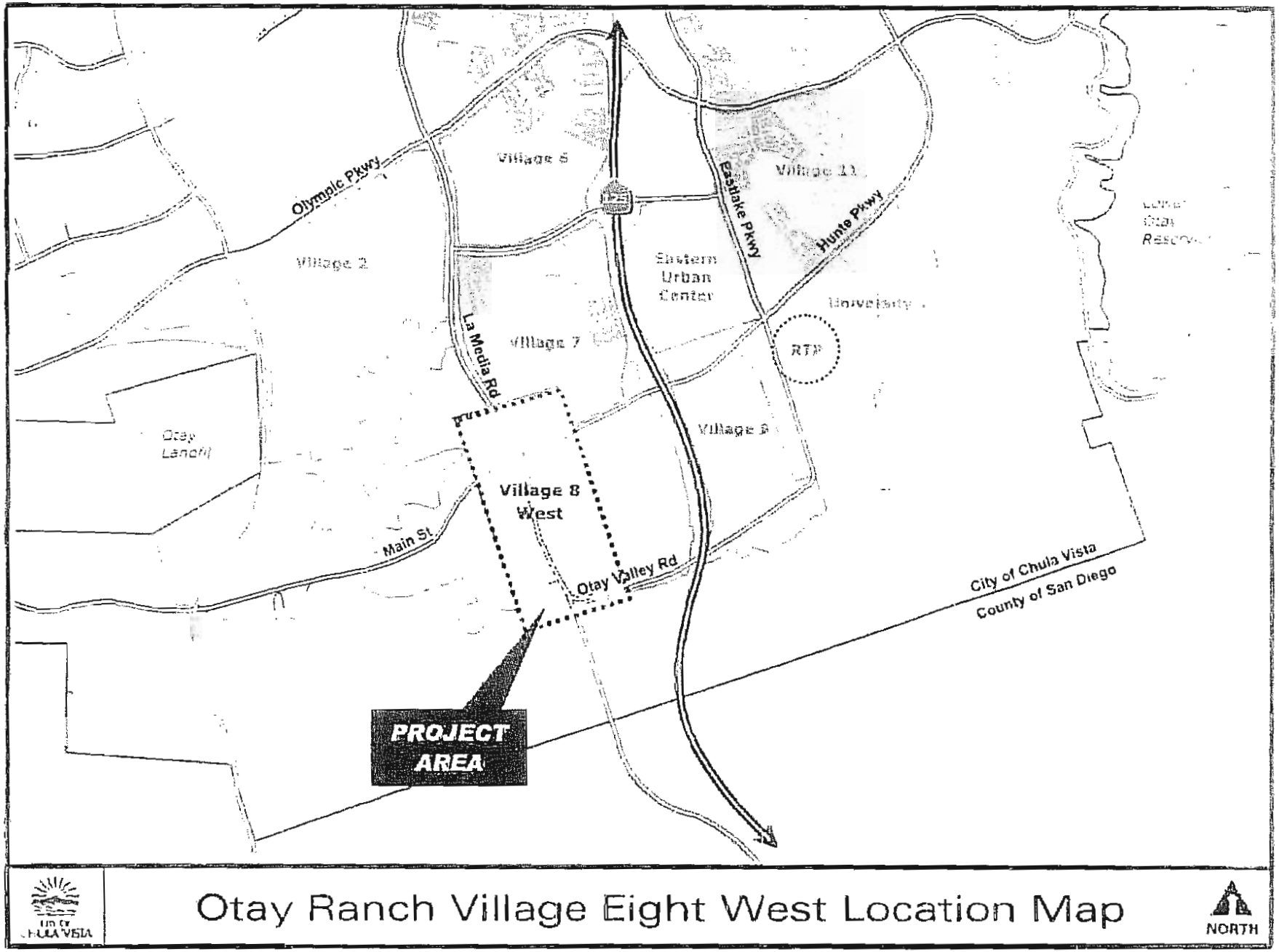
Sincerely,

Glen Taube
Associate Planner

Attachments:

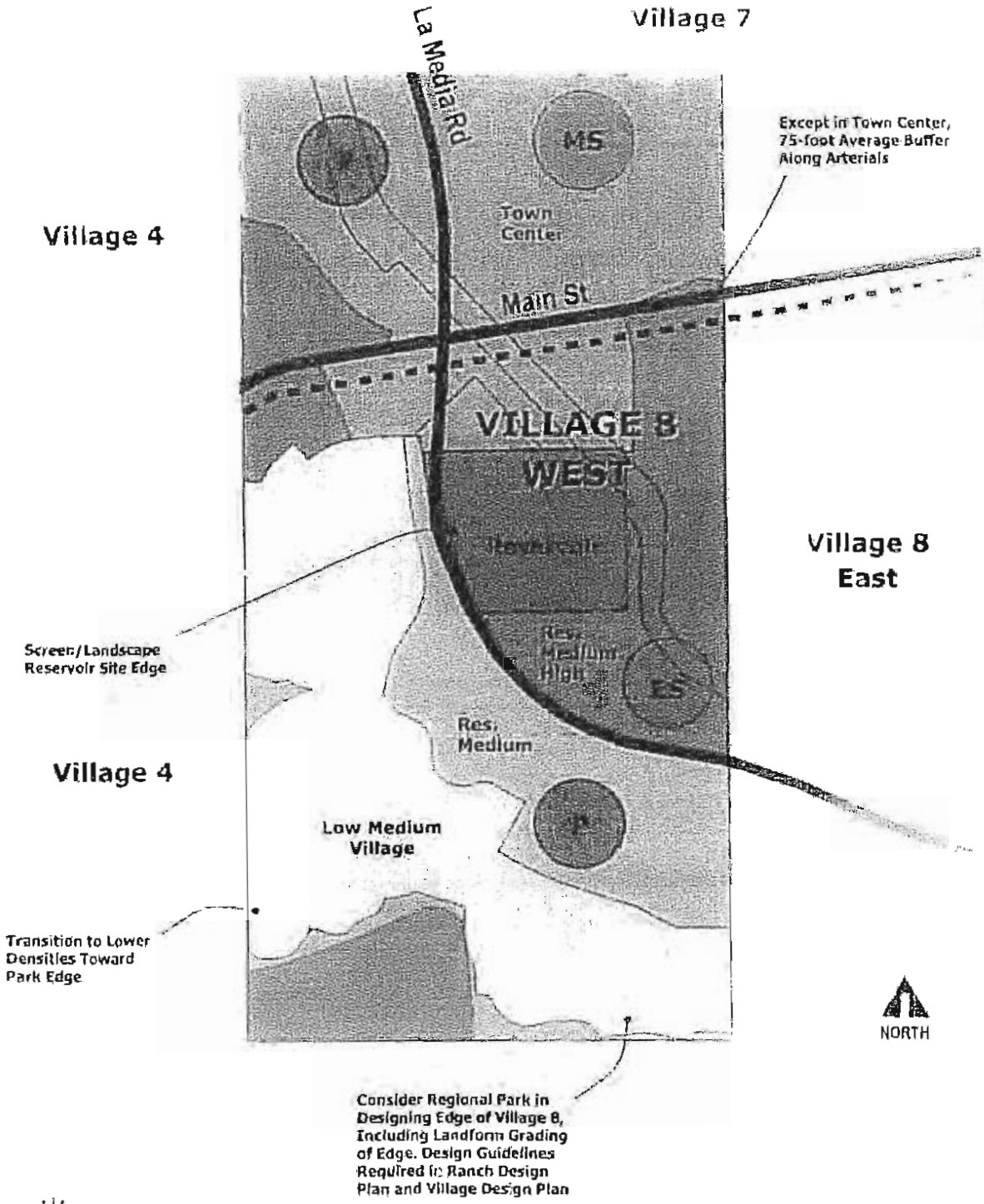
Figure 1: Otay Ranch Village 8 West Location Map
Figure 2: Village 8 West Proposed General Plan Land Use Map

Cc: Jim Peasley, Planning Engineer
Scott Donaghe, Principal Planner
Tom Adler, Senior Civil Engineer
Marni Borg, Environmental Projects Manager
Curt Noland, Otay Land Company, LLC
Bobbi Herdes, RECON



Otay Ranch Village Eight West Location Map

Figure 1



CITY OF CHULA VISTA

Figure 2

Village Eight West Proposed General Plan Land Use Map

APPENDIX K2

Overview of Water Service

FINAL
OVERVIEW OF WATER SERVICE
FOR
OTAY RANCH VILLAGE 8 WEST

November 2010



Prepared By:

Dexter Wilson Engineering, Inc.
2234 Faraday Avenue
Carlsbad, CA 92008

Job Number 646-370

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CHAPTER 1

INTRODUCTION

This report provides an overview of water service for the Otay Ranch Village 8 West Project. Village 8 West includes portions of Otay Ranch Villages 4, 7, and 8. This report will project water demands for the project, outline regional water facilities to be constructed, and recommend onsite facilities to accommodate project demands. This report recommends water facilities specific to the needs of Otay Ranch Village 8 West, but takes into account Otay Water District regional planning for the area. A discussion of recycled water is also provided.

PROJECT OVERVIEW

The Village 8 West project is approximately 320 acres in size and is located in the City of Chula Vista, within the Otay Ranch development. The project is generally bounded by Villages 2 and 7 to the north, Village 4 to the west, and Village 8 to the south and east. Figure 1-1 presents a location map for the project.

DEVELOPMENT PLAN

Village 8 West is planned as a mixed use urban village as described in the General Development Plan. Land uses include mixed uses within the town center, transitioning to single family residential on the south end of the project. Residential products will include single family detached and multi-family units totaling 2,050 units. Other land uses include school sites, a community purpose facility, retail commercial, parks, and open spaces. The City of San Diego South San Diego Reservoir is also located in the center of Village 8 West. Figure 1-2 provides the proposed development plan for the project and Table 1-1 provides a site utilization summary table.

TABLE 1-1
SITE UTILIZATION SUMMARY TABLE

Planning Area	Gross Acres	Maximum Residential Units	Maximum Commercial Square Footage
Mixed Use			
B	1.4	25	0
C	6.9	130	36,000
F	5.4	103	25,000
H-1	7.7	33	144,000
H-2	1.2	0	12,000
J	5.4	160	18,000
L	14.2	448	65,000
Subtotal	**42.2**	**899**	**300,000**
Multi-Family Residential			
E	6.3	95	---
I	6.8	122	---
M	8.5	153	---
O	8.9	160	---
Subtotal	**29.5**	**530**	**—**
Single Family Residential			
Q	14.6	160	---
U	11.9	130	---
N	24.1	117	---
P	38.1	124	---
V	25.3	90	---
Subtotal	**114**	**621**	**—**
Community Purpose Facility			
R	5.8	---	---
Schools			
D	21.0	---	---
S	11.4	---	---
Subtotal	**32.4**	**—**	**—**

TABLE 1-1
SITE UTILIZATION SUMMARY TABLE

Planning Area	Gross Acres	Maximum Residential Units	Maximum Commercial Square Footage
Parks			
A	17.4	---	---
G	3.1	---	---
T	7.5	---	---
Subtotal	28.0	---	---
Open Space			
Y	15.6	---	---
X	3.5	---	---
Subtotal	19.1	---	---
Other			
W	19.6	---	---
R-O-W	29.5	---	---
Subtotal	**49.1**	—	—
TOTAL	**320.1**	**2,050**	**300,000**

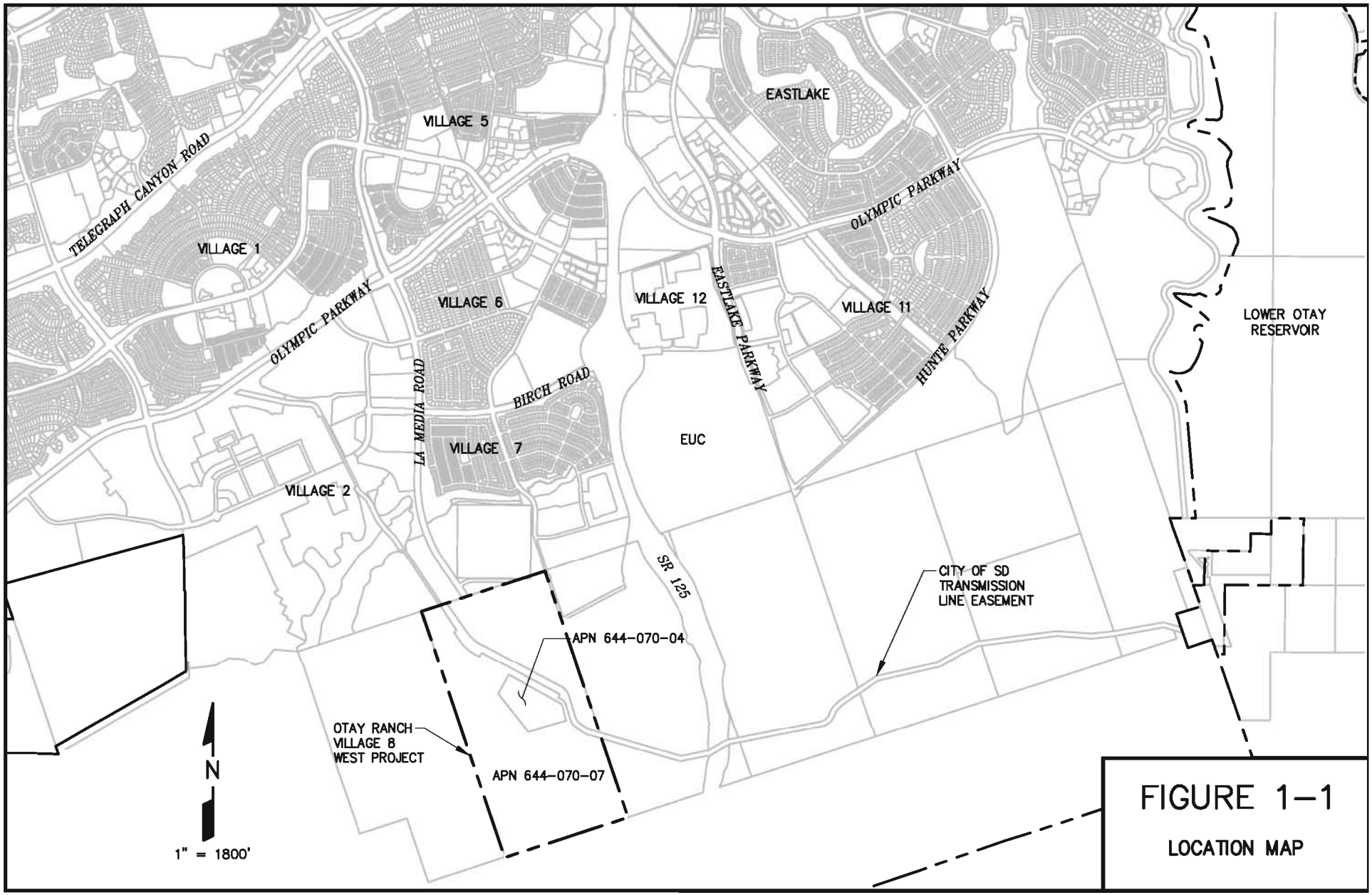


FIGURE 1–1

LOCATION MAP

\\PACIFIC\DWG\646370\FIGURE_1-1.DWG 06-02-10 08:29:36 LAYOUT: 1-1

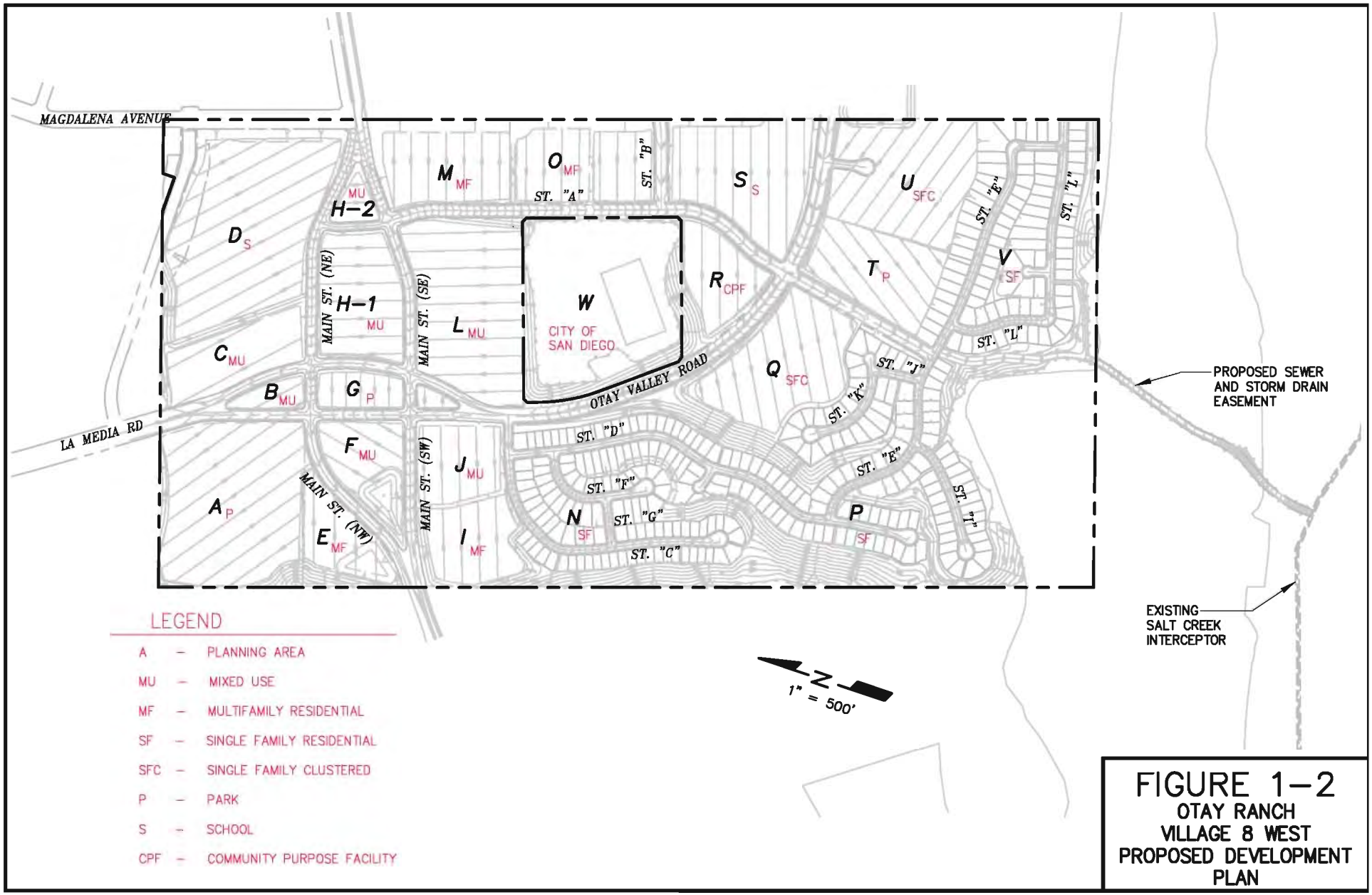


FIGURE 1–2
OTAY RANCH VILLAGE 8 WEST PROPOSED DEVELOPMENT PLAN

\\PACIFIC\DWG\646370\FIGURE_1-2.DWG 11-19-10 10:41:34 LAYOUT: 1

TOPOGRAPHY

The southern portion of the property generally drains from north to south. The northern portion of the property generally drains to the west. The existing topography on the property ranges in elevation from a low of approximately 280 feet to a high of approximately 600 feet.

WATER SERVICE

Water service for the project will be provided by the Otay Water District. Annexation into Improvement Districts 22 and 27 will be required prior to water service being provided. As detailed in Chapter 3 and 4, the Otay Water District has existing and planned facilities in the vicinity of the project; water service can be provided by expanding the existing system. This report will provide recommendations for improvements in the 624 and 711 Zones needed to provide water service to the proposed development. The Otay Water District will also be the purveyor of recycled water to the project.

PURPOSE OF STUDY

This report provides an overview of potable and recycled water service for the Otay Ranch Village 8 West project. This document is prepared as a supporting document for the project's SPA Plan and associated Environmental Impact Report (EIR). The developer of the project will be required to prepare, for review and approval by the Otay Water District, a Subarea Master Plan (SAMP). The SAMP will be initiated prior to the approval of the project tentative map, but OWD does not require the SAMP to be approved until prior to approval of final engineering improvement plans. The SAMP will provide more detailed information on project phasing, recycled water system improvements, processing requirements, and computer modeling to justify recommended pipe sizes.

CHAPTER 2

DESIGN CRITERIA AND PROJECTED WATER DEMANDS

This chapter presents the design criteria used to evaluate the potable and recycled water systems for the project. The design criteria are utilized for analysis of the existing water system as well as for design and sizing of proposed improvements and expansions to the existing system to accommodate demands in the study area. Unless otherwise noted, the design criteria was obtained from the October 2008 Otay Water District Water Resources Master Plan prepared by PBS&J.

Duty Factors and Peaking Factors

Table 2-1 presents the duty factors used in projecting the total average day potable and recycled water demands for the project. The District typically estimates water demands from commercial development using a factor of 1,785 gpd per gross acre. Since commercial development within this project will all be within mixed use sites and may involve multiple story commercial buildings, estimating water usage based on building square footage is more appropriate. To estimate the water usage by building square footage, we used the 1,785 gpd/ac factor from OWD and a factor of 0.3 from the Water Agency Standards to convert gross acres to net building area. Thus, a 1.0 gross acre site is assumed to have 13,068 square feet of building (43,560 SF/ac x 0.3). From this, a demand factor of 0.14 gpd/SF (1,785/13,068) was calculated and used in this report.

The required fire flows and durations are also listed. The City of Chula Vista utilizes the California Fire Code for determining required fire flows and durations for new development. The fire code utilizes a number of factors to determine the required fire flow for a building. These factors include building footprint, building construction materials, and whether or not the building has sprinklers. Since this level of detail is not known at the planning stage, this report uses the fire flow requirements utilized by the Otay Water District in master planning storage, transmission, and distribution facilities throughout their District.

TABLE 2-1
WATER DUTY FACTORS

Land Use Designation	Unit Domestic Demand	Required Fire Flow (gpm)	Required Fire Flow Duration Hours
Single Family-Medium (1-3 DU/AC)	850 gpd/unit	1,500[1]	2
Single Family-High (3-8 DU/AC)	500 gpd/unit	1,500[1]	2
Multi-Family (>8 DU/AC)	255 gpd/unit[2]	2,500	2
Schools	1,428 gpd/ac[2]	5,000	4
Commercial	0.14 gpd/SF	3,500	3
CPF, Fire Station	714 gpd/ac[2]	3,500	3
Irrigation (Recycled Water)	2,155 gpd/ac	---	---

[1]Applies to single family homes that are less than 3,600 SF.
[2]Demand factors for these land uses are from Table 4-27 of the OWD Master Plan, assuming the use of recycled water.

To convert average day potable water demands to maximum day demands and peak hour demands, Figures 4-2 and 4-3 from the Water Resources Master Plan were utilized, respectively.

System Pressures

Generally, the potable water distribution system is designed to maintain static pressures between 65 psi and 200 psi. This criteria is used to initially divide a project between water service zones. The potable water distribution system has been designed to yield a minimum of 40 psi residual pressure at any location under peak hour demand flows, and a minimum residual pressure of 20 psi during maximum day demand plus fire flow conditions. Potable water mains are sized to maintain a maximum velocity of 10 feet per second under a maximum day demand plus fire flow scenario and a maximum velocity of 6 feet per second under peak hour flow conditions.

Projected Water Demands

Table 2-2 provides the projected potable water demand for the Village 8 West project by water pressure zone and Table 2-3 provides a demand summary by land use. The total estimated potable water use is 0.79 mgd. Table 2-4 provides the projected recycled water demand for the project. The estimated recycled water demand is 0.14 mgd.

TABLE 2-2
OTAY RANCH VILLAGE 8 WEST
PROJECTED POTABLE WATER DEMANDS

Planning Area	Land Use	Quantity	Unit Demand	Total Average Demand, gpd	EDU[2]
711 Zone					
B	Retail	0 SF	0.14 gpd/SF	0	0
	MF	25 units	255 gpd/unit	6,375	12.8
C	Retail	36,000 SF	0.14 gpd/SF	5,040	10.1
	MF	130 units	255 gpd/unit	33,150	66.3
D	School	21.0 Ac	1,428 gpd/Ac	29,990	60
G	Park	3.1 Ac	---[1]	1,230	2.5
H-1	Retail	144,000 SF	0.14 gpd/SF	20,160	40.3
	MF	33 units	255 gpd/unit	8,415	16.8
H-2	Retail	12,000 SF	0.14 gpd/SF	1,680	3.4
	MF	0	255 gpd/unit	0	0
L	Retail	65,000 SF	0.14 gpd/SF	9,100	18.2
	MF	448 units	255 gpd/unit	114,240	228.5
M	MF	153 units	255 gpd/unit	39,015	78.0
N	SF	117 units	500 gpd/unit	58,500	117
Subtotal 711 Zone		**906 units**		**326,895**	**653.8**
624 Zone					
A	Park	17.4 Ac	---[1]	15,370[1]	30.7
E	MF	95 units	255 gpd/unit	24,225	48.5
F	Retail	25,000 SF	0.14 gpd/SF	3,500	7
	MF	103 units	255 gpd/unit	26,265	52.5
I	MF	122 units	255 gpd/unit	31,110	62.2

TABLE 2-2
OTAY RANCH VILLAGE 8 WEST
PROJECTED POTABLE WATER DEMANDS

Planning Area	Land Use	Quantity	Unit Demand	Total Average Demand, gpd	EDU[2]
J	Retail	18,000 SF	0.14 gpd/SF	2,520	5.0
	MF	160 units	255 gpd/unit	40,800	81.6
O	MF	160 units	255 gpd/unit	40,800	81.6
P	SF	124 units	500 gpd/unit	62,000	124
Q	SF	160 units	500 gpd/unit	80,000	160
R	CPF	5.8 Ac	714 gpd/Ac	4,140	8.3
S	School	11.4 Ac	1,428 gpd/Ac	16,280	32.6
T	Park	7.5 Ac	---[1]	2,670	5.3
U	SF	130 units	500 gpd/unit	65,000	130
V	SF	90 units	500 gpd/unit	45,000	90
W	City of SD	19.6 Ac	0	0	0
Subtotal 624 Zone		**1,144 units**		**459,680**	**919.3**
TOTAL		**2,050 units**		**786,575**	**1,573.1**

[1]Planning Areas A, G and T will be irrigated with recycled water. See Appendix A for potable water estimates for the park sites.

[2]One equivalent dwelling unit (EDU) is assumed to use 500 gpd on average.

TABLE 2-3
OTAY RANCH VILLAGE 8 WEST
POTABLE WATER DEMAND SUMMARY

Land Use	Quantity	Unit Demand	Total Demand, gpd
Single Family	621 units	500 gpd/unit	310,500
Multi-Family	1,429 units	255 gpd/unit	364,395
Schools	32.4 Ac	1,428 gpd/Ac	46,270
Commercial	300,000 SF	0.14 gpd/SF	42,000
CPF	5.8 Ac	714 gpd/Ac	4,140
Parks	28.0 Ac	---[1]	19,270
TOTAL			**786,575**

[1]Planning Areas A, G and T will be irrigated with recycled water. See Appendix A for potable water estimates for the park sites.

TABLE 2-4
OTAY RANCH VILLAGE 8 WEST
PROJECTED RECYCLED WATER DEMANDS

Land Use	Area, Acres	Percentage to be Irrigated	Irrigated Acreage	Recycled Water Irrigation Factor, gpd/ac	Average Recycled Water Demand, gpd
Open Space Slopes[1]	20.0	100	20.0	2,155	43,100
Parks	28.0	100	28.0	2,155	60,340
Schools	32.4	20	6.5	2,155	14,010
CPF	5.8	10	0.6	2,155	1,290
Mixed Use	42.2	10	4.2	2,155	9,050
MF Res.	29.5	15	4.4	2,155	9,480
TOTAL					137,270

[1]Preliminary Estimate

CHAPTER 3

WATER SUPPLY

Regulatory Setting

Urban Water Management Planning Act

In 1983, the Legislature enacted the Urban Water Management Planning Act (California Water Code sections 10610 through 10656), which requires every urban water supplier that provides water to 3,000 or more customers, or over 3,000 af of water annually, to make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its customers during normal, dry, and multiple-dry years. The UWMP is required in order for a water supplier to be eligible for the DWR-administered state grants, loans, and drought assistance. The UWMP provides information on water use, water resources, recycled water, water quality, reliability planning, demand management measures, best management practices, and water shortage contingency planning for a specified service area or territory.

Senate Bills 610 and 221

On January 1, 2002, SB 610 took effect. SB 610, which was codified in the Water Code beginning with section 10910, requires the preparation of a water supply assessment (WSA) for projects within cities and counties that propose to construct 500 or more residential units or the equivalent. SB 610 stipulates that when environmental review of certain large development projects is required, the water agency that is to serve the development must complete a WSA to evaluate water supplies that are or will be available during normal, single-dry, and multiple-dry years during a 20-year projection to meet existing and planned future demands, including the demand associated with a proposed project.

Enacted in 2001, SB 221, which was codified in the Water Code beginning with section 10910, requires that the legislative body of a city or county, which is empowered to approve, disapprove or conditionally approve a subdivision map, must condition such approval upon proof of sufficient water supply. The term "sufficient water supply" is defined in SB 221 as the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that would meet the projected demand associated with the proposed subdivision. The

definition of sufficient water supply also includes the requirement that sufficient water encompass not only the proposed subdivision, but also existing and planned future uses, including agricultural and industrial uses.

Urban Water Management Plans

The California Urban Water Management Planning Act requires that each urban water supplier providing water for municipal purposes, either to more than 3,000 customers, or more than 3,000 acre-feet of water annually, must prepare, adopt, and update a UWMP at least once every five years on or before December 31, in years ending in five and zero. This applies to MWD, SDCWA, and its 15 member agencies, including OWD, that serve unincorporated San Diego County. The intent of an UWMP is to present information on water supply, water usage/demand, recycled water, and water use efficiency programs in a respective water district's service area. An UWMP also serves as a valuable resource for planners and policy makers over a 25 year time frame.

The UWMP process ensures that water supplies are being planned to meet future growth. UWMPs are developed to manage the uncertainties and variability of multiple supply sources and demands over the long term. Water agencies and districts update their demand and supply estimates based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their UWMPs. The most current supply and demand projections are contained in the 2005 UWMPs of MWD, SDCWA, and OWD. The next updates to the 2005 UWMPs are due to be adopted in December 2010. SDCWA member districts rely on the UWMPs and Integrated Resources Plans (IRPs) of MWD and the Regional Water Facilities Master Plan of SDCWA for documentation of supplies available to meet projected demands.

Normal year, single-dry year, and multiple-dry year 2005 UWMP supply and demand assessments for MWD, SDCWA, and OWD are intended to describe the water supply reliability and vulnerability to seasonal or climatic conditions, to the extent practical. Normal water years are considered to be years that experience average rainfall for the respective district. Single-dry water years are considered one year drought events. Multiple-dry water years refer to a series of below average rainfall for particular areas (i.e., multiple drought year conditions). Projections for multiple-dry years are made in five year increments. In the 2005 UWMPs, MWD, SDCWA and all 15 SDCWA member agencies, including OWD, that serve unincorporated San Diego County determined that adequate water supplies would be available to serve existing service areas under normal year, single-dry year, and multiple-dry year conditions through the year 2030.

Imported Water Supply – Recent Challenges

Since the preparation and adoption of the 2005 UWMPs, multiple events have occurred that may affect the projections included in the 2005 UWMPs. Factors such as cutbacks in imported water supplies from MWD and SDCWA and the statewide drought were not accounted for in the 2005 UWMP supply and demand estimates. For example, the Colorado River, a major source of imported supplies for the region, has experienced drought conditions for eight of the last nine years. Additionally, the SWP in northern California experienced three years (2006-2008) of drought conditions, which substantially depleted storage in reservoirs throughout the SWP system, including San Diego County. After a record dry spring that dramatically curtailed snow runoff from the Sierra Nevada Mountains, Governor Schwarzenegger declared an official statewide drought on June 4, 2008. Following the Governor's action, MWD's Board of Directors issued a water supply alert for its six-county service area, urging local jurisdictions to adopt and implement water conservation ordinances and to significantly increase efforts and programs to conserve water. (The County of San Diego maintains a Water Conservation and Landscape Design Manual, which implements section 6712(d) of the County Zoning Ordinance.)

In addition to extreme drought conditions, in August 2007, a U.S. District Court decision was issued to protect the endangered Delta smelt (fish). This federal court ruling set operational limits on pumping in the Sacramento-San Joaquin Bay-Delta from December 2007 to June 2008 to protect the Delta smelt. Since the SDCWA and its member agencies import water from MWD, their water supply has been impacted by this Court ruling. As a result, local water agencies have had to rely on contingency and emergency sources of water, including local groundwater and storage supplies, to reduce impacts on water availability for their customers.

Additionally, climate change due to global warming also creates uncertainties that may significantly affect California's water resources over the long-term.

While all 2005 UWMPs include drought management/shortage contingency analyses, these UWMPs do not account for the severity or longevity of the above-mentioned conditions. Therefore, in preparing the 2010 UWMPs, MWD, SDCWA, and the SDCWA member water districts, including OWD, will need to account for these issues and will likely place more emphasis on conservation, water recycling, and expanding local supplies through various methods.

In an effort to assess the impacts of various conditions on SWP supply reliability, in December 2009, DWR released the draft "State Water Project Delivery Reliability Report," (Delivery Reliability Report). A copy of this report is available on DWR's website at http://baydeltaoffice.water.ca.gov. This report is an update to DWR's State Water Project Delivery Reliability Report, 2007, issued as final in 2008. The report will assist MWD and SDCWA in assessing the reliability of the SWP component of their overall supplies in their 2010 UWMPs.

Although the supply and demand projections provided in both the MWD and SDCWA 2005 UWMPs do not account for the recent challenges, restrictions, and constraints imposed on California's water supplies, they remain the best available information at this time. Because UWMPs are updated every five years, the 2010 UWMPs prepared by MWD, SDCWA, and OWD are anticipated to be completed by December 2010. The 2010 UWMPs are required to update their supply and demand projections based on changes that have occurred statewide since the 2005 UWMPs were prepared.

Potable water will be supplied to Otay Ranch Village 8 West by the Otay Water District, which currently relies on the SDCWA for its water supply, which in turn relies on the MWD for 70 percent to 95 percent of its water supply (71 percent in 2008). Therefore, this water supply overview relied on the MWD, SDCWA, and OWD 2005 UWMPs, all of which are incorporated herein by reference, to ensure that the project will have sufficient water supplies to meet demand for the project, in conjunction with other planned and future development within the SDCWA service area.

REGIONAL AND LOCAL WATER SUPPLY

Metropolitan Water District

MWD supplies water to approximately 18 million people in a 5,200-square mile service area that includes portions of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. SDCWA is one of MWD's 27 member agencies. Supply and demand projection information for MWD is included in its 2005 Regional UWMP, adopted on November 8, 2005. MWD's long-term strategy for a sustainable water supply is outlined in its IRP (2004), which is currently being updated. The MWD IRP, to be updated approximately every five years, was first adopted in 1996 and last updated in 2004. MWD's IRP identifies a mix of resources (imported

and local) that will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, SWP supplies, Colorado River supplies, groundwater banking, and water transfers through the year 2030.

SDCWA, one of 27 member agencies of MWD, is the largest agency in terms of delivery, purchasing approximately 25 percent of MWD's water. MWD gets its water from two sources. The first source is the Colorado River, which is connected to MWD's six-county service area through a 242-mile aqueduct. The aqueduct system is known as the Central Valley Project (CVP). The CVP is operated by U.S. Bureau of Reclamation. The second source is water from northern California, which supplies water through a series of dams, aqueducts, pipelines, and other facilities known as the State Water Project (SWP). The SWP is operated by the California Department of Water Resources (DWR).

From the CRA, MWD is apportioned 550,000 acre-feet of water per year (AFY). Despite this low apportionment, MWD was able to transport up to 1.2 million acre-feet (MAF) through the CRA in recent years by relying on unused apportionments from Arizona, Nevada, and California agricultural agencies. However, because MWD's firm water supply from the CRA is only 550,000 AF, that is the number planning agencies must rely on for development. To supplement this supply, MWD also has access to 50,000 AF of firm water from a conservation program with the Imperial Irrigation District (IID).

From the SWP, MWD is contractually entitled to receive 2,011,500 AF of water; however, the level of SWP supply development, state and federal environmental regulations, and other factors have restricted and, in some cases, reduced actual amount of available SWP water. As a result of these and other limitations, MWD estimates that actual SWP supplies will be 0.6 MAF in a dry year and 1.35 MAF in an average year. MWD's estimates are based on DWR modeling of the delivery reliability of SWP supplies.

On November 8, 2005, the MWD adopted its 2005 Regional UWMP, which is an update to its prior 2000 Regional UWMP. In its 2005 UWMP, MWD evaluated water supply reliability, over a 20-year period, for average, single-dry, and multiple-dry years. To complete its most recent water supply reliability assessment, MWD developed estimates of total retail demands for the region, factoring in the impacts of conservation. After estimating demands, the water reliability analysis identified current supplies and supplies under development to meet projected demands. MWD's reliability assessment showed that MWD can maintain reliable water supplies to meet projected demands through the year 2030. MWD also identified buffer supplies, including other SWP groundwater storage and transfers, which could serve to supply

additional water needs. Appendix A-3 to the MWD 2005 Regional UWMP contains detailed justifications for the sources of supply projected to meet water demands in the region, including Colorado River Aqueduct deliveries (Colorado River supplies) and California Aqueduct deliveries (SWP supplies).

On April 14, 2009, MWD announced that it will cut water deliveries to the southern California region by 13 percent effective July 1, 2009 through June 30, 2010. MWD's action was taken in response to water supply reductions created by regulatory restrictions on water deliveries from the Bay-Delta in northern California, drought conditions, and reduced water storage levels in reservoirs statewide.

In addition, DWR's draft 2009 Delivery Reliability Report has updated estimates of the current (2009) and future (2029) SWP delivery reliability, and has incorporated restrictions from federal court decisions and the two biological opinions, as well as potential global climate change impacts. These restrictions will be further addressed in the 2010 UWMPs prepared by MWD.

San Diego County Water Authority (SDCWA)

The SDCWA service area covers approximately 922,381 acres and encompasses the western third of San Diego County. SDCWA has 24 member agencies, 15 of which provide water to unincorporated areas of San Diego County. The SDCWA is responsible for ensuring a safe and reliable water supply to support the region's $130 billion economy and the quality of life for three million residents. Because of the County's semi-arid climate and limited local water supplies, SDCWA imports between 70 and 95 percent of the water used in the San Diego region from MWD. In 2008, MWD provided 71 percent of the San Diego region's water supply. Most of this water is obtained from the Colorado River and the SWP through a system of pipes, aqueducts, and associated facilities. Historically, SDCWA has relied on imported water supplies purchased from the MWD to meet the needs of its member agencies. SDCWA is the largest MWD member agency in terms of deliveries.

Both MWD and SDCWA provide water supplies to their member agencies in order to meet projected water demand based upon regional population forecasts. The San Diego Association of Governments (SANDAG) is responsible for providing and updating land use planning and demographic forecasts for San Diego County. MWD and SDCWA update their water demand and supply estimates based on the most recent SANDAG forecasts approximately every five years to coincide with preparation of the their respective UWMPs.

Since adopting the 2000 UWMP, SDCWA and its member agencies have made considerable progress in conserving and diversifying its supplies. The SDCWA 2005 UWMP reports that the San Diego region has conserved an average of 40,500 AFY over the last five years. In addition, in 2003, conserved agricultural transfer water from the Imperial Valley began flowing to the San Diego region, which will provide 200,000 AFY by 2021. This additional water supply is the result of SDCWA entering into the Quantification Settlement Agreement (QSA) with other water agencies in October 2003. The QSA resolved long-standing disputes regarding Colorado River water use among agencies, and established a water budget for the agricultural agencies. This permitted implementation of several water conservation and transfer agreements, including the SDCWA/IID transfer agreement. Transfers from IID began in late 2003 with the signing of the QSA. The SDCWA will receive up to 200,000 AFY after an initial ramp-up in water deliveries. (See Table 3-1 below).

On November 17, 2005, the SDCWA adopted its 2005 UWMP, updating the previously adopted 2000 UWMP. Sections 4 and 5 of SDCWA's 2005 UWMP contain documentation of SDCWA's existing and planned water supplies, including MWD supplies (imported Colorado River water and SWP water), SDCWA supplies, and local member agency supplies (surface water reservoirs, water recycling, groundwater, and groundwater recovery). SDCWA supplies include (1) IID water transfer supplies, (2) 77,770 AFY from conservation projects to line the All-American Canal and the Coachella Canal, located in Imperial and Coachella Valleys, planned to reach the San Diego region by 2007, and (3) development of a seawater desalination facility at the Encina Power Plant in Carlsbad, which is anticipated to produce 56,000 AFY of additional water supplies. (See Tables 3-1 and 3-2, below.)

Additionally, since 1980, approximately 5 percent to 30 percent of the member agencies water has come from local sources, primarily from surface water reservoirs as indicated in Table 3-2. Recycled water and groundwater recovery projects are growing in importance in the region, and water conservation efforts have also made SDCWA member agencies less dependent on imported water.

TABLE 3-1 PROJECTED IMPORTED WATER SUPPLIES (AFY)					
WATER SOURCE	2010	2015	2020	2025	2030
IID Water Transfer	70,000	100,000	190,000	200,000	200,000
Supply from MWD	445,858	378,544	311,438	324,624	356,922
Coachella Canal and All American Canal Lining Projects	77,700	77,700	77,700	77,700	77,700
TOTAL IMPORTED SUPPLIES	593,558	556,244	579,138	602,324	634,622

Source: San Diego County Water Authority. 2005 Urban Water Management Plan.

TABLE 3-2 PROJECTED LOCAL WATER SUPPLIES (AFY)					
WATER SOURCE	2010	2015	2020	2025	2030
Surface Water	59,649	59,649	59,649	59,649	59,649
Water Recycling	33,668	40,662	45,548	46,492	47,584
Groundwater	28,575	30,345	31,175	31,175	31,175
Seawater Desalinization	0	56,000	56,000	56,000	56,000
TOTAL LOCAL SUPPLIES	121,892	186,656	192,372	193,316	194,408

Source: San Diego County Water Authority. 2005 Urban Water Management Plan.

Section 8 of SDCWA's 2005 UWMP evaluates water supply reliability in average, single-dry, and multiple-dry years. Based on SDCWA's water supply reliability assessment, and 2006-2007 Annual Report, SDCWA concluded that water supplies would be sufficient through 2030. (See section below regarding Summary of Water Supplies and Demand, and Tables 3-3 through 3-5.) However, with the majority of its supplies coming from MWD, the SDCWA also has been affected by the federal court decision regarding the Delta smelt, the two recent biological opinions to protect the Delta smelt and other listed fish species, and the statewide drought. These issues have primarily impacted and reduced allocations from the SWP, which has accounted for approximately 30 percent of the SDCWA's water supply in recent years. Additionally, as discussed above, uncertainties exist with SDCWA's other major water source, the Colorado River. The SDCWA 2005 UWMP disclosed that SDCWA is at risk for water shortages should supplies identified by MWD not be developed as planned. Therefore, SDCWA continues to work with its member agencies to develop other sources of supply for the San Diego region. The SDCWA Regional Water Facilities Master Plan serves as the roadmap for identifying a diverse mix of water supply sources and implementing the associated facilities and projects needed through 2030 to ensure a safe and reliable supply.

To address the risk identified by the SDCWA 2005 UWMP, in the 2008 Strategic Plan and the 2008 Business Plan, SDCWA's Board of Directors has provided clear direction to SDCWA to continue to increase the reliability of the water supply to meet the San Diego region's demands, and to ensure cost effective, environmentally sensitive, and safe delivery of those supplies. Since adoption of its 2005 UWMP, SDCWA has adopted policies and programs in the areas of supply reliability, system infrastructure, finance, and outreach to help accomplish its mission to provide a safe and reliable water supply to its member agencies serving the San Diego region. SDCWA's long-term commitment also involves diversifying the region's water supplies portfolio, reducing the region's reliance on imported water, and optimizing facilities to provide the flexibility needed to respond to the region's ever-changing water needs.

SDCWA has a Drought Management Plan (May 2006). This plan provides its member agencies with a series of potential actions to engage when faced with a shortage of imported water supplies due to prolonged drought conditions. Such actions help avoid or minimize impacts of shortages and ensure an equitable allocation of supplies throughout the San Diego region. Additionally, to prepare the San Diego region for potential water shortages, in March 2008 the SDCWA released a Model Drought Response Ordinance to its member agencies. The Model Drought Response Ordinance has identified four drought response levels that contain water-use restrictions to help achieve demand reduction during water shortages. Member agencies are using the SDCWA's model to update their own ordinances to help provide consistency throughout the region on response levels and water use restrictions that may be taken to reduce water demand.

On April 23, 2009, responding to reduced water supplies caused by legal and regulatory restrictions, drought, and cutbacks from MWD, SDCWA announced that it will cut water deliveries to its member water agencies by 8 percent effective July 1, 2009. To help achieve the required reduction in regional water use, the SDCWA Board also declared a Level 2 "Drought Alert" condition. This action enabled SDCWA's 24 member agencies to adopt mandatory conservation measures for residents and businesses, such as use restrictions or tiered water rates that charge more for excessive water use.

To reduce the impact of water supply reductions on the San Diego region, on May 28, 2009, SDCWA announced that it had authorized acquisition of up to 20,000 AF of water under an existing one-year transfer agreement with the Placer County Water Agency in northern California. This transfer is intended to ease the region's transition from voluntary conservation to mandatory water restrictions. It is also an important part of SDCWA's plan to limit cuts in deliveries to its member retail water agencies to 8 percent, which began on July 1, 2009. In

June 2009, SDCWA's Board of Directors also approved a $1.65 billion two-year budget to fund water purchases, debt service, capital improvements, and operations from July 1, 2009 through June 30, 2011. The budget was increased by over 12 percent when compared to the prior two-year budget, primarily because of California's water supply challenges, which have significantly increased the cost of imported water from MWD. Water purchases and treatment represent the largest component of the budget (46 percent). Capital improvements represent the second largest budget component (34 percent).

In January 2010, SDCWA announced that it successfully completed bond sales of $627 million to provide continued funding for SDCWA's Capital Improvement Program. Also in January 2010, SDCWA's Board of Directors voted to support the $11.14 billion state water bond, which will be placed on the November 2, 2010 ballot. The bond measure is part of a historic water legislative package approved by the California Legislature and signed by Governor Schwarzenegger in November 2009. The package addressed long-term improvements in statewide water management and water supply reliability, particularly in the Bay-Delta, the source of up to 30 percent of the San Diego region's water supply.

SUMMARY OF WATER SUPPLIES AND DEMAND

Based on the imported and member agency local water sources discussed above, SDCWA estimates that it, along with member agency local sources will be able to supply 715,450 AF of water in 2010, as demonstrated in Table 3-1 and Table 3-2, above. Therefore, according to the MWD and SDCWA 2005 UWMPs, there is available water to meet all of the region's anticipated demand, in average/normal and dry water years, as demonstrated in Table 3-3, Table 3-4 and Table 3-5, below.

TABLE 3-3
AVERAGE/NORMAL WATER YEAR SUPPLY AND DEMAND
ASSESSMENT (AFY)

	2010	2015	2020	2025	2030
Local Supplies					
Surface Water	59,649	59,649	59,649	59,649	59,649
Water Recycling	33,668	40,662	45,548	46,492	47,584
Groundwater	28,575	30,345	31,175	31,175	31,175
Seawater Desalinization	0	56,000	56,000	56,000	56,000
Imported Supplies					

TABLE 3-3 AVERAGE/NORMAL WATER YEAR SUPPLY AND DEMAND ASSESSMENT (AFY)					
IID Water Transfer	70,000	180,000	190,000	200,000	200,000
Supply from MWD	445,858	378,544	311,438	324,624	356,922
Coachilla Canal and All American Canal Lining Projects	77,700	77,700	77,700	77,700	77,700
TOTAL PROJECTED SUPPLIES	715,450	742,900	771,510	795,640	829,030
TOTAL ESTIMATED DEMANDS[1]	715,450	742,900	771,510	795,640	829,030
DIFFERENCE	0	0	0	0	0

[1]With conservation.

Source: San Diego County Water Authority. 2005 Urban Water Management Plan.

TABLE 3-4 DRY WATER YEAR SUPPLY AND DEMAND ASSESSMENT (AFY)				
Water Supplies	Single Dry Water Year (2010)	MULTIPLE DRY YEARS		
		Year 1 2006	Year 2 2007	Year 3 2008
Local Supplies		56,670	60,230	80,900
Surface Water and Groundwater	22,284			
Water Recycling	33,668	---	---	---
Groundwater Recovery	22,238	---	---	---
Imported Supplies		687,850	689,550	674,130
IID Water Transfer	70,000			
Supply from Metropolitan	541,760	---	---	---
Coachilla Canal and All American Canal Lining Projects	77,700	---	---	---
TOTAL PROJECTED SUPPLIES	767,650	744,520	749,780	755,030
TOTAL ESTIMATED DRY YEAR DEMANDS	767,650	744,520	749,780	755,030
DIFFERENCE	0	0	0	0

Source: San Diego County Water Authority. 2005 Urban Water Management Plan.

TABLE 3-5
MWD DEMAND/SUPPLY BALANCE
UNDER THREE DIFFERENT SCENARIOS (MAF)

	Near Term[2]			Long Term[3]			
Scenario	2001	2002	2003	2005	2010	2015	2020
Multiple Dry Years							
Demands							
Retail	4.19	4.05	3.99	4.16	4.40	4.65	4.94
GW Replenishment	0.18	0.17	0.16	0.17	0.17	0.17	0.18
Total	4.37	4.22	4.15	4.33	4.57	4.82	5.12
Supply							
Local	2.05	2.04	2.06	2.13	2.32	2.46	2.55
MWD[1]	2.32	2.18	2.09	2.20	2.25	2.36	2.57
Total	4.37	4.22	4.15	4.33	4.57	4.82	5.12
Single Dry Year [4]	2001			2005	2010	2015	2020
Demands							
Retail	4.04			4.21	4.46	4.71	5.03
GW Replenishment	0.17			0.17	0.17	0.18	0.19
Total	4.21			4.38	4.63	4.89	5.22
Supply							
Local	2.28			2.47	2.66	2.80	2.90
MWD	1.93			1.19	1.97	2.09	2.32
Total	4.21			4.38	4.63	4.89	5.22
Average Year [5]							
Demands							
Retail	3.91			4.07	4.31	4.55	4.85
GW Replenishment	0.16			0.16	0.16	0.17	0.18
Total	4.07			4.23	4.47	4.72	5.03
Supply							
Local	2.18			2.33	2.52	2.64	2.73
MWD	1.89			1.90	1.95	2.08	2.30
Total	4.07			4.23	4.47	4.72	5.03

[1] MWD supplies include imported supplies, storage programs and transfers.

[2] Multiple Dry Years for 2001-2003 are based on the worst three-year sequence from the historical hydrologic record (1990-1991-1992).

[3] Multiple Dry Years for 2005-2020 are three-year average figures based on the worst three-year sequence from the historical hydrologic record (1990-1991-1992) ending in the year displayed.

[4] Single Dry Year is based on the single worst year from the historical hydrologic record (1977).

[5] Average Year is based on the average over all years in the historical hydrologic record (1922-1998). In average years, Metropolitan will be adding water to storage, but the additional water supplies are reported in this table.

Source: Metropolitan Water District of Southern California. The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, December 2005.

Otay Water District

Once water is made available by SDCWA, it is transferred across San Diego County in two aqueducts containing five large-diameter pipelines. The First Aqueduct includes Pipelines 1 and 2, and the Second Aqueduct includes Pipelines 3, 4 and 5. The Otay Water District maintains several connections to Pipeline 4, which delivers filtered water from the MWD filtration plant at Lake Skinner in Riverside County.

In San Diego County, the OWD provides water services to southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern Chula Vista, the Eastlake community, and Otay Mesa along the international border with Mexico. OWD covers 80,320 acres, and has approximately 41,500 connections. OWD has approximately 450 miles of pipelines, 21 pump stations, and 37 reservoirs with a total storage capacity of 190 million gallons (mg). OWD provides 90 percent of its water service to residential land uses, and 10 percent to commercial and industrial land uses. Average daily consumption for OWD is 36,970 af. OWD maintains five major systems to supply and deliver water, which include Hillsdale, Regulatory, La Presa, Central, and Otay Mesa.

In addition, the Otay Water District has a connection to the La Mesa - Sweetwater Extension Pipeline, which delivers filtered water from the R.M. Levy Water Treatment Plant which is owned and operated by the Helix Water District. However, this connection currently supplies water to the north portion of the Otay Water District only. Furthermore, the Otay Water District maintains a connection to the City of San Diego's water system in Telegraph Canyon Road and has an agreement that allows it to receive water from the Lower Otay Filtration Plant once the Otay Water Districts Lower Otay Pump Station is completed. A new trailer mounted pumping unit is in place for a capacity of 6 to 20 mgd, depending on availability from the City of San Diego. The Lower Otay Pump Station is planned to be constructed once a new agreement is finalized.

The OWD 2000 UWMP assessed the OWD's water supply sources, water demands, water supply reliability, supply and demand comparison provisions, demand management, water shortage contingency plan, and water recycling through 2020. OWD's 2000 UWMP stated that because OWD is dependent on imported water provided by the SDCWA, water supply depends on the reliability of water supplied by MWD and SDCWA. The 2000 UWMP described measures to ensure a reliable water supply. These measures included water conservation measures, emergency and operational storage, and interagency agreements with neighboring water agencies.

On December 7, 2005, OWD's Board of Directors adopted the updated OWD 2005 UWMP. Section 2 of the 2005 UWMP provides an overview of OWD's service area, its current water supply sources, supply reliability, water demands, measures to reduce water demand, and planned water supply projects and programs. Section 7 of the 2005 UWMP contains OWD's water service reliability assessment. This section states that the level of reliability is based on the documentation in the UWMP's prepared by MWD and SDCWA and that these agencies have determined that they will be able to meet potable water demands through 2030, during normal and dry year conditions. According to the 2005 UWMP, OWD currently relies on MWD and SDCWA for its potable supply, and OWD has worked with these agencies to prepare consistent demand projections for OWD's service area.

In accordance with Senate Bills 610 and 221, the Otay Water District is preparing a Water Supply Assessment and Verification Report for the Otay Ranch Village 8 West property. As noted above, OWD is required to update their 2005 UWMPs by December 2010, pursuant to the Urban Water Management Planning Act. At that time, the agency will further take into account the issues related to water supply delivery and reliability discussed above. Until then, the agency's 2005 UWMP, supplemented by the Water Supply Assessment and Verification Report for the Otay Ranch Village 8 West and the water supply and reliability studies from SDCWA and MWD, constitute the best available information, and identify adequate water supplies for the project. Furthermore, as discussed above, the proposed Project is not anticipated to contribute to a cumulatively considerable impact on water supplies. Therefore, cumulative impacts related to water supply are considered less than significant.

EXISTING WATER SYSTEM

The Village 8 West project will be served by the Central Service Area of the Otay Water District. This area of the District is supplied water from Connection Number 10 and 12 to the SDCWA aqueduct which fills 624 Zone reservoirs. Water is then distributed within the 624 Zone and pumped to the 711 Zone storage and distribution system.

To receive potable water service, the project will need to expand the existing 624 and 711 Zone systems. The following paragraphs detail the existing potable water facilities located in the vicinity of the project. Figure 3-1 graphically shows the location of major facilities in the vicinity of the project.

624 Zone

The 624 Zone has three existing storage reservoirs. The 624-2 Reservoir is located adjacent to the San Diego County Water Authority aqueduct between Otay Lakes Road and East H Street, has a capacity of 8.0 million gallons, and is supplied by Connection Number 10 to the San Diego County Water Authority aqueduct. The 624-1 and 624-3 Reservoirs are supplied by Connection Number 12 and have a capacity of 12.4 million gallons and 30 million gallons, respectively. The 624-1 reservoir is located adjacent to the eastern boundary of Otay Ranch Village 5 and the 624-3 reservoir is located along Eastlake Parkway, just north of the Olympic Parkway. In the vicinity of Village 8 West, there are currently no 624 Zone facilities. Water will be supplied to the 624 Zone in this area of the District by pressure reducing off the 711 Zone system.

711 Zone

There is currently one pump station in the 711 Zone, referred to as the Central Area Pump Station, that is located at the 624-1 Reservoir site adjacent to the eastern boundary of Otay Ranch Village 5. This station pumps water from the 624 Zone system into the 711 Zone distribution system and into two existing 711 Zone reservoirs located in the Eastlake Greens development. The 711 Zone Pump Station currently has five pumps (one standby), each rated for 4,000 gpm which results in a firm station capacity of 16,000 gpm.

There are three existing reservoirs in the 711 Zone. Two reservoirs are located at the same site within the Eastlake Greens development and have capacities of 2.8 and 2.2 million gallons for a total of 5.0 million gallons. A 16.0 million gallon reservoir, 711-3, was constructed north of the Rolling Hills Ranch project. With the construction of this reservoir, the District now has enough storage within the 711 Zone to meet the demands from ultimate projected development in this zone.

The major 711 Zone pipelines in the vicinity of the Village 8 West project include a 12-inch line in La Media Road and a 12-inch line in Main Street that will be extended to serve the project.

Recycled Water

Historically, the only source of recycled water for the Otay Water District has been the Ralph W. Chapman Water Recycling Facility. This facility currently has a rated capacity of 1.3 mgd with a maximum production of approximately 1.1 mgd and could be expanded to an ultimate capacity of 2.50 mgd. Typically, summer demands exceed the 1.1 mgd plant capacity. The District has the capability to supplement the recycled water supply with the potable 980 Zone water system which has facilities in the area. The South Bay Water Treatment Plant has an ultimate rated capacity of 15 mgd and the Otay Water District obtained capacity rights to 6.0 mgd of recycled water. This additional source of recycled water will allow the District to meet existing and future recycled water demands. The District has master planned and begun constructing a series of pump stations, reservoirs, and transmission lines to integrate this source of water into the existing recycled water system.

Storage of the effluent from the Ralph W. Chapman facility is provided by two ponds in the District's Recycled Use Area. The storage ponds have a high water line of approximately 944 feet and 927 feet and provide the storage and supply for the 927 Zone distribution system. The 680 Zone distribution system has been supplied by pressure reducing off the 927 Zone system, but ultimately will be supplied by the South Bay Water Reclamation Plant. Conveyance facilities to convey water from the South Bay Treatment Plant to the use areas including the 680 Zone use areas are currently being implemented. A 12-inch 680 Zone pipeline has been constructed in La Media Road to the north of Village 8 West and an 8-inch 680 Zone line will be extended to the western and eastern boundaries for future extension by others. Some 927 Zone piping may be required in the northeast corner of Village 8 West per the OWD Master Plan, but this line will not provide service within Village 8 West.

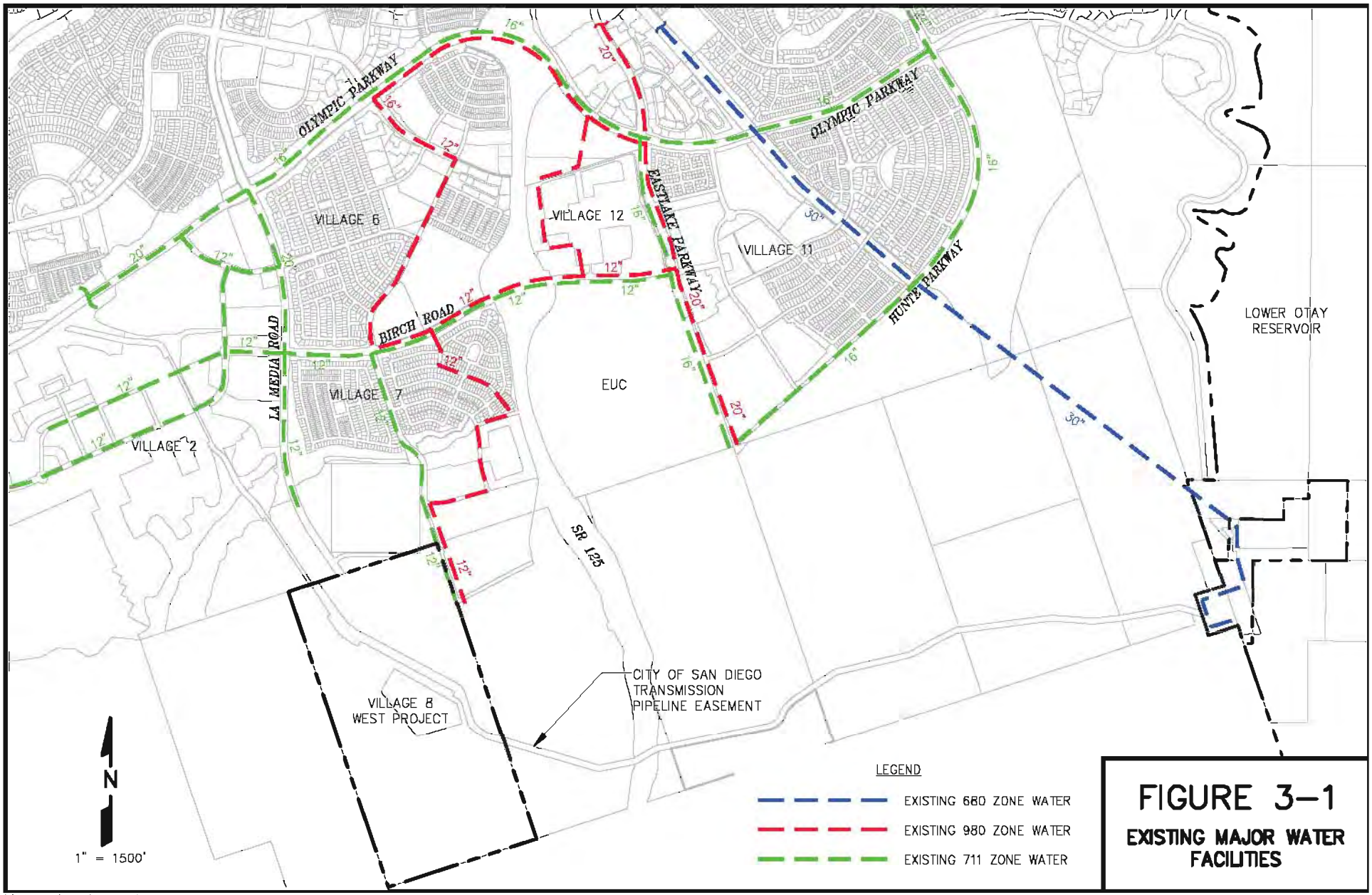


FIGURE 3–1

EXISTING MAJOR WATER FACILITIES

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CHAPTER 4

RECOMMENDED WATER FACILITIES

The Otay Ranch Village 8 West project can receive water service by expanding the existing 624 and 711 Zone water systems. Figure 4-1 provides the recommended onsite water facilities for the project. A Subarea Master Plan will be prepared prior to the approval of the first final map. In general, the project will be phased and must ensure that the Otay Water District looping criteria is met during all phases of development. This criteria limits development to a maximum of 70 EDUs or 1,320 feet of piping on an unlooped system.

All facilities within the boundaries of the project will be required to be constructed by the developer. Final location, sizing, phasing, and hydraulic modeling of the project water system will be presented in the SAMP that is prepared for the project. The developer will be eligible for reimbursement for the construction of facilities that are included in the District's Capital Improvement Program. A brief description of facilities by water service zone is provided below.

624 Zone

The southern and northwest portions of the project will be served by the 624 Zone. The Otay Water District Master Plan identifies a 624 Zone line that will be extended from Heritage Road to the west and a line from Otay Valley Road to the east that will ultimately supply this area. During development of Village 8 West, it is recommended that a temporary 711/624 Zone pressure reducing station be installed to supply water until these ultimate pipelines are constructed.

If this offsite line has not been constructed through Village 8 and connected to the 624 Zone system by the time the southern portion of Village 8 West is ready to develop, Village 8 West may be required to construct some temporary onsite improvements to meet OWD redundancy requirements.

Within the 624 Zone, the project will have lot elevations ranging from 340 feet to 478 feet. Service to these lots from the 624 Zone will result in maximum static pressures ranging from 63 psi to 123 psi.

711 Zone

There are proposed 12-inch 711 Zone water lines identified in the Otay Water District Water Resources Master Plan that are to be routed through Village 8 West from Main Street to the east and La Media Road to the north. The 711 Zone will be looped onsite and provide service to the northeast corner of the project and to a portion of development by the western boundary of the project. The 711 Zone will also temporarily supply the 624 Zone onsite via a pressure reducing station.

Within the 711 Zone, the Village 8 West project will have lot elevations ranging from approximately 463 feet to 550 feet. Service to these lots from the 711 Zone will result in maximum static pressures ranging from 70 psi to 107 psi.

RECYCLED WATER

The largest potential recycled water use areas in Village 8 West include open space slopes and parks. Recycled water may also be utilized to irrigate the common areas of schools, multi-family residential, and commercial sites. The project will be served by extending the 680 Zone recycled water system from the 12-inch line in La Media Road to the north. Some 927 Zone recycled water piping exists in the northeast corner of the project, but no 927 Zone service is proposed within Village 8 West. Irrigated areas within Village 8 West are expected to range from 340 feet to 600 feet. This results in pressures of 35 psi to 147 psi with service from the 680 Zone. The slopes on the western edge of the project that approach elevations of up to 600 feet will require private booster systems at the landscape connections. Figure 4-2 provides the potential recycled water use areas and proposed onsite recycled water system.

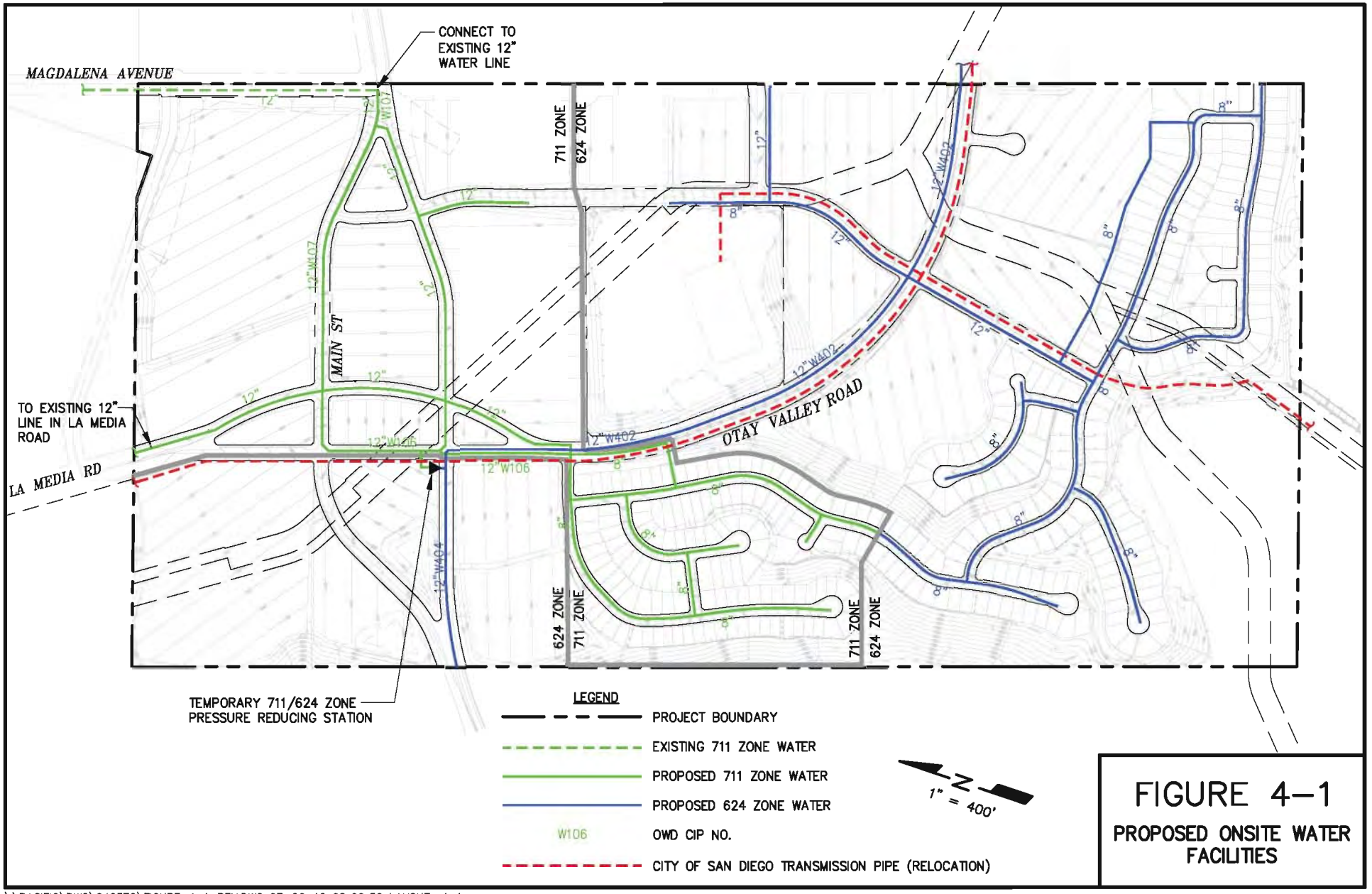


FIGURE 4–1

PROPOSED ONSITE WATER FACILITIES

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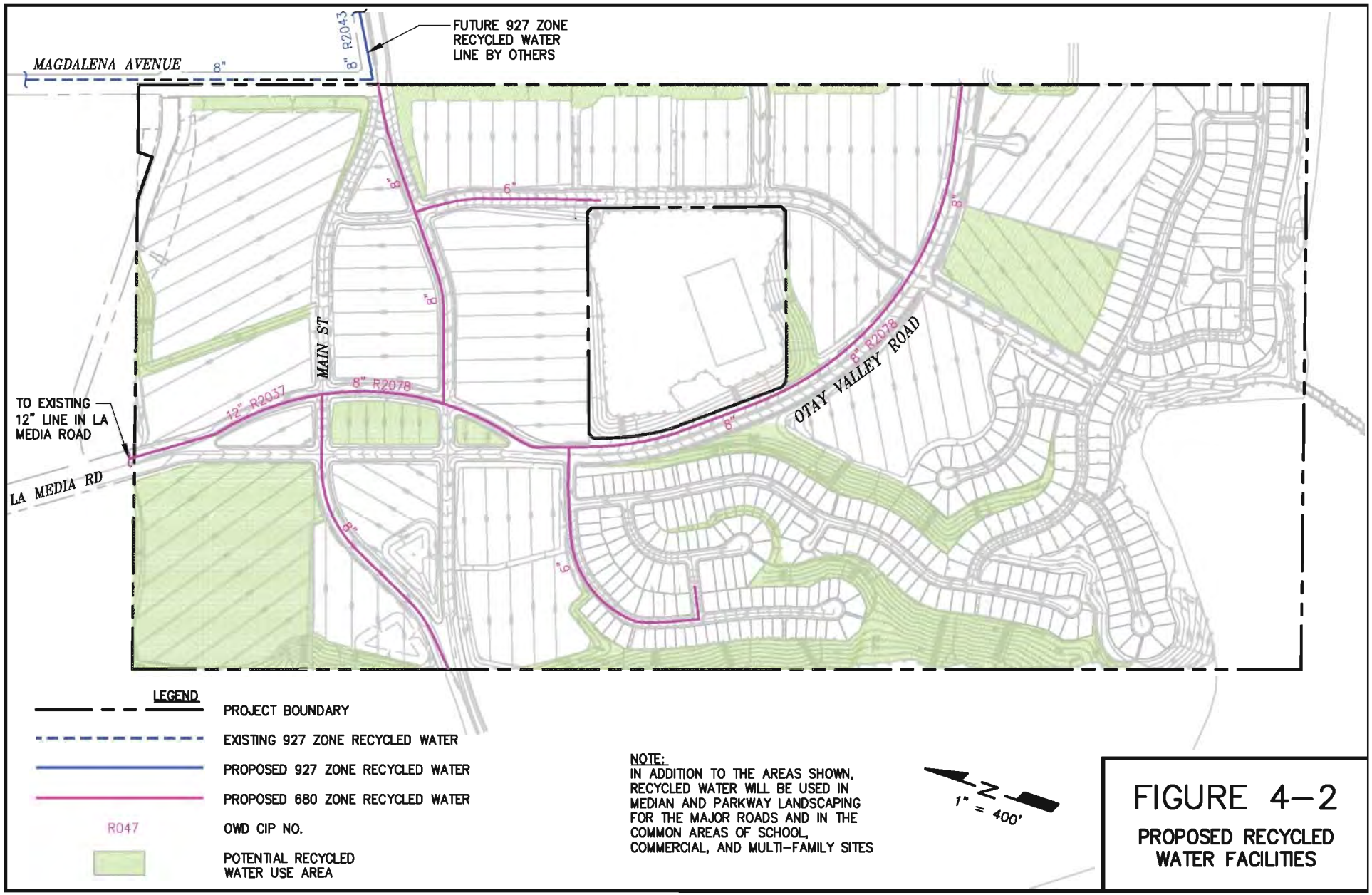


FIGURE 4-2

PROPOSED RECYCLED WATER FACILITIES

\\PACIFIC\DWG\646370\FIGURE_4-2.DWG 11-19-10 11:00:34 LAYOUT: 4-2

CHAPTER 5

PHASING

The Otay Ranch Village 8 West project is anticipated to develop in five major phases. Figure 5-1 provides a phasing map for the project. Although the project is generally planned to develop from north to south, the precise order in which the facilities will develop is not known at this time. For the purposes of this report, Figure 5-2 provides the proposed water facilities for the assumed order of phasing. At the time the SAMP is prepared for the project, more detailed information on the project phasing will be presented. The purpose of this chapter is to present the major phases of the project and provide a description of the water facilities required to serve each individual phase of the project.

Orange Phase

The Orange Phase includes Planning Areas B, G, H-1, H-2, I, J, and N. Development in this area includes 457 residential units. This area of the project is mostly in the 711 Zone with a few lots in the 624 Zone. The 711 Zone development can be served by connecting to the existing 12-inch line in La Media Road and extending 711 Zone lines to the development area. The 624 Zone portion of the project will require a temporary 711/624 Zone pressure reducing station.

Blue Phase

The Blue Phase is located in the southwest portion of the project and includes Planning Areas P and Q. This area includes development of 284 residential units. This area is primarily within the 624 Zone and can be served by constructing the offsite 12-inch line in La Media Road and constructing the temporary 711/624 Zone pressure reducing station.

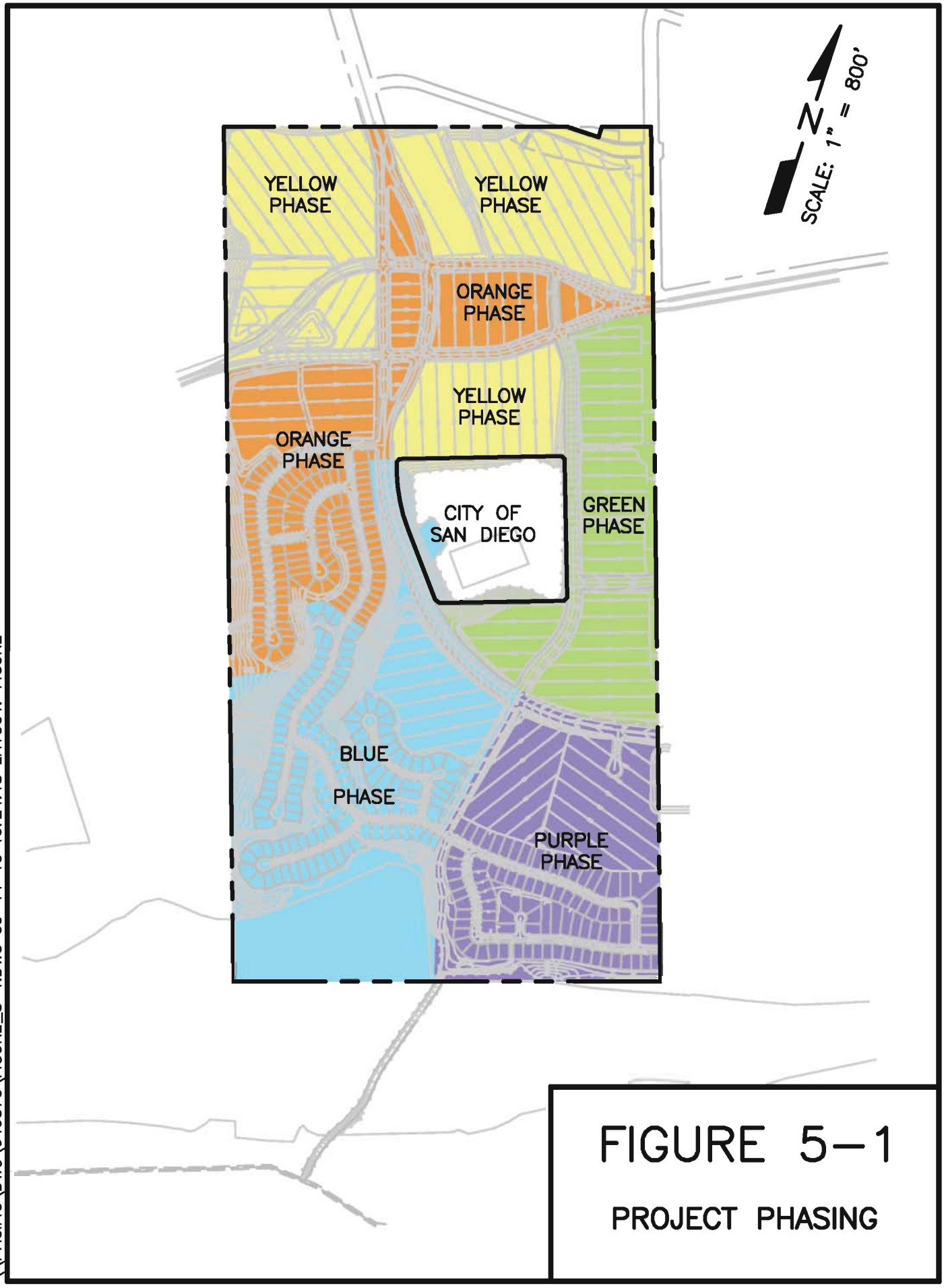


FIGURE 5-1

PROJECT PHASING

\\PACIFIC\DWG\646370\FIGURE_5-1.DWG 09-14-10 16:24:18 LAYOUT: FIGURE

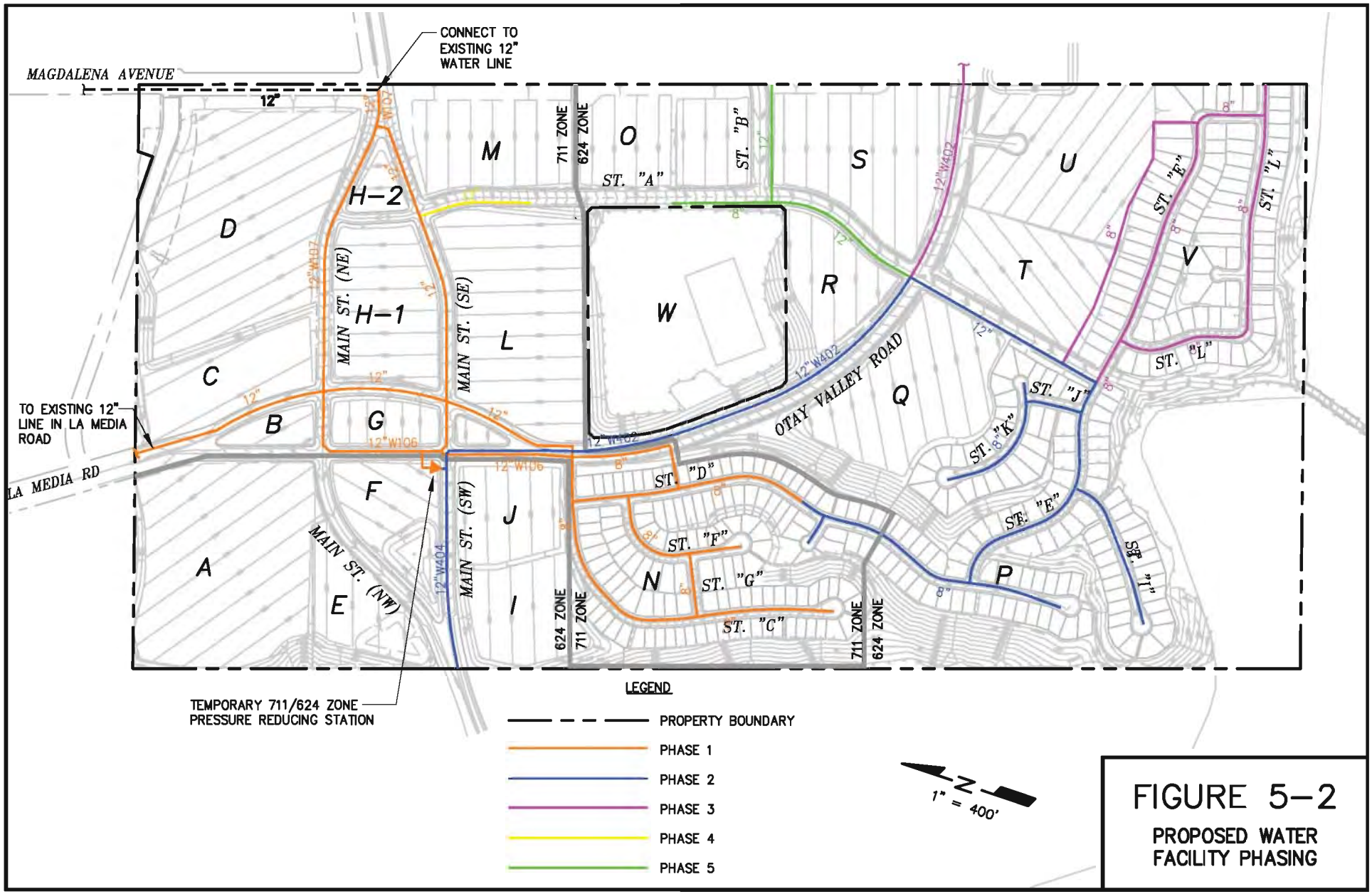


FIGURE 5-2

PROPOSED WATER FACILITY PHASING

\\PACIFIC\DWG\646370\FIGURE_5-2.DWG 11-19-10 11:03:36 LAYOUT: 5-2

Purple Phase

The Purple Phase is located in the southeast corner of the project and includes Planning Areas T, U, and V. Development in this area includes 220 residential units. Development in this area is within the 624 Zone and requires looped connections to the 624 Zone east of the project. If the 624 Zone has not been developed east of the project, the 711 Zone system to the north will need to be expanded and temporary 711/624 Zone pressure reducing stations will be required.

Yellow Phase

The Yellow Phase is located in the north portion of the project and includes Planning Areas A, C, D, E, F and L. This area includes the development of 776 residential units. To provide water service to this area of the project, 8-inch and 12-inch water lines will need to be constructed. These lines include extending a 12-inch 711 Zone line offsite to the north to connect to the existing 12-inch line in La Media Road. A temporary 711/624 Zone pressure reducing station would be required to supply proposed 624 Zone development to be constructed during this phase.

Green Phase

The Green Phase is located on the eastern side of the project and includes Planning Areas M, O, R and S. This area includes the development of 313 residential units. This area of the project can be served by connecting to the offsite 12-inch water line in La Media Road and existing 12-inch line at the intersection of main street and Magdalena Avenue and extending a 12-inch 711 Zone line to the development area. The southern portion of this phase is within the 624 Zone and will require a temporary 711/624 Zone pressure reducing station if the 624 Zone system has not been developed east of the project.

Table 5-1 provides a summary of proposed water system improvements by phase.

TABLE 5-1
WATER FACILITY PHASING SUMMARY

Phase	Planning Area	Water Improvements
Orange	B, G, H-1, H-2, I, J, and N	• 12" extension @ La Media Road • 12" W106 • 12" W107 • 12" line in Main Street (SE) • 8" lines @ Streets "C", "D", "F" and "G" • PRS 711/624 Zone
Blue	P and Q	• 12" water extension @ La Media Road • 12" W106 • PRS 711/624 Zone • 12" W402 • 12" W404 • 12" line in Street "A" • 8" lines in Streets "D", "H", "I", "J" and "K"
Purple	T, U, and V	• 12" water extension @ La Media Road • 12" W106 • PRS 711/624 Zone • 12" W402 • 8" lines in Streets "E" and "L" • 8" line in P.A. U • 12" line in Street "A"
Yellow	A, C, D, E, F, and L	• 12" W107 • 12" line in Street "A" • 12" line in Main Street (SE)
Green	M, O, R, and S	• 12" water extension @ La Media Road • 12" W106 • PRS 711/624 Zone • 8" line in Street "A" • 12" line in Street "A" • 12" line in Street "B" • 12" W402

REFERENCES

1. Otay Water District Water Resources Master Plan Update, PBS&J, October 2008.

2. San Diego County Water Authority Urban Water Management Plan, adopted November 2005.

3. Otay Water District 2005 Urban Water Management Plan.

4. The Regional Urban Water Management Plan for the Metropolitian Water District of Southern California, adopted November 2005.

5. Water Agency Standards, May 2006.

APPENDIX A

PARK SITES
POTABLE WATER USE ESTIMATE

DEXTER WILSON ENGINEERING, INC.

DEXTER S. WILSON, P.E.
ANDREW M. OVEN, P.E.
STEPHEN M. NIELSEN, P.E.
DIANE H. SHAUGHNESSY, P.E.

MEMORANDUM 646-370

TO: File

FROM: Stephen M. Nielsen, Dexter Wilson Engineering, Inc.

DATE: October 8, 2010

SUBJECT: Otay Ranch Village 8 West Parks

This memorandum provides an estimate of potable water demands for the Otay Ranch Village 8 West park sites. Although only a portion of the Village 4 Community Park site is within the Village 8 West property, this estimate is for the entire park site. Our estimate is based on estimated fixture unit data provided by others. Tables 1 and 2 provide an estimate of water fixture units for the sites and provide the estimated peak water demand from the Uniform Plumbing Code.

From the estimated peak demand from the Uniform Plumbing Code, we can estimate average annual water demands by using Figure 4-3 from the Otay Water District October 2008 Master Plan. For a peak demand of 65 gpm (93,600 gpd), from the community park site the factor to convert to average daily demand is 7.0. Therefore we estimate the average daily potable water demand for the items listed in Table 1 to be approximately 13,370 gallons per day. In addition, based on existing City pool facilities, the City estimates that the average swimming pool water demand will be approximately 2,000 gallons per day. The total estimated potable water demand at the community park site is thus 15,370 gallons per day.

Similarly the estimated average potable water demand from the Planning Area G and T park sites was calculated to be 1,230 gpd and 2,670 gpd, respectively. Chart A-3 from the Uniform Plumbing Code and Figure 4-3 from the Otay Water District Master Plan are attached to this memorandum for reference.

SMN:ck

2234 FARADAY AVENUE • CARLSBAD, CA 92008 • (760) 438-4422 • FAX (760) 438-0173

TABLE 1
PLANNING AREA A
FIXTURE UNIT SUMMARY

	Aquatic's Area			Ballfield Area			Remaining Property		
Description	Quantity	Fixture Units each	Total Fixture Units	Quantity	Fixture Units Each	Total Fixture Units	Quantity	Fixture Units Each	Total Fixture Units
Toilets	10	2.5	25.0	12	2.5	30.0	4	2.5	10.0
Urinals	4	2.0	8.0	6	2.0	12.0	2	2.0	4.0
Shower	26	2.0	52.0	0	2.0	0	0	2.0	0
Kitchen Sink	0	1.5	0	0	1.5	0	1	1.5	1.5
Drinking Fountains	0	0.5	0	0	0.5	0	10	0.5	5.0
Lavatory	12	1.0	12.0	8	1.0	8.0	2	1.0	2.0
Hose Bibb	1	2.5	2.5	1	2.5	2.5	1	2.5	2.5
Additional Hose Bibb	9	1.0	9.0	9	1.0	9.0	9	1.0	9.0
TOTAL			108.5			61.5			34
Project Total Fixture Units									204
Project Peak Demand (UPC Chart A-3)									65 gpm
Peak Factor (OWD Figure 4-3)									7.0
Average Demand									13,370 gpd

TABLE 2
PLANNING AREAS G AND T
FIXTURE UNIT SUMMARY

Description	Planning Area G			Planning Area T		
	Quantity	Fixture Units Each	Total Fixture Units	Quantity	Fixture Units Each	Total Fixture Units
Toilets	0	2.5	0	4	2.5	10.0
Urinals	0	2.0	0	2	2.0	4.0
Drinking Fountains	2	0.5	1.0	2	0.5	1.0
Lavatory	0	1.0	0	3	1.0	3.0
Hose Bibb	1	2.5	2.5	1	2.5	2.5
Additional Hose Bibb	4	1.0	4.0	6	1.0	6.0
TOTAL			**7.5**			**17.5**
Project Peak Demand (UPC Chart A-3)			6 gpm			18 gpm
Peak Factor (OWD Figure 4-3)			7.0			7.0
Average Demand, gpd			1,230			2,670

Chart A-3

Enlarged Scale Demand Load

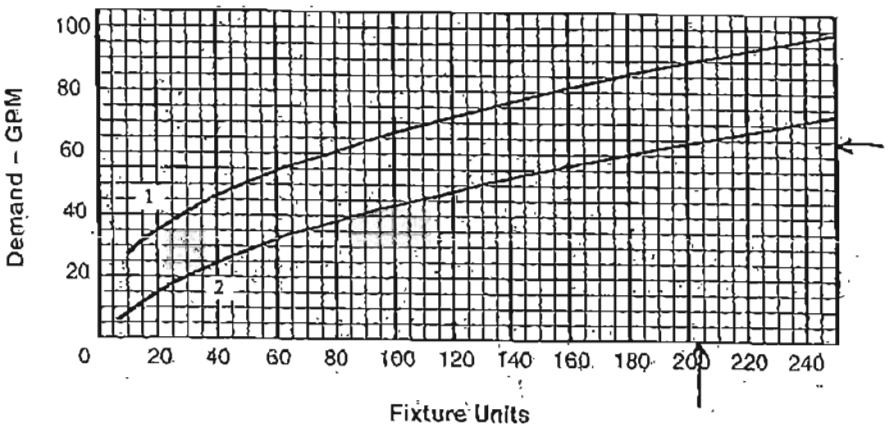


Chart A-3 (Metric)

Enlarged Scale Demand Load

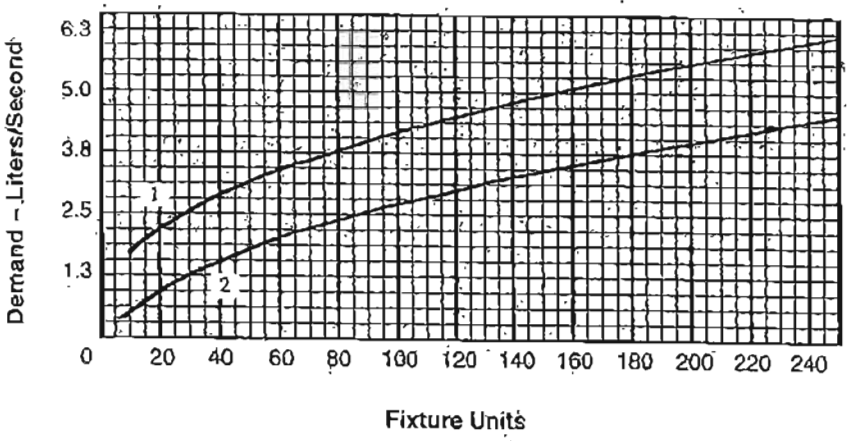
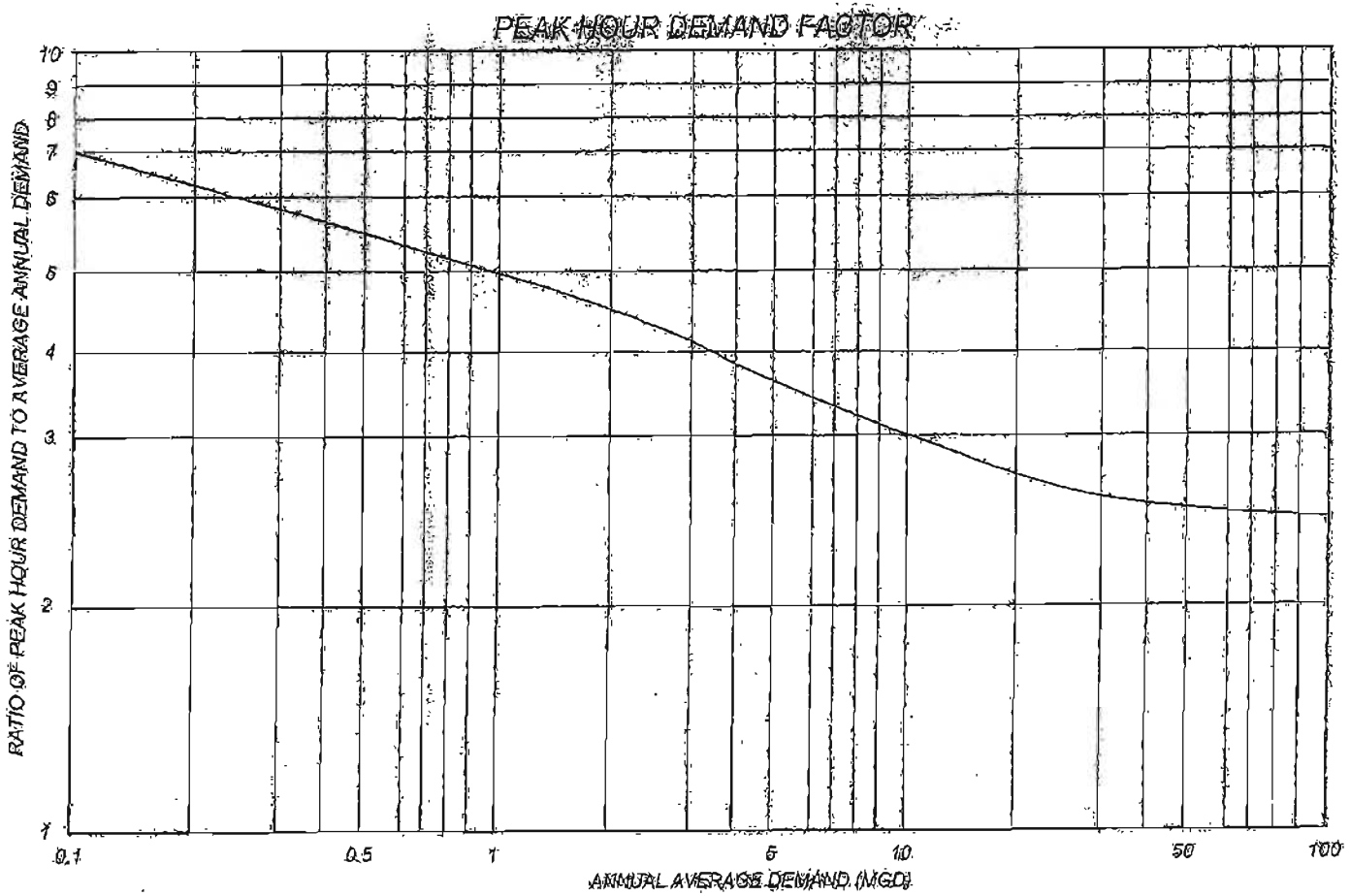


Figure 4-3. Peak Hour Peaking Curve



APPENDIX L

Overview of Sewer Service

FINAL
OVERVIEW OF SEWER SERVICE
FOR
OTAY RANCH VILLAGE 8 WEST

November 2010



Prepared By:

Dexter Wilson Engineering, Inc.
2234 Faraday Avenue
Carlsbad, CA 92008

Job Number 646-370

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CHAPTER 1

INTRODUCTION

This report provides an overview of sewer service for the Otay Ranch Village 8 West. Village 8 West includes portions of Otay Ranch Villages 4, 7, and 8. This report will project sewer flows for the project, outline sewer facilities to be constructed, and discuss current treatment capacity. This report recommends sewer facilities specific to the needs of the Otay Ranch Village 8 West site, but takes into account City of Chula Vista regional planning for the area.

PROJECT OVERVIEW

The Village 8 West project is approximately 320 acres in size and is located in the City of Chula Vista, within the Otay Ranch development. The project is generally bounded by Villages 2 and 7 to the north, Village 4 to the west, and Village 8 to the south and east. Figure 1-1 presents a location map for the project. The project will receive sewer service from the City of Chula Vista. Sewer facilities required to serve the project include onsite gravity sewer lines and an offsite gravity sewer to convey flows to the Salt Creek Interceptor.

DEVELOPMENT PLAN

Village 8 West is planned as a mixed use urban village as described in the General Development Plan. Land uses include mixed uses within the town center, transitioning to single family residential on the south end of the project. Residential products will include single family detached and multi-family units totaling 2,050 units. Other land uses include school sites, a community purpose facility, retail commercial, parks, and open spaces. The City of San Diego South San Diego Reservoir is also located in the center of Village 8 West. Figure 1-2 provides the proposed development plan for the project and Table 1-1 provides a Site Utilization Summary Table.

TABLE 1-1
SITE UTILIZATION SUMMARY TABLE

Planning Area	Gross Acres	Maximum Residential Units	Maximum Commercial Square Footage
Mixed Use			
B	1.4	25	0
C	6.9	130	36,000
F	5.4	103	25,000
H-1	7.7	33	144,000
H-2	1.2	0	12,000
J	5.4	160	18,000
L	14.2	448	65,000
Subtotal	**42.2**	**899**	**300,000**
Multi-Family Residential			
E	5.3	95	---
I	6.8	122	---
M	8.5	153	---
O	8.9	160	---
Subtotal	**29.5**	**530**	—
Single Family Residential			
Q	14.6	160	---
U	11.9	130	---
N	24.1	117	---
P	38.1	124	---
V	25.3	90	---
Subtotal	**114**	**621**	—
Community Purpose Facility			
R	5.8	---	---
Schools			
D	21.0	---	---
S	11.4	---	---
Subtotal	**32.4**	—	—

TABLE 1-1
SITE UTILIZATION SUMMARY TABLE

Planning Area	Gross Acres	Maximum Residential Units	Maximum Commercial Square Footage
Parks			
A	17.4	---	---
G	3.1	---	---
T	7.5	---	---
Subtotal	28.0	---	---
Open Space			
Y	15.6	---	---
X	3.5	---	---
Subtotal	19.1	---	---
Other			
W	19.6	---	---
R-O-W	29.5	---	---
Subtotal	**49.1**	—	—
TOTAL	**320.1**	**2,050**	**300,000**

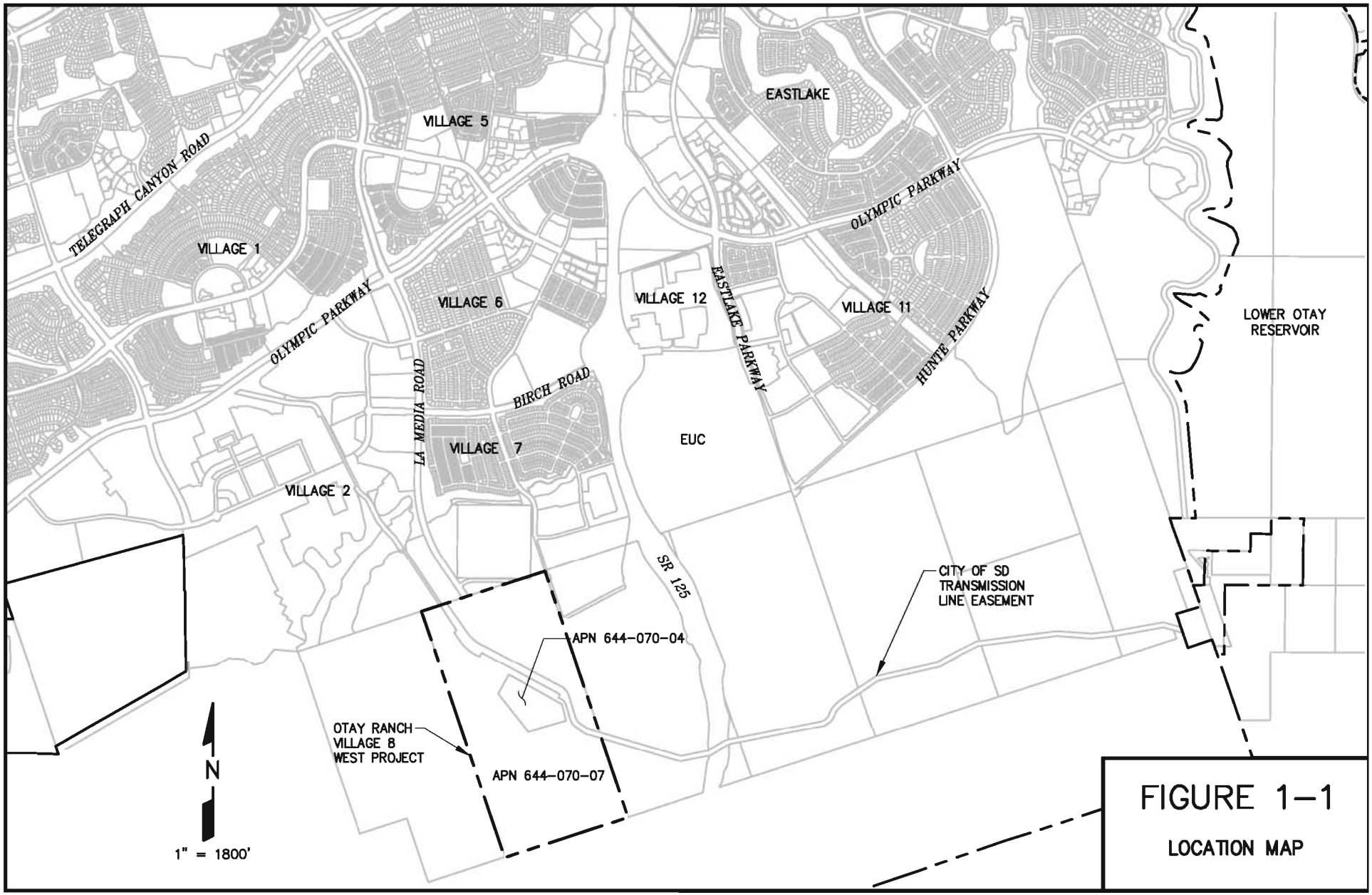


FIGURE 1–1

LOCATION MAP

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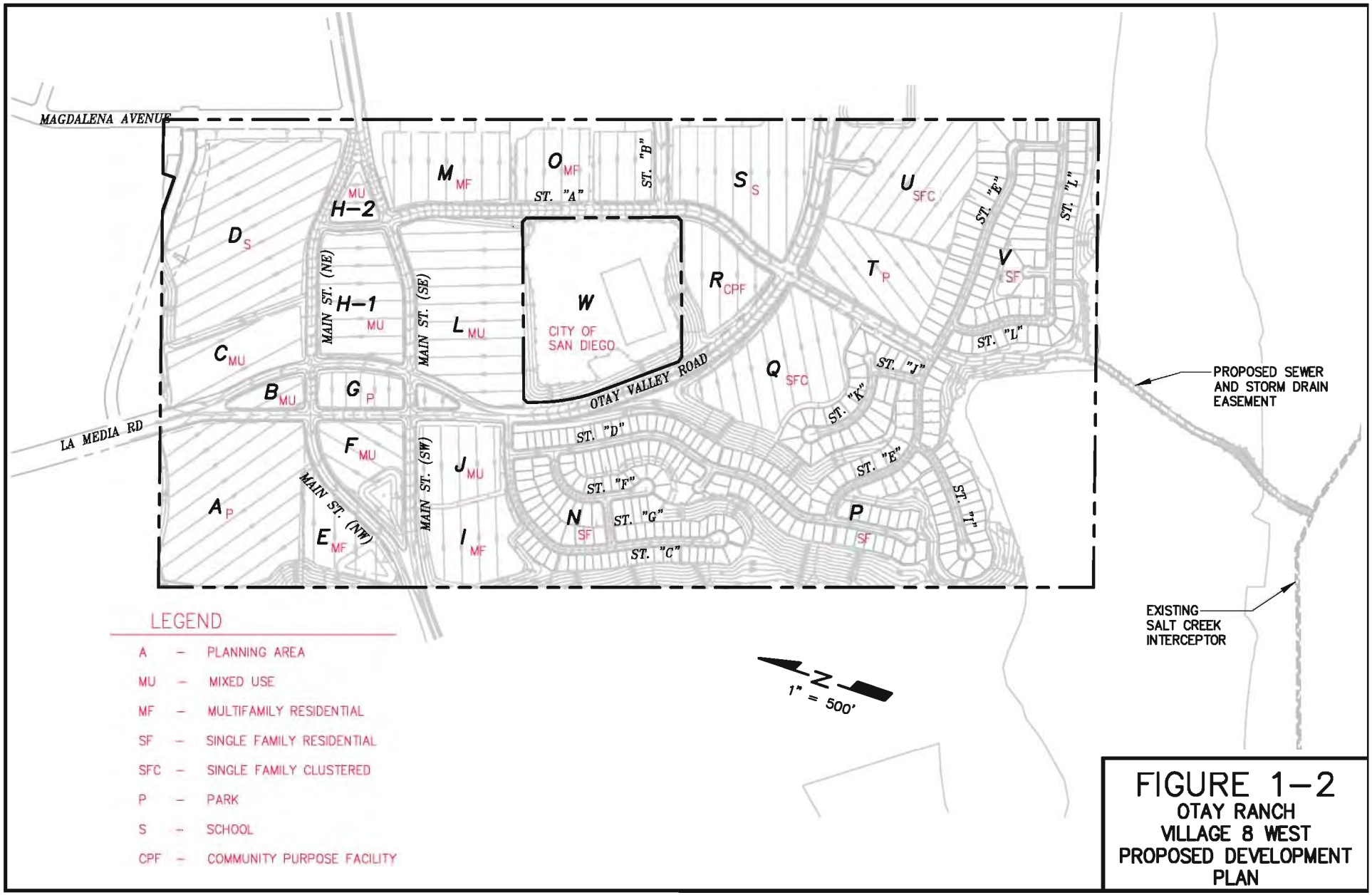


FIGURE 1–2
OTAY RANCH VILLAGE 8 WEST PROPOSED DEVELOPMENT PLAN

\\PACIFIC\DWG\646370\FIGURE_1-2.DWG 11-19-10 10:41:34 LAYOUT: 1

TOPOGRAPHY

The southern portion of the property generally drains from north to south. The northern portion of the project drains to the west. The existing topography on the property ranges in elevation from a low of approximately 280 feet to a high of approximately 600 feet.

SEWER SERVICE

Sewer service for the project will be provided by the City of Chula Vista. Village 8 West is within the Salt Creek sewer basin. The Salt Creek Interceptor was constructed to serve regional development in the area. The Salt Creek Interceptor is located approximately 1,500 feet south of development within Village 8 West.

CHAPTER 2

DESIGN CRITERIA AND PROJECTED FLOWS

This chapter presents the design criteria used to evaluate the sewer system for the project. The design criteria are utilized for analysis of the existing sewer system as well as for design and sizing of proposed improvements and expansions to the existing system to accommodate flows from the study area. Unless otherwise noted, the design criteria was obtained from the City of Chula Vista Subdivision Manual.

Sewage Generation Factors

Table 2-1 presents the generation factors used in projecting the total average day sewage flows for the project.

TABLE 2-1
SEWAGE GENERATION FACTORS

Land Use Designation	Average Flow Factor
Single Family-Residential	265 gpd/unit
Multi-Family Residential	199 gpd/unit
CPF/Commercial	2,500 gpd/Ac
Elementary School	15 gpd/student
Junior High School	20 gpd/student
High School	20 gpd/student
Parks	500 gpd/Ac

Peaking Factor

To convert average daily flow to peak wet weather flows, the population based peaking factor curve (CVDS-18) provided in the City of Chula Vista Subdivision Manual was utilized. This peaking factor curve has been included in Appendix A.

Gravity Sewers

All gravity sewers have been designed to convey peak wet weather flow. For pipes with a diameter of 12-inches and smaller, the sewers have been designed to convey this flow when flowing half full. For pipes with a diameter of larger than 12-inch, the sewers have been designed to convey peak wet weather flow when flowing three-fourths full by depth. Manning's equation with n=0.012 was used to size all new PVC gravity sewers. All new sewers were designed to maintain a minimum velocity of two feet per second at design capacity to prevent the deposition of solids.

Projected Sewer Flows

Table 2-2 provides the projected sewage flows for Village 8 West. The projected average sewage flow is 0.55 mgd. This results in a projected peak sewage flow of 1.07 mgd.

TABLE 2-2
OTAY RANCH VILLAGE 8 WEST
PROJECTED SEWAGE FLOWS

Planning Area	Land Use	Quantity	Unit Demand	Total Average Demand, gpd	EDUs
A	Park	17.4 Ac	500 gpd/Ac	8,700	32.8
B	Retail	0 Ac/0 SF	2,500 gpd/Ac	0	0
	MF	25 units	199 gpd/unit	4,980	18.8
C	Retail	1.7 Ac/36,000 SF	2,500 gpd/Ac	4,250	16.0
	MF	130 units	199 gpd/unit	25,870	97.6
D	Middle School	1,200 students	20 gpd/student	24,000	90.6
E	MF	95 units	199 gpd/unit	18,910	71.4
F	Retail	1.2 Ac/25,000 SF	2,500 gpd/Ac	3,000	11.3
	MF	103 units	199 gpd/unit	20,500	77.4
G	Park	3.1 Ac	500 gpd/Ac	1,550	5.8
H-1	Retail	6.6 Ac/144,000 SF	2,500 gpd/Ac	16,500	62.3
	MF	33 units	199 gpd/unit	6,570	24.8
H-2	Retail	1.2 Ac/12,000 SF	2,500 gpd/Ac	3,000	11.3
	MF	0 units	199 gpd/unit	0	0
I	MF	122 units	199 gpd/unit	24,280	91.6
J	Retail	0.8 Ac/18,000 SF	2,500 gpd/Ac	2,000	7.5
	MF	160 units	199 gpd/unit	31,840	120.2

TABLE 2-2
OTAY RANCH VILLAGE 8 WEST
PROJECTED SEWAGE FLOWS

Planning Area	Land Use	Quantity	Unit Demand	Total Average Demand, gpd	EDUs
L	Retail	3.0 Ac/65,000 SF	2,500 gpd/Ac	7,500	28.3
	MF	448 units	199 gpd/unit	89,150	336.4
M	MF	153 units	199 gpd/unit	30,450	114.9
N	SF	117 units	265 gpd/unit	31,005	117
O	MF	160 units	199 gpd/unit	31,840	120.2
P	SF	124 units	265 gpd/unit	32,860	124
Q	SF	160 units	265 gpd/unit	42,400	160
R	CPF	5.8 Ac	2,500 gpd/Ac	14,500	54.7
S	Elem. School	800 students	15 gpd/student	12,000	45.3
T	Park	7.5 Ac	500 gpd/Ac	3,750	14.2
U	SF	130 units	265 gpd/unit	34,450	130
V	SF	90 units	265 gpd/unit	23,850	90
W	City of SD	19.6 Ac	0	0	0
TOTAL		**2,050 units**		**549,700**	**2074.4**

TABLE 2-3
OTAY RANCH VILLAGE 8 WEST
PROJECTED SEWAGE FLOW SUMMARY

Land Use	Quantity	Unit Flow	Total Flow, gpd
Single Family	621 units	265 gpd/unit	164,570
Multi-Family	1,429 units	199 gpd/unit	284,370
School – Middle	1,200 students	20 gpd/ea	24,000
School – Elementary	800 students	15 gpd/ea	12,000
Commercial	14.5 Ac	2,500 gpd/Ac	36,250
CPF	5.8 Ac	2,500 gpd/Ac	14,500
Parks	28.0 Ac	500 gpd/Ac	14,000
TOTAL			**549,700**

The Land Offer Agreement between the developer and the City allows up to 15 percent of the units within a village to be transferred to another village within Village 8 West, provided that the total of 2,050 units allocated for the project is not exceeded. A review of the land use plan indicates that transferring 67 units from Planning Area L would represent the worst case, in terms of the largest number of units that could be transferred to/from any one village. To evaluate the impact that this could have on the proposed local sewer collection system, we calculated the effect this additional flow would have. The result of this additional flow is an increase in the d/D ratio of 0.01 to 0.02. This is considered a negligible impact and does not affect the proposed sewer sizing in this report.

CHAPTER 3

EXISTING SEWER SYSTEM

There are no existing sewer facilities within the Village 8 West project. There are existing sewer facilities within Village 2 and 7 to the north of the project and the Salt Creek Interceptor is located south of the project. Figure 3-1 provides the location of the existing sewer facilities in the vicinity of Village 8 West.

Salt Creek Interceptor

The Salt Creek Interceptor has been constructed in sections with the majority of it being completed approximately five years ago. This interceptor starts as a 15-inch line in Hunte Parkway within the Rolling Hills Ranch project. From there, the line increases in size as it heads south along Salt Creek. The interceptor then turns westerly and follows the Otay River to a point of connection with the City of San Diego Metro Sewer System. At the location where the Salt Creek Interceptor passes south of Village 8 West, this line is 36-inch in size.

Treatment Capacity

All sewage generated within the City of Chula Vista is currently conveyed to the City of San Diego Metro Sewer System for treatment and disposal. The Metro sewer system treats wastewater from the City of San Diego and 15 other cities and districts, including Chula Vista. Flows are conveyed to the Point Loma Wastewater Treatment plant which has a capacity of 240 mgd and currently treats approximately 180 mgd.

The City of Chula Vista has capacity rights of 20.864 mgd in the Metro sewer system. Current flows in the City average approximately 16.2 mgd. While this excess available capacity is not anticipated to be adequate to serve ultimate buildout needs of the City, the current available capacity represents approximately 17,600 EDUs that can be connected to the system before the capacity is used up. Discussion on how the City will meet their buildout needs is provided in Chapter 4 of this study.

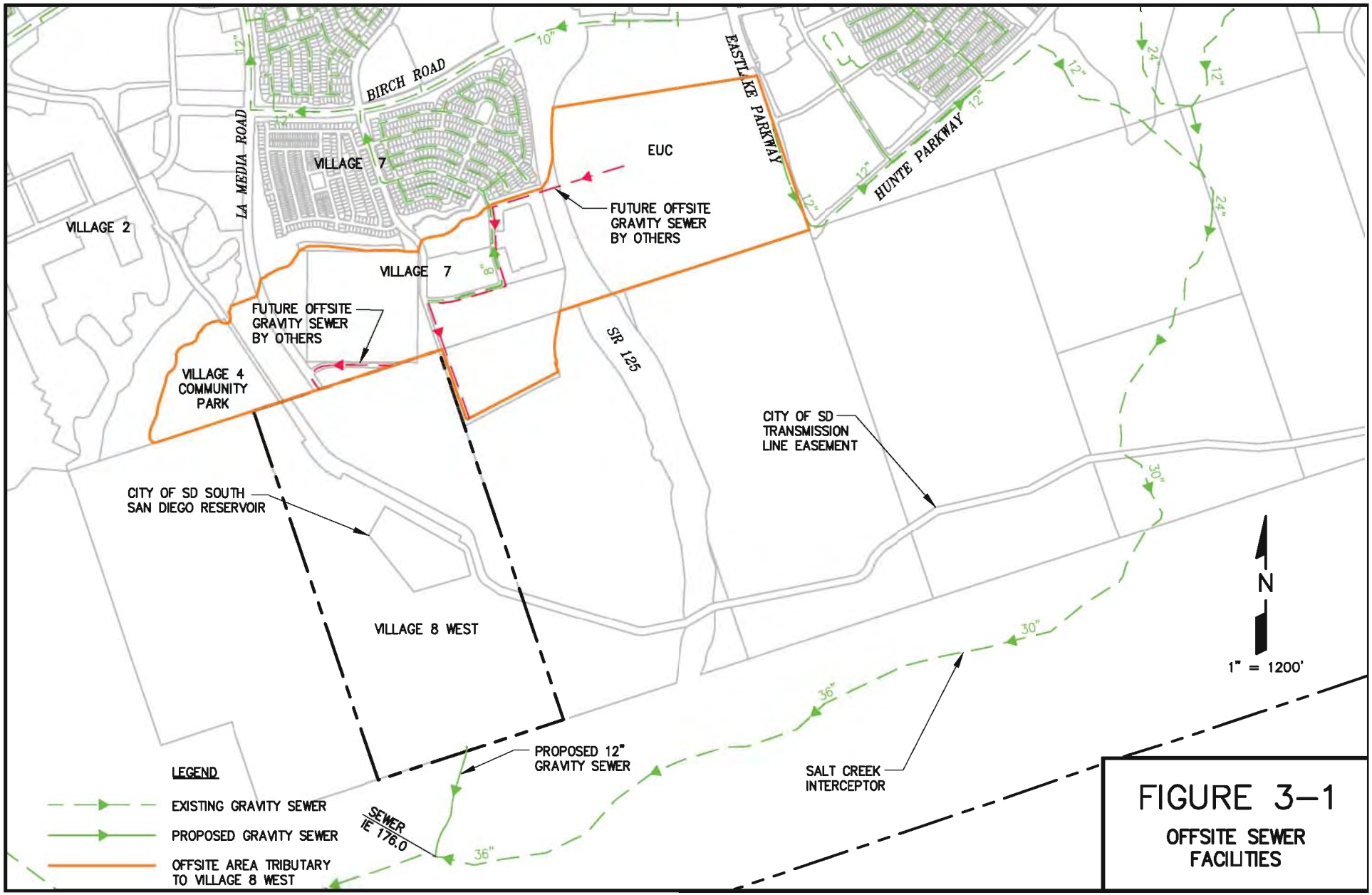


FIGURE 3-1

OFFSITE SEWER FACILITIES

\\PACIFIC\DWG\646370\SEWER\FIGURE_3-1.DWG 06-02-10 17:02:03 LAYOUT: 3-1

CHAPTER 4

RECOMMENDED SEWER FACILITIES

Sewer facility improvements required to serve Village 8 West include onsite gravity sewer lines, including a temporary deep sewer line, an offsite connection to the Salt Creek Interceptor, and the payment of fees for capacity in regional facilities.

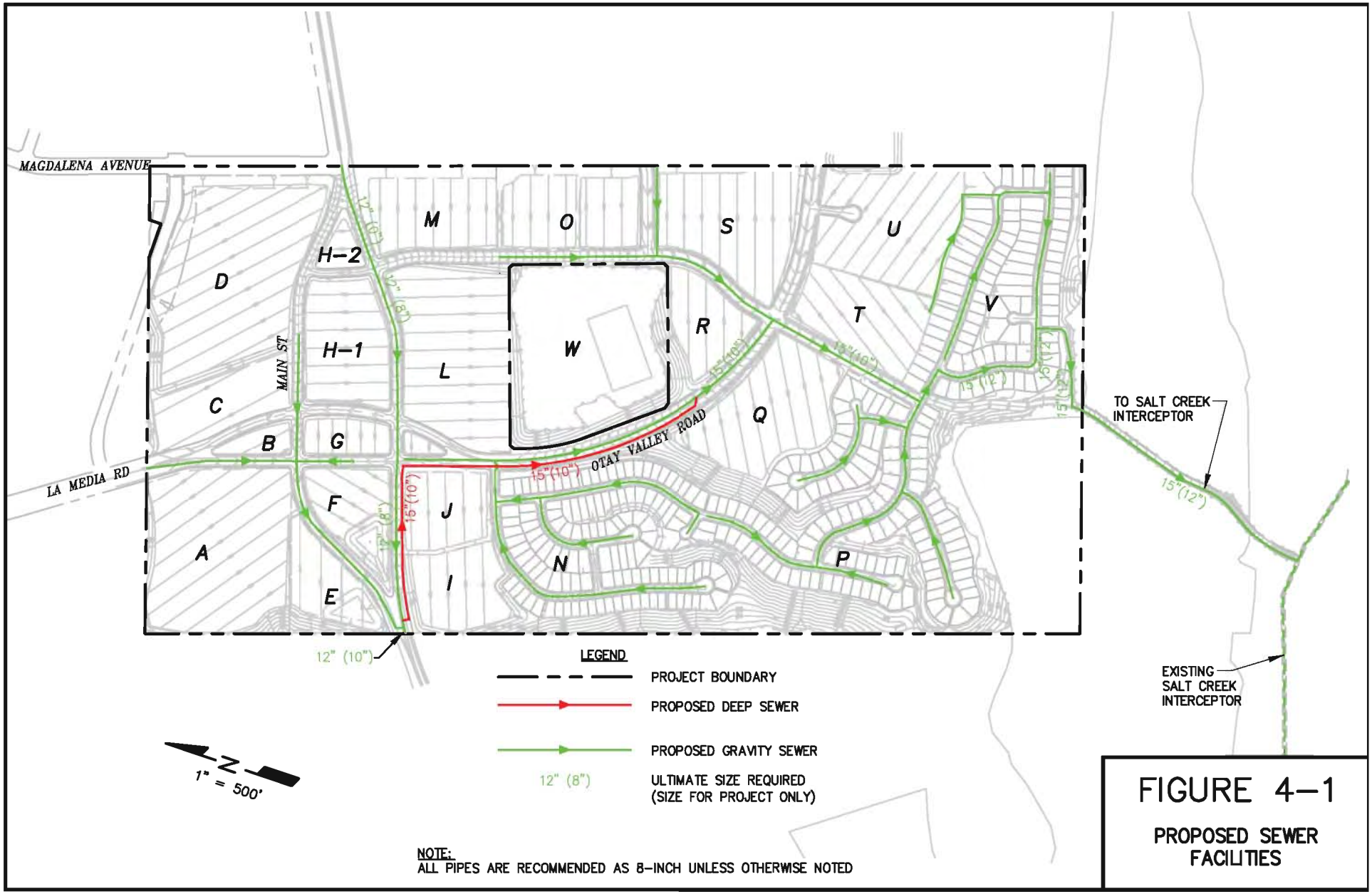
Onsite Sewer Facilities

The southern portion of Village 8 West can be served by constructing gravity sewer lines to convey flows south to a single point of connection with the Salt Creek Interceptor. This will require approximately 2,000 feet of offsite 15-inch gravity sewer. Figure 3-1 provides the alignment of this offsite gravity sewer line. Sewer lines in the southern portion of the project will be sized to accommodate temporary flows from the northern portion of the project and offsite flows as discussed below.

The northern portion of Village 8 West and offsite tributary flows will ultimately be served by an offsite gravity sewer line when Main Street is extended to the west by others. The gravity collection system for Village 8 West will include a stub to the northern project boundary in La Media Road to allow the Village 4 community park site and a portion of Village 7 to be connected to this system. The gravity sewer line in Main Street will also be sized to accommodate a portion of flows from Village 7 and the EUC that are currently being diverted to the Poggi Basin.

Since Main Street in not expected to be extended to the west at the time Village 8 West is expected to develop, a deep sewer line to divert flows to the south is proposed. This deep gravity sewer line will have a total length of approximately 2,800 feet, with approximately 1,900 feet being constructed at depths greater than 25 feet. The maximum depth of cover over the sewer is approximately 50 feet.

The deep gravity sewer will be sized to convey onsite flows plus offsite flows from the Village 4 Community Park, Village 7, and the EUC. This deep sewer line will remain in service until the offsite gravity sewer in Main Street is constructed by others. Appendix B provides a preliminary hydraulic analysis for the onsite sewer system and Figure 4-1 graphically shows the proposed onsite facilities. The sizing of onsite sewer facilities in this study should be verified during final engineering of the project when slopes and alignments for the sewer lines have been better established.



NOTE:
ALL PIPES ARE RECOMMENDED AS 8-INCH UNLESS OTHERWISE NOTED

FIGURE 4-1

PROPOSED SEWER FACILITIES

\\PACIFIC\DWG\646370\SEWER\FIGURE_4-1.DWG 11-19-10 11:18:32 LAYOUT: 4-1

Offsite Flows

The onsite sewer system in the northern portion of Village 8 West will be required to be sized to accommodate flows from the Village 4 Community Park, a portion of Village 7, and a portion of the Eastern Urban Center (EUC). Appendix C provides the reference data for projected flows from these areas.

Village 4 Community Park. The Village 4 Community Park is located at the northern boundary of Village 8 West. A portion of this site is within Village 8 West (Planning Area A) with the majority of the park being north of Village 8 West. Average flows from the portion of the park to the north of Village 8 West were estimated to be 22,100 gpd per the January 2006 overview of sewer service for Otay Ranch Villages 2, 3, a portion of 4, and PA 18b. The proposed onsite gravity sewer line in La Media Road will be extended to the northern boundary of Village 8 West to accommodate these flows.

Village 7. The southern portion of the Village 7 project is within the Wolf Canyon/ Salt Creek basin. The developed portion of this property has been temporarily diverted north to the Poggi basin, but will ultimately be conveyed to the Salt Creek Interceptor. The March 2004 Village 7 Conceptual Sewer Study proposed by PBS & J identifies the future flows to be conveyed to the Wolf Canyon/ Salt Creek system. Not including the portion of Village 7 that is now within Village 8 West, the total average projected flows for this area is 217,494 gpd. Of this amount, development east of Magdalena Avenue represents 120,894 gpd. Flow from this area will be connected to the Village 8 West system at the intersection of Main Street and Magdalena Avenue. Development west of Magdalena Avenue is assumed to connect to the sewer line in La Media Road and has a projected average sewage flow of 96,600 gpd.

Eastern Urban Center. The EUC currently conveys flows to the Poggi Canyon Basin or to the Salt Creek Interceptor via a sewer line built by the Village 11 project. Ultimately, a large portion of the EUC will be served by connecting to the Village 7 sewer line that conveys flows to the Wolf Canyon basin. The January 2008 EUC Technical Sewer Study prepared by PBS&J indicates that a maximum average flow of 660,297 gpd will be conveyed to the Wolf Canyon basin. This flow will be conveyed to Village 8 West at the intersection of Magdalena Avenue and Main Street.

Regional Facilities

Regional facilities that will serve the Village 8 West project include the Salt Creek Interceptor and treatment plant capacity.

Salt Creek Interceptor. Salt Creek Interceptor was completed approximately five years ago to serve regional development in the area, including the Village 8 West property. To reimburse the City for the cost to construct the Salt Creek Interceptor, all developments that propose connections to this line are required to pay a development impact fee. Ordinance 2974 provides the fees to be collected by the City for properties to be served by the Salt Creek Interceptor. Table 4-1 summarizes the Salt Creek Sewer impact fees to be paid by Village 8 West.

TABLE 4-1
SALT CREEK SEWER IMPACT FEES

Land Use	EDU Factor	Fee $
Single Family-Residential	1.0 EDU/unit	1,330/unit
Multi-Family Residential	0.75 EDU/unit	997.5/unit
Commercial/Industrial	9.43 EDU/acre	12,541.9/acre
CPF	9.43 EDU/acre	12,541.9/acre
Elementary School	0.06 EDU/student	79.80/student
Junior High School	0.08 EDU/student	106.4/student
Parks	1.89 EDU/acre	2,513.7/acre

Like other properties in the area, the intensity of development in Village 8 West has increased from what was proposed in the previous City General Development Plan. The November 2010 Salt Creek Interceptor Technical Sewer Study for the South Otay Ranch prepared by PBS&J specifically looked at the impact that the revised general plan, including the densification of Village 8 West and surrounding properties, would have on the Salt Creek Interceptor. This study concluded certain sections of the Salt Creek Interceptor may require upgrades at ultimate buildout, but these sections are upstream of Village 8 West. Since the Village 8 West EDU projections in Table 2-2 as less than the EDU projections in the PBS&J report (see treatment capacity discussion on next page). We can conclude that Village 8 West will not trigger any upgrades to the Salt Creek Interceptor.

Treatment Capacity. Currently all sewage from the City of Chula Vista is collected and conveyed to the City of San Diego Metro System for treatment and disposal. The City currently has capacity rights of 20.864 mgd of flow in the Metro sewer system. Currently, existing average flows in the City are approximately 16.2 mgd. The estimated year 2030 flows based on the previous General Plan were 23.322 mgd, but as a result of densification in the General Plan Update, the projected year 2030 average flow for the preferred alternative was increased to 26.222 mgd. Thus, the City would have needed to acquire capacity rights for an additional 5.358 mgd to accommodate year 2030 flows. The November 2010 study prepared by PBS&J as a supporting document to the General Plan Amendment EIR addresses the City's current projections regarding the need to acquire additional treatment plant capacity in the future and includes potential increased flows from the Bayfront Redevelopment project. With these flows included the total future treatment capacity in the cumulative condition is 32.548 mgd, leaving 11.684 mgd of capacity that would need to be acquired above currently capacity rights. The City may acquire rights for this additional capacity in the Metro system through negotiations with the City of San Diego, but the City of Chula Vista is also evaluating the construction of a new wastewater treatment plant to meet its future treatment capacity and disposal requirements. The project will be timed to proceed with the City's acquisition of additional treatment capacity. Building permits will be issued only if the City Engineer had determined that adequate sewer capacity exists.

The November 2010 PBS&J study provided EDU projections based on the 2005 General Plan and based on current land use agreements. Table 4-2 summarizes the Village 8 West data from the PBS&J report.

TABLE 4-2
EDU SUMMARY FROM THE OCTOBER 2010
PBS&J SALT CREEK INTERCEPTOR REPORT

Land Use Description	EDUs	Average Flow, mgd
Baseline	1767.8	0.468
Current Proposed	2242.8	0.594
Increase	475	0.126

As shown by Table 4-2, the densification of Village 8 West will require the City to obtain an additional 0.126 mgd of treatment capacity. Also, the total EDUs projected in Table 2-2 of this report (2074.4) is less than the projected EDUs in the PBS&J report (2242.8) and thus the projected impacts in this study are within the projections for the regional study prepared by PBS&J.

CHAPTER 5

PROJECT PHASING

The Otay Ranch Village 8 West project has identified 5 phases of development for the project. The order in which these phases will occur is not yet known, but this chapter identifies the phases and provides a brief description of the sewer facilities required to serve each phase, assuming development occurs independent of the other project phases. Figure 5-1 graphically shows the proposed phasing of the project. For the purposes of this study, Figure 5-2 provides a sewer phasing plan based on an assumed order of development.

Orange Phase

The Orange phase is located in the southwest corner of the project and includes Planning Areas B, G, H-1, H-2, I, J, and N. Development in this area includes 457 residential units. This area of the project can be served by constructing 8-inch through 15-inch gravity sewer lines. These lines will collect flows and convey them south through planning Area V and offsite to the connection with the Salt Creek Interceptor.

Blue Phase

The Blue Phase is located in the southwest portion of the project and includes Planning Areas P and Q. This area includes development of 284 residential units. To serve this area, gravity sewer lines will need to be constructed south in La Media Road, through planning Area V, and offsite to the connection with the Salt Creek Interceptor.

Purple Phase

The purple phase is located in the southwest corner of the project and includes Planning Areas T, U, and V. Development in this area includes 220 residential units. Development in this area can be conveyed by constructing 8-inch through 15-inch gravity sewer lines and constructing the offsite gravity sewer to the point of connection with the Salt Creek Interceptor.

Yellow Phase

The Yellow Phase is located in the north portion of the project and includes Planning Areas A, C, D, E, F, and L. This area includes the development of 776 residential units. To provide sewer service to this area of the project, gravity sewer lines ranging from 8-inch to 15-inch will need to be constructed. These lines include extending a sewer line to the northern project boundary to serve the Village 4 Community Park and a temporary deep gravity sewer line to divert flows from the northern portion of the project to the south. Development of this phase will also require the construction of the gravity system south in La Media Road, through Planning Area V, and offsite to a connection with the Salt Creek Interceptor

Green Phase

The Green Phase is located on the eastern side of the project and includes Planning Areas M, O, R, and S. This area includes the development of 313 residential units. This area of the project can be served by constructing 8-inch through 15-inch gravity sewer lines. These lines will convey flow southerly through planning Area V and offsite to the connection with the Salt Creek Interceptor.

Prior to the approval of the final map for each phase, the sewer improvements listed in Table 5-1 shall be bonded.

TABLE 5-1
SEWER PHASING SUMMARY

Phase	Planning Area	Sewer Improvements
Orange	B, G, H-1, H-2, I, J, and N	• 8" sewer connection @ La Media Road • 8" sewer @ La Media Road • 8" sewer @ Main Street (North) • 12" sewer connections @ Main Street (West & East) • 12" sewer @ Main Street (South) • 15" sewer @ Main Street (South) • 2-15" sewer mains @ La Media Road • 8" sewer @ Streets "C", "D", "F", "G", and "H" • 15" sewer @ Street "A" • 15" sewer @ Street "L" • ~2,000' of 15" sewer • 15" sewer connection to Salt Creek Interceptor
Blue	P and Q	• 8" sewer @ Streets "D", "E", "K", "J", and "I" • 15" sewer @ Street "L" • ~2,000' of 15" sewer • 15" sewer connection to Salt Creek Interceptor
Purple	T, U, and V	• 8" sewer @ Streets "E", "M", "L", and southerly of Planning Areas T and U • 15" sewer @ Street "L" • ~2,000' of 15" sewer • 15" sewer connection to Salt Creek Interceptor
Yellow	A, C, D, E, F, and L	• 8" sewer connection @ La Media Road • 8" sewer @ La Media Road • 8" sewer @ Main Street (North) • 12" sewer connections @ Main Street (West & East) • 12" sewer @ Main Street (South) • 15" sewer @ Main Street (South) • 15" sewer main @ La Media Road • 15" sewer @ Street "A" • 15" sewer @ Street "L" • ~2,000' of 15" sewer • 15" sewer connection to Salt Creek Interceptor
Green	M, O, R, and S	• 8" sewer @ Streets "A" and "B" • 15" sewer @ Street "A" • 15" sewer @ Street "L" • ~2,000' of 15" sewer • 15" sewer connection to Salt Creek Interceptor

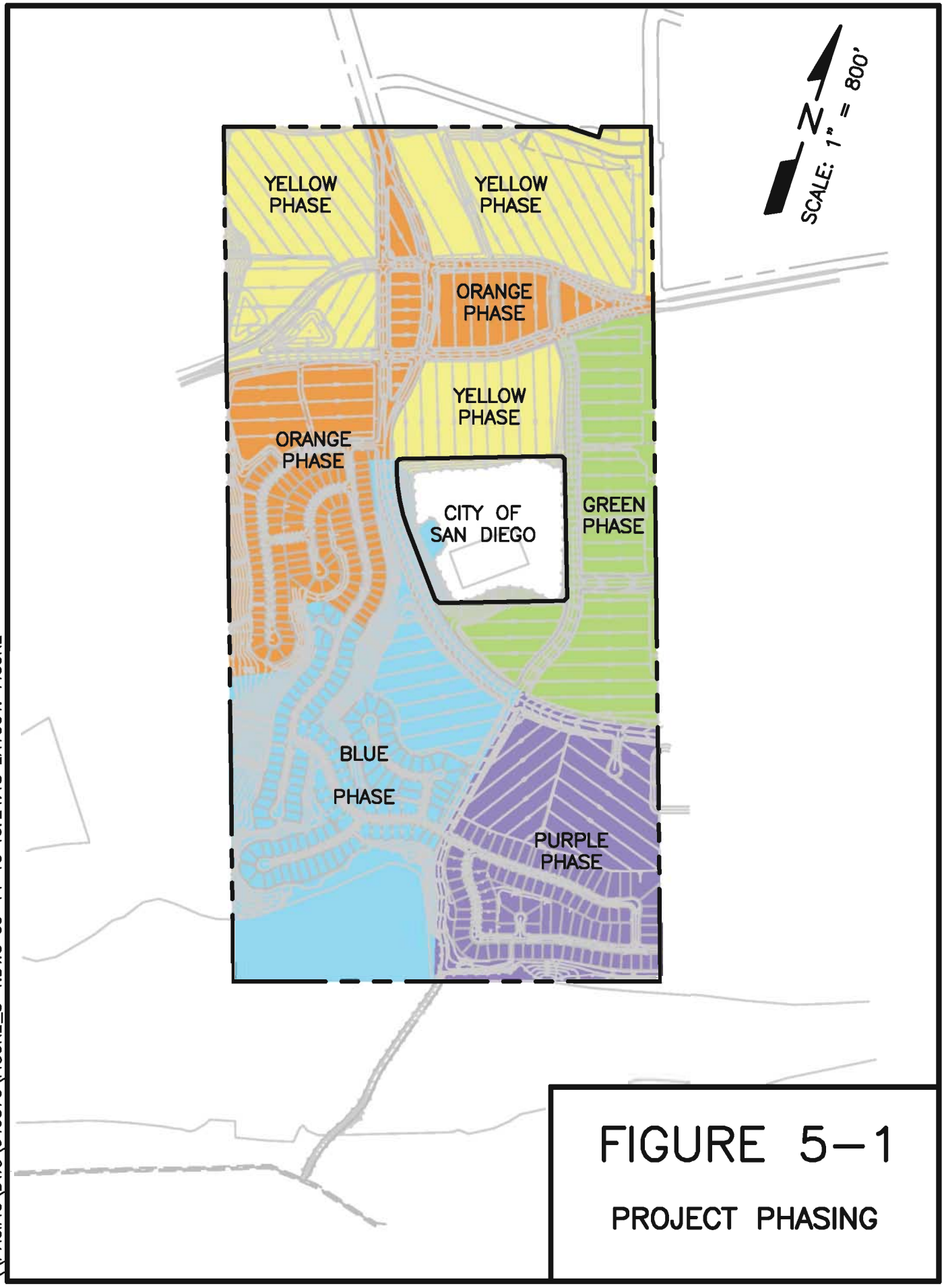


FIGURE 5-1

PROJECT PHASING

\\PACIFIC\DWG\646370\FIGURE_5-1.DWG 09-14-10 16:24:18 LAYOUT: FIGURE

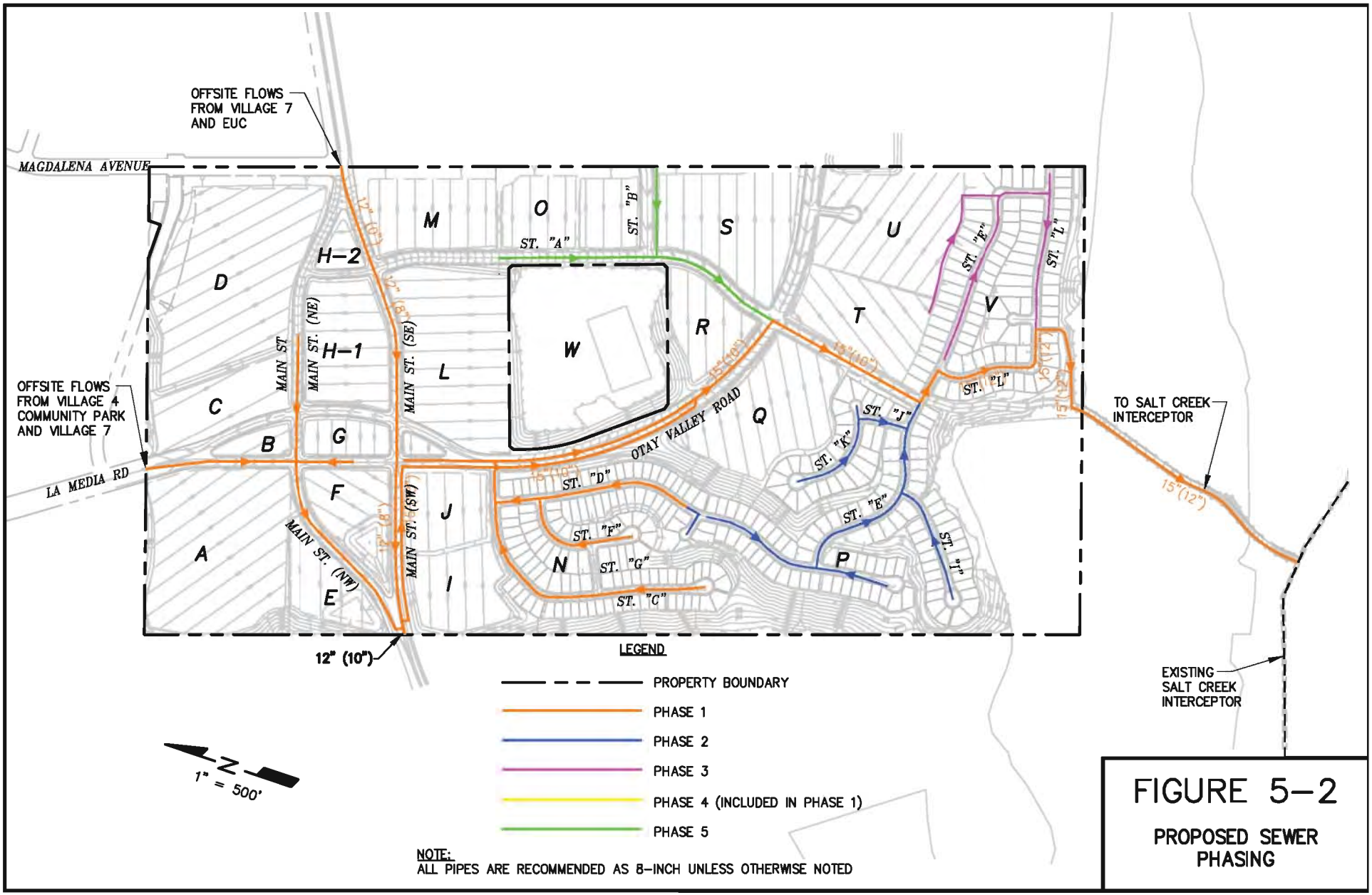


FIGURE 5-2

PROPOSED SEWER PHASING

\\PACIFIC\DWG\646370\SEWER\FIGURE_5-2.DWG 11-19-10 11:22:41 LAYOUT: 5-2

REFERENCES

1. Wastewater Master Plan for the City of Chula Vista, May 2005, PBS&J

2. Overview of Sewer Services for Otay Ranch Village 2, 3, a portion of 4 and Planning Area 18b, January 2006, Dexter Wilson Engineering, Inc.

3. Village 7 Conceptual Sewer Study, March 30, 2004, PBS&J

4. Eastern Urban Center Technical Sewer Study, January 2008, PBS&J

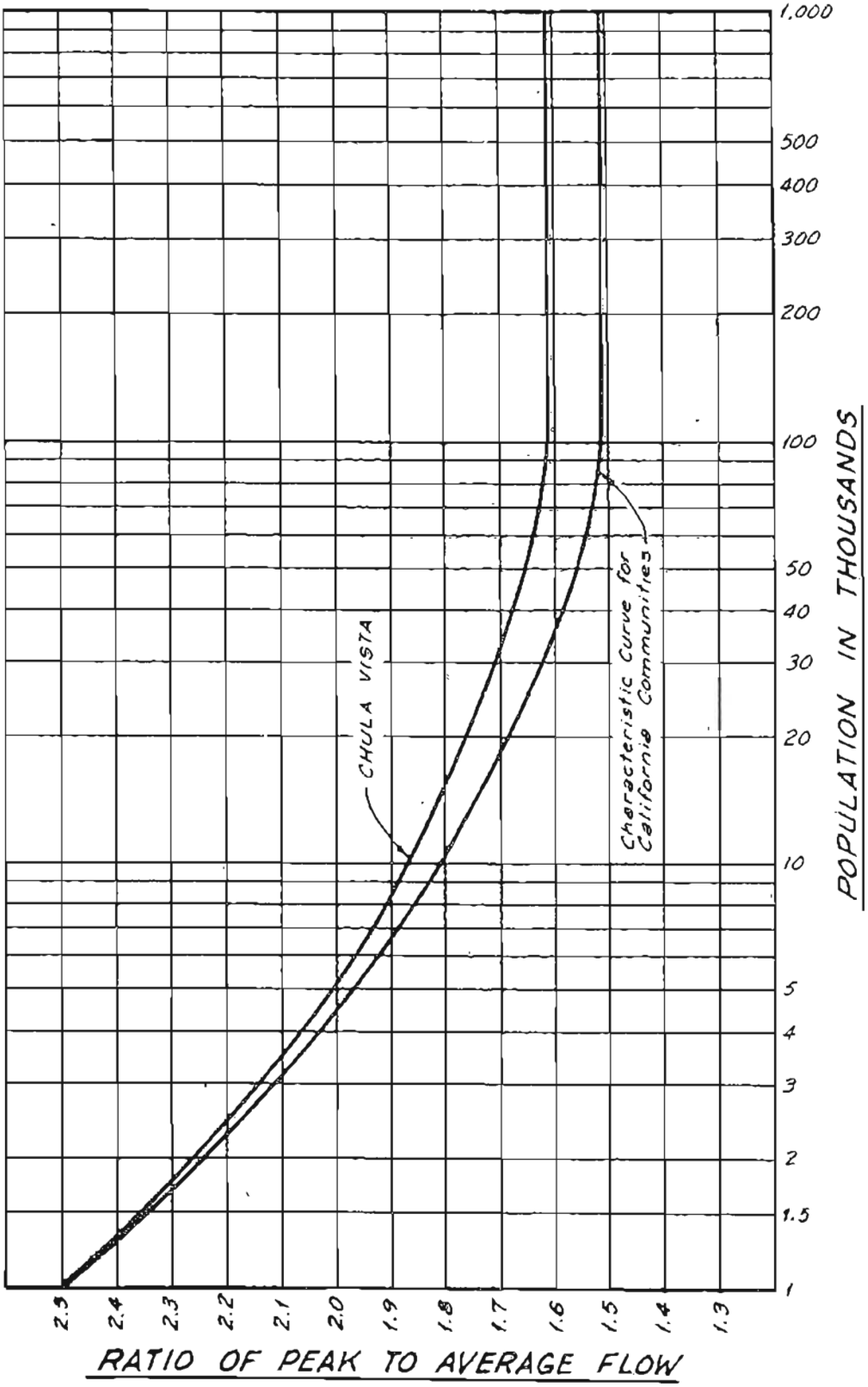
5. Subdivision Manual, 1998, City of Chula Vista

6. Salt Creek Interceptor Technical Sewer Study for the South Otay Ranch (Village 8 West and Village 9), November 2010, PBS&J.

APPENDIX A

PEAKING FACTOR CURVE

RATIO OF PEAK TO AVERAGE SEWAGE FLOW VS. MAGNITUDE OF TRIBUTARY POPULATION



Revised	Drawn J.W.H. Date 10-10-72	CITY OF CHULA VISTA PUBLIC WORKS DEPARTMENT	
	Approved Date 8-18-78		
	W. O. Robins	PEAK TO AVERAGE SEWAGE FLOW	CVDS 18
	Director of Public Works		

APPENDIX B

ONSITE SEWER SYSTEM HYDRAULIC ANALYSIS

OTAY RANCH PARCEL B HYDRAULIC ANALYSIS
SAMPLE CALCULATION (MH 80 TO MH 60)

1. FIND PEAK FLOW RATE

Average Flow = 118,700 gpd
Equivalent Population = 118,700 gpd /(80 gpd/person) = 1,484 people
Peak Factor = 2.36 (From CVDS 18)
Peak Flow, Q = 118,700 gpd x 2.36 = 280,132 gpd
Q, mgd = 280,132 / 1,000,000 = 0.28 mgd
Q, cfs = 0.28 mgd x 1.547 = **0.43 cfs**

2. FIND d/D USING BRATER AND KING TABLE 7-14 (ATTACHED)

$K' = Q * n / ((d)^{8/3} * (s)^{1/2})$

Where
- Q = flow, cfs
- n = friction coefficient = 0.012
- d = pipe diameter, ft.
- s = pipe slope, ft./ft.

So $K' = (0.43 * 0.012) / ((8/12)^{8/3} * (0.02)^{1/2})$
$K' = 0.1084$

From Brater and King Table 7-14 for K'=0.1084, **d/D = 0.33**

3. FIND VELOCITY USING BRATER AND KING TABLE 7-4 (ATTACHED)

Velocity, $V = Q/A = Q / (Ca * d^2)$

Where Q = flow, cfs
- Ca = constant from Brater and King Table 7-4 based on d/D
- d = Pipe Diameter, ft.

So $V = 0.43 / ((0.2260)*(8/12)^2)$

V = 4.31 ft/s

Brater + King
Handbook of Hydraulics
Sixth Edition

Table 7-4. For Determining the Area a of the Cross Section of a Circular Conduit Flowing Part Full

Let $\frac{\text{depth of water}}{\text{diameter of channel}} = \frac{D}{d}$ and C_a = the tabulated value. Then $a = C_a d^2$.

$\frac{D}{d}$	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0	.0000	.0013	.0037	.0069	.0105	.0147	.0192	.0242	.0294	.0350
.1	.0409	.0470	.0534	.0600	.0668	.0739	.0811	.0885	.0961	.1039
.2	.1118	.1199	.1281	.1366	.1449	.1535	.1623	.1711	.1800	.1890
.3	.1982	.2074	.2167	.2260	.2355	.2450	.2546	.2642	.2739	.2836
.4	.2934	.3032	.3130	.3229	.3328	.3428	.3527	.3627	.3727	.3827
.5	.393	.403	.413	.423	.433	.443	.453	.462	.472	.482
.6	.492	.502	.512	.521	.531	.540	.550	.559	.569	.578
.7	.587	.596	.605	.614	.623	.632	.640	.649	.657	.666
.8	.674	.681	.689	.697	.704	.712	.719	.725	.732	.738
.9	.745	.750	.756	.761	.766	.771	.775	.779	.782	.784

Table 7-14. Values of K' for Circular Channels in the Formula

$$Q = \frac{K'}{n} d^{8/3} s^{1/2}$$

D = depth of water d = diameter of channel

$\frac{D}{d}$	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
.0		.00007	.00031	.00074	.00138	.00222	.00328	.00455	.00604	.00775
.1	.00967	.0118	.0142	.0167	.0195	.0225	.0257	.0291	.0327	.0366
.2	.0406	.0448	.0492	.0537	.0585	.0634	.0686	.0738	.0793	.0849
.3	.0907	.0966	.1027	.1089	.1153	.1218	.1284	.1352	.1420	.1490
.4	.1561	.1633	.1705	.1779	.1854	.1929	.2006	.2082	.2160	.2238
.5	.232	.239	.247	.255	.263	.271	.279	.287	.295	.303
.6	.311	.319	.327	.335	.343	.350	.358	.366	.373	.380
.7	.388	.395	402	409	.416	.422	.429	.435	.441	.447
.8	.453	.458	.463	.468	.473	.477	.481	.485	.488	.491
.9	.494	.496	.497	.498	.498	.498	.496	.494	.489	.483
1.0	.463									

VILLAGE 8 WEST OFFSITE SEWER FLOW SUMMARY TABLE		
MH	**DESCRIPTION**	**AVG. FLOW, GPD**
80	Village 4 Park	22,100
	Village 7 - R3	76,850
	Village 7 - MU1	9,250
	Village 7 - TS1	4,750
	Village 7 - CPF2b	2,500
	Village 7 - CPF3	500
	Village 7 - CPF4	2,750
	TOTAL	**118,700**
59	EUC	660,297
	Village 7 - R6	37,213
	Village 7 - R7	23,681
	Village 7 - S1	48,000
	Village 7 - S3	12,000
	TOTAL	**781,191**

DATE: 9/14/2010

JOB NUMBER: 646-370

LINE	FROM	TO	IN-LINE FLOW (gpd)	AVG. DRY WEATHER FLOW (gpd)	Remarks
	80	60	118,700	118,700	Village 4 Park + Village 7 W of Magdalena
	70	60	1,550	1,550	Planning Area G
	62	60	54,120	54,120	Planning Area C,D
	60	52	125,230	179,350	Planning Area B + MH 70,80
	59	58	781,191	781,191	EUC + Village 7 E of Magdalena
	58	56	3,000	784,191	Planning Area H-2
	56	54	23,070	807,261	Planning Area H-1
	54	52	58,120	865,381	Planning Area I, J
	52	50	230,460	1,095,841	Planning Area A, E, F + MH 60
	42	40	32,860	32,860	124 SF units
	40	36	96,650	129,510	Planning Area L
	36	30	1,095,841	1,225,351	Flows from temp deep sewer
	34	32	62,290	62,290	Planning Area M, O
	32	30	0	62,290	
	30	6	1,294,251	1,356,541	Planning Area Q, R, S + MH 36
	24	22	38,200	38,200	Planning Area T, U
	22	20	8,480	46,680	32 SF units
	20	4	2,120	48,800	8 SF units
	12	10	10,865	10,865	41 SF units
	10	8	9,805	20,670	37 SF units
	8	6	10,070	30,740	38 SF units
	6	4	1,359,721	1,390,461	12 SF units + MH 30
	4	2	58,340	1,448,801	36 SF units + MH 20
temp	52	36	1,095,841	1,095,841	MH 52 - Assumes all offsite flows

[1] K' based on n = 0.012

[2] dn/D using K' in Brater King Table 7-14

[3] From Brater King Table 7-4 based on dn/D

APPENDIX C

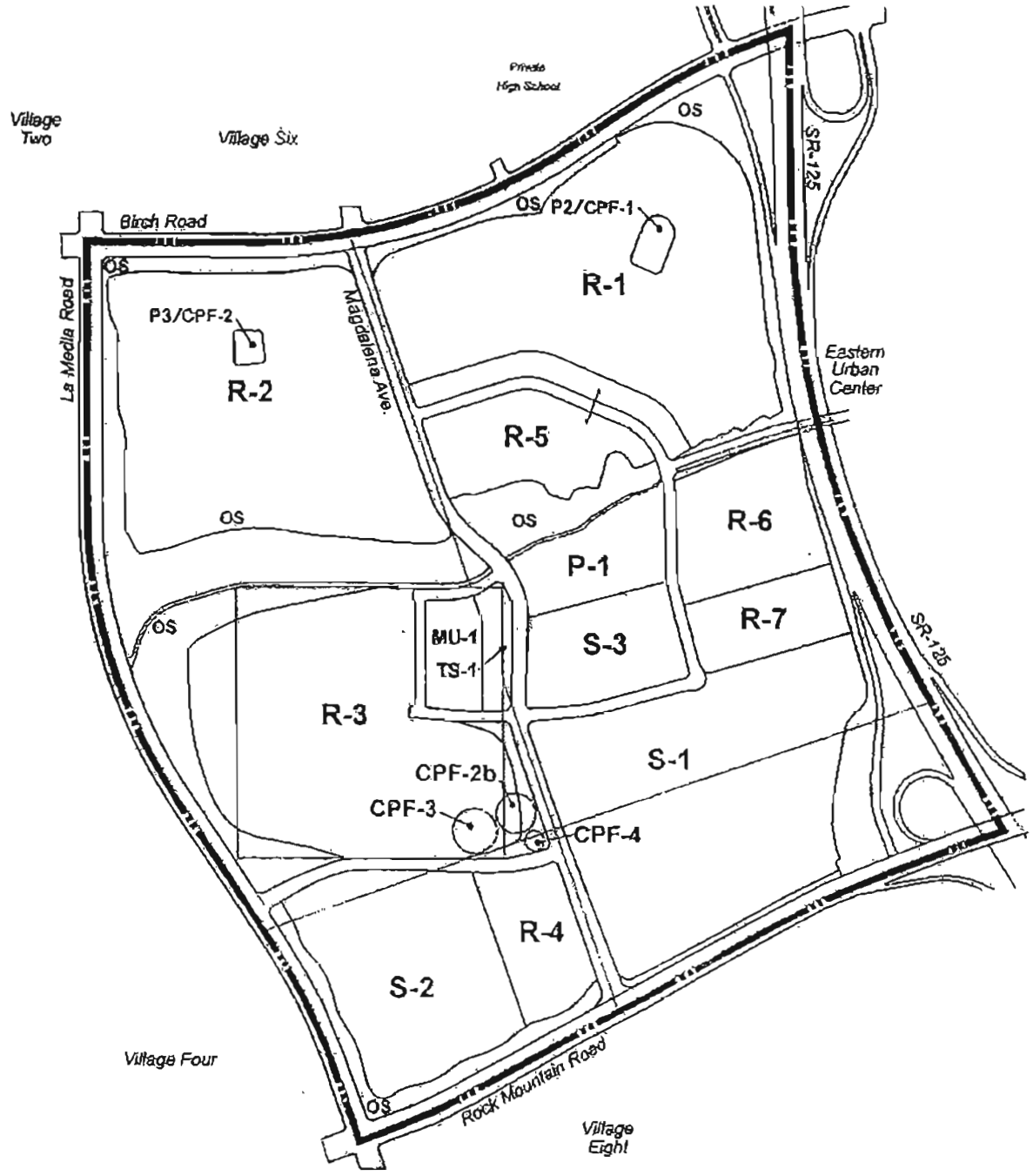
OFFSITE SEWER FLOWS
REFERENCE DATA

TABLE 3-1
VILLAGE 2, 3, A PORTION OF 4, AND PA 18b
WASTEWATER FLOW PROJECTIONS

Neighborhood	Land Use	Quantity	Generation Factor	Average Sewage Flow, gpd
R-27	MF	110 units	199 gpd/unit	21,890
IND-2	Industrial	6.7 ac	2,500 gpd/ac	16,750
IND-3	Industrial	29.7 ac	2,500 gpd/ac	74,250
P-4[2]	Park	44.2 ac	500 gpd/ac	22,100
CPF-2	Comm. Purpose	0.9 ac	2,500 gpd/ac	2,250
Subtotal Village 2		326 units		314,180
VILLAGE 3/PA 18b				
I-1	Industrial	54.5 ac	2,500 gpd/ac	136,250
I-2	Industrial	26.4 ac	2,500 gpd/ac	66,000
I-3	Industrial	50.1 ac	2,500 gpd/ac	125,250
I-4	Industrial	26.4 ac	2,500 gpd/ac	66,000
I-5	Industrial	11.3 ac	2,500 gpd/ac	28,250
I-6	Industrial	7.8 ac	2,500 gpd/ac	19,500
CPF-1	Community	10.2 cc	2,500 gpd/ac	25,500
Subtotal Village 3/PA 18b				466,750
Subtotal Wolf Canyon/Salt Creek Sewer				780,930
TOTAL		2,786 units		1,409,060

[1] Sewer flow projections for the high school and fire station are provided for reference only and not included in the project total. These sites have been developed independent of the Village 2 project.

[2] P-4 is within Village 4, but will be developed with the Village 2 project.



LEGEND

MU-1	MIXED USE/COMMERCIAL
TS-1	TOWN SQUARE
R-1 - R-4	SF RESIDENTIAL
R-5 - R-7	MF RESIDENTIAL
CPF-2b - CPF-4	COMMUNITY PURPOSE FACILITY
S-1	HIGH SCHOOL
S-2	MIDDLE SCHOOL
S-3	ELEMENTARY SCHOOL
OS	OPEN SPACE
P-1	PARK
P2/CPF-1	PARK
P3/CPF-2	PARK

N

NO SCALE

PROPOSED LAND USE
FIGURE 1-1

H:\design\48McMillin\49106/Village-7\491067-LU-sewer.dwg March 30, 2004

Table 2-3
Village 7 – Permanent Condition
Wolf Canyon Sewer Basin
Sewage Flows and EDUs by Unit ID

Neighborhood ID	Land Use	Number	Units	Generation Rate[1] (gpd/Unit)	Average Daily Flow (gpd)	EDU	
R-3	SF Residential	290	DU	265	76,850	290	
R-4	SF Residential	37	DU	265	9,805	37	NOW PARCEL B
R-6	MF Residential	187	DU	199	37,213	140	
R-7	MF Residential	119	DU	199	23,681	89	
S-3	Elementary School	800	Students	15	12,000	45	
S-1	High School	2,400	Students	20	48,000	181	
S-2	Middle School	1,400	Students	20	28,000	106	NOW PARCEL B
MU-1	Mixed Use/Comm	3.7	AC	2,500	9,250	35	
TS-1	Town Square	1.9	AC	2,500	4,750	18	
CPF-2b	Commercial	1.0	AC	2,500	2,500	9	
CPF-3	Commercial	0.2	AC	2,500	500	2	
CPF-4	Commercial	1.1	AC	2,500	2,750	10	
TOTAL					255,299	963	

[1] Unit demand factors from Chula Vista Subdivision Manual (July 2001)

217,494 (w/o S-2, R-4)

With the new 12-inch sewer in Eastlake and Hunte Parkways, the EUC would be able to temporarily divert a large portion of the site to the Salt Creek Interceptor. This off-site alternative was previously analyzed in a report to the City of Chula Vista by PBS&J dated February 3, 2006, which also included an analysis of the downstream critical reach for the Salt Creek Interceptor. The report concluded that the downstream reaches of the interceptor would not exceed capacity under peak flow conditions.

Blocks 10-13, 20-22, 26-27, half of 19, and Park P7, totaling 718 EDUs under the preferred land use plan (1,955 EDUs under the maximum land use condition) are anticipated to permanently sewer east to the Salt Creek Interceptor through the new 12-inch sewer constructed by McMillin in Eastlake and Hunte Parkways. These blocks were previously included in the Wolf Canyon Basin, but due to the proposed site grading for this area of McMillin's property, sewer flows must be directed towards Eastlake Parkway. The new 12-inch sewer system constructed by McMillin and the downstream facilities have the capacity to permanently sewer these blocks in the EUC. It is therefore recommended that these facilities be deemed the permanent sewer for these blocks.

Average wastewater generation rates were projected for permanent and interim on-site sewer system conditions and then by respective basins. The permanent condition reflects the sewer system after the EUC is fully developed and the Rock Mountain Road Trunk Sewer is operational. The interim condition represents the temporary diversion of the Project to the east until the RMTS is completed. The northern blocks represent those blocks that will permanently drain to the Poggi Canyon Sewer Basin. The remaining blocks in the EUC are within the Wolf Canyon and Salt Creek Sewer Basins. The average projected flow rates for these Basins under the preferred land use and grading plans are presented in Table 9. Note that the interim sewer option will not move Salt Creek basin flows from the EUC to another Basin – only farther upstream than ultimately anticipated.

Table 9. Summary of EDUs per Conveyance

Ultimate Conveyance	Preferred Alternative		Minimum Alternative		Maximum Alternative	
	EDUs	gpd	EDUs	gpd	EDUs	gpd
PCTS	529	140,157	123	32,529	1,313	347,949
Salt Creek	718	190,318	403	106,925	1,955	518,198
RMTS	1,966	521,029	887	235,183	2,492	660,297
TOTAL	3,213	851,504				

3.4 Wolf Canyon Sewer Basin

According to the EUC/Village 7 Off-Site Sewer Capacity Analysis dated December 2, 2005, 3,355 EDUs from the EUC were originally planned to sewer through Village 7 to the future RMTS. Based on the latest development plans for the EUC, a large portion will flow to RMTS once it is constructed. The remaining EDUs will be served by the PCTS and Salt Creek connections as discussed above. This analysis determined a range of EDUs that will be served by the RMTS in the future to allow flexibility in the development of the project.

Based on the maximum land use and preferred grading plan, a projected conveyance of 2,492 EDUs could be sewered through Village 7 to RMTS on a permanent basis. The anticipated number of EDUs to RMTS is therefore less than the planned 3,355 EDUs and no further analysis is required.