

City Of Lodi Impact Mitigation Fee Program SUPPORTING DOCUMENTATION



August 2012





Memo

To: Wally Sandelin, Denise Wiman, Chris Boyer
From: Alison Bouley & Janine Mains
cc:
Date: August 2012
Re: IMFP Supporting Documentation

This document contains back-up reports and tables that support the findings in the 2012 Impact Fee Mitigation Program Update.

The following documentation is included:

- Section 1 -** *Water and Wastewater Impact Mitigation Fees Back-up, The Reed Group, Inc*
- Section 2 -** *IMFP Supporting Documentation – South Sewer Trunk Line, Harris & Associates*
- Section 3 -** *IMFP Supporting Documentation – Storm Drainage, Harris & Associates*
- Section 4 -** *Lodi Impact Mitigation Fee Program Update – Transportation Analysis, Fehr and Peers*
IMFP Supporting Documentation – Traffic, Harris & Associates
- Section 5 -** *Lodi Impact Mitigation Fee Program Update – Police Fee Supporting Tables, Goodwin Consulting Group*
- Section 6 -** *Lodi Impact Mitigation Fee Program Update – Fire Fee Supporting Tables, Goodwin Consulting Group*
- Section 7 -** *Lodi Impact Mitigation Fee Program (IMFP) Update Park and Recreation Analysis, Vallier Design Group*
Lodi Impact Mitigation Fee Program Update – Park Fee Supporting Tables, Goodwin Consulting Group
- Section 8 -** *Lodi Impact Mitigation Fee Program Update – Electric Utility Fee Supporting Tables, Goodwin Consulting Group*
- Section 9 -** *Lodi Impact Mitigation Fee Program Update – General City Facilities Fee Supporting Tables, Goodwin Consulting Group*

Section 10 - *Lodi Impact Mitigation Fee Program Update Report – Art in Public Places Fee Supporting Tables*, Goodwin Consulting Group

In addition to the documentation included here, water, wastewater, storm drainage, and bike master plans were prepared as part of this process and serve the basis for the improvements included in the IMFP.

Section 1

Water and Wastewater

CITY OF LODI

Water and Wastewater Impact Mitigation Fees

March 29, 2012



THE REED GROUP, INC.

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SECTION I. SUMMARY

INTRODUCTION

This report documents the calculation of water and wastewater impact mitigation fees (IMFs) prepared for the City of Lodi as part of the development of the broader Impact Mitigation Fee Program (IMFP) prepared by Harris & Associates. The Reed Group, Inc. has been working with the City on water and wastewater financial plan and rate issues for the past several years. Based on this familiarity with the utilities was asked to prepared the water and wastewater IMFs.

Water and wastewater IMFs have been calculated consistent with the requirements contained in Government Code Section 66013, which specify that capacity charges shall not exceed the estimated reasonable cost of providing service.

Water and wastewater IMFs have been calculated using the incremental cost methodology. The incremental cost methodology is a fairly common approach for capacity charges, particularly for communities needing new facilities to accommodate new growth. The approach is based on the cost of new or planned capital facilities. The cost of growth-related facilities is allocated to new development to be served by the facilities. Allowances for existing capacity that may also serve new connections, can be made but are often excluded. Under this approach, new development pays for the incremental investment necessary for system expansion. The incremental approach is most commonly applied when new facilities are required to provide capacity for new development.

The incremental cost methodology often requires a more detailed analysis in order to satisfy nexus requirements. First, the capacity requirements of new development must be defined. This is often accomplished with specific service level standards. Second, the amount of capacity provided by new facilities must be determined, and capacity enhancements required to address existing deficiencies are also identified and considered. To the extent that existing capacity does not provide the specified level of service to existing development, new facilities must be identified to correct those deficiencies, and the capacity charges paid by new development cannot be used to correct existing deficiencies. As a result, it is fairly common for only a portion of new capital facility costs to be included in the capacity fees paid by new development.

PROPOSED WATER AND WASTEWATER IMPACT MITIGATION FEES

Proposed water and wastewater IMFs are summarized in **Exhibit I-1**. The water and wastewater IMFs are based on the size of the water meter. The standard meter size for single family residential development is ¾", and the IMFs for a ¾" meter represents one dwelling unit equivalent (DUE) or water and wastewater demand placed on the utility systems. Water IMFs should be applied to all new water service connections. Wastewater

IMFs should apply to all new water service connections that include corresponding discharge to the wastewater system. Dedicated irrigation meters would not be subject to wastewater IMFs.

In instances where new wastewater customers may generate high strength wastewater and/or high flows, at the discretion of the Public Works Director, the appropriate wastewater IMF may be calculated using specific estimates of annual flow, as well as biochemical oxygen demand (BOD) and suspended solids (SS) loading. The factors to be applied for calculating high strength or high volume commercial and industrial wastewater IMFs are also included at the bottom of Exhibit I-1.

**Exhibit I-1
City of Lodi
Proposed Water and Wastewater Impact Mitigation Fee Schedule**

Mtr. Size	Water Impact Mitig. Fee	Wastewater Impact Mitig. Fee
5/8" meter	\$ 2,079	\$ 2,831
3/4" meter	\$ 3,103	\$ 4,225
1" meter	\$ 5,181	\$ 7,056
1 1/2" meter	\$ 10,332	\$ 14,070
2" meter	\$ 16,537	\$ 22,521
3" meter	\$ 31,026	\$ 42,253
4" meter	\$ 51,721	\$ 70,435
6" meter	\$ 103,411	\$ 140,828
8" meter	\$ 165,464	\$ 225,333
10" meter	\$ 237,880	\$ 323,951
<i>Wastewater IMF for High Strength/High Volume Commercial and Industrial Development (1)</i>		
Charge for Flow	\$ 13.10	per gpd
Charge for BOD Loading	\$ 2,002	per ppd
Charge for SS Loading	\$ 1,670	per ppd

Notes:

(1) Applies to high strength and/or high volume commercial and industrial customers, as determined by the Director of Public Works. Formula for calculation is as follows:

$$\text{WW IMF} = A \times (\$13.10 + 0.00000834 \times (B \times \$2,002 + C \times \$1,670)), \text{ where}$$

A = Estimated average daily flow rate in gpd

B = Estimated average BOD concentration in mg/l

C = Estimated average SS concentration in mg/l

SECTION II. WATER IMPACT MITIGATION FEES

WATER SYSTEM

The City's water system consists of twenty-seven groundwater wells, about 237 miles of distribution pipelines, and two storage reservoirs totaling 1.1 million gallons (MG). Groundwater currently serves as the sole source of water supply for the City. Studies have determined the safe groundwater yield for the area underlying the City is approximately 15,000 acre-feet (AF) per year. Annual well production for the four-year period from 2006 through 2009 ranged from 16,052 AF to 17,164 AF.

In 2003, the City entered into a forty-year agreement with the Woodbridge Irrigation District (WID) to purchase 6,000 AF per year of water from the Mokelumne River. In 2010 the City began construction of an 8 million gallon per day (mgd) water treatment plant with an estimated total cost of about \$40 million. In the fall of 2010, the City issued \$38.665 million in water revenue bonds to help fund the construction of the new surface water treatment plant necessary to treat water purchased from the WID.

The proposed water system impact mitigation fee (water IMF) is intended to reflect the cost of water treatment capacity, including financing costs, and as well as costs to integrate the surface water supply with distribution system operations. Additional facilities include a new water storage tank and an additional groundwater well to help manage peak demands throughout the distribution system. For water IMF calculation purposes, all customers (existing and new) will receive a blended water supply of both groundwater and surface water. The water IMF calculation reflects the costs associated with this blended water supply.

LEVEL OF SERVICE STANDARDS

The water treatment facility has a firm capacity of 8.0 mgd and a peak capacity of 10.0 mgd. The City's agreement for water from the WID allows for an annual water purchase of 6,000 AF. However, unused water can be banked for future use. City staff indicates the amount of water banked until the water treatment facility becomes operational effectively increases the annual surface water supply to about 7,200 AF (with accumulated banked water used through the remainder of the 40-year agreement with WID).

The City is limited as to the time period that water may be withdrawn from the Mokelumne River, and intends to integrate surface water operations and groundwater operations such that all water demands within the City can be met with the combined water supplies. As a result, peaking characteristics of water demand do not affect the water IMF calculation. The calculation is based on annual water demand for each new connection.

The City is in the process of installing water meters on all unmetered water connections. In 2010, the City reviewed the use characteristics of about 3,000 residential accounts with

water meters. This occurred prior to the implementation of new, metered water rates. That analysis of usage indicated that single family residences use an average of about 22 hundred cubic feet (22 CCF) per month, which is equivalent to nearly 550 gallons per day (gpd).

The City believes that the combination of required water efficient plumbing fixtures, citywide metering, and billing for water and wastewater service on actual usage will result in a reduction in single family water demands to about 500 gpd (about 20 CCF per month or 0.56 AF per year). This is about a 10 percent reduction in single family water demand.

Due to unaccounted for water system losses, the amount of water produced through the City's wells or treated at the water treatment facility must exceed customer demands at the point of delivery. Unaccounted for system losses have been estimated by the City to be about 10 percent of water production, and includes losses for such things as water system leaks, main flushing, water used for fire fighting, and other uses. As a result, the annual water production requirement to meet the service demands of a single family residence is estimated to be about 0.62 AF per year.

DWELLING UNIT EQUIVALENTS

For water IMF purposes, water demand is expressed in dwelling unit equivalents (DUEs), which is the estimated average annual water demand for a single family home. For purposes of calculating the water IMF a DUE is defined to equal a water production requirement of 0.62 AF per year, as described in the preceding paragraph

Most single family residential dwellings are (or will be) equipped with a $\frac{3}{4}$ " water meter, as the residential standard. The water IMF for 1 DUE will establish the fee for each $\frac{3}{4}$ " water meter. For other meter sizes the amount of the water IMF will be proportioned, relative to the $\frac{3}{4}$ " meter, based on the hydraulic capacity of each meter size. **Exhibit II-1** summarizes the hydraulic flow capacities and the corresponding hydraulic capacity factors for a variety of meter sizes.

Exhibit II-1
City of Lodi
Hydraulic Capacity Factors for Various Meter Sizes

Meter Size	Rated Maximum Flow Capacity (gpm) (1)	Hydraulic Capacity Factor (2)
5/8" meter	20	0.67
3/4" meter	30	1.00
1" meter	50	1.67
1 1/2" meter	100	3.33
2" meter	160	5.33
3" meter	300	10.00
4" meter	500	16.67
6" meter	1,000	33.33
8" meter	1,600	53.33
10" meter	2,300	76.67

Notes:

- (1) From AWWA Manual M6 - Water Meters, 3rd Edition,
American Water Works Association, 1986.
(2) Ratio of rated flow capacity relative to 3/4" meter.

The City's growth projections through 2035 include 4,720 new low and medium density residential dwelling units, as well as 1,079 tsf (1,000 square feet) of retail development, 598 tsf of office development, and 2,221 tsf of industrial development. Using floor area ratios, development density estimates, and water demand factors provided by the City, the anticipated future non-residential development is estimated to be equivalent to 885 DUEs, as determined in **Exhibit II-2**.

Combining both residential and non-residential development, the total future development in the City of Lodi through 2035 is estimated to be 5,605 DUEs.

**Exhibit II-2
City of Lodi
Dwelling Unit Equivalents of Future Non-Residential Development (1)**

Land Use	Future Develop.	Floor Area Ratio (FAR)	Develop. Density	Demand Factor		Water Demand
	(tsf) (2)		(tsf/acre)	(gal/ac/day)	(gal/tsf)	(gpd)
Retail	1,079	0.25	10.89	2,500	230	247,704
Office	598	0.30	13.07	2,500	191	114,402
Business Park	-	0.40	17.42	2,500	143	-
Industrial	2,221	0.40	17.42	1,000	57	127,468
Multi Use	-	0.25	10.89	2,500	230	-
	<hr/>					
	3,898		Total New Non-Residential Water Demand -->			489,574 gpd
						548 AF/year
						885 DUEs (3)

Notes:

- (1) Data provided by the Lodi Department of Public Works.
- (2) tsf = 1,000 square feet
- (3) One DUE is equivalent to 0.62 AF per year of water demand.

FACILITIES

The City has historically used groundwater to meet its water needs. In 2003, the City entered into an agreement with the Woodbridge Irrigation District (WID) to purchase 6,000 AF per year of the District's pre-1914 Mokelumne River water entitlements. A new surface water treatment facility and ancillary facilities are needed to make use of the WID water supply.

The surface water treatment facility was designed to pump up to 11.5 mgd of water from the Mokelumne River, treat this water and deliver it to the City's existing water distribution system. Untreated surface water is first passed through a sedimentation basin and auto-strainers to remove larger materials. The principal treatment process is a system of membranes that remove finer particles and provide a positive barrier to water-borne bacterial and organisms such as Giardia and Cryptosporidium. This process provides 8.0 mgd of firm capacity (and 10 mgd peak capacity) of treated water that will meet or exceed state and federal drinking water standards.

The City has been paying \$1.2 million annually (\$200 per AF) for the WID water supply. Under terms of the agreement with WID, unused water can be banked for future use. It is estimated that by the time water treatment facility becomes operational the City will be able to utilize 7,200 AF annually under the agreement (banked water spread over the remaining term of the agreement). For purpose of water IMF calculations, this 7,200 AF annual supply limit represents the capacity of treatment facilities.

City staff has estimated that the existing groundwater supply provides a safe yield of about 2.3 AF per acre. With an estimated residential density of 6 dwelling units per acre, the groundwater supply provides 0.38 AF per DUE. With a water supply requirement of 0.62 AF per DUE, new water treatment facilities will be needed to provide 0.24 AF per DUE.

COSTS

The estimated total cost to plan, design, and construct the surface water treatment facility is about \$40.37 million. This includes about \$3.87 million in planning and design costs incurred prior to financing, plus an estimated \$36.5 million in construction costs. The \$36.5 million construction cost is expected to be entirely financed using proceeds from the 2010 water revenue bonds (Series A and B). The construction cost, including financing costs, can be represented as the sum of annual debt service payments (principal and interest). Using the debt service payment schedule contained in the Official Statement for the bonds, the total of annual bond payments is about \$67.80 million. In addition, the City plans to construct a 1.5 million gallon (MG) storage reservoir and a new groundwater well to help integrate efficient operations of the treatment plant with the water distribution system, particularly during peak periods. The estimated cost for these planned facilities is \$4.0 million. The total cost of the water treatment facilities, including planning, design, construction, and financing, as well as costs for new storage and well is \$75.67 million.

FEE METHODOLOGY

The purpose of the water IMF is to ensure that new development pays a proportionate share of the cost of constructing water treatment and ancillary facilities needed to accommodate new water demands within the City. The revenue generated from the water IMF will be used to assist the City in making debt service payments related to the 2010 water revenue bonds (Series A and B). Bond proceeds are being used to finance the construction of water treatment facilities. Water IMF revenue may also be used to help pay for the cost of adding 1.5 MG of new distribution storage and a new groundwater well.

The water IMF has been calculated using what is commonly referred to as an incremental cost methodology. With this methodology, the amount of the fee is based on the cost of capacity in new facilities. A water treatment component is comprised of the cost associated with 0.24 AF of capacity in the new surface water treatment plant. A water facilities component assigns the cost of 1.5 MG of new storage and a new groundwater well entirely to anticipated new development. Each fee component is described below.

Surface Water Treatment Component

The total cost of the new surface water treatment facility, including repayment of the 2010 water revenue bonds to finance construction, is about \$71.67 million. The capacity of the treatment facility, as previously described is 7,200 AF per year. Each DUE requires 0.62 AF of water per year of which 0.38 AF is to be supplied from groundwater and 0.24 AF from WID water treated by the new water treatment facilities. At 0.24 AF per DUE, the water treatment facility can provided needed water for 30,000 DUEs. Therefore, the proportionate share of water treatment facility cost to each DUE is \$2,389, as presented in **Exhibit II-3**.

Exhibit II-3
City of Lodi

Surface Water Treatment Component Calculation

Water Treatment Facility Costs	Total
<i>Planning and Design Costs (prior to financing) (1)</i>	
Laboratory Testing	\$ 33,800
Conceptual Design and Feasibility Review	\$ 377,000
Preliminary Design and Environmental Review	\$ 858,000
Final Design, Plans and Specifications	\$ 1,737,000
Design Review	\$ 50,000
Financial Planning and Legal	\$ 107,000
City Staff	\$ 110,000
Raw Water Intake Pipe Construction	\$ 572,000
Miscellaneous	\$ 25,000
Total Paid from Reserves	\$ 3,869,800
<i>Estimated Construction Costs (financed) (1)</i>	
Construction Contract (bid amount)	\$ 22,837,000
Wastewater Connection Fee	\$ 1,472,912
Site Acquisition (land cost)	\$ 1,200,000
Testing and Inspection	\$ 488,000
Other Construction Costs	\$ 1,338,973
Pall Membrane Purchase	\$ 3,926,081
Other Equipment	\$ 427,026
Engr. Service - Contract Admin.	\$ 890,000
Project Contingency	\$ 3,920,008
Total Construction Costs	\$ 36,500,000
<i>Debt Financing</i>	
2010A & 2010B Water Revenue Bonds (par) (2)	\$ 38,665,000
Total of Annual Debt Service Payments (3)	\$ 67,795,425
Total Water Trtmt. Costs for IMF Calculation	\$ 71,665,225
Water Treatment Facility Capacity	
Firm Capacity (1)	8.0
Peak Capacity (1)	10.0
Annual Supply Limit (AF) (4)	7,200
Unit Cost of Treatment Capacity	\$ 9,954 /AF
Est. Annual Water Supply Rqmt. per DUE (5)	0.62 AF
Supply Provided by Groundwater per DUE (6)	0.38 AF
Supply to be Provided by Surface Water per DUE	0.24 AF
DUEs of Surface Water Capacity	30,000
Surface Water Treatment Component (3/4" mtr.) (7)	\$ 2,389

Notes:

- (1) From Limited Engineer's Feasibility Report: City of Lodi's Water System and Planned Surface Water Treatment Facilities, prepared by HDR Engineering, Inc., October 7, 2010.
- (2) From Lodi Public Financing Authority - 2010 Water Revenue Bonds, Series A and Series B, Official Statement, October 19, 2010.
- (3) Total of all annual principal and interest payments, net of federal subsidy, on the 2010 Series A and Series B bonds.
- (4) From Agreement for Purchase of Water from the Woodbridge Irrigation District by the City of Lodi, May 13, 2003, plus future use of banked supplies.
- (5) Calculated based on the information below:

Average daily water use	500	gpd
Average monthly water use	20	CCF
Average annual water use	0.56	AF
Unaccounted for water loss rate	10%	
Water treatment capacity rqmt. per DUE	0.62	AF
- (6) The safe yield of groundwater is estimated at 2.3 AF/ac. Assuming residential density of 6 DU/ac, groundwater can provide about 0.38 AF per DU.
- (7) Calculated as total water treatment facility expansion costs for new development divided by new DUEs of capacity.

New Water Facilities Component

New water facilities needed to ensure adequate water system pressure and fire flows during peak water use periods include a 1.5 MG water storage tank and one additional groundwater well. These planned new facilities are to be paid for entirely by anticipated future new development. As indicated previously, the anticipated future new development has been estimated to be 5,605 DUEs. As shown in **Exhibit II-4**, dividing the estimated \$4 million cost of planned new facilities by 5,605 DUE of new development results in a new water facilities component of \$714 per DUE.

**Exhibit II-4
City of Lodi
New Water Facilities Component Calculation**

New Water System Facilities	Est. Cost
1.5 MG Storage Reservoir	\$ 3,000,000
Groundwater Well	\$ 1,000,000
	<hr/>
Total Facilities Cost	\$ 4,000,000
New Development (DUEs) (1)	5,605
	<hr/>
New Water Facilities Component (3/4" mtr.)	<u>\$ 714</u>

Notes:

(1) Includes 4,720 residential units, plus 885 DUEs of non-residential development. See Exhibit __.

Total Water Impact Mitigation Fee

Combining the surface water treatment component of \$2,389 with the new water system facilities component of \$714 results in a total water IMF of \$3,103 per DUE, as summarized in **Exhibit II-5**.

**Exhibit II-5
City of Lodi
Proposed Water Impact Mitigation Fee Summary**

	Water System IMF
Surface Water Treatment Component	\$ 2,389
New Water Facilities Component	\$ 714
	<hr/>
Total Water IMF for Std. 3/4" Meter	<u>\$ 3,103</u>

FEE SCHEDULE

Exhibit II-6 presents a complete schedule of proposed water IMFs based on the size of the water meter. The water IMFs would apply to all new connections to the City's water system.

**Exhibit II-6
City of Lodi
Proposed Water Impact Mitigation Fee Schedule**

Meter Size	Hydraulic Capacity Factor	Water System IMF (1)	
5/8" meter	0.67	\$	2,079
3/4" meter	1.00	\$	3,103
1" meter	1.67	\$	5,181
1 1/2" meter	3.33	\$	10,332
2" meter	5.33	\$	16,537
3" meter	10.00	\$	31,026
4" meter	16.67	\$	51,721
6" meter	33.33	\$	103,411
8" meter	53.33	\$	165,464
10" meter	76.67	\$	237,880

Notes:

- (1) Standard single family meter size is 3/4" (one DUE). Other fee amounts proportioned based on hydraulic capacity of each meter size.

SECTION III. WASTEWATER IMPACT MITIGATION FEES

WASTEWATER SYSTEM

The City's wastewater system consists about 191 miles of collection system pipelines and the White Slough water pollution control facility (wastewater treatment facility). The wastewater treatment facility has a current capacity of 8.5 million gallons per day (mgd) of average dry weather flow. Current dry weather flow is about 6.2 mgd.

The wastewater treatment facility was originally constructed with a capacity of 5.8 mgd. In the late 1980s and early 1990s the City expanded the treatment capacity to 6.3 mgd, and also improved the level of treatment. Between 2003 and 2009 the City again expanded the treatment capacity to the current 8.5 mgd, along with further improvements in the level of treatment.

The proposed wastewater treatment impact mitigation fee (wastewater IMF) is intended to reflect the cost of wastewater treatment capacity, including financing costs, resulting from the expansions from 5.8 mgd to 6.3 mgd and then to 8.5 mgd. This allows the analysis to incorporate a broader range of treatment improvements and to average the costs from each phase of expansion. In addition, debt issued in 1991 to help finance the earlier expansion were refunded and rolled into new debt issued in 2007, resulting in a commingling of debt costs across multiple debt issues and phases of plant expansion.

LEVEL OF SERVICE STANDARDS

The wastewater treatment facility is intended to meet 100 percent of wastewater treatment needs of new development within the City. The wastewater treatment facility has a dry weather flow capacity of 8.5 mgd and current utilization of about 6.2 mgd, resulting in available capacity of 2.3 mgd. About 85 percent (2.3 of 2.7 mgd) of the expanded treatment capacity is available for new development.

For purposes of calculating the wastewater IMF the average daily sewer flow for single family residential accounts is estimated at 200 gallons per day (gpd). On this basis, the increase in wastewater treatment capacity of 2.7 mgd is able to accommodate an additional 13,500 single family dwellings (or DUEs). At present, about 0.4 mgd of the added capacity (from 5.8 mgd to 6.2 mgd) is being used to meet existing demands (i.e., has been subscribed). This leaves 2.3 mgd of capacity available for future development. At 200 gpd per DUE, this remaining capacity is capable of serving about 11,500 DUEs.

DWELLING UNIT EQUIVALENTS

For wastewater IMF purposes, wastewater demand is expressed in dwelling unit equivalents (DUEs), which is the estimated average daily sewer flow for a single family home. For purposes of calculating the wastewater IMF a DUE is defined to equal 200 gpd,

with residential loading factors of 243 milligrams per liter (mg/l) of biochemical oxygen demand (BOD) and 285 mg/l of suspended solids (SS).

Most single family residential dwellings are (or will be) equipped with a ¾" water meter, as the residential standard. The wastewater IMF for 1 DUE will establish the fee for each ¾" water meter. For other meter sizes the amount of the wastewater IMF will be proportioned, relative to the ¾" meter, based on the hydraulic capacity of each meter size. Table 4.2, in the water treatment IMF section of the report, summarized the hydraulic flow capacities and the corresponding hydraulic capacity factors for a variety of meter sizes.

Wastewater IMFs would only apply to new water service connections that include corresponding wastewater service. Dedicated irrigation accounts, or other water connections not resulting in wastewater flows, will not be subject to the wastewater IMF.

FACILITIES

In the late 1980s and early 1990s, the City undertook projects to improve the level of treatment and to expand capacity in the White Slough water pollution control facility from 5.8 mgd to 6.3 mgd. Additional projects to further improve and expand treatment capacity occurred from 2003 to the present. These more recent wastewater improvements increased capacity from 6.3 mgd to 8.5 mgd. The City has yet to complete improvements for thickening and for dewatering & storage as part of the most recent phase of improvements.

COSTS

Capital costs for wastewater treatment improvements to bring capacity from 5.8 mgd to 8.5 mgd total about \$57.28 million, including about \$5.19 million for thickening and dewatering & storage facilities yet to be built. Engineering estimates indicate that about 46.7 percent of the cost of wastewater treatment improvements was for the benefit of new development (i.e., new capacity above 5.8 mgd). Projects were financed with debt proceeds from certificates of participation (COPs) issued in 1991, 2003, 2004, and 2007. A portion of the 2007 debt issue was used to refund the 1991 COPs. Total debt service payments (principal and interest) related to these debt issues total about \$128.0 million, with final payments scheduled for FY 37-38.

Exhibit III-1, on the following page, includes the debt service payment schedules for long-term debt related to wastewater treatment improvements. The 1991 COPs were refunded with a portion of proceeds from the 2007 COP issue.

The proposed wastewater IMF is intended to cover the growth share of debt service payments. Analysis of debt financing indicates that 45.3 percent of remaining debt service obligations is associated with improvements that benefit new development.

**Exhibit III-1
City of Lodi
Summary of Debt Service Payments Related to Wastewater Treatment Improvements**

Period Ending	Total WWTP Debt Service			1991 COP Debt Service			2003 COP Debt Service			2004 COP Debt Service			2007 COP Debt Service		
	Principal	Interest	Debt Service	Principal	Interest	Debt Service	Principal	Interest	Debt Service	Principal	Interest	Debt Service	Principal	Interest	Debt Service
6/30/93	330,000	838,688	1,168,688	330,000	838,688	1,168,688	0	88,888	88,888	170,000	1,078,212	1,248,212	0	330,975	330,975
6/30/94	100,000	708,040	808,040	100,000	708,040	808,040	185,000	198,148	383,148	895,000	1,262,300	2,157,300	105,000	1,487,250	1,592,250
6/30/95	110,000	703,023	813,023	110,000	703,023	813,023	185,000	194,448	379,448	915,000	1,241,913	2,156,913	105,000	1,483,050	1,588,050
6/30/96	110,000	697,606	807,606	110,000	697,606	807,606	190,000	190,698	380,698	935,000	1,216,450	2,151,450	110,000	1,478,750	1,589,750
6/30/97	115,000	691,837	806,837	115,000	691,837	806,837	190,000	186,848	381,848	935,000	1,216,450	2,151,450	125,000	1,474,050	1,589,050
6/30/98	120,000	685,518	805,518	120,000	685,518	805,518	200,000	182,647	382,647	965,000	1,180,713	2,145,713	130,000	1,468,950	1,588,950
6/30/99	125,000	678,624	803,624	125,000	678,624	803,624	205,000	177,733	382,733	1,010,000	1,138,800	2,148,800	140,000	1,463,550	1,602,550
6/30/00	140,000	670,900	810,900	140,000	670,900	810,900	210,000	171,120	381,120	1,050,000	1,097,600	2,147,600	145,000	1,457,550	1,602,550
6/30/01	145,000	662,420	807,420	145,000	662,420	807,420	215,000	164,170	379,170	1,090,000	1,049,350	2,139,350	150,000	1,445,550	1,605,550
6/30/02	150,000	653,495	803,495	150,000	653,495	803,495	225,000	156,123	381,123	1,145,000	993,475	2,138,475	160,000	1,438,850	1,613,850
6/30/03	160,000	643,960	803,960	160,000	643,960	803,960	230,000	147,310	377,310	1,205,000	934,725	2,139,725	175,000	1,431,650	1,616,650
6/30/04	175,000	722,376	897,376	175,000	633,488	808,488	240,000	138,318	378,318	1,265,000	874,556	2,139,556	185,000	1,424,250	1,609,250
6/30/05	540,000	1,898,415	2,438,415	185,000	622,056	807,056	250,000	128,013	378,013	1,325,000	809,731	2,134,731	155,000	1,451,850	1,606,850
6/30/06	1,275,000	2,066,546	3,341,546	195,000	609,798	804,798	260,000	117,058	377,058	1,390,000	743,675	2,133,675	160,000	1,445,550	1,605,550
6/30/07	1,315,000	2,029,140	3,344,140	210,000	596,530	806,530	270,000	106,058	376,058	1,455,000	672,388	2,127,388	175,000	1,438,850	1,613,850
6/30/08	1,130,000	1,734,272	2,864,272	Returfunded with 2007 COPs			270,000	106,058	376,058	1,455,000	672,388	2,127,388	175,000	1,438,850	1,613,850
6/30/09	1,270,000	2,850,610	4,120,610				280,000	106,058	376,058	1,455,000	672,388	2,127,388	175,000	1,438,850	1,613,850
6/30/10	1,320,000	2,799,583	4,119,583				300,000	93,263	378,263	1,535,000	590,163	2,125,163	185,000	1,431,650	1,616,650
6/30/11	1,370,000	2,747,470	4,117,470				300,000	78,638	378,638	1,620,000	509,475	2,129,475	185,000	1,424,250	1,609,250
6/30/12	1,430,000	2,687,570	4,117,570				315,000	62,869	377,869	1,695,000	428,625	2,123,625	200,000	1,416,425	1,616,425
6/30/13	1,500,000	2,618,548	4,118,548				330,000	45,938	375,938	1,780,000	338,413	2,118,413	215,000	1,407,731	1,622,731
6/30/14	1,575,000	2,545,585	4,120,585				345,000	28,219	373,219	1,875,000	243,700	2,118,700	230,000	1,398,131	1,628,131
6/30/15	1,650,000	2,470,724	4,120,724				365,000	9,581	374,581	1,970,000	147,574	2,117,574	240,000	1,387,850	1,627,850
6/30/16	1,730,000	2,389,594	4,119,594							2,070,000	49,162	2,119,162	240,000	1,387,850	1,627,850
6/30/17	1,810,000	2,306,283	4,116,283										2,835,000	1,283,375	4,118,375
6/30/18	1,900,000	2,217,296	4,117,296										2,835,000	1,283,375	4,118,375
6/30/19	2,005,000	2,115,076	4,120,076										2,835,000	1,283,375	4,118,375
6/30/20	2,105,000	2,012,363	4,117,363										2,835,000	1,283,375	4,118,375
6/30/21	2,210,000	1,907,919	4,117,919										2,835,000	1,283,375	4,118,375
6/30/22	2,325,000	1,792,082	4,117,082										2,835,000	1,283,375	4,118,375
6/30/23	2,450,000	1,670,050	4,120,050										2,835,000	1,283,375	4,118,375
6/30/24	2,575,000	1,545,005	4,120,005										2,835,000	1,283,375	4,118,375
6/30/25	2,700,000	1,417,587	4,117,587										2,835,000	1,283,375	4,118,375
6/30/26	2,835,000	1,283,375	4,118,375										2,835,000	1,283,375	4,118,375
6/30/27	2,980,000	1,138,000	4,118,000										2,835,000	1,283,375	4,118,375
6/30/28	1,485,000	1,026,375	2,511,375										2,835,000	1,283,375	4,118,375
6/30/29	1,565,000	950,125	2,515,125										2,835,000	1,283,375	4,118,375
6/30/30	1,645,000	869,875	2,514,875										2,835,000	1,283,375	4,118,375
6/30/31	1,730,000	785,500	2,515,500										2,835,000	1,283,375	4,118,375
6/30/32	1,815,000	696,875	2,511,875										2,835,000	1,283,375	4,118,375
6/30/33	1,910,000	603,750	2,513,750										2,835,000	1,283,375	4,118,375
6/30/34	2,010,000	505,750	2,515,750										2,835,000	1,283,375	4,118,375
6/30/35	2,110,000	402,750	2,512,750										2,835,000	1,283,375	4,118,375
6/30/36	2,220,000	294,500	2,514,500										2,835,000	1,283,375	4,118,375
6/30/37	2,330,000	180,750	2,510,750										2,835,000	1,283,375	4,118,375
6/30/38	2,450,000	61,250	2,511,250										2,835,000	1,283,375	4,118,375
Total	65,050,000	62,977,080	128,027,080	2,370,000	10,095,983	12,465,983	5,000,000	2,666,086	7,666,086	27,360,000	16,600,999	43,960,999	30,320,000	33,614,012	63,934,012

FEE METHODOLOGY

The purpose of the wastewater IMF is to ensure that new development pays a proportionate share of the cost of constructing wastewater treatment and ancillary facilities needed to accommodate new wastewater demands within the City. The revenue generated from the wastewater IMF will be used to assist the City in making debt service payments related to the 2003, 2004, and 2007 COPs. Debt proceeds are being used to finance the construction of wastewater treatment facilities.

The wastewater IMF has been calculated using what is commonly referred to as an incremental cost methodology. With this methodology, the amount of the fee is based on the cost of capacity in new facilities, in this case new wastewater treatment facilities needed to provide treatment capacity for new development anticipated within the City.

Analysis of the various improvements made during each phase of improvements indicate that about 46.7 percent of wastewater treatment improvements were related to expanding treatment capacity, rather than upgrading the level of treatment of existing capacity. Analysis of the debt service schedules for each debt issue indicates that 45.3 percent of the debt service payments are related to the expansion portion of improvements. Therefore, wastewater IMF revenue can be used to cover up to 45.3 percent of remaining annual debt service costs.

Total debt service costs for the improvements to bring capacity from 5.8 mgd to 8.5 mgd total about \$128.0 million. This cost was reduced by \$5.8 million to reflect payment for capacity paid by the area known as Flag City. About \$57.0 million (46.7 percent) of this adjusted total is related to expanding capacity, rather than upgrading existing capacity. Of the 2.7 mgd in increased capacity, 0.4 mgd has already been used (subscribed to) by development in recent years. This leaves about 2.3 mgd of capacity available for future development. At 200 gpd per DUE, about 2,000 DUEs of expansion capacity has already be subscribed to, while about 11,500 DUEs remain available for new development. This represents about 85 percent of the expansion capacity.

The standard fee for 1 DUE is based on the cost of new treatment facility capacity associated with each unit of new development. The present value of the cost of new treatment facilities is \$57.0 million for 13,500 DUEs of capacity. About \$48.6 million (about 85 percent) of the expansion portion of debt service is assigned to the potential future development of 11,500 DUEs. This results in the portion of the cost of treatment facilities allocated to future development to be about 4,225 per DUE.

Details of the calculation of the wastewater IMF are presented in **Exhibit III-2**.

Exhibit III-2
City of Lodi
Wastewater Treatment Impact Mitigation Fee Calculation

	Net Proceeds for WWTP					
	Par Amount	Improv.				
Wastewater Debt Financing						
1991 WW COPs	\$ 11,170,000	\$ 10,140,000	✓(1)			
2003 WW COPs	\$ 5,000,000	\$ 4,935,000				
2004 WW COPs	\$ 27,360,000	\$ 25,000,000				
2007 WW COPs	\$ 30,320,000	\$ 30,000,000				
Portion for 1991 Refunding	\$ (9,089,000)	\$ (8,990,000)				
Total	\$ 64,761,000	\$ 61,085,000				
WWTP						
	Improv. Costs	Upgrade	Expansion	Upgrade	Expansion	
Wastewater Treatment Improvements						
Expansion from 5.8 to 6.3 mgd	\$ 11,240,000	\$ 3,082,451	\$ 8,157,549	27.4%	72.6%	✓(2)
Expansion from 6.3 to 8.5 mgd						
Phase 1	\$ 1,976,000	\$ 1,464,741	\$ 511,259	74.1%	25.9%	✓(3)
Phase 2	\$ 11,528,000	\$ 8,822,000	\$ 2,706,000	76.5%	23.5%	
Phase 3	\$ 27,341,000	\$ 13,341,000	\$ 14,003,000	48.8%	51.2%	
Thickening	\$ 1,263,000	\$ 933,997	\$ 329,003	74.0%	26.0%	
Dewatering & Storage	\$ 3,930,000	\$ 2,906,263	\$ 1,023,737	74.0%	26.0%	
Total (4)	\$ 57,278,000	\$ 30,550,453	\$ 26,730,547	53.3%	46.7%	✓(5)
						Expansion portion of outstanding debt --> 45.3% (6)
Wastewater Treatment IMF Calculation						
	Total	Original	Expansion	Subscribed	Available	
WWTP Capacity (mgd)	8.50	5.80	2.70	0.40	2.30	
Capacity per DUE (gpd)	200	200	200			
DUEs of Expanded Capacity	42,500	29,000	13,500	2,000	11,500	
Growth Share of WWTP DS (7)	\$ 122,227,080	\$ 65,186,039	\$ 57,041,041	\$ 8,450,525	\$ 48,590,517	
		53.3%	46.7%	14.8%	85.2%	
Wastewater Treatment IMF				\$ 4,225	per DUE	

Notes:

- (1) Net proceeds from 1991 COPs have been estimated.
- (2) Allocation between upgrade and expansion from WSALLOC.xls worksheet titled Rev.10-97 2.
- (3) Weighted average allocation to new development for expansion to 8.5 mgd is 40.3 percent.
- (4) A portion of net debt proceeds remain unexplained, assumed to be planning/design or other related costs.
- (5) This portion of debt service costs is appropriately attributed to expansion of treatment capacity.
- (6) About 15.4% of outstanding debt is related to financing of 1991 improvements (.154 x .726 + .846 x .403 = .453). Wastewater IMF revenue can be used to pay for up to 45.3 percent of remaining debt service.
- (7) See Exhibit III-1 for debt service schedules. Growth share of debt service equal to 46.7 percent of total. Total debt service reduced by \$5.8 million as prior payment toward 0.19 mgd of capacity (Flag City).

FEE SCHEDULE

Exhibit III-3 presents a complete schedule of proposed wastewater IMFs based on the size of the water meter. The wastewater IMFs would apply to all new connections to the City's wastewater system.

In instances where new wastewater customers may generate high strength wastewater and/or high flows, at the discretion of the Public Works Director, the appropriate wastewater IMF may be calculated using specific estimates of annual flow, as well as BOD

and SS loading. The factors to be applied for calculating high strength or high volume commercial and industrial wastewater IMFs are also included at the bottom of **Exhibit III-3**. These special cost factors are based on the overall treatment capacity of 8.5 mgd with a BOD concentration of 330 mg/l and a SS concentration of 340 mg/l.

Exhibit III-3
City of Lodi
Proposed Wastewater Impact Mitigation Fee Schedule

Mtr. Size	Hydr. Cap. Factor	Wastewater IMF
5/8" meter	0.67	\$ 2,831
3/4" meter	1.00	\$ 4,225
1" meter	1.67	\$ 7,056
1 1/2" meter	3.33	\$ 14,070
2" meter	5.33	\$ 22,521
3" meter	10.00	\$ 42,253
4" meter	16.67	\$ 70,435
6" meter	33.33	\$ 140,828
8" meter	53.33	\$ 225,333
10" meter	76.67	\$ 323,951
<i>High Strength/High Volume Commercial and Industrial Development (1)</i>		
	Charge for Flow	\$ 13.10 per gpd
	Charge for BOD Loading	\$ 2,002 per ppd
	Charge for SS Loading	\$ 1,670 per ppd

Notes:

- (1) Applies to high strength and/or high volume commercial and industrial customers, as determined by the Director of Public Works. Formula for calculation is as follows:
 $WW\ IMF = A \times (\$13.10 + 0.00000834 \times (B \times \$2,002 + C \times \$1,670))$, where
 A = Estimated average daily flow rate in gpd
 B = Estimated average BOD concentration in mg/l
 C = Estimated average SS concentration in mg/l

Section 2

IMFP Supporting Documentation – South Sewer Trunk Line



Memo

To: Wally Sandelin, Denise Wiman, Chris Boyer
From: Alison Bouley & Janine Mains
cc:
Date: June 2012
Re: IMFP Supporting Documentation – South Trunk Line

The following documents provide the basis and back-up for the south trunk line cost estimates and fee calculations. The south trunk line is only paid for by those developments on the south side of the City that will utilize these improvements. A map of the properties is included in the IMFP report.

The following documents are provided as back-up:

- Figure 5-2 shows the area subject to the South Trunk Line fee
- Table 1 provides dwelling unit equivalent calculations
- Table 2 provides south sewer line fee calculations
- Table 3 provides south sewer line cost estimates

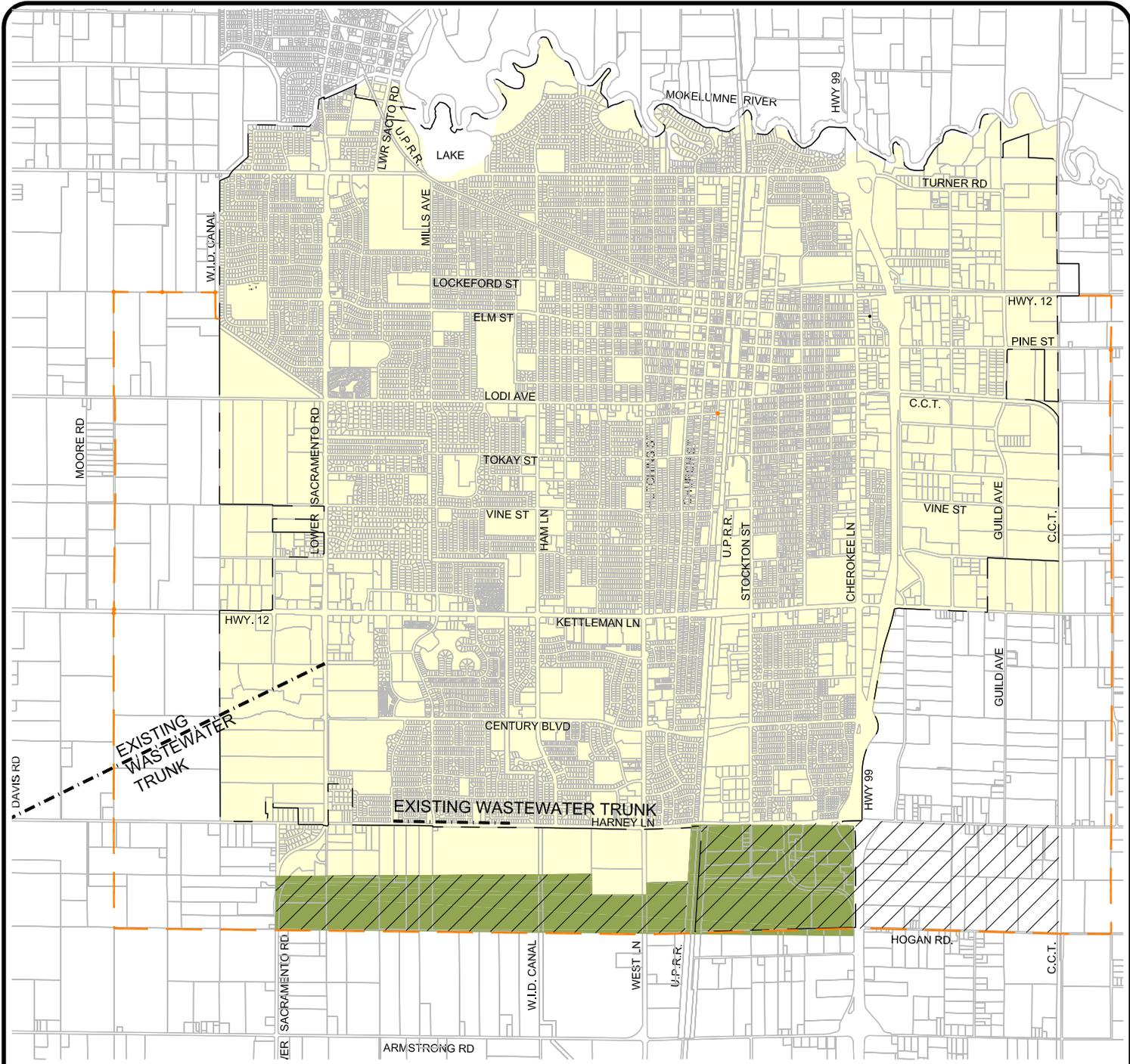


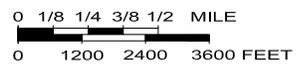
Figure 5-2

WASTEWATER FEE ZONES

LEGEND

- 2012 CITY LIMITS
- - - GENERAL PLAN LIMITS

- WWTP FEE ONLY
- WWTP FEE AND SOUTH WASTEWATER TRUNK LINE FEE
- SOUTH WASTEWATER TRUNK LINE STUDY AREA
- FUTURE ANALYSIS



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Table 1
South Sewer Trunk Line - DUE Factors

Land Use	Acres	Density	Units/ Bldg SF ¹	Gallons per Day	DUE Factor	Total DUEs
		<u>Units/Acre</u>	<u>Units</u>	<u>per Unit</u>	<u>per Unit</u>	
Low Density Residential	429.3	6	2,576	200	1.00	2,576
Medium Density Residential	97.3	15	1,459	168	0.84	1,229
High Density Residential	10.0	25	249	140	0.70	175
		<u>FAR</u>	<u>Bldg SF</u>	<u>per 1,000 SF</u>	<u>per 1,000 SF</u>	
Retail (Minor & Major)	5670.6	0.25	1,417,661	185	0.93	1,316
Office/Medical	0	0.30	0	154	0.77	
Industrial	0	0.40	0	83	0.41	

Table 2
Sewer Line Fee Calculation

Land Use	Units/ Bldg SF ¹	Gallons per Day	DUE Factor	Total DUEs	Percent Allocation	Cost Allocation	Cost per Unit/ 1,000 Bldg SF
Cost	\$6,252,400						
<i>Residential</i>	<u>Units</u>	<u>per Unit</u>	<u>per Unit</u>				<u>per Unit</u>
Low Density	2,576	200	1.00	2,576	48.65%	\$3,041,845	\$1,181
Medium Density	1,459	168	0.84	1,229	23.20%	\$1,450,818	\$994
High Density	249	140	0.70	175	3.30%	\$206,336	\$829
Subtotal	4,284			3,979	75.16%	\$4,699,000	
<i>Non-Residential</i>	<u>Bldg SF</u>	<u>per 1,000 SF</u>	<u>per 1,000 SF</u>				<u>per 1,000 SF</u>
Retail (Minor & Major)	1,417,661	185	0.93	1,316	24.84%	\$1,553,400	\$1,096
Office/Medical	0	154	0.77	0	0.00%	\$0	\$913
Industrial	0	83	0.41	0	0.00%	\$0	\$489
Subtotal	1,417,661			1,316	24.84%	\$1,553,400	
Total				5,295	100.00%	\$6,252,400	

¹ Includes the projected units benefiting from development of the southern portion of the City.

Source: City of Lodi; Harris & Associates; Goodwin Consulting Group, Inc.

Table 3
South Sewer Trunk Line - Costs

Facility	Size	Length	Unit	Unit Cost	Construction Cost	20% Contingency Mark-Up	10% Design/ Environmental Mark-Up	5% Construction Management Mark-Up	5% City Administration and Plan Check Mark-Up	2011 Total Project Cost
South Wastewater Trunk Line (westward extension of Hogan)										
	12"		LF	\$ 140	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	15"		LF	\$ 150	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	18"		LF	\$ 160	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	24"	5,150	LF	\$ 170	\$ 875,500	\$ 175,100	\$ 87,550	\$ 43,775	\$ 43,775	\$ 1,225,700
	24" (exist)	2,650	LF	\$ 170	\$ 450,500	\$ 90,100	\$ 45,050	\$ 22,525	\$ 22,525	\$ 630,700
	30"	15,700	LF	\$ 200	\$ 3,140,000	\$ 628,000	\$ 314,000	\$ 157,000	\$ 157,000	\$ 4,396,000
Wastewater Projects Total					\$ 4,466,000	\$ 893,200	\$ 446,600	\$ 223,300	\$ 223,300	\$ 6,252,400

Notes: This line is to be funded by projects on the southside of the City only. A financing district or other funding source will need to be evaluated to fund this improvement, as cash flow for project as it will be needed upon the first development on the south side of town.

Section 3

IMFP Supporting Documentation – Storm Drainage



Memo

To: Wally Sandelin, Denise Wiman, Chris Boyer
From: Alison Bouley & Janine Mains
cc:
Date: June 2012
Re: IMFP Supporting Documentation – Storm Drainage

The following documents provide the back-up for the storm drainage development impact fee calculations.

- Table 1 provides the DUE calculation.
- Table 2 provides the fee calculation back-up.
- Table 3 provides the cost summary.
- Table 4 provides the cost estimates for the facilities.
- Table 5 provides the C Basin Pump Station cost estimate.
- Table 6 provides the Pixley Park cost estimate.

The 2012 Storm Drainage master plan forms the basis for determining what new facilities are required to serve new development. The storm drainage master plan is being adopted concurrently with the IMFP report.

Table 1
Storm Drainage Dwelling Unit Equivalent (DUE) Calculations

Landuse Designation	Landuse	Coefficient of Runoff C	Time of Concentration T _c (min)	DUE Factor/ac	DUE/Unit	DUE Equivalent (per unit or per SF)	DUE Equivalent
LDR	Residential	0.4	25	1.00	0.166667	1.00	1.00 /unit
MDR	Medium Density Residential	0.5	20	1.25	0.083333	0.50	0.50 /unit
HDR	High Density Residential	0.67	20	1.68	0.067000	0.40	0.40 /unit
PUB	Church	0.5	20	1.25	0.000191	1.148E-03	1.15 /1000 sf
C	Commercial/Retail	0.7	10	1.75	0.000161	9.642E-04	0.96 /1000 sf
O	Office	0.7	10	1.75	0.000134	8.035E-04	0.80 /1000 sf
I	Industrial	0.75	10	1.88	0.000108	6.457E-04	0.65 /1000 sf

The Commercial and Industrial C-Factors are the only adjustments made. The Commercial C-Factor is being reduced from 0.8 to 0.7 and the Industrial C-Factor is being reduced from 0.9 to 0.75. The reductions are due to changes within the storm water requirements in California. All storm water is required to pass through pervious areas prior to leaving the site. All Commercial and Industrial new construction will be required to meet the new C-Factors as the storm water discharge leaves the site. Assumed FAR of 0.25 for Commercial/Retail, 0.30 for Office and 0.40 for Industrial.

City Core DUE Schedule

Landuse Designation	Landuse	Coefficient of Runoff C	Time of Concentration T _c (min)	DUE Factor/ac	DUE/Unit	DUE Equivalent (per unit or per SF)	DUE Equivalent
LDR	Residential	0.4	25	1.00	0.166667	1.00	1.00 /unit
MDR	Medium Density Residential	0.5	20	1.25	0.083333	0.50	0.50 /unit
HDR	High Density Residential	0.67	20	1.68	0.067000	0.40	0.40 /unit
PUB	Church	0.5	20	1.25	0.000191	1.148E-03	1.15 /1000 sf
C	Commercial/Retail	0.7	10	1.75	0.000040	2.410E-04	0.24 /1000 sf
O	Office	0.7	10	1.75	0.000040	2.410E-04	0.24 /1000 sf
I	Industrial	0.75	10	1.88	0.000043	2.583E-04	0.26 /1000 sf

Assumed FAR of 1.0 for all non-residential land uses.

Table 2
Storm Drainage Fee Calculation

Land Use	Units	Acres	Runoff Coefficient	DUE Factor	Total DUEs	Percent Allocation	Total Costs	Cost per Unit / Acre
Cost \$2,968,493		ZONE 1 COST ALLOCATION						
<i>Residential</i>			<i>per Acre</i>	<i>per Acre</i>				<i>per Unit</i>
Low Density	0	0.00	0.40	1.00	0.00	0.00%	\$0	\$2,591
Medium Density	0	0.00	0.50	1.25	0.00	0.00%	\$0	\$1,295
High Density	0	0.00	0.67	1.68	0.00	0.00%	\$0	\$1,041
Subtotal	0	0.00			0.00	0.00%	\$0	
<i>Non-Residential</i>			<i>per Acre</i>	<i>per Acre</i>				<i>per Acre</i>
Retail (Minor & Major)		24.48	0.70	1.75	42.84	22.43%	\$665,869	\$27,201
Office/Medical		0.00	0.70	1.75	0.00	0.00%	\$0	\$27,201
Industrial		79.01	0.75	1.88	148.14	77.57%	\$2,302,624	\$29,143
Subtotal		103.49			190.98	100.00%	\$2,968,493	
Total		103.49			190.98	100.00%	\$2,968,493	
Cost \$16,663,541		ZONE 2 COST ALLOCATION						
<i>Residential</i>			<i>per Acre</i>	<i>per Acre</i>				<i>per Unit</i>
Low Density	1,819	303.19	0.40	1.00	303.19	46.25%	\$7,707,021	\$4,237
Medium Density	1,620	107.97	0.50	1.25	134.96	20.59%	\$3,430,659	\$2,118
High Density	711	28.44	0.67	1.68	47.64	7.27%	\$1,210,973	\$1,703
Subtotal	4,150	439.59			485.78	74.11%	\$12,348,653	
<i>Non-Residential</i>			<i>per Acre</i>	<i>per Acre</i>				<i>per Acre</i>
Retail (Minor & Major)		34.52	0.70	1.75	60.41	9.22%	\$1,535,630	\$44,485
Office/Medical		38.35	0.70	1.75	67.11	10.24%	\$1,706,008	\$44,485
Industrial		0.00	0.75	1.88	0.00	0.00%	\$0	\$47,663
Subtotal		72.87			127.52	19.45%	\$3,241,638	
Institutional		33.78	<i>per Acre</i>	<i>per Acre</i>				<i>per Acre</i>
			0.50	1.25	42.22	6.44%	\$1,073,250	\$31,775
Total		546.24			655.53	100.00%	\$16,663,541	

Source: City of Lodi; Harris & Associates; Goodwin Consulting Group, Inc.

Table 3
Storm Drainage Cost Summary

Zone 1:

Zone 1 Basin Improvements

C-Basin Pump Station	\$2,055,900
C-Basin	\$912,593
Total Zone 1 Cost	\$2,968,493

Zone 2: F & I-Basin Watershed Areas

F-Basin Improvements

Pipes	\$1,068,017
Basins	\$8,981,826
Subtotal Cost	\$10,049,843

I-Basin Improvements

Pipes	\$902,971
Basins	\$6,271,380
Subtotal Cost	\$7,174,351

Total Zone 2 Cost	\$17,224,193
Less: Available SD Fee Fund Revenue	(\$560,652)
Net Zone 2 Cost	\$16,663,541

Source: City of Lodi; Harris & Associates; Goodwin Consulting Group, Inc.

Table 4
STORM DRAINAGE Cost Estimates

Item	Pipe Size	Quantity	Unit	Unit Cost	Project Cost	20% Contingency Mark- Up	10% Design/ Environmental Mark Up	5% Construction Management Mark- Up	5% City Administration Mark-Up	2011 Total Project Cost
H AND C WATERSHED										
C-Basin Pump Station ¹		1	EA	\$ 1,468,500	\$ 1,468,500	\$ 293,700	\$ 146,850	\$ 73,425	\$ 73,425	\$ 2,055,900
C-Basin ²		1	EA	\$ 651,852	\$ 651,852	\$ 130,370.40	\$ 65,185.20	\$ 32,592.60	\$ 32,592.60	\$ 912,593
H AND C WATERSHED TOTAL					\$ 2,120,352	\$ 424,070	\$ 212,035	\$ 106,018	\$ 106,018	\$ 2,968,493
F-BASIN WATERSHED										
Pipes										
CO-441	21	277	LF	\$ 6	\$ 1,662	\$ 332	\$ 166	\$ 83	\$ 83	\$ 2,327
CO-435	24	160	LF	\$ 12	\$ 1,920	\$ 384	\$ 192	\$ 96	\$ 96	\$ 2,688
CO-172	24	368	LF	\$ 12	\$ 4,416	\$ 883	\$ 442	\$ 221	\$ 221	\$ 6,182
CO-499	24	808	LF	\$ 12	\$ 9,696	\$ 1,939	\$ 970	\$ 485	\$ 485	\$ 13,574
CO-181	24	239	LF	\$ 12	\$ 2,868	\$ 574	\$ 287	\$ 143	\$ 143	\$ 4,015
CO-180	24	243	LF	\$ 12	\$ 2,916	\$ 583	\$ 292	\$ 146	\$ 146	\$ 4,082
CO-189	24	288	LF	\$ 12	\$ 3,456	\$ 691	\$ 346	\$ 173	\$ 173	\$ 4,838
CO-233	24	607	LF	\$ 12	\$ 7,284	\$ 1,457	\$ 728	\$ 364	\$ 364	\$ 10,198
CO-228	24	296	LF	\$ 12	\$ 3,552	\$ 710	\$ 355	\$ 178	\$ 178	\$ 4,973
CO-200	24	614	LF	\$ 12	\$ 7,368	\$ 1,474	\$ 737	\$ 368	\$ 368	\$ 10,315
CO-224	24	546	LF	\$ 12	\$ 6,552	\$ 1,310	\$ 655	\$ 328	\$ 328	\$ 9,173
CO-225	24	564	LF	\$ 12	\$ 6,768	\$ 1,354	\$ 677	\$ 338	\$ 338	\$ 9,475
CO-164	30	393	LF	\$ 16	\$ 6,288	\$ 1,258	\$ 629	\$ 314	\$ 314	\$ 8,803
CO-165	30	267	LF	\$ 16	\$ 4,272	\$ 854	\$ 427	\$ 214	\$ 214	\$ 5,981
CO-166	30	50	LF	\$ 16	\$ 800	\$ 160	\$ 80	\$ 40	\$ 40	\$ 1,120
CO-191	30	254	LF	\$ 16	\$ 4,064	\$ 813	\$ 406	\$ 203	\$ 203	\$ 5,690
CO-201	30	994	LF	\$ 16	\$ 15,904	\$ 3,181	\$ 1,590	\$ 795	\$ 795	\$ 22,266
CO-214	30	53	LF	\$ 16	\$ 848	\$ 170	\$ 85	\$ 42	\$ 42	\$ 1,187
CO-446	30	615	LF	\$ 16	\$ 9,840	\$ 1,968	\$ 984	\$ 492	\$ 492	\$ 13,776
CO-445	30	557	LF	\$ 16	\$ 8,912	\$ 1,782	\$ 891	\$ 446	\$ 446	\$ 12,477
CO-197	36	552	LF	\$ 29	\$ 16,008	\$ 3,202	\$ 1,601	\$ 800	\$ 800	\$ 22,411
CO-196	36	573	LF	\$ 29	\$ 16,617	\$ 3,323	\$ 1,662	\$ 831	\$ 831	\$ 23,264
CO-508	36	1881	LF	\$ 29	\$ 54,549	\$ 10,910	\$ 5,455	\$ 2,727	\$ 2,727	\$ 76,369
CO-229	36	370	LF	\$ 29	\$ 10,730	\$ 2,146	\$ 1,073	\$ 537	\$ 537	\$ 15,022
CO-504	36	364	LF	\$ 29	\$ 10,556	\$ 2,111	\$ 1,056	\$ 528	\$ 528	\$ 14,778
CO-218	36	560	LF	\$ 29	\$ 16,240	\$ 3,248	\$ 1,624	\$ 812	\$ 812	\$ 22,736
CO-510	36	187	LF	\$ 29	\$ 5,423	\$ 1,085	\$ 542	\$ 271	\$ 271	\$ 7,592
CO-506	36	548	LF	\$ 29	\$ 15,892	\$ 3,178	\$ 1,589	\$ 795	\$ 795	\$ 22,249
CO-507	36	52	LF	\$ 29	\$ 1,508	\$ 302	\$ 151	\$ 75	\$ 75	\$ 2,111
CO-437	42	384	LF	\$ 64	\$ 24,576	\$ 4,915	\$ 2,458	\$ 1,229	\$ 1,229	\$ 34,406
CO-436	42	156	LF	\$ 64	\$ 9,984	\$ 1,997	\$ 998	\$ 499	\$ 499	\$ 13,978
CO-184	42	810	LF	\$ 64	\$ 51,840	\$ 10,368	\$ 5,184	\$ 2,592	\$ 2,592	\$ 72,576
CO-440	42	482	LF	\$ 64	\$ 30,848	\$ 6,170	\$ 3,085	\$ 1,542	\$ 1,542	\$ 43,187
CO-449	42	620	LF	\$ 64	\$ 39,680	\$ 7,936	\$ 3,968	\$ 1,984	\$ 1,984	\$ 55,552
CO-203	42	583	LF	\$ 64	\$ 37,312	\$ 7,462	\$ 3,731	\$ 1,866	\$ 1,866	\$ 52,237
CO-204	42	50	LF	\$ 64	\$ 3,200	\$ 640	\$ 320	\$ 160	\$ 160	\$ 4,480
CO-498	48	584	LF	\$ 110	\$ 64,240	\$ 12,848	\$ 6,424	\$ 3,212	\$ 3,212	\$ 89,936
CO-209	48	449	LF	\$ 110	\$ 49,390	\$ 9,878	\$ 4,939	\$ 2,470	\$ 2,470	\$ 69,146
CO-210	48	659	LF	\$ 110	\$ 72,490	\$ 14,498	\$ 7,249	\$ 3,625	\$ 3,625	\$ 101,486
CO-211	48	576	LF	\$ 110	\$ 63,360	\$ 12,672	\$ 6,336	\$ 3,168	\$ 3,168	\$ 88,704
CO-439	54	233	LF	\$ 120	\$ 27,960	\$ 5,592	\$ 2,796	\$ 1,398	\$ 1,398	\$ 39,144
CO-194	54	209	LF	\$ 120	\$ 25,080	\$ 5,016	\$ 2,508	\$ 1,254	\$ 1,254	\$ 35,112

Item	Pipe Size	Quantity	Unit	Unit Cost	Project Cost	20% Contingency Mark- Up	10% Design/ Environmental Mark Up	5% Construction Management Mark- Up	5% City Administration Mark-Up	2011 Total Project Cost
CO-192	54	50	LF	\$ 120	\$ 6,000	\$ 1,200	\$ 600	\$ 300	\$ 300	\$ 8,400
F-Basin Watershed - Pipes Subtotal					\$ 762,869	\$ 152,574	\$ 76,287	\$ 38,143	\$ 38,143	\$ 1,068,017
Basins										
F-1 Excavation		12.5	AF	\$ 10,000	\$ 125,000	\$ 25,000	\$ 12,500	\$ 6,250	\$ 6,250	\$ 175,000
F-1 Outlet Structure		1	EA	\$ 20,000	\$ 20,000	\$ 4,000	\$ 2,000	\$ 1,000	\$ 1,000	\$ 28,000
F-1 Land Cost		3.03	Ac	\$ 160,000	\$ 484,800				\$ 24,240	\$ 509,040
F-1 Sod & Irrigation		3.03	Ac	\$ 152,460	\$ 461,954	\$ 92,391	\$ 46,195	\$ 23,098	\$ 23,098	\$ 646,735
F-1 Pump Station		1	EA	\$ 350,000	\$ 350,000	\$ 70,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 490,000
F-2 Excavation		32.6	AF	\$ 10,000	\$ 326,000	\$ 65,200	\$ 32,600	\$ 16,300	\$ 16,300	\$ 456,400
F-2 Outlet Structure		1	EA	\$ 20,000	\$ 20,000	\$ 4,000	\$ 2,000	\$ 1,000	\$ 1,000	\$ 28,000
F-2 Land Cost		6.1	Ac	\$ 160,000	\$ 976,000				\$ 48,800	\$ 1,024,800
F-2 Sod & Irrigation		6.1	Ac	\$ 152,460	\$ 930,006	\$ 186,001	\$ 93,001	\$ 46,500	\$ 46,500	\$ 1,302,008
F-2 Pump Station		1	EA	\$ 350,000	\$ 350,000	\$ 70,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 490,000
F-3 Excavation		35.9	AF	\$ 10,000	\$ 359,000	\$ 71,800	\$ 35,900	\$ 17,950	\$ 17,950	\$ 502,600
F-3 Outlet Structure		1	EA	\$ 20,000	\$ 20,000	\$ 4,000	\$ 2,000	\$ 1,000	\$ 1,000	\$ 28,000
F-3 Land Cost		7.37	Ac	\$ 160,000	\$ 1,179,200				\$ 58,960	\$ 1,238,160
F-3 Sod & Irrigation		7.37	Ac	\$ 152,460	\$ 1,123,630	\$ 224,726	\$ 112,363	\$ 56,182	\$ 56,182	\$ 1,573,082
F-3 Pump Station		1	EA	\$ 350,000	\$ 350,000	\$ 70,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 490,000
F-Basin Watershed - Basin Subtotal					\$ 6,725,590	\$ 817,118	\$ 408,559	\$ 204,280	\$ 336,280	\$ 8,981,826
F-BASIN WATERSHED TOTAL					\$ 7,488,459	\$ 969,692	\$ 484,846	\$ 242,423	\$ 374,423	\$ 10,049,843
I-BASIN WATERSHED										
Pipes										
CO-377	24	50	LF	\$ 12	\$ 600	\$ 120	\$ 60	\$ 30	\$ 30	\$ 840
CO-378	24	295	LF	\$ 12	\$ 3,540	\$ 708	\$ 354	\$ 177	\$ 177	\$ 4,956
CO-379	24	1306	LF	\$ 12	\$ 15,672	\$ 3,134	\$ 1,567	\$ 784	\$ 784	\$ 21,941
CO-420	24	295	LF	\$ 12	\$ 3,540	\$ 708	\$ 354	\$ 177	\$ 177	\$ 4,956
CO-372	24	441	LF	\$ 12	\$ 5,292	\$ 1,058	\$ 529	\$ 265	\$ 265	\$ 7,409
CO-477	24	69	LF	\$ 12	\$ 828	\$ 166	\$ 83	\$ 41	\$ 41	\$ 1,159
CO-476	24	607	LF	\$ 12	\$ 7,284	\$ 1,457	\$ 728	\$ 364	\$ 364	\$ 10,198
CO-254	24	515	LF	\$ 12	\$ 6,180	\$ 1,236	\$ 618	\$ 309	\$ 309	\$ 8,652
CO-263	24	794	LF	\$ 12	\$ 9,528	\$ 1,906	\$ 953	\$ 476	\$ 476	\$ 13,339
CO-387	24	250	LF	\$ 12	\$ 3,000	\$ 600	\$ 300	\$ 150	\$ 150	\$ 4,200
CO-390	24	602	LF	\$ 12	\$ 7,224	\$ 1,445	\$ 722	\$ 361	\$ 361	\$ 10,114
CO-405	24	83	LF	\$ 12	\$ 996	\$ 199	\$ 100	\$ 50	\$ 50	\$ 1,394
CO-406	24	58	LF	\$ 12	\$ 696	\$ 139	\$ 70	\$ 35	\$ 35	\$ 974
CO-407	24	335	LF	\$ 12	\$ 4,020	\$ 804	\$ 402	\$ 201	\$ 201	\$ 5,628
CO-494	24	481	LF	\$ 12	\$ 5,772	\$ 1,154	\$ 577	\$ 289	\$ 289	\$ 8,081
CO-392	24	769	LF	\$ 12	\$ 9,228	\$ 1,846	\$ 923	\$ 461	\$ 461	\$ 12,919
CO-381	24	194	LF	\$ 12	\$ 2,328	\$ 466	\$ 233	\$ 116	\$ 116	\$ 3,259
CO-425	24	236	LF	\$ 12	\$ 2,832	\$ 566	\$ 283	\$ 142	\$ 142	\$ 3,965
CO-289	24	600	LF	\$ 12	\$ 7,200	\$ 1,440	\$ 720	\$ 360	\$ 360	\$ 10,080
CO-291	24	811	LF	\$ 12	\$ 9,732	\$ 1,946	\$ 973	\$ 487	\$ 487	\$ 13,625
CO-294	24	329	LF	\$ 12	\$ 3,948	\$ 790	\$ 395	\$ 197	\$ 197	\$ 5,527
CO-399	24	260	LF	\$ 12	\$ 3,120	\$ 624	\$ 312	\$ 156	\$ 156	\$ 4,368
CO-403	24	227	LF	\$ 12	\$ 2,724	\$ 545	\$ 272	\$ 136	\$ 136	\$ 3,814
CO-423	30	453	LF	\$ 16	\$ 7,248	\$ 1,450	\$ 725	\$ 362	\$ 362	\$ 10,147
CO-234	30	460	LF	\$ 16	\$ 7,360	\$ 1,472	\$ 736	\$ 368	\$ 368	\$ 10,304
CO-382	30	290	LF	\$ 16	\$ 4,640	\$ 928	\$ 464	\$ 232	\$ 232	\$ 6,496
CO-242	30	383	LF	\$ 16	\$ 6,128	\$ 1,226	\$ 613	\$ 306	\$ 306	\$ 8,579
CO-293	30	219	LF	\$ 16	\$ 3,504	\$ 701	\$ 350	\$ 175	\$ 175	\$ 4,906
CO-487	36	334	LF	\$ 29	\$ 9,686	\$ 1,937	\$ 969	\$ 484	\$ 484	\$ 13,560
CO-489	36	520	LF	\$ 29	\$ 15,080	\$ 3,016	\$ 1,508	\$ 754	\$ 754	\$ 21,112
CO-418	36	471	LF	\$ 29	\$ 13,659	\$ 2,732	\$ 1,366	\$ 683	\$ 683	\$ 19,123

Item	Pipe Size	Quantity	Unit	Unit Cost	Project Cost	20% Contingency Mark- Up	10% Design/ Environmental Mark Up	5% Construction Management Mark- Up	5% City Administration Mark-Up	2011 Total Project Cost
CO-419	36	229	LF	\$ 29	\$ 6,641	\$ 1,328	\$ 664	\$ 332	\$ 332	\$ 9,297
CO-370	36	323	LF	\$ 29	\$ 9,367	\$ 1,873	\$ 937	\$ 468	\$ 468	\$ 13,114
CO-371	36	308	LF	\$ 29	\$ 8,932	\$ 1,786	\$ 893	\$ 447	\$ 447	\$ 12,505
CO-374	36	269	LF	\$ 29	\$ 7,801	\$ 1,560	\$ 780	\$ 390	\$ 390	\$ 10,921
CO-453	36	101	LF	\$ 29	\$ 2,929	\$ 586	\$ 293	\$ 146	\$ 146	\$ 4,101
CO-471	36	566	LF	\$ 29	\$ 16,414	\$ 3,283	\$ 1,641	\$ 821	\$ 821	\$ 22,980
CO-260	36	372	LF	\$ 29	\$ 10,788	\$ 2,158	\$ 1,079	\$ 539	\$ 539	\$ 15,103
CO-472	36	50	LF	\$ 29	\$ 1,450	\$ 290	\$ 145	\$ 73	\$ 73	\$ 2,030
CO-473	36	334	LF	\$ 29	\$ 9,686	\$ 1,937	\$ 969	\$ 484	\$ 484	\$ 13,560
CO-256	42	460	LF	\$ 64	\$ 29,440	\$ 5,888	\$ 2,944	\$ 1,472	\$ 1,472	\$ 41,216
CO-493	42	310	LF	\$ 64	\$ 19,840	\$ 3,968	\$ 1,984	\$ 992	\$ 992	\$ 27,776
CO-395	42	383	LF	\$ 64	\$ 24,512	\$ 4,902	\$ 2,451	\$ 1,226	\$ 1,226	\$ 34,317
CO-398	42	257	LF	\$ 64	\$ 16,448	\$ 3,290	\$ 1,645	\$ 822	\$ 822	\$ 23,027
CO-397	42	189	LF	\$ 64	\$ 12,096	\$ 2,419	\$ 1,210	\$ 605	\$ 605	\$ 16,934
CO-290	42	364	LF	\$ 64	\$ 23,296	\$ 4,659	\$ 2,330	\$ 1,165	\$ 1,165	\$ 32,614
CO-376	48	89	LF	\$ 110	\$ 9,790	\$ 1,958	\$ 979	\$ 490	\$ 490	\$ 13,706
CO-414	48	666	LF	\$ 110	\$ 73,260	\$ 14,652	\$ 7,326	\$ 3,663	\$ 3,663	\$ 102,564
CO-468	48	806	LF	\$ 110	\$ 88,660	\$ 17,732	\$ 8,866	\$ 4,433	\$ 4,433	\$ 124,124
CO-396	48	74	LF	\$ 110	\$ 8,140	\$ 1,628	\$ 814	\$ 407	\$ 407	\$ 11,396
CO-244	48	239	LF	\$ 110	\$ 26,290	\$ 5,258	\$ 2,629	\$ 1,315	\$ 1,315	\$ 36,806
CO-245	48	51	LF	\$ 110	\$ 5,610	\$ 1,122	\$ 561	\$ 281	\$ 281	\$ 7,854
CO-279	54	362	LF	\$ 120	\$ 43,440	\$ 8,688	\$ 4,344	\$ 2,172	\$ 2,172	\$ 60,816
CO-278	54	63	LF	\$ 120	\$ 7,560	\$ 1,512	\$ 756	\$ 378	\$ 378	\$ 10,584
I-Basin Watershed - Pipes Subtotal					\$ 644,979	\$ 128,996	\$ 64,498	\$ 32,249	\$ 32,249	\$ 902,971
Basins										
I-1 Excavation		21.9	AF	\$ 10,000	\$ 219,000	\$ 43,800	\$ 21,900	\$ 10,950	\$ 10,950	\$ 306,600
I-1 Outlet Structure		1	EA	\$ 20,000	\$ 20,000	\$ 4,000	\$ 2,000	\$ 1,000	\$ 1,000	\$ 28,000
I-1 Land Cost		4.4	Ac	\$ 160,000	\$ 704,000				\$ 35,200	\$ 739,200
I-1 Sod & Irrigation		4.4	Ac	\$ 152,460	\$ 670,824	\$ 134,165	\$ 67,082	\$ 33,541	\$ 33,541	\$ 939,154
I-1 Pump Station		1	EA	\$ 350,000	\$ 350,000	\$ 70,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 490,000
I-2 Excavation		27	AF	\$ 10,000	\$ 270,000	\$ 54,000	\$ 27,000	\$ 13,500	\$ 13,500	\$ 378,000
I-2 Outlet Structure		1	EA	\$ 20,000	\$ 20,000	\$ 4,000	\$ 2,000	\$ 1,000	\$ 1,000	\$ 28,000
I-2 Land Cost		2.57	Ac	\$ 160,000	\$ 411,200				\$ 20,560	\$ 431,760
I-2 Sod & Irrigation		2.57	Ac	\$ 152,460	\$ 391,822	\$ 78,364	\$ 39,182	\$ 19,591	\$ 19,591	\$ 548,551
I-2 Pump Station		1	EA	\$ 350,000	\$ 350,000	\$ 70,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 490,000
I-3 Excavation		20.5	AF	\$ 10,000	\$ 205,000	\$ 41,000	\$ 20,500	\$ 10,250	\$ 10,250	\$ 287,000
I-3 Outlet Structure		1	EA	\$ 20,000	\$ 20,000	\$ 4,000	\$ 2,000	\$ 1,000	\$ 1,000	\$ 28,000
I-3 Land Cost		2.85	Ac	\$ 160,000	\$ 456,000				\$ 22,800	\$ 478,800
I-3 Sod & Irrigation		2.85	Ac	\$ 152,460	\$ 434,511	\$ 86,902	\$ 43,451	\$ 21,726	\$ 21,726	\$ 608,315
I-3 Pump Station		1	EA	\$ 350,000	\$ 350,000	\$ 70,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 490,000
I-Basin Watershed - Basin Subtotal					\$ 4,872,357	\$ 660,231	\$ 330,116	\$ 165,058	\$ 243,618	\$ 6,271,380
I-BASIN WATERSHED TOTAL					\$ 5,517,336	\$ 789,227	\$ 394,614	\$ 197,307	\$ 275,867	\$ 7,174,351
F & I BASIN WATERSHED COMBINED TOTAL					\$ 13,005,795	\$ 1,758,919	\$ 879,460	\$ 439,730	\$ 650,290	\$ 17,224,193
Less Fund Balance										\$ (560,652)
F & I Cost to Spread										\$ 16,663,541
¹ Cost Estimate provided by Cty; see Option 2 of estimate dated 6/7/11.										
² SD funds a portion of the Pixley Park. 22 acres of the park is used for a drainage basin. Estimate provided by City.										

**Table 5
C Basin Pump Station Cost Estimate**

City of Lodi
Public Works Department
Project Estimate
Project: C Basin Pump Station
Date: 6/7/2011

Option 1	Description	G Basin	C Basin	
1	Site Work	\$ 242,000	\$ 181,500	Smaller site, 75% cost
2	Pump Station Structure	\$ 780,000	\$ 585,000	Shallower Structure, less gates, 75% cost
3	Trash Rack	\$ 500,000	\$ 400,000	Smaller/shorter trash rack, 80% cost
4	Electrical Controls	\$ 478,000	\$ 239,000	Simpler control, no building, 50% cost
Subtotal		\$ 2,000,000	\$ 1,405,500	
Engineering (30%)			\$ 421,650	
Contingencies (15%)			\$ 210,825	
Inspection (10%)			\$ 140,550	
Project Total			\$ 2,178,525	

Pref. -->	Option 2	Description	G Basin	C Basin	
	1	Site Work	\$ 242,000	\$ 181,500	Smaller site, 75% cost
	2	Pump Station Structure	\$ 780,000	\$ 468,000	Shallower Structure, less gates, smaller pumps 60% cost
	3	Trash Rack	\$ 500,000	\$ 400,000	Smaller/shorter trash rack, 80% cost
	4	874 LF of 36" SD		\$ 180,000	
	5	Electrical Controls	\$ 478,000	\$ 239,000	Simpler control, no building, 50% cost
Subtotal		\$ 2,000,000	\$ 1,468,500		
Engineering (10%)			\$ 146,850		
Contingencies (20%)			\$ 293,700		
Construction Mgmt & Administration (10%)			\$ 146,850		
Project Total			\$ 2,055,900		

Estimate provided by City of Lodi

Table 6
Pixley Park Cost Estimate
July, 2011

Description	Unit	Qty	Unit Cost	Total Cost	SD Share	Parks Share
SWPP	LS	1	\$10,000	\$10,000		\$10,000
Clearing and Grubbing	LS	1	\$12,500	\$12,500		\$12,500
Project Sign	EA	2	\$1,000	\$2,000		\$2,000
Dust Control	LS	1	\$12,000	\$12,000		\$12,000
Fine Grading	AC	27	\$2,500	\$67,500		\$67,500
4" Gate Valve & Water Meter	LS	1	\$5,000	\$5,000		\$5,000
4" DIP	LF	200	\$35	\$7,000		\$7,000
4" backflow device	LS	1	\$4,250	\$4,250		\$4,250
1" potable water line	LF	600	\$20	\$12,000		\$12,000
4" sewer line	LF	850	\$30	\$25,500		\$25,500
SSCO	EA	4	\$750	\$3,000		\$3,000
8" SD line	LF	1,200	\$30	\$36,000		\$36,000
Drop Inlet CBs	EA	8	\$1,650	\$13,200		\$13,200
48" MH	EA	4	\$3,200	\$12,800		\$12,800
Underground Primary Electrical	LS	1	\$40,000	\$40,000		\$40,000
400 AMP Distribution Panel	LS	1	\$22,000	\$22,000		\$22,000
100 AMP Service Panel for booster pump	LS	1	\$4,500	\$4,500		\$4,500
Park Lighting Conduit & Conductor	LF	3,400	\$28	\$95,200		\$95,200
Park Lighting w/ Foundations	EA	24	\$6,000	\$144,000		\$144,000
Park Lighting Pull Boxes	EA	20	\$500	\$10,000		\$10,000
Musco Sports Lighting	LS	1	\$560,000	\$560,000		\$560,000
Concrete Flat Work	SF	50,000	\$5	\$250,000		\$250,000
Concrete Parking Lot Curbing	LF	3,500	\$15	\$52,500		\$52,500
24" concrete mow strip w/ 10' chain link fence	LF	2,500	\$37.50	\$93,750		\$93,750
Concrete Pad Handicap Parking Stalls	SF	2,500	\$8	\$20,000		\$20,000
Concrete slab (picnic area)	SF	5,000	\$8	\$40,000		\$40,000
Asphalt Paving	SF	110,000	\$4.00	\$440,000		\$440,000
Parking Lot striping and signage	LS	1	\$25,000	\$25,000		\$25,000
Infield Mix	CY	500	\$20	\$10,000		\$10,000
Arch Backstops	EA	4	\$48,000	\$192,000		\$192,000
Elevated accessible bleachers	EA	8	\$45,000	\$360,000		\$360,000
Home Plate & Bases	SET	4	\$550	\$2,200		\$2,200
Bull Pen Plates & Rubbers	SET	16	\$320	\$5,120		\$5,120
Bat Racks	EA	8	\$325	\$2,600		\$2,600
Dugout Benches	EA	8	\$2,000	\$16,000		\$16,000
Dugout Shade Canopies	EA	8	\$7,350	\$58,800		\$58,800
Group Picnic Structure	EA	1	\$55,000	\$55,000		\$55,000
Playground Area	LS	1	\$180,000	\$180,000		\$180,000
Custom Stone Park Sign	LS	1	\$25,000	\$25,000		\$25,000
Maintenance Storage Structure	LS	1	\$42,000	\$42,000		\$42,000
Restroom/Concession Structure	LS	1	\$450,000	\$450,000		\$450,000
Concession Equipment	LS	1	\$45,000	\$45,000		\$45,000
25HP RainBird VFD Booster Pump	EA	1	\$38,500	\$38,500	\$31,370.37	\$7,130
Maxicom Irrigation Controls	LS	1	\$45,000	\$45,000	\$36,666.67	\$8,333
Automatic Irrigation System	SF	950,000	\$0.30	\$285,000	\$232,222.22	\$52,778
Soil Amendments (Bermuda Area)	LBS	40,000	\$4.50	\$180,000	\$146,666.67	\$33,333
Soil Amendments (90/10 Area)	LBS	16,500	\$4.50	\$74,250	\$60,500.00	\$13,750
Sprig Planted Bermuda (outfields)	SF	400,000	\$0.25	\$100,000	\$81,481.48	\$18,519
Hydro Seeded "No Mow"	SF	350,000	\$0.15	\$52,500	\$42,777.78	\$9,722
Hydro Seeded 90/10 Blend	SF	165,000	\$0.15	\$24,750	\$20,166.67	\$4,583
Fertilizer	LBS	50,000	\$1.25	\$62,500		\$62,500
Park Benches	EA	14	\$1,000	\$14,000		\$14,000
Trash Receptacles	EA	28	\$1,300	\$36,400		\$36,400
ADA Drinking Fountain	EA	2	\$2,750	\$5,500		\$5,500
Picnic Tables	EA	8	\$1,650	\$13,200		\$13,200
Dumpster Enclosure	EA	2	\$15,000	\$30,000		\$30,000
Entrance Gate - 20' double	EA	1	\$6,500	\$6,500		\$6,500
90 Day Maintenance Period	LS	1	\$25,000	\$25,000		\$25,000
SubTotal				\$4,456,520	\$651,852	\$3,804,668
Contingency	10%			\$445,652	\$65,185.19	\$380,466.81
Design/Environmental	10%			\$445,652	\$65,185.19	\$380,466.81
Construction Management	5%			\$222,826	\$32,592.59	\$190,233.41
City Admin	5%			\$222,826	\$32,592.59	\$190,233.41
Total Cost				\$5,793,476	\$847,407	\$4,946,069

Estimate Provided by City

Section 4

Lodi Impact Mitigation Fee Program Update – Transportation Analysis

IMFP Supporting Documentation – Traffic

TECHNICAL MEMORANDUM

Date: September 9, 2011

To: Alison Bouley, Harris & Associates

From: Julie Morgan and Dan Hennessey, Fehr & Peers

Subject: *Lodi Impact Mitigation Fee Program Update – Transportation Analysis*
WC11-2815

INTRODUCTION

The purpose of this study is to provide the technical basis for a comprehensive update to the transportation portion of the City of Lodi's Impact Mitigation Fee Program (IMFP). The focus of the updated program is to support an overall transportation system in Lodi that serves expected future demand.

Pursuant to the Mitigation Fee Act, California Government Code Section 66000, et seq. (also known as AB 1600), a local agency is authorized to charge a fee to development applicants in connection with approval of a development project for the purpose of defraying all or a portion of the costs of public facilities related to the development project. Specifically, the purpose of the fee is to ensure that new developments pay their fair-share of the cost to maintain baseline levels of service or meet the City's infrastructure standards. Capital improvements to the local transportation system are required to mitigate the traffic impacts of new development within the City of Lodi, consistent with the land use and transportation policies of the recently-approved General Plan.

This memorandum documents the analytical approach for determining the nexus between the fees and the local transportation impacts created by anticipated development in Lodi. The memo addresses the steps in the analytical process used to determine nexus, including identification of existing deficiencies, assumptions about existing and future land uses, modeling procedures, identification of capital improvement projects, and determination of fair-share contributions from new development. The most up-to-date versions of the available analytical tools and techniques were used to ensure the highest level of consistency with current standards.

EXISTING DEFICIENCIES

Impact fees are intended to capture the fair-share contributions from new development to cover the costs associated with providing public facilities and services for that development. As such, the fees are not intended to correct existing deficiencies in the public facilities or services. In order to evaluate the current status of the City's transportation system and determine whether there are any existing deficiencies, the project team reviewed the most recent transportation studies conducted in the City, which include the baseline analysis for the 2010 General Plan Update, and the South Hutchins Street Annexation Project Traffic Impact Analysis from 2009.

To measure and describe the operational status of the local roadway network, transportation engineers and planners commonly use a grading system called level of service (LOS). Level of service is a description of a facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceed design capacity, resulting in long queues and delays).

The City's 2010 General Plan contains policy direction about what constitutes acceptable operations on the City's street network. The policy states, "[f]or purposes of design review and environmental assessment, apply a standard of Level of Service E...on all streets in the City's jurisdiction. The objective of this performance standard is to acknowledge that some level of traffic congestion during the peak hour is acceptable and indicative of an economically vibrant and active area, and that infrastructure design decisions should be based on the conditions that predominate during most of each day."

The baseline analysis conducted for the 2010 General Plan Update evaluated more than 100 roadway segments and 11 major intersections throughout the City and calculated the LOS at each location (this effort was documented in the *Lodi General Plan Update Working Paper #1: Land Use, Transportation, Environment and Infrastructure*, 2007). Of all of the locations studied, the only locations found to operate at LOS F, and thus operating outside of the standards set in the 2010 General Plan, were the segments of Kettleman Lane between Tienda Drive and Cherokee Lane. As will be discussed later in this memo, none of the capital improvement projects included in this IMFP are located along these segments of Kettleman Lane, so the IMFP projects are not affected by the operations results presented in the General Plan baseline analysis. (It should also be noted that the data used in the General Plan baseline analysis were collected in late 2006; since that time, traffic volumes throughout San Joaquin County have declined due to depressed economic conditions, so it is likely that if more up-to-date information were available, it would indicate improved LOS on Kettleman Lane and throughout the City.)

The *South Hutchins Street Annexation Project Traffic Impact Analysis* (2009) evaluated 19 study intersections throughout the southern part of Lodi, and found that all of the intersections operated at LOS D or better during both the morning and afternoon peak hours.

Therefore, for the purposes of the IMFP analysis, no existing deficiencies have been identified that would affect the nexus determination.

LAND USE ASSUMPTIONS

Based on the preliminary residential growth forecasts shown in the Policies and Operating Assumptions Report, the pace of development in Lodi is anticipated to be quite slow for the next several years. The new development that is anticipated is located in three general areas: south of Harney Lane, west of Lower Sacramento Road, and in the primarily industrial areas east of SR 99. The General Plan found that much of the needed roadway improvements in Lodi were on the east-west corridors that provide cross-town connections, such as Harney Lane, Century Boulevard, and Kettleman Lane. The goal of this IMFP analysis is to identify which of those General Plan improvements will be needed during the planning horizon for the IMFP (which extends to 2035).

Tables 1 and 2 show the anticipated growth in Lodi between 2011 and 2035 for residential and non-residential uses, respectively. As shown, the pace of new growth in Lodi is anticipated to be quite slow for the immediate future, with no substantial amounts of new development expected for the next few years, followed by modest growth beginning in 2015 and ramping up to a more typical pace in the outer years. Overall, new development is anticipated to add about 4,700 new dwelling units in Lodi by the year 2035, which represents a 20% increase over current conditions. Similarly, new development is expected to add about 3.8 million square feet of non-residential uses, which represents a 21% increase over current conditions.

**TABLE 1
 PROJECTED RESIDENTIAL GROWTH
 (DWELLING UNITS)**

Year	Low-Density Residential	Medium-Density Residential	High-Density Residential	Total
2011-2014 (4 years)	-	-	-	-
2015	100	-	-	100
2016	125	-	-	125
2017	175	-	-	175
2018-2035 (18 years)	200 per year 3,600 total	40 per year 720 total	-	240 per year 4,320 total
Total	4,000	720	-	4,720

Source: Fehr & Peers, 2011, and Policies and Operating Assumptions Report, 2011.

**TABLE 2
 PROJECTED NON-RESIDENTIAL GROWTH
 (THOUSANDS OF SQUARE FEET)**

Year	Industrial	Retail	Office	Medical	Total
2011-2014 (4 years)	-	-	-	-	-
2015-2019 (5 years)	-	189 per year 943.5 total	50 per year 250 total	14 per year 68 total	240 per year 1,261.5 total
2020-2024 (5 years)	159 per year 797 total	5 per year 26.5 total	18 per year 90 total	-	240 per year 913.5 total
2025-2029 (5 years)	138 per year 692 total	22 per year 109 total	18 per year 90 total	-	240 per year 891 total
2030-2035 (6 years)	117 per year 700 total	-	17 per year 100 total	-	240 per year 800 total
Total	2,189	1,079	530	68	3,866

Source: Fehr & Peers, 2011, and Policies and Operating Assumptions Report, 2011.

MODELING PROCEDURES

The City of Lodi Travel Demand Forecasting model was developed and calibrated by Fehr & Peers in 2007, and contains land use and road network information reflecting year 2006 conditions. The development of the model was documented in the report titled *Final Model Development Report – City of Lodi Travel Demand Forecasting Model*, Fehr & Peers, February 2008.

The total growth shown in the last rows of Tables 1 and 2 was added to the Lodi travel model in the geographic areas where that growth is anticipated to occur. The new residential uses were primarily reflected in areas south of Harney Lane and also west of Lower Sacramento Road. New retail and office uses were assumed to occur in the Reynolds Ranch area, along Lower Sacramento Road, and to a lesser extent on the east side of SR 99 around Kettleman Lane. New industrial development was primarily assumed to occur east of SR 99 along Cluff Avenue and Guild Avenue.

An initial model run was conducted where the land uses reflected the growth shown in Tables 1 and 2, but there were no improvements assumed to the road network. The purpose of this run was to identify the nature and location of future deficiencies in the transportation system if no infrastructure improvements were constructed. A second set of model runs were then conducted that reflected various potential roadway improvement projects; this was an iterative process to define the set of capital improvements that would best address the future deficiencies identified initially. The results of this analysis are discussed in the following section.

CAPITAL IMPROVEMENT PROJECTS

Based on the results of the initial future model run, the primary future deficiency is anticipated to occur along Harney Lane, which is currently a two-lane road but which would need to be widened to four lanes in order to accommodate the demand from the new development that is anticipated in the southern and western areas of the City. Harney Lane is immediately adjacent to major new development areas, and the widening is only needed to serve those new areas; therefore, it is reasonable for the full cost of the Harney Lane improvements to be included in the IMFP.

The possibility of extending and grade-separating Century Boulevard to serve as a supplemental east-west corridor was also considered; however, given the relatively modest levels of forecasted new development activity, that improvement was not found to be needed in this timeframe. As further growth occurs in the City, beyond the 2035 horizon evaluated here, it is likely that the Century Boulevard connection would be needed.

Additional future deficiencies were identified along Guild Avenue and Victor Road, due to the addition of more industrial development in the area east of SR 99. The capital improvement project list for the IMFP therefore includes the widening of Victor Road from two to four lanes between SR 99 and Guild Avenue, and a re-striping of Guild Avenue to provide four travel lanes between Lodi Avenue and Auto Center Drive. Along with these roadway improvements, the intersection of Victor Road and Guild Avenue should be signalized. These improvements are adjacent to major areas of future development and are needed to serve the traffic generated by those new uses, so it is reasonable for the full cost of the improvements to be included in the IMFP.

City staff was also consulted to identify more localized improvements that should be included in the IMFP capital improvement list. Based on intersection projects that have been identified in previous capital improvement programs, staff designated four intersections where installation of traffic signals was needed: Mills Avenue/Elm Street, Turner Road/California Street, Turner Road/Sacramento Street, and Cherokee Lane/Elm Street. Because these are local intersections that are not adjacent to major new development areas, it was determined that the IMFP should cover only a portion of these project costs, proportional to the amount of future traffic passing through these intersections that is generated by new development. These fair-share percentages were calculated using the results of the 2035 model run.

The results of this process defined the list of capital improvement projects that will be included in the transportation portion of the IMFP and the proportional share of costs for those projects. Table 3 provides the list of capital improvement projects, and Figure 1 shows their location throughout the City of Lodi.

**TABLE 3
 CAPITAL IMPROVEMENT PROJECTS FOR LODI IMFP TRANSPORTATION PROGRAM**

Project	Description	Cost Share Included in IMFP
<i>Traffic Signal Projects</i>		
Mills Avenue / Elm Street	Install traffic signal	20%
Turner Road / California Street	Install traffic signal	20%
Turner Road / Sacramento Street	Install traffic signal	30%
Cherokee Lane / Elm Street	Install traffic signal	30%
Guild Avenue / Victor Road	Install traffic signal	100%
<i>Roadway Improvements</i>		
Guild Avenue Widening	Alter striping from two to four lanes	100%
Harney Lane Widening	Widen to four lanes between SR 99 and Lower Sacramento Road	100%
Harney Lane Grade-Separation	Construct grade-separation crossing of UPRR	100%
SR 99 / Harney Lane Interchange	Interim improvements; install traffic signals, add turn lanes (under construction; partial cost recovery)	100%
Victor Road Improvements	Widen to four lanes between SR 99 and Guild Avenue	100%
WID Crossing at Harney Lane	Widen to four lanes (already completed, one-half cost recovery through IMFP)	50%

Source: Fehr & Peers, 2011.

DWELLING UNIT EQUIVALENTS

Dwelling Unit Equivalent (DUE) factors are a common way of normalizing the effects of different types of land use on a set of public facilities. Many transportation impact fee programs use DUE factors to account for the relative burden on the transportation system caused by different types of development. DUE factors commonly include an accounting of trip generation rates and percentages of pass-by trips attributable to different land uses, and sometimes include a representation of average trip lengths or other characteristics.

For the purposes of this evaluation, trip generation rates and pass-by trip percentages were used to develop DUE factors for each land use type. The City of Lodi travel demand model contains trip generation rates for several land use categories and has been calibrated to reflect local conditions. Table 4 shows the PM peak hour trip generation rate for each land use category based on the Lodi model, as well as the percentage of new trips attributable to each category from a commonly-accepted reference document on this subject. These figures are multiplied together to determine the number of new trips per unit of development (per dwelling unit for residential uses, and per thousand square feet for non-residential uses). The single-family residential rate is then set to 1.0 and all other rates are normalized to that level, so the factors can be used to calculate each land use category's proportional contribution toward the capital improvement project costs.

**TABLE 4
 CALCULATION OF DWELLING UNIT EQUIVALENT (DUE) FACTORS**

Land Use	Unit ¹	PM Peak Hour Trip Rate ² (a)	% New Trips ³ (b)	New Trips per Unit (a * b)	DUE per Unit
Single-Family Residential	DU	1.16	100	1.16	1.00
Multi-Family Residential	DU	0.63	100	0.63	0.54
Commercial / Retail	KSF	3.91	50	1.96	1.69
Office	KSF	2.03	70	1.42	1.22
Industrial	KSF	0.85	85	0.72	0.62

Notes:

1. DU = dwelling unit; KSF = thousands of square feet.
2. Lodi Travel Demand Forecasting Model and *ITE Trip Generation, 8th Edition*.
3. SANDAG Brief Guide of Vehicular Traffic Generation Rates, April 2002.

Source: Fehr & Peers, 2011.

CONCLUSIONS

This analysis has identified the capital improvement projects needed to serve the transportation demand generated by anticipated future development in Lodi. This list has been provided to the IMFP project team for their use in developing cost estimates for each project. In addition, the team has researched the other sources of funding that are likely to be available to support construction of these improvements, so that those other sources can be taken into consideration when determining the actual amount of funding that needs to be generated through the IMFP.

The analysis has also calculated a set of Lodi-specific DUE factors that will be used to allocate the final IMFP costs between the various land use categories. Application of these factors will ensure that the capital project costs are equitably distributed to different types of development in relation to their relative demands on the transportation system. The resulting fee schedule will be developed by other members of the IMFP project team and will be included in the final IMFP report.

Please contact Julie Morgan at (925) 930-7100 if there are any questions.

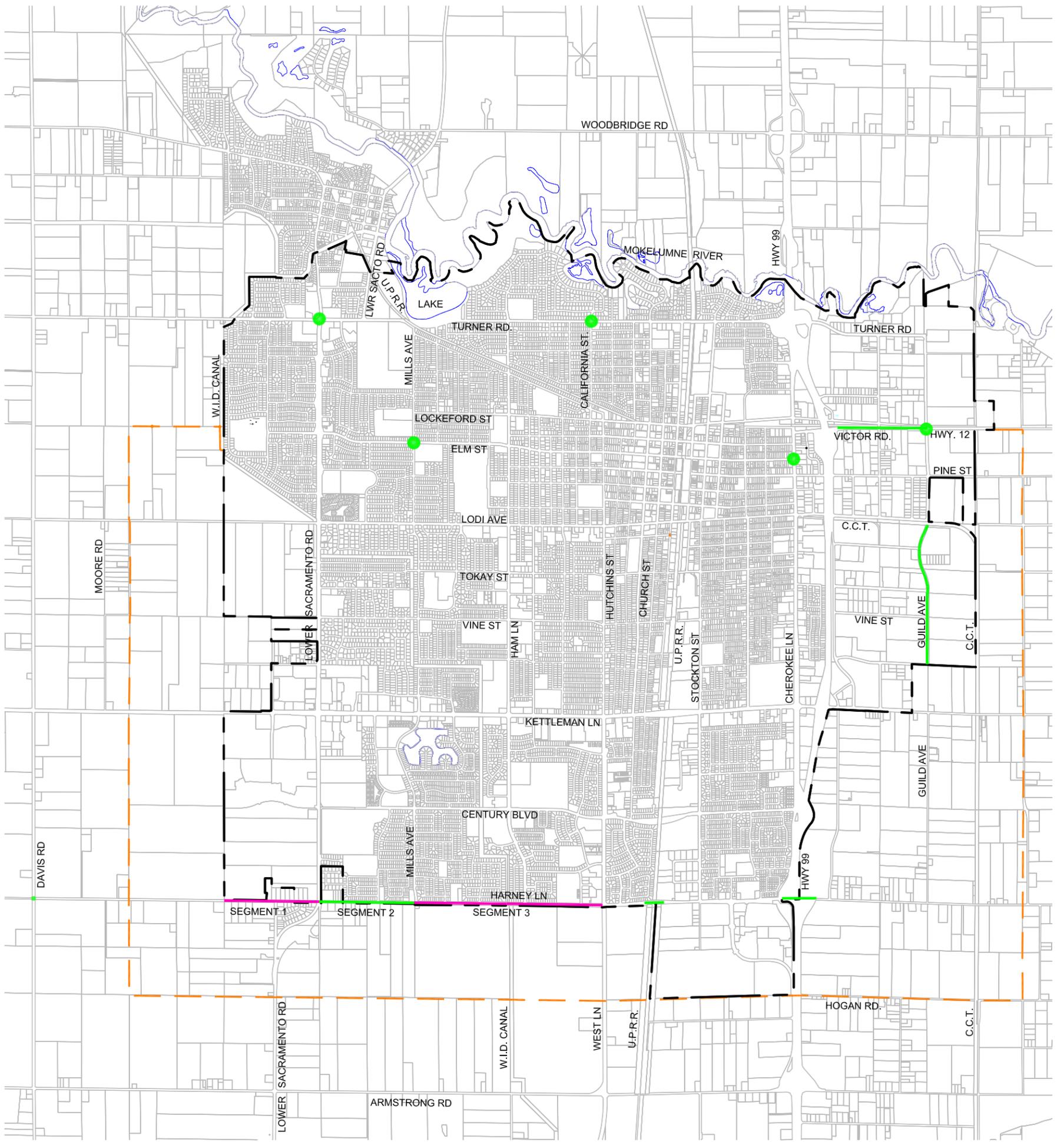
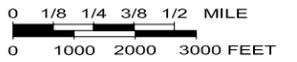


Figure 1
**TRAFFIC FACILITIES
 THROUGH 2035**

LEGEND

- PROGRAM FUNDED SIGNAL
- PROGRAM FUNDED
- ULTIMATE MEDIAN IS PROGRAM FUNDED; REMAINDER DEVELOPER CONSTRUCTED





Memo

To: Wally Sandelin, Denise Wiman, Chris Boyer
From: Alison Bouley & Janine Mains
cc:
Date: June 2012
Re: IMFP Supporting Documentation – Traffic Costs

The following documents provide the basis and back-up for the cost estimates for the transportation projects included in the IMFP. The estimates were prepared using planning level detail to determine estimated quantities, and applying current estimated unit prices for the bid items. The cross sections used in calculating the quantities are include for reference. For completed projects, the City provided the actual costs.

The projects were identified in Fehr and Peers technical memorandum, “Lodi Impact Mitigation Fee Program Update – Transportation Analysis” also included in this back-up documentation. In Table 3 of the Fehr and Peers report the “Cost Share Included in IMFP” is listed. It should be noted that after completion of this memo by Fehr and Peers, the City was able to secure financing for some of these projects from other sources and thus in the IMFP, these outside funding sources were used to reduce the actual share that the program will pay towards these improvements. This outside funding is shown in Table 7-1 of the IMFP.

In addition, a project was added to this list for the completion of the median on West Lane south of Harney Lane. This project is needed to improve safety on this road and bring this road up to design standards.

**City of Lodi
2012 IMFP
Traffic Improvements**

Project	Construction Cost	20% Contingency Mark-up	10% Design/ Environmental Mark-up	5% Construction Management Mark-up	5% City Administration and Plan Check Mark-up	Right-of-Way Cost	2011 Total Project Cost	Other Funding	IMFP Percentage Share	2011 IMFP Total Cost
Traffic Signals										
Mills Ave. and Elm St. (2x2)	\$ 185,000	\$ 37,000	\$ 18,500	\$ 9,250	\$ 9,250		\$ 259,000		20%	\$ 51,800
Turner Rd. and California St. (4x2)	\$ 200,000	\$ 40,000	\$ 20,000	\$ 10,000	\$ 10,000		\$ 280,000		20%	\$ 56,000
Turner Rd. and Sacramento St. (4x2)	\$ 200,000	\$ 40,000	\$ 20,000	\$ 10,000	\$ 10,000		\$ 280,000		30%	\$ 84,000
Cherokee Ln. and Elm St. (4x2)	\$ 200,000	\$ 40,000	\$ 20,000	\$ 10,000	\$ 10,000		\$ 280,000		30%	\$ 84,000
Guild Ave. and Victor Rd. (4x4)	\$ 225,000	\$ 45,000	\$ 22,500	\$ 11,250	\$ 11,250		\$ 315,000		100%	\$ 315,000
Total Traffic Signals	\$ 1,010,000	\$ 202,000	\$ 101,000	\$ 50,500	\$ 50,500	\$ -	\$ 1,414,000	\$ -		\$ 590,800
Roadway Improvements										
Guild Ave. Re-stripe from 2 lanes to 4 between Lodi Ave to Auto Center Dr.	\$ 31,000	\$ 6,200	\$ 3,100	\$ 1,550	\$ 1,550	\$ -	\$ 43,400		100%	\$ 43,400
Victor Rd. Widen to 4 Lanes Between SR 99 and Guild Avenue	\$ 4,000,000	\$ 800,000	\$ 400,000	\$ 200,000	\$ 200,000	\$ 290,000	\$ 5,890,000	\$ (3,530,000)	100%	\$ 2,500,000
West Ln. - median construction south of Harney Ln.	\$ 406,000	\$ 81,200	\$ 40,600	\$ 20,300	\$ 20,300		\$ 568,400		100%	\$ 568,400
Harney Lane										
Harney Ln. Widen to 4 lanes from West Lane to the County Line (West of Lower Sac) ¹	\$ 2,500,000	\$ 500,000	\$ 250,000	\$ 125,000	\$ 125,000	\$ 130,000	\$ 3,630,000	\$ (1,500,000)	100%	\$ 2,130,000
Harney Ln Grade Separation of UPRR ²	\$ 20,300,000						\$ 20,300,000	\$ (20,300,000)	100%	\$ -
SR99/Harney Lane Interchange Interim Improvements (cost recovery)	\$ 1,400,000		\$ 140,000	\$ 70,000	\$ 70,000		\$ 1,680,000	\$ (1,680,000)	100%	\$ -
Harney Ln. WID Crossing - Widen to 4 lanes (cost recovery)	\$ 890,000	\$ 178,000	\$ 89,000	\$ 44,500	\$ 44,500		\$ 1,246,000	\$ (1,246,000)	50%	\$ -
Subtotal Harney Lane	\$ 25,090,000	\$ 678,000	\$ 479,000	\$ 239,500	\$ 239,500	\$ 130,000	\$ 26,856,000	\$ (24,726,000)		\$ 2,130,000
Total Roadway Improvements	\$ 29,527,000	\$ 1,565,400	\$ 922,700	\$ 461,350	\$ 461,350	\$ 420,000	\$ 33,357,800	\$ (28,256,000)		\$ 5,241,800
Traffic Projects Total	\$ 30,537,000	\$ 1,767,400	\$ 1,023,700	\$ 511,850	\$ 511,850	\$ 420,000	\$ 34,771,800	\$ (28,256,000)		\$ 5,832,600

Note: See detailed cost estimates for breakdown of costs.

¹ Outside funding is from RTIF

² Outside funding: STP \$4M, UPRR \$700K, MKR (SICOG) \$1.9M, MKR (Rail Safety) \$7.75M, Other \$5.95M

City of Lodi
IMFP Road Improvements

Road: Guild Avenue - Lodi Ave to Auto Center Dr.

Project Description: Alter striping from two lanes to four.

Length: 4000 feet

Width: 60 feet

Item #	Description	Qty	Units	Unit Cost	Cost
1	Mobilization	1	LS	10%	\$ 2,816
2	Striping	16,000	LF	\$ 1.60	\$ 25,600
3	Traffic Control	1	LS	10%	\$ 2,560
Construction Sub-total					\$ 31,000
<i>Contingency</i>					20% \$ 6,200
<i>Design/Environmental</i>					10% \$ 3,100
<i>Construction Management</i>					5% \$ 1,550
<i>City Administration and Plan Check</i>					5% \$ 1,550
Construction Total					\$ 43,400
Right-of-Way		-	SF		\$ -
Segment Total					\$ 43,400

Note: Portion from Industrial to Auto Center will be widened by adjacent property owners as development occurs.

City of Lodi
IMFP Road Improvements

Road: Victor Rd.

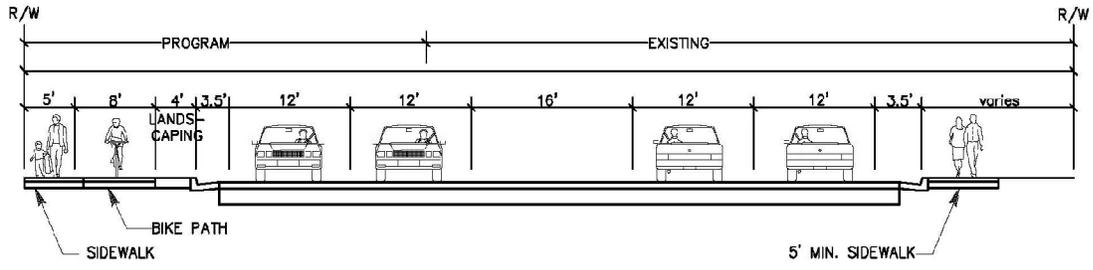
Project Description: Widen from two to four lanes, Beckman to Guild.

Length: 2500 feet
 New Pavement Width: 19 feet
 Bike Path Width: 8 feet
 SW Width: 5.0 feet
 Landscaping Width: 4 feet

Resurfacing Width: 45 feet

each side, only portion on South side

Item #	Description	Qty	Units	Unit Cost	Cost
1	Mobilization	1	LS	10%	\$ 367,407
2	Clear & Grub	62,500	SF	\$ 0.35	\$ 21,875
3	Excavation	90,000	SF	\$ 1.62	\$ 145,800
4	Demolition	27,500	SF	\$ 5.00	\$ 137,500
5	Pavement AB	47,500	SF	\$ 1.40	\$ 66,500
6	Pavement AC	47,500	SF	\$ 4.00	\$ 190,000
7	Sidewalk	14,375	SF	\$ 6.00	\$ 86,250
8	Curb & Gutter	4,375	LF	\$ 20.00	\$ 87,500
9	Bike Path	20,000	SF	\$ 6.00	\$ 120,000
10	Overlay	112,500	SF	\$ 1.60	\$ 180,000
11	Signing and Striping	160,000	SF	\$ 0.35	\$ 56,000
12	Landscaping	10,000	SF	\$ 6.00	\$ 60,000
13	Street Light	23	EA	\$ 2,800	\$ 63,636
14	Storm Drainage	2,500	LF	\$ 130.00	\$ 325,000
15	Utility Pole relocation	12	EA	\$ 150,000	\$ 1,800,000
16	Traffic Control & Staking	1	LS	10%	\$ 334,006
Construction Sub-total					\$ 4,000,000
<i>Design/Environmental</i>					<i>20% \$ 800,000</i>
<i>Construction Management</i>					<i>10% \$ 400,000</i>
<i>City Administration and Plan Check</i>					<i>5% \$ 200,000</i>
<i>Mark-up Total</i>					<i>5% \$ 200,000</i>
Construction Total					\$ 5,600,000
	Right-of-Way	77,500	SF	\$ 3.70	\$ 290,000
	Outside Funding				\$ (3,530,000)
Segment Total					\$ 2,500,000



PROPOSED TYPICAL CROSS SECTIONS
 VICTOR LANE
 (LOOKING EAST)

City of Lodi
IMFP Road Improvements

Road: West Lane, south of Harney Lane

Project Description: Program pays for ultimate median construction;
developers are responsible for the remaining roadway
construction.

Length: 2500 feet

Width: 16 feet

Item #	Description	Qty	Units	Unit Cost	Cost
1	Mobilization	1	LS	10%	\$ 36,894
2	Clear & Grub	31,380	SF	\$ 0.35	\$ 10,983
3	Excavation	31,380	SF	\$ 1.62	\$ 50,836
4	Median Curb	5,170	LF	\$ 16.50	\$ 85,305
5	Median Landscaping and Irrigation	31,380	SF	\$ 6.00	\$ 188,280
6	Traffic Control & Staking	1	LS	10%	\$ 33,540
Construction Sub-total					\$ 406,000
<i>Contingency 20%</i>					<i>\$ 81,200</i>
<i>Design/Environmental 10%</i>					<i>\$ 40,600</i>
<i>Construction Management 5%</i>					<i>\$ 20,300</i>
<i>City Administration and Plan Check 5%</i>					<i>\$ 20,300</i>
Construction Total					\$ 568,400
	Right-of-Way	-	SF	\$ 3.70	\$ -
Segment Total					\$ 568,400

Note: Quantities based on length provided by the City; Harney Lane - Segment 2 information was used due to similar project size.

City of Lodi
IMFP Road Improvements

Road: Harney Lane - Segment 1

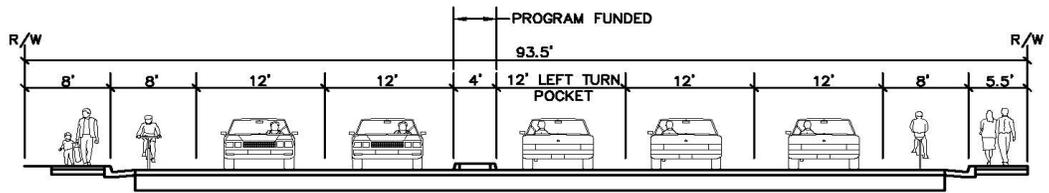
Project Description: Program pays for ultimate median construction; developers are responsible for the remaining roadway construction.

Length: 150 feet *only a small segment of road has a raised median*
Width: 16 feet

Item #	Description	Qty	Units	Unit Cost	Cost
1	Mobilization	1	LS	10%	\$ 949
2	Clear & Grub	570	SF	\$ 0.35	\$ 200
3	Excavation	570	SF	\$ 1.62	\$ 923
4	Median Curb	300	LF	\$ 16.50	\$ 4,950
5	Median Landscaping and Irrigation	570	SF	\$ 6.00	\$ 3,420
6	Traffic Control & Staking	1	LS	10%	\$ 1,044
Construction Sub-total					\$ 12,000
<i>Contingency 20%</i>					<i>\$ 2,400</i>
<i>Design/Environmental 10%</i>					<i>\$ 1,200</i>
<i>Construction Management 5%</i>					<i>\$ 600</i>
<i>City Administration and Plan Check 5%</i>					<i>\$ 600</i>
Construction Total					\$ 16,800
Right-of-Way		-	SF	\$ 3.70	\$ -
Segment Total					\$ 17,000

Notes:

1. Quantities based on Harney Lane Specific Plan drawings prepared by Mark Thomas & Co., Inc. dated 4/1/2011.
2. See Figure 1 for segment location.



HARNEY LANE SEGMENT 1
 PROPOSED CROSS SECTION
 ULTIMATE IMPROVEMENTS
 (LOOKING EAST)

*PROGRAM PAYS ONLY FOR CONSTRUCTION OF THE ULTIMATE RAISED MEDIAN.
 REMAINDER WILL BE DEVELOPER BUILT.

City of Lodi
IMFP Road Improvements

Road: Harney Lane - Segment 2

Project Description: Widen road from two to four lanes, interim improvement. Program pays for interim improvements plus ultimate median. Overlay existing road.

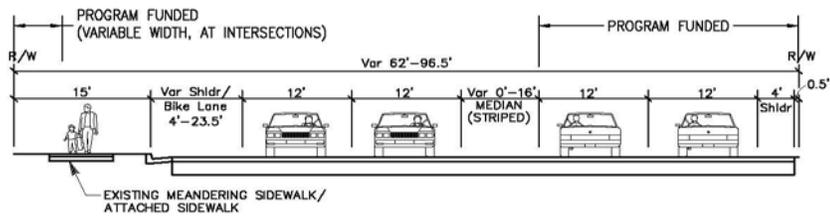
Length: 2600 feet

Width: varies, 62 - 96.5 feet

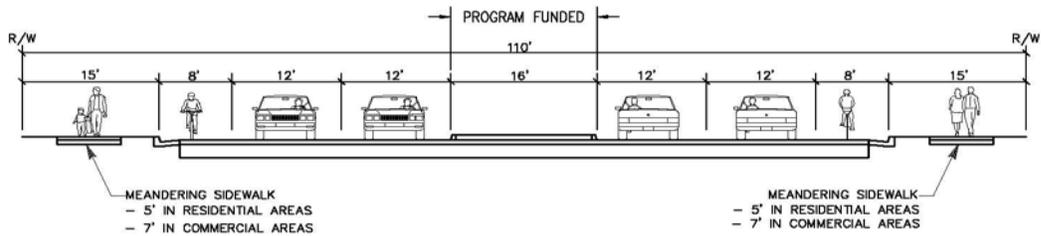
Item #	Description	Qty	Units	Unit Cost	Cost
1	Mobilization	1	LS	10%	\$ 153,608
2	Clear & Grub	63,400	SF	\$ 0.35	\$ 22,190
3	Excavation	63,400	SF	\$ 1.62	\$ 102,708
4	Pavement AB	63,400	SF	\$ 1.40	\$ 88,760
5	Pavement AC	63,400	SF	\$ 4.00	\$ 253,600
7	Overlay	117,550	SF	\$ 1.60	\$ 188,080
8	Signing and Striping	180,950	SF	\$ 0.35	\$ 63,333
9	Median Curb	5,170	LF	\$ 16.50	\$ 85,305
10	Median Landscaping and Irrigation	31,380	SF	\$ 6.00	\$ 188,280
11	Street Lighting	24	EA	\$ 2,800	\$ 66,182
12	Storm Drainage	2,600	LF	\$ 130.00	\$ 338,000
13	Traffic Control & Staking	1	LS	10%	\$ 139,644
Construction Sub-total					\$ 1,700,000
<i>Contingency 20%</i>					<i>\$ 340,000</i>
<i>Design/Environmental 10%</i>					<i>\$ 170,000</i>
<i>Construction Management 5%</i>					<i>\$ 85,000</i>
<i>City Administration and Plan Check 5%</i>					<i>\$ 85,000</i>
Construction Total					\$ 2,380,000
	Right-of-Way	34,500	SF	\$ 3.70	\$ 127,650
Segment Total					\$ 2,508,000

Notes:

- Quantities based on Harney Lane Specific Plan drawings prepared by Mark Thomas & Co., Inc. dated 4-1-2011.
- City reserves the option to file a Reimbursement Agreement seeking reimbursement from the adjoining property upon application for a development permit. Revenues will be used to offset future fees.
- See Figure 1 for segment locations.



HARNEY LANE SEGMENT 2
 PROPOSED CROSS SECTION
 INTERIM IMPROVEMENTS
 (LOOKING EAST)



HARNEY LANE SEGMENT 2
 PROPOSED CROSS SECTION
 ULTIMATE IMPROVEMENTS
 (LOOKING EAST)

*PROGRAM PAYS TO WIDEN FROM TWO TO FOUR LANES AS SHOWN BY THE INTERIM IMPROVEMENT CROSS SECTION AND THE CONSTRUCTION OF THE ULTIMATE RAISED MEDIAN. REMAINING WILL BE DEVELOPER BUILT.

City of Lodi
IMFP Road Improvements

Road: Harney Lane - Segment 3

Project Description: Program pays for ultimate median construction; developers are responsible for the remaining roadway construction.

Length: 5300 feet

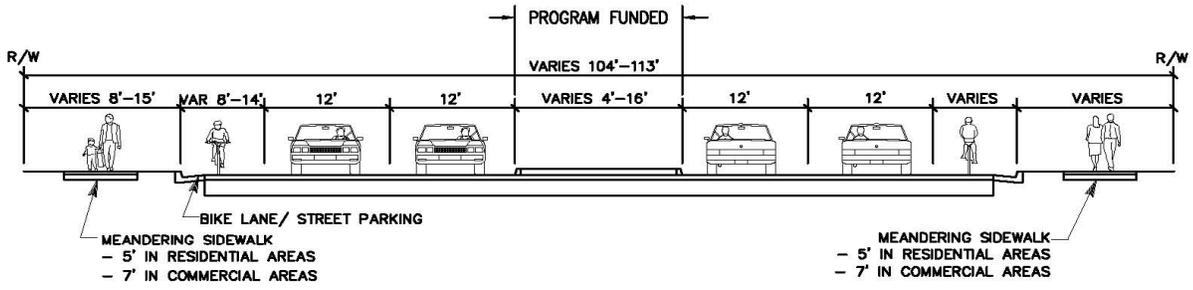
Width: 16 feet

Item #	Description	Qty	Units	Unit Cost	Cost
1	Mobilization	1	LS	10%	\$ 71,800
2	Clear & Grub	61,200	SF	\$ 0.35	\$ 21,420
3	Excavation	61,200	SF	\$ 1.62	\$ 99,140
4	Median Curb	10,000	LF	\$ 16.50	\$ 165,000
5	Median Landscaping and Irrigation	61,200	SF	\$ 6.00	\$ 367,200
6	Traffic Control & Staking	1	LS	10%	\$ 65,280
Construction Sub-total					\$ 790,000
<i>Contingency</i> 20%					\$ 158,000
<i>Design/Environmental</i> 10%					\$ 79,000
<i>Construction Management</i> 5%					\$ 39,500
<i>City Administration and Plan Check</i> 5%					\$ 39,500
Construction Total					\$ 1,106,000
	Right-of-Way	-	SF	\$ 3.70	\$ -
Segment Total					\$ 1,106,000

Notes:

1. Quantities based on Harney Lane Specific Plan drawings prepared by Mark Thomas & Co., Inc. dated 4-1-2011.

2. See Figure 1 for segment location.



HARNEY LANE SEGMENT 3
 PROPOSED CROSS SECTION
 ULTIMATE IMPROVEMENTS
 (LOOKING EAST)

*PROGRAM PAYS ONLY FOR CONSTRUCTION OF THE ULTIMATE RASIED MEDIAN.
 REMAINDER WILL BE DEVELOPER BUILT.

Section 5

Lodi Impact Mitigation Fee Program Update – Police Fee Supporting Tables



MEMORANDUM

September 4, 2012

To: Alison Bouley

From: Victor Irzyk and Cindy Yan

Re: Lodi Impact Mitigation Fee Program Update Report – Police Fee Supporting Tables

Attached is a set of tables that provide supporting data for the police fee component of the City of Lodi Impact Mitigation Fee Program (IMFP) report. These tables include assumptions and calculations for the police fee component of the IMFP that are based on input from City staff as well as IMFP consultants. The supporting tables attached to this memo include the following:

- Police Cost Summary
- Police Fee Calculation

These supporting tables have been compiled to provide background and context to the police facilities cost estimates and fees discussed in the IMFP report. For a more detailed explanation of the assumptions, costs, and fees calculations incorporated in these tables, refer to the IMFP report.

Table 1
Police Cost Summary

<u>Police Station Capacity Allocation</u>					
Remaining Capacity for Additional Police Personnel				50	
Existing Sworn and Non-Sworn Personnel					
Sworn				71	
Non-Sworn				35	
Total				<u>106</u>	
Current Sworn and Non-Sworn Personnel per 1,000 Residents				1.70	
New Residents (beyond current population) Served by Future Police Personnel				29,412	
New Residents thru 2035				<u>13,128</u>	
New Residents Beyond 2035				16,284	
	<i>Existing</i>	<i>Future</i>	<i>Remaining</i>	<i>Total</i>	
	<i>(2011)</i>	<i>(thru 2035)</i>	<i>Capacity</i>	<i>Capacity</i>	
			<i>(Beyond</i>		
			<i>2035)</i>		
			<i>¹</i>		
Resident Population	62,473	13,128	16,284	91,885	
Employee Resident-Equivalent Population	12,926	4,025	4,993	21,945	
Persons Served	<u>75,399</u>	<u>17,153</u>	<u>21,277</u>	<u>113,829</u>	
% of Total	66%	15%	19%	100%	
<hr/>					
<u>Police Station Costs</u>					
Police Station portion of 2002 COP - Principal				\$14,320,000	
Police Station portion of 2002 COP - Interest				<u>\$12,637,838</u>	
Total Debt Service				\$26,957,838	
% Attributable to Existing Development				66%	
Debt Service Allocated to Existing Development				\$17,856,531	
% Attributable to Future Development Beyond 2035				19%	
Debt Service Allocated to Future Development Beyond 2035				\$5,038,921	
% Attributable to Future Development thru 2035				15%	
Debt Service Allocated to Future Development thru 2035				\$4,062,387	
	<i>Current # of</i>	<i>Vehicles /</i>	<i>Future</i>	<i>Average \$ /</i>	<i>Total</i>
<u>Police Vehicle Costs</u>	<i><u>Vehicles</u></i>	<i><u>Sworn Officer</u></i>	<i><u>Vehicles</u></i>	<i><u>Vehicle</u></i>	<i><u>Cost</u></i>
Marked Patrol	24	0.34	5.1	\$39,580	\$200,231
Unmarked/Administration	21	0.30	4.4	\$32,290	\$142,933
Traffic	9	0.13	1.9	\$18,210	\$34,546
Partners/Crime Prevention	5	0.07	1.1	\$24,940	\$26,285
Code Enforcement	3	0.04	0.6	\$27,180	\$17,188
Animal Control	2	0.03	0.4	\$30,750	\$12,963
Total Vehicle Cost Allocated to Future Development thru 2035					\$434,147
Total Cost Allocated to Future Development thru 2035					\$4,496,533

¹ Assumes a proportional growth in the employee resident-equivalent population beyond 2035.

² Assumes an additional 15.0 sworn officers are required to serve future development through 2035.

Table 2
Police Fee Calculation

Land Use	Units/ Bldg SF ¹	Residents/ Employees	Persons Served ²	Total DUEs	Percent Allocation	Cost Allocation	Fee per Unit/ 1,000 Bldg SF
Cost	\$4,496,533						
<i>Residential</i>	<u>Units</u>	<u>per Unit</u>	<u>per Unit</u>				<u>per Unit</u>
Low Density	4,000	2.85	2.85	4,000	66.98%	\$3,011,617	\$753
Medium Density	720	2.40	2.40	606	10.15%	\$456,498	\$634
High Density	0	2.00	2.00	0	0.00%	\$0	\$528
Subtotal	4,720			4,606	77.13%	\$3,468,115	
<i>Non-Residential</i>	<u>Bldg SF</u>	<u>per 1,000 SF</u>	<u>per 1,000 SF</u>				<u>per 1,000 SF</u>
Retail (Minor & Major)	1,029,000	2.50	1.25	451	7.56%	\$339,798	\$330
Office/Medical	563,000	4.00	2.00	395	6.62%	\$297,463	\$528
Industrial	2,221,000	1.33	0.67	520	8.70%	\$391,158	\$176
Subtotal	3,813,000			1,366	22.87%	\$1,028,419	
Total				5,972	100.00%	\$4,496,533	

¹ Excludes 50% of future development within the multi-use corridors. It is assumed that 50% of future development will replace existing development and therefore will not increase demand on police facilities.

² Assumes a resident-to-employee ratio of 1.0 : 0.5 (i.e., 1.0 employee equaling 0.5 residents).

Source: Goodwin Consulting Group, Inc.

Section 6

Lodi Impact Mitigation Fee Program Update – Fire Fee Supporting Tables



MEMORANDUM

September 4, 2012

To: Alison Bouley

From: Victor Irzyk and Cindy Yan

Re: Lodi Impact Mitigation Fee Program Update Report – Fire Fee Supporting Tables

Attached is a set of tables that provide supporting data for the fire fee component of the City of Lodi Impact Mitigation Fee Program (IMFP) report. These tables include assumptions and calculations for the fire fee component of the IMFP that are based on input from City staff as well as IMFP consultants. The supporting tables attached to this memo include the following:

- Fire Cost Summary
- Fire Fee Calculation
- Lodi Fire – Existing Service Call Data

These supporting tables have been compiled to provide background and context to the fire facilities cost estimates and fees discussed in the IMFP report. For a more detailed explanation of the assumptions, costs, and fees calculations incorporated in these tables, refer to the IMFP report.

Table 1
Fire Cost Summary

Development Assumptions	Existing (2011)	Future (thru 2035)	Total Existing & Future
Resident Population	62,473	13,128	75,601
Employee Resident-Equivalent Population ¹	12,926	4,025	16,952
Total Persons Served	75,399	17,153	92,553
<i>% of Total</i>	<i>81%</i>	<i>19%</i>	<i>100%</i>

Fire Station Costs	<i>Station</i> <u>Sq. Ft.</u>	<i>Cost per</i> <u>Sq. Ft.</u>	<i>Estimated</i> <i>Replacement</i> <u>Cost</u>
Station #1	10,910	\$300	\$3,273,000
Station #2 ²	10,500	\$300	\$3,150,000
Station #3	5,300	\$300	\$1,590,000
Station #4	7,110	\$300	\$2,133,000
Subtotal			<u>\$10,146,000</u>

Vehicles and Equipment Costs	<i>Total</i> <u>Units</u>	<i>Cost per</i> <u>Unit</u>	<i>Estimated</i> <i>Replacement</i> <u>Cost</u>
Type I Engine	6	\$600,000	\$3,600,000
Tillered Quint Truck	1	\$950,000	\$950,000
Straight Quint Truck	1	\$750,000	\$750,000
Mobile Command Vehicle	1	\$350,000	\$350,000
HazMat Response Unit	1	\$300,000	\$300,000
Type IV Engine	1	\$150,000	\$150,000
Command Vehicle	3	\$55,000	\$165,000
Staff Vehicle	2	\$30,000	\$60,000
Portable Air Supply Trailer	1	\$30,000	\$30,000
Subtotal			<u>\$6,355,000</u>

Total Estimated Replacement Cost	\$16,501,000
% Attributable to Future Development	19%
Total Replacement Cost Attributable to Future Development	\$3,058,246
Total Cost Attributable to Future Development	\$3,058,246

Remaining Fire Costs	
Outstanding Loan Balance to Water Fee Fund	\$1,225,173
Station #2 Expansion Cost ([Future SF (10,500) - existing SF (6,200)] x \$300/ SF)	\$1,290,000
Station #2 Financing Cost	\$310,000
Actual Cost Allocated to Future Development	\$2,825,173

¹ Assumes a resident-to-employee ratio of 1.0 : 0.5 (i.e., 1.0 employee equaling 0.5 residents).

² Station #2 will relocate from its existing site and will expand from its current 6,200 SF to 10,500 SF.

Table 2
Fire Fee Calculation

Total Fire Facilities Cost								\$2,825,173
Land Use	Average Calls per Acre ¹	Total Projected Calls for Service	Percent Allocation	Cost Allocation				
Residential	1.19	849	62.8%	\$1,773,674				
Non-Residential	1.85	503	37.2%	\$1,051,498				
Total		1,352	100.0%	\$2,825,173				

Land Use	Cost	Units/ Bldg SF ²	Residents/ Employees	Persons Served ³	Total DUEs	Percent Allocation	Cost Allocation	Fee per Unit/ 1,000 Bldg SF
\$1,773,674		<i>Allocated to Residential Land Uses</i>						
<i>Residential</i>		<i>Units</i>	<i>per Unit</i>	<i>per Unit</i>				<i>per Unit</i>
Low Density		4,000	2.85	2.85	4,000	86.84%	\$1,540,211	\$385
Medium Density		720	2.40	2.40	606	13.16%	\$233,464	\$324
High Density		0	2.00	2.00	0	0.00%	\$0	\$270
Subtotal		4,720			4,606	100.00%	\$1,773,674	
\$1,051,498		<i>Allocated to Non-Residential Land Uses</i>						
<i>Non-Residential</i>		<i>Bldg SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>				<i>per 1,000 SF</i>
Retail (Minor & Major)		1,029,000	2.50	1.25	451	33.04%	\$347,423	\$338
Office/Medical		563,000	4.00	2.00	395	28.92%	\$304,139	\$540
Industrial		2,221,000	1.33	0.67	520	38.03%	\$399,936	\$180
Subtotal		3,813,000			1,366	100.00%	\$1,051,498	

¹ Based on existing call data for fire service and existing land uses.

² Excludes 50% of future development within the multi-use corridors. It is assumed that 50% of future development will replace existing development and therefore will not increase demand on fire facilities.

³ Assumes a resident-to-employee ratio of 1.0 : 0.5 (i.e., 1.0 employee equaling 0.5 residents).

Source: City of Lodi; Goodwin Consulting Group, Inc.

Table 3
Lodi Fire - Existing Service Call Data

Land Use	Developed Acres in the City	% of Acres	Calls	Average Calls/Acre
<i>Residential</i>				
Single Family	2,440	60.3%	3,190	
Multi-Family	355	8.8%	130	
Subtotal	2,795	69.1%	3,320	1.19
<i>Non-Residential</i>				
Commercial	436	10.8%	279	
Office	122	3.0%	828	
Industrial	693	17.1%	1,205	
Subtotal	1,251	30.9%	2,312	1.85
Totals	4,046	100.0%	5,632	

Source: City of Lodi; Goodwin Consulting Group, Inc.

Section 7

Lodi Impact Mitigation Fee Program (IMFP) Update Park and Recreation Analysis

Lodi Impact Mitigation Fee Program Update – Park Fee Supporting Tables



TECHNICAL MEMORANDUM

DATE: May 18, 2012

TO: Ms. Alison Bouley, Harris & Associates

FROM: Ms. Marcia Vallier, Vallier Design Associates, Inc.

SUBJECT: Lodi Impact Mitigation Fee Program (IMFP) Update
Park and Recreation Analysis

INTRODUCTION

This memorandum provides the technical background for the parks portion of City of Lodi's Impact Mitigation Fee Program (IMFP). This analysis has identified the capital improvement projects needed to meet the park demand generated by anticipated future development in Lodi. The information generated has been provided to the IMFP project team for their use in developing the amount of funding and resulting fee schedule that needs to be generated through the IMFP. The purpose of the fees are to:

- Ensure adequate park, recreation, open space and trail facilities are available to serve new development.
- Maintain the high quality of life in Lodi by ensuring adequate facilities are available to serve growth and maintain existing service levels for present residents.
- Establishing standards and procedures whereby new development pays its proportionate share of the costs of park, recreation, open space and trail facilities.

The need for additional parks and recreational facilities is determined by using the 2010 General Plan standard for levels of service for park and recreational facilities to calculate the quantity of facilities that are required to serve new development.

VALLIER DESIGN ASSOCIATES, INC.

LANDSCAPE ARCHITECTURE • ENVIRONMENTAL PLANNING • DESIGN

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MARCIA VALLIER, LANDSCAPE ARCHITECT #3293

APPROACH

Vallier Design Associates (VDA) looked at the total projected population of Lodi and confirmed the amount of parks and open space required by applying the level of service (LOS) standard measured in acres per 1,000 people. The LOS standard acts as an allocation mechanism for the delivery of park land and basic recreation facilities throughout a community. The purpose of establishing level of service standards for parks and recreation facilities is to ensure adequate provision of facilities and equal opportunity for residents measured in:

- Amount of park land in acreage;
- Distance or travel time to access;
- Capacity of facilities;
- Quality of experience; and
- Availability of programs and activities.

FINDINGS

Parks and Open Space

Per the 2010 General Plan the level of service standard is eight acres of parks and drainage basins per 1,000 people with four acres serving as parkland only. VDA used this standard to determine the park land needs for an increased population.. The total current population of Lodi is 62,473 and is expected to increase by 13,128 people by 2035. The increase in population of 13,128 requires an additional 105.02 acres of park and drainage basins with 52.51 acres of parkland only to meet the eight acre per 1,000 people General Plan LOS.

There are a variety of park types and facilities that can help meet the park land demand – mini/urban parks, neighborhood parks, community parks, regional parks and natural open space. Each type is associated with a service area which is the distance that park users can be expected to travel to reach a park of this type. Service areas are placement standards set by either the General Plan or “rule-of-thumb” standards provided by the National Parks and Recreation Association that assist in locating facilities. New facilities shall be distributed through new growth areas to ensure convenient access for new and existing residents. Of the eight acres, the park type distribution to meet the park and recreation needs of the increased population is as follows:

PARK STANDARD COMPARISON

Park Category	Size (Acres)	Acres/1000 residents	Acres Required for New Population of 13,128 People	Acres Planned	Acres in Fee Program	Developers to Build
Mini Parks	<3	none				
Neighborhood	5-15	2.5	32.82	28.94	0.00	32.82
Community	20-30	1.8	23.63	24.75	24.75	0.00
Regional	50+	0.8	10.50	10.50	10.50	0.00
Natural Open Space	varies	2.1	27.57	31.80	0.00	31.80
Special Use Areas	varies	0.8	10.50	10.50	10.50	0.00
Total:		8.0	105.02	106.49	45.8	64.62

VDA also looked at the types of amenities and facilities that should be provided within the new parks. This was done by preparing an inventory of the facilities provided in the existing parks and comparing the number of facilities, such as softball fields, per person to national standards in order to arrive at the needed facilities within the new parks. See Table 1, Lodi Park Program Element Inventory

The City of Lodi has three undeveloped park sites totaling 49 acres that are planned that will help meet the demand for increased park land. They are the final phase of DeBenedetti Park, Lodi Lake Picnic Facility and Pixley Park. These parks are summarized below. VDA prepared cost estimates for DeBenedetti and Lodi Lake Parks and the City of Lodi provided a current estimate for Pixley Park. DeBenedetti and Pixley Parks and the Lodi Lake Picnic Facility will be constructed using developer impact fees. In addition to these facilities, developers are responsible for building and dedicating neighborhood parks and open space. In large part, the neighborhood parks and open space requirements will be met through the construction of joint and passive use basins and also through the construction of the linear park that connects the basins on the south side of town along the Woodbridge Irrigation District (WID) canal.

PARK FUNDING SUMMARY

Name	Park Category	Acreage	Share to new Dev	Acres to New Dev
DeBenedetti (final phase)	Community/Special Use Park - Basin with ball fields and concession stand	14.0	100.0%	14.0
Lodi Lake Picnic Facility	Regional Park	8.0	100.0%	8.0
Pixley (22 acres is basin)	Regional/Community/Special Use Park - Basin with ball fields and concession stand and some natural areas	27.0	100.0%	27.0
Total:		49		49.0

- DeBenedetti Park is a 49 acre master planned community park and storm drainage basin off of Century Boulevard that is being constructed in Phases. The first 35 acre phase is complete with the exception of lighting, leaving 14 acres to be constructed at a cost of \$11,135,136. The park consists of soccer, baseball and softball fields, a basketball court, a football field, restrooms, concessions building, picnic and play areas, parking and a storm water basin. See Figure 1 and the cost estimate in Table 2.
- Lodi Lake Park and Wilderness area is a 101 acre regional park on the northern edge of the city of Lodi that will be expanded by 8 acres at a cost of \$3,101,569. The expansion area will include a kitchen, shade/picnic structures, restrooms, pathways, parking and a bocce ball court. See Figure 2 and the cost estimate for the park in Table 3
- Pixley Park is a 27 acre park with 22 acres consisting of a joint-use basin with sports fields basin and 5 acres of parkland. The total cost of the park is \$5,793,476. \$847,407 of this cost is related to storm drainage costs leaving \$4,946,069 for park construction costs. The park will have softball fields, picnic structures, restrooms, and also serve as a storm water basin. See Figure 3 and the cost estimate for the park in Table 4.

The planned programmed parks meet 49 acres of the 105.02 acres of calculated need for park land to serve future residents. That leaves 60.7 acres of parks that will be developer built to meet the increased need for parks. These include neighborhood parks as well as passive basin parks that count toward meeting the open space requirements.

Neighborhood Parks

Neighborhood parks range from five to fifteen acres in size and serve residents within a half-mile radius of the park. Neighborhood parks are usually within easy walking or biking distance from a localized neighborhood. They typically don't have restrooms nor do they draw people from other neighborhoods as they don't have specialized uses such as organized sports fields or pools. Typical uses may include play grounds and picnic areas and areas designed for passive recreation such as walking trails or non-organized and non-supervised recreation in multi-purpose open grassy areas.

Basin Parks

The City of Lodi would like to move away from basin parks as they are un-useable and difficult to maintain during the wet season. They do not provide for active year-round recreational opportunities. The City however, sees the need for storm water basins and recognizes that these facilities may serve as passive recreation facilities. The General Plan states that 'drainage basins should be constructed as distinct facilities, as opposed to dual-functioning park and drainage basins. These basins may be constructed to provide wildlife habitat and have walking trails and viewing areas. See Figure 4 for the plan view of the basin and Figure 5 for a cross section of a typical basin park.

The basin parks on the south side of town will be connected by a linear park that runs along the Woodbridge Irrigation District (WID) canal. The linear park would have a multi-use trail and seating areas at established intervals. The multi-use trail would connect to the basin parks as illustrated the basin plan view shown in Figure 4 and in the linear park cross section shown in Figure 6.

CONCLUSIONS

The projected City of Lodi population increase of 13,128 people by 2035 would generate the need for 105.02 acres of park land to meet the eight acre per 1,000 people General Plan LOS. The City of Lodi has three undeveloped park sites totaling 49 acres that are planned that will help meet the demand for increased park land leaving 60.7 acres of neighborhood parks and open space that will be developer built to meet the increased need for parks.

Lodi Park Program Element Inventory

Park Name	Park Type	Park Size (acres)	Park Only (acres)	Basin Only (acres)	Softball	Baseball	Soccer	Football	Volleyball	Basketball	Tennis	Dog Area	Horseshoes	Restrooms	BBQ's	Concessionaire	Drinking Fountain	Playground	Pool	Picnic Tables	Misc.	Special Operations
EXISTING PARKS																						
Amory Park/Chapman Field	Special Use	3.2	3.2		1 lighted									1		1						
Beckman	Neighborhood	16.6	0.8	15.8		2 tee ball	2					1		1	3		1	1		3	1 Cricket Pitch	Retention Basin
Borchardt	Mini/Urban	0.8	0.8															1	1			
Candy Cane	Mini/Urban	0.2	0.2															1	1			
Century 2.5 ac	Neighborhood	2.5	2.5						1	1					2			1	1		1	
Century Meadows	Neighborhood	2.7	2.7							1					2			1	1		4	
Emerson	Neighborhood	3	3			1 little league							2	1	2			1	1		10	
English Oaks Common	Neighborhood	3.7	3.7		1 multipurpose field													1	2		2	
Grape Bowl	Special Use	15	15		2 lighted			1										1				(2) Locker rooms/ (1) Ticket booth
Hale	Neighborhood	3.1	3.1							(2) Full/(1) Half				1				1	2		1	(1) Handball/(1) Bandstand
Henry Glaves	Neighborhood	14.1	2.8	11.3			2							1	1			1	1		1	Retention Basin
Hutchins Street Square	Special Use	4.5	4.5							1				1	1			1	1		1	
John Blakely	Neighborhood	10	10			2, little league and adult								2				2	2		2 outdoor	
Katzakian	Neighborhood	5	5							(1) Full				1	3			1	1		6	
Kofu	Community	10	2	8		2 lighted, little league and adult				(5) courts + (3) warm up courts				1				2			4	Baqueting facility
Lawrence	Neighborhood	2.8	2.8									1		1	2			1			14	
Legion	Neighborhood	6	6							1	4			1	2			1	1		6	Banqueting facility
Lodi Lake Park and Wilderness Area	Regional/OpenSpace	101	101									1	4	3	33			3	2	(1) Wading pool	91	Amphitheater Nature Center/Water facilities
Peterson	Neighborhood	22	2.2	19.8	1	1	5				2			1	4			1	2		14	Roller hockey Retention Basin
Salas	Community	26	2.5	23.5		4, 3 lighted	3							1	5	1		2			15	
Softball Complex	Special Use	7.6	7.6		2 lighted									1								(2) Picnic areas
Van Buskirk	Neighborhood	1	1							(1) Half								1			3	
Vinewood	Neighborhood	16	0.8	15.2	1	1 little league						2		1							1	(1) Cricket pitch field Retention basin
Zupo	Special Use	3.3	3.3			1								1					1			(1) Ticket booth (1) Running Track
TOTAL		280.1	186.5	93.6	8	14	12	1	1	8	14	5	6	20	58	2	16	23	2 out, 1 in	177		
Current Standards - Lodi pop. (2011) = 62, 473		4.48	2.99	1.50	1:7,809	1:4,462	1:5,200	1:62,500		1:7,800	1:10,500											
NRPA Standard					1:5,000	1:5,000	1:10,000	1:20,000		1:5,000	1:2,000											
Needed to meet NRPA Standards					need 12.5	need 12.5	need 6.2	need 3.2		need 12.5	need 31											need 3.12
Lodi - current total					8	14	12	1	1	8	14	5	6	20	58	2	16	23	0	177	0	0
Lodi - current needs					+4.5	-1.5	-6.0	+2.0		+4.5	+17.0											+0
Planned population increase by 2035 (+13,128) = 75,601					+2.5	+2.5	+1.3	+0.7		+2.5	+6.5											+0.65
Lodi - projected need by 2035					+7.0	+1.0	+0	+3.0		+7.0	+23.5											+0.77
PROPOSED PARKS																						
DeBenedetti		49.0	24.3	24.7	2	3	softball	1		1				1				1	1		2 areas	Retention Basin
Lodi Lake		8.0	8.0											1				1	1		1 area	
Pixley		27.0	5.0	22.0	4									1				1	1		1 area	Retention Basin
TOTAL		84	37.3	46.7	1	2 over	3 over															
Lodi - projected acreage by 2035		364.1	223.8	140.3																		
		4.82	2.96	1.86																		

Table 1, Lodi Park Program Element Inventory

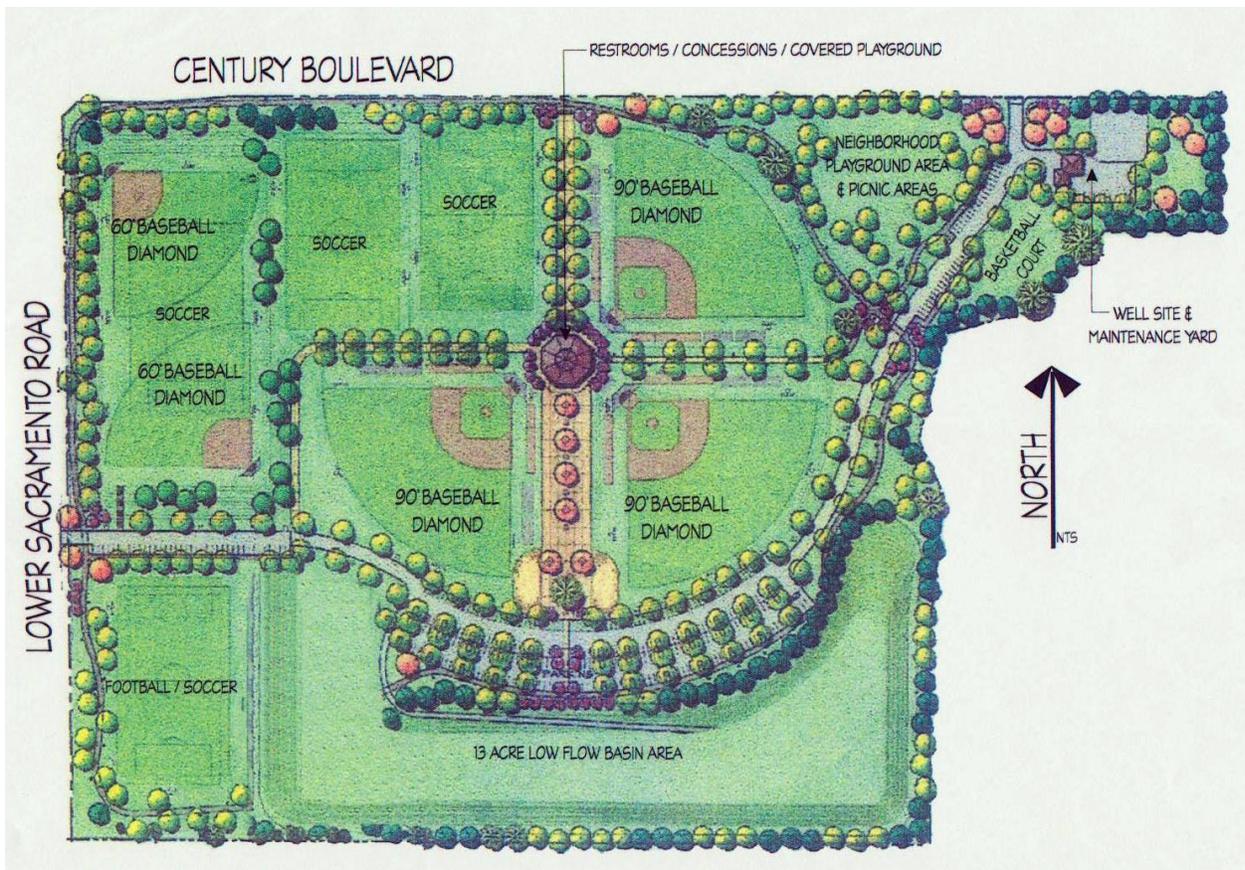


Figure 1, DeBenedetti Park Master Plan

DeBenedetti Park Cost Estimate - Phase II and III

Total Park Area: 49 Acres, This Estimate Includes Costs for 24 Acres and Lighting for Phase I

9/6/11

Item	Phase/Description	Quantity	Unit	Unit Cost	Item Cost	Subtotal
A	Project Start-Up					
1	Bonding, Mobilization, Profit, Overhead	allow 10%	LS	\$765,288.60	\$765,289	
2	Staking & Layout	allow 2%	LS	\$147,314.28	\$147,314	
	Total					\$ 912,603
B	Site Work					
1	Clearing & Grubbing	743,440	sf	\$0.05	\$37,172	
2	Utilities - Sanitary Sewer, Water, Electrical	1	ls	\$250,000.00	\$250,000	
	Total					\$287,172
C	Grading and Drainage					
1	Site Grading Cut and Fill and drainage	743,440	sf	\$0.15	\$111,516	
	Total					\$111,516
D	Irrigation					
1	New irrigation	743,440	SF	\$1.50	\$1,115,160	
	Total					\$1,115,160
E	Electrical					
1	Field Lighting for Sports Fields - 33 poles for Ph. I and II	1	LS	\$1,250,000.00	\$1,250,000	
2	Site Lighting - Light Poles w/Base & Luminaire	80	EA	\$2,500.00	\$200,000	
3	General electrical for sport fields, scoreboards, building, etc.	1	LS	\$100,000.00	\$100,000	
	Total					\$1,550,000
F	Landscape Construction and Materials					
1	Soil Prep and Fine Grading	743,440	SF	\$0.15	\$111,516	
2	24" Box trees	60	EA	\$280.00	\$16,800	
3	15 gal Trees	200	EA	\$175.00	\$35,000	
4	Shrubs	75000	SF	\$1.00	\$75,000	
5	Groundcover	75000	SF	\$0.75	\$56,250	
6	Hydroseeding or Sprig Planting for Turf	593,440	SF	\$0.05	\$29,672	
7	Mulch for Shrub Beds and Trees	150,000	SF	\$0.45	\$67,500	
	Total					\$391,738
G	Site Construction					
1	Pedestrian Concrete or Interlocking Paving	85000	SF	\$7.00	\$595,000	
2	Pedestrian AC Paving	60000	SF	\$4.50	\$270,000	
3	Vehicular and Parking AC paving /striping, curbs and header	157000	SF	\$8.00	\$1,256,000	
4	ADA Van Accessible Parking Stall	2	EA	\$20,000.00	\$40,000	
5	Prefabricated Building (restroom, concession and storage)	1	LS	\$450,000.00	\$450,000	
6	Office/Shop Building at Well Site (from 7/11 Est.)	1	LS	\$750,000.00	\$750,000	
	Total					\$3,361,000
H	Site Accessories					
1	Backed benches	42	EA	\$1,850.00	\$77,700	
2	Backless Benches for Dugouts	18	EA	\$1,400.00	\$25,200	
3	Picnic tables	18	EA	\$1,600.00	\$28,800	
4	Bike Rack - Multi Bike	4	EA	\$1,400.00	\$5,600	
5	Trash/Recycle Receptacles	35	EA	\$1,500.00	\$52,500	
6	Single BBQ - installed	10	EA	\$650.00	\$6,500	
	Total					\$196,300
I	Play Apparatus With Resilient Surfacing					
1	2 - 5 Play Structure	2	LS	\$45,000.00	\$90,000	
2	5 -12 Play Structure	2	LS	\$80,000.00	\$160,000	
3	Baseball - infield loam, backstop, bat racks, dugouts, fencing, etc.	3	LS	\$130,000.00	\$390,000	
	Total					\$640,000
J	SUBTOTAL before Contingencies					\$8,565,489
K	Construction Contingency - 10%					\$856,549
L	Design and Environmental - 10%					\$856,549
M	Construction Management - 5%					\$428,274
N	City Administration and Plan Check - 5%					\$428,274
O	TOTAL with Contingencies					\$11,135,136
Cost/Acre						\$ 463,964
Cost for Remaining 14 acres						\$ 6,500,000

Table 3, Lodi Lake Park Cost Estimate

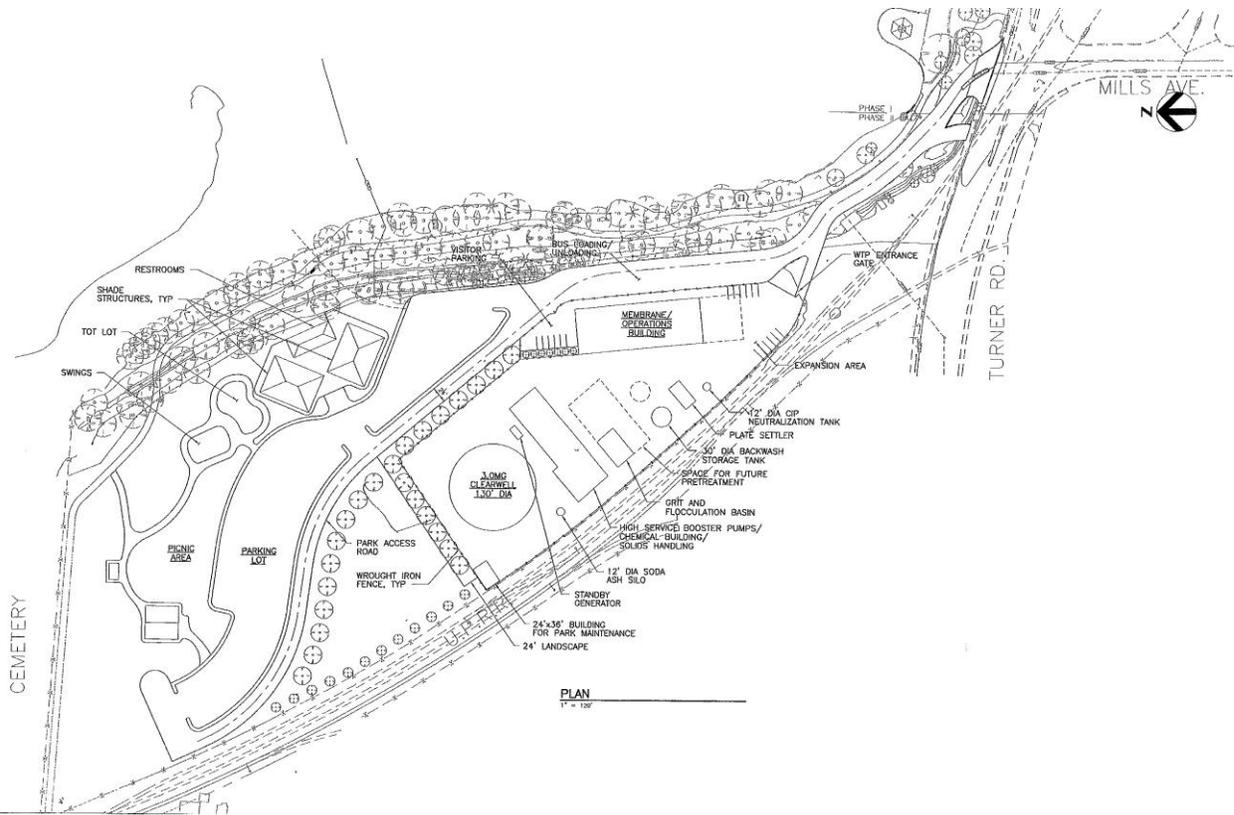


Figure 2, Lodi Lake Park Plan

Lodi Lake Park Cost Estimate

Total Park Area: 8 Acres

8/1/11

Item	Phase/Description	Quantity	Unit	Unit Cost	Item Cost	Subtotal
A	Project Start-Up					
1	Bonding, Mobilization, Profit, Overhead	allow 10%	LS	\$213,168.95	\$213,169	
2	Staking & Layout	allow 2%	LS	\$40,963.79	\$40,964	
	Total					\$254,133
B	Site Work					
1	Clearing & Grubbing	170000	SF	\$0.05	\$8,500	
2	Utilities - Sanitary Sewer, Water, Electrical	1	LS	\$75,000.00	\$75,000	
	Total					\$83,500
C	Grading and Drainage					
1	Site Grading Cut and Fill and Drainage	170000	SF	\$0.15	\$25,500	
	Total					\$25,500
D	Irrigation					
1	New Irrigation	170,000	SF	\$1.13	\$191,250	
	Total					\$191,250
E	Electrical					
1	New Light Poles w/Base, Pole & Luminare	12	EA	\$1,875.00	\$22,500	
2	General Electrical At Restroom, Shelters, etc.	1	LS	\$7,500.00	\$7,500	
	Total					\$30,000
F	Landscape Construction and Materials					
1	Soil Preparation and Fine Grading	170,000	SF	\$0.15	\$25,500	
2	24" Box Trees	20	EA	\$210.00	\$4,200	
3	15-Gallon Trees	90	EA	\$131.25	\$11,813	
4	Shrubs	8000	SF	\$0.75	\$6,000	
5	Groundcover	10000	SF	\$0.56	\$5,625	
6	Hydroseeding or Sprig Planting for Turf	152,000	SF	\$0.05	\$7,600	
7	Mulch	18,000	SF	\$0.34	\$6,075	
	Total					\$66,813
G	Site Construction					
1	Pedestrian Concrete	20200	SF	\$5.25	\$106,050	
2	Pedestrian Asphalt Paving	24280	SF	\$3.40	\$82,552	
3	Vehicular/Parking Asphalt Paving Plus Striping, Curbs and Header	134000	SF	\$6.00	\$804,000	
4	ADA Van Accessible Parking Stall	2	EA	\$15,000.00	\$30,000	
5	Prefabricated Building (Restroom and Storage)	1	LS	\$337,500.00	\$337,500	
6	Kitchen with Preparation Space and Hot Water Sink	1	LS	\$11,250.00	\$11,250	
7	Shade Structures - 60' x 80'	2	EA	\$150,000.00	\$300,000	
	Total					\$1,671,352
H	Site Accessories					
1	Backed benches	6	EA	\$1,387.50	\$8,325	
2	Picnic tables	20	EA	\$1,200.00	\$24,000	
3	Bike Rack	2	EA	\$1,050.00	\$2,100	
4	Trash Receptacles	10	EA	\$1,125.00	\$11,250	
5	Bocce Court	1	EA	\$15,000.00	\$15,000	
6	Single BBQ - installed	4	EA	\$650.00	\$2,600	
	Total					\$63,275
I	SUBTOTAL before Contingencies					\$2,385,822
J	Construction Contingency - 10%					\$238,582
K	Design and Environmental - 10%					\$238,582
L	Construction Management - 5%					\$119,291
M	City Administration and Plan Check - 5%					\$119,291
N	TOTAL with Contingencies					\$3,101,569

Table 3, Lodi Lake Park Cost Estimate

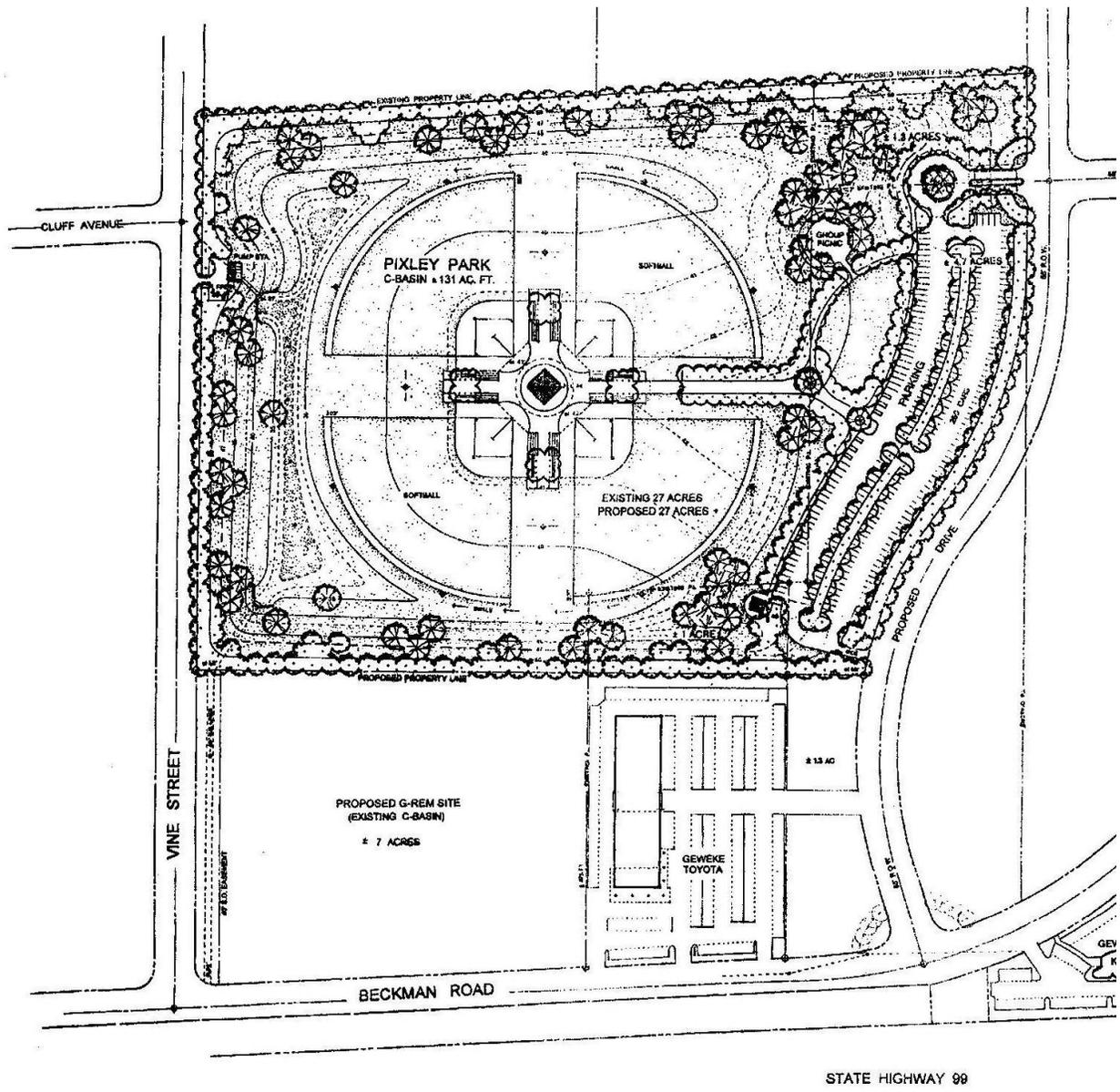


Figure 3, Pixley Park Plan

Pixley Park Cost Estimate, Provided by the City of Lodi

Total Park Area: 27 Acres

7/1/11

Description	Unit	Quantity	Unit Cost	Total Cost	SD Share	Parks Share
SWPP	LS	1	\$10,000	\$10,000		\$10,000
Clearing and Grubbing	LS	1	\$12,500	\$12,500		\$12,500
Project Sign	EA	2	\$1,000	\$2,000		\$2,000
Dust Control	LS	1	\$12,000	\$12,000		\$12,000
Fine Grading	AC	27	\$2,500	\$67,500		\$67,500
4" Gate Valve & Water Meter	LS	1	\$5,000	\$5,000		\$5,000
4" DIP	LF	200	\$35	\$7,000		\$7,000
4" backflow device	LS	1	\$4,250	\$4,250		\$4,250
1" potable water line	LF	600	\$20	\$12,000		\$12,000
4" sewer line	LF	850	\$30	\$25,500		\$25,500
SSCO	EA	4	\$750	\$3,000		\$3,000
8" SD line	LF	1,200	\$30	\$36,000		\$36,000
Drop Inlet CBs	EA	8	\$1,650	\$13,200		\$13,200
48" MH	EA	4	\$3,200	\$12,800		\$12,800
Underground Primary Electrical	LS	1	\$40,000	\$40,000		\$40,000
400 AMP Distribution Panel	LS	1	\$22,000	\$22,000		\$22,000
100 AMP Service Panel for booster pump	LS	1	\$4,500	\$4,500		\$4,500
Park Lighting Conduit & Conductor	LF	3,400	\$28	\$95,200		\$95,200
Park Lighting w/ Foundations	EA	24	\$6,000	\$144,000		\$144,000
Park Lighting Pull Boxes	EA	20	\$500	\$10,000		\$10,000
Musco Sports Lighting	LS	1	\$560,000	\$560,000		\$560,000
Concrete Flat Work	SF	50,000	\$5	\$250,000		\$250,000
Concrete Parking Lot Curbing	LF	3,500	\$15	\$52,500		\$52,500
24" concrete mow strip w/ 10' chain link fence	LF	2,500	\$37.50	\$93,750		\$93,750
Concrete Pad Handicap Parking Stalls	SF	2,500	\$8	\$20,000		\$20,000
Concrete slab (picnic area)	SF	5,000	\$8	\$40,000		\$40,000
Asphalt Paving	SF	110,000	\$4.00	\$440,000		\$440,000
Parking Lot striping and signage	LS	1	\$25,000	\$25,000		\$25,000
Infield Mix	CY	500	\$20	\$10,000		\$10,000
Arch Backstops	EA	4	\$48,000	\$192,000		\$192,000
Elevated accessible bleachers	EA	8	\$45,000	\$360,000		\$360,000
Home Plate & Bases	SET	4	\$550	\$2,200		\$2,200
Bull Pen Plates & Rubbers	SET	16	\$320	\$5,120		\$5,120
Bat Racks	EA	8	\$325	\$2,600		\$2,600
Dugout Benches	EA	8	\$2,000	\$16,000		\$16,000
Dugout Shade Canopies	EA	8	\$7,350	\$58,800		\$58,800
Group Picnic Structure	EA	1	\$55,000	\$55,000		\$55,000
Playground Area	LS	1	\$180,000	\$180,000		\$180,000
Custom Stone Park Sign	LS	1	\$25,000	\$25,000		\$25,000
Maintenance Storage Structure	LS	1	\$42,000	\$42,000		\$42,000
Restroom/Concession Structure	LS	1	\$450,000	\$450,000		\$450,000
Concession Equipment	LS	1	\$45,000	\$45,000		\$45,000
25HP RainBird VFD Booster Pump	EA	1	\$38,500	\$38,500	\$31,370.37	\$7,130
Maxicom Irrigation Controls	LS	1	\$45,000	\$45,000	\$36,666.67	\$8,333
Automatic Irrigation System	SF	950,000	\$0.30	\$285,000	\$232,222.22	\$52,778
Soil Amendments (Bermuda Area)	LBS	40,000	\$4.50	\$180,000	\$146,666.67	\$33,333
Soil Amendments (90/10 Area)	LBS	16,500	\$4.50	\$74,250	\$60,500.00	\$13,750
Sprig Planted Bermuda (outfields)	SF	400,000	\$0.25	\$100,000	\$81,481.48	\$18,519
Hydro Seeded "No Mow"	SF	350,000	\$0.15	\$52,500	\$42,777.78	\$9,722
Hydro Seeded 90/10 Blend	SF	165,000	\$0.15	\$24,750	\$20,166.67	\$4,583
Fertilizer	LBS	50,000	\$1.25	\$62,500		\$62,500
Park Benches	EA	14	\$1,000	\$14,000		\$14,000
Trash Receptacles	EA	28	\$1,300	\$36,400		\$36,400
ADA Drinking Fountain	EA	2	\$2,750	\$5,500		\$5,500
Picnic Tables	EA	8	\$1,650	\$13,200		\$13,200
Dumpster Enclosure	EA	2	\$15,000	\$30,000		\$30,000
Entrance Gate - 20' double	EA	1	\$6,500	\$6,500		\$6,500
90 Day Maintenance Period	LS	1	\$25,000	\$25,000		\$25,000
SubTotal				\$4,456,520	\$651,852	\$3,804,668
Contingency	10%			\$445,652	\$65,185.19	\$380,466.81
Design/Environmental	10%			\$445,652	\$65,185.19	\$380,466.81
Construction Management	5%			\$222,826	\$32,592.59	\$190,233.41
City Admin	5%			\$222,826	\$32,592.59	\$190,233.41
Total Cost				\$5,793,476	\$847,407	\$4,946,069

Table 4, Pixley Park Cost Estimate

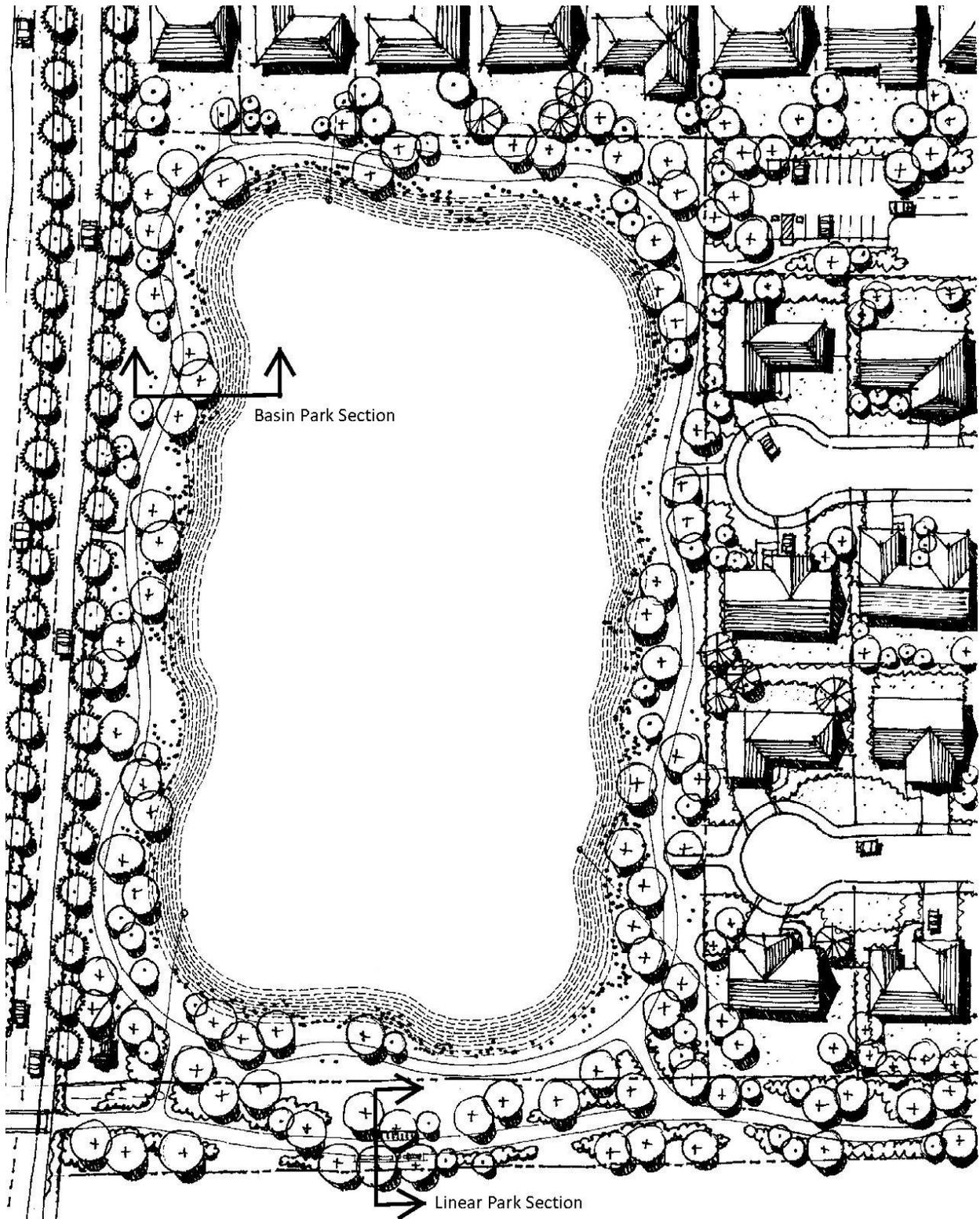


Figure 4, Typical Basin Park Plan

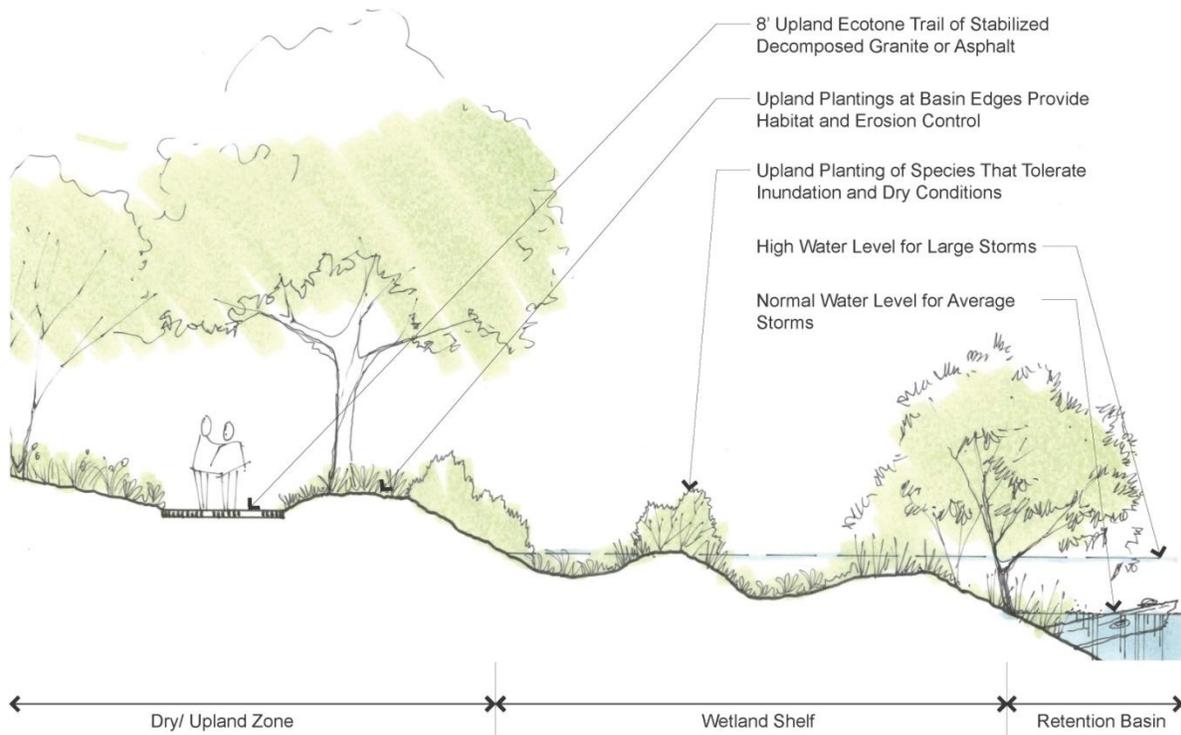


Figure 5, Typical Basin Park Section

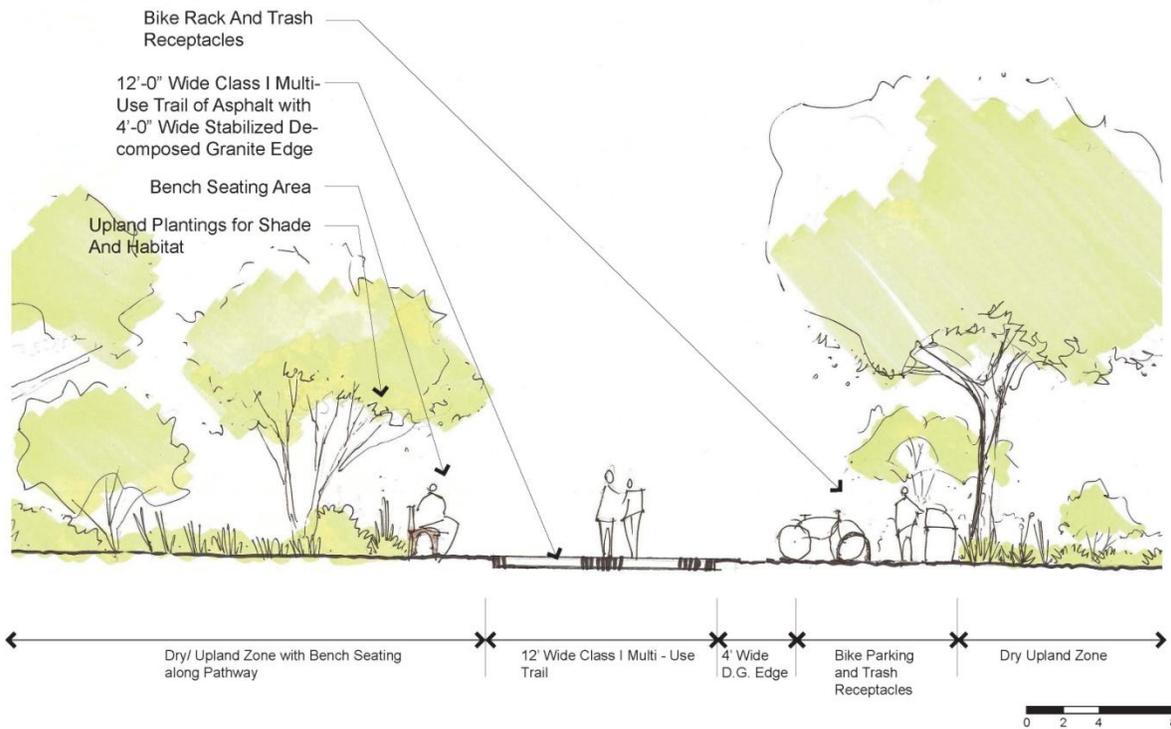


Figure 6, Typical Linear Park Section



MEMORANDUM

September 4, 2012

To: Alison Bouley

From: Victor Irzyk and Cindy Yan

Re: Lodi Impact Mitigation Fee Program Update Report – Park Fee Supporting Tables

Attached is a set of tables that provide supporting data for the park fee component of the City of Lodi Impact Mitigation Fee Program (IMFP) report. These tables include assumptions and calculations for the park fee component of the IMFP that are based on input from City staff as well as IMFP consultants. The supporting tables attached to this memo include the following:

- Park Cost Summary
- Park Fee Calculation

These supporting tables have been compiled to provide background and context to the park facilities cost estimates and fees discussed in the IMFP report. For a more detailed explanation of the assumptions, costs, and fees calculations incorporated in these tables, refer to the IMFP report.

Table 1
Parks Cost Summary

Existing Residents						<u>Residents</u>	<u>% of Total</u>
Future Residents thru 2035						62,473	83%
Total Residents						13,128	17%
						<u>75,601</u>	<u>100%</u>
City-Wide Park Facilities (Costs Allocated to Future Development Only)							
				<u>Acres/ 1,000 Residents</u>			<u>Total Acres</u>
Community				1.80			23.63
Regional				0.80			10.50
Natural Open Space				2.10			27.57
Special Use Area				0.80			10.50
Total Acres				<u>5.50</u>			<u>72.20</u>
		Acres Included in Fee Program					<u>Net Acres Included in Fee Program</u>
	<u>Total Acres</u>	<u>Community</u>	<u>Regional</u>	<u>Natural Open Space</u>	<u>Special Use Area</u>		
DeBenedetti Park	24.0	16.0	--	--	8.0		24.0
Pixley Park	27.0	--	2.5	22.0	2.5		27.0
Lodi Lake	8.0	--	8.0	--	--		8.0
	<u>59.0</u>	<u>16.0</u>	<u>10.5</u>	<u>22.0</u>	<u>10.5</u>		<u>59.0</u>
		<u>Acres in Fee Program</u>	<u>Total Acres</u>	<u>% included in Fee Program</u>	<u>Total Cost</u>		<u>Net Cost in Fee Program</u>
DeBenedetti Park		24.0	24.0	100.0%	\$11,135,136		\$11,135,136
Pixley Park		27.0	27.0	100.0%	\$4,946,069		\$4,946,069
Lodi Lake		8.0	8.0	100.0%	\$3,101,569		\$3,101,569
Total		<u>59.0</u>	<u>59.0</u>		<u>\$19,182,774</u>		<u>\$19,182,774</u>
Total Cost Allocated to Future Development							\$19,182,774

Source: City of Lodi; Goodwin Consulting Group, Inc.

Table 2
Park Fee Calculation

Land Use	Units/ Bldg SF ¹	Residents/ Employees	User Equivalents ²	Total DUEs	Percent Allocation	Total Costs	Fee per Unit/ 1,000 Bldg SF
Cost	\$19,182,774						
<i>Residential</i>	<u>Units</u>	<u>per Unit</u>	<u>per Unit</u>				<u>per Unit</u>
Low Density	4,000	2.85	2.85	4,000	81.11%	\$15,559,261	\$3,890
Medium Density	720	2.40	2.40	606	12.29%	\$2,358,456	\$3,276
High Density	0	2.00	2.00	0	0.00%	\$0	\$2,730
Subtotal	4,720			4,606	93.41%	\$17,917,717	
<i>Non-Residential</i>	<u>Bldg SF</u>	<u>per 1,000 SF</u>	<u>per 1,000 SF</u>				<u>per 1,000 SF</u>
Retail (Minor & Major)	1,029,000	2.50	0.30	107	2.18%	\$417,985	\$406
Office/Medical	563,000	4.00	0.48	94	1.91%	\$365,909	\$650
Industrial	2,221,000	1.33	0.16	124	2.51%	\$481,163	\$217
Subtotal	3,813,000			325	6.59%	\$1,265,057	
Total				4,932	100.00%	\$19,182,774	

¹ Excludes 50% of future development within the multi-use corridors. It is assumed that 50% of future development will replace existing development and therefore will not increase demand on park facilities.

² Assumes a resident can utilize park facilities an average of 12 hours per day 7 days a week (84 hours) and an employee can utilize park facilities an average of 2 hours per day 5 days a week (10 hours); this translates to 1.0 employee equaling approx. 0.12 residents (10/84 = 0.12) in terms of potential park utilization.

Source: Goodwin Consulting Group, Inc.

Section 8

Lodi Impact Mitigation Fee Program Update – Electric Utility Fee Supporting Tables



MEMORANDUM

September 4, 2012

To: Alison Bouley

From: Victor Irzyk and Cindy Yan

Re: Lodi Impact Mitigation Fee Program Update Report – Electric Utility Fee Supporting Tables

Attached is a set of tables that provide supporting data for the electric utility fee component of the City of Lodi Impact Mitigation Fee Program (IMFP) report. These tables include assumptions and calculations for the electric utility fee component of the IMFP that are based on input from City staff as well as IMFP consultants. The supporting tables attached to this memo include the following:

- Electric Utility Cost Summary
- Electric Utility Cost Details
- Electric Utility Cost Per DUE
- Electric Utility Fee Summary

These supporting tables have been compiled to provide background and context to the electric utility facilities cost estimates and fees discussed in the IMFP report. For a more detailed explanation of the assumptions, costs, and fees calculations incorporated in these tables, refer to the IMFP report.

Table 1
Electric Utility Cost Summary

<u>Facilities</u>	
Distribution Reinforcements	\$1,023,169
Feeder Additions	\$707,275
Added Bank at Industrial	\$4,200,000
Reynolds Ranch Phase 1 Line Extension	\$557,000
East Side Overhead Phase 1 Line Extension	\$215,000
Future Underground North Line Extension	\$390,000
Total Cost Allocated to Future Development	\$7,092,444

Source: City of Lodi; Goodwin Consulting Group, Inc.

Table 2
Electric Utility Cost Details

<i>OUT YEAR COUNT</i> FISCAL YEAR	<i>YR 01</i> 2011	<i>YR 02</i> 2012	<i>YR 03</i> 2013	<i>YR 04</i> 2014	<i>YR 05</i> 2015	5 YR SUM
LOAD GROWTH CALCULATIONS						
Previous Year Peak Load (kW)	145,000	145,000	145,000	145,000	145,000	145,000
Added Low Density Residential Dwelling Units in Yr	-	-	-	-	100	100
Added LDR Load (kW) <input type="text" value="5.00"/> kW/DU	0	0	0	0	500	500
Added Med. Density Residential Dwelling Units in Yr	-	-	-	-	-	0
Added MDR Load (kW) <input type="text" value="4.00"/> kW/DU	0	0	0	0	0	0
Added High Density Residential Dwelling Units in Yr	-	-	-	-	-	0
Added HDR Load (kW) <input type="text" value="3.00"/> kW/DU	0	0	0	0	0	0
Added Industrial (1,000 sf)	-	-	-	-	-	0.000
Added Ind. Load (kW) <input type="text" value="4.00"/> kW/Ksf	0	0	0	0	0	0
Added Major Retail (1,000 sf)	-	-	-	-	-	0.000
Added MRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Added Minor Retail (1,000 sf)	-	-	-	-	-	0.000
Added mRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Added Office (1,000 sf)	-	-	-	-	-	0.000
Added Office Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Added Medical (1,000 sf)	-	-	-	-	-	0.000
Added Medical Load (kW) <input type="text" value="7.00"/> kW/Ksf	0.0	0.0	0.0	0.0	0.0	0
Total Load Added in Year (kW)	0.0	0.0	0.0	0.0	500	500
Current Year Peak Load (kW)	145,000	145,000	145,000	145,000	145,500	145,500
COSTS COVERED BY IMPACT FEES						
<i>Cumulative Load Growth (kW)</i>	-	-	-	-	500	500
Distribution Reinforcements <input type="text" value="\$ 25"/> per KVA	\$ -	\$ -	\$ -	\$ -	\$ 12,500	\$ 12,500
Feeder Additions <input type="text" value="\$ 35"/> per KVA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Add Bank #3 @ Industrial	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reynolds Ranch PH1 Line Ext.	\$ -	\$ 557,000	\$ -	\$ -	\$ -	\$ 557,000
E. Side OH PH1 Line Ext.	\$ -	\$ -	\$ 215,000	\$ -	\$ -	\$ 215,000
Future UG N. Line Ext.	\$ -	\$ -	\$ -	\$ 390,000	\$ -	\$ 390,000
Subtotal - Capital Expansion Plan	\$ -	\$ 557,000	\$ 215,000	\$ 390,000	\$ 12,500	\$ 1,174,500
Cumulative Cost	\$ -	\$ 557,000	\$ 772,000	\$ 1,162,000	\$ 1,174,500	\$ 1,174,500

Table 2
Electric Utility Cost Details

<i>OUT YEAR COUNT</i> FISCAL YEAR	<i>YR 06</i> 2016	<i>YR 07</i> 2017	<i>YR 08</i> 2018	<i>YR 09</i> 2019	<i>YR 10</i> 2020	5 YR SUM
LOAD GROWTH CALCULATIONS						
Previous Year Peak Load (kW)	145,500	147,401	149,552	151,988	154,424	145,500
Added Low Density Residential Dwelling Units in Yr	125	175	200	200	200	900
Added LDR Load (kW) <input type="text" value="5.00"/> kW/DU	625	875	1,000	1,000	1,000	4,500
Added Med. Density Residential Dwelling Units in Yr	-	-	40	40	40	120
Added MDR Load (kW) <input type="text" value="4.00"/> kW/DU	0	0	160	160	160	480
Added High Density Residential Dwelling Units in Yr	-	-	-	-	-	0
Added HDR Load (kW) <input type="text" value="3.00"/> kW/DU	0	0	0	0	0	0
Added Industrial (1,000 sf)	-	-	-	-	-	0.000
Added Ind. Load (kW) <input type="text" value="4.00"/> kW/Ksf	0	0	0	0	0	0
Added Major Retail (1,000 sf)	70.200	70.200	70.200	70.200	70.200	351.000
Added MRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	491	491	491	491	491	2,457
Added Minor Retail (1,000 sf)	98.500	98.500	98.500	98.500	98.500	492.500
Added mRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	690	690	690	690	690	3,448
Added Office (1,000 sf)	-	-	-	-	-	0.000
Added Office Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Added Medical (1,000 sf)	13.600	13.600	13.600	13.600	13.600	68.000
Added Medical Load (kW) <input type="text" value="7.00"/> kW/Ksf	95.2	95.2	95.2	95.2	95.2	476
Total Load Added in Year (kW)	1,901	2,151	2,436	2,436	2,436	11,360.5
Current Year Peak Load (kW)	147,401	149,552	151,988	154,424	156,861	156,861
COSTS COVERED BY IMPACT FEES						
<i>Cumulative Load Growth (kW)</i>	<i>2,401</i>	<i>4,552</i>	<i>6,988</i>	<i>9,424</i>	<i>11,861</i>	<i>11,861</i>
Distribution Reinforcements <input type="text" value="\$ 25"/> per KVA	\$ 47,528	\$ 53,778	\$ 60,903	\$ 60,903	\$ 60,903	\$ 284,013
Feeder Additions <input type="text" value="\$ 35"/> per KVA	\$ -	\$ -	\$ -	\$ -	\$ 85,264	\$ 85,264
Add Bank #3 @ Industrial	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reynolds Ranch PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
E. Side OH PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future UG N. Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal - Capital Expansion Plan	\$ 47,528	\$ 53,778	\$ 60,903	\$ 60,903	\$ 146,166	\$ 369,276
Cumulative Cost	\$ 1,222,028	\$ 1,275,805	\$ 1,336,708	\$ 1,397,610	\$ 1,543,776	\$ 1,543,776

Table 2
Electric Utility Cost Details

<i>OUT YEAR COUNT</i> FISCAL YEAR	<i>YR 11</i> 2021	<i>YR 12</i> 2022	<i>YR 13</i> 2023	<i>YR 14</i> 2024	<i>YR 15</i> 2025	5 YR SUM
LOAD GROWTH CALCULATIONS						
Previous Year Peak Load (kW)	156,861	158,821	160,781	162,741	164,702	156,861
Added Low Density Residential Dwelling Units in Yr	200	200	200	200	200	1,000
Added LDR Load (kW) <input type="text" value="5.00"/> kW/DU	1,000	1,000	1,000	1,000	1,000	5,000
Added Med. Density Residential Dwelling Units in Yr	40	40	40	40	40	200
Added MDR Load (kW) <input type="text" value="4.00"/> kW/DU	160	160	160	160	160	800
Added High Density Residential Dwelling Units in Yr	-	-	-	-	-	0
Added HDR Load (kW) <input type="text" value="3.00"/> kW/DU	0	0	0	0	0	0
Added Industrial (1,000 sf)	159.296	159.296	159.296	159.296	159.296	796.480
Added Ind. Load (kW) <input type="text" value="4.00"/> kW/Ksf	637	637	637	637	637	3,186
Added Major Retail (1,000 sf)	-	-	-	-	-	0.000
Added MRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Added Minor Retail (1,000 sf)	5.300	5.300	5.300	5.300	5.300	26.500
Added mRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	37	37	37	37	37	186
Added Office (1,000 sf)	18.000	18.000	18.000	18.000	18.000	90.000
Added Office Load (kW) <input type="text" value="7.00"/> kW/Ksf	126	126	126	126	126	630
Added Medical (1,000 sf)	-	-	-	-	-	0.000
Added Medical Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Total Load Added in Year (kW)	1,960	1,960	1,960	1,960	1,960	9,801
Current Year Peak Load (kW)	158,821	160,781	162,741	164,702	166,662	166,662
COSTS COVERED BY IMPACT FEES						
<i>Cumulative Load Growth (kW)</i>	<i>13,821</i>	<i>15,781</i>	<i>17,741</i>	<i>19,702</i>	<i>21,662</i>	<i>21,662</i>
Distribution Reinforcements <input type="text" value="\$ 25"/> per KVA	\$ 49,007	\$ 49,007	\$ 49,007	\$ 49,007	\$ 49,007	\$ 245,036
Feeder Additions <input type="text" value="\$ 35"/> per KVA	\$ 68,610	\$ 68,610	\$ 68,610	\$ 68,610	\$ 68,610	\$ 343,050
Add Bank #3 @ Industrial	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reynolds Ranch PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
E. Side OH PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future UG N. Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal - Capital Expansion Plan	\$ 117,617	\$ 588,085				
Cumulative Cost	\$ 1,661,393	\$ 1,779,010	\$ 1,896,627	\$ 2,014,244	\$ 2,131,861	\$ 2,131,861

Table 2
Electric Utility Cost Details

<i>OUT YEAR COUNT</i> FISCAL YEAR	<i>YR 16</i> 2026	<i>YR 17</i> 2027	<i>YR 18</i> 2028	<i>YR 19</i> 2029	<i>YR 20</i> 2030	5 YR SUM
LOAD GROWTH CALCULATIONS						
Previous Year Peak Load (kW)	166,662	168,655	170,647	172,640	174,632	166,662
Added Low Density Residential Dwelling Units in Yr	200	200	200	200	200	1,000
Added LDR Load (kW) <input type="text" value="5.00"/> kW/DU	1,000	1,000	1,000	1,000	1,000	5,000
Added Med. Density Residential Dwelling Units in Yr	40	40	40	40	40	200
Added MDR Load (kW) <input type="text" value="4.00"/> kW/DU	160	160	160	160	160	800
Added High Density Residential Dwelling Units in Yr	-	-	-	-	-	0
Added HDR Load (kW) <input type="text" value="3.00"/> kW/DU	0	0	0	0	0	0
Added Industrial (1,000 sf)	138.496	138.496	138.496	138.496	138.496	692.480
Added Ind. Load (kW) <input type="text" value="4.00"/> kW/Ksf	554	554	554	554	554	2,770
Added Major Retail (1,000 sf)	-	-	-	-	-	0.000
Added MRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Added Minor Retail (1,000 sf)	21.800	21.800	21.800	21.800	21.800	109.000
Added mRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	153	153	153	153	153	763
Added Office (1,000 sf)	18.000	18.000	18.000	18.000	18.000	90.000
Added Office Load (kW) <input type="text" value="7.00"/> kW/Ksf	126	126	126	126	126	630
Added Medical (1,000 sf)	-	-	-	-	-	0.000
Added Medical Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0
Total Load Added in Year (kW)	1,993	1,993	1,993	1,993	1,993	9,963
Current Year Peak Load (kW)	168,655	170,647	172,640	174,632	176,625	176,625
COSTS COVERED BY IMPACT FEES						
<i>Cumulative Load Growth (kW)</i>	23,655	25,647	27,640	29,632	31,625	31,625
Distribution Reinforcements <input type="text" value="\$ 25"/> per KVA	\$ 49,815	\$ 49,815	\$ 49,815	\$ 49,815	\$ 49,815	\$ 249,073
Feeder Additions <input type="text" value="\$ 35"/> per KVA	\$ 69,740	\$ 69,740	\$ 69,740	\$ 69,740	\$ -	\$ 278,962
Add Bank #3 @ Industrial	\$ -	\$ -	\$ -	\$ -	\$ 4,200,000	\$ 4,200,000
Reynolds Ranch PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
E. Side OH PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future UG N. Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal - Capital Expansion Plan	\$ 119,555	\$ 119,555	\$ 119,555	\$ 119,555	\$ 4,249,815	\$ 4,728,035
Cumulative Cost	\$ 2,251,416	\$ 2,370,971	\$ 2,490,526	\$ 2,610,081	\$ 6,859,896	\$ 6,859,896

Table 2
Electric Utility Cost Details

<i>OUT YEAR COUNT</i> FISCAL YEAR	<i>YR 21</i> 2031	<i>YR 22</i> 2032	<i>YR 23</i> 2033	<i>YR 24</i> 2034	<i>YR 25</i> 2035	5 YR SUM	25 YEAR TOTAL
LOAD GROWTH CALCULATIONS							
Previous Year Peak Load (kW)	176,625	178,485	180,346	182,206	184,066	176,625	145,000
Added Low Density Residential Dwelling Units in Yr	200	200	200	200	200	1,000	4,000
Added LDR Load (kW) <input type="text" value="5.00"/> kW/DU	1,000	1,000	1,000	1,000	1,000	5,000	20,000
Added Med. Density Residential Dwelling Units in Yr	40	40	40	40	40	200	720
Added MDR Load (kW) <input type="text" value="4.00"/> kW/DU	160	160	160	160	160	800	2,880
Added High Density Residential Dwelling Units in Yr	-	-	-	-	-	0	-
Added HDR Load (kW) <input type="text" value="3.00"/> kW/DU	0	0	0	0	0	0	-
Added Industrial (1,000 sf)	140.096	140.096	140.096	140.096	140.096	700.480	2,189.440
Added Ind. Load (kW) <input type="text" value="4.00"/> kW/Ksf	560	560	560	560	560	2,802	8,758
Added Major Retail (1,000 sf)	-	-	-	-	-	0.000	351.000
Added MRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0	2,457
Added Minor Retail (1,000 sf)	-	-	-	-	-	0.000	628.000
Added mRetail Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0	4,396
Added Office (1,000 sf)	20.000	20.000	20.000	20.000	20.000	100.000	280.000
Added Office Load (kW) <input type="text" value="7.00"/> kW/Ksf	140	140	140	140	140	700	1,960
Added Medical (1,000 sf)	-	-	-	-	-	0.000	68.000
Added Medical Load (kW) <input type="text" value="7.00"/> kW/Ksf	0	0	0	0	0	0	476
Total Load Added in Year (kW)	1,860	1,860	1,860	1,860	1,860	9,302	40,927
Current Year Peak Load (kW)	178,485	180,346	182,206	184,066	185,927	185,927	185,927
COSTS COVERED BY IMPACT FEES							
<i>Cumulative Load Growth (kW)</i>	33,485	35,346	37,206	39,066	40,927	40,927	40,927
Distribution Reinforcements <input type="text" value="\$ 25"/> per KVA	\$ 46,510	\$ 46,510	\$ 46,510	\$ 46,510	\$ 46,510	\$ 232,548	\$ 1,023,169
Feeder Additions <input type="text" value="\$ 35"/> per KVA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 707,275
Add Bank #3 @ Industrial	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,200,000
Reynolds Ranch PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 557,000
E. Side OH PH1 Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 215,000
Future UG N. Line Ext.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 390,000
Subtotal - Capital Expansion Plan	\$ 46,510	\$ 232,548	\$ 7,092,444				
Cumulative Cost	\$ 6,906,406	\$ 6,952,915	\$ 6,999,425	\$ 7,045,934	\$ 7,092,444	\$ 7,092,444	\$ 7,092,444

Table 3
Electric Utility Cost per DUE

Land Use	Units/ Bldg SF ¹	Average Load Factor (kVA) ²	DUE Factor	Total DUEs
Cost	\$7,092,444			
<i>Residential</i>	<i>Units</i>	<i>per Unit</i>	<i>per Unit</i>	
Low Density	4,000	5.00	1.00	4,000
Medium Density	720	4.00	0.80	576
High Density	0	3.00	0.60	0
Subtotal	4,720			4,576
<i>Non-Residential</i>	<i>Bldg SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	
Retail (Minor & Major)	1,029,000	7.00	1.40	1,441
Office/Medical	563,000	7.00	1.40	788
Industrial	2,221,000	4.00	0.80	1,777
Subtotal	3,813,000			4,006
Total				8,582
Cost per DUE				\$826

¹ Excludes 50% of future development within the multi-use corridors. It is assumed that 50% of future development will replace existing development and therefore will not increase demand on electrical utilities.

² Based on average transformer loading data provided by Lodi EUD.

Source: City of Lodi; Goodwin Consulting Group, Inc.

Table 4

Electric Utility Fee Summary

Single Phase:			@ 240 Volts			
Panel Size (in amps)	80% of Panel Size	Full Load kVA @ 240 volts	DUE Factor	Fee per Panel		
60	48	12	0.30	\$248		
100	80	19	0.50	\$413		
125	100	24	0.63	\$517		
200	160	38	1.00	\$826		
400	320	77	2.00	\$1,653		
600	480	115	3.00	\$2,479		

Three Phase:				@ 240 Volts		@ 480 Volts	
Panel Size (in amps)	80% of Panel Size	Full Load kVA @ 240 volts	Full Load kVA @ 480 volts	DUE Factor	Fee per Panel	DUE Factor	Fee per Panel
200	160	63	126	1.65	\$1,360	3.29	\$2,720
400	320	126	253	3.29	\$2,720	6.58	\$5,440
600	480	190	379	4.94	\$4,080	9.87	\$8,159
800	640	253	505	6.58	\$5,440	13.16	\$10,879
1000	800	N/A	632			16.45	\$13,599
1500	1200	N/A	948			24.68	\$20,398
2000	1600	N/A	1264			32.91	\$27,198
3000	2400	N/A	1896			49.36	\$40,796

Source: City of Lodi EUD; Goodwin Consulting Group, Inc.

Section 9

Lodi Impact Mitigation Fee Program Update – General City Facilities Fee Supporting Tables



MEMORANDUM

September 4, 2012

To: Alison Bouley

From: Victor Irzyk and Cindy Yan

Re: Lodi Impact Mitigation Fee Program Update Report – General City Facilities Fee Supporting Tables

Attached is a set of tables that provide supporting data for the general city facilities fee component of the City of Lodi Impact Mitigation Fee Program (IMFP) report. These tables include assumptions and calculations for the general city facilities fee component of the IMFP that are based on input from City staff as well as IMFP consultants. The supporting tables attached to this memo include the following:

- General City Facilities Cost Summary
- General City Facilities Fee Calculation

These supporting tables have been compiled to provide background and context to the general city facilities cost estimates and fees discussed in the IMFP report. For a more detailed explanation of the assumptions, costs, and fees calculations incorporated in these tables, refer to the IMFP report.

Table 1
General City Facilities Cost Summary

<u>Development Assumptions</u>	Existing (2011)	Future (thru 2035)	Total Existing & Future
Resident Population	62,473	13,128	75,601
Employee Resident-Equivalent Population ¹	12,926	4,025	16,952
Total Persons Served	75,399	17,153	92,553
<i>% of Total</i>	<i>81%</i>	<i>19%</i>	<i>100%</i>
<hr/>			
<u>Costs Allocated to Existing and Future Development</u>			<i>Estimated</i>
			<i>Cost</i>
Existing Public Safety Building Remodel			\$1,000,000
General Plan			\$2,000,000
Total Cost			<u>\$3,000,000</u>
% Attributable to Existing Development			81%
Cost Attributable to Existing Development			\$2,443,989
% Attributable to Future Development			19%
Cost Attributable to Future Development			\$556,011
<u>Costs Allocated to Future Development Only</u>			
Library			
General Plan Standard (Sq Ft per capita)			0.45
Future Residents			13,128
Total Sq Ft Required to Serve Future Residents			5,908
Cost per Sq Ft ²			\$402
Total Library Cost Attributable to Future Development			\$2,376,321
Current Fee Program Update			\$550,000
Future Fee Program Updates ³			\$200,000
Cost Attributable to Future Development			<u>\$3,126,321</u>
Total Cost Allocated to Future Development			\$3,682,332

¹ Assumes a resident-to-employee ratio of 1.0 : 0.5 (i.e., 1.0 employee equaling 0.5 residents).

² Assumes construction of a new library facility and does not include land acquisition costs; costs have been escalated to 2011\$.

³ Total estimated cost to update the fee program at 5-year intervals for a total of 4 updates, from 2020 through 2035.

Source: City of Lodi; Goodwin Consulting Group, Inc.

Table 2
General City Facilities Fee Calculation

Land Use	Units/ Bldg SF ¹	Residents/ Employees	Persons Served	Total DUEs	Percent Allocation	Cost Allocation	Cost per Unit/ 1,000 Bldg SF
Cost	\$3,682,332						
<i>Residential</i>	<i>Units</i>	<i>per Unit</i>	<i>per Unit</i>				<i>per Unit</i>
Low Density	4,000	2.85	2.85	4,000	66.98%	\$2,466,294	\$617
Medium Density	720	2.40	2.40	606	10.15%	\$373,838	\$519
High Density	0	2.00	2.00	0	0.00%	\$0	\$433
Subtotal	4,720			4,606	77.13%	\$2,840,132	
<i>Non-Residential</i>	<i>Bldg SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>				<i>per 1,000 SF</i>
Retail (Minor & Major)	1,029,000	2.50	1.25	451	7.56%	\$278,269	\$270
Office/Medical	563,000	4.00	2.00	395	6.62%	\$243,601	\$433
Industrial	2,221,000	1.33	0.67	520	8.70%	\$320,330	\$144
Subtotal	3,813,000			1,366	22.87%	\$842,200	
Total				5,972	100.00%	\$3,682,332	

¹ Excludes 50% of future development within the multi-use corridors. It is assumed that 50% of future development will replace existing development and therefore will not increase demand on general city facilities.

Source: Goodwin Consulting Group, Inc.

Section 10

Lodi Impact Mitigation Fee Program Update Report – Art in Public Places



MEMORANDUM

September 4, 2012

To: Alison Bouley

From: Victor Irzyk and Cindy Yan

Re: Lodi Impact Mitigation Fee Program Update Report – Art in Public Places Fee Supporting Tables

Attached is a set of tables that provide supporting data for the Art in Public Places fee component of the City of Lodi Impact Mitigation Fee Program (IMFP) report. These tables include assumptions and calculations for the Art in Public Places fee component of the IMFP that are based on input from City staff as well as IMFP consultants. The supporting tables attached to this memo include the following:

- Art in Public Places Cost Summary
- Art in Public Places Fee Calculation

These supporting tables have been compiled to provide background and context to the Art in Public Places facilities cost estimates and fees discussed in the IMFP report. For a more detailed explanation of the assumptions, costs, and fees calculations incorporated in these tables, refer to the IMFP report.

Table 1
Art in Public Places Cost Summary

Existing Art	Location	Estimated Replacement Cost
1. Water Tower	Main Street	\$52,456
2. Better Days Pergola	Lodi Avenue	\$86,000
3. Grape Wall of Lodi	Wall @ Westgate	\$40,000
4. Japantown Murals	Main Street	\$29,000
5. PALS Mural	Kettleman Lane	\$57,015
6. Sacramento Street Mural	Sacramento Street	\$46,000
7. Celebrate Harvest bronze sculpture	School Street	\$153,000
8. Cranes	Train Depot	\$30,000
9. Bus Stop	Loel Center	\$15,000
10. Sculpture Exhibit (rentals)	School Street	\$30,000
11. Art Purchase - Transit Clock Tower		\$5,000
12. Mosaics	Lodi Avenue	\$2,500
13. Van Buskirk Park	Pleasant Avenue	\$4,678
14. Veterans Memorial Plaza		\$450,000
15. Lodi Avenue Gateway		\$135,000
16. Water Shed Mural	Church & Oak St	\$20,000
17. Segale Murals	Sacramento Street & Japantown	\$75,000
18. Recognition Plaques		\$3,165
19. Wall Dog Murals (10)		\$100,000
20. School Street Gateway Arch		\$780,000
Total		\$2,113,814
Existing Persons Served		75,399
Cost per Existing Persons Served		\$28.03

Source: City of Lodi; Goodwin Consulting Group, Inc.

Table 2
Art in Public Places Fee Calculation

Land Use	Units/ Bldg SF ¹	Residents/ Employees	Persons Served ²	Total Persons Served	Cost per Persons Served	Total Costs	Fee per Unit/ 1,000 Bldg SF
<i>Residential</i>	<i>Units</i>	<i>per Unit</i>	<i>per Unit</i>				<i>per Unit</i>
Low Density	4,000	2.85	2.85	11,400	\$28.03	\$319,599	\$80
Medium Density	720	2.40	2.40	1,728	\$28.03	\$48,444	\$67
High Density	0	2.00	2.00	0	\$28.03	\$0	\$56
Subtotal	4,720			13,128		\$368,043	
<i>Non-Residential</i>	<i>Bldg SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>				<i>per 1,000 SF</i>
Retail (Minor & Major)	1,029,000	2.50	1.25	1,286	\$28.03	\$36,060	\$35
Office/Medical	563,000	4.00	2.00	1,126	\$28.03	\$31,567	\$56
Industrial	2,221,000	1.33	0.67	1,481	\$28.03	\$41,510	\$19
Subtotal	3,813,000			3,893		\$109,138	
Total				17,021		\$477,181	

¹ Excludes 50% of future development within the multi-use corridors. It is assumed that 50% of future development will replace existing development and therefore will not increase demand on art in public places.

³ Assumes a resident-to-employee ratio of 1.0 : 0.5 (i.e., 1.0 employee equaling 0.5 residents).

Source: Goodwin Consulting Group, Inc.