

East Otay Mesa Sewer Service Area Sewer Master Plan

January 2013



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A handwritten signature in blue ink that reads "Mark B. Elliott".

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Acronyms

CFD	Community Facilities District
County	County of San Diego
District	County Sanitation District
EDU	equivalent dwelling unit
EOM	East Otay Mesa
Governing Board	Board of Supervisors serves as the Board of Directors
gpd/ac	gallons per day per acre
LAFCO	Local Agency Formation Committee
Metro	City of San Diego Metropolitan Wastewater System
mgd	million gallons per day
OCCP	Otay Crossings Commerce Park
OIC	Otay International Center
OMTS	Otay Mesa Trunk Sewer
SAMP	Subarea Master Plan
SPA	Specific Plan Area
SR	State Routes
SSA	Sewer Service Area

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CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 Background

The County of San Diego (County) Board of Supervisors serves as the Board of Directors (Governing Board) for the San Diego County Sanitation District (District), which includes the East Otay Mesa Sewer Service Area (SSA). The SSA serves the unincorporated East Otay Mesa area and is maintained by the County of San Diego Wastewater Management Section. Operation and maintenance costs required for the SSA are collected through connection and service fees assessed to each connection to the sewerage system.

The East Otay Mesa SSA conveys all sewer flows into the City of San Diego Metropolitan Wastewater System (Metro) under a comprehensive Regional Wastewater Disposal Agreement enacted between the City of San Diego and the participating agencies within Metro. The Metro Treatment Plant, located in Point Loma, treats sewage from all of the participating agencies. While there are several separate County SSAs within the District (a total of 9), the District is considered one entity by Metro for purposes of capacity rating and its current Metro capacity is 17.503 million gallons per day (mgd). Within the District, the SSAs are apportioned, based on historical regional agreements, a share of Metro capacity for the purposes of projecting future regional capacity needs. The East Otay Mesa SSA has been apportioned 1.000 mgd of Metro capacity.

The East Otay Mesa Sewer Maintenance District was established in June 1999 by the County Board of Supervisors to provide sewage collection services for the unincorporated East Otay Mesa area. Based upon a County Board of Supervisors action, on July 1, 2011 the East Otay Mesa Sewer Maintenance District was officially reorganized and annexed into the Spring Valley Sanitation District and the Spring Valley Sanitation District was renamed the San Diego County Sanitation District.

1.2 Purpose

The purpose of this study is to provide the East Otay Mesa SSA of the County with an overall, efficient, and cost-effective means of providing sewer service within the East Otay Mesa area and a plan to coordinate service with the City of San Diego (City). This study reviews and updates SSA connection points to the eastern reaches of the City's municipal wastewater conveyance system, which ultimately flows into the City's Regional Metro interceptor and treatment facilities. This study also provides an update on the current financial planning for the SSA including the City of San Diego supplemental fees for funding the Otay Mesa Trunk Sewer (OMTS) system.

1.3 Scope of Services

The County retained Atkins to prepare the 2012 East Otay Mesa Sewer Master Plan Update and review the 2006 East Otay Mesa Sewer Master Plan Update (2006 Master Plan) to determine the key sizes, alignments, and phasing for the backbone sewer infrastructure needed to serve East Otay Mesa developments. Since the 2006 Master Plan, several properties have initiated the development entitlement process, and this Master Plan will include updated land use information. With these new development plans, wastewater flows were updated to determine the need, timing, and sizing of the collection system and to assess additional treatment capacity needs from the City's Metro System.

1.4 Study Area

The East Otay Mesa Specific Plan Area (SPA) is located in the southeastern portion of San Diego County, immediately north of the U.S./Mexico international border. It consists of approximately 1,525 developable acres bound by the San Ysidro Mountains to the east, the Otay River Valley to the north and the City's Otay Mesa area to the west (see Figure 1-1).

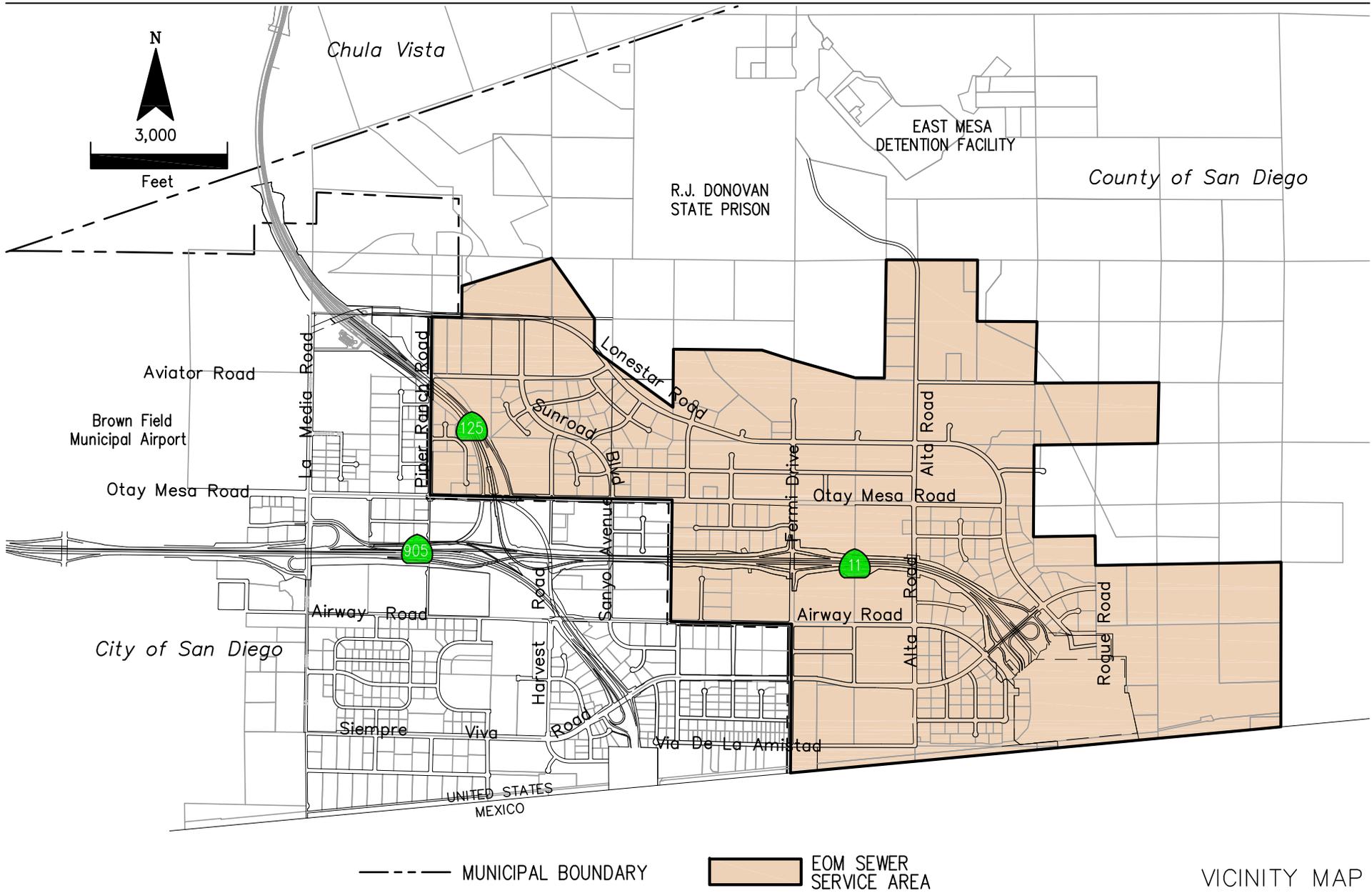
1.5 Connections to City of San Diego Facilities

This planning study focuses on laying out the SSA's key sewer infrastructure by maximizing gravity flow and minimizing the number of connections to the City's existing conveyance system using a strategy consistent with the City's sewer planning efforts. The planning basis for the City's Otay Mesa sewerage system is given in the OMTS Master Plan Update and Alignment Study (OMTS Master Plan Update, Atkins, June 2004) and subsequent OMTS Project Refinement and Phasing Report (OMTS Refinement Report, Atkins, May 2009). The unit flow generation rates used in this study are based on recent water usage records in similar areas in Otay Mesa, similar to those assumed in the OMTS Refinement Report.

In order to convey its wastewater to the Metro System for treatment, the SSA requires the use of the San Diego Municipal System for conveyance. On September 10, 2001, the City and the County entered into an agreement that outlined the terms of wastewater transportation. The 1998 Regional Wastewater Disposal Agreement (Metro Agreement) between the City and the other Metro participating agencies detailed the terms of wastewater treatment and disposal. This agreement is included in Appendix A and provides fees involved in connecting the County areas to the City's Metro System.

1.6 Financial Update

The County and City developers have joined forces to develop a financing option to ensure that backbone sewer facilities are constructed in a timely manner with development. As a result a task force or finance committee has been developed to work with a financial specialist and legal counsel and the City to implement an assessment district known as a Community Facilities District (CFD) to collect property assessments to fund sewer system upgrades. Section 5 includes more detailed discussions on the CFD and institutional financial information.



VICINITY MAP

FIGURE 1-1

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CHAPTER 2 STUDY AREA

2.1 Background

The SSA encompasses the East Otay Mesa SPA, which is located in the southeastern portion of San Diego County, immediately north of the U.S./Mexico international border. It consists of approximately 1,525 developable acres bound by the San Ysidro Mountains in the east and the Otay River Valley to the north. Donovan State Correctional Facility and the George F. Bailey and East Otay County Detention Facilities are located north of the SPA. These facilities are located outside of the District service area and are connected to the existing County-owned Johnson Canyon Sewer.

Through an amendment to the SPA Plan in 2000, the County divided the SPA into two distinct subareas, which are shown in Figure 2-1. New regional highways and roads, such as State Routes (SR) 905, SR 125, and SR 11; as well as a new light rail system, will provide circulation for these areas. Extensions of Otay Mesa Road, Airway Road, and Lonestar Road are also shown in the 2000 SPA Plan and will provide possible alignments for backbone sewer facilities.

2.2 Subareas

The following paragraphs provide a description of the subareas in the East Otay Mesa SPA. Table 2-1 provides a summary of land uses for each subarea.

2.2.1 Subarea I

Subarea I includes approximately 1,035 developable acres located adjacent to City/County jurisdictional border. Land planning in Subarea I includes general, heavy, and light industrial, a technological business park, a prison, power generating plant and open space areas. Nearly half of Subarea I has been designated as a Technology Business Park that will include offices for research, development and testing in a campus-like environment. Heavy industrial activities are planned in the far northeastern region of Subarea I near the detention facilities. Based on current development plans, this area will be used for several automobile recycle yards and a power generating plant. Light industrial activities are planned in the southern portion of the region near the U.S./Mexico international border. These activities may include warehousing, manufacturing, and distribution, along with some general industrial and mixed commercial activities. Due to rugged terrain and biological concerns, small portions in the northern regions of Subarea I have been designated as Conservation/Limited Use. These areas are planned as campgrounds and for outdoor sporting activities. Proposed development plans within Subarea I are listed in Table 2-2 and shown on Figure 2-2.

Table 2-1 East Otay Mesa SPA Land Use Summary

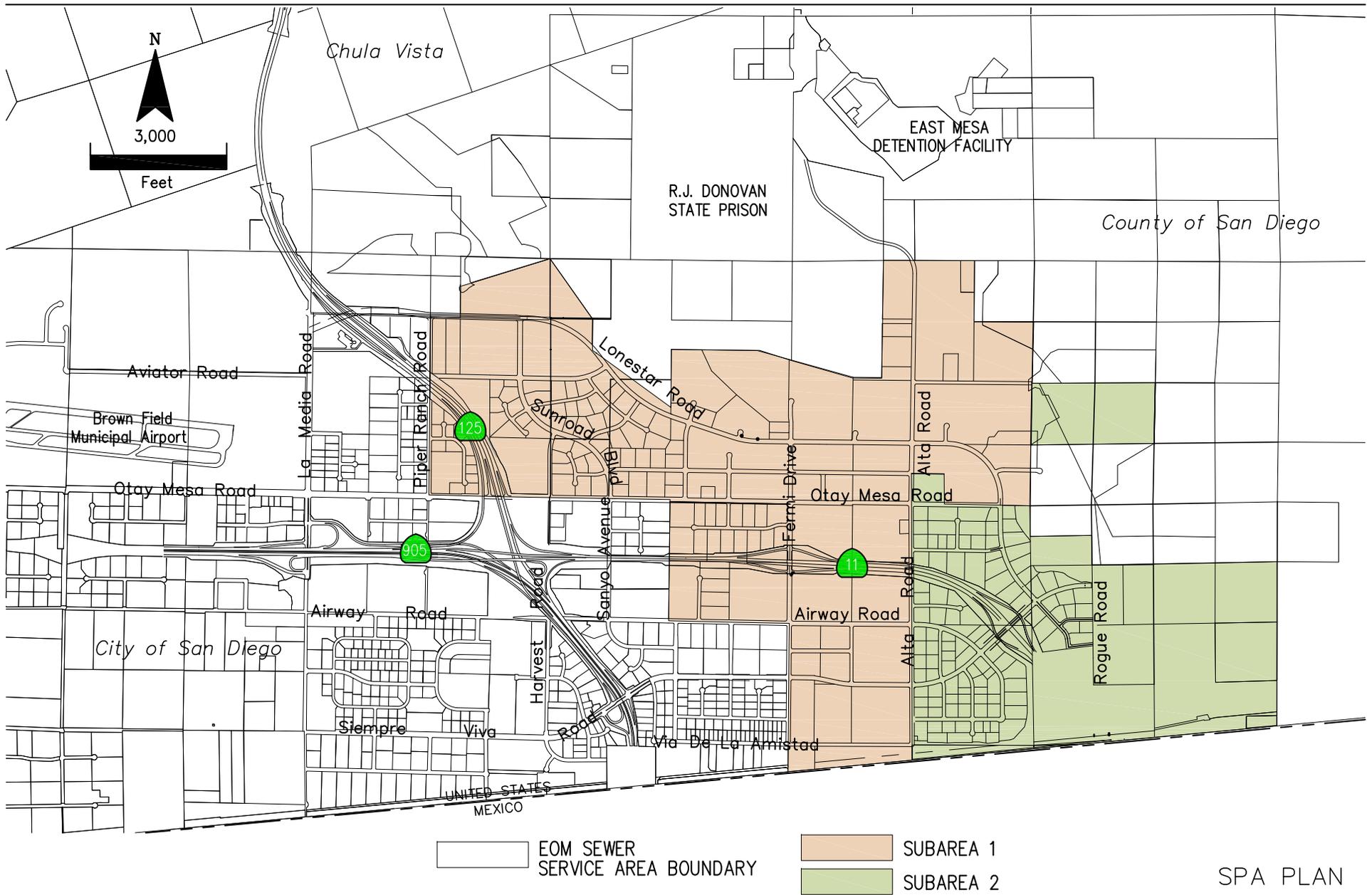
Land Use	Area (acres)
Subarea I	
Light Industrial	243.9
General Industrial	79.0
Heavy Industrial	31.7
Technology Business Park	618.7
Prison	37.0
Power Generating Plant	23.4
Fire Station	1.9
Subtotal	1,035.5
Subarea II	
Mixed Industrial	360.5
Border Crossing	129.0
Subtotal	489.5
Total	1,525.0

Table 2-2 Subareas I and II Proposed Development Plans

County Development No.	Development Name
Subarea I	
MUP 03-001	Rowland TO Development
MUP 98-001	International Industrial Park
TM 5549	International Industrial Park
MUP 06-074	CCA Western Properties, Inc.
MUP P00-012	Fong
TPM 21012	Calpine Construction (Energy Plant)
TPM 21140	OMC Properties, LLC
STP 05-021	Pilot Travel
TPM 21046	Otay Mesa Crossing, LLC
TM 5527	Piper Otay Park
TM 5538	Sunroad Otay Partners LP (Tech Center)
TM 5394	South County Commerce Center, LLC (J/D Roll 80-acre)
TM 5304	Airway Business Park
TPM 20414	De La Fuente TPO, LLC
MUP 98-024W1	De La Fuente TPO, LLC
P88-020W4	Kouladjian
STP 00-070	Fire Station
Subarea II	
TM 5405-1, TM 5405-6	Otay Crossings Commerce Park
SPA 04-006	Otay Crossings Commerce Park
TM 5505	Paragon Business Park

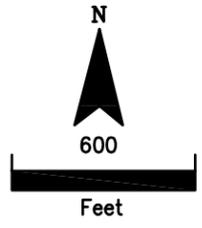
2.2.2 Subarea II

The remaining 490 acres make up Subarea II, which lies between Subarea I and the San Ysidro Mountains. Current planning calls for mixed industrial land uses. Proposed developments include a third border crossing and a new Border Patrol headquarters. Rural residential areas without development plans are expected to be on septic systems. These areas did not influence the sewer analysis performed in this report. Proposed development plans within Subarea II are listed in Table 2-2 and shown on Figure 2-2.



SPA PLAN
FIGURE 2-1

H:\Waterres\230 San Diego County\100001472EOM_SMPU\Grfx\1472-SPA_Fig2-1.dwg 12/7/2012



**EAST OTAY MESA (EOM)
SEWER SERVICE AREA**

- PROPOSED DEVELOPMENT STATUS**
- TENTATIVE MAP (TM)
 - MAJOR USE PERMIT (MUP)
 - TENTATIVE PARCEL MAP (TPM)

PROPOSED DEVELOPMENTS
FIGURE 2-2

CHAPTER 3

WASTEWATER GENERATION

Wastewater flows are highly variable for different types of industrial or commercial developments. For example, the wastewater generation rate for a warehouse is typically 500 gallons per day per acre (gpd/ac) or less, which varies greatly from the generation rate for a manufacturing facility, which may be as high as 5,000 gpd/ac. The OMTS Refinement Report incorporates the County's anticipated development in the East Otay Mesa area. The previous 2004 OMTS Master Plan used a design factor of 5,000 gpd/ac for industrial land use. The OMTS Refinement Report used water billing data for similar properties in the Otay Mesa area to determine more realistic sewer generation factors. Accurate future flow estimates are critical to determine the need and timing for purchasing additional Metro capacity for treatment and disposal.

3.1 Unit Generation Rates

Average wastewater flow rates are estimated by multiplying the gross acreage of one or more parcels by a characteristic unit generation rate corresponding to the existing or planned land use of the parcels. Previous planning studies for the East Otay Mesa SPA have used standard generation rates specified in either the County or City of San Diego's design guidelines. Previous County planning studies generally assumed a unit generation rate of 2,000 gpd/ac for all classifications of industrial and commercial land uses.

To better estimate unit generation rates for future development in the SPA, water use records for existing developments in Otay Mesa, located to the west of the East Otay Mesa SPA and served by Otay Water District, were evaluated with the assumption that future development will likely be similar to the existing development and that the majority of the water used is returned to the sewer system.

The OMTS Refinement Report used existing Otay Water District meter data to identify over 1,000 acres of industrial properties in City's east Otay Mesa area. The lot sizes served varied from less than one acre to 40 acres and water meter sizes ranged from $\frac{3}{4}$ inch to 4-inches in size. As shown in Table 3-1, annual water use data for these properties indicate that the average use for these properties is 800 gpd/ac. Of the 276 meters evaluated, two thirds used less than 1,000 gpd/ac. The Otay Water District water use survey is included as Appendix B.

To calculate a sewage generation rate from water use rates, a standard average return to sewer percentage is applied. Typical return-to-sewer rates are in the range of 60 to 75 percent, depending on the extent of outdoor uses of water. In Otay Water District, irrigation meters are typically separate and were not included in the evaluation. Therefore, the higher return to sewer rate is assumed for this area and the average sewer generation rate would be 75 percent of 800

gallons of water per day per acre, or 600 gallons of sewage per day per acre for industrial development.

Table 3-1 2006-2007 Water Use Data for Industrial Properties in City-East Otay Mesa

Meter Size	Meter Count	Acreage	Average Water Demand	Average Unit Water Demand
Unknown	19	89.0	67,386 gpd	813 gpd/ac
3/4"	49	119.2	114,819 gpd	702 gpd/ac
1"	91	238.0	145,821 gpd	802 gpd/ac
1 1/2 "	61	193.4	136,475 gpd	1,009 gpd/ac
2"	50	329.1	208,873 gpd	935 gpd/ac
3"	4	17.4	104,382 gpd	4,495 gpd/ac ⁽¹⁾
4"	2	5.5	15,688 gpd	2,728 gpd/ac
Total	276	991.6	790,000 gpd	800 gpd/ac

⁽¹⁾ Includes frozen food customer using 15,000 gpd/acre
 Source: May 2009 OMTS Refinement Report, Table 3

To account for future development within the SSA with potentially higher water use, unit wastewater generation rate estimates were adjusted for planning purposes. The following section and Table 3-2 presents the recommended unit generation rates for the SSA.

Table 3-2 Recommended Unit Wastewater Generation Rates

Land Use	Generation Rate
Light Industrial	865 gpd/ac
General Industrial	865 gpd/ac
Heavy Industrial	865 gpd/ac
Mixed Industrial	1,000 gpd/ac
Technology Business Park	1,500 gpd/ac

3.2 Projected Wastewater Flows

Based on the recommended unit wastewater generation rates given in Table 3-2 and the OMTS Refinement Report, projected average flow rates for each land use category were determined.

Light and General industrial categories were used to identify land used for warehousing and distribution and manufacturing and processing. A typical demand for these land use type is 865 gpd/ac, based on analysis from the OMTS Refinement Report. Also proposed for the industrial zone is a power generating plant north of Lonestar Road and east of Alta Road. A demand of 3,000 gpd/ac was used for the generating plant site based on typical data for plants of this size and usage type. Also, it was determined that border crossing facilities of similar size to the one proposed in Subarea II generated approximately 580 gpd/ac of wastewater.

The mixed industrial and business park areas were comparable to those areas surveyed, including warehousing and distribution, which typically produce higher flows. Consequently, unit generation rates of 1,000 gpd/ac and 1,500 gpd/ac were assumed, respectively.

The CCA Prison development is proposing to build an on-site wastewater treatment plant to provide recycled water for irrigation. The project is in the process of preparing a Subarea Master Plan (SAMP) to document the water and sewer flows. This Master Plan will size facilities using the sewer flow estimates from the CCA Prison SAMP but will also perform a hydraulic analysis for flows from the prison in the event the wastewater treatment plant is out of service.

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CHAPTER 4

HYDRAULIC ANALYSIS AND SEWER COLLECTION SYSTEM

The proposed backbone wastewater collection system for the East Otay Mesa SPA is planned to serve as an extension of the City of San Diego’s infrastructure with a majority of the service area flowing by gravity. Consistency in design criteria was considered in analyzing the proposed infrastructure.

4.1 Design Criteria

As an extension of the City’s sewer collection system, City of San Diego design criteria was reviewed and recommended for this study area. However, as discussed in the previous section, lower wastewater generation rates were used for the area based upon the existing water use survey. The County flows were peaked using the City’s dry weather peaking equation, which is based on equivalent population:

$$PF = 6.2945 * Pop^{-0.1342}$$

Other design criteria used in this analysis are summarized below in Table 4-1.

Table 4-1 City of San Diego Design Criteria

Parameter	Design Criteria
Mannings 'n'	0.013
Minimum Dry Weather Peak Flow Velocity	2 fps (or 1% min slope)
Maximum Velocity	10 fps
Maximum d/D Ratio	0.50 for D ≤ 15"
	0.75 for D > 18"
Minimum Sewer Size per City of San Diego Council Policy 600-4	10-inch diameter

4.2 Easements

Access and utility easements will be provided for all sewer facilities in the service area. Easement size will be determined based on County guidelines and development limitations. Final easement locations will be determined during map reviews and/or improvement plan checks. This study is intended to show approximate sewer sizes based on preliminary flow projections and conceptual pipeline alignments based on general development plans.

4.3 Hydraulic Model

The backbone sewer collection system was evaluated using a steady state spreadsheet model to size proposed sewer mains. Average dry weather demands were determined using the recommended unit demands from Table 3-1. Peaking factors were obtained from the City's dry weather peaking equation as stated above from the City's design standards. Gravity sewer calculations are provided in Appendix C.

4.4 Collection System

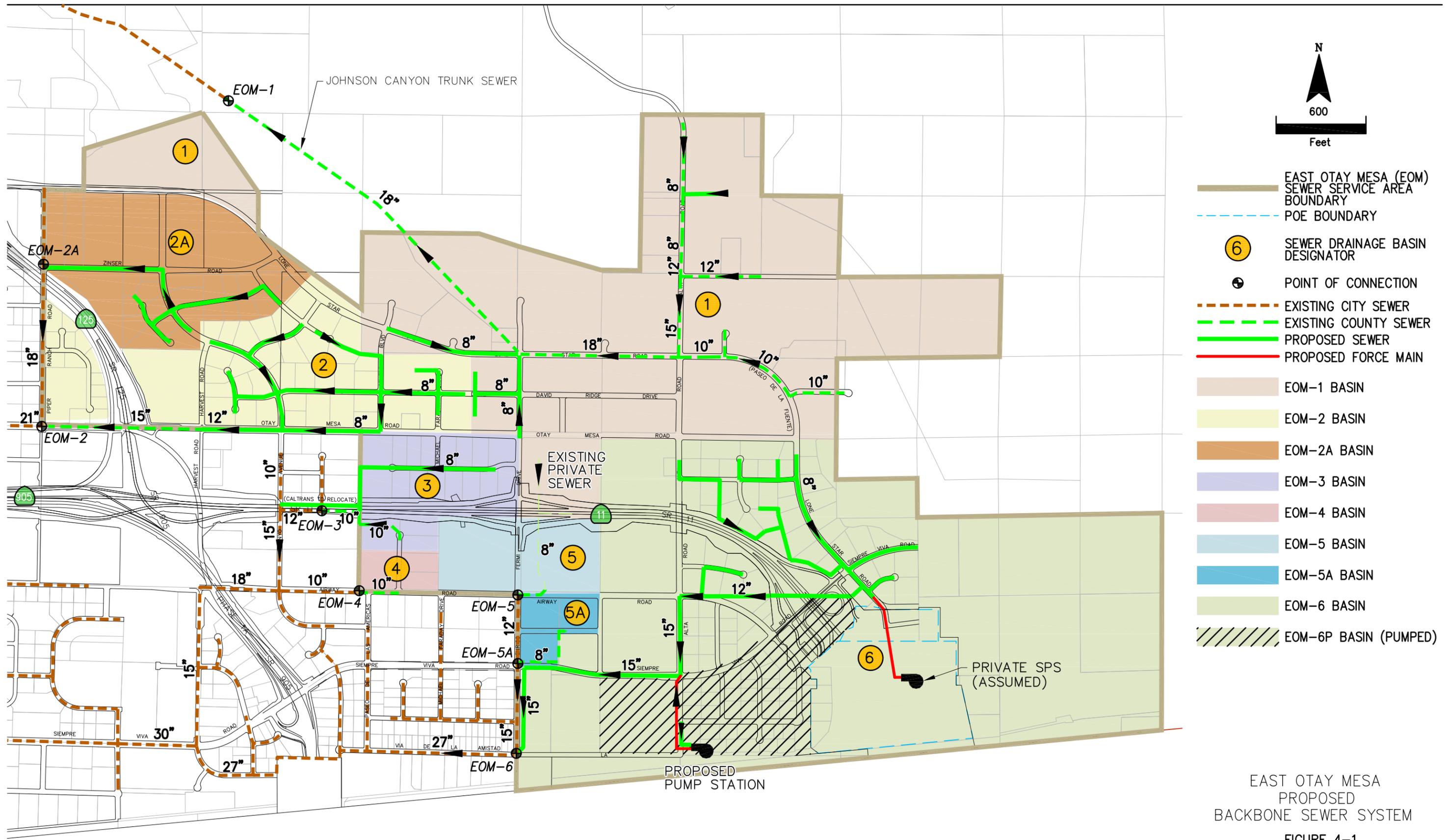
With the goal of maximizing gravity flow and connecting into the City's existing sewer system, the study area was divided into basins that flow either northerly to the Otay Valley Trunk Sewer system or southerly to the Otay Mesa Trunk Sewer system. Logical connections to the City's system were determined from basin delineations using information from current development plans, general and specific plans, and existing topographic maps.

4.4.1 Basins

Subareas I and II were further divided into six separate basins depending on the existing and proposed topography and conditions of the existing collection system (see Figure 4-1). Each basin and connection location was given a unique identifier, East Otay Mesa (EOM) 1 through 6. The following paragraphs describe the land use, acreage, and demands associated with each basin and are summarized in Table 4-2 and identified in Figure 4-1. The projected sewer flows for each basin for buildout are shown in Table 4-2. These flows and assumed acreages were reviewed with the East Otay Mesa Property Owners Association, as they will also serve as a basis for the financing district (see Chapter 5).

A comparison of the projected buildout flows to the OMTS Master Plan Update is summarized in Table 4-3. To assess the impacts on the City OMTS conveyance system, the OMTS Master Plan used the Otay Mesa Trunk Sewer dynamic model to evaluate the buildout flow projection of 4 mgd. Findings of the analysis are presented in the OMTS Master Plan Update. Based on that analysis and the revised average buildout flows of 1.8 mgd, the existing City infrastructure will have adequate capacity to convey the projected basin flows.

The total flows from the East Otay Mesa SPA are much lower than those assumed in the OMTS Refinement Report; in addition, the location and split between the Otay Mesa and Otay Valley Trunk Sewers are slightly different. These differences were analyzed as part of this report and it was determined that the downstream City facilities have adequate capacity to handle the additional flow from the County. No additional upgrades will be required and phasing of the OMTS can continue as planned.



Hydraulic Analysis and Sewer Collection System

Table 4-2 Projected Buildout Sewer Flows by Basin

Developer / Owner	Land Use	Developable Area (acres)	Sewer Generation Rate (gpd/acre)	Total Sewer Flow (gpd)	Sewer (EDUs)
EOM-1					
Sunroad Otay Partners	Open Space	0.00	0	0	0
Sunroad Otay Partners	Open Space	0.00	0	0	0
Sunroad Otay Partners	Open Space	0.00	0	0	0
Sunroad Otay Partners	Open Space	0.00	0	0	0
International Industrial Park	Technology Business Park	62.99	1,500	94,485	394
State of California	Technology Business Park	0.00	1,500	0	0
San Diego Gas & Electric	Technology Business Park	11.40	1,500	17,100	71
Rural Fire Protection District	Fire Station	1.87	1,500	2,808	12
International Industrial Park	mitigation land	0.00	0	0	0
International Industrial Park	Heavy Industrial	31.68	865	27,403	114
Fong-Hsu Trust	Technology Business Park	30.57	1,500	45,855	191
T.O. Development LLC	Technology Business Park	34.48	1,500	51,720	216
Rancho Vista Del Mar	Technology Business Park	32.00	1,500	48,000	200
Rancho Vista Del Mar	General Industrial	0.80	865	692	3
International Industrial Park	Technology Business Park	6.23	1,500	9,345	39
International Industrial Park	General Industrial	3.53	865	3,053	13
OMC Properties LLC	Technology Business Park	39.80	1,500	59,700	249
OMC Properties LLC	General Industrial	10.18	865	8,806	37
OMC Properties LLC	General Industrial	9.78	865	8,460	35
OMC Properties LLC	Open Space	0.00	0	0	0
Alta Parcels LP	Power Generating Plant	7.99	see note 1	240	1
D&D Landholdings	Power Generating Plant	0.00	865	0	0
Alta Parcels LP	Open Space	0.00	865	0	0
Alta Parcels LP	Power Generating Plant	3.75	865	3,244	14
Alta Parcels LP	Power Generating Plant	7.74	865	6,695	28
Calpine Corp Dgen, LP	Power Generating Plant	0.00	see note 2	40,000	167
Alta Parcels LP	Power Generating Plant	3.94	865	3,408	14
International Industrial Park	General Industrial	45.22	865	39,115	163
International Industrial Park	General Industrial	9.50	865	8,218	34
International Industrial Park	Open Space	0.00	0	0	0
CCA Western Properties	Prison	36.96	see note 3	125,200	522
Otay Hills Project	Open Space	0.00	0	0	0
Subtotal EOM-1 (OVTS) – see note 4		390.4		603,547	2,515

Hydraulic Analysis and Sewer Collection System

Developer / Owner	Land Use	Developable Area (acres)	Sewer Generation Rate (gpd/acre)	Total Sewer Flow (gpd)	Sewer (EDUs)
EOM-2					
Dante Corporation	Technology Business Park	15.63	1,500	23,445	98
Margain	Technology Business Park	7.73	1,500	11,595	48
Sunroad Otay Partners	Technology Business Park	15.00	1,500	22,500	94
Pauter	Technology Business Park	15.73	1,500	23,595	98
Egger	Technology Business Park	7.73	1,500	11,595	48
State of California	Highway 125	0.10	0	0	0
Zinser-Furby Inc.	Technology Business Park	3.33	1,500	4,995	21
Zinser-Furby LLC	Technology Business Park	19.95	1,500	29,925	125
Sunroad Otay Tech Centre	Technology Business Park	28.75	1,500	43,118	180
Sunroad Otay Tech Centre	Technology Business Park	14.37	1,500	21,559	90
Sunroad Otay Tech Centre	Technology Business Park	14.37	1,500	21,559	90
Sunroad Otay Tech Centre	Technology Business Park	28.19	1,500	42,285	176
South Bay Expressway	Technology Business Park	13.04	1,500	19,560	82
Sunroad Otay Tech Centre	Technology Business Park	0.08	1,500	120	1
Sunroad Otay Tech Centre	Technology Business Park	25.10	1,500	37,650	157
Rabago Invest Group LLC	Technology Business Park	26.92	1,500	40,373	168
Rabago Invest Group LLC	Technology Business Park	26.92	1,500	40,373	168
Rabago Invest Group LLC	Technology Business Park	1.87	1,500	2,805	12
Pilot Travel	Light Industrial	10.15	see note 5	5,040	21
Piper Ranch LP	Light Industrial	20.15	865	17,430	73
Otay Mesa Crossing LLC	Technology Business Park	23.01	1,500	34,515	144
Sunroad Otay Tech Centre	Technology Business Park	4.40	1,500	6,600	28
Sunroad Otay Tech Centre	Technology Business Park	5.08	1,500	7,620	32
Sunroad Otay Tech Centre	Technology Business Park	2.47	1,500	3,705	15
Sunroad Otay Tech Centre	Technology Business Park	2.46	1,500	3,690	15
Sunroad Otay Tech Centre	Technology Business Park	2.44	1,500	3,660	15
Sunroad Otay Tech Centre	Technology Business Park	1.17	1,500	1,755	7
Sunroad Otay Tech Centre	Technology Business Park	1.17	1,500	1,755	7
Sunroad Otay Tech Centre	Technology Business Park	2.65	1,500	3,975	17
Sunroad Otay Tech Centre	Technology Business Park	2.67	1,500	4,005	17
Sunroad Otay Tech Centre	Technology Business Park	2.36	1,500	3,540	15
Sunroad Otay Tech Centre	Technology Business Park	2.37	1,500	3,555	15
Sunroad Otay Tech Centre	Technology Business Park	2.18	1,500	3,270	14
Sunroad Otay Tech Centre	Technology Business Park	2.00	1,500	3,000	13
Sunroad Otay Tech Centre	Technology Business Park	1.80	1,500	2,700	11
Sunroad Otay Tech Centre	Technology Business Park	2.61	1,500	3,915	16
Sunroad Otay Tech Centre	Technology Business Park	2.75	1,500	4,125	17
Subtotal EOM-2		358.7		514,905	2,145

Hydraulic Analysis and Sewer Collection System

Developer / Owner	Land Use	Developable Area (acres)	Sewer Generation Rate (gpd/acre)	Total Sewer Flow (gpd)	Sewer (EDUs)
EOM-3					
South County Commerce Center	Technology Business Park	11.55	1,500	17,325	72
South County Commerce Center	Technology Business Park	11.58	1,500	17,370	72
South County Commerce Center	Technology Business Park	11.60	1,500	17,400	73
South County Commerce Center	Technology Business Park	11.61	1,500	17,415	73
MS Development Co LLC	Light Industrial	4.00	865	3,460	14
MS Development Co LLC	Light Industrial	3.54	865	3,062	13
Subtotal EOM-3		53.9		76,032	317
EOM-4					
Airway Diego LLC	Light Industrial	15.22	865	13,165	55
MS Development Co LLC	Light Industrial	3.82	865	3,304	14
MS Development Co LLC	Light Industrial	3.54	865	3,062	13
Subtotal EOM-4		22.6		19,532	81
EOM-5					
Hanna	Light Industrial	19.51	865	16,876	70
De La Fuente TPO	Light Industrial	44.74	865	38,700	161
Subtotal EOM-5		64.3		55,576	232
EOM-6					
RLR Investments LLC	Light Industrial	6.10	865	5,277	22
Otay Logistics Industrial LLC	Light Industrial	3.05	865	2,638	11
Otay Logistics Industrial LLC	Light Industrial	8.88	865	7,681	32
Kouladjian	Technology Business Park	25.35	1,500	38,025	158
Kouladjian	Technology Business Park	1.20	see note 6	288	1.2
Farida	Light Industrial	24.07	865	20,821	87
New Border Crossing	Border Crossing	129.00	see note 7	15,000	63
State of California	Border Crossing	0.00	see note 8	1,250	5
Kearny Otay Crossings	Mixed Industrial	105.50	1,000	105,500	440
Kearny Otay Crossings	Mixed Industrial	22.10	1,000	22,100	92
Hawano	Light Industrial	28.80	865	24,912	104
<i>Hawano</i>	<i>Light Industrial</i>	28.80	865	24,912	104
Paragon Business Park	Mixed Industrial	46.01	1,000	46,010	192
<i>Paragon Business Park</i>	<i>Mixed Industrial</i>	46.01	1,000	46,010	192
U.S. of America	Border Zone	0.00	0	0	0
Millican Patricia G	Light Industrial	12.25	865	10,596	44
U.S. of America	Border Zone	0.00	0	0	0
Millican Patricia G	Mixed Industrial	5.34	1,000	5,340	22
U.S. of America	Border Zone	0.00	0	0	0
RLR Investments LLC	Light Industrial	7.27	865	6,289	26
U.S. of America	Border Zone	0.00	0	0	0

Hydraulic Analysis and Sewer Collection System

Developer / Owner	Land Use	Developable Area (acres)	Sewer Generation Rate (gpd/acre)	Total Sewer Flow (gpd)	Sewer (EDUs)
U.S. of America	Border Zone	0.00	0	0	0
Rancho Vista Del Mar	Mixed Industrial	16.00	1,000	16,000	67
Otay International LLC	Mixed Industrial	18.00	1,000	18,000	75
D&D Landholdings	Open Space	0.00	865	0	0
Rancho Vista Del Mar	Mixed Industrial	12.00	1,000	12,000	50
Rancho Vista Del Mar	Mixed Industrial	8.00	1,000	8,000	33
Rancho Vista Del Mar	Mixed Industrial	18.40	1,000	18,400	77
Otay Mesa Property LP	Mixed Industrial	33.64	1,000	33,640	140
Otay International LLC	Mixed Industrial	18.00	1,000	18,000	75
Kearny Otay Crossings	Mixed Industrial	11.50	1,000	11,500	48
U.S. of America	Border Zone	0.00	0	0	0
San Diego Gas & Electric	Utility Purposes	0.00	0	0	0
Otay Water District	Water Lines	0.00	0	0	0
U.S. of America	Border Zone	0.00	0	0	0
Subtotal EOM-6		635.3		518,188	2,159
Subtotal (OMTS)		1,135		1,184,233	4,934
TOTAL		1,525		1,787,780	7,449

Notes:

1. Pio Pico Energy Center assumes 1 restroom.
2. Calpine Energy Plant flows based on recent meter data.
3. CCA Prison sewer flows based on draft SAMP information.
4. RJ Donovan State Prison and East Mesa Detention Facility are not included in the East Otay Mesa Sanitation District and acreages, flows, and EDUs from these facilities are not included in the totals.
5. Pilot Travel flows based on recent meter data.
6. Sheriff Substation flows based on recent meter data.
7. Border Crossing assumed 600 employees at 25 gpcd.
8. CVEF assumed 50 employees at 25 gpcd.
9. 1 Sewer EDU is based on County ordinance of 240 gpd/EDU.

Table 4-3 Basin Flow Comparison to City OMTS Master Plan Update

Basin ID	City OMTS MP Flow (mgd)	Projected Average Buildout Flow (mgd)
EOM-1	1.00	0.60
EOM-2	1.00	0.51
EOM-3	0.50	0.08
EOM-4	0.00	0.02
EOM-5	0.50	0.06
EOM-6	1.00	0.52
Total	4.00	1.79

Note: Projected Average Buildout Flow (mgd) for EOM-1 will not drain to OMTS.

Basin EOM-1

Basin EOM-1 consists of approximately 390 developable acres of a power generating plant, CCA prison development, general and mixed industrial and business park land uses. The existing R.J. Donovan State Prison and the County's Detention Facilities are located within the basin but are not a part of the SSA's service area. The majority of the basin is located north of Otay Mesa Road. This basin will include approximately 2,515 EDUs for a total average flow of 0.60 mgd at buildout, approximately 34 percent of the total flows from the East Otay Mesa study area. This basin connects to the existing "Prison Line" in Johnson Canyon, which conveys flows to the Otay Valley Trunk Sewer. The existing prisons add an additional 0.87 mgd average flow into the Johnson Canyon line for a total basin EOM-1 average flow of 1.47 mgd at buildout. The total available capacity in the Johnson Canyon Sewer is approximately 16 mgd when flowing 75 percent full. Peak flow from the EOM-1 basin at buildout would total 2.5 mgd, much less than the 16 mgd limit in the line. Therefore, further analysis was not required.

The City's OMTS Model included 1 mgd of flow for this basin. None of the projected EOM-1 basin flow will drain to the OMTS system.

Basin EOM-2

Basin EOM-2 consists of the proposed Sunroad Tech Center area, business park use, and neighboring business park, and light industrial uses for a total basin area of 360 acres. This basin is situated north of Otay Mesa Road between Piper Ranch Road to the west and Michael Faraday Drive to the east. This basin will include approximately 2,145 EDUs at buildout for a total average flow of 0.51 mgd. The basin is connected to the City of San Diego sewer system at the intersection of Otay Mesa Road and Piper Ranch Road.

The City's OMTS Model included 1 mgd of flow at this connection point. Therefore, it was determined that the City's downstream infrastructure has sufficient capacity to accommodate the buildout condition flows from Basin EOM-2.

Basin EOM-3

Basin EOM-3 includes the proposed Dillard/Roll 80-acre business park. The basin is located south of Otay Mesa Road to the future SR-11 right-of-way and from Vann Center Road to Enrico Fermi Road. The total estimated buildout demand for this development and basin is 0.08 mgd, or 317 EDUs. Based on site planning to accommodate the future SR-11 roadway alignment, the basin collection system is proposed to connect to an existing 10-inch sewer main at the southwest corner of the development.

The City's OMTS Model included 0.5 mgd of flow at this connection point. Therefore, it was determined that the City's downstream infrastructure has sufficient capacity to accommodate the buildout flows from Basin EOM-3.

Basin EOM-4

Basin EOM-4 includes the Airway Business Center located south of the future SR-11, north of Airway Road, east of Vann Center Road and west of Michael Faraday Drive. The property consists of 23 acres of light industrial development for a total demand of 0.02 mgd or 81 EDUs at buildout. The basin is planned to connect to the existing City sewer system at the southwest corner of the development.

The City's OMTS Model did not include any County flows at this connection point. However, it was determined that the City's downstream infrastructure has sufficient capacity to accommodate the flows from Basin EOM-4 due to the steep slopes of the piping and minimal inflow from the City.

Basin EOM-5

Basin EOM-5 consists of 64 acres of light industrial land uses. Demands for this basin were estimated at 0.06 mgd or 232 EDUs at buildout. This basin will connect to the City's existing 12-inch sewer main at the intersection of Enrico Fermi and Airway Roads.

The City's OMTS Model included 0.5 mgd of flow at this connection point. Therefore, it was determined that the City's downstream infrastructure has sufficient capacity to accommodate the buildout flows from Basin EOM-5.

Basin EOM-6

Basin EOM-6 generally encompasses parcels located within Subarea II, which includes the proposed Otay Crossings Commerce Park (OCCP) and Paragon Business Park mixed industrial uses, as well as light industrial and business park land uses. Additional planning includes a third border crossing. Due to large lot zoning requirements, it was assumed that a majority of the residential development area would use septic systems for wastewater disposal. The total projected buildout flow for the basin is 0.52 mgd or 2,159 EDUs. This basin will include a small pumped area, with one pump station located in the proposed Otay Business Park near the intersection of Alta Road and Via de la Amistad as shown on Figure 4-1. A second private pump station may be required for the Border Crossing property, which would likely be pumped north to connect to the gravity system on the OCCP property, and then conveyed to the City's existing gravity sewer at Enrico Fermi and Via de la Amistad.

The City's OMTS Model included 1 mgd of flow at this connection point. Therefore, it was determined that the City's downstream infrastructure has sufficient capacity to accommodate the flows from Basin EOM-6 for buildout conditions. The OMTS Refinement Report adjusted the OMTS Model to include this flow under buildout conditions and it was determined that the downstream facilities have adequate capacity to accommodate the additional County flows.

4.4.2 Summary

Buildout average flows into the Otay Mesa Trunk Sewer from connections EOM-2 through EOM-6 will total 1.18 mgd at buildout, or approximately two-thirds of the total flow from the East Otay Mesa SSA. The OMTS Master Plan Update assumed a one-fourth, three-fourths split between the two basins. The flows were analyzed as part of this study and it was determined that the downstream City facilities for both the Otay Valley and Otay Mesa Trunk Sewer systems at the proposed connection points have adequate capacity as presented in the OMTS Refinement Report.

4.5 Sewer System Facilities

The major components of the collection system will consist of PVC pipe varying in diameter from 10-inch to 15-inch. The proposed backbone system, including the pump stations, is shown on Figure 4-1 and all projects shall be funded by the developer. A reimbursement agreement

may be established between all the benefiting developments within each respective basin and may be administered by the County. The County will not participate in the costs of these facilities.

4.6 City of San Diego Regional Sewerage Facilities

The East Otay Mesa sewer system will connect to both the City of San Diego's Otay Mesa and Otay Valley trunk sewer systems. As discussed in Section 4.4, approximately two-thirds of the ultimate flows generated within the SPA will be conveyed to the Otay Mesa Trunk Sewer and one-third to the Otay Valley Trunk Sewer. Existing and planned City facilities that will serve the SPA are shown in Figure 4-2.

The ultimate Otay Mesa Trunk Sewer system will consist of gravity sewers and force mains located in Siempre Viva and Otay Mesa Roads that will connect to the San Ysidro and South Metro Interceptors west of Interstate 5. Phase I of the OMTS has been constructed and includes a 27-inch to 30-inch diameter gravity sewer in Siempre Viva Road. Flows conveyed in this sewer are pumped on an interim basis to the existing Otay Valley Trunk Sewer system located north of the Otay Mesa SPA via a temporary pump station (SPS 23T) located at Siempre Viva and Cactus Roads.

As part of the OMTS Master Plan Update, hydraulic studies were conducted to evaluate capacity of the existing Otay Mesa sewer system and to size future phases of the system. These studies assumed a phased buildout of the East Otay Mesa Planning based on SANDAG growth projections, with an average ultimate flow to the Otay Mesa Trunk Sewer of 3.0 mgd. Modeled peak d/D ratios for existing flows within the Phase I Otay Mesa Trunk Sewer in Siempre Viva Road were estimated less than 20 percent. Peak wet-weather inflows to the temporary pump station currently measure up to approximately 0.9 mgd, or 30 percent of the existing 3.0 mgd station capacity.

Future phases of the Otay Mesa Trunk Sewer system, which will extend the existing sewer westward in Otay Mesa Road, are currently in construction. The alignment and preliminary sizes of the trunk sewer and associated pump stations and force mains were developed as part of the OMTS Refinement Report. The basis of design used for the future trunk sewer phases assumed buildout of the SSA generating a total average flow to the Otay Mesa Trunk Sewer of 3.0 mgd, which has been refined in this study to 1.2 mgd (EOM-2 through EOM-6). This provides the County with some capacity contingency should a property develop more intensely and generate higher sewer flows than assumed.

The existing Otay Valley Trunk Sewer consists of a 21-inch to 33-inch diameter trunk sewer located north of the SSA generally along the Otay River Valley. Flows generated in the northern portions of the SSA are conveyed to the trunk sewer via the 18-inch diameter Johnson Canyon Trunk Sewer. Capacity of the Otay Valley Trunk Sewer at buildout conditions was evaluated in the OMTS Master Plan Update. The evaluation assumed ultimate flows of 1.0 mgd from the SSA to the trunk sewer, not including flows generated within the State and County Prisons that also flow to the Otay Valley Trunk Sewer.

Currently, the East Otay Mesa SSA has a total of 1.0 mgd of capacity rights in the San Diego Metro conveyance and treatment system. Based on a projected average buildout flow rate of 1.79 mgd, the County will need to acquire an additional 0.79 mgd of Metro capacity prior to buildout of the SSA.

4.7 Summary of Connections to City System

The City of San Diego desires a limited number of future County connections into the City system. The following connection points have been identified in this study:

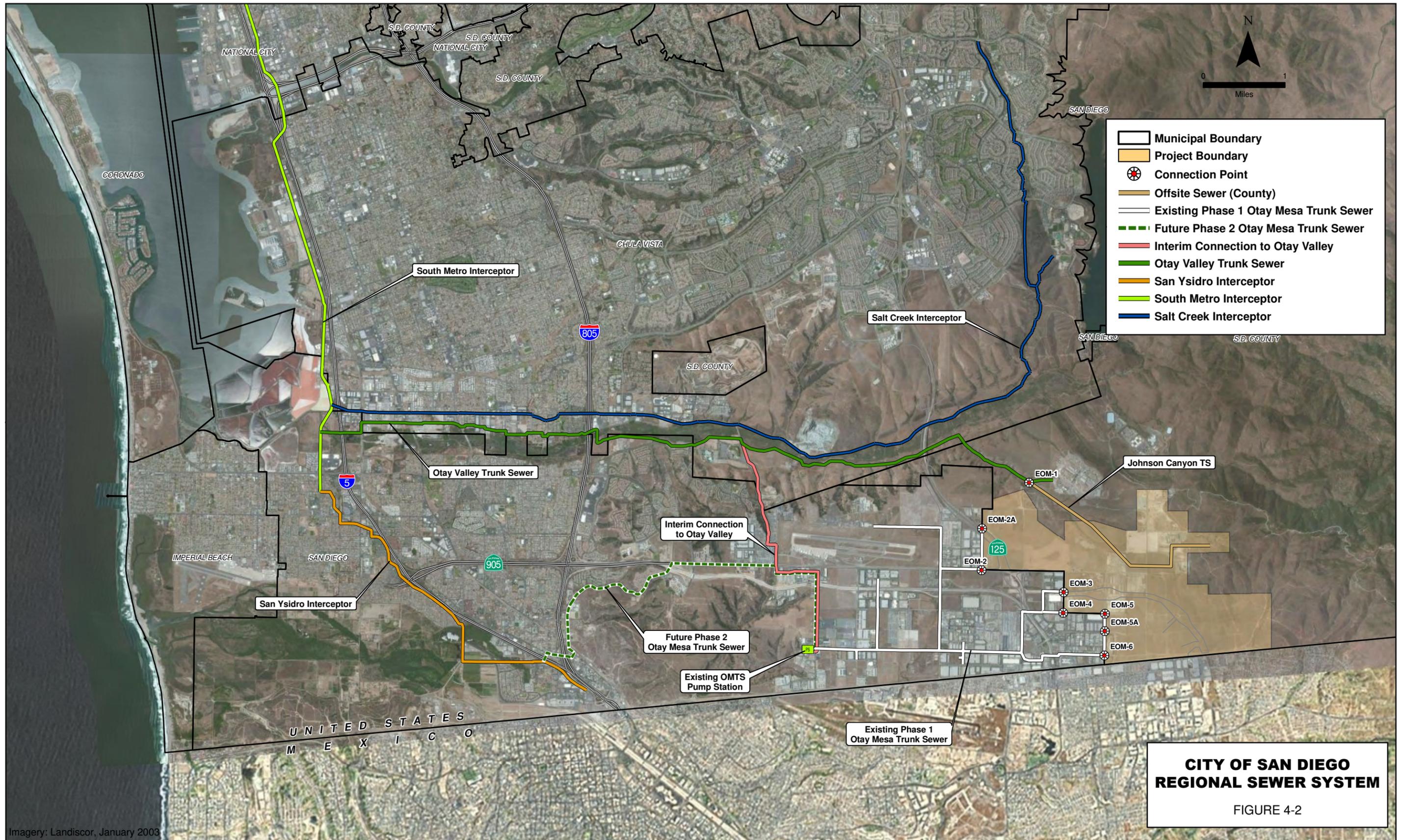
- EOM-1: “Prison” main (Johnson Canyon) – invert 351.98
- EOM-2: Otay Mesa Road and Piper Ranch Road – invert 487.89
 - EOM-2A: Zinzer Road and SR 125 – invert 494.99
- EOM-3: SR-11 – invert 538.9
- EOM-4: Airway Road (Vann Center Road) - invert 586.28
- EOM-5: Airway Road at Enrico Fermi – invert 565.73
 - EOM-5A: Siempre Viva Road and Enrico Fermi Drive – invert 547.22
- EOM-6: Via de la Amistad – invert 507.3

Table 4-4 East Otay Mesa Basin Buildout Flow Summary

Basin	Average Flow (mgd)	Peaking Factor ⁽¹⁾	Peak Flow (mgd)
EOM-1 ⁽²⁾	1.47	1.68	2.48
EOM-2	0.51	1.94	1.00
EOM-3	0.08	2.51	0.19
EOM-4	0.02	3.01	0.06
EOM-5	0.06	2.62	0.15
EOM-6	0.52	1.94	1.00
Total	2.66	1.56	4.14

⁽¹⁾ Peaking factor based on City of San Diego peaking equation. The sum of all peak flows is not equal to the average flow times the peaking factor. Refer to Figure 1-1 of the City of San Diego Water and Sewer Guidelines.

⁽²⁾ EOM-1 total basin flow includes 0.87 mgd from the existing prisons.



Imagery: Landiscor, January 2003

CHAPTER 5

INSTITUTIONAL AND FINANCIAL UPDATE

The East Otay Mesa sewer service area is one of the County's least developed areas, but will have a high potential for growth in the coming years with the proposed third Border Crossing and SR 11 highway providing improved access to many of the properties in the area. Although East Otay Mesa development has been constrained due in some part to infrastructure, increased development activity and industrial land absorption is expected to be realized. This section includes a discussion and update on institutional and financial elements of the East Otay Mesa sewer service area affecting development.

As of July 1, 2011, the County of San Diego officially consolidated its sanitation and maintenance districts, including East Otay Mesa, into one sanitation district to provide a more uniform governance structure, financial stability, and enhanced operations and maintenance capabilities. This chapter includes an overview of the new district.

As with other County sewer service areas, East Otay Mesa relies on Metro for wastewater conveyance, treatment and disposal. This chapter includes a discussion on current Metro capacity and potential future Metro capacity needs based on sewer flow projections.

A financial overview is presented regarding current sewer rate, capacity fees, and agreement obligations. The section documents the existing sewer reimbursement agreements that currently apply to development on East Otay Mesa, and are required for all future sewer system connections to convey flows to and through the City of San Diego. Lastly, a discussion is included regarding the proposed formation of a new CFD to finance needed sewer system upgrades in the City of San Diego system over the next 10 to 20 years.

5.1 New Consolidated District

Sanitation services, for many years, were provided to the more than 120,000 residents by five County sanitation districts and four County sewer maintenance districts. Each of the five sanitation districts was a separate entity managed by the Board of Supervisors acting as the governing board of the district. The four sewer maintenance districts, including East Otay Mesa, were assessment districts managed by the Board of Supervisors on behalf of the County. The Department of Public Works administers, operates and maintains the sewerage facilities.

In 2008, the Department of Public Works investigated the feasibility of combining all nine districts into one. The investigation concluded that such reorganization was feasible, and offered numerous benefits including: financial stability and rate stabilization to avoid rate spikes; uniform governance structure; increased flexibility for planning, funding, and implementing capital improvements; timely infrastructure maintenance, repair and replacement capabilities; and a

single user rate with standardized levels of service. Reorganizations for the sewer districts were subject to oversight of the Local Agency Formation Committee (LAFCO).

On September 13, 2010, the County Board of Supervisors adopted Resolution No. 10-032 for an Application to LAFCO on behalf of the Spring Valley Sanitation District to annex all County sanitation districts and sewer maintenance districts (including East Otay Mesa) into the Spring Valley Sanitation District, to dissolve the remaining sanitation districts and all sewer maintenance districts (with the exception of the Campo Sewer and Water Maintenance District, which will continue to provide water services), to rename the Spring Valley Sanitation District the “San Diego County Sanitation District”, and to take such action as is necessary to have sewer service in the County provided by a single entity.

The new District should offer existing County sewer customers a more uniform and stabilized sewer rate structure and ability to finance replacement and rehabilitation sewer projects. For new development, especially in areas such as East Otay Mesa, an added benefit of the new District is availability of future Metro capacity and a potential ability to finance major capital expansion projects.

5.2 Establishment of Sewer Charges

Up until the reorganization into one District, sewer service maintenance areas and districts had individual sewer rates and fees established by local area ordinance. For East Otay Mesa, Ordinance 9146 established “Annual Sewer Service Charges, Capacity Fees, Service Availability Commitments, Developer Reimbursement Agreements and Requirements” for the District with annual sewer service charges per equivalent dwelling unit (EDU).

In February 2010, the County completed a financial feasibility report as part of the reorganization study to evaluate the ability to shift to a single uniform sewer rate for all County sewer service areas. At the time, each sewer district had varying sewer rates, including East Otay Mesa. The report concluded that under a single uniform residential rate could be adopted County-wide and support the ongoing sewer operations and maintenance requirements as well as fund a certain level of capital improvement projects.

In September 2010, a single uniform rate was adopted for residential development based on one EDU. In 2013, the County plans to update and adopt a new District sewer rate case, based on a long range financial analysis. Sewer rates are dependent on many factors, including inflation, capital needs and the City of San Diego’s Metro wastewater treatment costs.

5.3 Sewer Capacity Fees

The County has historically collected a sewer capacity fee to primarily fund regional sewer capacity for treatment and disposal to the Metro sewer system. The fee has not been updated since the formation of the East Otay Mesa Sewer Maintenance District, although there have been very few connections to the system. Currently, at the time of a connection to the sewer system, a capacity fee of \$2,500 for each EDU must be paid by the developer/applicant. For comparison purposes, the City of San Diego charges \$4,124 per EDU for a similar connection in the Otay Mesa area.

An EDU is defined by the Uniform Sewer Ordinance No. 9275 according to land use type. One EDU is equal to 240 gallons per day, whereas the City of San Diego uses 280 gpd/EDU for the western portion of Otay Mesa.

The Uniform Sewer Ordinance also includes the assignment of sewer capacity for non-residential structures, which is important for the East Otay Mesa sewer area as nearly all future development is planned to be non-residential. A copy of Section 5.4, which shows the EDU assignments for non-residential structures, is included in Appendix A. Since the planned zoning for areas within the District is commercial, professional and industrial building we will focus on Section 5.4.c. The County currently assigns EDU's to commercial, professional and industrial warehouse-type establishments on a square footage basis with one EDU assessed for each 1,000 square feet. This normally works well for small commercial buildings however, for large industrial buildings with limited sewer usage assigning EDU's based on square footage can potentially overstate the demand the building is actually placing on the sewer system. The County may want to explore changing the way they assign industrial/commercial EDU's from square footage to plumbing fixture units for the District, the latter method is used extensively by the City of San Diego.

It should be noted that both the County and the City have business and industry incentive programs in place for the East Otay Mesa area. The purpose of these programs is to attract and retain major revenue, job generating, and revitalization projects throughout the County and the City.

5.4 Metro Capacity and Sewer Transportation

The County secured sewer treatment and disposal capacity for the East Otay Mesa sewer service area from the City of San Diego, through a series of former sanitation district actions, agreements, and transfers as summarized in chronological order below:

- On September 17, 1991, the Board of Supervisors approved an agreement between the Spring Valley Sanitation District and the City of National City for the purchase of 1.0 mgd at a cost, including interest of \$2,811,591, for wastewater treatment capacity rights in the City of San Diego's Metro system.
- In 1993 the City and Spring Valley Sanitation District entered into an agreement to set aside 1 mgd of Metro capacity for the future East Otay Mesa Sewer Maintenance District, which itself was not established until 1999
- In 1998 a Regional Wastewater Disposal Agreement was entered into with the City of San Diego and its participating agencies to replace existing sewage disposal agreements, to provide capacity rights into the Metro system, to establish a funding program, and to establish a system of charges.
- On May 12, 1999, the Board of Supervisors established the East Otay Mesa Sewer Maintenance District to provide sewage collection to the East Otay Mesa area.
- In 2000, the City transferred the 1 mgd capacity from Spring Valley to East Otay Mesa.

Once the sewer capacity was transferred to East Otay Mesa, this led to an agreement with the City to allow East Otay Mesa to discharge an average annual flow of 1 mgd. On September 10, 2001, the City of San Diego and East Otay Mesa entered into an agreement that outlines the

terms of sewage transportation. Appendix E Includes the East Otay Mesa Transportation Agreement.

The Transportation Agreement includes charges based on the volume of wastewater transported from East Otay Mesa to the Metro sewer system as measured in million gallons and distance traveled in miles, henceforth referred to as MG-miles. The 1 mgd of Metro sewer capacity was assumed to be distributed such that a third of the flow goes into the Otay Valley Trunk Sewer and the remaining two thirds flows into the Otay Mesa Trunk Sewer. Transportation capacity to the City is based on an assumption that capacity is available in the sewer system.

It should be noted that the City of San Diego is proposing to update their transportation contracts with all of the participating agencies. Although it has not been agreed to by the participating agencies or adopted by the City, East Otay Mesa should expect to see their transportation costs rise in the near future.

5.5 Development Reimbursement Agreements

In addition to capacity fees the East Otay Mesa area is also subject to several developer reimbursement agreements and contracted user capacity agreements that could impact available capacity on a short term basis. Section 5 of the Transportation Agreement states that capacity charges are due to the City of San Diego for each EDU within East Otay Mesa that connects to the Otay Valley and Otay Mesa Trunk Sewers. These charges are developer reimbursement charges for either the Otay International Center (OIC) Line and Pump Station or the Prison Line and Otay Valley Trunk Sewer. These are included in Appendix E for reference.

In addition, since the 1980s, the City has actually entered into a number of agreements with private developers and neighboring governmental agencies on behalf of development that serve to establish reserve capacity in the system. Some of these agreements allow for sewage flows to be pumped to from the Otay Mesa Drainage Basin temporarily, until the Otay Mesa Trunk Sewer is completed. A summary of the known agreements by sewer basin is included in Table 5-1.

Based on a review of actual development in Otay Mesa, the OIC area and Otay Rio Business Park areas have developed at levels far below the capacity cited in the Agreements, leaving unused and available capacity. Based on a review of the agreements it appears there are options to transfer or sell excess capacity, but this cannot occur without the approval of the City.

The March 1984 Otay Mesa Sewer Construction Agreement, included in Appendix E grants OIC the right to 1.6 mgd capacity upon OIC's construction of the sewer and these capacity rights "shall be appurtenant to the land" and cannot be assigned to other lands without mutual consent of the City and OIC. In addition, the Otay Mesa Trunk Sewer Reimbursement Agreements, actually have an expiration date of July 1, 2006 for reimbursement to OIC, however, the City can continue to collect the fee and deposit it in City sewer funds. It appears that the City's has justification that that the fee remains and be used to help fund Otay Mesa Trunk Sewer improvements.

Table 5-1 Summary of Existing City of San Diego Sewer Agreements

Sewage Agreement	San Diego Document No.	Date	Sewer Capacity				
			Average			Peak	
			EDU ⁽¹⁾	mgd	cfs	mgd	cfs
Otay Valley Drainage Basin							
CDC California State Prison	RR-263922	8/19/1985	2,950	0.826	1.28	1.5	2.33
SD County East Mesa Detention Facility ⁽²⁾	RR-274348	9/11/1989	750	0.21	0.33	0.52	0.81
Otay Rio Business Park (Chula Vista) ^(3,4)	RR-274368	9/11/1989	1,520	0.4253	0.66	0.85	1.32
Otay Mesa Drainage Basin							
Otay International Center (OIC)	RR-260277	3/12/1984	5,714	1.6	2.48	2.4 ⁽⁵⁾	3.71

Bold numbers are those cited in the respective agreements, others are calculated

- (1) 1 EDU = 280 gpd (City of San Diego criteria) average daily flow = 3.5 people
- (2) Agreement specifies maximum capacity of 0.69 mgd average and 2.03 cfs (1.31 mgd) peak, for additional compensation, if requested and City approves
- (3) Includes Coors Amphitheater, Knott's Soak City and Chula Vista Auto Park
- (4) Agreement specifies maximum capacity of 0.519 mgd average and 1.715 cfs peak, for additional compensation, if requested and City approves
- (5) OIC peak flow calculated by using the 1998 City of SD Sewer Design Guide Peaking factor = 1.5

Based on recent discussions with the City there is available capacity today in the Otay Valley Trunk Sewer system, based on existing flows and not including contracted agreement capacities, however, there appears to be segments of the Otay Mesa sewer system that when contracted capacities (primarily OIC flows) are included the system there are capacity limitations. As a result, the City commissioned the OMTS Refinement Report to develop a near term plan to identify deficiencies resulting from the contracted flows. The findings and recommendations of this study have led to the soon-to-be formed CFD described in Section 5.6.

The County first extended sewer service to East Otay Mesa through the construction of the 18-inch Johnson Canyon Trunk Sewer to provide service for the northern portion of East Otay Mesa that drains to Otay Valley. The sewer was designed and constructed by the De La Fuente TPO, LLC and currently serves the Calpine Power Plant and a few other users. Since the sewer was built to ultimate conditions the Developer entered a reimbursement agreement for the cost reimbursement for the design and construction. Appendix E includes the Agreement, which stipulates a charge of \$840 per EDU to connect to the sewer. The charge is collected by the County and reimbursed directly to the Developer.

It is anticipated that development to the south, draining to Otay Mesa sewer basin which will include a trunk sewer and sewer pump station will develop similar reimbursement agreements for cost recovery.

5.6 Community Facilities District for Otay Mesa

The Otay Mesa Trunk Sewer Refinement and Phasing Report recommended several sewer system upgrades in the Otay Mesa sewer basin to mitigate for capacity constraints in the near term due to contracted capacity and to meet increased flows through the year 2030. Figure 5 from the report (Appendix A) illustrates the proposed sewer infrastructure designed to enhance pumping and conveyance capabilities from the City's Otay Mesa Sewer Pump Station 23T to the west to a connection to the existing San Ysidro Trunk Sewer. Completion of these projects

would substantially complete the Otay Mesa Trunk Sewer system and relieve capacity in Otay Valley. No improvements are recommended in the Otay Valley Trunk Sewer system as that trunk system was built to handle build-out gravity flows.

Since the primary benefit area is development on Otay Mesa both the County and City developers have joined forces to develop a financing option to ensure that backbone sewer facilities are constructed in a timely manner with development. As a result a property owners' task force has been developed to work with a financial specialist and legal counsel and the City to implement an assessment district known as a CFD to collect property assessments to fund sewer system upgrades.

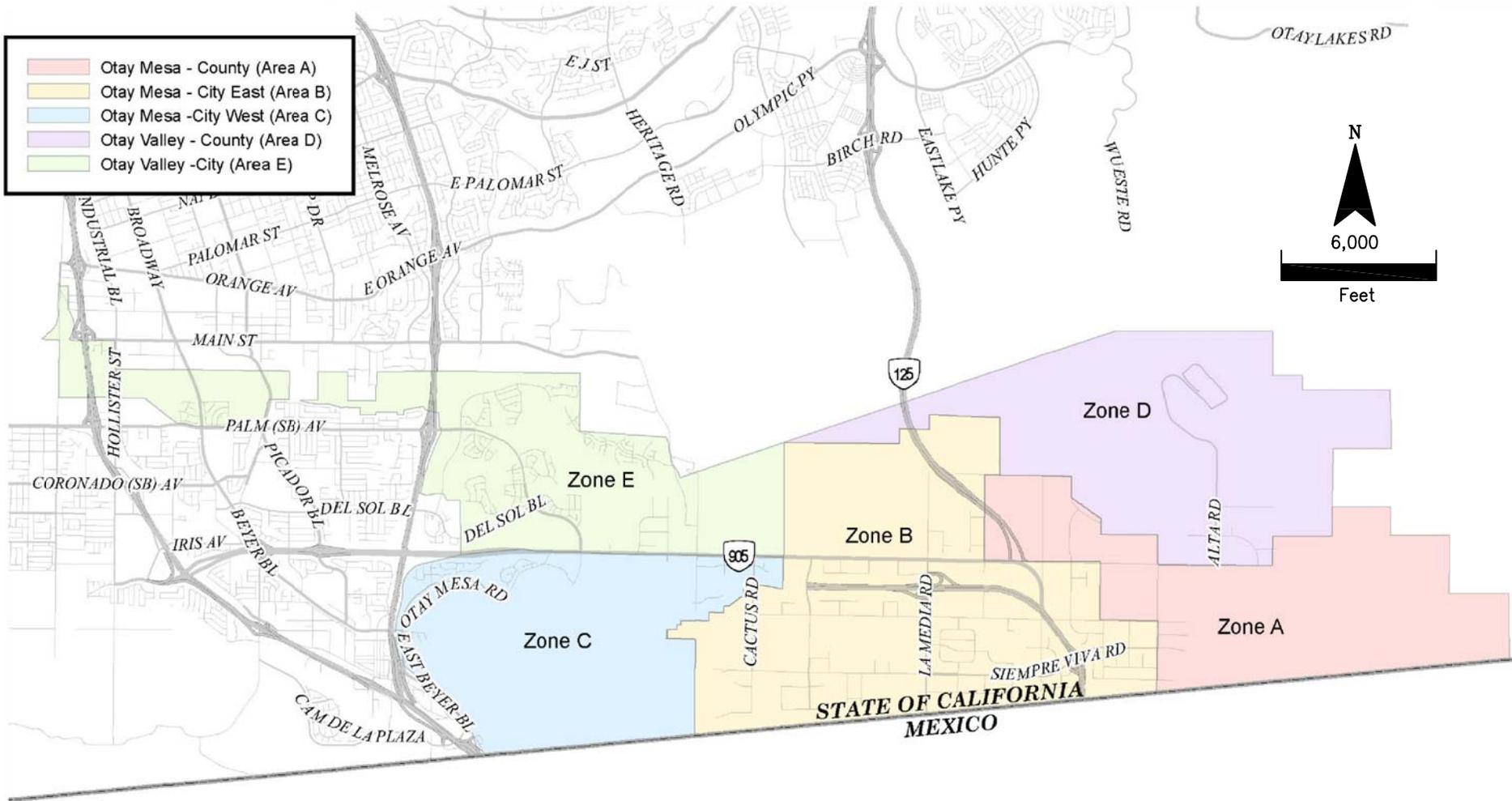
A CFD is a special district formed by a sponsoring local government agency for the purpose of financing the acquisition, construction, operation and maintenance of the public infrastructure benefiting the planned community. The CFD has the legal authority to levy and collect a special tax, to use that revenue to finance specified facilities and services, and to borrow money by issuing bonds or incurring debt to assist with financing the facilities.

Based on the work to date approximately \$20 million in future capital upgrades have been indentified and confirmed by the City through the year 2030 to serve development in both the City and County. It is apparent that depending on a development's location in Otay Mesa there are varying degrees of benefit to participation in the CFD. For example, a County parcel located in the southeast portion of East Otay Mesa has a system of pumps, force mains, and gravity sewers to flow through for service. In contrast, a parcel on the City side, in the south west, may only have a short section of gravity sewer required. To that end, a zone benefit area has been established to account for a nexus to obtain sewer service. Figure 5-1 is a preliminary benefit zone map showing five areas of benefit.

The next steps will include actual determination of benefit of costs assigned to each zone based on contributing acres and flows. Note Table 4-2 from this report will be used for the calculations of benefit and actual property assessment.

5.7 Summary

As part of the formation of the CFD it is recommended that the County work closely with the City in regards to the implementation and the implications of the existing reimbursement agreements, which may impact the timing and need for system upgrades. Where possible, given the age of some agreements it may simplify sewer fee collections in the future if those agreement are reviewed and rolled into the new assessments, if and where appropriate. The County should request that the City review the "contract" terms of capacity allocated to OIC and to the City of Chula Vista to determine if there are opportunities to make new conveyance capacity available for future growth.



SOURCE: Dexter Wilson

REGIONAL SEWER ZONES

FIGURE 5-1



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